International Invention Innovation Competition in Canada

iCAN - TORONTO, CANADA

10th ANNIVERSARY

WELCOME MESSAGES
GENERAL INFORMATION
LIST OF EXHIBITS

TISIAS

TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

Toronto International Society of Innovation & Advanced Skills (TISIAS) was established in 2013 to build a global hub in Toronto, Canada to provide a variety of services and opportunities for both local and overseas inventors, innovators, students and researchers to promote their inventions and products in the world market. TISIAS is globally active as the delegation of Canada participating in numerous international invention exhibitions, competitions and conferences organized by its partners around the world. TISIAS majorly promotes its Canadian and American members' inventions and products to world exhibitions and conferences as well as some other international members' creative ideas to success in commercialization and branding.

TISIAS PARTICIPATED IN 150 INTERNATIONAL EVENTS IN 26 DIFFERENT COUNTRIES

ANNUAL EVENT ORGANIZED IN TORONTO, CANADA

TORONTO CANADA

International Invention Innovation Competition in Canada
iCAN - TORONTO, CANADA

iCAN 10TH 2025

JOIN OUR MAILING LIST FOR EVENTS

WEBSITE WWW.TISIAS.ORG

EMAIL iCAN@TISIAS.ORG

YOUTUBE INVENTOR SOUND

International Invention Innovation Competition in Canada

iCAN - TORONTO, CANADA

WELCOME TO iCAN 2025
THE 10TH ANNNIVERSARY EDITION

THE 10TH INTERNATIONAL INVENTION INNOVATION COMPETITION IN CANADA, iCAN 2025

MOONSUK CHANG / The Organizer of iCAN

On behalf of the iCAN 2025 Organizing Committee, I extend my heartfelt congratulations to all distinguished participants and award winners. **This year marks the historical 10th Anniversary of International Invention Innovation Competition in Canada (iCAN)**, a milestone that reflects a decade of creativity, perseverance, and global collaboration. Since its first launch back in 2016, iCAN has grown into one of the most globally recognized platforms for innovators, offering an inclusive stage for ideas that shape the bright future for all of us.

I express my sincere gratitude to all our partners and supporters from Canada and abroad. Their effort, commitment and encouragement have made this journey truly possible. Your unwavering dedication has been instrumental in building an event that not only recognizes innovation but also nurtures it. **iCAN has always believed that innovation is more than a concept. It is both a passion and an obsession, driving us to explore, create, and improve.**

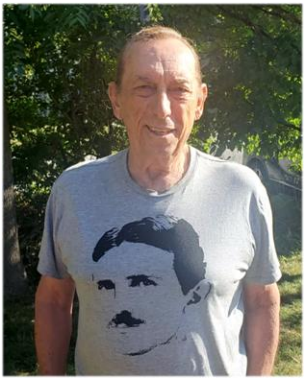
The iCAN Team remains steadfast in our pursuit of excellence, a value that stands at the core of organizing a real, responsible and impactful international event. We understand that excellence is not simply an aspiration, but a responsibility to every innovator, judge, and supporter who places their trust in us. As we celebrate this remarkable 10-year milestone, we look forward to continuing our mission of inspiring, connecting, and elevating the global innovation community for the next level stages of years to come.

As we conclude this remarkable celebration of innovation, I once again extend my sincere appreciation to all participants, esteemed judges, and international delegations for your invaluable contributions to iCAN 2025. Your creativity, dedication, and collaborative spirit have not only enriched this event but have also strengthened the global network of innovators we are proud to call our community. May the connections you have made here continue to inspire new ideas and partnerships and may your passion for innovation lead you to even greater achievements. I wish you further success, satisfying fulfillment, and a golden future full of groundbreaking and shiny possibilities.

Moonsuk Chang
Chairman & Chief Exhibition Officer
Toronto International Society of Innovation & Advanced Skills (TISIAS)

TISIAS
TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

BOB HUYBRECHTS / Co-Chairman of the Jury



Dear Inventors and iCAN Loyalists,

Another eventful year has sneaked by us again so fast! They say: 'Time flies, but remember you are the pilot…' **My sincere 'Welcome to iCAN 2025'** and thanks to Moonsuk and his team for their tenacity and dedication for creating this magnificent display of global innovation, in spite of all the strange and unusual political background of our time.

As much as we keep feeding Nikola Tesla's legacy for his unrivaled contributions to our modern world, we have to realize his main influences are now well over 100 years ago. But there is great news recently. Some of you may be aware of this, but already several years ago, Foster and Kimberly Gamble (makers of the 'Thrive movies') went on an exploration trip in Africa and ended up meeting with Maxwell Chikumbutso in Harare, Zimbabwe. Soon we learned about Maxwell's amazing invention, called 'Microsonic Energy'.

As a direct evolution of Nikola Tesla's words: "One day the wheelworks of industry will be powered by the hidden energy of the aether", Maxwell claims he 'downloaded' the knowledge during a spiritual experience! He managed to amplify atmospheric frequencies with sound and built a device small enough to power a car or a house permanently, without the conventional use of fuel, batteries or external plug-ins. Many videos are available by searching: self-powered automobile Zimbabwe. Apart from this brilliant development in the realm of clean energy, the most unexpected element of this invention is its geographic origin in south-east Africa. Moreover, imagine the massive potential of such new concept, which will be responsible for astonishing changes in nearly all aspects of the world's industry!

As you all know from your involvement in iCAN, we are encouraged that **the unique gift of human inventing has never been and surprisingly remains immune to age, sex, race, education, nationality and location.**

I am truly looking forward to joining all of you for the final edition in August of the iCAN 2025. ***Let's keep doing it!***

Co-operatively Yours,

Bob Huybrechts, RDT, HC
Founder / President
Innovation Initiative Co-operative Inc. "The Inventors Circle"
Co-Chairman **of iCAN Jury (2016 – Present)**

Protect your invention world-wide…

The USD-System takes only 4 months to acquire, immediately covers 190 countries at registration, is legally stronger and has a one-time fixed cost…less than one country's national patent!

Visit http://www.sosinvention.com/english/
For more information contact InventorsCircle2.0@start.ca

USD System

INVENTORS CIRCLE

innovation initiative
A NON-PROFIT FORUM SUPPORTING INNOVATIVE BUSINESS

Intellectual Property Strategy Management

HOWARD A. LIM / Co-Chairman of the Jury & Keynote Speaker

It is a great honor to celebrate the 10th anniversary of iCAN, a truly remarkable platform that unites brilliant inventors and innovators from around the world. Over the past decade, iCAN has not only showcased groundbreaking ideas, but also elevated the global standard for invention, innovation, and collaboration.

As a brand strategist with nearly 40 years of experience building world-class brands, I recognize the critical role organizations like iCAN play in shaping the future. Innovation is only the beginning—what follows is the journey of transforming that invention into a lasting brand that impacts lives and markets worldwide.

Congratulations to the founders, organizers, and global participants of iCAN for creating a legacy of excellence. May this milestone inspire even greater breakthroughs in the years to come.

Here's to the next decade of bold ideas and brilliant execution.

Howard A. Lim
Founder / President
HOW CREATIVE® | Creator of the SIM System™
Co-Chairman of iCAN Jury (2016 – Present)

ALIREZA RASTEGAR / President of IFIA

Dear Inventors, Innovators, and Creative Developers,

It is our great pleasure to invite you to take part in the 10th International Invention Innovation Competition in Canada (iCAN 2025) a milestone edition of one of the world's leading showcases for invention and creativity. This esteemed event, organized by the Toronto International Society of Innovation and Advanced Skills (TISIAS) with the official support of IFIA, will take place online on August 30, 2025.

iCAN 2025 marks a decade of inspiring ingenuity, empowering minds, and building bridges across borders. As we commemorate this special anniversary, we are more committed than ever to offering a vibrant platform where inventors, students, scientists, researchers, and entrepreneurs can present their pioneering solutions to global challenges.

With a proud tradition of championing innovation for over 50 years, **IFIA continues to foster opportunities that connect bold ideas with real-world impact.** This year's edition of iCAN promises richer experience with a strong international presence, expert evaluations, and exposure to a diverse innovation network.

Whether you're an experienced inventor or just beginning your innovation journey, iCAN 2025 is your opportunity to shine on the world stage. Join us as we shape the future through invention, insight, and imagination.

We look forward to welcoming your creativity and celebrating this decade of excellence together.

Alireza Rastegar
President
International Federation of Inventors' Associations (IFIA)

MANLI HSIEH / President of WIIPA

It is with the greatest honour, in my capacity as President of the World Invention Intellectual Property Associations, that I extend my warmest and most heartfelt felicitations to the **Toronto International Society of Innovation and Advanced Skills (TISIAS)** on this momentous occasion of the **10th International Invention Innovation Competition in Canada (iCAN 2025).** This global landmark gathering stands as a proud testament to the remarkable journey of innovation and intellectual exchange over the past decade.

Throughout its history, this eminent competition has illuminated the path of progress, bringing together visionaries, creators, and pioneers from across the globe. Your steadfast commitment, pioneering spirit, and exceptional achievements have not only advanced the frontiers of knowledge, but have also inspired countless others to embrace the boundless possibilities of human ingenuity.

As we celebrate this notable milestone, it is my earnest hope that iCAN will long continue to serve as a vital platform for the exchange of ideas, the cultivation of fruitful collaborations, and the forging of enduring partnerships. ***May your endeavours yield ever-greater triumphs, enriching the global community and advancing the shared cause of innovation for generations to come.***

Manli Hsieh
President
World Invention Intellectual Property Associations (WIIPA)

MIKE McFARTHING / Vice-President of the Jury

Dear Inventors, Global Partners, and Esteemed Judges,

Welcome to the 10th Annual International Invention Innovation Competition (iCAN) Awards 2025!

It is with great pride and heartfelt excitement that we gather to celebrate a full decade of breakthrough ideas, bold innovation, and world-changing creativity. Each year, ICAN has grown in reach and impact, and this milestone is a powerful testament to the brilliance and dedication of inventors like you from across the globe.

A special thank you goes to Mr. Moonsuk Chang and his outstanding team, whose tireless commitment and vision have made this global celebration of innovation not only possible but unforgettable. Your leadership continues to inspire us all. To our global community of inventors, thank you for making the world a better place. **Your ideas shape industries, solve problems, and bring hope to future generations.** Your courage to create, to experiment, and to never give up fuels the spirit of ICAN.

We also extend our deepest appreciation to our panel of judges and our international partners for their expertise, support, and belief in the power of invention to transform the world. ***Let's make this 10th anniversary a celebration of past achievements, present brilliance, and the limitless future ahead.***

Here's to innovation, collaboration, and impact.

Welcome to iCAN 2025!

Warm regards,

INVENTORS CIRCLE

innovation initiative
A NON-PROFIT FORUM SUPPORTING INNOVATIVE BUSINESS

Mike McFarthing
Director of Education / **Innovation Initiative Co-operative Inc.**
Vice-President of the Jury / **iCAN – Toronto, Canada**

PROF. DR. ANDREI VICTOR SANDU / Vice-President of the Jury

Congratulations on iCAN 2025 – The 10th Anniversary Edition!

On behalf of the Romanian Inventors Forum, we extend our heartfelt congratulations on this special milestone. Your dedication to innovation and creativity continues to inspire and shape a brighter future.

Excellent work and outstanding job well done to all participants here at iCAN – Toronto, Canada. **Keep promoting the spirit of invention and spread it to the rest of the world!**

The European Exhibition of Creativity and Innovation (EUROINVENT) bonds closely with the International Invention Innovation Competition in Canada (iCAN) for more than a decade. We look forward to our further successful cooperation together by creating widespread prosperity of inventors across the globe.

Prof. Dr. Andrei Victor SANDU
President / **Romanian Inventors Forum & EUROINVENT®**
Vice-President of the Jury / **iCAN – Toronto, Canada**

SIR DR. YOSHIRO NAKAMATS / Honourary Advisor of iCAN

Ladies and Gentlemen, and Esteemed Inventors,

iCAN 2025, this remarkable event brings together brilliant minds from across the globe, showcasing the ingenuity and innovative spirit that drive our world forward.

I extend my heartfelt gratitude to the organizers, sponsors, and all those who have contributed to making this exhibition a reality. **Your focused dedication to the advancement of science and technology is commendable and inspiring.**

Thank you and enjoy this outstanding global event of Canada!

Sir. Dr. Yoshiro NakaMats
Chairman
World Genius Convention (WGC) – Tokyo, Japan
International Invention & Innovation Institute (III)

DEIVISON TRINDADE DOS SANTOS/ Delegation of Brazil

On this symbolic occasion of the **10th anniversary of iCAN – International Invention Innovation Competition in Canada**, I warmly congratulate all those involved for strengthening the culture of invention and innovation on a global scale.

As an educator committed to the technical, scientific, and civic education of Brazilian youth, I highly recognize iCAN as an essential platform for valuing transformative ideas and for acknowledging talent in all its diversity. To all the competitors of this edition, I wish you enthusiasm, courage, and brilliance. May each presentation reflect the power of your dreams and the dedication of your journey. **May iCAN continue to be a catalyst for opportunities and a source of inspiration for the world!**

Deivison Trindade Dos Santos
General Coordinator
Brazilian Science & Professional Education Fair (FECEP)
CEEP Pedro Ribeiro Pessoa, Brazil

JEFFREY DOBKIN / iCAN 2025 Keynote Speaker & Jury

Thank you iCAN for staging a worldwide invention-help conference, and delivering compassionate practical, useful information for inventors around the world – to help further propel their successful inventor's journey.

Congratulations to the inventors who have won in this special competition. **I hope winning your sector encourages and inspires you to further success in the tough inventor's journey.**

Jeffrey Dobkin
President
American Society of Inventors

LENNART NILSSON / iCAN 2025 Committee Advisor

It is a great pleasure to extend my warmest congratulations to the organizers and participants of iCAN 2025, celebrating a decade of fostering global innovation.

iCAN has become an essential platform where inventors, researchers, and students from around the world showcase their ideas, solutions, and creativity. With over forty years of experience in invention, innovation, and technology transfer, I am deeply inspired by iCAN's mission.

While recognizing and awarding inventions is vital, the true engine of motivation lies in **actively channeling these innovative projects toward potential investors and partners**—transforming ideas into impactful realities that can change the world.

Although retired, I proudly continue to serve as **Innovation Advisor to Dr. Adrián Cabezas Morales, CEO of Nano Control AB**, and I wholeheartedly support the vital mission that iCAN 2025 represents.

Congratulations on your continued success and your important role in connecting vision with reality.

Lennart Nilsson
Founder & President
Stockholm Innovators Association (STIK)

EVAN RUZYCKY / Member of the Inventors Circle

Hello, **I'm Evan Ruzycky, founder of Koopeh Designs Inc. — a Canadian innovation company** focused on creating smart, practical consumer products. We specialize in solving everyday problems through unique design, with a focus on grinding, grating, and peeling technologies that save time and reduce frustration. At Koopeh Designs, we take products from concept to market, managing invention, patenting, licensing, and international sales. Our solutions are built on strong IP and designed for scalability.

On this special occasion of iCAN 2025 "The 10th Anniversary" Edition, we would like to sincerely thank **TISIAS and members of the Inventors Circle for together hosting this remarkable event for inventors worldwide**. I truly wish all the best to all fellow inventors and students of creativity.

Evan Ruzycky
Canadian Member, Toronto
Innovation Initiative Co-operative Inc.
Founder & CEO / Koopeh Designs. Inc.

SONNY DIZON VALENZUELA / President of MYIA

On behalf of the Manila Young Inventors Association, I extend my warmest congratulations to iCAN 2025 on its 10th Anniversary. What a remarkable milestone in championing innovation and creativity! To the brilliant award-winning participants, **your passion, perseverance, and groundbreaking ideas inspire a new generation of changemakers.**

To the organizers and the entire iCAN team, thank you for a decade of unwavering commitment to providing a global platform that celebrates ingenuity and nurtures young minds. **As we look back on 10 years of excellence, may this celebration serve as a beacon for future inventors and a testament to the power of imagination turned into action.** Mabuhay and may innovation continue to light the way forward!

Sonny Dizon Valenzuela
President
Manila Young Inventors Association (MYIA), Philippines

MANILA YOUNG INVENTORS ASSOCIATION
Invention Development in Education Advocacy

SERGIU POPOVICI / iCAN Committee Member

From all of us at 24 Labs GmbH, **I want to say that we appreciate the dedication and the heart you put into iCAN year after year.** We all found the vision, energy, and unwavering commitment that make it a place where ideas come alive and people feel inspired to dream bigger.

We admire the passion and the effort you invest in making this possible. The way you bring people together, making everyone feel like part of the same family, encourage creativity and support inventors is something rare and remarkable. Thank you for everything you do, and congratulations on this amazing milestone!

Sergiu Popovici
CEO
M 24 Labs GmbH, Germany

M24LABS

ERRICHA INSAN PRATISI / Delegation of Indonesia

Distinguished guests, esteemed organizers and dear participants,

It is a true honor to join you in celebrating the **10th Anniversary of iCAN**—a decade of innovation, collaboration, and creative brilliance. On this remarkable occasion, I extend my heartfelt congratulations to all participants for your inspiring inventions and bold ideas. Your dedication and ingenuity are the very spirit of iCAN and a shining example of global innovation.

To the organizers, thank you for building such a vibrant platform over the years—uniting minds from across the world and fostering a culture of discovery and excellence. A special thank you to the jury, whose expertise and commitment guide this event with integrity and insight.

Here's to ten years of excellence, and to the many more breakthroughs that lie ahead. Congratulations to iCAN, and to everyone who makes it what it is. Thank you,

Erricha Insan Pratisi
President of INNOPA
Indonesian Invention and Innovation Promotion Association

INNOPA
Indonesian Invention and Innovation Promotion Association

HOSSEIN VAEZI ASHTIANI / Delegation of I. R. Iran

Dear Distinguished Inventors, Innovators, and Honored Guests

On behalf of the First Institute of Researchers and Inventors in the Islamic Republic of Iran (FIRI), it is with profound admiration and heartfelt congratulations that I extend my best wishes to the organizers, participants, and supporters of the **10th Anniversary Edition of the International Invention Innovation Competition in Canada (iCAN 2025).**

Celebrating a full decade of excellence, iCAN has evolved into a global stage where brilliance, creativity, and transformative ideas converge. This year's milestone event **proudly organized by the Toronto International Society of Innovation & Advanced Skills (TISIAS),** and supported by both **Innovation Initiative Co-operative Inc. "The Inventors Circle"** and the **International Federation of Inventors' Associations (IFIA)** marks a significant chapter in the global innovation landscape.

In today's rapidly evolving world, innovation is not merely a driver of progress, it is the cornerstone of sustainable development and global collaboration. iCAN exemplifies this truth by providing a dynamic platform that empowers inventors from across continents to share visionary solutions that tackle the challenges of our time.

To all participants of iCAN 2025, I offer my deepest respect. Your imagination fuels advancement; your perseverance shapes the future. Your contributions do not just impress, they inspire. As you unveil your inventions to the world, you become catalysts for change and champions of human ingenuity.

May this anniversary edition of iCAN be remembered not only as a celebration of its past achievements but as the dawn of a new era in inventive excellence.

With my highest regards and best wishes for continued success,

Hossein Vaezi Ashtiani
President
The First Institute of Researchers and Inventors in I.R. Iran (FIRI)

VICTOR BAUTISTA DÍAZ / iCAN Jury & Committee Advisor

Dear members of the Committee, sponsors, members of the Jury, scientists, professors, students and inventors: **Welcome to the 10th Anniversary of iCAN**, a cornerstone for the stimulation, presentation and dissemination of the enormous wealth of ideas and creations from thousands of researchers around the world. So, it is a great opportunity in all senses for all of us.

I would like to share with you an anecdote from my childhood. When I was a child, I had a small laboratory in the back of my house where something magical happened: a bottle became a microscope, a pinch of salt became a wonder drug, and things like that. I played, and the magic surrounded me.

Looking back, one could say that I never stopped "playing": I played in laboratories, in the industry, and even at my age, I continue playing. I love to solve challenges and technical problems. I could say that I was doing research and playing at the same time during all my life. Sometimes I think that it is what defines a researcher with vocation: he plays, and from this game, magic appears. Isn't iCAN also a competition for magical creations?

What more can I say? Please, play, and never stop playing. Thank you very much.

Victor Bautista Díaz
Chemist & Private Researcher
Buenos Aires, Argentina

MA. CHAT DONNA V. OFILAS / iCAN Jury & Committee Member

As Secretary General of the Manila Young Inventors Association and **a proud member of the iCAN family since 2017**, I extend my heartfelt congratulations to iCAN 2025 on its momentous 10th Anniversary.

This decade-long journey of celebrating innovation, empowering inventors, and fostering global collaboration is a testament to the vision, dedication, and passion of the organizers, team, and partners behind this prestigious event. To the award-winning participants, **your creativity and resilience shine as proof that the spirit of invention knows no bounds.**

May this milestone not only honor past achievements but also inspire future generations to push the boundaries of what is possible. Congratulations once again to everyone who made iCAN a beacon of innovation worldwide. Congratulations to all!

Ma. Chat Donna Villarico Ofilas
Secretary General
Manila Young Inventors Association (MYIA), Philippines

MANILA YOUNG INVENTORS ASSOCIATION
Invention Development in Education Advocacy

MIRKO MITIC BEOGRAD / iCAN Committee & TISIAS Partner

From Serbia, **I would like to sincerely congratulate the 10th anniversary of the International Invention Innovation Competition in Canada – iCAN 2025**, I would like to extend my best wishes to all of you for continued creative success, steady development, reliable partnerships, good luck, and prosperity.

To Mr. Moonsuk Chang and iCAN Team, I wish you all good health, happiness, and overall well-being as you work towards the excellent management of iCAN.

Mirko Mitić Beograd
Member of the Committee
Belgrade Association of Inventors

Belgrade Association of Inventors

PROF. DR. VASILEIOS AG. DROUGAS / iCAN Jury Member

Dear researchers and inventors. From this position of Jury member of iCAN 2025, I would like to congratulate all of you for the significant effort you are making to change the philosophy of science applications and help humanity with innovative ideas.

It is really very important to have people like you who will help science become more accessible and applicable to humanity. Once again, **your participation makes the iCAN 2025 organization unique in the world of inventions**. I want to give my excellent congratulations to the organizers of this global meeting of inventions and people of the spirit.

This year's event is another great contribution to humanity that is waiting to change for the better and people with enlightened minds and innovative ideas to help it. Congratulations to the Chairman Moonsuk Chang, to the organizing committee and all the inventors who will present their unique ideas and work for this year of iCAN 2025 international competition, and I wish them every success.

Prof. Dr. Vasileios Ag. Drougas
Researcher & Adjunct Professor
University of Ioannina, Greece

UNIVERSITY OF IOANNINA

MAJID EL BOUAZZAOUI / Delegation of Morocco

As iCAN celebrates its remarkable 10th anniversary, we at OFEED Morocco extend our heartfelt congratulations to the entire TISIAS team, its global partners, and the brilliant family of innovators who have made this journey extraordinary.

OFEED, under the leadership of its President, Majid EL BOUAZZAOUI, has had the distinct honor of supporting iCAN since its inaugural edition in 2016. Year after year, we have proudly joined efforts with TISIAS to elevate innovation on a global scale, contributing actively to what has become the number one event for inventors in Canada and beyond, iCAN.

Being part of this inspiring journey over the past decade has been both a privilege and a source of pride. We look forward to continuing this strong partnership and witnessing the future achievements that iCAN will bring to the world of innovation.

Congratulations again to iCAN for a decade of impact, and to all the visionaries who make this community thrive!

Majid EL BOUAZZAOUI
President
OFEED Inc. / Rabat, Morocco

DR. CATHERINE DEMETRIADES / iCAN Committee Advisor

Welcoming everyone to the **10th Anniversary Edition of the International Invention Innovation Competition in Canada – iCAN 2025.** This special milestone brings together brilliant minds, passionate innovators, and esteemed delegations from across the globe to celebrate creativity, ingenuity, and the limitless possibilities of human imagination. Over the years, iCAN has grown into a vibrant international stage where ideas meet opportunity, and I am truly honored to share this moment with each of you as we embark on another inspiring chapter in our journey of innovation.

It is my greatest honor, as a committee member this year, to extend heartfelt congratulations to the extraordinary iCAN Team, to every exceptional participant, and above all, to our guiding star — the incomparable Moonsuk Chang. His vision has gathered the Legacy Makers and visionaries, where without him, we might have remained scattered souls, unseen in our world-changing purpose.

What began as his dream has become a living force — one that grows stronger with each passing year, as more brilliant minds are brought into the light and their work is celebrated on a global stage. Every inventor awarded adds a new spark to the fire he first ignited, expanding the reach and impact of iCAN's mission. Together, these sparks form a constellation — a network of creators whose collective brilliance pushes the boundaries of what the world believes is possible.

I salute my fellow inventors who have walked long and arduous roads, carrying their dreams through trial and triumph, to now stand in the place of well-earned recognition for their efforts and vision. **On the Edge of Light we will have something to stand on or we will learn to fly.**

Dr. Catherine Demetriades
Founder & CEO
CXAI Technologies / The Pschentrix Inventors, Cyprus

GIORGI MIKIASHVILI / iCAN Jury & Committee Member

I would like to sincerely congratulate iCAN on its 10th Anniversary. This is a world- class exhibition that, for the past decade, has granted international recognition to thousands of inventions and inventors from every continent. It has given us, inventors, the motivation to keep working relentlessly — even through the most difficult challenges to create a better and more innovative world.

In just 10 years, iCAN has grown into one of the leading global hubs for innovation, and special credit for this achievement goes to Moonsuk Chang. It is a true honor for me that the brightest years of my career as a multidisciplinary inventor and innovator are closely connected to iCAN.

Innovation is one of the most exceptional expressions of human talent — and iCAN is a shining example of that. Congratulations to all participants. I wish you groundbreaking discoveries in the world of tomorrow's technologies!

Giorgi Mikiashvili's Future Lab

Giorgi Mikiashvili
Founder & CEO (Innovation Mentor, Trainer, Consultant)
Giorgi Mikiashvili's Future Lab, Spain

MITHONA LUY / Delegation of Cambodia

Congratulations to iCAN 2025, the 10th Anniversary edition of the International Invention Innovation Competition in Canada, proudly organized by the Toronto International Society of Innovation & Advanced Skills (TISIAS), and supported by IFIA, WIIPA, and Innovation Initiative Co-operative Inc.

2016–2024 have laid the foundation, and this milestone edition continues to build on that legacy. 2025 brings together inventors globally to showcase creativity, foster international collaboration, and celebrate transformative innovations. I express my heartfelt congratulations to all participants and award winners. May this anniversary inspire even more breakthroughs around the world.

Prof. Mithona Luy
Deputy Head of Computer Studies
Norton University, Cambodia

NEVEN MARKOVIC / Delegation of Croatia

As for the Croatian Inventors Network, we are honored to be part of the remarkable journey of iCAN, especially in celebrating its 10th anniversary. Since our first participation, we have witnessed firsthand how iCAN has created an inspiring and professional platform that unites innovators from every corner of the world. The competition's dedication to excellence, fairness, and global collaboration has not only elevated the profile of innovation **but also fostered lasting friendships and partnerships across nations.** We commend iCAN Team for their passion, vision, and relentless effort in making this event a beacon of creativity and opportunity for all.

Neven Marković
General Director
Croatian Inventors Network

CROATIAN INVENTORS NETWORK

EDDIE SHIH / President of TIPPA (Taiwan, R.O.C.)

On this most distinguished occasion of the **10th anniversary of the 10th International Invention Innovation Competition in Canada (iCAN 2025)**, the Taiwan Invention Products Promotion Association has the singular honor of conveying its heartfelt felicitations and deepest gratitude to the esteemed organizers.

Over the course of its illustrious history, this prestigious competition has stood as a shining beacon, illuminating the path of ingenuity, fostering cross-border collaboration, and elevating the spirit of human creativity to ever greater heights.

We remain profoundly indebted to the exhibition for its unwavering support in **enabling the brilliant talents of Taiwanese enterprises and students to be showcased to the face of the world**, thus bearing eloquent witness to our nation's innovation, excellence, and vision.

It is our earnest wish that this cherished partnership may continue to flourish in the years ahead, yielding ever richer opportunities for mutual advancement, and that together we may contribute enduringly to the progress and prosperity of the global community.

Eddie Shih
President
Taiwan Invention Products Promotion Association (TIPPA)

PROF. AUREL MIHAIL TITU / iCAN Jury & Committee Member

First, **I would like to congratulate the organizers for continuously and successfully holding iCAN event every year,** where now we are at the 10th appearance this 2025. Behind this event, there is a lot of hard work and sleepless nights to make things possible.

As a university professor and PhD supervisor, as an inventor and European expert in Intellectual Property at European Patent Office, **it is my greatest honour to participate and collaborate with great inventors from all over the world.**

There is a special person, that have a key role, in the making of this edition, Mr. Moonsuk Chang and his team of professionals who managed this great event. Thank you for nominating me to the International Jury of iCAN 2025.

Kind thoughts go to the heads of delegations worldwide and those who lead the organizations of Intellectual Property Protection.

I thank all of them for the unique collaboration and for the support they have offered me in my professional training in the field of Intellectual Property at the International level in the last 32 years.

Congratulations to all participants for the inventions presented at iCAN 2025.

Prof. Dr. Aurel Mihail TITU
Prof. Dr. Eng. Dr. Ec. Dr. Habil. Dr.h.c.
"Lucian Blaga" University of Sibiu, Romania

UNIVERSITATEA LUCIAN BLAGA DIN SIBIU

SCOTT PETRIE / iCAN Jury & Member of the Inventors Circle

I extend my heartfelt congratulations to the Toronto International Society of Innovation & Advanced Skills (TISIAS) on the remarkable success of the 10th Anniversary Edition of the International Invention Innovation Competition in Canada (iCAN 2025). Over the past decade, TISIAS has consistently demonstrated exceptional leadership, vision, and dedication in building iCAN into one of the most respected and influential platforms for inventors worldwide. This year's milestone edition not only reflects the event's growth and prestige but also stands as a testament to the unwavering commitment of TISIAS to fostering creativity, innovation, and global collaboration.

I also wish to recognize the invaluable partnership and cooperation with the Inventors Circle in Toronto, Canada, whose active involvement has contributed greatly to the success of this anniversary celebration. Together, TISIAS and the Inventors Circle have created a dynamic and inclusive environment where innovators from all corners of the world can exchange ideas, form meaningful connections, and inspire one another. This shared dedication to advancing innovation has made iCAN 2025 a truly memorable event and a shining example of what can be achieved through collaboration, passion, and a shared vision for the future.

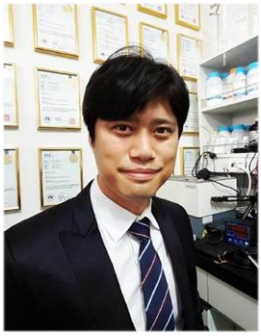
Congratulations to all participants of iCAN 2025 and I encourage you to continue your amazing craft!

Scott Petrie
Canadian Member, Toronto
Innovation Initiative Co-operative Inc.

INVENTORS CIRCLE

innovation initiative
A NON-PROFIT FORUM SUPPORTING INNOVATIVE BUSINESS

DR. JUHYEONG KIL / iCAN Jury & Committee Member



Distinguished inventors, esteemed guests, and friends, it is my great honor to warmly welcome you to the 10th Anniversary Edition of iCAN Invention Competition—a gathering where humanity's limitless creativity and passion for innovation unite. Today, we celebrate not only the remarkable ideas before us but also the collective hope and vision they represent for a brighter future. Every invention showcased here is a testament to the human spirit—bold, curious, and relentlessly driven to push the boundaries of possibility.

To our inventors from across the globe, I extend my deepest respect and admiration. Despite the challenges of limited resources and time, you have transcended barriers to create solutions that shape a better tomorrow. True invention is not only about making something new, but it is also about solving pressing challenges, advancing human progress, and inspiring meaningful change. While each creation may seem small on its own, together they form a powerful force capable of transforming our world.

Since its inception, iCAN has stood as a platform dedicated to celebrating and supporting this spirit of ingenuity, evolving into one of the world's most respected stages for invention. Here, we not only showcase innovations but also foster collaboration, exchange ideas, and amplify our collective impact. I wholeheartedly believe that the work presented today has the potential to create lasting global change, and I wish each of you great success.

In closing, it is a privilege to stand among such extraordinary talent and to witness firsthand the boundless potential of human creativity. **I extend my warmest congratulations to the 10th iCAN Invention Competition and look forward to the brighter, more innovative future that you, our inventors, will lead us toward.**

Juhyeong Kil
Chairman
International Invention & Design Leader Awards (IIDLA)

IIDLA
International Invention & Design Leader Awards

INTERNATIONAL INVENTION INNOVATION COMPETITION IN CANADA, iCAN (2016 – 2024)

GENERAL INFORMATION

TITLE OF EVENT

The 10th International Invention Innovation Competition in Canada, iCAN 2025

MAIN DATE(S)

iCAN 2025 ***"The Preliminaries"*** (January 15 – July 15)
iCAN 2025 ***"The Finals"*** (August 30)

ORGANIZED & BROUGHT TO YOU BY

Toronto International Society of Innovation & Advanced Skills (TISIAS) & INVENTOR SOUND®

SUPPORTED BY

Innovation Initiative Co-operative Inc. "The Inventors Circle"
International Federation of Inventors' Associations (IFIA)
World Invention Intellectual Property Associations (WIIPA)

SUPPORTING PARTNERS, DELEGATIONS & CONTRIBUTORS

American Society of Inventors (ASI) – Philadelphia, USA
American Society of Sciences and Arts Convergence (ASSAC) – USA
Angolan Association of Inventors and Innovators (A@ii)
Arabian Invention and Innovation Company (AIIC)
Association for the Promotion of Polish Science, Technology and Innovation (SPPNTI)
Association of Congolese Inventors and Innovators (@Cii)
Association of Polish Inventors and Rationalizers (SPWiR)
Association of Thai Innovation and Invention Promotion (ATIP)
Belgrade Association of Inventors – Serbia
Brazilian Science and Vocational Education Fair (FECEP) / CEEP Pedro Ribeiro Pessoa Science Fair
Bright Inventors Association – France
CANADA"IN" Student Exchange Agency – Korea/Canada
Citizen Innovation – Singapore
Corporation of Inventors and Technological Innovation of Chile (CIIT)
Croatian Inventors Network (HSI) / Zagreb Inventors Association
CXAI Technologies – Cyprus
Education University of Hong Kong (EDUHK)
Ellison Institute of Technology (EIT) – United Kingdom
EUROBUSINESS – Poland
First Institute of Canadian Inventors (FICI)
First Institute of Researchers and Inventors in I.R Iran (FIRI)
German Invention Association (KIT-DEV) / IFIA STEM
Giorgi Mikiashvili's Future Labs – Spain
Greek Innovation Forum
Highly Innovative Unique Foundation (HIUF)
Hong Kong Dream Technology and Innovation Society (HKDTIS)
HOW Creative – USA
Indonesian Invention and Innovation Promotion Association (INNOPA)
Innovative Business Solutions (IBS Global) – Poland
Instituto Nacional de Defensa de la Competencia y de la Protección de la Propiedad Intelectual (INDECOPI)
International American University (IAU) – USA
International Invention & Design Leader Awards (IIDLA) – Korea
INVENTARIUM SCIENCE – SRD Security, Research & Development – Portugal
Inventors Club of Georgia
Inventors College Organization (ICO) – Canada
Inventors' Association of Bosnia and Herzegovina (AIBIH)
Junior Achievement Moldova (JA-Moldova)
Korea Invention News (KINEWS) & Korea Invention Academy (KiA)
Korea University Invention Association (KUIA)
Latin America Society for Science and Technology (SOLACYT)
Liwa College, United Arab Emirates & Suez Canal University, Egypt
Lodz University of Technology – Poland
Lucian Blaga University of Sibiu – Romania
M24 Labs GmbH – Germany
Macao Innovation and Invention Association (MIIA)
Macedonian Association ,,Doza srekja,, / National Association of Inventors of Macedonia (NAIM)
Manila Young Inventors Association (MYIA) – Philippines
Maple AI Innovation Foundation – Canada
National Association for Science and Research (NASR) – Lebanon
Norton University – Cambodia
Nova Vista Education Inc. – Waterloo, Canada
OFEED Inc. – Morocco
Organization for Creativity, Innovation and Invention Promotion (OCIIP) – Nigeria
Ötlet Club 13 Egyesület – Hungary

Patent Invention Magazine – Italy
Qatar University Young Scientists Center (QUYSC)
Romanian Association for Alternative Technologies Sibiu (A.R.T.A. - SIBIU)
Romanian Inventors Forum (FIR)
Satit Chula Innovation Society (SCIS) – Thailand
Shun Tak Fraternal Association Yung Yau College – Hong Kong, China
Siava, Ideas Accelerated – Canada
Sri Lanka Inventors Commission (SLIC)
Stockholm Innovators Association (STIK) – Sweden
Taiwan Invention Products Promotion Association (TIPPA)
Technofest Institute of Technology University (TITU) – Belgium
Tunisian Association for the Future of Sciences and Technology (ATAST)
Turkish Inventors Association (TÜMMİAD)
Uncle Bugs Inventor Academy & ViTrox Academy – Malaysia
Union of Arabian Academics (TUOAA) – Yemen
Universiti Sains Malaysia (USM)
University of Ioannina – Greece
University POLITEHNICA of Bucharest – Romania
World Genius Convention (WGC) / International Invention and Innovation Institute (IIII)
World Women Inventors & Entrepreneurs Association (WWIEA)
Yahya Kemal College (YKC) – North Macedonia

INTERNATIONAL JURY

Bob Huybrechts The Inventors' Circle (CANADA) / Co-Chairman	**Howard A. Lim** HOW Creative (USA) / Co-Chairman
Mike McFarthing The Inventors' Circle / Vice-President of the Jury	**Andrei Victor Sandu** Romanian Inventors Forum / Vice-President of the Jury
Jeffrey Dobkin American Society of Inventors (ASI) – Philadelphia, USA	**Deivison Trindade dos Santos** Brazilian Science and Vocational Education Fair (FECEP)
Lennart Nilsson Stockholm Innovators Association (STIK), Sweden	**Guy Langvardt** International American University (IAU) – USA
Carlos Hernández Corporation of Inventors and Innovation of Chile (CIIT)	**Victor Bautista Díaz** Chemist & Researcher of Buenos Aires, Argentina
Michał Szota Association of Polish Inventors and Rationalizers (SPWiR)	**Adam Rylski** Lodz University of Technology – Poland
Mi Young Han World Women Inventors & Entrepreneurs Association (WWIEA)	**Zoltán Nagy** Idea Club 13 Association – Hungary
Fernando Maldonado Lopes INVENTARIUM-SCIENCE – Portugal	**Scott Petrie** The Inventors Circle – Toronto, Canada
Masoud Shafaghi Int'l Federation of Inventors' Associations (IFIA)	**Hossein Vaezi Ashtiani** First Institute of Researchers & Inventors in Iran (FIRI)
Winfried Sturm German Invention Association (KIT-DEV)	**Jeerasak Jitrotjanarak** Satit Chula Innovation Society (SCIS) – Thailand
Vasileios Ag. Drougas University of Ioannina – Greece	**Lemon Hok Ming Kwan** The Education University of Hong Kong
Husein Hujić Inventors' Association of Bosnia and Herzegovina	**Omar Bilonashvili** Inventors Club of Georgia
Aurel Mihail Titu Lucian Blaga University of Sibiu, Romania	**Augustin Semenescu** University Politehnica of Bucharest, Romania
Majid El Bouzazzaoui OFEED Inc. – Morocco	**Radwan Chouaib** National Association for Science and Research (NASR)
Juhyeong Kil International Invention & Design Leader Awards (IIDLA)	**Ma. Chat Donna V. Ofilas** Manila Young Inventors Association (MYIA)
Neyara Radwan Al Maarefa University & Suez Canal University	**Danny Pak Keong Lai** Macao Innovation & Invention Association (MiiA)
Mohd Remy Rozainy Mohd Arif Zainol Universiti Sains Malaysia (USM)	**Giorgi Mikiashvili** Giorgi Mikiashvili's Future Labs – Spain
Mithona Luy Norton University – Cambodia	**Lau Sai Chong** Hong Kong Dream Technology & Innovation Society (HKDTIS)
Babak Khodaparast First Institute of Canadian Inventors (FICI)	**Dragan Jovanov** National Association for Inventors of Macedonia (NAIM)
Victoria Ramzy Habib Attia Invention Education Specialist	**Wagdy Rizk Ghali Rizk** Invention Education Specialist

ABOUT iCAN 2025 "THE 10TH ANNIVERSARY EDITION"

International Invention Innovation Competition in Canada (iCAN) is Canada's premier, globally recognized event for inventors, demonstrating remarkable growth and advancement since its inaugural edition in 2016. Over the past 9 editions, iCAN has welcomed participants from **96 countries and regions across North, Central, and South America, Asia, Europe, Africa, the Middle East, and Oceania.** This extensive international presence has elevated and redefined iCAN as a true global stage for uniting creativity and innovation from around the world in Toronto, Canada. **This year, we are especially excited to welcome you all back to iCAN 2025 "*The 10th Anniversary Edition*"**!

The 10th International Invention Innovation Competition in Canada (iCAN 2025) will be held online, and we are honored to once again invite you to participate. This is your opportunity to present your exceptional ideas, create meaningful impact, and gain recognition for outstanding creativity and innovation at the heart of Canada's vibrant multicultural community. iCAN offers a dynamic platform featuring multiple programs, including the **invention competition, keynote presentations, The Finals Movie, and the iCAN Awards.** Inventors, innovators, students, professors, researchers, scientists, designers, entrepreneurs, and all individuals with remarkable ideas are welcome to apply for iCAN 2025, take part in all program activities, and enjoy the full range of participant benefits.

THE PRELIMINARIES

iCAN 2025 *"The Preliminaries"* was held open for a 6-month period from January 15 – July 15 where applicants registered to the competition by submitting their application forms by email. The Preliminaries served as the selection process for **Gold, Silver and Bronze Medal Award** Winners based on the jury's screen evaluation of the text/visual contents that the applicants have provided in their application forms to express their projects. Following the initial evaluation in the Preliminaries, the applicants proceeded to the optional Finals to further articulate their ideas through creative video presentations.

THE FINALS

iCAN 2025 *"The Finals"* is the advanced phase of the Preliminaries as the final stage of the competition where the Finalists are required to present their projects' video presentations for the jury & organizing committee members' assessment for the opportunity to win the **iCAN 2025 "The Finals" Awards**.

The Finals is a privileged stage that is exclusively offered for those who have passed the competition Preliminaries stage of the event. All Finalists who decide to proceed to the Finals can enjoy the benefits of the programs offered below. This year's **iCAN 2025 "The Finals" will be progressed virtually by through content uploads of the following items online on August 30th** on iCAN Finals webpage:

iCAN 2025 "THE FINALS" ONLINE PROGRAMS August 30th @ 10:00AM (EST) – Toronto, Canada on www.tisias.org/ican-finals2025	
CONTENT UPLOAD I	**iCAN 2025 "The Finals" Award Winners Announcement**
CONTENT UPLOAD II	iCAN 2025 Keynote Speakers' Presentations ***(3 Special Lectures)***
CONTENT UPLOAD III	**iCAN 2025 "The Finals" Movie Showcase**
CONTENT UPLOAD IV	iCAN 2025 Official Catalogue Online

THE AWARDS

*** iCAN 2025 "The 10th Anniversary Edition" Awards Program Nomination Categories ***

iCAN 2025 *"The Finals"*		
THE GRAND PRIZE		**THE SEMI-GRAND PRIZE**
TOP 10 BEST INVENTION AWARDS		**TOP 20 BEST INVENTION AWARDS**
BEST YOUNG INVENTOR AWARDS		**BEST WOMAN INVENTOR AWARDS**
BEST INVENTION VIDEO AWARDS		**BEST INVENTION DESIGN AWARDS**
ORGANIZER'S CHOICE AWARDS		**JURY'S CHOICE AWARDS**
CANADIAN SPECIAL AWARDS		**INTERNATIONAL SPECIAL AWARDS**
ACHIEVEMENT AWARDS	**iCAN SPECIAL AWARDS**	**EXCELLENCE AWARDS**
iCAN 2025 *"The Preliminaries"*		
GOLD MEDAL AWARDS	**SILVER MEDAL AWARDS**	**BRONZE MEDAL AWARDS**

10 YEARS iCAN 2016~2025


10 years anniversary
International Invention Innovation Competition in Canada
iCAN-TORONTO, CANADA
INTERNATIONAL INVENTION INNOVATION COMPETITION IN CANADA iCAN 2025
ORGANIZED BY TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS (TISIAS), CANADA
www.tisias.org/ican-finals2025
ORGANIZED & Ffeatured BY
LOCALLY & INTERNATIONALLY SUPPORTED BY
TISIAS
TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS
INVENTOR SOUND
SHINE INVENTORS
INVENTORS CIRCLE
innovation initiative
A NON-PROFIT FORUM SUPPORTING INNOVATIVE BUSINESS
IFIA
INTERNATIONAL FEDERATION OF INVENTORS' ASSOCIATIONS
WIIPA
INTERNATIONAL DELEGATIONS • PARTNERS • SUPPORTERS
HOW CREATIVE
We Design Businesses
FICI
Eurobusiness
CEEP
PEDRO RIBEIRO PESSOA
CROATIAN INVENTORS NETWORK
ASI
American Society of Inventors.org
STIK
ATIP
miia
INVENTARIUM
Bright Inventors
NORTON UNIVERSITY
Yahya Kemal College
ASSAC
American Society of Sciences and Arts Convergence
Belgrade Association of Inventors
Citizen Innovation
WE DARE TO DREAM
Korea Invention Academy
한국발명아카데미
SPPNT
Nova Vista Education
UNIVERSITATEA LUCIAN BLAGA DIN SIBIU
Inventor's Club of Georgia
Junior Achievement Moldova
Politechnika Łódzka
SCIS
SATIT CHULA INNOVATION SOCIETY THAILAND
IBS GLOBAL
M24LABS
UNIVERSITI SAINS MALAYSIA
THE PATENT
Invention Magazine
iau
香港教育大學
The Education University of Hong Kong
ART.A
TÜMMİAD
UNIVERSITY OF IOANNINA
AI INNOVATION FOUNDATION
AIBIH
Giorgi Mikiashvili's Future Lab
OCIIP
ORGANIZATION FOR CREATIVITY, INNOVATION AND INVENTION PROMOTION
مركز جامعة قطر للعلماء الشباب
Qatar University Young Scientists Center
KUIA
한국대학발명협회
Korea University Invention Association
Ellison Institute of Technology
Ellison Scholars
FEED
INNOPA
كلية ليوا
Liwa College
Est 1993
IDEA CLUB 13
Acea Cpeka
NAIM
siava
Ideas Accelerated
POLITECHNICA
205 YEARS OF INNOVATION
1818
NUST
WORLD GENIUS CONVENTION
National Association for Science and Research
MANILA YOUNG INVENTORS ASSOCIATION
Invention Development in Education Advocacy
캐나다人
IIDLA
International Invention & Design Leader Awards
ATAST
Think Again Be Different
SOLACYT
Sociedad Latinoamericana de Ciencia y Tecnología
HKDTIS
GREEK INNOVATION FORUM
SUEZ CANAL UNIVERSITY
VITROX ACADEMY
UNCLE BUGS
UNCLE BUGS INVENTOR ACADEMY
AIIC
WWLCA
KOREA INVENTION NEWS
HIUF
DEUTSCHER ERFINDERVERBAND e.V.
INTERNATIONAL UNIVERSITY
@Cii
Association Congolaise des Inventeurs et Innovateurs

62 PARTICIPATING COUNTRIES & REGIONS

THE 10TH INTERNATIONAL INVENTION INNOVATION COMPETITION IN CANADA, iCAN 2025
"THE 10TH ANNIVERSARY EDITION" | 30 AUGUST 2025 | TORONTO, CANADA

AFGHANISTAN
ALGERIA
ARGENTINA
AZERBAIJAN
BOSNIA & HERZEGOVINA
BRAZIL
BRUNEI
CAMBODIA
CANADA
CHINA
CROATIA
CYPRUS
EGYPT
FINLAND
GEORGIA
GERMANY
GREECE
HONG KONG, CHINA
HUNGARY
INDIA
INDONESIA
IRAN
IRAQ
IRELAND
ITALY
JAPAN
KENYA
KOREA
KUWAIT
LEBANON
MACAU, CHINA
MACEDONIA
MALAYSIA
MOLDOVA
MOROCCO
NEW ZEALAND
PERU
PHILIPPINES
POLAND
PORTUGAL
QATAR
ROMANIA
RUSSIA
SAUDI ARABIA
SERBIA
SINGAPORE
SOMALIA
SPAIN
SRI LANKA
SUDAN
SWEDEN
SWITZERLAND
TAIWAN, R.O.C.
TAJIKISTAN
THAILAND
TURKEY
UAE
UNITED KINGDOM
USA
UZBEKISTAN
VIETNAM
YEMEN

International Invention Innovation Competition in Canada
iCAN - TORONTO, CANADA

TISIAS
TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

LIST OF EXHIBITS

62 Countries & Regions in Participation for iCAN 2025 "The 10th Edition"

AFGHANISTAN

AF-01	NAME(S)	Sulaiman Mohammadi
ORGANIZATION		Kimiya Nori Company
TITLE OF ENTRY		FanPak Hybrid

FanPak Hybrid is a compact, low voltage air purification unit that attaches to vehicle exhausts or building ventilation ducts to trap particulate matter and harmful gases before release. Powered by 12–48V DC motors, it combines a centrifugal fan with multilayer filter cartridges and a catalytic mesh to maximize pollutant removal while minimizing energy consumption. The modular design allows fast retrofit installation on cars, buses, generators, and HVAC stacks, making it a practical, affordable solution for cleaner urban air.

AF-02	NAME(S)	Sadaf Karimi
ORGANIZATION		N/A
TITLE OF ENTRY		Smart Educational Board

The Smart Educational Board is an innovative tool that provides personalized learning by using visual and interactive support. It helps students understand complex subjects like medicine and science more clearly. The board includes an embedded book scanner that appears when needed. Designed for underserved communities, it adapts to each student's learning pace, creating equal access to quality education

ALGERIA

DZ-01	NAME(S)	BENTERKI MOHAMED SADEK
ORGANIZATION		N/A
TITLE OF ENTRY		THE SMART TURBINE FOR CAPTURING CURRENTS

The smart turbine captures air and/or water currents by rotating around one or more axes (horizontal, vertical, inclined, or variable). It reduces drag by opening its pockets or wings at the current impact point and folding them afterward. Its extendable arms generate high torque, improving energy capture efficiency. The turbine converts current flow into mechanical energy for electricity generation or as an eco-friendly alternative to fossil-fuel engines. In reverse, it can be used to push fluids or transport natural and industrial materials.

ARGENTINA

AR-01	NAME(S)	Victor Bautista Díaz
ORGANIZATION		N/A
TITLE OF ENTRY		Melanoidins in Agriculture: Chemical production from agro-industrial waste and its application as stress reducers due to high solar radiation and promoters of plant development; valorization of apple pomace

The objective of this study is the development of melanoidins that reduce solar stress in plants and are valuable plant growth promoters. These melanoidins may or may not be part of an organic or chemical fertilizer. These substances are obtained by reacting pectic oligosaccharides (obtained by hydrolysis of the pectin contained in apple pomace) and oligopeptides (obtained by hydrolysis of various proteins discarded from agro-industrial processes); in this way, agro-industrial waste is returned to the soil in the form of an organic product. This contributes to the valorization of these agro-industrial wastes (particularly apple pomace), promoting the health and remediation of damaged soils, reducing plant stress due to high solar radiation, and stimulating plant development, optimizing the yield of agricultural crops. The cost should be minimal, since the starting material is the aforementioned waste, which, otherwise and in a high proportion, would be dumped indiscriminately into the environment or discharged into solid and liquid effluent treatment plants. This study has been developed so that it can be implemented on a technical scale in manufacturing plants that have basic equipment to carry out chemical processes. It is obvious that the same methods can be applied to pear pomace, and that the product has applications not only in agricultural crops, but also in horticulture and fruit growing, as will be understood by those skilled in the art.

AZERBAIJAN

AZ-01	NAME(S)	Timur Mustafazade / Murad Maharram
ORGANIZATION		International School of Azerbaijan (TISA)
TITLE OF ENTRY		SMARTSHIELD for wheat seeds: advanced biochar-chitosan seed coating for soil & crop improvement

Climate-resilient agriculture demands smart, sustainable solutions. This invention introduces a biochar–chitosan (BC-CS) seed coating, developed specifically for wheat (Triticum aestivum L.) seeds, to enhance germination, soil health, and crop vigor. The synergistic effects of chitosan's antimicrobial properties and biochar's water retention led to a 30% increase in germination energy and 12% rise in soil organic carbon. Made from agricultural waste, the formulation is biodegradable, scalable, and cost-effective. Designed to reduce chemical inputs and improve crop performance under climate stress, this innovation offers strong commercial potential and applicability in both developed and resource-limited agricultural systems.

BOSNIA AND HERZEGOVINA

BA-01	NAME(S)	Milan Aleksić / ANTENA-NET DOO TESLIC
ORGANIZATION		TESLIC BIH
TITLE OF ENTRY		**Advanced solution for sports event management**

ScoreMaster is an advanced, fully integrated digital platform that revolutionizes sports event management by unifying teams, venues, and data within a centralized ecosystem. It automates scorekeeping, player statistics, and official records, providing seamless synchronization between displays, mobile devices, and broadcast platforms. The system eliminates delays, ensures precision, and transforms how sports events are conducted — from professional leagues to grassroots tournaments. Its unique architecture empowers organizers, coaches, and broadcasters with real-time data and customizable automation, making ScoreMaster the global standard for sports management and digitalization.

BRAZIL

BR-01	NAME(S)	Adson Adiel de Assis Bastos / Erick Rafael Silva Santana / Marcos Vinicius Rodrigues de Oliveira
ORGANIZATION		CEEP Pedro Ribeiro Pessoa
TITLE OF ENTRY		**Zentro.AI — The Core of Your Business Success**

An artificial intelligence designed to be the digital mentor for entrepreneurs and micro-entrepreneurs. It guides users from idea conception to business management with personalized solutions, accessible language, and practical support. Features include automated business plans, a real-time problem-solving system, gamified mentoring, business simulators, marketing consultancy, and legal guidance. The platform creates a collaborative network, empowering users with knowledge and tools to succeed in the business world.

BRUNEI DARUSSALAM

BN-01	NAME(S)	Almas Munirah Abdul Ghani / Syifa Ajilla Putri Takong / Hana Samiihah Abd Aziz / Nur Irdina Sarudin / Ampuan Nurul Wa'izzah / Ampuan Asmad / Afrina Sahira Haji Awang Mekrat / Aklimah Haji Mustapa / Hamzah Mohd Salleh / Siti Nur Idayu Haji Matusin
ORGANIZATION		Halalan Thayyiban Research Centre, Sultan Sharif Ali Islamic University
TITLE OF ENTRY		**BlosLeather**

BlosLeather is a sustainable, halal-compliant bio-leather made from banana blossom. Designed as an ethical alternative to traditional animal-based leather, this innovation addresses the growing demand for cruelty-free, eco-conscious, and religiously permissible materials among Muslim and vegan consumers. Utilizing agricultural waste, BlosLeather supports environmental preservation, reduces landfill burden, and promotes zero-waste practices. It is biodegradable, affordable, and scalable, making it ideal for ethical fashion and lifestyle industries. Future developments include enhancing durability, water resistance, obtaining halal and eco-certifications, and collaborating with farmers and ethical brands. BlosLeather represents a meaningful step towards green innovation within the global halal ecosystem.

CAMBODIA

KH-01	NAME(S)	Sothealen Phal / Sokrith Pen / Vitou Sok / Sopheak Somart / Socheat Sek
ORGANIZATION		Department of Computer Studies, Norton University
TITLE OF ENTRY		**Digital Document Navigator AI System**

The Digital Document Navigator AI System is an advanced software application designed for efficient document management. It uses AI-driven techniques to revolutionize academic institutions by providing smart search, aggregated summaries, and personalized recommendations for students and faculty. The system aims to enhance productivity, save time, and improve the user experience.

KH-02	NAME(S)	HE. Chan Mithona (Advisor) / Ms. Poly Pheary (Co-Advisor) / Mr. Hach Phanong (Co-Advisor) / Ms. Srun Muoykieng (Co-Advisor) / Mr. Dan Chantara (Co-Advisor) / Ms. Om Soknet / Mr. Soeun Piseth
ORGANIZATION		Department of Electrical and Electronic Engineering, Norton University
TITLE OF ENTRY		**Solar Street Light Monitoring**

As the world moves towards sustainable energy solutions, solar-powered streetlights have become an essential component of smart cities or rural areas. However, maintaining and monitoring these lights manually can be inefficient, costly, time-consuming, and a waste of labor. To address these challenges, we have developed a Solar Street Light Monitoring System that enables real-time tracking, remote control, and efficient management of solar street lights and easily finds the malfunctioning solar streetlights.

KH-03	NAME(S)	HE. Chan Mithona (Advisor) / Ms. Poly Pheary (Co-Advisor) / Mr. Hach Phanong (Co-Advisor) / Ms. Srun Muoykieng (Co-Advisor) / Mr. Dan Chantara (Co-Advisor) / Ms. Ratha Sophanith / Mr. Sambath Vibol
ORGANIZATION		Department of Electrical and Electronic Engineering, Norton University
TITLE OF ENTRY		**Clogged Drainage Monitoring System**
Urban drainage systems are essential for preventing waterlogging, flooding, and maintaining sanitation. However, blockages in drainage systems often go unnoticed until they cause serious problems such as water stagnation, foul odors, and infrastructure damage. Traditional manual inspections are inefficient, time-consuming, and costly. To address this issue, we have developed a Clogged Drainage Monitoring System, which utilizes sensors and real-time data analysis to detect blockages early and alert to control center. This system ensures timely intervention, reducing the risks associated with clogged drainage.		

KH-04	NAME(S)	HE. Chan Mithona (Advisor) / Mr.UL DARA (Advisor) / Mr.EL ESEOR (Co-Advisor) / Mr.HACH PHANONG (Co-Advisor) / Mr.SAMBATH VIBOL / Ms.RATHA SOPHANITH
ORGANIZATION		Department of Electrical and Electronic Engineering, Norton University
TITLE OF ENTRY		**Supermarket Self Payment for General Grocery**
Most supermarkets in Cambodia often staff operated checkout kiosks to process customer payments which lead to time consuming, long wait and inconvenience to customers. Furthermore, payment methods in Cambodia are a mix of cash, card and digital options, creating additional complexity. Therefore, our team created a project which is called "Supermarket Self Payment for General Grocery" to streamline checkouts and enhance customer convenience through technology.		

KH-05	NAME(S)	H.E. CHAN MITHONA (Advisor) / Mr.UL DARA (Advisor) / Mr.EL ESEOR (Co-Advisor) / Mr.HACH PHANONG (Co-Advisor) / Mr.SAMBATH VIBOL / Ms.RATHA SOPHANITH
ORGANIZATION		Department of Electrical and Electronic Engineering, Norton University
TITLE OF ENTRY		**Auto Generate KhQR Payment for Petroleum**
In Cambodia, fuel payments at petrol stations often rely on manual processes, leading to delays, human errors, and operational inefficiencies. Additionally, the mix of cash and digital payment methods adds complexity. To address this, our team created project which called “Auto Generate KhQR Payment for Petroleum”, which automates KhQR code generation for seamless, secure, and cashless transactions, improving efficiency and customer convenience.		

KH-06	NAME(S)	HE. Chan Mithona (Advisor) / Mr.UL Dara (Advisor) / Mr.EL Eseor (Co-Advisor) / Mr.HACH Phanong (Co-Advisor) / Mr.SAMBATH Vibol / Ms.RATHA Sophanith
ORGANIZATION		Department of Electrical and Electronic Engineering, Norton University
TITLE OF ENTRY		**Vehicle Access Control System**
The Vehicle Access Control System is an advanced security solution designed exclusively for institutions in Cambodia to regulate vehicle entry and enhance security. This system integrates long-range RFID technology, touchscreen UI, and wireless communication via ESPNOW to ensure efficient and seamless access management. By automating vehicle identification and access approval, the system minimizes human intervention, reduces unauthorized entry, and improves overall security.		

KH-07	NAME(S)	Dr. So Sokuntheary / Prof. Chuop Sopheak / Mr. Cheng Neahav / Ms. Mol Nyta / Mr. Ly Chandavin
ORGANIZATION		Department of Architecture and Urbanism, Norton University
TITLE OF ENTRY		**SUN SHADING DEVICE**
The aim of this project is to: - Develop innovative modern techniques for advancing architectural construction. - Create a device that protects against heat from the sun. - Specifically, design a system that can convert sunlight into energy for daily use. The features of this project include: - The solar panel adjusts according to weather conditions and the sun's path. - It can also be modified based on the user's needs or preferences. - The system absorbs sunlight and converts it into usable energy. - It allows for changes in the aesthetics of the building's surface, as per the user's commands. - It can be used as a screen for broadcasting purposes.		

KH-08	NAME(S)	Dr. So Sokuntheary / Prof. Chuop Sopheak / Mr. Heng Sokkosal / Mr. Sreang Laysreng / Mr. Oum Oudamratana / Ms. Meas Sreymi
ORGANIZATION		Department of Architecture and Urbanism, Norton University
TITLE OF ENTRY		**THE BAMBOO SCHOOL**
The Bamboo School Project in Kratie Province, Cambodia, aims to build a sustainable, eco-friendly learning environment for primary students using locally sourced bamboo. It addresses the region’s lack of infrastructure by incorporating solar power, clean water systems, and smart technology. The project not only improves education facilities but also promotes community involvement and environmental sustainability.		

KH-09	NAME(S)	Dr. So Sokuntheary / Prof. Chuop Sopheak / Mr. Cheav William / Mr. Seang MongVatanak / Mr. Chakk Lyhuor
ORGANIZATION		Department of Architecture and Urbanism, Norton University
TITLE OF ENTRY		THE FLORET BUS-STOP

The Floret Bus Stop is a futuristic and innovative transportation hub that seamlessly integrates technology with nature. Designed to promote sustainability, it features an advanced water recycling system that transforms humidity into drinkable water. Additionally, the bus stop incorporates Gen Pave tiles and solar panels to generate renewable energy, reducing reliance on conventional power sources. Most importantly, by expanding the network of bus stops across various locations, the project aims to ease traffic congestion, minimize carbon emissions, and enhance connectivity, allowing travelers to explore more destinations with greater convenience.

KH-10	NAME(S)	Dr. So Sokuntheary / Prof. Chuop Sopheak / Mr. Norm Phearith / Ms. Hai Sokunsocheata / Mr. Ung Chisreng
ORGANIZATION		Department of Architecture and Urbanism, Norton University
TITLE OF ENTRY		THE BAMBOO CLASS AND RENEWABLE ENERGY

The features of this project include: - The solar panel adjusts according to weather conditions or from sun energy. - Bamboo also be modified to classroom based on the user's needs or preferences. - The playgrounds can be generating the energy from activity of people converts it into electrical energy. These solar panels feature pixels that can serve multiple functions: collecting sunlight and converting it into energy, playgrounds can be making energy from activity of people, the energy that all collecting are goes to computer lab or everything that can be power by electrical.

KH-11	NAME(S)	Dr. So Sokuntheary / Prof. Chuop Sopheak / Mr. Mao Sothea
ORGANIZATION		Department of Architecture and Urbanism, Norton University
TITLE OF ENTRY		Phnom Penh Chroy Changvar Twin Cable-Stayed Bridge

The research study on the project "Wat Phnom Quarter in the Context of Urbanization and Sustainability" was conducted with the aim of contributing to the enhancement and development of the tourism, economic, and social sectors, while also supporting the preservation of heritage buildings, the environment, and existing natural resources. Furthermore, it seeks to promote the city's attractiveness through the revitalization of the Wat Phnom area and Daun Penh District, enabling tourism activities both during the day and at night. Beyond boosting tourism, the project is expected to generate various positive impacts that can improve the overall quality of life for the local population.

CANADA

CA-01	NAME(S)	Timothy Paul Zilinski
ORGANIZATION		N/A
TITLE OF ENTRY		The YNOTT GTD (Your Next On The Tee - Golf Tee Dispenser)

The YNOTT is a revolutionary method to store, organize and conveniently dispense golf tees. Golf tees have remained relatively the same for decades with no product providing ease of use. The YNOTT provides an innovative solution for golfers of what to do with their golf tees before and after use. Made from recycled plastic, the thin tubular design of 1.7cm wide by 26cm long (variable) is conveniently attached to the golf cart or hangs from the golf bag for ease of use. Golf tees are placed into the top and are dispensed at the bottom with a slight pull.

CA-02	NAME(S)	Maria Karam / Deb Fels / Frank Russo
ORGANIZATION		Ryerson University
TITLE OF ENTRY		System and method for displaying sound as vibrations

There is provided a method and a system for presenting audio signals as vibrotactile stimuli to the body in accordance with a Model Human Cochlea (MHC). Audio signals are obtained for presentation. The audio signals are separated into multiple bands of discrete frequency ranges that encompass the complete audio signal. Those signals are output to multiple vibrotactile devices. The vibrotactile devices may be positioned in a respective housing to intensify and constrain a vibrational energy from the vibrotactile devices. Output of the vibrotactile devices stimulate the cutaneous receptors of the skin at the locations where the vibrotactile devices are placed. In one embodiment, a system implements this method using audio voice coils that are embedded in a chair, which make contact with the human body while seated.

CA-03	NAME(S)	Evan (Ewhan) Ruzycky
ORGANIZATION		Koopeh Designs Inc.
TITLE OF ENTRY		**jRoid – Grindarolla Grind/Roll Technology**

The jRoid (with Grindarolla Grind/Roll Technology), was created to reduce people's frustrations and preparation time while making their custom sized cigarettes. Our unique approach and first to patent micro systems continue to set new standards with this unique new grind, wrap and roll system. Patented technology permits both consumer products and production machines. (ABM – Automatic Budtender Machine) - Simply insert flat paper sheet 'zigzag' (like a card at an ATM), add your flower, press a button and the jRoid desktop 'coffee/Keurig' like sized system will use Grindarolla Grind/ROLL patented technology to grind, wrap and roll custom sized cigarettes for you, 0.1gr+. Adjust tightness and sizes with Bluetooth integrated cellphone app. System is 120v.

CA-04	NAME(S)	Marc Cormier
ORGANIZATION		The O.C. Channel
TITLE OF ENTRY		**The O.C. Channel relief Insole / Auxiliary or integrated inner sole structure for footwear**

The O.C. Channel Relief Insole is a patented medical-grade foot support system engineered to relieve plantar fascia and heel spur pain through a biomechanical innovation. Its core feature is a U-shaped concave channel that unloads stress from the plantar fascia and Flexor Hallucis Longus (FHL) tendon at heel contact and midstance—where most pain originates. The design includes calibrated support for all three arches of the foot. This unique design represents a breakthrough technology in foot biomechanics. Covered by U.S. Patent US 20240260714 A1 and Canadian Patent CA 3209671, the invention offers a non-invasive solution for a global issue affecting over 2 billion people, validated by professionals and now commercially available.

CA-05	NAME(S)	Shamim Sasanpour
ORGANIZATION		N/A
TITLE OF ENTRY		**Squeegee Foldable**

My invention is based on an innovation on a device that has been on the market for years and in people's homes and workplaces, and I have increased its efficiency and made it easier to use by adding some features. Our invention involves the redesign and enhancement of an existing device with widespread application. Despite its frequent use in daily life, both general and, at times, specialized—across homes, halls, restaurants, and various indoor spaces that require regular cleaning, this product has now been improved through the addition of new features and capabilities. From the perspective of an average user, enhanced functionality, physical structure, and added components are easily recognizable, making the improvements both practical and visibly apparent.

CA-06	NAME(S)	Zhenkun Zack Wang
ORGANIZATION		BEAMSVILLE 1830 RESEARCH DEVELOPMENT LTD.
TITLE OF ENTRY		**"GlidePack Pro" (A smart all-in-one backpack for storage, mobility, and weather adaptability)**

The GlidePack Pro is a multifunctional backpack crafted from high-strength, waterproof materials. It integrates a retractable aluminum alloy pull rod, a fold-out skateboard for electric gliding, and a built-in storage compartment for a portable raincoat. Designed for urban mobility and convenience, it supports multiple uses—storage, seating or leaning support, weather protection, and personal transportation—all in one compact, durable unit.

CA-07	NAME(S)	Zhenkun Zack Wang
ORGANIZATION		BEAMSVILLE 1830 RESEARCH DEVELOPMENT LTD.
TITLE OF ENTRY		**EcoGuard AirBox: A Sustainable, Reusable Packaging System with Inflatable Protection**

A reusable and modular packaging box featuring built-in inflatable airbags. The airbags automatically inflate to conform to the size of the enclosed items, compressing internal space and securely holding the contents in place. The box is designed to be split into sections for flexible reuse and optimized storage.

CA-08	NAME(S)	Zhenkun Zack Wang
ORGANIZATION		BEAMSVILLE 1830 RESEARCH DEVELOPMENT LTD.
TITLE OF ENTRY		**An anti-tracking software system utilizing randomized browsing history augmentation and simulated behavioral patterns to counteract digital surveillance**

This invention provides an anti-tracking software system that randomly generates virtual browsing history and simulates user behavior. It embeds users' real activities within this fabricated data, making it indistinguishable to platforms. This achieves:
1. Anti-big data tracking for user privacy protection.
2. Prevention of traffic fraud to maintain market fairness.
3. Breaking information cocoons to broaden users' information access.

CA-09	NAME(S)	Zhenkun Zack Wang
ORGANIZATION		BEAMSVILLE 1830 RESEARCH DEVELOPMENT LTD.
TITLE OF ENTRY		**Intelligent Email Interception System with Time-Sensitive Control and User-Driven Filtering**
The present invention is intelligent email interception software based on time-sensitive control and user autonomous intervention, comprising five modules including initialization and password management. Through dynamic password verification, time-sensitive management, and manual intervention mechanisms, it achieves precise filtering and secure communication, overcomes limitations in existing interception technologies, and enhances flexibility and intelligence.		

CA-10	NAME(S)	Abdulkariem Aljrbi
ORGANIZATION		THE CENTER OF SUPPORT FOR INVENTORS, RESEARCHERS AND SUPERIO
TITLE OF ENTRY		**Aljrbi Tank**
The Aljrbi Tank is a multi-purpose fluid storage system divided by a flexible, chemical-resistant membrane. It allows storing two different fluids in a single tank without cross-contamination, eliminating the need for cleaning between uses. This design reduces environmental harm, lowers operational costs, and enhances efficiency in industries such as oil transport, aviation, and food processing. The membrane expands and contracts based on liquid volume, offering a smart and adaptive solution for modern fluid logistics.		

CA-11	NAME(S)	Kourosh Ehtesham / Mehrdad Ebrahimi / Azam Mohammadi / Arezoo Nabipour Khoshkroudi / Mohammadreza Fami Zagharimi
ORGANIZATION		Ecomit Inc.
TITLE OF ENTRY		**Ecomits: Smart Emission Control and Monitoring Systems for Industrial Sustainability**
Ecomit is a Canadian startup delivering advanced emission control and monitoring systems tailored for refineries, oil companies, and industrial plants. By integrating IoT, predictive analytics, and retrofit technologies, we help clients comply with environmental regulations and optimize sustainability. Our customizable solutions include catalytic converters, emission sensors, and compliance services. Designed to reduce industrial carbon footprints and mitigate pollution risks, Ecomit's platform offers a comprehensive, data-driven approach to industrial emission control.		

CA-12	NAME(S)	Elmond Aphiwetsa / Ethan Curtis
ORGANIZATION		St. Michaels University School
TITLE OF ENTRY		**OscarAI**
OscarAI is an intelligent waste sorting system that retrofits to existing bins using dual-detection technology combining computer vision and capacitive proximity sensors to automatically categorize waste into four disposal categories. The cost-effective system (under $150) achieved 81% sorting accuracy, outperforming human accuracy by 26.5%. Its universal mounting design enables widespread deployment across municipalities and schools to address Canada's recycling contamination crisis, where one-third of bin contents are incorrectly sorted, costing millions annually.		

CA-13	NAME(S)	Maureen Ojwang
ORGANIZATION		N/A
TITLE OF ENTRY		**Thigh Ease**
Thigh ease is a discreet, comfortable wearable system designed to prevent thigh chaffing, garment fading, and discomfort caused by inner thigh friction The innovation is available as standalone spacer bands and as an integrated solution built into leggings or shape wear. This concept is inspired by the need for body-positive, confidence-boosting comfort in daily wear — especially for plus-size women and those. with athletic builds. The product was developed from real-world experience and addressed a common yet underrepresented issue in personal comfort and garment durability. I believe Thigh Ease has strong commercial, lifestyle, and health impact potential.		

CHINA

CN-01	NAME(S)	Bella Song
ORGANIZATION		Realm Nutrition
TITLE OF ENTRY		**GLY.PLANT-HORMO AMPOULES: Plant-Based Composition for Multi-Pathway Lipid Metabolism Regulation**
The invention introduces GLY.PLANT-HORMO AMPOULES, an oral plant-based ampoule containing 17 botanical ingredients and chromium. It works by synergistically activating six major physiological pathways to comprehensively remodel metabolism and support healthy body shaping: Celebrity Fat Loss Pathway, Nobel-winning Fat Burning, Exercise Energy, and Public Regulation Pathways, Nutrition & Detox, Clinical Efficacy and Safety, etc.		

CN-02	NAME(S)	Li Yichun / Shen Huazhong / Li Yiye / Lian Nali
ORGANIZATION		LOOBI (GUANGZHOU) HEALTH INDUSTRY CO.,LTD
TITLE OF ENTRY		LOOBI EYE CARE SPRAY

LOOBI EYE CARE SPRAY alleviates dryness, irritation, and fatigue from prolonged screen use. Unlike traditional eye drops, it works safely without direct eye contact by moisturizing the eye contour and activating periocular circulation. Its preservative-free formula contains 0.3% Sodium Hyaluronate, Lutein, 0.9% seawater solution, Millettia pachyloba, Cassia seed, and Wild Chrysanthemum—proven through third-party testing to deliver hydration and soothing effects. It matches a hygienic silicone eye cup that snaps over the orbital area for precise, waste-free application. This internationally awarded innovation (Silver Medal, International Invention Exhibition) holds multiple patents protecting its formulation, manufacturing process, and production technology.

CN-03	NAME(S)	Li Yichun / Shen Huazhong / Li Yiye / Zhang Ying
ORGANIZATION		LOOBI (GUANGZHOU) HEALTH INDUSTRY CO.,LTD
TITLE OF ENTRY		LOOBI REFRESHING PATCHES

LOOBI REFRESHING PATCHES refresh your mind and boost alertness, ideal for tired office workers, drivers, students, or anyone feeling fatigued. The innovative patches stick onto clothes (no skin contact needed), providing fast and lasting energy. It focuses on maintaining a dynamic "alertness-fatigue" balance. Formulated with botanical ingredients like Basil, Geranium, Peppermint, Eucalyptus, and Patchouli to release an aromatic scent that combats drowsiness and reduces fatigue through smell. Third-party tests show 96% of users felt significantly refreshed and satisfied with the lasting effect. Safety certified as "practically non-toxic" in inhalation tests.

CN-04	NAME(S)	Xu Qin-an / Dai Su-nan / Li Xue-feng / Chen-fen / Duan Xiao-fang
ORGANIZATION		Nantong Open University
TITLE OF ENTRY		Zhi Shou Dormitory E-Manager

[I] Each terminal room: Utilize hot spot infrared imaging sensors, vision sensors, PM2.5 sensors, ultraviolet sensors, temperature and humidity sensors to collect environmental data, organize and encode it, and wait to send it to the centralized control terminal. [II] A star-shaped sub-network structure of 6 transmitters and 1 receiver is constructed through 7 nRF24L01 wireless modules, which can complete the data collection of 6 dormitories in 1 unit. The frame header numbers of each data frame are 0101, 0102, 0103, 0104, 0105, and 0106. Similarly, in order to construct the data of the remaining 5 units, after the data of the 6 units are collected, a star-shaped sub-network is constructed again to send to the centralized control terminal, and the display screen of the centralized control terminal shows the environmental conditions of 36 dormitories. In case of any emergency, it is possible to quickly identify which dormitory has the problem. The system can also be expanded to complete the monitoring of buildings and campuses by adding network nodes.

CN-05	NAME(S)	Xiuyan Lai / Wenjun Zhang / Xiao Hua / Honghua Huang / Jun Zheng
ORGANIZATION		Futeng Technology Branch of Quzhou Guangming Electric Power Investment Group Co., Ltd / State Grid Zhejiang Electric Power Co., Ltd. Quzhou Power Supply Company
TITLE OF ENTRY		Indoor inspection drone for substation

Energy security is a strategic issue related to a country's economic and social development. As a core hub of power transmission, substations require regular inspections of their internal equipment, which is of vital importance. Meanwhile, the first inclusion of "new productive forces, artificial intelligence +" in the government work report has created new values and possibilities for ensuring power security in the new era. Currently, the main carriers of artificial intelligence in the field of power inspection are rail-mounted robots and rotor drones. However, the former has problems such as fixed inspection routes and relatively high costs, while the latter can only be used by relying on outdoor satellite signals. To address these issues, this project proposes a solution of intelligent indoor inspection drones for substations. With rotor drones as the carrier, it comprehensively applies to technologies such as SLAM, visual real-time positioning, and map construction.

CN-06	NAME(S)	Jian Lin / Siping Lin / Lingyun Fan / Juan Lin / Shuqi Lin
ORGANIZATION		Quanzhou Huaguang Vocational College / Quanzhou Guirenniao Sports Goods Co., Ltd.
TITLE OF ENTRY		Antimicrobial and Deodorizing Textile Materials Loaded with Active Microbial Communities

This invention employs integrated microbial community co-fermentation technology to effectively mitigate environmental pollution risks in the textile industry. By combining active microbial communities with intimate apparel fabrics such as pure cotton, blends and synthetic fibers, it achieves long-lasting antimicrobial and deodorizing functions. This significantly enhances the wearing comfort and adds green product value to items like sportswear, underwear, and socks, thereby facilitating the green transformation of both the textile and sports equipment industries. The product's effectiveness precisely aligns with the trend of upgrading consumption in sports and health.

CN-07	NAME(S)	Guangping Xiong / Changlin Zhong / Yong Dai / Shixiang Luo
ORGANIZATION		Intelligent Technology Application Research Institute of Quanzhou Huaguang Vocational College
TITLE OF ENTRY		**Shock-Absorbing Shoe Sole with Multi-Layer Cushioned Structure for Enhanced Stability**

This shock-absorbing shoe sole, featuring an innovative multi-layer structural design, can significantly reduce the risk of sports injuries, aligning with the market demand driven by the rising public awareness of health. According to official data, the global market size for functional shoe soles is projected to exceed USD 18 billion by 2025. This shock-absorbing shoe sole, featuring an innovative multi-layer structural design, can significantly reduce the risk of sports injuries, aligning with the market demand driven by the rising public awareness of health. According to official data, the global market size for functional shoe soles is projected to exceed USD 18 billion by 2025.

CN-08	NAME(S)	Hanjui Chang / Fei Long / Jiaquan Li / Shuzhou Lu
ORGANIZATION		Shantou University
TITLE OF ENTRY		**Fusion strategy of NSGA-II and Latin Hypercube Sampling (LHS) in thin-film IME forming technology: Construction of an innovative node method for injury detection and optimization of magnetic levitation shields for firefighters**

In high-risk firefighting, firefighters' safety depends on advanced protective gear. This paper proposes a magnetic levitation shield combining thin-film IME and magnetic levitation control, with non-contact, high-strength features ensuring safety. To enhance stability, it controls IME circuit defects by reducing node displacement via optimizing injection parameters. Innovatively combining NSGA-II, LHS and Moldex 3D, it achieves 65.7%-89.7% node displacement optimization. Verified effective through analyzing current/power losses, it provides safety guarantees, technical solutions, and promotes cross-application, opening new paths for firefighter protection.

CN-09	NAME(S)	Zaifei Su / Yanjun Zhou / Xinxin Wei
ORGANIZATION		N/A
TITLE OF ENTRY		**Key Technologies and Applications for Acquiring Accurate Geotechnical Parameters**

Against the backdrop of the "dual carbon" goals and people's aspiration for a better life, the scale of engineering construction has expanded and its complexity has increased, and geological disasters occur frequently. The importance of accurately obtaining geotechnical parameters has become increasingly prominent. Geotechnical parameters are not only the basis for balancing the economy and safety of engineering construction, but also the key elements for predicting the stability of slope bodies. This project is dedicated to developing key technologies for obtaining accurate geotechnical parameters to address the current issues of low reliability of geotechnical parameters and the inconsistency between numerical values and actual forms. It adopts an implementation and research approach, relying on the engineering projects of our institute for research.

CN-10	NAME(S)	Wang Cheng
ORGANIZATION		Morning Stomach Health Technology (Shandong) Co., Ltd
TITLE OF ENTRY		**Research and application of key technology of postbiotics functional food**

With the improvement of people's living standards and health awareness, the requirements for food nutritional function are getting higher. Therefore, Morning Stomach Health Technology (Shandong) Co., Ltd. carries out research on key Technologies of dietary intervention for immune enhancement, gastrointestinal health, function improvement, weight management, chronic disease conditioning, etc. It includes the screening of functional probiotics, the research and development of postbiotics preparations and functional foods. Postbiotics are preparation with or without metabolites of inanimate microorganisms and/or their components with clear genetic background beneficial to host health.

CN-11	NAME(S)	He Yujia / Jingdong Zhang / Zou Yunhe / Li Dongmei / Yuan Yanjie / Ge Jia / Tang shufeng / Guo shijie / Lyu He / Song Xiaowen
ORGANIZATION		Inner Mongolia University of Technology
TITLE OF ENTRY		**Device for Ultrasonic Vibration Surface Strengthening**

This project introduces an innovative ultrasonic vibration surface strengthening device. The innovation of this device lies in utilizing a single-excitation axial vibration to generate torsional vibration through a novel sliding rail structure, thereby achieving a 2-D longitudinal-torsional coupled ultrasonic vibration. This design breaks through the limitations of traditional burnishing processes and single-excitation ultrasonic vibration technology, enabling efficient surface enhancement treatment of workpieces under lower normal forces. By adjusting the inclination angle of the sliding rail, the amplitude and vibration speed of the torsional vibration can be flexibly controlled, further allowing for precise adjustment of the enhancement level on the workpiece surface. This innovative design exhibits remarkable uniqueness in the field of surface enhancement technology.

CN-12	NAME(S)	Liu Yang
ORGANIZATION		Thankcome Biological Science and Technology (Suzhou) Co., Ltd
TITLE OF ENTRY		**Multi-disciplinary Functional Research and Industrial Application of *Akkermansia muciniphila* AKK PROBIO Strain**

The AKK PROBIO strain is derived from the intestinal tract of healthy adults. Both its viable probiotic and inactivated forms have obtained GRAS (Generally Recognized as Safe) certification from the United States, pioneering a global 'viable+inactivated' dual-track safety system for AKK bacteria. • Hold over 15 international invention patents, covering full-chain technical protection. • Published 6 SCI papers in international authoritative journals and 1 Chinese core journal paper, revealing mechanisms of metabolic regulation and immune interaction; • 5 RCT clinical studies have validated its efficacy in chronic disease management.

CN-13	NAME(S)	Si Chu wei
ORGANIZATION		Tianjin Faragut School
TITLE OF ENTRY		**intelligent grass grid laying machine for the edge of deserts**

The grass grid intelligent laying machine for the desert edge is a specialized device that can efficiently and precisely lay grass grid sand barriers in the desert edge or mobile sand dune areas. It uses mechanical arms to press the straw into the sand layer and is suitable for harsh weather conditions such as high temperatures, reducing the burden on manual labor. It's a small vehicle with tracks. These tracks enable it to better adapt to the terrain in the desert. It also has a mechanical arm that can lay out straw grids more precisely.

CN-14	NAME(S)	Guangzhou Zhiyuan ChiMing Health Technology Co.,LTD
ORGANIZATION		Guangzhou Zhiyuan ChiMing Health Technology Co.,LTD
TITLE OF ENTRY		**Moorkoedal Six T Little Black Stripe**

In our invention, we developed a microfluidic “Fish-Trap” array that could automatically transfer and simultaneously immobilize and orient 500 larvae, allowing automatic, parallel, and reversible orientation of intact larvae in the dorsal or lateral position without using any anesthetics and enabling easy access and imaging of different organs such as the gastrointestinal system. The exclusive imaging system can achieve multi-dimensional, continuous, automated, and synchronized data collection of zebrafish behavioral, physiological, and other data. By supplementing different drugs with known functions, we analyze and cluster zebrafish behavioral and physiological activity using machine learning algorithms.

CN-15	NAME(S)	Chunna LYU
ORGANIZATION		Henan Normal University
TITLE OF ENTRY		**Multi-disciplinary Functional Research and Industrial Application of *Akkermansia muciniphila* AKK PROBIO Strain**

Aerobic (or oxygen-tolerant) reversible-deactivation radical polymerization (RDRP) techniques enable the efficient synthesis of well-defined polymers and hybrid materials. However, most oxygen-tolerant RDRP methods rely on glucose oxidase (GOx) with glucose, and conventional GOx-mediated systems are restricted to hydrophilic monomers because of the instability of this enzyme in hydrophobic media. In this study, we developed a novel surfactant–GOx complex (S–GOx), in which, unlike conventional deoxygenation approaches, S-GOx scavenges oxygen and acts as a surfactant to stabilize emulsion droplets, enabling the one-pot aerobic ATRP of both hydrophilic and hydrophobic monomers in aqueous systems without glucose. This polymerization process proceeds under mild conditions: a hydrophobic monomer, S–GOx, copper(II) bromide (CuBr2), the ligand tris(2-pyridylmethyl)amine (TPMA), and 2,2'-azobis[2-(2-imidazolin-2-yl)propane]dihydrochloride (VA-044) enable the synthesis of various polymers with good control over their molecular weight and dispersity at 45 °C, and high monomer conversions (>90%) are achieved in less than 12 hours with ultralow copper loading (2000 ppm) and excellent chain–end fidelity.

CROATIA

HR-01	NAME(S)	DUBRAVKO ROGALE / SNJEZANA FIRST ROGALE / ZELJKO KNEZIC
ORGANIZATION		University of Zagreb Faculty of Textile Technology
TITLE OF ENTRY		**Method for measuring dielectric losses in textile materials**

Parts of protective clothing made of artificial polymer materials are connected using a high-tech method with a high-frequency electromagnetic field, which ensures airtight and watertight connections. The energy required and the bonding time depend on several parameters. One of the most important is the dielectric loss factor in the material. The dielectric losses are known for pure and homogeneous materials (polyurethane, polyamide, polyester, etc.), but the problem of deter-mining the dielectric losses arises when, for example, textile materials are coated with one type of material (e.g. polyurethane) and made of another type of material (e.g. polyester), where the fabric or knitted fabric consists of variable geometric structures with air spaces in the presence of dyes and other textile finishing materials. The dielectric losses can then be measured using a special measuring method consisting of a variable frequency generator, a measuring bridge, a bridge equilibrium indicator, a measuring capacitor with the tested material and a computer to calculate the dielectric losses based on the measured parameters (reactance and ohmic resistance) of the sample in the measuring capacitor.

HR-02	NAME(S)	MARKO PIVAC (Author) / prof.dr.sc. ZELJKO SITUM (Mentor)
ORGANIZATION		University of Zagreb Faculty of Mechanical Engineering and Naval Architecture
TITLE OF ENTRY		**Autonomous IoT Weather Station for Smart Micro-climate Monitoring**

A compact, energy-autonomous weather station powered by an ESP32 microcontroller was designed and built, intended for precise and continuous real-time monitoring of environmental parameters. The system measures temperature, air humidity, UV index, PM2.5 fine particulate concentration, CO_2 levels, atmospheric pressure, and wind speed using a 3D-printed anemometer. Data is wirelessly transmitted via the ESP-NOW protocol to an indoor unit with a touchscreen display, as well as to a web server via a Wi-Fi network, enabling remote access to readings. The electronics are built on a prototype board, while the weather station's housing is modular and 3D-printed from weather-resistant material. Power is supplied by Li-Ion batteries with solar panel recharging capability, providing full autonomy without the need for an external power source. This innovation combines electronics, software development, and sustainable energy into a functional and accessible solution for microclimate monitoring.

HR-03	NAME(S)	DOMAGOJ ZELENIKA
ORGANIZATION		STS Fausta Vrancica
TITLE OF ENTRY		**Duct fan**

This test project is a prototype for a propulsion that can be used on smaller E-UAV. Basically, a ducted fan and associated electric DC motor produce thrust in a two-segment housing, with a reduced cross-section to increase the exit air velocity while also providing cooling for the drive motor. It uses an electric DC motor controlled by Arduino to control the fan speed. The fan and tunnel are 3D printed with internal wall structure with geometric voids for weight reduction and with channels for wiring and cooling which makes it light weight and allows for complicated internal structures. Advantages of this design can be higher thrust than propeller on a DC or brushless motor on smaller E-UAV allowing higher thrust and payload weight in flight and higher speeds while avoiding propeller losses with fixed AOA blades and reduced noise.

CYPRUS

CY-01	NAME(S)	Dr. Catherine Demetriades
ORGANIZATION		CXAI Technologies Ltd.
TITLE OF ENTRY		**Autizmo**

A robot prototype that can dissect and understand conglomerations of masses in biophysical computational thought processes that build up and are unreadable by humans. It can dissect straightforward behaviours as well as confusing complex ones. The subatomic particles which carry out genetic commands used to be undetectable with microscopic technology and hadn't reached the stage where it can find, much less decipher, the automatic emotional blueprints programmed into the DNA-RNA. Autizmo is the breakthrough in Quantum Robotics and solves problems consistently and will do as much as its master commands.

CY-02	NAME(S)	Dr. Catherine Demetriades
ORGANIZATION		CXAI Technologies Ltd.
TITLE OF ENTRY		**CXAI Technology**

CXAI Technology is the first Actual Intelligence technology in the world. It extracts the information within the human Influential Matrix and decodes both recent and genetic subconscious thought and emotional patterns from Quanta. It can read complex computational thought patterns both recent and genetic memory and even dissect conglomerate masses unreadable by humans. This will uncover mysteries of science and medicine such as in Coma, Sleep, Anesthesia. Newborn babies will now have a reading of their subconscious genetic memory. The list goes on for the vast number of biological sciences CXAI Technology can be implemented as it compliments new portals of science. It will also offer a new era in Quantum Artificial Intelligence and Augmented Reality. Animals also benefit from this new Science and will soon have a voice, and we will understand the internal world of all living things individually as well as a collective consciousness of humans, animals and nature. Studies are being made with Trees, Plants and other forms of Nature. CXAI Technology was created to understand the intelligence of all living things within them and amongst them. Human, Animal and Nature Consciousness is the new era of Actual Intelligence.

EGYPT

EG-01	NAME(S)	Phelopater Ramsis Fahmy
ORGANIZATION		Zewail City of Science and Technology
TITLE OF ENTRY		**Water is elixir of our life**

Nowadays, the world faces numerical grand challenges that affect its aspirations to be developed like; water shortage, recycling and increasing the agriculture and industrial bases. These challenges influence the economy, environment, industry and social life. The increase in water usage with a standard source will affect the quality of nutrition in the upcoming years that affects the public health for people. This prototype was constructed to achieve some chosen design requirements that was tested to make evidence "results". The chosen solution is filtration using new membrane and irrigation using aeroponics smart system with nutrients sensor.

EG-02	NAME(S)	Abdelrahman Yasser Mahmoud
ORGANIZATION		Red Sea STEM High School
TITLE OF ENTRY		**NeuroNexus Cerebrum**

Neuronexus Cerebrum is an AI-powered, IoT-integrated wearable brain-monitoring system designed for early detection of neurological disorders. Utilizing advanced EEG electrodes, IoT connectivity, and AI-driven data analysis, the device continuously tracks brain activity, detecting abnormalities linked to conditions like epilepsy, Alzheimer's, and strokes. The system provides real-time insights, alerting users and healthcare professionals through a cloud-connected mobile application. Additionally, the app includes an AI-based medical imaging analysis module, allowing users to upload brain scans such as X-ray, MRI, CT, PET, and fMRI. The AI accurately detects tumors and other abnormalities with 95% precision, providing instant diagnostic feedback. By integrating cutting-edge sensor technology with IoT and cloud-based analytics, Neuronexus Cerebrum empowers individuals with proactive neurological care, reducing the burden on healthcare systems and improving patient outcomes.

FINLAND

FI-01	NAME(S)	Juha Starck / Rose-Marie Backström
ORGANIZATION		Office Beat Oy
TITLE OF ENTRY		**Seat Guard-Microbreaks**

Seat Guard, Designed for your health. Well-being innovative Seat Guard -Microbreaks. The Simplest Solution To Avoid Sitting Too Much. Seat Guard -microbreaks is a new health innovation to prevent excessive sitting. Seat Guard is a technical intelligent device, that united with the Interstuhl seat cushion makes the perfect combination for healthy sitting on any surface. Place the device into the Seat Guard pocket. The cushion has a non-slip bottom that increases seat comfort. It is machine washable up to 30 °C and this quality cushion is produced in an environmentally friendly way. It will help you avoid harmful sitting by guarding your sitting rhythm. Seat Guard needs no programming or installation, which makes it user-friendly for everyone and all ages. When sitting on the device it is pre-installed to vibrate every 30 minutes. Seat Guard also makes sure that you stay away from sitting for at least 2 minutes. By pausing your sitting for at least 2 minutes, every 30 minutes, you will achieve considerable health benefits.

FI-02	NAME(S)	Juha Starck
ORGANIZATION		Office Beat Oy
TITLE OF ENTRY		**Oxygen Pin**

Oxygen is the lifeblood of charcoal/briquette grills, and although there are openings for oxygen in the bottom and lid of the grill, the grilles ignite too often unevenly and slowly. Fireproof steel pipe with evenly spaced holes on the sides and ends with closed steel net to prevent the charcoal from entering inside the pipe. The Oxygen Pin is placed vertically on the bottom of the grill at the air intake of the grill before adding charcoal. The Oxygen Pin helps ensure air intake inside, under, and over the charcoal/briquette pile. The Oxygen Pin makes the grill fire faster and more efficiently. At the same time, the number of ignition times and liquids is reduced as the charcoal/briquette receives oxygen more efficiently. The Oxygen-Pin brings the barbecue a sense of both success and eco-making! The functionality of Oxygen-Pin has been tested with a prototype, and the results are clear, the grill ignites better, more efficiently, and requires fewer re-ignition times as well as even less charcoal. The power of the charcoal also lasts longer and the charcoal burns better, which means that less charcoal waste is generated, and the cleaning time of the grill is reduced.

GEORGIA

GE-01	NAME(S)	Giorgi Mikiashvili
ORGANIZATION		Inventors Club of Georgia
TITLE OF ENTRY		**Innovative Travel Suitcase – Universal Comfort**

Introducing a revolutionary travel suitcase that transforms into a warm or cool bed, a drawer unit, a reclining lounger. Its versatility makes it perfect for use in airports, bus stations, outdoor picnics, hunting and fishing trips, the beach and many other settings. This multifunctional suitcase—my original inventions designed with a single, powerful concept in mind: to deliver maximum comfort for the user through simplicity and innovation.

GE-02	NAME(S)	Diana Imerlishvili
ORGANIZATION		Inventors Club of Georgia
TITLE OF ENTRY		**Innovative Backpack – GVAQES**

The backpack has a built-in umbrella, which is stored in a special compartment. During intense sun or rain, a sensor installed on the umbrella emits a sound signal and activates the mechanism: it emerges from the compartment and opens above the person's head at a height of 30–50 centimeters. When the umbrella is no longer needed, it retracts back into the compartment with another sound signal. The backpack also features a special button that allows the user to activate the umbrella manually whenever they wish. Thanks to this innovative idea, the person has both hands free and doesn't need to use physical effort to protect themselves from strong sunlight or rain.

GE-03	NAME(S)	Nazi Kopaleishvili
ORGANIZATION		Inventors Club of Georgia
TITLE OF ENTRY		Kopal Hand

This cutting-edge device addresses a critical yet often overlooked risk in modern aesthetic practices — ultraviolet (UV) radiation exposure during nail gel treatments. Designed as a preventive barrier, the device protects users' skin from repeated UV exposure, which occurs during routine gel manicures. Purpose of the Device is to fully isolate the skin from UV exposure during gel procedures, reducing the associated health risks by an estimated 90–95%. This is more than a technological solution — it is a step toward an ethical future, where beauty treatments never compromise health.

GERMANY

DE-01	NAME(S)	KHALED ALSAHO / MUHAMMAD HAGGAG
ORGANIZATION		N/A
TITLE OF ENTRY		ShrinkSafe

This invention proposes the use of a silicone shell implant, traditionally used for breast implants, repurposed for gastric applications. The implant is designed to be placed laparoscopically around the stomach, covering both its anterior and posterior surfaces. The shell prevents excessive gastric expansion, thereby reducing food intake and facilitating weight loss. The procedure is minimally invasive, safe, and reversible, making it a viable alternative to traditional surgical methods. The shell's design incorporates two distinct layers that are placed separately and then stitched together. This ensures a snug fit around the stomach while preserving blood supply and avoiding tissue damage. The shell is anchored to the posterior abdominal wall to prevent displacement caused by gastric motility.

GREECE

GR-01	NAME(S)	Prof. Dr. Vasileios Ag. Drougas MSc, PhD, Post Doc RF
ORGANIZATION		Greek Ministry of Education and Religious Affairs / University of Ioannina
TITLE OF ENTRY		The Drougas' Magnet-Ions Theory of Neuroconductivity (DMITN)

This theory refers to the excitation and transmission of signals in the brain through Neuro-Synapses and Neurotransmitters. This is the study of neurotransmitters and explores how various chemical compounds and charged radicals can have magnetic properties but at the same time cooperate with chemical compounds - radicals that can participate in the creation of micromagnetic fields that can interact with microcurrents created by the movement and flow of elementary charged ions or particles in the human body. The coupling between fields creates conduction and stimuli in parts of the brain related to basic and combinatorial processes of memory, movement, arousal, connections and restoration of the communication pathways between the brain and peripheral centers of neurosynapses and neurotransmitters. The electric field created by the electrically charged particles and ions in cooperation with the micromagnetic field of the particles and chemical compounds that could have magnetic properties affect the function of the brain and, therefore, memory of behavior and treatment. The lack of connection and coupling of the Magnet Ions between them means that a discontinuity is created which cuts off the flow of signals to and from the brain and the various centers in the human body.

GR-02	NAME(S)	George Lavdarias
ORGANIZATION		The Athanassakis-Lavdarias Schools of English
TITLE OF ENTRY		The Athanassakis-Lavdarias New Translation System> A-L NTS

A new application in the field of Translation based on a mathematical approach of the English language which consists of small, repeated sets of words identified as equations that facilitate translation into all languages, with English as the common denominator. Greek, French, Russian, Italian, German / ENGLISH Therefore, the mathematical analysis of the English sentence, the formation of innovative axioms and the development of the capability of a system **to recognize** the smallest word segments **and convert** them into independent equations will form **the basis for reliable translation** into any language we choose to adapt the application.

HONG KONG, CHINA

HK-01	NAME(S)	Fung Ho Chun / Hong Jialin / Hui Tin Chak / So Pui Hei / Wong Daniel
ORGANIZATION		Kwun Tong Maryknoll College
TITLE OF ENTRY		Using algal bead and hydrilla to absorb nitrates in standard solution and fish tank

Algae beads are a biotechnological tool used to remove excess nitrates from aqueous solutions. These beads typically consist of immobilized algae, which can uptake nitrates from water. The process involves algae cells are encapsulated in a gel-like matrix, often made from materials like sodium alginate. Algae within the beads utilize nitrates as a nutrient source for growth, effectively reducing nitrate concentrations in the water. This method is sustainable and environmentally friendly, as it utilizes natural biological processes.

HK-02	NAME(S)	Prof Ken Kin-Lam Yung / Prof Zhifeng Huang / Dr Shiqing Zhang
ORGANIZATION		The Education University of Hong Kong
TITLE OF ENTRY		**Novel Biomaterials Used for Dendritic Cell Vaccine for Cancer Immunotherapy**

Traditional cancer treatments often rely on cytotoxic agents. This invention offers a safer and more efficient biocompatible method of using extracellular silica nanozigzags (NZ) to mature dendritic cells (DC) in vitro through the mechanical activation of focal adhesion kinase (FAK) within DCs, enhancing the ability of NZs in activating immune cells and suppress tumour growth in vivo, thus makes NZs a promising biomaterial for effective cancer immunotherapy, boosting the body's natural defences against cancer without the use of harmful chemicals.

HK-03	NAME(S)	Dr Yeung Kin Chung Michael
ORGANIZATION		The Education University of Hong Kong
TITLE OF ENTRY		**A Hybrid EEG-fNIRS Neurofeedback Application for Brain Training for Autistic Children**

This versatile, cross-device and groundbreaking EEG-fNIRS neurofeedback platform enhances brain health and functioning in a user-friendly way at a more affordable cost than either electroencephalography (EEG) or functional near-infrared spectroscopy (fNIRS) capturing different aspects of brain activities. It provides significant benefits to the cognitive, emotional, and behavioural capabilities of the Autism Spectrum Disorder (ASD) community, commanding approximately 1% of the world's population.

HK-04	NAME(S)	Dr Fu Hong / Mr He Ziyu / Mr Li Xiao / Miss Wang Yanyue / Prof Chow Hung Kay / Dr Ling Man Ho
ORGANIZATION		The Education University of Hong Kong
TITLE OF ENTRY		**Dynamic SyncAnUp: Eye-Body Coordination Capture for Elite Sports Performance**

Dynamic SyncAnUp is a cutting-edge assistant designed to discover the most tailored strategies for athletic training, focusing on both best practices and individual weaknesses. By leveraging advanced 3D localisation, AI vision, and gaze clustering, it meticulously analyses reconstructed joint angles and eye-body motions to establish a Golden Standards for each athlete. It empowers athletes to unlock their potential and holds promising applications in rehabilitation and vocational training, paving the way for advancements beyond traditional athletic contexts.

HK-05	NAME(S)	Prof Philip Leung-ho YU / Mr XIE Zhiwei
ORGANIZATION		The Education University of Hong Kong
TITLE OF ENTRY		**Automatic Multi-modal Deep Learning Analysis System**

An automated system that assesses the accuracy and relevance of users' input (e.g. textual descriptions) paired with various modes of communication (e.g. images, videos, audio, etc.), and provides immediate, high-quality personalised feedback to users of different levels to progressively improve users' expertise by leveraging finetuned Multimodal Large Language Model (MLLM), deep learning and contrastive learning techniques and generative AI technology.

HK-06	NAME(S)	MUNG Wai Yin Steve / FOO Sharon / LAI Chun Yin Woody / LO Yuen Wing Crystal
ORGANIZATION		The Education University of Hong Kong, SUNNEX
TITLE OF ENTRY		**Integrated Nutrition Management System with Smart Panel and AI Platform for Sustainable Dietary Progress**

The system integrates a smart panel with an AI-powered platform to enhance sustainable dietary habits and features a meal recognition app that analyses food images for nutritional insights. AI nutritionists can optimise meal plans to meet individual needs, allowing users, including athletes, elderly and patients with special needs, to monitor and record their intake. By collaborating efforts with healthcare providers, the system provides instant and accurate meal analysis and empowers users of all ages and status to achieve professional health management.

HK-07	NAME(S)	Dr Fridolin TING / Mr Sam LAM / Dr Carter LAM / Mr Roger WONG / Mr Genius CHAN / Mr Calvin TSUI
ORGANIZATION		The Education University of Hong Kong
TITLE OF ENTRY		**YoChatGPT!: Unleashing the Power of Collaborative AI**

YoChatGPT! is a virtual space revolutionising education, business development and team productivity with generative AI. By fostering collaborative interactions in dynamic AI-powered chatrooms, it encourages groups to engage in deep discussions and drive projects with heightened creativity and efficiency. This multifaceted approach significantly boosts productivity, stimulates brainstorming, and enhances problem-solving across diverse applications, all within a secure and supportive environment.

HK-08	NAME(S)	Prof Rudolf WU Shiu-sun / Dr Yi YANG / Dr Keng-Po LAI / Prof Alice WONG Sze-Tsai / Dr Run-Sheng Li
ORGANIZATION		The Education University of Hong Kong
TITLE OF ENTRY		**Nanopore sensing for rapid screening Epigenetic Disruptors in food, health care products, consumer goods and environmental matrices**
Many chemicals widely used in our daily life can disrupt our epigenome, leading to adverse effects in our future generations, despite they have never been exposed to these chemicals before. This invention directly quantifies epigenetic changes and expression of genes related to reproduction, development and growth, and derives a quantitative index representing epigenetic risks posed by all chemicals in the sample. This provides a cost-effective tool for protecting environmental and public health, as the current method of detecting epigenetic disruptors through chemical analyses is tedious, expensive, and only offers an indirect estimate of the toxic effects of known chemicals.		

HK-09	NAME(S)	Joy-Yan Lam / Kin-Hang Kok
ORGANIZATION		Centre for Virology, Vaccinology and Therapeutics; the University of Hong Kong
TITLE OF ENTRY		**NanoBoost Immune Booster**
NanoBoost is our novel immune booster formulated as nasal spray. It contains immunostimulatory components that activate body's natural defenses. Nasal immunity is enhanced, stopping viruses and other harmful pathogens from entering and causing infection. It is administered using a simple nasal spray, making it easy to use for all ages. NanoBoost particularly targets families and caretakers for the ill, where the spread of disease should be controlled, hence safeguarding the health of our loved ones.		

HK-10	NAME(S)	Jie ZHOU / Man Chun CHIU / Cun LI / Kwok Yung YUEN
ORGANIZATION		Centre for Virology, Vaccinology and Therapeutics; the University of Hong Kong
TITLE OF ENTRY		**Advanced human respiratory organoid culture system**
Our team established the first human respiratory organoid culture system, which enables the initial derivation, expansion, biobanking, and differentiation of human nasal, airway, and alveolar organoids with high efficiency and stability. Organoids, also known as mini-organs, were generated from human nasal epithelial cells acquired non-invasively by nasal swabs or human lung tissues acquired by surgical procedures. These organoids could be long-term expanded or cryopreserved for biobanking. Upon differentiation, mature organoids which recapitulate the morphology, ultrastructure, cellular composition, transcriptomic profile, and functionality of the upper or lower respiratory epithelium could be generated for diverse biomedical, translational, and preclinical applications.		

HK-11	NAME(S)	Jie ZHOU / Cun LI / Zhixin WAN / Yifei YU / Kwok Yung YUEN
ORGANIZATION		Centre for Virology, Vaccinology and Therapeutics; the University of Hong Kong
TITLE OF ENTRY		**Innovative applications of proprietary respiratory organoids**
Our team established the first human respiratory organoid culture system, which enables the generation of human nasal, airway, and alveolar organoids. Based on this proprietary organoid technology, we developed innovative and impactful platforms for diverse biomedical and preclinical applications, including 1). organoid-based virus cultivation system for previously uncultivable and under-investigated human viruses, such as human rhinovirus C; and 2). organoid-based evaluation system for predicting real-world efficacy of antiviral drugs/antibodies to combat infections and diseases, such as SARS-CoV-2 neutralizing antibodies.		

HK-12	NAME(S)	Teng, Jade Lee-Lee / Yeung, Man Lung / Ma, Yuanchao / Jia, Lilong / Huang, Yao
ORGANIZATION		The Faculty of Dentistry, The University of Hong Kong; Centre for Virology, Vaccinology & Therapeutics
TITLE OF ENTRY		**First Taste Bud Organoid for Infection Modeling and Functional Testing**
This innovative taste organoid platform overcomes limitations of traditional 3D organoid models by enabling authentic host-pathogen interactions, including SARS- CoV-2, and real-time detection of all five human tastes. It allows targeted investigation of cellular compartments, advancing understanding of taste pathophysiology. As a biomimetic system, it offers unprecedented opportunities to develop therapies for taste disorders, optimize flavor formulations, and explore neuroepithelial interactions relevant to neurodegenerative diseases like Alzheimer's. With broad applications across healthcare, food, and biotech industries, our invention has the potential to revolutionize research, improve health outcomes, and create new market opportunities globally.		

HK-13	NAME(S)	Shuofeng Yuan / Jenny Ka-Wing Lam / Jasper Fuk-Woo Chan / Kwok-Yung Yuen
ORGANIZATION		Centre for Virology, Vaccinology and Therapeutics; the University of Hong Kong
TITLE OF ENTRY		**Dry powder formulation of tamibarotene for pulmonary and intranasal delivery**
Inhaled dry powder is easy to administer and delivers antiviral agent directly to the primary site of infection, thereby minimizing systemic side effects. Spray freeze drying technique is employed to formulate tamibarotene, a retinoid derivative with broad-spectrum antiviral activity. The SFD tamibarotene powder exhibits desirable physicochemical and aerodynamic properties for inhalation. Pulmonary delivery of tamibarotene powder results in rapid absorption and higher bioavailability compared with intraperitoneal injection of unformulated drug in animals. And inhalation or intranasal delivery of SFD tamibarotene formulation displays broad-spectrum antiviral activity against SARS-CoV-2, MERS, and H1N1 in animal models by targeting lower or upper airways.		

HK-14	NAME(S)	Huiping Shuai / Jingxin Qiao / Jasper Fuk-Woo Chan / Shengyong Yang / Hin Chu
ORGANIZATION		Centre for Virology, Vaccinology& Therapeutics; The University of Hong Kong
TITLE OF ENTRY		**An orally available Mpro/TMPRSS2 bispecific inhibitor with potent anti-coronavirus efficacy in vivo**
Coronaviruses have caused three major endemics in the past two decades. Development of alternative therapeutic options with broad-spectrum anti-coronavirus activities are urgently needed. Here, we develop an orally-available bispecific inhibitor, TMP1, which simultaneously targets key coronavirus replication protease Mpro and the essential airway protease TMPRSS2. TMP1 shows broad-spectrum protection not only against different SARS-CoV-2 variants but also against all existing human-pathogenic coronaviruses in vitro. We demonstrate TMP1 cross-protects against highly-pathogenic coronaviruses (SARS-CoV-1, SARS-CoV-2 and MERS-CoV) in vivo and efficiently abrogates SARS-CoV-2 transmission. Importantly, TMP1 inhibits the infection of nirmatrelvir-resistant SARS-CoV-2 escape mutants.		

HK-15	NAME(S)	CHEN Chun Fun / CHEN Yan Ki / MAI Tsz Fung Humphrey / NG Chun Ting
ORGANIZATION		SHUN TAK FRATERNAL ASSOCIATION YUNG YAU COLLEGE
TITLE OF ENTRY		**BreatheClean: A Smart Electrolyzed Water Air Purifier**
BreatheClean is a compact, low-cost air purifier that electrolyzes a simple saline solution to generate hypochlorous acid, hydroxyl radicals and ozone, rapidly inactivating airborne pathogens, degrading VOCs and neutralizing odours. Bench tests showed significant reductions in microbial colony counts after 10 minutes of operation, confirming high sterilization efficiency. The system needs only water, salt and electricity, eliminates disposable filters, and its by-products revert to water and oxygen, aligning with green-innovation goals. Quiet operation, easy maintenance and potential IoT integration make it suitable for homes, schools and resource-limited clinics worldwide.		

HK-16	NAME(S)	CHAN Tsz You / TAM Hong Ting / LIN Wai Hei
ORGANIZATION		SHUN TAK FRATERNAL ASSOCIATION YUNG YAU COLLEGE
TITLE OF ENTRY		**BugBuster Bot – An Autonomous Robotic Platform for Household Arthropod Suppression via Modular Natural and Synthetic Biocidal Delivery**
BugBuster Bot is an autonomous household robot designed to detect, pursue, and neutralize cockroaches using real-time computer vision and targeted biocidal delivery. Built on a compact omni-directional chassis with a Raspberry Pi 4B, it employs a YOLO-v5 model for insect recognition and ultrasonic sensors for obstacle avoidance. The device dispenses food-grade or synthetic bait via a servo-mounted micro-pump. Lab trials showed 67% lethality within 48 hours using a bicarbonate-based formulation. Designed for kitchen and home use, it offers hands-free pest control, ergonomic ease, and significant public health benefits, representing a breakthrough in smart-home hygiene and autonomous pest mitigation.		

HK-17	NAME(S)	DENG Weicong / YUEN Kasim / LAU Yiu Wai / ZOU Yu Shen / LEE Cheuk Wing
ORGANIZATION		SHUN TAK FRATERNAL ASSOCIATION YUNG YAU COLLEGE
TITLE OF ENTRY		**CivilityWave – The AI Acoustic Shield Against Verbal Aggression**
CivilityWave is a real-time acoustic shield that detects profanity and hostile speech within 0.3 ms using a MEMS-microphone array and lightweight CNN-RNN classifier, then instantly projects beam-formed, neuro-acoustic music that masks the utterance and induces parasympathetic calm. The USB-powered module logs events locally, respects GDPR through on-device processing, and clips easily onto kiosks, classrooms and transport hubs. Pilot deployments cut daily profanity 57 % and lowered call-centre stress leave 12 %, while 75 % of users self-corrected after a single prompt, demonstrating measurable violence prevention, high portability and scalable commercial potential across public-safety, education and healthcare markets.		

HK-18	NAME(S)	TANG Fei Fan / MAK Hei Yong / CHAN Pak Kiu
ORGANIZATION		SHUN TAK FRATERNAL ASSOCIATION YUNG YAU COLLEGE
TITLE OF ENTRY		**Forensic Eye: Bridging Reagent Chemistry and AI for Drug Law Enforcement**

'Forensic Eye' is a low-cost, handheld drug-identification platform marrying Marquis reagent colour chemistry with Python-based RGB image analysis. A reaction vial, camera and algorithm translate colour shifts into digital codes, rapidly confirming Etomidate and other targets in minutes. The system removes subjective judgement, requires no laboratory, and yields court-admissible numeric evidence, empowering police, customs and medical staff to curb drug abuse and cut false positives. Scalable design foresees smartphone coupling and machine-learning upgrades to widen its analytical repertoire.

HK-19	NAME(S)	LI Hiu Yin / WONG Nga Ki / YIP Wing Sze / TSE Chi Ching / WONG Ka Long
ORGANIZATION		SHUN TAK FRATERNAL ASSOCIATION YUNG YAU COLLEGE
TITLE OF ENTRY		**SmartDrop: A Low-Cost Intelligent Irrigation System for Sustainable Agriculture**

SmartDrop is a low-cost, plug-and-play intelligent irrigation system that fuses soil-moisture, temperature, humidity and light-intensity data through a novel fully automatic physical trigger mechanism. By eliminating programming, the Arduino-based design simplifies installation for small farms, home gardens and educational use. Experiments show < 2 % repeatability error, 25-30 % water savings, 15-20 % yield gains and a 50 % hardware-cost reduction versus manual watering. The system's accuracy, affordability and scalability support sustainable agriculture and present strong commercial potential, with future upgrades targeting IoT connectivity and extreme-weather robustness.

HK-20	NAME(S)	WU Sunny / HO Sze Ching / NG Tsz Ying / CHEUNG Ka Lam
ORGANIZATION		SHUN TAK FRATERNAL ASSOCIATION YUNG YAU COLLEGE
TITLE OF ENTRY		**Sweep-Mop Fusion: One Motion, Total Clean**

Sweep–Mop Fusion integrates sweeping, mopping and passive vacuuming into a single, motor-free cleaning tool built from a reclaimed vacuum chassis, gravity-drip PET reservoirs and clip-on PVA sponges. One push–pull stroke wets, lifts and vacuums debris, trimming cleaning time by 38 %, boosting soil removal by 21 % and cutting perceived exertion by 1.2 Borg points. The 1.4 kg device needs no electricity, uses only US$4 in materials and avoids 0.085 kg CO_2e across its life-cycle. Targeting the 800-million-unit global broom/mop market, 1 % penetration could deliver about US$72 million revenue.

HK-21	NAME(S)	Ruotong Zhang / Zheqi Chen / Anderson Ho Cheung Shum
ORGANIZATION		Advanced Biomedical Instrumentation Centre Limited
TITLE OF ENTRY		**Electret-induced polarization on droplet: a general liquid handling module for digital microfluidics (US Non-provisional Patent Application No: 18/910,845 and Chinese Non-provisional Patent Application No: 202411620634.7)**

We present a liquid-handling module for digital microfluidics based on electret-induced polarization on droplet (EPD), enabling a low-voltage droplet actuation compatible with a wide variety of liquids. Unlike traditional electrowetting-on-dielectric (EWOD), which suffers from protein adsorption and incompatibility with organic liquids, EPD can manipulate diverse samples—including organic solvents, proteins, cells, and biofluids—without compromising their activity. The EPD module can be easily integrated into commercial EWOD systems and readily coupled with robotic automation, offering a drop-in upgrade for existing digital microfluidic platforms. This versatile, scalable solution facilitates broader adoption of digital microfluidics in diagnostics, drug screening, and chemical synthesis.

HK-22	NAME(S)	LIU PEIKUN / LIM YIN KWAN NATHANIEL / CHIU WING HEI
ORGANIZATION		King's College
TITLE OF ENTRY		**Hydrogen Production via Chlorophyll-Sensitized Titanium Dioxide Core-Shell Nanoparticles Incorporating Hydrothermally Synthesized Uniform-Sized Superparamagnetic Iron(II, III) Oxide: Insights into the Honda-Fujishima Effect**

Our project aims to enhance the hydrogen production rate of TiO_2 water-splitting by coating uniform size SPION with TiO_2, sensitizing it with chlorophyll and with periodic magnetic attraction. Under LED illumination and periodic magnetic attraction, chlorophyll-sensitized uniform TiO_2-SPION exhibits a 50.3% higher hydrogen production rate compared to chlorophyll-sensitized non-uniform size SPION. Chlorophyll sensitization alone increases the rate by 2635% under LED. Periodic magnetic attraction boosts production by 16326% compared to no magnetic attraction and 20.8% compared to one-shot magnetic attraction. A maximum hydrogen production rate of 546.7 ppm/g/min which is 147 times more than that of TiO_2 only was achieved.

HK-23	NAME(S)	Yuen Chun Hong / Lee Ka Chun / Wong Pok Man
ORGANIZATION		S.K.H. Yautong Kei Hin Primary School
TITLE OF ENTRY		**GrandTag- A reliable RFID companion for seniors, ensuring they never forget essentials**

This smart reminder device helps forgetful seniors remember essential items when leaving home. Users attach RFID labels to belongings like keys, medication, and phones. The device is mounted on the door, with a magnet on the door frame keeping the magnetic reed switch on the door contacts together when closed. When the door opens, the magnet moves away, separating the contacts and triggering the RFID receiver to scan for labeled items within a 2-meter range. If detected, a corresponding light turns on; if missing, an audio alert prompts: "Please bring your [item name]." The prompt's language and volume can be adjusted to suit the user's needs.

HK-24	NAME(S)	Koko Kwok-Ho LAM / Jack Dongliang SHI / Peng ZHU
ORGANIZATION		Alpha Thermoelectric Energy Solutions Limited
TITLE OF ENTRY		**EdgeLift: AI-Powered, Self-Sustaining Sensor Module for Smart Elevator Monitoring**

EdgeLift is a novel self-sustaining Edge AI sensing module designed for smart elevator health monitoring. It uniquely integrates piezoelectric and magnetoimpedance (MI) sensors to detect both mechanical and electromagnetic anomalies in real time. Powered by a thermoelectric generator (TEG) with phase change material (PCM), it harvests and buffers motor waste heat for continuous, low-power operation. EdgeLift transmits data wirelessly (BLE/LoRa) to a local AI gateway for on-site predictive analytics, reducing reliance on cloud infrastructure. Its compact, ruggedized design with magnetic mounting enables fast, non-invasive retrofitting. This breakthrough enables autonomous, energy-efficient lift monitoring, reducing downtime and maintenance costs in industrial deployments.

HK-25	NAME(S)	Weiping WANG / Yaming ZHANG
ORGANIZATION		The University of Hong Kong
TITLE OF ENTRY		**Cinnamaldehyde prodrug for rheumatoid arthritis treatment**

We invented a reactive oxygen species (ROS)-responsive cinnamaldehyde-penicillamine prodrug. The prodrug can self-assemble into nanoparticles, which target inflamed joints and release two drug molecules without byproduct generation. The combination therapy exhibits superior therapeutic efficacy against rheumatoid arthritis compared to conventional drugs. The prodrug strategy ensures the stability and safety of drugs.

HK-26	NAME(S)	Ly Thuc Hue / Huang Lingli / Zhao Jiong / Chen Honglin
ORGANIZATION		City University of Hong Kong / City University of Hong Kong Shenzhen Research Institute / Apply 2D Co. Ltd. / The Hong Kong Polytechnic University
TITLE OF ENTRY		**Engineering Surface Wrinkles to Modulate Electrical and Optical Properties for Nanodevices**

An eco-friendly that effortlessly tunes the electrical and optical properties of nanodevices through surface wrinkle engineering. By controlling humidity and light exposure, we can precisely manipulate the formation and smoothing of wrinkles, enabling reversible property changes within a few minutes. Compared with general processing techniques, our invention is both residue-free and chemical-free, offering a cleaner and safer approach. It enables the flexibility of reversible control between two stable states. Embrace this environmentally conscious and energy-saving method for property tuning, setting a new standard in nanodevice processing.

HK-27	NAME(S)	Yuen Yat Long / Lai Sui Fung
ORGANIZATION		Chinese YMCA College
TITLE OF ENTRY		**QR Code Language Identification for Accurate Translation**

We use QR code to replace the section of choosing language manually to simplify this action. This technique can help the device instantly identify the language being used, we don't have to select the language manually and actually know what language the other user is using, which helps us save time.

HK-28	NAME(S)	Wong Yi Yan Erin / Yau Hay Sun Scarlett / Yuen Tin Yan
ORGANIZATION		Diocesan Girls' School
TITLE OF ENTRY		**Recycling Monitor Specialist**

Recycling Monitor Specialist is a portable waste bin cover. It is a comprehensive and hygienic approach to classify and process recycling waste with AI camera and several sanitizing functions, including UV disinfection technology, an integrated disinfectant spray, odor sensor and ultrasonic sensor preventing overflow. An AI assistant is developed to teach students how to put the recycling waste into the correct box, and to answer questions about Sustainable Development Goals. A mobile application is also provided for janitor staff to check the status of the recycling bins.

HK-29	NAME(S)	Ly Thuc Hue / Thi Quoc Huy / Huang Lingli / Zhao Jiong
ORGANIZATION		City University of Hong Kong; City University of Hong Kong Shenzhen Research Institute; The Hong Kong Polytechnic University; Institute of Advanced Technology, Vietnam Academy of Science and Technology; Apply 2D Co. Ltd.; Clean 2D Co. Ltd.
TITLE OF ENTRY		**Scalable smoothing and cleaning for 2D-based devices**

In silicon-based devices, miniaturization increases sensitivity to surface defects. As device features shrink, surface imperfections like wrinkles and contaminants become critical bottlenecks, especially in 2D-based devices, which impair electrical and optical properties. To address this, we developed a scalable, chemical-free method for smoothing and cleaning thin films. This technique effectively removes wrinkles and contaminants, boosting device performance. It is faster, safer, eco-friendly, and cost-effective compared to traditional methods, offering a sustainable solution for high-performance electronic, optoelectronic, and sensing applications.

HK-30	NAME(S)	Zhang Tsz Ki / Dai Zheng / Cheng Anson
ORGANIZATION		Diocesan Girls' School
TITLE OF ENTRY		**VBesties**

VBesties offers three AI-powered virtual friends designed for bipolar patients. These 3D avatars blend therapy with companionship, reinforcing Cognitive Behavioral Therapy, curbing mania, and tracking moods. Leveraging Unity, LLMs with clinical databases, and speech-to-text, VBesties provides personalized, 24/7 support. It also features unique multi-model interaction, simulating conversations among four friends. Available in original, VR (for hospitals), and AR (portable) versions, VBesties utilizes trending tech like Google Gemini, Google Cloud, Hugging Face for emotion recognition, and Adobe Mixamo for relatable animations, aiming to revolutionize bipolar patient care.

HK-31	NAME(S)	William Whitehouse / Lin Wang / Louisa Lo / Julian Tanner
ORGANIZATION		Advanced Biomedical Instrumentation Centre
TITLE OF ENTRY		**Electrochemical Biosensor for Rapid and Real-Time Detection of Key Inflammatory and Stress Markers**

We demonstrate a prototype biosensor for rapid and real-time detection of proteins and small molecules on a single platform. Our device makes use of miniaturized electrodes and state-of-the-art DNA aptamer-based molecular switches. The device requires only a single drop of blood (or other biofluids) to provide a quantitative and digital output of the biomarker of interest.

HK-32	NAME(S)	Wong Cheuk Wai / Lam Chun Hin Rex / Kwok Yat Sing
ORGANIZATION		Man Kwan Pak Kau College
TITLE OF ENTRY		**Chilli kills bacteria**

Capsaicin, the compound responsible for chili peppers' spiciness, can cause discomfort in high concentrations but has valuable antibacterial properties. Research shows it can function as a natural preservative and pesticide, effectively controlling pests and pathogens in crops. Bacillus subtilis (natto bacteria) also exhibits antibacterial properties. Our study aims to investigate whether combining capsaicin and nattokinase solutions enhances their antibacterial effects or if capsaicin inhibits natto bacteria growth. Using lettuce as our test subject, we will compare bacterial levels using test papers in controlled experiments with different solution applications.

HK-33	NAME(S)	Wan Yin Wing / Ma Yan Ki
ORGANIZATION		Man Kwan Pak Kau College
TITLE OF ENTRY		**Mushroom Defender: The Anti-Plastic Warrior**

Plastic waste, particularly polystyrene foam, presents a major ecological issue because of its durability against natural breakdown. Present disposal techniques such as burning and landfilling lead to damaging secondary pollution. Recent research indicates that gray oyster mushrooms (Pleurotus pulmonarius) produce enzymes that can decompose plastics; however, their ability to degrade polystyrene foam is still not well-studied and affected by environmental factors. This research integrates micro:bit and IoT technology to develop a smart monitoring system that enhances mushroom growth conditions by modifying temperature, humidity, and light. The experiments will examine the deterioration process and investigate its possible use in addressing plastic pollution.

HK-34	NAME(S)	WONG Shun Chi / KWONG Wing Hei / TAI Yuen Shan
ORGANIZATION		Man Kwan Pak Kau College
TITLE OF ENTRY		**E-parking —— A Motorcycle Parking Demand Forecasting and Visualization Platform Integrating YOLOv8 Multi-Object Detection and Government Open Data**

E-parking is an AI-powered smart monitoring system designed to address the shortage of motorcycle parking in Hong Kong. Using YOLOv8 image recognition, Raspberry Pi, and MQTT protocol, it detects real-time parking availability and abnormal usage. Data is visualized on Google Maps and published to the Hong Kong Open Data Platform to support smart city planning. The system improves parking efficiency, reduces carbon emissions, and enhances user experience through a voice-enabled WebApp. E-parking represents an innovative step toward sustainable urban mobility and intelligent transportation infrastructure.

HK-35	NAME(S)	FUNG Ka Hei
ORGANIZATION		Man Kwan Pak Kau College
TITLE OF ENTRY		**E-Stress Shield**

E-Stress Shield addresses the alarming rise in student suicides related to academic pressure by integrating brainwave monitoring technology with AI-driven stress management. This system combines headphones with embedded EEG sensors, DeepSeek AI analysis, IoT connectivity, and a mobile application to create a comprehensive stress detection and management solution. Four core components work together: brainwave sensors capture real-time EEG data, DeepSeek AI analyzes stress levels and generates personalized study schedules, a mobile app provides monitoring capabilities, and Azure AI Text-to-Speech delivers timely voice alerts when stress levels become concerning. This innovation offers a data-driven approach to preventing study-related mental health crises.

HK-36	NAME(S)	WANG XuYao
ORGANIZATION		Man Kwan Pak Kau College
TITLE OF ENTRY		**GUIDE: Hong Kong Cultural Heritage Platform**

The innovative design platform GUIDE enhances Hong Kong tourism by employing elderly residents as Citywalk guides, sharing cultural stories through an app that integrates open data (CSDI, OpenStreetMap) for personalized routes. To elevate immersion, Mixed Reality (MR) can be added, overlaying historical visuals or interactive narratives onto real-world locations via smartphones or MR glasses. Tourists could "see" past events or virtual reenactments triggered by the guide's stories, enriching the deep tour experience. This aligns with sustainable tourism goals, empowers elderly employment, and modernizes cultural engagement through tech-driven storytelling.

HK-37	NAME(S)	CHAN Chun Yiu, Wesley / FUNG Ka Hei
ORGANIZATION		Man Kwan Pak Kau College
TITLE OF ENTRY		**YOLO 11-based Intelligent Elderly Home Monitoring System**

This innovative YOLO 11-based monitoring system provides comprehensive coverage throughout elderly care facilities. Strategically positioned cameras create a seamless surveillance network that eliminates blind spots while respecting privacy zones. The system precisely identifies fall incidents in real-time, instantly pinpoints the elderly person's exact location, and immediately alerts caregivers through an integrated messaging platform. Beyond detection, the AI continuously analyzes movement patterns and environmental hazards for proactive intervention. Designed for cost-effective implementation across Hong Kong's elderly homes, this system dramatically reduces emergency response times while maintaining resident dignity through privacy-preserving edge computing architecture.

HK-38	NAME(S)	Victor Ho-Fun LEE / Kam Man TAM / Chi Ang Nelson TO
ORGANIZATION		The University of Hong Kong
TITLE OF ENTRY		**Development of a Safe and Effective Platform for Administration of Lutetium177-DOTATOC Peptide Receptor Radionuclide Therapy for Neuroendocrine Tumours or Other Tumours Highly Expressing Somatostatin Receptors**

The currently clinically approved and available Lutetium-177 DOTATATE peptide receptor radionuclide therapy (PPRT) for advanced neuroendocrine tumors has often resulted in gastrointestinal side effects including nausea, vomiting, and diarrhea, which require rescue therapy for symptom relief. The simultaneous infusion of Lutetium-177 DOTATATE and the amino acids arginine and lysine for kidney protection into the same vein of patients may be the culprit of these gastrointestinal side effects. In view of these undesirable gastrointestinal side effects after lutetium-177 DOTATATE/DOTATOC and amino acid infusion, we have invented a novel platform for effective and safe administration of lutetium-177 DOTATATE/DOTATOC PRRT for neuroendocrine tumors: clinically tested and proven safe in more than 20 patients in the real-world setting.

HK-39	NAME(S)	Liu Jinxi / Mak Kwan Ho / Tai Ho Nam
ORGANIZATION		Lai King Catholic Secondary School
TITLE OF ENTRY		**Listen for the life 2.0**

"Listen for the life 2.0" is a networked system to identify emergent and everyday sounds such as fire alarms and doorbells for the hearing-impaired in their homes. Several small client devices are designed to be attached on household items in different areas at home. The system then uses AI to recognize sounds and alert the user by different LED lights on the client devices to remind the hearing-impaired of important things.

HK-40	NAME(S)	Chiu Yan Ki / Huang Wang Luk / Ng Ka Lung
ORGANIZATION		Lai King Catholic Secondary School
TITLE OF ENTRY		**EC Projector**

EC projector is an innovative device designed to relieve stress and train the reflexes, hand-eye coordination and memory of people, especially the elderly and children. It provides an interesting and unique gaming experience by holographic projection and two-player games. It also helps the mental health of the elderly and prevents cognitive decline by chatting with an A.I. companion to reduce loneliness.

HK-41	NAME(S)	Ly Thuc Hue / Liu Haijun / Thi Quoc Huy / Zhao Jiong
ORGANIZATION		City University of Hong Kong / City University of Hong Kong Shenzhen Research Institute / The Hong Kong Polytechnic University / Apply 2D Co. Ltd. / Clean 2D Co. Ltd.
TITLE OF ENTRY		**Ice-assisted transfer & cleaning technique for semiconductors and electronic devices**
The global semiconductor market is experiencing significant growth, driven by the increasing demand for advanced electronics in various sectors. However, in the conventional electronic devices, the contamination from the fabrication process has always been a critical issue since it strongly deteriorates the device performance. Here we have developed the ice-assisted transfer and cleaning method to prepare ultra-clean semiconductor and electronic devices. Compared with other conventional cleaning methods, our ice cleaning method is universal, time & cost-saving, and more environmentally friendly.		

HK-42	NAME(S)	Kevin Tsia Kin Man / Sam Ho Chi Kai / Dickson Siu Man Dick
ORGANIZATION		Advanced Biomedical Instrumentation Centre Limited
TITLE OF ENTRY		**Deep Visual Immune Cell Profiling (Deep VICP)**
Early detection of Chronic Kidney Disease (CKD) remains a significant challenge, leading to delayed intervention and increased healthcare costs. Current screening methods such as blood and urine tests often lack sensitivity to seek out asymptomatic patients. Deep VICP, a novel label-free imaging system, offers a breakthrough in CKD assessment by detecting peripheral blood immune cells at various activation stages. By providing an inflammatory score, Deep VICP enables precise staging of CKD, improving early diagnosis and patient management. This technology helps optimize treatment strategies such that chances of complication occurrences related to CKD can be reduced.		

HK-43	NAME(S)	Corina Man Ngo CHENG / Siu Tung LUI
ORGANIZATION		Simply Mask Ltd
TITLE OF ENTRY		**PureSTEPS Multi-Type Disinfection Shoe Sole Material with Integrated Antimicrobial Function for Pandemic Prevention**
This invention discloses a novel shoe sole system integrating antimicrobial and antiviral agents into footwear materials, providing continuous disinfection during walking. The antimicrobial composition includes silver-zeolite nanoparticles, quaternary ammonium graphene oxide, copper oxide clusters, and zinc pyrithione beads within EVA, PU, or rubber soles. It offers instant-kill activity (>99%) against surface pathogens, reduces airborne recontamination, and enhances public hygiene in pandemic-prone areas such as metro stations, schools, hotels, recreation facilities, shopping malls, hospitals, playgrounds, public facilities…etc. The invention supports multiple sole designs and ensures durability, safety, and real-world functionality. It is novel, non-obvious, and industrially applicable for all kind of invention patent protections.		

HK-44	NAME(S)	LIANG ZHANTAO
ORGANIZATION		HKDTIS
TITLE OF ENTRY		**Intelligent Clothes Horses**
With the continuous improvement of living standards, modern households demand greater comfort and convenience in daily life. Traditional drying racks often fall short in meeting these expectations, prompting the development of an intelligent clothes horse designed to enhance the drying experience. This innovative system integrates advanced features such as drying and blow-drying functions, humidity sensors, wind sensors, and raindrop sensors to adapt to varying environmental conditions. When rain is detected, the clothes horse automatically retracts to protect garments and resumes drying once the rain ceases. Similarly, strong winds trigger a descent mechanism to prevent clothes from being blown away. Additionally, the humidity sensor activates drying or blowing functions when moisture levels are high, ensuring efficient and timely drying. This invention represents a significant step forward in smart home technology, offering users a more responsive, automated, and convenient solution for garment care.		

HK-45	NAME(S)	YEUNG Yau Yuen
ORGANIZATION		Hanlun Laboratory School
TITLE OF ENTRY		**Hanlun agentic AI for enhancing e-learning of STEM subjects**
Based on the self-learning and metacognitive learning theories, we have designed the architecture of a new agentic AI system which has incorporated the so-called RAG (Retrieval Augmented Generation) and MCP (Model Context Protocols) for integration with some open-source LLM (Large Language Models like Deepseek-V3 and R1) and other multimodal generative AIs. A POC (Proof of Concept) protocol for this Hanlun AI bot has been specifically developed and tested to function properly as expected. It will be used for enhancing students' self-regulated learning of e-learning materials for four STEM subjects, namely Maths, Physics, Chemistry and Biology.		

HUNGARY

HU-01	NAME(S)	Bugyi Antalné Pap Rózsa
ORGANIZATION		Ötlet Club 13 Association
TITLE OF ENTRY		**Tapestry Embroidery (Woman from head to toe WOMAN, Excursion)**

Tapestry embroidery is a technique that imitates a weaving technique. A tapestry, or woven tapestry, tapestry, wall hanging, wall hanging is a textile used to cover and decorate a wall. It is usually a picture carpet woven from woolen yarn, less often with silk or metal threads. There are two types of tapestry, large-holed and small-holed needle-tapestry. First, we stretch the base material onto the frame with a small basting pin. The stitch is a half cross stitch that slopes to the right. We work from top to bottom. We sew with divided embroidery thread, normal tapestry with 6 threads and needle tapestry with 2 or 3 threads depending on the hole size of the base.

HU-02	NAME(S)	Dr. Vancsura Istvánné
ORGANIZATION		Ötlet Club 13 Association
TITLE OF ENTRY		**FLUID ART paintings**

Fluid Art, chalk, textile, and acrylic painting, the writers of the creative blog are not necessarily professionals, we would like to show you how you can create something unique without any prior training, even with a little manual dexterity. The point is the joy of creation!

HU-03	NAME(S)	Zsiros Sándorné Tóth Szilvia
ORGANIZATION		Ötlet Club 13 Association
TITLE OF ENTRY		**Diamond Tapestry (Guardian Angel Diamond Tapestry)**

It is made with half cross-stitch stitches. Half or quarter stitches in order to work out the smallest details. It is made with divided embroidery thread.

HU-04	NAME(S)	Körmendi Rita
ORGANIZATION		Ötlet Club 13 Association
TITLE OF ENTRY		**Textile Sculpture**

Each of the works is built around a plaster mask, which is the same in size and shape, yet different in the final result. To achieve the final work, I used a suitable amount of material, which is a mixture of wallpaper paste, food starch and water, which was worked into textiles and other materials and solidified under the influence of air.

HU-05	NAME(S)	Lankus József
ORGANIZATION		Ötlet Club 13 Association
TITLE OF ENTRY		**Safety lighting for bicycles**

1. It is environmentally friendly, because it does not require a power source, it uses human energy in a way that does not make it difficult to drive the bicycle. 2. It works constantly, cannot be switched off, so it always indicates the movement of the bicycle. 3. It has no wires, which also increases its safety. 4. It can be mounted on all bicycles, especially recommended for children's bicycles. It is a protected intellectual product registered under the number NSZTH 2846.

INDIA

IN-01	NAME(S)	Avnish Kumar / Priyanka Kumar
ORGANIZATION		LivNSense GreenOps Pvt Ltd
TITLE OF ENTRY		**AI-Powered GreenOps™ Platform for Real-Time Energy and Emission Optimization in Cement Manufacturing**

GreenOps™ is an AI-driven SaaS platform designed to reduce energy consumption and CO_2 emissions in energy-intensive industries like cement. Piloted at a leading Indian cement plant under NCCBM's guidance, it leverages 160+ AI algorithms to optimize real-time energy and process parameters. The solution identified inefficiencies across kilns, fans, and mills—enabling 5–7% energy savings and CO_2 reduction with sub-6 month payback. GreenOps™ offers continuous monitoring, predictive insights, and autonomous recommendations to help industries achieve net-zero goals without major capex investments.

INDONESIA

ID-01	NAME(S)	**Raihana Leisela Purnomo / Bhimasena Arsa Narendra / Dyah Almira Karina Pusparini / Tsabitah Nabilah Antory / Firdaus Arsyvano Akbar / Christian Dirga Rama Putra / Amadeus Darnell Santoso**
ORGANIZATION		SMAN 5 Surabaya
TITLE OF ENTRY		**KLEPON SAPI (*Klerak* Soap with Natural Ingredients)**

Sapindus rarak has gained attention as a sustainable alternative to synthetic soaps due to its natural saponin content, which acts as a biodegradable surfactant. The soap was produced through cold saponification. Characterization results showed the *klerak* soap had a skin-friendly pH, and antibacterial activity against some bacterias. We also added variants for this soap. This study proves that *klerak* soap formulations not only align with green chemistry principles but also offer added value as safe, eco-friendly personal care products. This study also aims to promote the global recognition of this endemic plant, potentially generating positive socio-economic impacts for rural communities.

ID-02	NAME(S)	**Dimitria Nareswari / Aleyya Intan Adonia Cinara / Achmad Diraj Mahardika / Insan Rasyid Rayyana Jaya Saputra / Syifa Catriona Zahra**
ORGANIZATION		SMAN 1 Surakarta
TITLE OF ENTRY		**TEDDY: Temperature Monitoring Patch with Real-Time Wi-Fi-Based Tracking for Early Fever Alert and Built-In Cooling Therapy**

Fever often affects children aged 6 months to 5 years and may trigger febrile seizures if body temperature exceeds 38 °C. Early detection is crucial to prevent complications. TEDDY (Tempra Buddy) is a Wi-Fi-based temperature patch designed for early fever detection and seizure prevention. The patch is made of safe, flexible, food grade material and applied to the armpit. The sensor displays temperature on an LCD: “Cold” (<36.4 °C), “Healthy Child” (36.4–37.5 °C), and “Sick Child” (>37.5 °C) with LED lights (blue, green, red). It features a cooling hydrogel and smartphone app, and is suitable for use at home, clinics, or hospitals.

ID-03	NAME(S)	**Putu Ayu Krishna Jihvani / Komang Bukyan Jina Raksita / Cokorda Gede Bagus Muladhara Cakra Kailasa**
ORGANIZATION		Warmadewa University
TITLE OF ENTRY		**CASTOPLUS: Antibacterial Hydrogel Patch Combining Coralbush (Jatropha multifida L.) Latex and White Turmeric (Curcuma mangga) Extracts for Enhanced Diabetic Wound Healing**

Diabetic wounds are highly susceptible to infections by pathogens such as Staphylococcus aureus and Escherichia coli, which can impair healing and lead to serious complications. Although antibiotics like clindamycin are effective, their prolonged use may contribute to antimicrobial resistance, emphasizing the need for natural alternatives. This study evaluates the antibacterial activity of a hydrogel formulated with Coralbush (Jatropha multifida L.) and white turmeric (Curcuma mangga) extracts in a PVA/chitosan base, compared to clindamycin 1% ointment. The initial formulation (75% total extract, 75:25 ratio) exhibited significantly lower antibacterial activity than clindamycin ($p < 0.05$). To enhance efficacy, the formula was optimized to contain 80% total extract with a ratio of 85% J. multifida and 15% C. mangga. The optimized hydrogel showed improved inhibition zones (20.7 ± 0.4 mm for S. aureus and 18.9 ± 0.5 mm for E. coli), which were significantly greater than the initial formulation ($p < 0.05$), though still statistically lower than clindamycin (21.5 ± 0.2 mm and 19.7 ± 0.3 mm; $p < 0.05$). Despite this, the results suggest a promising enhancement and potential of the optimized hydrogel as a natural antibacterial alternative for diabetic wound care, contributing to reduced reliance on synthetic antibiotics and lowering the risk of resistance.

ID-04	NAME(S)	**Atalaumar Febriogrand Sudirdja / Atalacenna Galang Elenovjagoar / Syahira Maury Husna / Aisyah Ayudia Inara / Kittara Mentari Keumalahayati / Faira kania azzahra / Kinar Galuh Lituhayu**
ORGANIZATION		Grand Innovator
TITLE OF ENTRY		**A Rotatable Ball-Shaped Indoor Hydroponic Planter with Natural Cocofiber Shielding for Healthier Plant Growth**

This project introduces a rotatable, ball-shaped indoor hydroponic planter designed to optimize photosynthesis and suppress microbial growth. The spherical container allows for uniform light distribution through manual rotation, simulating natural sunlight movement to enhance indoor photosynthesis. A non-breathable outer layer of natural cocofiber serves as shielding to block excess light from reaching the nutrient solution, effectively reducing algal and mold formation. Additionally, the cocofiber layer adds a natural aesthetic suited for interior environments. This integrated system promotes healthier plant growth while offering a compact, low-maintenance, and visually appealing solution for sustainable indoor gardening.

ID-05	NAME(S)	Daiyandra Jusuf Rakhmanto / Yuziku Hafizh Pertama / Muhammad Faruq Ramadhan / Raihan Kenjiro Gardono / Nabil Sabri Arraasyid / Raihanna Azzahra Rizanul / Annisa Devina Wijaya
ORGANIZATION		SMA Labschool Cibubur & Global Mandiri School
TITLE OF ENTRY		**Utilization of Anti Bacterial Pineapple (Ananas comosus) and Rose Petals (Rosa) for Shampoo**

Our innovation develops a healthier and safer shampoo that use natural products: Aloe Vera and Kapok Leaf extract (Ceiba pentandra). In addition, our product has non-pathogen bacteria from fermentation proses of rose petal and pineapple. Aloe vera is known for its soothing and moisturizing properties, whereas kapok leaf extract is used to soothe scalp irritation and inflammation. Non-pathogen bacteria from rose petal offer gentle antimicrobial action and fragrance while probiotic from pineapple are endowed with enzymes and organic acids that remove dead skin cells and control excess oil. This shampoo is formulated to eliminate dandruff without compromising scalp health.

ID-06	NAME(S)	Arrafi Diemaz Syathiri / Farras Mahardika Arfarizqy / Syahlah Verlita Putri Ariawan / Lunetta Azzah Chusnia Sarda / Athallah Raditya Fachlevi / Rania Nisrina Huda Palgunadi / Nuhanajha Faiz Firdaus
ORGANIZATION		Labschool Cibubur Senior Highschool
TITLE OF ENTRY		**ComeThru (Combination of Tire Rubber, Glass, and Bamboo Waste Making a Nature-friendly Porous Asphalt)**

This study investigates the effectiveness of incorporating rubber tire waste, glass waste, and bamboo fiber into environmentally friendly porous asphalt. The objective is to enhance water infiltration capacity to reduce surface runoff and mitigate flood risks, particularly in urban areas of Indonesia frequently affected by flooding due to limited absorption zones. The materials used include bitumen, aggregate, bamboo fiber ash, finely cut rubber tire, and glass shard-derived silica powder. This mixture is expected to improve asphalt permeability while promoting sustainable waste utilization, offering a dual solution to environmental pollution and urban flood management.

IRAN

IR-01	NAME(S)	Dr. Sevil Ghafarzadeh Rad / Behnam Amini
ORGANIZATION		Tabriz University of Medical Sciences, Medical Faculty, Department of Internal Medicine / Tabriz University of Medical Sciences, School of Management and Medical Informatics, Department of Health Policy and Management / via The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		**Payar slippers designed for diabetics provide a protective space for wounds without contact, and feature a one-way airflow system that accelerates healing**

Diabetic patients are prone to foot ulcers (DFUs) due to neuropathy, poor circulation, and pressure imbalances. Proper foot care including hygiene, inspection, and specialized footwear is critical to prevent infections and promote healing. Current orthotic solutions (e.g., insoles, casts) often lack ventilation, customization, and pressure relief, worsening wounds. **We designed "custom 3D-scanned slippers" with:** - Targeted Wound Openings: Elevated cavities keep ulcers suspended, avoiding contact with the sole. / - Dynamic Airflow System: Air balloons in the sole gently blow air onto wounds with each step, reducing moisture and infection risk. / - Protective Hard Layer: A plastic shield under cavities prevents trauma while allowing air circulation. / - Toe Spacers: Custom bumps/spacers align toes, preventing deformities and secondary ulcers. / - Front Ventilation: Additional openings enhance airflow inside the slipper. **Key Advantages:**1. Fully Customized: Matches foot anatomy and wound locations via 3D scanning. / 2. Zero Pressure on Wounds: Cavities eliminate direct contact with the sole. / 3. Active Airflow: Air balloons and vents maintain a dry, oxygenated wound environment. / 4. Preventive & Therapeutic: Addresses existing ulcers and prevents new ones (e.g., toe deformities). / 5. User-Friendly: Lightweight, wearable long-term, and suitable for home use.

IR-02	NAME(S)	Dr. Saeid Jebraeili / Dr. Behnam Amini / Ali Shahi / Soheil Barno
ORGANIZATION		Neshat Specialized Dental Clinic / via The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		**Enhanced Different Hex-Design Abutment with Flexible Interface: A Breakthrough in Implant Dentistry**

Modern Implant Abutment: Key Innovations
Current Challenges in Implantology: - Abutment rotation, uneven occlusal force distribution, and biomechanical issues in hybrid bridges (implant-natural tooth connections). **Novel Abutment Design Features:** A) Hexagonal Connection Interface: - Anti-Rotation: Precision hexagonal design prevents post-installation movement. /- Easy Installation: Standardized for quick, accurate placement (even in tight spaces). / - Torque-Compatible: Secure fixation using standard torque values. B) Integrated Flexible System: - Force Absorption: Evenly distributes chewing forces to reduce peri-implant stress. / - Hybrid Bridge Support: Manages differential mobility in implant-tooth connections. / - Advanced Materials: Engineered elastic components for long-term durability.

IR-03	NAME(S)	Dr. Davoud Beheshtizadeh / Eng. Hossein Alinajad Sarkhani / Eng. Hadi Rouhi Belvirdi / Eng. Mohammadali Alinajad Sarkhani
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		GEOBRIX: High-Performance Green Bricks with Thermal and Structural Innovation
GEOBRIX introduces a next-gen modular green brick engineered for extreme thermal control and structural integrity. Crafted from recycled biomass, glass, and plastic, and infused with nano-additives and PCM, it reduces carbon emissions and enables rapid, mortar-free construction. Designed for climate-resilient, circular, and affordable urban housing.		

IR-04	NAME(S)	Dr. Aydin Ostovar
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		GENIUSPACT: A Strategic Invention Game to Boost Intelligence
GENIUSPACT is a modular strategic invention game that boosts intelligence and creativity in ages 9–15. Using 60 innovation-themed cards and 80 letter cubes, players generate imaginary inventions under time pressure, applying TRIZ, HOTS, and Feuerstein's cognitive tools to develop verbal fluency and inventive thinking.		

IR-05	NAME(S)	Maryam Sadat Tahouri
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		Interchangeable Mechanical Covering Device for Dental Unit with Digital Counter and Suction Volume Regulator in Suction
This device automates dental unit cover replacement and intelligently adjusts suction power while recording data-improving hygiene, efficiency, and treatment quality.		

IR-06	NAME(S)	Seyederfan Arbabzadeh
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		Stuttering Analysis System for Children Using Facial and Physiological Signals with AI-Based Therapy
Wearable sensors and facial image processing track heart rate, stress, and jaw pressure during speech; data is analyzed to suggest personalized therapy.		

IR-07	NAME(S)	Ahmad Shoara
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		Flexible and Durable Network Cord Patch for Enhanced Connection Stability
The floating cord patch computer network is a major improvement in patch cord design and use for electronic and optical networks. Unlike traditional patch cords, which are rigid and can be challenging in busy environments, the floating patch cord is flexible and organized, making it easier to handle network cables. Its modular design allows for easy upgrades, enhanced management features, and improved reliability with advanced conductor separation that lowers signal loss. A sturdy metal holder adds stability and reduces damage risk, while high-quality materials promote safety and durability. The floating patch cord offers numerous benefits, including stability, energy efficiency, and cost-effectiveness, ensuring minimal downtime and easy integration into current networks. It changes how network environments are managed, providing dependable solutions while meeting safety standards.		

IR-08	NAME(S)	Nooshin Zekavat
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		Smart System for Displaying Targeted Advertisement Based on Collective Data Using the Internet of Things and Artificial Intelligence
This invention aims to reduce the error rate of real-time image processing via Internet of Things technologies, artificial intelligence, and also display content that is appropriate for the users by accurately monitoring the surroundings and collecting data using camera, microphone, temperature, humidity, and light sensors and processing the data. First, the business owner aka client will receive the data through the system panel, then, according to the received information and its display content, will define conditions for smart display. Finally, the client can use two options for broadcasting content on the displays: direct display and smart display. The submitted content is displayed based on the specified time, or the analysis of environmental data and the conditions defined by the client. Viewers in the area will be surveyed about the content, and record their opinions with predefined gestures. Image processing and integrated sensors gather data for more targeted advertisement making.		

IR-09	NAME(S)	Faegheh Manafi Miraliloo / Vahid Bakhshi Ghourt Tappeh
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		Smart Dynamic Equity Distribution Framework

Comprehensive contribution valuation: a structured approach to evaluate both financial and non-financial contributions, such as intellectual property, network resources, physical assets, skills, and time, using fair market value (fmv) assessments. dynamic adjustment mechanism: automated equity realignments powered by smart contracts, conducting periodic reviews to reflect ongoing contributions and performance milestones. tokenization and blockchain integration: equity shares represented as digital tokens stored on a blockchain, ensuring transparency, security, and ease of ownership transfer. structured exit protocols: predefined procedures for member exits, including buy-back options, share dilution mechanisms, reserve funds to manage ownership transitions seamlessly.

IR-10	NAME(S)	Fahimeh Baghani
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		Educational assistance and Financial Literacy Learning System with Interactive Banking Features for Children and Adolescents

This financial literacy system helps children and adolescents learn money management through an interactive bank device. It addresses challenges such as limited practical financial education, misconceptions about money, and lack of engaging learning tools. The system enables goal setting, real-time balance display, and simulated deposits and withdrawals with coins and banknotes. Voice prompts and interactive features teach savings, loans, and debt concepts. Equipped with secure locks for hands-on access, it promotes responsible financial behavior in a fun, practical way, filling gaps in traditional education and fostering early financial literacy.

IR-11	NAME(S)	Vahid Harouni
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		Reconfigurable Modular Staircase with Adjustable Treads and Variable Plans

The invention relates to a staircase device with individually adjustable tread/riser of every stair through sliding parts and hinges in a scissor-like mechanism. By this creative mechanism, the surface area of the treads can be changed from rectangular to triangular and vice versa, enabling the staircase to rotate to the right or left at any desired shape and configuration in interior design. In this way, a variety of staircase plans such as straight, spiral, and composite shapes like L, U, S, elliptical, and others can be implemented. This mechanism allows the staircase to be quickly retracted and prepared for use in any other location within the same building or even in a different building.

IR-12	NAME(S)	Mahsa Mobaraki
ORGANIZATION		The First Institute of Inventors and Researchers in I.R. IRAN (FIRI)
TITLE OF ENTRY		AI-Enhanced Infrared Dental Diagnostic System with Interchangeable Intraoral Guards and Portable Control Unit for Multi-Type Caries Detection in Children and Adults Aged 7 and above

This invention presents the world's first multi-user home-based system that enables the early detection of dental caries - including surface, interproximal, deep, and also hidden lesions adjacent to or beneath non-metal restorations - prior to the need for radiographic imaging. It utilizes biocompatible and interchangeable intraoral guards in four anatomically optimized sizes, each equipped with infrared and motion sensors. Each guard is angle-calibrated and attaches to a semi-flexible arm for full-surface dental data acquisition. Light-motion algorithms analyze dental status while the motion tracking system filters out jaw movements. The mobile app auto-detects the inserted guard and adapts its user interface to the age group. Outputs include a diagnostic heatmap, lesion type and severity, real-time alerts, and a downloadable PDF for dental professionals. Each user profile is securely stored, enabling intelligent longitudinal monitoring of oral health. With personal guards, a single central device ensures hygienic a digital oral care for the entire family. This system transforms dentistry from delayed treatment to intelligent, home-based prevention - initiating a new generation of global oral health.

IRAQ

IQ-01	NAME(S)	Tavga Sulaiman Rashid / Hayman Kakakhan Awla / Mohammed Jamal Jameel / Muhammed Zrar Bakir / Majid Hassan Mustafa
ORGANIZATION		Salahaddin University
TITLE OF ENTRY		Innovative Biocontrol Invention for Canker Management

We present an innovative biological solution to manage Peach Tree Canker caused by *Cytospora leucostoma*, one of the most destructive diseases in peach orchards. This eco-friendly invention combines beneficial microbes *Bacillus subtilis*, *Pseudomonas fluorescens*, and *Aspergillus flavus*, achieving 100% pathogen inhibition in vitro and complete wound healing in field conditions. This synergistic treatment enhances plant defense mechanisms and eliminates the need for harmful chemical fungicides. As a sustainable, high-impact alternative, this biocontrol strategy significantly advances plant disease management and sets a new standard for orchard health and productivity.

IRELAND

IE-01	NAME(S)	**Rachel Howe / Sandra Nicholson / Carmel Davies / Attracta Lafferty / Thilo Kroll**
ORGANIZATION		University College Dublin
TITLE OF ENTRY		**CAAI: Co-design of an Animal Assisted Intervention by young people for a Children's Hospital in Ireland**

The co-design of an Animal Assisted Intervention (AAI) by young people for a Children's Hospital in Ireland is one work package of a PhD research study. A scoping review protocol has been published, and the scoping review is currently being completed to inform the co-design process. Children and young will be invited to participate in the co-design process to create a bespoke protocol and subsequent implementation of an animal assisted intervention in one Children's Hospital in Ireland. Innovative participatory research methods will be considered for either face-to-face or online co-design workshops. Proposal plans will be shared and constructive feedback sought.

ITALY

IT-01	NAME(S)	**Diana Imerlishvili**
ORGANIZATION		N/A
TITLE OF ENTRY		**Innovative Backpack – GVAQES**

The backpack has a built-in umbrella, which is stored in a special compartment. During intense sun or rain, a sensor installed on the umbrella emits a sound signal and activates the mechanism: it emerges from the compartment and opens above the person's head at a height of 30–50 centimeters. When the umbrella is no longer needed, it retracts back into the compartment with another sound signal. The backpack also features a special button that allows the user to activate the umbrella manually whenever they wish. Thanks to this innovative idea, the person has both hands free and doesn't need to use physical effort to protect themselves from strong sunlight or rain.

JAPAN

JP-01	NAME(S)	**Sir Dr. Yoshiro NakaMats**
ORGANIZATION		International Invention & Innovation Institute (IIII)
TITLE OF ENTRY		**Super Smart Phone**

Connect multiple smartphones and increase their functionality in multiple ways. This invention allows to expand larger screen and collapse into compact size.

JP-02	NAME(S)	**Sir Dr. Yoshiro NakaMats**
ORGANIZATION		International Invention & Innovation Institute (IIII)
TITLE OF ENTRY		**Winged Drones**

High-speed horizontally flying drones and other aircraft. By installing a propeller for vertical ascent and descent and horizontal flight and wings for horizontal flight, an aircraft that can fly horizontally at high speed and over long distances can be obtained.

KENYA

KE-01	NAME(S)	**Ken-Andrew Muthui Gacheche**
ORGANIZATION		Subzero Engineering (KE)
TITLE OF ENTRY		**Integrated Sonar Echo Eye (I.S.E.E)**

I.S.E.E is an invention that was created in-order to be an assistive technology for Visually challenged persons. Much like Bats and dolphins, we humans can employ electronic devices to help people with a way to navigate by using sound and echoes. The idea was born after I spent a few days with blind people who would navigate their campus in Addis Ababa Ethiopia from memory alone.

KOREA

KR-01	NAME(S)	**Jayden Moon**
ORGANIZATION		Yongsan International School of Seoul
TITLE OF ENTRY		**NeuroBridge: A Bioinspired Cognitive Interface Model Based on Comparative Neural and Genetic Insights from Humans, Chimpanzees, and Dogs**

This project presents NeuroBridge, a bioinspired cognitive interface model based on comparative insights from humans, chimpanzees, and dogs. By integrating behavioral traits, neuroanatomy, and cognition-related gene networks (e.g., FOXP2, NOTCH2NL, OXTR), NeuroBridge simulates species-specific strengths in memory, social interaction, and problem-solving. Unlike traditional AI, this model captures evolutionary adaptations to build emotionally responsive and adaptive systems. Designed for applications in assistive robotics, education, and empathetic AI, NeuroBridge offers a novel framework that merges evolutionary neuroscience with technology. This invention demonstrates how understanding cognitive evolution can inform the creation of human-aligned, socially intelligent interfaces.

KR-02	NAME(S)	Yeom Hyun-a
ORGANIZATION		Yongdong Elementary School, Seoul
TITLE OF ENTRY		SEE-THROUGH SHARP

SEE-THROUGH SHARP is a mechanical pencil featuring a transparent lead storage window that allows users to easily check the remaining lead at a glance. It prevents sudden lead depletion during exams or work by providing visual feedback through indicator levels (full, medium, low). Made of durable transparent polycarbonate, this pencil enhances usability, minimizes writing interruptions, and promotes efficiency. It is especially helpful for students, professionals, and visually sensitive users. SEE-THROUGH SHARP offers an innovative yet cost-effective solution for uninterrupted writing.

KR-03	NAME(S)	Park Kyungin
ORGANIZATION		Wolgye High School, Seoul
TITLE OF ENTRY		Easy Page Pro

Easy Page Pro is a hands-free magnetic page holder designed to help users, including those with upper limb disabilities, keep books open effortlessly. It combines a flat ruler-like body, silicone page-stabilizing straps, and embedded magnets to hold both sides of a book firmly in place. The device allows one-handed page-turning and stable reading or writing, making it ideal for students, elderly individuals, or patients with mobility limitations. Lightweight, portable, and easy to use, Easy Page Pro promotes inclusive learning and independence, and can be widely used in schools, libraries, and hospitals.

KR-04	NAME(S)	Park Kyung a
ORGANIZATION		Nowon Middle School, Seoul
TITLE OF ENTRY		MAG-Eraser

MAG-Eraser is a multifunctional eraser embedded with a mini magnetic core that allows users to pick up scattered metal objects like paperclips and pins while erasing. Designed for students and office workers, it prevents workspace clutter and adds utility to a common stationery item. The eraser maintains its standard erasing performance while offering an added cleanup function. With its low production cost and simple structure, MAG-Eraser combines functionality, safety, and convenience — making it ideal for school, office, and personal use.

KR-05	NAME(S)	Kim Minho
ORGANIZATION		Induk University, Seoul
TITLE OF ENTRY		The Automatic Yellow Light System

The Automatic Yellow Light System is a smart headlamp system that dynamically adjusts beam color and brightness based on real-time GPS and weather data. By receiving weather condition inputs via GPS-linked navigation and integrating them with ambient light and humidity sensors, the system automatically shifts to high-visibility yellow light under fog, rain, or snow. This enhances lane visibility, reduces glare, and improves safety without driver intervention. The system's AI-based algorithm continuously adapts to road and atmospheric conditions, making it ideal for smart mobility and autonomous vehicle integration.

KR-06	NAME(S)	Baek Seungjae / Lee Jeongin
ORGANIZATION		Headquarters Company, 16th Thank Battalion, 2nd Armored Brigade / Department of Materials Science and Engineering, Graduate School, Korea University
TITLE OF ENTRY		Expire Check (A label that allows expiration date verification)

Expire Check is a color-changing smart label designed to visually indicate the expiration status of medications. Applied directly to pill bottles or packaging, the label gradually changes color over time or in response to environmental conditions such as temperature and humidity. This allows users—including the elderly and visually impaired—to easily recognize expired drugs at a glance without reading fine print. Expire Check enhances medication safety, reduces accidental ingestion, and simplifies inventory checks in homes, clinics, and pharmacies. It is cost-effective, disposable, and compatible with most standard pharmaceutical containers.

KR-07	NAME(S)	Seo Jungyeon / Lee Eunha
ORGANIZATION		Seoul National University of Science and Technology / Nursing Assistant
TITLE OF ENTRY		PillPatch – Smart Medication Reminder Patch

PillPatch is a wearable timer patch that reminds patients to take their medication through vibration and LED alerts. It adheres to the skin and can be easily set for specific hours and minutes using simple buttons. Designed for elderly or memory-impaired users, PillPatch eliminates the need for sound-based alarms or mobile devices. With its lightweight form and medical-grade adhesive, it enhances medication adherence and prevents missed or duplicated doses. This solution is especially beneficial in hospitals, nursing homes, and for patients with chronic illnesses.

KR-08	NAME(S)	Gwag Seong-gyeong
ORGANIZATION		ONUL BOX
TITLE OF ENTRY		**Hwanggeumchae Dasima-Chae (Pre-Sliced Dried Kelp for Instant Cooking Use)**

Hwanggeumchae Dasima-Chae is a pre-cut dried kelp product that eliminates the need for traditional preparation. The kelp is uniformly sliced and quickly rehydrates in water within 1–2 minutes, enabling immediate use in various dishes such as soups, stir-fries, and salads. It maintains its natural texture, color, and nutritional value, while reducing cooking time and effort. Packaged in hygienic, resealable pouches, the product is convenient for both home and foodservice use. It offers a solution to the inconvenience of thick, uncut kelp blocks, providing a standardized, ready-to-use seaweed material optimized for modern cooking.

KR-09	NAME(S)	The late Mr. Park Seongryeol
ORGANIZATION		Korea Social Security Information Service
TITLE OF ENTRY		**Welfare Blind Spot Alert System**

This AI-based system analyzes unstructured social data such as community posts, chatbot logs, and public complaints to detect early signs of crisis in vulnerable individuals or households. By integrating Natural Language Processing (NLP) and public administrative data, the system calculates a risk score and automatically alerts welfare officials when high-risk signals are identified. Designed to supplement traditional application-based welfare, this system enables proactive discovery of welfare blind spots, reduces social worker burden, and prevents tragedies like solitary deaths. It strengthens local welfare networks by providing real-time insights through a dashboard interface.

KR-10	NAME(S)	Dongdoo Park
ORGANIZATION		ZERONE Inc.,
TITLE OF ENTRY		**Ultrasonic Frying Wand with Smart IoT Control**

A smart cooking apparatus employing ultrasonic vibration technology to minimize thermal degradation of frying oil, suppress oil mist dispersion and fume emission, while integrated IoT-based sensors continuously monitor oil oxidation indices and cooking parameters in real time.

KR-11	NAME(S)	Kim Min-yup
ORGANIZATION		Nowon Baek Orthopedic Clinic
TITLE OF ENTRY		**Advertising or Information Display Device with UV Imaging Function (UV Skin Insight Kiosk)**

The UV Skin Insight Kiosk is an AI-powered dual-camera system that visualizes ultraviolet (UV) exposure on the human face in real time. By combining ultraviolet and visible light imaging, it reveals hidden sun damage on the skin, allowing users to directly assess the effectiveness of their sunscreen. With features such as facial recognition, UV index tracking, timed photo capture, social media sharing, and advertising integration, the kiosk transforms skin health awareness into an engaging and interactive experience. Applicable in beauty retail, healthcare, airports, and leisure venues, it offers strong commercial potential through kiosk leasing, partnerships with skincare brands, and data-driven personalized marketing.

KR-12	NAME(S)	Kim Min-yup
ORGANIZATION		Nowon Baek Orthopedic Clinic
TITLE OF ENTRY		**Dispenser that allows full usage of remaining contents (Smart Last-Drop Dispense)**

This invention relates to a pump dispenser designed to utilize liquid contents to the very last drop. Unlike conventional dispensers, it features a specialized floating intake mechanism and optimized internal geometry that enables near-total evacuation of contents, minimizing waste. Its sleek, semi-transparent design integrates seamlessly into personal care and household product lines. The dispenser is compatible with existing manufacturing systems, supporting sustainable consumption and reducing cost per use. It is ideal for eco-conscious brands and premium product packaging seeking both functionality and visual appeal.

KR-13	NAME(S)	SHIN SUJIN
ORGANIZATION		ExoMedi Co., Ltd.
TITLE OF ENTRY		**Cosmetic Composition Comprising Exosomes Derived from Human Amniotic Fluid Stem Cells**

A cosmetic composition containing exosomes from human amniotic fluid stem cells (hAFSCs) is presented. Using dual-layer nanoencapsulation, the formulation preserves bioactivity and stability, delivering anti-aging, whitening, hydration, and skin-repair effects. Suitable for sprays, ampoules, lotions, and essences, it enhances elasticity, reduces wrinkles, and strengthens the skin barrier.

KR-14	NAME(S)	Joo Seoyoon
ORGANIZATION		SOHYEON MIDDLE SCHOOL
TITLE OF ENTRY		**Spray Mist Composition for Skin Regeneration Containing AFSCs-Derived Exosomes**
A spray-type sunscreen cosmetic containing exosomes from human amniotic fluid stem cells (AFSCs) is developed. It provides high UV protection with a cooling effect, promotes skin regeneration, and offers a transparent, non-sticky finish without white cast. The formulation combines sun defense with the anti-inflammatory and antioxidant benefits of AFSC-derived exosomes.		

KR-15	NAME(S)	Kang BaekHo
ORGANIZATION		EHSA G12
TITLE OF ENTRY		**Eco-Friendly Organic Acid–Electrochemical Integrated Method for Metal Recovery from Spent Lithium-Ion Batteries**
An eco-friendly closed-loop process recovers lithium and transition metals (Co, Ni, Mn) from spent lithium-ion batteries using citric–malic acid leaching and multi-stage electrowinning. Achieving high recovery rates with low waste, low energy use, and minimal emissions, it offers a scalable, ESG-compliant solution for sustainable battery-material recycling.		

KR-16	NAME(S)	Juan Lim / Daeun Kim
ORGANIZATION		Korea International School Jeju / Branson Hall Asia
TITLE OF ENTRY		**EV Fire Prevention System**
An integrated safety system for electric vehicles detects early signs of battery thermal runaway—such as gas release, temperature rise, and voltage drop—via BMS sensors. Upon detection, CO_2 coolant is directly injected through pipes in contact with battery cells, rapidly lowering temperature and preventing fire spread. The system reduces resource use compared to water-based methods, enabling lightweight design while improving vehicle safety and efficiency.		

KR-17	NAME(S)	Jinmyung Kong / Yeongho Jeong / Wooji Jung / Yehji Jung
ORGANIZATION		Korea Intentaional School Jeju / Saint Johnsbury Academy Jeju / Branksome Hall Asia
TITLE OF ENTRY		**Gluten freedom pizza**
A gluten-free pizza dough made from buckwheat and brown rice (2:1 ratio) offers excellent texture and flavor while providing strong antioxidant and anti-diabetic properties. Suitable for celiac patients and gluten-sensitive consumers, it combines health benefits with broad applications in school meals, hospital diets, and wellness dining.		

KR-18	NAME(S)	Seonwoo Kang / Jihan Lee
ORGANIZATION		Branksome Hall Asia / Korea International School Jeju
TITLE OF ENTRY		**CEDAR BREEZE: Jeju Cedarwood Essential Oil Deodorant**
A natural spray deodorant made from 100% Jeju cedarwood essential oil, offering strong antibacterial and deodorizing effects with a refreshing, calming aroma. Free from alcohol and synthetic additives, it is safe for sensitive skin and suitable for use in closets, cars, bathrooms, and other living spaces.		

KUWAIT

KW-01	NAME(S)	KHALED ALSAHO / MUHAMMAD HAGGAG
ORGANIZATION		N/A
TITLE OF ENTRY		**ShrinkSafe**
This invention proposes the use of a silicone shell implant, traditionally used for breast implants, repurposed for gastric applications. The implant is designed to be placed laparoscopically around the stomach, covering both its anterior and posterior surfaces. The shell prevents excessive gastric expansion, thereby reducing food intake and facilitating weight loss. The procedure is minimally invasive, safe, and reversible, making it a viable alternative to traditional surgical methods. The shell's design incorporates two distinct layers that are placed separately and then stitched together. This ensures a snug fit around the stomach while preserving blood supply and avoiding tissue damage. The shell is anchored to the posterior abdominal wall to prevent displacement caused by gastric motility.		

LEBANON

LB-01	NAME(S)	Abbas Diab
ORGANIZATION		National Association for Science and Research (NASR)
TITLE OF ENTRY		**ARIES – Autonomous Rescue and Intervention Emergency System**

ARIES (Autonomous Rescue and Intervention Emergency System) is an intelligent, fully autonomous robotic platform engineered for life-saving missions in disaster zones. Designed to support first responders during earthquakes, fires, and structural collapses, ARIES combines mobility, sensing, AI, and communication technologies to operate effectively in high-risk, hazardous environments. Equipped with real-time SLAM navigation, thermal and depth cameras, gas and environmental sensors, a 6-DOF robotic arm, and fire suppression tools, ARIES can autonomously detect survivors, remove debris, extinguish fires, and stream live video and audio to emergency teams with remote monitoring capability. It also supports long-range control via GSM for wide-area deployments.

MACAU, CHINA

MO-01	NAME(S)	CHAO SIN IEOK / HE KUN U / LI ZIYU
ORGANIZATION		Hou Kong Middle School Macau
TITLE OF ENTRY		**Pet deodorizing pad using coffee grounds and biological enzymes**

Increasing pet ownership in Macau has led to a significant rise in pet excrement in public environments, causing odor issues. Existing methods (e.g., plastic toilet bags) are non-degradable, non-deodorizing, and environmentally unfriendly. **Coffee Grounds and Beeswax Composite Layer:** Utilizes coffee grounds (with microporous structure for odor adsorption) and beeswax to create a waterproof, load-bearing base that is biodegradable and eco-friendly. **Composite Biological Enzyme Formula:** Employs papain and urease (ratio 2:3:45) to efficiently decompose odor molecules (e.g., ammonia) from pet waste. **Polymer Water-Absorbing Material:** Features salt-resistant superabsorbent polymers to enhance water absorption and support odor removal. The coffee grounds-beeswax composite layer achieves effective waterproofing (no leakage after 5 waterings). The composite enzyme formula rapidly decomposes odor molecules (efficient ammonia removal). The polymer water-absorbing material outperforms market products in water uptake and ammonia removal. The pad offers a biodegradable, eco-friendly alternative to traditional plastic sanitary bags.

MACEDONIA

MK-01	NAME(S)	Dea Despotovska / Nina Lameva / Andrej Ampov
ORGANIZATION		Yahya Kemal College
TITLE OF ENTRY		**"Mitigating PM10 Air Pollution: Water Sprinkler-Based Mist Dispersion for Cleaner Air"**

The misting system showed a modest improvement in air quality by reducing PM10 concentrations by 11.72%. On the first day, without misting, the concentration was 29 µg/m³, whereas on the second day, with the misting system active, the concentration dropped to 25.6 µg/m³. This reduction suggests that the misting system, although not a drastic solution, can help in lowering particulate matter levels and improving air quality over time. These findings highlight the potential of misting systems as a feasible method for controlling dust and particulate matter in enclosed environments. In conclusion, the use of misting systems shows promise in reducing particulate matter concentrations, as demonstrated by the 11.72% decrease in PM10 levels observed in Deas House. While misting systems are highly effective in industrial settings for dust suppression, their impact in residential areas may vary based on environmental factors and the specific application.

MALAYSIA

MY-01	NAME(S)	Goh Yu Xiang / Alicia Loh I-Ling / Kishore Bingi / Rosdiazli Ibrahim
ORGANIZATION		Universiti Teknologi PETRONAS
TITLE OF ENTRY		**Automated Inspection and Fault Detection in Solar PV Rooftop Panel Systems Using AI-Driven Drone Technology**

This study explores an AI-driven drone inspection system for detecting faults in rooftop solar PV panels. Using a DJI Mavic Mini drone, high-resolution images are captured and processed with deep learning models like YOLOv11 to identify defects such as cracks, discoloration, and delamination. The system enhances inspection accuracy and efficiency compared to manual methods, with performance evaluated using F1 score, precision-recall, and confusion matrix analysis. Results demonstrate significant improvements, highlighting the potential for cost-effective solar panel maintenance. Future advancements aim to refine detection accuracy and expand applications to large-scale solar farms.

MY-02	NAME(S)	UMMU SAKINAH MOHAMAD SUBRI / NORHAYATI MAT GHANI
ORGANIZATION		UNIVERSITI SAINS MALAYSIA (USM)
TITLE OF ENTRY		MODEL OF WOMEN'S IDENTITY IN ENGINEERING

This invention introduces a model that defines and explains the formation of engineering identity among female students in higher education institutions (HEIs). The model integrates **8 key elements: Recognition, Interest, Performance/Competency, Career Satisfaction, Social Support and Mentorship, Early Exposure, Gender Norms/Perceptions, and Work-Life Balance**—as critical dimensions that collectively influence the development of a strong and sustained engineering identity in women. The invention addresses the gender gap in Science, Technology, Engineering, and Mathematics (STEM) by identifying factors that contribute to both the attraction and retention of women in engineering pathways.

MY-03	NAME(S)	ASST PROF DR NORZALIFA ZAINAL ABIDIN / KALAM PIE / NURUL AINA SUHAILA MOHD NIZA / NURUL DIANA SOFIYA MOHD NIZA / NURUL HANA KHAIRINA MOHD NIZA
ORGANIZATION		JUNGLE SCHOOL GOMBAK MALAYSIA, IIUM JSI FLAGSHIP, AAD KAED, AND SEJAHTERA CENTRE
TITLE OF ENTRY		JUNGLE SCHOOL ADAPTIVE INDIGENOUS OA COMMUNITY-BASED TOURISM AS HOLISTIC MADANI SOCIETAL, SOCIOECONOMIC AND RESILIENT SOLUTION

The "Jungle School Adaptive Indigenous OA Community-Based Tourism" is a sustainable tourism model that empowers Malaysia's indigenous Orang Asli (OA) and Orang Asal communities by promoting their cultural heritage, traditional knowledge, and natural environment. This holistic approach combines socioeconomic development with environmental stewardship, creating educational experiences for tourists while fostering community resilience. The model supports the Madani concept of an inclusive, just, and compassionate society by integrating indigenous people into national development without compromising their cultural identity. It offers economic opportunities, promotes cultural exchange, and strengthens social cohesion, ensuring sustainable growth for both local communities and the broader society.

MY-04	NAME(S)	PROFESSOR DR. ABDURAHMAN HAMID NOUR / DR. MUNA E. RAYPAH / ASSOCIATE PROFESSOR DR. AZHARY HAMID NOUR / ALI HASSAN ABDULRAHMAN AL-SAGGAF / Dr. NORASYIKIN BINTI ISMAIL / MOHD ARMAN BIN KADIR
ORGANIZATION		UNIVERSITY MALAYSIA PAHANG AL-SULTAN ABDULLAH UMPSA
TITLE OF ENTRY		Enhanced Pipeline Transport of Heavy Crude Oil via Emulsification Using a Novel Sunflower-Oil-Derived Surfactant

The transportation of heavy crude oil through pipelines poses significant challenges due to its high viscosity and poor flowability. This invention explores an innovative approach to enhance the flow characteristics of heavy crude oil by employing a novel surfactant derived from sunflower oil for emulsification. The biobased surfactant was synthesized through esterification and characterized using FTIR and GC-MS to confirm its structural and functional properties. Emulsions were prepared under varying surfactant concentrations, oil-to-water ratios, and mixing intensities to determine the optimal formulation for pipeline transport. Rheological analysis revealed a substantial reduction in viscosity, with the stabilized emulsions exhibiting Newtonian or pseudo-plastic behavior depending on formulation parameters. Stability tests confirmed the surfactant's efficacy in maintaining emulsion integrity over extended periods without phase separation. The results demonstrate that the sunflower-oil-derived surfactant not only enhances pipeline transportability by reducing flow resistance but also offers an environmentally friendly alternative to synthetic surfactants.

MY-05	NAME(S)	PROFESSOR DR. ABDURAHMAN HAMID NOUR / Dr. NORASYIKIN BINTI ISMAIL / DR. MUNA E. RAYPAH / ASSOCIATE PROFESSOR DR. AZHARY HAMID NOUR / ALI HASSAN ABDULRAHMAN AL-SAGGAF
ORGANIZATION		UNIVERSITY MALAYSIA PAHANG AL-SULTAN ABDULLAH UMPSA
TITLE OF ENTRY		Development of an Integrated Ultrasonic-Membrane Anaerobic System (IUMAS) for Enhanced Wastewater Treatment and Methane Recovery

This invention presents the development and evaluation of an Integrated Ultrasonic-Membrane Anaerobic System (IUMAS) designed to enhance wastewater treatment efficiency and methane recovery. The IUMAS combines ultrasonic pretreatment with membrane anaerobic digestion to synergistically improve organic matter breakdown, sludge solubilization, and biogas yield. Ultrasonic waves were applied to disrupt microbial flocs and enhance the hydrolysis of complex substrates, while the membrane unit facilitated biomass retention and effluent clarification. System performance was assessed using slaughterhouse wastewater as a model substrate. The IUMAS demonstrated superior chemical oxygen demand (COD) removal efficiency, enhanced methane production, and reduced membrane fouling compared to conventional anaerobic systems. The integration of ultrasonication notably accelerated digestion kinetics and improved reactor stability under variable loading rates. This innovative configuration offers a sustainable and scalable solution for high-strength wastewater treatment, aligning with global goals for energy recovery and environmental protection.

MY-06	NAME(S)	PROFESSOR DR. ABDURAHMAN HAMID NOUR / DR. MUNA E. RAYPAH / PROFESSOR DR. MOHD FAIZAL JAMLOS
ORGANIZATION		UNIVERSITY MALAYSIA PAHANG AL-SULTAN ABDULLAH UMPSA
TITLE OF ENTRY		**Potential of Black Liquor as a Sustainable Fuel Source: Innovations and Future Perspectives**

This study explores the potential of black liquor, a byproduct of the kraft pulping process, as a renewable energy source. It investigates its chemical composition, particularly its high levels of lignin and hemicellulose, and its beneficial characteristics, such as a heat value comparable to fossil fuels. The research assesses traditional methods of use, mainly combustion in recovery boilers, and their limitations, including high ash content and environmental concerns. It introduces advanced valorization techniques—such as gasification, pyrolysis, liquefaction, and supercritical water gasification—as more efficient ways to convert black liquor into biofuels like bioethanol, biodiesel, and syngas. The study emphasizes the necessity of comprehensive life cycle assessments and economic analyses to address environmental impacts and enhance the viability of black liquor as a crucial element in a sustainable and circular bioeconomy.

MY-07	NAME(S)	Audrey Huong / Xavier Ngu
ORGANIZATION		Universiti Tun Hussein Onn Malaysia
TITLE OF ENTRY		**SK!N.Dx: Redefining personalized skincare solution**

To address the subjective perceptions of skincare products and nonsurgical cosmetic procedures, we introduce an integrated innovation to analyze changes in facial physical attributes and skin conditions quantitatively. This system houses four main functions targeting primary dermatology concerns of human beings, namely, to provide online diagnostic of common skin disorders in real-time with a mobile camera, objective measurement of skin pores density and size with microscopy imaging, scientific evaluation of skin ultraviolet(UV) rays protection, and three-dimensional(3D) visualization of facial structure and dimensions, which is important to provide comprehensive assessment of changes in facial contour following nonsurgical aesthetic enhancement procedures.

MY-08	NAME(S)	MOHD MAHADI HALIM / KEVIN OOI ZHENG
ORGANIZATION		UNIVERSITI SAINS MALAYSIA
TITLE OF ENTRY		**Violet Random Laser from Cost-Effective Zinc Oxide Nanorods**

Conventional lasers often produce speckle images that degrade image quality and limit their applicability across various fields. In contrast, random lasers can generate speckle-free images, but mostly require another laser as their power source, reducing their versatility. Furthermore, electrically powered random lasers have been around, but mostly it requires incorporated precious metals like gold, which drive up costs and restrict accessibility. Our breakthrough ZnO random laser device addresses these limitations by utilizing electrical input power and incorporating palladium, a more affordable metal, resulting in a cost-effective solution that delivers high-quality, speckle-free images without compromising on performance.

MY-09	NAME(S)	William Cheong Weng Luen
ORGANIZATION		Tunku Abdul Rahman University of Management and Technology
TITLE OF ENTRY		**Lexora AI**

Lexora AI is a business intelligence-powered content automation platform that converts raw data into insightful, audience-ready narratives with visual integration. It combines domain-specific language models, customizable tone, and BI connectivity to generate reports, marketing content, and summaries in real time. Designed for both cloud and edge deployment, it ensures data privacy, reduces manual effort, and supports localization by adapting to industry, role, and language context. Lexora AI empowers SMEs and enterprises to communicate data-driven insights efficiently and at scale.

MY-10	NAME(S)	Yong Li, Tan / Kin Yun, Lim, Dr
ORGANIZATION		Tunku Abdul Rahman University of Management and Technology
TITLE OF ENTRY		**Collision Warning System (CWS)**

CWS "Crash Canceller" is a LIDAR-based collision avoidance system designed for Malaysian commercial vehicles. The IoT-connected device provides 170° coverage up to 150m range, delivering real-time visual collision warnings through LED strips. Targeting Malaysia's RM 6B motor insurance claims market, the solution addresses 3,500 annual truck accidents by extending effective braking time from <9 seconds to 11+ seconds. With dual pricing models CWS seeks supporting Malaysia's UN road safety commitments.

MY-11	NAME(S)	DR. JAMELAA BIBI BT ABDULLAH / DR. NOR AIZA BINTI ZAMZAM AMIN / PUAN SITI KHADIJAH BINTI HJ ARIFFIN
ORGANIZATION		INSTITUT AMINUDDIN BAKI CAWANGAN GENTING HIGHLANDS
TITLE OF ENTRY		I-SH-E
The I–SH–E model (Information–Sharing–Evaluation) is a self-paced instructional coaching approach tailored to the professional development of educational leaders. Rooted in adult learning theory and inspired by the frameworks of Jim Knight and Robert Marzano, the model promotes autonomous growth through three stages: acquiring knowledge (Information), collaborative reflection (Sharing), and self-assessment (Evaluation). This article analyzes the model's theoretical underpinnings, pedagogical design, and practical implementation in varied educational contexts. Positioned within blended and self-directed learning paradigms, the I–SH–E model offers a scalable and adaptable solution to support reflective practice, sustainable leadership development, and contextually relevant instructional improvement.		

MY-12	NAME(S)	Narendran Ramasenderan / Krishna Ravinchandra / Vinesh Thiruchelvam / Andrew Ng Chee Wei
ORGANIZATION		Asia Pacific University
TITLE OF ENTRY		InteliSwarm Sentinel – An autonomous swarm multi domain inspection robotic platform for facility management and maintenance
A coordinated swarm of three specialized AGVs for autonomous industrial facility inspection: (1) bipedal locomotion platform for complex terrain navigation and manipulation; (2) explosion-proof chemical detection system with real-time gas analysis; (3) predictive maintenance platform using thermal, acoustic, and visual sensors. Core innovation integrates swarm intelligence with vision-language models for distributed autonomous operation and natural language reporting. Multi-modal sensor fusion enables comprehensive facility monitoring, emergency response, and predictive maintenance scheduling. System achieves 90% reduction in human hazard exposure and 60-80% reduction in unplanned equipment failures through coordinated robotic inspection capabilities.		

MY-13	NAME(S)	Narendran Ramasenderan / Krishna Ravinchandra / Vinesh Thiruchelvam / Rumi Iqbal Sufi
ORGANIZATION		Asia Pacific University
TITLE OF ENTRY		MediGuard AI Rover Autonomous Healthcare Security & Emergency Response System
MediGuard AI Rover is an autonomous healthcare security robot integrating a fine-tuned LLaMA-3.2 medical AI (3B parameters, 11M medical Q&A training) with SLAM navigation, machine vision, and automated medical dispensing. The system provides 24/7 autonomous patrol, real-time fall detection (95% accuracy), emergency medical supply delivery (<30 seconds), face recognition, and therapeutic interventions including ASMR audio therapy and cognitive enhancement gaming. Key innovations include voice-authenticated role-based access, multilingual support (9 languages), disease classification across 14 imaging datasets (94.2% accuracy), and rack-and-pinion dispensing mechanism. The platform delivers comprehensive healthcare monitoring, emergency response, security surveillance while maintaining human-centered care principles.		

MY-14	NAME(S)	Ye Xunan / Jiang Xiangyang / Ma Yikui / Fu Hanghang / Zhu ZhiJie
ORGANIZATION		China Construction Yangtze River(Malaysia) Sdn Bhd
TITLE OF ENTRY		Key technologies for the construction of the first large-scale live stage performance center in Southeast Asia
This technology belongs to the field of engineering construction, relying on the impression of the Malacca Theaters project, combined with the specific geological and climatic characteristics of Malacca, comprehensive feasibility, safety, economy, and other factors, put forward Southeast Asia's first large-scale live stage performing arts center construction key technology, solved the construction of the Theaters rotating auditoriums and the smooth operation of the engineering and technical problems, to achieve the overall low-carbon effect of the Opera House. The overall low-carbon effect of the Theaters is achieved.		

MY-15	NAME(S)	Ye Xunan- main / Jiang Xiangyang / Ma Yikui / Fu Hanghang / Wang Ran
ORGANIZATION		China Construction Yangtze River(Malaysia) Sdn Bhd
TITLE OF ENTRY		Comprehensive Low-Carbon Smart Construction Technology for the Continuous Multi-Curved Roof System of a Terminal Building Integrated with Khmer Culture
Based on the construction challenges encountered at Cambodia's new Techo International Airport, this study addresses the project's need to embody Khmer cultural characteristics while meeting modern functional requirements for airport terminals. It culminates in the development of integrated *low-carbon intelligent construction technologies for continuous multi-curved terminal roof systems*. These technologies specifically integrate Khmer cultural elements while achieving efficient, precise, and sustainable terminal construction.		

MY-16	NAME(S)	HU LAEY NEE / NORSARIHAN AHMAD / VUN XIU XUAN / LAI CHAUN CHOY / ALVIN KONG WEI EE / TONY LOH LI JIN / LING JUN HAO
ORGANIZATION		INSTITUTE OF TEACHER EDUCATION SARAWAK CAMPUS, MIRI, SARAWAK, MALAYSIA
TITLE OF ENTRY		**Robots-enhanced Operation for Brilliant Opportunity in Teaching Success 3.0 (R.O.B.O.T.S3.0)**

R.O.B.O.T.S3.0 (Robots-Enhanced Operation for Brilliant Opportunity In Teaching Success 3.0) is a robotics-based innovation designed to improve primary pupils' learning through interactive, hands-on methods. Initially targeting remedial Mathematics, now expands to History subjects and Mathematics topics on Coordinates. Using LEGO sets and design thinking principles, pupils engage in problem-solving by programming robots to simulate mathematical paths or historical journeys. This promotes conceptual understanding, spatial reasoning, and active learning. R.O.B.O.T.S3.0 also boosts STEM interest and 21st-century skills, including critical thinking and collaboration. Its flexible, student-centered design makes learning accessible, enjoyable, and impactful across diverse abilities, contributing to inclusive and transformative education.

MY-17	NAME(S)	Ir. Dr. Mohd Azuwan Maoinser / Dr. Nur Hidayah Sazali / Miss Sofyah Anis Izwani Jusof / Mr. Muhammad Hazim Hamdan / Mr. Tham Kah Meng
ORGANIZATION		Universiti Teknologi PETRONAS & PETRONAS Carigali Sdn. Bhd.
TITLE OF ENTRY		**SEER: Sand Erosion Evaluation and Response System Using Machine Learning**

SEER is an AI-powered platform that uses machine learning to optimize the selection of erosion-resistant sand screens, extending their lifespan in gas wells and reducing the need for frequent workovers and unplanned deferment. Sand production often leads to the erosional failure of sand screens, but SEER mitigates this by predicting erosion risks and recommending the most suitable screen types. It integrates historical field data with advanced algorithms, such as Random Forests and Neural Networks, and considers key parameters such as grain size, sand injection rate, air flowrate, and erosion rate. The platform enhances sand screen durability, lowers operational costs, addresses erosion challenges and promotes sustainable operations. Its scalable design allows it to adapt across various reservoir conditions while continuously improving through machine learning.

MY-18	NAME(S)	Ts. ROHAYU BINTI DAUD / NIK FATIN MAISARAH BINTI ZAKARIA / MUHAMMAD EIZZ FITRI BIN BADRUL HISHAM / MUHAMMAD HARIZ WAFIUDDIN BIN AMRAN / ABDUL MUIZ BIN MUHAMMAD ZAMRI
ORGANIZATION		KOLEJ KEMAHIRAN TINGGI MARA PASIR MAS
TITLE OF ENTRY		**FLOBA**

Communities in flood-prone areas often face recurring challenges due to outdated flood control systems. FLOBA offers a solution through a modular flood barrier system with IoT integration and sustainable hybrid composite panels made from E-glass and jute. Designed for rapid deployment, it uses lightweight, high-strength materials and real-time monitoring. The system is developed using architectural design, Vacuum Infusion Process (VIP), and embedded sensors that transmit data to a cloud dashboard. Key features include a rubber membrane for impermeability and a turnbuckle system for easy installation. FLOBA enhances resilience, offers early warnings, and supports climate-adaptive, sustainable flood management solutions.

MY-19	NAME(S)	Raja Haikal bin Raja Arifshah / Assoc. Prof. Dr. Nasreen Badruddin / Dr. Yi Yi Lee
ORGANIZATION		Universiti Teknologi PETRONAS
TITLE OF ENTRY		**Enhancing Geolocation-Based Built-Environment Databases for Diabetes Management Through Multi-Source Data Mining**

This project aims to enhance dietary planning for individuals with Type 2 diabetes by addressing the limitations of current geolocation-based food data systems. Existing methods that rely on Google Maps often provide incomplete or inconsistent information, particularly in Malaysia, where crucial details like cuisine types are frequently missing. The new system integrates multiple data sources into a centralized, enriched database offering comprehensive insights into nearby restaurants. This enables nutritionists to deliver more accurate and personalized dietary recommendations. The solution also features an updated user interface with a newly designed backend system, built with cost-scalability in mind for sustainable growth.

MY-20	NAME(S)	Dr. Wong Wei Kitt / Teoh Yuan Ju / Jessica Ling Siew Kiong / Dr. John Lau Sie Yon
ORGANIZATION		Curtin University Malaysia
TITLE OF ENTRY		**Novel Real-Time Spectral Reflectance based Algae Density Monitoring**
This invention presents a portable IoT-based device for real-time estimation of algae biomass. Using a low-cost chromatic filter-based spectroscopic sensor and an embedded Genetic Programming regression model, the device analyzes spectral data on-site through edge computing. The estimated biomass is transmitted to a cloud server and accessed via a mobile application. Designed for field deployment, the system offers a cost-effective, accurate, and efficient alternative to traditional lab-based methods, supporting applications in aquaculture, research, and environmental monitoring.		

MY-21	NAME(S)	Chu Jun Ong / Associate Professor Ts. Dr. Chew XinYing
ORGANIZATION		Universiti Sains Malaysia
TITLE OF ENTRY		**TravelEase – Intelligent Travel Planning Application**
TravelEase is a web-based intelligent travel planning platform that integrates optimal itinerary generation, centralized booking management, and visual expense tracking into a unified system. Its standout feature lies in smart route optimization using Ant Colony Optimization (ACO), dynamically generating travel sequences that minimize distance or time while respecting user-defined constraints such as preferred start times and time-specific visits. Leveraging real-time data from Google APIs, TravelEase ensures efficient, personalized planning with no redundant routes. Its modular and scalable architecture supports seamless integration of future features, making TravelEase a future-ready, all-in-one travel assistant for modern, convenience-driven travelers.		

MY-22	NAME(S)	Mr. Harichandra Khaligarajah / Prof. Asokan Vasudevan / Mrs. Thakshini Harichandra
ORGANIZATION		INTI International University
TITLE OF ENTRY		**Smile Seeker: Enhancing User Engagement through Smile-Activated Printing Technology**
Smile Seeker (SS) is an AI system designed to detect smiles in real-time and offer personalized compliments or discounts through thermal print and QR codes in malls. Utilizing OpenCV's Haar Cascades and Python recognition, it ensures that each person receives only one receipt per day. Images are reset daily to maintain privacy, encouraging customers to enjoy their shopping experience while malls offer incentives to registrants. The system can be implemented in malls, hospitals, schools/universities. SS integrates facial verification, image-processing, and hardware control, facilitating loyalty systems and analytics. Its goal is to enhance public interaction through emotional AI and automation.		

MY-23	NAME(S)	Tharshen A/L Subramaniam / Assoc. Prof. Dr. Nasreen Badruddin / Prof. Dr. Kalavathy Ramasamy
ORGANIZATION		Universiti Teknologi PETRONAS
TITLE OF ENTRY		**Machine Learning-Based Classification of Pre-Frailty in Older Adults Using Stool Microbiome Data**
Pre-frailty is an early, reversible stage of physical decline in older adults, often missed by current screening methods that rely on invasive tests or subjective evaluations. This project introduces a machine learning-based classifier that detects pre-frailty using gut microbiome data obtained by analysing stool samples. By analyzing the relative abundances of five key bacterial phyla from stool samples: Actinobacteriota, Bacteroidota, Firmicutes, Proteobacteria, and Verrucomicrobiota, the system enables non-invasive, scalable screening for early health deterioration. The solution is deployed in a working web application capable of both real-time and batch predictions, offering a practical tool for clinical and at-home monitoring.		

MY-24	NAME(S)	Maisarah Rafiq Binti Faisal Rafiq / Dr Norashikin Binti Yahya
ORGANIZATION		Universiti Teknologi PETRONAS (UTP)
TITLE OF ENTRY		**CLASSIFICATION OF ALCOHOL USE DISORDER EEG SIGNALS USING WAVELET-BASED FRACTAL ANALYSIS**
Being one of the most common neurological disorders, Alcohol Used Disorder (AUD) impacts the welfare of many people worldwide. Despite its severity, the current diagnostic framework, outlined by the Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition (DSM-5), proposes diagnostic models that lack biological markers, making it vulnerable to misdiagnosis and subsequently, redundant treatment plans. Acknowledging the severity of this issue, this project aims to leverage technological advancements and machine learning in identifying AUD patients. The proposed method looks at functional connectivity (FC) of the brain as a biological feature to differentiate AUD patients from healthy subjects. The FC features are extracted by fractal decomposition of EEG signals collected from 35 AUD patients and 35 healthy subjects. The fractal decomposition of FC uses the behavioral difference in oscillatory and non-oscillatory EEG signals as a measure of brain activity correlation.		

MY-25	NAME(S)	**Professor Ts. Dr. Rayner Alfred / Lee Ren Ting / Ts. Dr. Rayner Pailuss / Mr. Lim Boon Seng / Mr. Chrishanton Vethanayagam Sebastiampillai**
ORGANIZATION		Creative Advanced Machine Intelligence Research Centre, Universiti Malaysia Sabah, Malaysia
TITLE OF ENTRY		**FusionCare: A Smart Patient Tracking and Behavior Analytics System Using Ultra-Wideband (UWB) and Inertial Measurement Unit (IMU) Integration**
The **FusionCare** project offers a real-time, privacy-conscious behavior monitoring system for healthcare settings. By integrating Ultra-Wideband (UWB) and Inertial Measurement Units (IMUs), it tracks patient movements and behaviors such as falls, bed exits, and zone breaches. A sensor fusion algorithm processes data for accurate spatiotemporal tracking, displayed via a cloud-based dashboard. Unlike CCTV or standard wearables, **FusionCare** enhances safety without compromising privacy. Pilot testing will assess system accuracy, usability, and clinical impact. Designed to meet medical safety standards (IEC 60601-1-2), **FusionCare** provides a scalable, intelligent solution to optimize hospital workflows and improve patient care outcomes.		

MY-26	NAME(S)	**Professor Ts. Dr. Rayner Alfred / Lee Ren Ting / Dr. Raymond Alfred / Mr. Lim Boon Seng / Mr. Lim Chau Yang / Ts. Dr. Rayner Pailus**
ORGANIZATION		Creative Advanced Machine Intelligence Research Centre, Universiti Malaysia Sabah, Malaysia, MAICoE
TITLE OF ENTRY		**FIRESENSE 360™: AI-Powered Smart Fire Alert and Verification Ecosystem for Zero-Downtime Emergency Response**
FIRESENSE 360™ is an advanced AI- and IoT-enabled fire safety ecosystem designed to deliver instant, accurate, and verified emergency response. It features a zero-downtime, cloud-based architecture integrated with real-time fire detection, intelligent alert verification using AI-powered video analytics, and automated multi-channel notification systems. The system reduces false alarms, accelerates incident confirmation, and ensures immediate dispatch to emergency services via secure API integration with national firefighting authorities. Designed for scalability, interoperability, and resilience, FIRESENSE 360™ transforms conventional fire alarm systems into an intelligent national safety network, offering high-impact contributions to urban resilience, public safety, and smart infrastructure initiatives.		

MY-27	NAME(S)	**Professor Ts. Dr. Rayner Alfred / Lee Ren Ting / Ts. Dr. Rayner Pailus / Thomas Ng Vui Kee / Tobin Ng Yee Cheng**
ORGANIZATION		Creative Advanced Machine Intelligence Research Centre, Universiti Malaysia Sabah, Malaysia
TITLE OF ENTRY		**SmartTank-AQ: A Machine Intelligence System for Real-Time Monitoring and Control of Aquaculture Storage and Shipping**
This project introduces a Machine Intelligence Revolutionized Storage and Shipping Tank for aquaculture sea products, integrating AI, IoT, and edge computing to monitor and control critical parameters in real time. The key innovation lies in its automated climate and water quality management to minimize mortality and spoilage. The system improves operational efficiency, reduces environmental impact, and enhances product traceability, contributing to food security and the Blue Economy. With filed intellectual properties (1 patent, 1 design, 1 copyright), this TRL-4 innovation holds strong commercialization potential and can drive the transformation of aquaculture logistics toward a sustainable, intelligent, and resilient supply chain.		

MY-28	NAME(S)	**MUHAMAD FAIZAL PAKIR MOHAMED LATIFF / NOR HAFIDA HASHIM / SHANKER KUMAR SINNAKAUDAN / MOHD SHARIZAL ABDUL AZIZ / MOHAMAD ANUAR KAMARUDDIN / MOHD REMY ROZAINY MOHD ARIF ZAINOL / WAN MOHD YUSOF RAHIMAN WAN ABDUL AZIZ**
ORGANIZATION		UNIVERSITI TEKNOLOGI MARA & UNIVERSITI SAINS MALAYSIA
TITLE OF ENTRY		**DEVELOPMENT OF A NEW CURRICULUM FOR BACHELOR OF ENGINEERING (HONS) CIVIL (INFRASTRUCTURE) PROGRAMME**
This project involves the comprehensive redevelopment of the Bachelor of Engineering (Hons) Civil (Infrastructure) curriculum at UiTM Pulau Pinang. Addressing challenges in alignment with industry standards and accreditation requirements, the new curriculum integrates feedback from industry professionals and adheres to MQF2.0 and EAC standards. The innovation focuses on constructive alignment, domain redefinition, and structured course organization to enhance educational outcomes. This revamped curriculum aims to produce graduates with the technical proficiency and adaptability necessary for Industry 4.0, ensuring their readiness for the dynamic global engineering landscape and contributing positively to society and the engineering profession.		

MY-29	NAME(S)	Ts. Dr. Rayner Henry Pailus / Professor Ts. Dr. Rayner Alfred
ORGANIZATION		Creative Advanced Machine Intelligence Research Centre, Universiti Malaysia Sabah, Malaysia
TITLE OF ENTRY		**MADBOOST AI Potholes for Pothole Detection and Severity Mapping Using G-Sensitivity and Plus Codes**

MADBOOST AI Potholes is an AI-powered system for real-time pothole detection using vehicle-mounted cameras or drones to capture 3D pothole dimensions (X, Y, Z axes). It estimates pothole volume and evaluates severity through a gyroscope that measures vibrational displacement (G-sensitivity). Once an image is classified as a pothole and validated by sensor data, the system assigns a precise digital location using Google Plus Codes. All verified pothole data is displayed on an AI-powered dashboard with a Geomap interface, enabling authorities to monitor, prioritize, and manage road repairs efficiently and accurately across large areas.

MY-30	NAME(S)	Ts. Dr. Rayner @ Henry Pailus / Professor Ts. Dr. Rayner Alfred
ORGANIZATION		Creative Advanced Machine Intelligence Research Centre, Universiti Malaysia Sabah, Malaysia
TITLE OF ENTRY		**MADBOOST AI AQUA: MADBOOST's AI Fresh and Sea Water Aquaculture Fish Disease Detection, Classification and Contamination Management.**

MADBOOST AI AQUA: is an advanced sensors and imaging technologies that provide continuous monitoring of fish health, and detecting fish disease by incorporating AI and IOT in calculating health percentage of every individual fish based on the 360 degree of aqua cameras monitoring of fish body condition, studies towards fish behavior, performing the percentages calculation of fish movement level, swimming angle, the time series of geometrical movement by using MADBOOST AI. This AI process selects the best model that consist the best aggregated consensus vector. This ensemble process empowering all CNN's latest Hybrid Models, which combine CNNs and transform for local and global feature capture, such as Swin Transformer, ConvNeXt, CoAtNet and ViT. MADBOOST AI AQUA studies multiple collaboration data such as the quality of the water, the weather, apart from fish disease. MADBOOST AI AQUA also uses IOT to separate the infected fish, for example by closing 50 square meter fish compartment and saving hundreds of kilometer square for none infected fish, and all these data are provided to farmers on real-time.

MY-31	NAME(S)	ANGELYN STEVE / WELSON YAP SOON MING / DBELLA HAZELLE DOMINIC / CYRIL LEE XIN LEI / Ts. IWANA IVY ABDULLAH (SUPERVISOR)
ORGANIZATION		SMK KOLOMBONG KOTA KINABALU
TITLE OF ENTRY		**Landslide Detection Technology (LDTec)**

LDTec is a novel landslide early warning system developed using Internet of Things (IoT) Technology and a laser distance sensor to detect soil movement and landslide risk in real-time. It addresses the urgent need for disaster preparedness in areas prone to landslides. The system will send alerts via dashboards and Telegram bots to the administrator, enabling a fast response and ensuring community safety. Its innovation lies in its low cost, which has high commercial and educational potential. LDTec not only enhances school safety but also serves as a scalable model for other vulnerable communities facing similar geological threats, with no specialised expertise required to apply.

MY-32	NAME(S)	Tan Kian Hon / Ts. Dr. Mohd Heikal Husin
ORGANIZATION		School of Computer Sciences, Universiti Sains Malaysia
TITLE OF ENTRY		**HRPulse - Integrated Employee Productivity & Engagement System**

HRPulse is a modern HR system designed to tackle the challenges of remote and hybrid workplaces by replacing manual processes with automation. It integrates four key modules—Attendance and Leave Management, Survey and Feedback, Recognition and Rewards, and Reporting and Analytics into a user-friendly mobile and web platform. The system uses NLP for sentiment analysis on survey responses and offers anonymous feedback, location-based attendance, and real-time analytics. A point-based reward system fosters motivation, while data-driven insights enable HR to act on employee concerns. HRPulse enhances engagement, streamlines operations and supports strategic decision-making for small to medium-sized enterprises.

MY-33	NAME(S)	Ang Yi Herng / Dr. Norashikin Bt Yahya / Dr. Danish M. Khan
ORGANIZATION		Universiti Teknologi PETRONAS (UTP)
TITLE OF ENTRY		**AI-Powered ADHD Diagnosis through EEG and Brain Connectivity Analysis**

This project presents an AI-powered diagnostic tool for attention deficit hyperactivity disorder (ADHD) using EEG-based brain connectivity analysis. By leveraging a novel method – Efficient Effective Connectivity (EEC) alongside Convolutional Neural Networks (CNN), the system classifies ADHD and control groups with enhanced accuracy. Compared to traditional metrics like DTF and PDC, EEC achieved the highest accuracy of 82.73% ± 1.46 in 10-fold cross-validation. This innovation offers a more objective, consistent, and data-driven approach to ADHD diagnosis, addressing the limitations of current subjective methods and advancing the field of computational neuroscience and AI-assisted healthcare.

MY-34	NAME(S)	Assoc. Prof. Dr. Manmeet Kaur Mahinderjit Singh / Ms. Tai Zee Ching
ORGANIZATION		Universiti Sains Malaysia
TITLE OF ENTRY		SNACS: Secure Non-Human Access Control System

Modern organizations increasingly rely on non-human assets such as IT devices, autonomous systems and machines to streamline operations. However, this reliance increases organizational exposure to security challenges, particularly insider threats. The Secure Non-Human Access Control System (SNACS) introduces an AI-driven approach grounded in Attribute-Based Access Control (ABAC) to manage authentication and access controls between employee-to-asset and asset-to-asset interactions. SNACS grants or denies access based on a risk score generated through fuzzy logic, which performs contextual analysis and behavioral analytics to evaluate each access attempt. This approach establishes a robust access control solution for securing non-human assets for organizations.

MY-35	NAME(S)	Irshad bin Abdul Razak / Zarul Fitri bin Zaaba
ORGANIZATION		Universiti Sains Malaysia
TITLE OF ENTRY		MyExpireKits

MyExpireKits is a mobile application addressing household waste caused by poor management of expiration dates of food, cosmetics, and medications. The app empowered the AI approach that allows users to track items manually or by scanning the barcode of the items, extracting their information into a form. MyExpireKits also sends timely reminders to users. The system analyzes consumption patterns and tracks expired items to provide insights into household inventory efficiency. The app offers an automated solution to reduce unnecessary expenses while promoting sustainable consumption.

MY-36	NAME(S)	Ng Young Shung / Zarul Fitri bin Zaaba
ORGANIZATION		Universiti Sains Malaysia
TITLE OF ENTRY		MyNutriApps

Rising obesity among the Malaysian adult population due to poor diet, inactivity, and processed food highlights the need for effective solutions. MyNutriApps (MNA) is a mobile app designed to help users make informed dietary choices by providing nutritional comparisons, personalized advice, and food label insights of grocery food products. MNA aims to build a comprehensive food database using intelligent features such as machine learning and a large language model. MNA seeks to enhance nutritional literacy, encourage healthier eating habits, and improve public well-being.

MY-37	NAME(S)	Ilakiyen Irraivan
ORGANIZATION		Sri KDU International School Klang
TITLE OF ENTRY		Community-based Early Flood Alert System (CEFAS)

Flooding is a very serious issue throughout the world, including Malaysia. The costs and losses due to flooding in Malaysia in 2022 totaled RM622.4 million. It affects various communities, especially poor and marginalized societies. This is due to • Lack of information about imminent flooding, • Flooding results in loss of lives, and • Flooding results in economic losses

MY-38	NAME(S)	DR. GOMATHY SANKARAN / DARRSHAN S/O PRABAKARAN / SAI SUDARSHAN / MAITHREYI D/O GUNASEGARAN / THIRUNESH KUTTY S/O THINESH
ORGANIZATION		SJKT KANGKAR PULAI
TITLE OF ENTRY		HYDRO NUTRI MAX TVET

Hydro Nutri Max TVET is a student-centered educational innovation created by Dr. Gomathy Sankaran to promote practical understanding of hydroponic farming systems among learners in Technical and Vocational Education and Training (TVET) institutions. As agriculture moves toward sustainable, high-tech practices, this kit aims to equip students with future-ready skills in soilless farming, plant nutrition, and green technology. The Hydro Nutri Max module consists of a compact, easy-to-use hydroponic growing system, balanced nutrient solutions, a growth medium (such as cocopeat or rockwool), starter seeds (e.g., leafy greens) and essential testing tools to monitor pH and electrical conductivity (EC).

MY-39	NAME(S)	HE Bin / YAO Zhiyuan / MA Zhao / WANG Kan / Mohd Remy Rozainy
ORGANIZATION		Ningbo University and Universiti Sains Malaysia
TITLE OF ENTRY		Integrated Biofilm-Mediated Purification and Recycling System for Agricultural Tailwater via Open Channel-Subsurface Pipe Coordination under One Health Framework

This invention integrates open channels, subsurface pipes, and biofilm carriers into a coordinated agricultural tailwater purification and recycling system under the One Health framework. The multi-stage design includes a sedimentation basin for primary treatment, hydraulically optimized open channels to regulate flow dynamics, subsurface pipes with modular biofilm units for microbial degradation of nutrients and organic pollutants, and an adaptive storage reservoir for water reuse. Surface-subsurface synergy enables oxygenation in open channels and biofilm-mediated contaminant conversion in subsurface zones. The modular configuration minimizes land occupation while maintaining low operational costs. By ensuring pathogen-controlled water recycling and mitigating antibiotic resistance risks, the system holistically addresses agricultural, environmental, and public health interdependencies.

MY-40	NAME(S)	Mohd Amirul Mahamud / Mohd Azmeer Abu Bakar / Muhammad Wafiy Adli Ramli / Tan Mou Leong / Mohd Remy Rozainy Mohd Arif Zainol / He Bin
ORGANIZATION		Universiti Sains Malaysia / Ningbo University
TITLE OF ENTRY		**SmartDrops: Rainwater Harvesting for Eco Gardens**

SmartDrops is a revitalized rainwater harvesting project located between C20 and C24 buildings, aimed at promoting sustainable gardening through eco-friendly practices. Integrating IoT and smart sensors, the system automates water distribution to vertical gardens and a fishpond, reducing reliance on municipal water. Aligned with SDGs 6, 7, 13, 14, and 15, the initiative emphasizes water conservation, clean energy, and climate action. By engaging PPIK students and staff, SmartDrops fosters environmental awareness and serves as a model for sustainable practices across other departments and institutions.

MY-41	NAME(S)	Herni Halim / Rosnani Alkarimiah / Nik Azimatolakma Awang
ORGANIZATION		School of Civil Engineering, Universiti Sains Malaysia
TITLE OF ENTRY		**SonicEC Reactor- A Sonic-enhanced Electrocoagulation**

Ultrasonic-assisted electrocoagulation (EC-US) is a hybrid treatment method developed to enhance leachate treatment efficiency, especially for high-strength pollutants. This study investigates the removal of heavy metals and organic matter from Alor Pongsu landfill leachate using EC-US, optimizing parameters such as voltage, electrode distance, and treatment time. The EC-US method achieved superior removal: 90.3% COD, 76.6% turbidity, 82.7% color, 95.2% Pb, and 90.3% Cr. Compared to conventional EC, ultrasonic enhancement improved efficiency and reduced electrode surface fouling, as confirmed by FESEM analysis. EC-US offers a cost-effective, efficient, and scalable solution for advanced leachate treatment in real-world applications.

MY-42	NAME(S)	AHMAD FARIHAN BIN ABDUL MANAN / WAN NURSYAMIMI BINTI WAN MOHD ZAIDI / NURUL ELYSHA BINTI ANUAR ISKANDAR / SHARIFAH ALLANI BINTI SYED ABDUL BAHARI @FAROUK / WAN NUR EISHAL INSYIRAH BINTI WAN MOHD TARMIZI
ORGANIZATION		SMK (P) METHODIST KUANTAN, PAHANG
TITLE OF ENTRY		**ORGANIX DECOMPOSER UNIT (ODU)**

This project introduces an eco-friendly composting system designed to convert organic waste into nutrient-rich fertilizer. Utilizing a semi-passive aeration method, the system accelerates decomposition without relying on electricity or chemical additives. The innovation promotes sustainable waste management, improves soil health, and reduces landfill dependency. Simple, cost-effective, and replicable, this invention is ideal for schools, homes, and small-scale agriculture. It fosters environmental awareness and green practices among youth through hands-on application of composting science.

MY-43	NAME(S)	Muhammad Fathullah Al Haq Muhammad Asni / Khalilullah Amin Ahmad / Muhammad Wafiy Adli Ramli
ORGANIZATION		School of Humanities, Universiti Sains Malaysia
TITLE OF ENTRY		**Asnaf Digital Marketing Support Framework**

This project introduces a digital marketing support framework specifically designed for asnaf entrepreneurs under the guidance of zakat institutions in Malaysia. It aims to enhance digital literacy, business visibility, and long-term sustainability of asnaf-led enterprises. The framework integrates structured training, mentorship, platform access, and performance monitoring, all aligned with Islamic social finance principles. By bridging the digital divide, the initiative reduces reliance on recurring zakat aid while promoting self-reliance and inclusive economic participation. Scalable and adaptable, the model can be implemented by zakat bodies nationwide and replicated in other Muslim-majority countries to support socioeconomic development through digital empowerment.

MY-44	NAME(S)	MUHAMMAD JOHAN HAIKAL / UMMUL NAMIRAH / ANIYA DHANIYAH / AINUL MARDHIAH / MUHAMMAD ADAM HARITH / NUR AIN FITRI / NUR AZIEMAH ABD RASHID / ROS NADIAH ROSLI / MOHD REMY ROZAINY / HE BIN
ORGANIZATION		Department of Civil Engineering, Faculty of Environmental and Built Environment
TITLE OF ENTRY		**EasyGrow System**

EasyFlow is a cost-effective and user-friendly smart irrigation system developed by HijauMuda Tech.co to address water management challenges faced by small-scale farmers, agricultural students, and budding agripreneurs. Utilizing capacitive soil moisture sensors, the system automates irrigation processes without requiring internet connectivity, making it ideal for rural and remote areas. EasyFlow enhances agricultural productivity by conserving water, reducing labor, and optimizing plant growth. Its low installation complexity and electrical safety compliance ensure broad accessibility and reliable performance. Designed as a sustainable innovation, EasyFlow aligns with Malaysia's goals for greener agricultural practices and offers a viable solution for integrating technology into traditional farming models.

MY-45	NAME(S)	MOHAMAD ANUAR KAMARUDDIN / ZHU HONGBO / RASYIDAH ALROZI / MUHAMAD FAIZAL PAKIR MOHAMED LATIFF / MOHD SHARIZAL ABDUL AZIZ / MOHD REMY ROZAINY MOHD ARIF ZAINOL / WAN MOHD YUSOF RAHIMAN WAN ABDUL AZIZ
ORGANIZATION		UNIVERSITI SAINS MALAYSIA & UNIVERSITI TEKNOLOGI MARA
TITLE OF ENTRY		A METHOD TO REDUCE NUTRIENT UPTAKE FROM HIGH STRENGTH LANDFILL LEACHATE

The leachate treatment effluent of Pulau Burung sanitary Landfill in Malaysia was utilized as the test material for this experiment to investigate the removal efficiencies of two submerged aquatic plants, Cabomba caroliniana and Hygrophila difformis, against the contaminants under natural illumination and shading modes.The four indices were measured quantitatively: chemical oxygen demand (COD), nitrate (NO_3^-), nitrite (NO_2^-), and phosphate (PO_4^{3-}). With 4 treatment groups and a control group, changes in water quality were observed continuously for 7 days, and the Kruskal-Wallis test and pair-wise comparisons were then conducted. The result shows that both plant species and light intensities significantly contribute to the purification effect. Cabomba caroliniana performed best in the removal of nitrates and nitrites, with 100% removal in this experiment. Hygrophila difformis possesses greater COD and phosphate removal, and its phosphate removal rate also has a maximum value of 68.38% under the shaded condition. Moreover, certain parameters also have some rebound effect in the later phase, and this may be caused by the weakened metabolism of the plants or microbial-nitrogen cycle response. The experiment verified the purification ability of submerged plants in treated water bodies, providing an engineering reference to the subsequent ecological restoration projects.

MOLDOVA

MD-01	NAME(S)	VIŞANU Vitali / ŢISLINSCAIA Natalia / POPESCU Victor / MELENCIUC Mihail / GÎDEI Igor / BALAN Tatiana / SANDU Andrei-Victor / BALAN Mihail
ORGANIZATION		Technical University of Moldova
TITLE OF ENTRY		PEACH DEHYDRATION PROCESS USING THE FORCED CONVECTION METHOD

The invention relates to a process for dehydrating peaches by the forced convection method, which can be applied to food industry enterprises, in domestic conditions, in laboratories and research centers related to the drying process. Dehydration of peaches by the forced convection method is ensured by a well-studied and established process, which according to the invention consists of performing the following stages: stage I involves choosing peaches suitable for drying, varieties with a slightly adherent stone from the pulp, ripe, swept peaches are selected, with a firmness of around 1.0 kgf/cm2 and a moisture content of about 90%, the peaches are washed, organoleptically examined and cut using a slicer into spherical slices with an exact thickness of 3 mm; stage II involves portioning a predetermined amount of slices and arranging them on the perforated support in the drying chamber in a horizontal position in a single layer with a thickness of 3 mm, without overlaps; stage III involves dehydrating peaches by the forced convection method, as a thermal agent the air in the room is used with a temperature of 20 - 25°C, relative air humidity around 60%, normal atmospheric pressure, dehydration takes place at a temperature of 55 - 65 ± 0.5°C and an air speed of 1.0 - 2.0 m/s in the drying chamber and stage IV involves obtaining dehydrated peaches after a period of 250 - 300 min, the peaches are sufficiently dehydrated, the final humidity is a maximum of 20%.

MD-02	NAME(S)	Lungu Sabrina
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		Sabri-lup

Sabri-lup new hosting pillow-duvet aims to treat migraines because it has a magnet inside, including the duvet can serve as a cover, the pillow is made in the shape of a wolf's head, it is my favorite animal, it is unique and copyrighted.

MD-03	NAME(S)	Gonţa Elena
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		MOLD-LENN

MOLD-LENN this deep study project of our traditions and customs, aims to demonstrate the growth of the economy through hospitality and tourism. A new TOOM-Tourism is invented, timely, modern custom, invented term will assume the modern year 2025 in the activity of hosting and tourism regarding the growth of the state's economy of Moldova.

MD-04	NAME(S)	Miron Adelina
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		ady-dook

ady-dook puppy outfit, the clothing is unique in its own way, it represents an outfit only for holidays, the purpose of this outfit is the unique special one with a hat and a bag. I have a purebred puppy that is always cared for and loved and I wanted a unique product so that it would not be copied. The outfit with the bag as the author is innovative.

MD-05	NAME(S)	Eşanu Tatiana
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		KAPI-TANi
KAPI-TANi my new children's pijamas based on storage and made of eco-friendly cloth, on the outside is with a pocket where the Capybara toy sits in the pocket, at the toy is attached a medicinal magnet that treats blood pressure and headaches.		

MD-06	NAME(S)	Bordan Kamelia
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		Epu-KAMi
Epu-KAMi the innovative product, for bunnies made of natural fabric. Our family has a tradition of raising white bunnies, our grandparents inherited this business. Innovative is the slim, comfortable tank top.		

MD-07	NAME(S)	Gorincioi Laura
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		Spat-Lera
Spat-Lera is a new project that involves treating and relieving leg pain, including preventing and relieving the incipient condition of leg problems. The invented tool helps in practicing light sports for legs and applying new types of exercises.		

MD-08	NAME(S)	Dragoş Iustin Zloteanu
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		INKspire
INKspire this new project is a character created for games, he is unique and cute, he has a special symbolism, the head signifies the circle of info infinity, the body means concentration. The eye dots are points of kindness, the black hands dots - the human negativity. My INKspire represents human changes that helps motivate myself and my school friends.		

MD-09	NAME(S)	Colun Maura
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		MAURA-PU
MAURA-PU new project represents coat duvet is a sleeping in the shape of a chick with wings in which we store sleeping pillows, the purpose of the innovative product is to create conditions for children at night when traveling with their parents. The product is of interest to both children and teenagers.		

MD-10	NAME(S)	Scortescu Marius-Silviu
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		Dudu-Duda (IT)
Information technology (IT) plays an important role in the education of children, providing them with opportunities for cognitive, creative and social development. Through interactive educational resources, IT helps children develop their logical thinking, communication and collaboration skills, as well as acquire the necessary skills for the future. I always invent new techniques to keep the student active and productive. The Dudu-Duda (IT) technique means his character and the house in which this character-student is seen. This is how I discover what this child likes.		

MD-11	NAME(S)	Popa Iacob
ORGANIZATION		Junior Achievement Moldova
TITLE OF ENTRY		Pop-A (Travel-mount)
The engine mount plays a key role in securing the engine to the vehicle chassis and absorbing vibrations generated by it. This helps to reduce noise and vibrations transmitted to the interior of the car, ensuring increased comfort for the driver and passengers. In addition, the engine mount protects the engine and related components from excessive mechanical stress caused by vibrations. In more detail, the engine mount has the following main functions: **Engine support:** The mount fixes the engine to the chassis, ensuring its stability during operation. **Vibration absorption:** The mount absorbs vibrations produced by the engine, preventing their transmission to the body and passengers. **Noise reduction:** By absorbing vibrations, the mount helps reduce the noise generated by the engine. **Component protection:** The mount protects the engine and other components of the car from excessive mechanical stress caused by vibrations.		

MOROCCO

MA-01	NAME(S)	Mehdi CHAOUI
ORGANIZATION		N/A
TITLE OF ENTRY		**CHAOUI-BLOCK : Self-supporting keystones, formwork, and bending for the construction of vaults and domes with interlocking from the extrados.**

A revolutionary system of self-supporting blocks enabling fast, economical, and modular construction of vaults and domes with minimal equipment. The system ensures high seismic resistance and structural stability, adaptable for temporary or permanent use. It can also serve as a bending/formwork solution and can be used for underground, semi-buried, or fully buried structures. Ideal for future compact cities with integrated underground infrastructure. Applications include underground storage, hangars, bunkers, tall structures, stormwater systems, bridges, tunnels, and coastal protection. This scalable solution redefines how we build resilient, space-saving, and cost-efficient infrastructure.

NEW ZEALAND

NZ-01	NAME(S)	Dr Yang Fong (Richard)
ORGANIZATION		SPEL New Zealand Limited
TITLE OF ENTRY		**SPEL SP-38 - Antimicrobial and Antiseptics For Vagina Care (HPV Support)**

SPEL SP-38 introduces PureGuard© and PureWash© (PHMB, Carrageenan, Centella asiatica), a dual-action botanical antimicrobial system for female intimate health. PureGuard targets pathogens (e.g., HPV) while preserving vaginal microbiota and pH via synergistic antimicrobial and anti-inflammatory mechanisms. PureWash maintains daily hygiene with pH-optimized, plant-derived compounds, safeguarding Lactobacillus dominance. Together, they shift care from reactive symptom management to proactive microbiome stewardship, mitigating dysbiosis risks and supporting long-term reproductive wellness through integrated, evidence-based formulation design.

NZ-02	NAME(S)	Dr Yang Fong (Richard)
ORGANIZATION		SPEL New Zealand Limited
TITLE OF ENTRY		**SPEL SP-365v2 TexShield™ - Dual-Action Antimicrobial & VOC Protection for Textiles**

SPEL SP-365v2 TexShield™ is a sustainable, durable textile treatment combining antimicrobial protection and VOC-neutralizing capabilities. Formulated with zinc oxide nanoparticles, PHMB encapsulation, and sodium bicarbonate microcapsules, it achieves 81% ammonia and 73% acetic acid removal (ISO 12799-2:2014 standard) while delivering ≥99.99% microbial efficacy (ISO 20743:2013) against pathogens like S. aureus, E. coli, P. aeruginosa, K. pneumoniae, and C. albicans. The controlled-release system ensures protection lasts beyond 20 washes, validated on cotton, the most widely used textile material. Compliant with REACH, OEKO-TEX® Eco Passport, and ISO 17299:2014, it prioritizes skin safety, biodegradability, and eco-friendliness. This dual-action solution is ideal for sensitive-care applications, including maternal wear, pediatric clothing, elderly care textiles, sportswear, and healthcare garments, addressing hygiene and freshness demands without compromising fabric integrity or environmental responsibility.

NZ-03	NAME(S)	Dr. Pariya Tork
ORGANIZATION		Bumbusly
TITLE OF ENTRY		**Nature's Armour; Dual Action - Real-Time Skin Cancer Detection with Anticancer Liquid Plaster from Natural Sources**

Nature's Armour presents a groundbreaking dual-action system for real-time skin cancer detection and targeted therapy. By harnessing fluorescent ligands and Nanostructured Lipid Carriers (NLCs) within a biocompatible liquid plaster, this innovative approach empowers patients with proactive treatment options. The system utilizes ligands like Vitronectin, Epidermal Growth Factor, and Folic Acid to precisely identify malignant lesions, while encapsulating anticancer compounds such as curcumin and berberine for localized therapy. This fusion of advanced technology and natural healing offers a transformative solution for skin cancer management, enhancing diagnostic accuracy and patient outcomes in oncology.

PHILIPPINES

PH-01	NAME(S)	AL-RHASID A. PANASANG
ORGANIZATION		MINISTRY OF SCIENCE AND TECHNOLOGY - BARMM
TITLE OF ENTRY		**LARGE FISH ATTRACTION DEVICE UTILIZING SOUND WAVES**

This invention pertains to a large fish attraction device designed to enhance fish aggregation around deep-sea Payao systems by utilizing sound waves. The device consists of a waterproof housing containing a sound wave generator, speaker system, rechargeable battery, control unit, and memory module. Sound waves emitted at frequencies between 100 Hz to 500 Hz attract tuna and other large fish, improving catch efficiency. This innovation supports sustainable fishing practices by reducing the need for extensive fishing efforts.

PH-02	NAME(S)	Matteo Raphael A. Goco / Miguel Jared V. Cheng / Rojan Jacob A. Dela Cruz
ORGANIZATION		HOLY INFANT ACADEMY OF CALAPAM
TITLE OF ENTRY		**SPOTLIGHT – Smart Platform for Optimized Tracking and Lighting Innovation**

Automation is a key driver in the advancement of modern living, offering enhanced efficiency, convenience, and security. Despite the growing adoption of smart home technologies, many residential and commercial spaces still rely on manual lighting and security systems. To address this gap, this project creates an IoT-based control system utilizing the Blynk platform and ESP32 microcontroller, aimed at modernizing home lighting and surveillance functionalities. Results demonstrated that the lighting and surveillance systems could be effectively and reliably controlled via mobile applications from any location with internet access. It enhances home security and optimizes energy consumption by enabling intelligent controls.

PH-03	NAME(S)	**Engr. Raven C. Tabiongan / Ar. Lhimarose A. Tanseco / Catherine Joie B. Carcellar, LPT / Sonny Boy R. Ellema, Jr. / James R. Cortel / Ma. Yvonne S. Chiu / Khyla Marie T. Lauzon / Engr. Homer D. Galaroza / Engr. Fernando S. Macabare III / Engr. Reggie S. Mendoza**
ORGANIZATION		Samar Island GIS and Data Analytics Center, Samar State University
TITLE OF ENTRY		**TANAW (City Boundary Model): Topographical and Angular Assessment with 3D and AR Projection Mapping for Resilient Urban Planning**

TANAW is a cutting-edge urban resilience platform that integrates 3D printing, GIS, and Augmented Reality (AR) projection mapping to model geohazard risks and infrastructure vulnerabilities with ±5% spatial accuracy. Featuring more advanced and immersive projection, touch-based navigation, and AI-ready architecture, TANAW streamlines disaster planning, reducing assessment time by 30% and improving zoning clarity by 75%. Used by over 200 stakeholders in Catbalogan City, it achieved 93% satisfaction and influenced policy action. Scalable and modular, it empowers governments, urban planners, and climate risk agencies with real-time decision tools. Future integration of machine learning and climate projections will enhance predictive analytics for global smart cities.

PH-04	NAME(S)	**ANTONIO GABRIEL A. GOCO**
ORGANIZATION		UNIVERSITY OF SANTO TOMAS SENIOR HIGH SCHOOL
TITLE OF ENTRY		**Development and Evaluation of an Eco-Friendly Anti-Bacterial Smart Gauze with Colorimetric Infection Indicator from *Clitoria Ternatea*, *Psidium guajava* and *Citrus limon***

This study focused on developing and evaluating an anti-bacterial smart gauze using eco-friendly and plant-based materials that are endemic to the Philippines. Hence, the use **guava leaves** (*Psidium guajava*) and **lemon peels** (*Citrus limon*) which have long been known for their **healing properties**, including their ability to fight bacteria, reduce inflammation, and protect against cell damage. Then the use of clitoria ternatea, which is not only endemic in the Philippines but naturally abundant and which is rich in anthricyanins, a natural pH indicator. This study presents the novel development of a plant-based smart gauze that not only indicates infection but also works as bacteria inhibitor. The gauze is designed to provide dual functions – anti-bacterial activity for enhanced wound healing and responsive colorimetric indication of potential infection.

PERU

PE-01	NAME(S)	**Lizardo Leopoldo Laguna Lujan**
ORGANIZATION		INSTITUTO TECNOLÓGICO DE LA PRODUCCIÓN
TITLE OF ENTRY		**Device for aligning objects with imperfect orthogonality**

Device for controlling the position of a durometer that allows the calibration of a durometer spring using the same standard support where the hardness measurements are made, by controlling the vertical position of the mass of the durometer's standard support and requiring only the use of an appropriate scale, thus achieving that the magnitudes that influence the measurement can also be evaluated during the calibration.

PE-02	NAME(S)	**Lizardo Leopoldo Laguna Lujan**
ORGANIZATION		INSTITUTO TECNOLÓGICO DE LA PRODUCCIÓN
TITLE OF ENTRY		**DEVICE FOR CONTROLLING THE VERTICAL POSITION OF A HARDNESS METER**

Device for controlling the position of a durometer that allows the calibration of a durometer spring using the same standard support where the hardness measurements are made, by controlling the vertical position of the mass of the durometer's standard support and requiring only the use of an appropriate scale, thus achieving that the magnitudes that influence the measurement can also be evaluated during the calibration.

PE-03	NAME(S)	Jhordan Berrocal Cueto
ORGANIZATION		ADVISORY BC E.I.R.L.
TITLE OF ENTRY		**Cutting, Sorting, and Classification Manipulator Robot for Organic Ginger**
This invention is a fully automated mechatronic system for post-harvest processing of organic ginger. It is based on a five-degree-of-freedom manipulator robot equipped with a camera for product image capture, computer-vision algorithms to identify size, shape and quality, and a linear cutting tool coupled with geared grippers for sorting and classification. The system conforms to SENASA export standards and ISO 9241 ergonomic guidelines, thereby reducing manual labor, minimizing waste and improving production efficiency for agro-exporters.		

PE-04	NAME(S)	Alfredo Queirolo de Armenteras / Francisco Belaunde Cabieses
ORGANIZATION		ARQLAND E.I.R.L.
TITLE OF ENTRY		**Modular House designed for landslides in Perú**
This is an innovative project that seeks to solve the issues of modular growth of popular housing, starting with a 36 m2 unit and ending with the same 108 m2 unit through a combination of individual and state investment. It also allows it to serve as a shelter through a cyclopean concrete shell—in addition to using sustainable and low-cost materials—to repel landslides in Peru, given the frequency of these events.		

PE-05	NAME(S)	Ricardo Choque-Guevara / Manolo Fernández-Díaz
ORGANIZATION		FARMACOLÓGICOS VETERINARIOS S.A.C.
TITLE OF ENTRY		**SYNTHETIC VARIANTS OF RABIES VIRUS GLYCOPROTEIN G FOR THE GENERATION OF PSEUDOTYPED BACULOVIRUSES AND THEIR USE IN RABIES VACCINE FORMULATIONS**
The present invention relates to an anti-rabies vaccine formulation (Farvac-RAB) generated by genetic engineering. This formulation is based on a baculovirus vector displaying a synthetic variant of the rabies virus glycoprotein G (gG-FL) on its surface. The synthetic variant consists of the ectodomain of glycoprotein G fused to anchoring domains derived from a baculoviral protein via a synthetic peptide linker. This design has been shown to enhance the incorporation levels of glycoprotein G into the baculovirus particles, the induction of virus-neutralizing antibodies, and the protective efficacy against rabies disease conferred by Farvac-RAB.		

PE-06	NAME(S)	JOSE FRANCISCO ROMAN FERREYRA / YURI FLORES VALDEON / CARMEN MILAGROS RUIZ HUAMÁN / JULIO CÉSAR SANTIAGO CONTRERA
ORGANIZATION		FORIN APP S.A.C.
TITLE OF ENTRY		**Kit for on-site visualization of urine sample results**
The kit comprising: a test strip, a collector and dispenser that provide an exact amount of fresh urine sample, a case for the strip, a box to improve image resolution, and a portable device, where the photos of the strip are taken in the box accessory where the software interprets the semi-quantitative results according to the colorimeter analysis and the portable device that has the comparison system and algorithms that include vector calculation and quantum chemical calculations of the chromophores defines the results. said system allows obtaining quantitative results from different analyses promoted by the test strip.		

PE-07	NAME(S)	Isabel Menacho Vargas / Mayumi Lizbeth Allcca Lucero / Gustavo Enrique Benites Aguilar / Steve Manuel Vasquez Pino / Segundo Pio Vasquez Ramos
ORGANIZATION		INNOVATION RESEARCH AND CREATIVITY S.A.C.
TITLE OF ENTRY		**Wireless Earphone Holder Usable as a Padlock**
This invention is a multifunctional device that combines a wireless earphone case, a portable padlock-style security system, and a bottle opener integrated into its base. It features a protective housing with a flip-top lid, internal compartments for the earphones and unlocking key, and an adjustable metallic locking shackle. Its compact, ergonomic, and modern design responds to the needs of urban users who require secure transportation of personal items. It is ideal for students, cyclists, or workers who frequent public spaces and value portability, organization, and practical functionality.		

PE-08	NAME(S)	Isabel Menacho Vargas / Mayumi Lizbeth Allcca Lucero / Gustavo Enrique Benites Aguilar / Steve Manuel Vasquez Pino / Segundo Pio Vasquez Ramos
ORGANIZATION		INNOVATION RESEARCH AND CREATIVITY S.A.C.
TITLE OF ENTRY		**Laptop Stand**
This Laptop Stand integrates essential features to enhance comfort and productivity in educational and professional environments. It includes a ventilated base with a cooling system, a detachable blue light filter screen to protect visual health, and two rotating monitor platforms for optimal viewing angles. Its adjustable arms allow secure attachment to surfaces such as beds, railings, or desks, and a retractable side tray supports mouse use. The foldable structure transforms it into a portable, ergonomic workstation adaptable to multiple settings.		

PE-09	NAME(S)	Johnny Gerardo, Mendoza García
ORGANIZATION		METÁLICA MENDOZA Y PINEDO ESTRUCTURAS METÁLICAS Y ACABADOS S.A.C.
TITLE OF ENTRY		**Rust cleaning brush with metallic tubular design.**

This invention presents a tubular metallic brush designed to remove rust and debris from metal surfaces efficiently, without chemicals. It features a lightweight, elongated tubular body with durable steel bristles at one end for precise cleaning, and a plastic cap at the other for improved grip. A built-in hole allows convenient storage. Its compact design allows access to tight and irregular areas, making it ideal for industrial, construction, and domestic use. The brush offers a practical, ergonomic, and eco-friendly solution for maintaining and restoring metal surfaces without causing damage or user fatigue.

PE-10	NAME(S)	Edgar Carlos, Quispe Peña / Max David, Quispe Bonilla
ORGANIZATION		NATURAL FIBER'S TECH S.A.C.; MAXCORP TECHNOLOGIES S.A.C.
TITLE OF ENTRY		**NON-INVASIVE PROCEDURE AND DEVICE FOR CROSS-SECTIONAL CHARACTERISTICS ANALYSIS OF TEXTILE FIBER.**

It is a procedure and device used to evaluate animal fibers at cross-section. The procedure includes taking a fiber sample from a representative area of 2x2cm2, using a delimiting accessory holding the animal on a specially designed table designed. The device comprises four subsystems: Optical, mechanical, electronical and software, which operate in a synchronized to capture sharp images of cross-sectioned fibers arranged on a modified microtome. The images of more than 600 fibers/sample are processed in 50 seconds, using an artificial intelligence model, obtaining measurements of area, perimeter, major and minor axis, medullation and objectionable fibers incidence, density, and others.

PE-11	NAME(S)	Abel Baresi, Landeo Barreto / Leslie Manuela, Valencia Sánchez
ORGANIZATION		SCIFY RESEARCH E.I.R.L.
TITLE OF ENTRY		**SMART JUG WITH MOTION-BASED ENERGY SUPPLY AND REMOTE MIXING CONTROL**

This invention presents a smart pitcher with an integrated mixing system, powered by kinetic energy generated through user movement. It features an internal rechargeable battery and a Bluetooth module for remote control via a mobile app. Designed for preparing beverages without external power sources or disposable batteries, the pitcher offers a sustainable, portable, and user-friendly solution. Its ergonomic design and smart features make it ideal for home, commercial, and fitness environments, enabling efficient blending of juices, shakes, and supplements anytime, anywhere.

PE-12	NAME(S)	Abel Baresi, Landeo Barreto / Leslie Manuela, Valencia Sánchez / Dayanne Germayori, Garay Canta
ORGANIZATION		SCIFY RESEARCH E.I.R.L.
TITLE OF ENTRY		**Solar Jacket with Wireless Charging Pockets for Electronic Devices**

This invention is a solar-powered smart jacket with integrated wireless charging pockets for electronic devices. Flexible solar panels placed on the shoulders generate electricity, which is stored in an internal rechargeable battery. The energy powers wireless charging coils embedded in the jacket's pockets, allowing users to charge smartphones and portable devices without cables. Lightweight, weather-resistant, and ergonomic, the jacket provides energy autonomy for travelers, field workers, and outdoor enthusiasts. It promotes sustainable living and portable power generation through innovative wearable technology.

PE-13	NAME(S)	Karen Esteincin Cuba Vargas
ORGANIZATION		SERVICIO NACIONAL DE ADIESTRAMIENTO EN TRABAJO INDUSTRIAL
TITLE OF ENTRY		**Transmitter and receiver system for precise location of obstacles in pipelines by means of cable glands**

This invention presents a system for detecting and precisely locating internal obstructions in PVC electrical conduits using a cable feeder. It consists of an emitter capsule equipped with an ultrasonic sensor, GPS module, Bluetooth transmitter, and rechargeable battery, securely attached to the feeder cable. The receiver unit features its own GPS, ultrasonic sensors, a mobile base, and a laser pointer mounted on an articulated arm to mark the exact obstruction point on external surfaces. The system enables non-invasive inspections, reduces unnecessary demolitions, and improves efficiency in electrical installations. It can operate autonomously using direct power or solar energy.

PE-14	NAME(S)	Karen Esteincin Cuba Vargas / Xavier Antonio Laos Laura / VIDIS JACK CUTIPA ARAPA
ORGANIZATION		SERVICIO NACIONAL DE ADIESTRAMIENTO EN TRABAJO INDUSTRIAL
TITLE OF ENTRY		**Cradle protection device for high-speed collisions and seismic events**

This invention provides an active protection system for hospital cribs used in neonatal care. It features an inflatable structure that automatically deploys during high-speed collisions or seismic events, minimizing injury risks to newborns. The system integrates inflatable spheres, proximity sensors, Doppler radar, an accelerometer, a GSM module, and a microphone. It operates autonomously using a rechargeable battery and remains compact and non-intrusive during normal conditions. Its adaptable design allows installation on various crib models without structural modifications, offering a significant advancement in neonatal safety technology for clinical and emergency environments.

PE-15	NAME(S)	Karen Esteincin Cuba Vargas / Xavier Antonio Laos Laura / VIDIS JACK CUTIPA ARAPA
ORGANIZATION		SERVICIO NACIONAL DE ADIESTRAMIENTO EN TRABAJO INDUSTRIAL
TITLE OF ENTRY		**Anti-seismic and anti-collapse protection system for hospital cribs**

This invention presents an anti-seismic and collapse-protection system for hospital cribs, combining an upper shield against falling objects and a lower stabilization mechanism activated during earthquakes. The upper system deploys a protective curtain via motorized mechanisms, while the lower system uses suction pads to anchor the crib to the floor. Activation is triggered by sensors such as accelerometers, ultrasonic distance sensors, and infrared detectors. A microcontroller manages all operations and transmits the baby's status via GSM. The system operates autonomously on a rechargeable battery, ensuring continuous neonatal safety during structural emergencies in clinical environments.

PE-16	NAME(S)	Karen Esteincin Cuba Vargas / Xavier Antonio Laos Laura / VIDIS JACK CUTIPA ARAPA
ORGANIZATION		SERVICIO NACIONAL DE ADIESTRAMIENTO EN TRABAJO INDUSTRIAL
TITLE OF ENTRY		**Electromechanical device with motorized glue application and fume extraction for polyvinyl chloride pipes**

This invention describes a portable electromechanical device for the motorized application of adhesive and extraction of toxic vapors in PVC pipe installations. It features a DC motor-driven rotating shaft with an adjustable brush for uniform glue distribution, a stable support base, and an integrated vapor extractor. A microcontroller governs the system, ensuring precision and collision avoidance. Operable by rechargeable battery or AC power, the device improves safety and efficiency during on-site plumbing work. Independent buttons control each function, providing ergonomic and controlled operation. It is a practical, safe, and effective solution for field installations in civil and sanitary engineering.

PE-17	NAME(S)	Karen Esteincin Cuba Vargas
ORGANIZATION		SERVICIO NACIONAL DE ADIESTRAMIENTO EN TRABAJO INDUSTRIAL
TITLE OF ENTRY		**Safety device with ultrasonic detection for the entrance of juicer machines**

This invention relates to a safety device for the entrance of sugarcane juicer machines. It includes a circular support with multiple tactile tips and ultrasonic sensors that detect the proximity of a user's hands. A second circular support features flexible belt-mounted teeth, adaptable to various juicer configurations. The system also integrates lighting and speakers, all connected to a processing unit linked to the sensors. This device enhances operational safety by issuing tactile, visual, and audio alerts without interfering with the machine's normal function.

PE-18	NAME(S)	Karen Esteincin Cuba Vargas
ORGANIZATION		SERVICIO NACIONAL DE ADIESTRAMIENTO EN TRABAJO INDUSTRIAL
TITLE OF ENTRY		**Portable roller blind with mobile ventilation**

This invention refers to a portable roll-up curtain with mobile ventilation, designed to provide solar protection and air circulation in transport vehicles and compact environments. It features a manually operated polarized curtain, suction-type fasteners for quick installation, a solar panel for autonomous power, and an adjustable fan module for directional airflow. An LCD screen displays ambient temperature via an integrated sensor, and control buttons allow simple operation. The device improves user comfort without requiring fixed installation or external electricity, making it ideal for mobile and energy-independent applications.

PE-19	NAME(S)	Manuel Alex Arnesquito Criales
ORGANIZATION		Manuel Alex Arnesquito Criales
TITLE OF ENTRY		**TIENDA DE CAMPAÑA**

This design was created to be environmentally friendly and sustainable. Easy to assemble, it's designed to last, with a space that ensures comfort and freshness inside. Giving an impression of elegance and solidity. The campaign design was created with the vision of being a lodging and hospitality business option.

PE-20	NAME(S)	Rafael Sadan Atencio Merlano
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**Spray recargable sin propelente (Refillable Spray Without Propellant)**

This invention presents a refillable spray system that operates without propellants or pressurized gas. Using a compact servomotor, it compresses a flexible container to release the contents in a fine mist. Designed for environmental sustainability, it reduces waste and eliminates harmful emissions common with traditional aerosols. The device is reusable, refillable, and adaptable to various liquid products, such as deodorants, air fresheners, paints, and others. Future versions could include a display and dosage controls, further improving usability and efficiency while maintaining an environmentally friendly profile.

PE-21	NAME(S)	Ponciano Cáceres
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**Cepillo dental portatil incorporado con un envase para llevar la pasta dental.**
This invention addresses existing problems in the current state of the art through a toothbrush integrated with a container for carrying toothpaste. The object features a foldable design that allows it to be reduced in size by folding in half, making it more portable for the user. As an additional feature, it is self-rechargeable.		

PE-22	NAME(S)	Calderon Mamani, Gilber Joel
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**Dual-powered portable spinning machine for fiber, compatible with electric and solar energy.**
This invention presents a portable spinning machine designed for processing natural fibers such as alpaca, sheep, vicuña, and cotton. It operates with both electric and solar energy, promoting sustainability in textile production. The structure is made of melamine and wood, making it lightweight and stable. It features adjustable speed, dual-direction spinning/twisting, and energy-efficient components like a logarithmic potentiometer and a three-position toggle switch. The use of eco-friendly materials and renewable energy sources reduces environmental impact while increasing accessibility for artisans and rural producers. This machine is ideal for decentralized, low-emission fiber processing.		

PE-23	NAME(S)	SOFIA ENRIQUETA CALVO NIÑO
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**DISPOSABLE DEVICE FOR OPENING SUPERMARKET PLASTIC BAGS.**
Elastic and biodegradable thimble-shaped device. For opening plastic bags with or without handles, it is characterized by covering the entire thumb. The thumb tip area has a small, moist sponge covered with protective paper adhesive tape. To insert the device, insert it on the thumb and then remove the removable adhesive tape covering the tip area. Then, to open the plastic bag, rub the thumb containing the device with the other finger. To remove the device, pull it and discard it.		

PE-24	NAME(S)	Rene Jose Chacca Vilca
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**Refill container paint on the roller.**
The invention consists of a refillable container, it stores between 1 liter to 1 ¼ liters of paint. It is placed on top of the roller and it has a button to activate its internal mechanism that distributes the paint over the roller, thanks to this mechanism it could easily reach a height of 5.5 meters and would solve the problem of renting scaffolding, it is refilled with paint through a lid on the top. It saves 8 to 10 loads compared with a normal roller, it will increase productivity by 15%.		

PE-25	NAME(S)	Jonny Manuel, Cueva Vargas
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**A fruit picker with a telescopic arm and built-in storage device**
Fruit picker, includes a cutting element attached to the upper end of an arm with a manual actuator to cut and collect the fruit, additionally includes: • The harvesting device consists of a "W"-shaped support attached centrally to the upper end of the telescopic arm, and a collecting ring attached laterally to the support, forming an angle of between 45 and 65 degrees with the telescopic arm. • The storage device consists of a collecting sleeve attached to the collecting ring, which uses shock-absorbing brakes on the inside of the collecting sleeve.		

PE-26	NAME(S)	Carlos Alberto Farje Gallardo / Julio David Sagástegui Jáuregui / Loyda Luz Guevara Castañeda
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**GUM MASSAGE DEVICE**
The invention is a reusable gum massager that improves oral health through a novel combination of mechanical stimulation and automatic lubrication. It features a cylindrical handle with an internal refillable container, connected to spray outlets located on the bristle head. Flexible suction-like fixations provide stability during use, enabling effective gingivo-occlusal massage. A push-button mechanism activates aerosol release, enhancing both lubrication and bristle hygiene. This ergonomic, non-electric device addresses the limitations of traditional toothbrush-based gum massagers, offering greater precision, comfort, and sustainability. The invention is protected by a granted patent and is ready for production and global distribution.		

PE-27	NAME(S)	Maria Claudia de Guadalupe, Fernandez Sandoval / Hernan Rodolfo, Calle Chavez
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**Two-ring system for chamber opening and digitally guided static endodontic instrumentation of single-rooted and multi-rooted teeth.**
Two-ring system for chamber opening and static digitally guided endodontic instrumentation of single-rooted and multi-rooted teeth. The present invention relates to the technical field of dental instruments, specifically endodontic instruments for digitally planned procedures using CAI, CAD, and CAM processes.		

PE-28	NAME(S)	Edwin, Flores Zorrilla / Luis André, Moya Fernández / Angela Cristina, Flores Quispe / Danny Guillermo, Flores Zorrilla
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**Synergic Procedure for the Transportation of Supplies and Products in the Mining Sector through a Multifunctional Duct**
This invention proposes a unified and synergic procedure for multiple mining operations to transport inputs and outputs through a multifunctional duct, known as the “Canal de Canales”. It integrates the transportation of water, electricity, gas, oil, telecommunications, mineral concentrate, and tailings into a single system, reducing environmental impact, logistics costs, and social conflicts, while optimizing efficiency, sustainability, and investment value.		

PE-29	NAME(S)	Gómez-Morón Castro, Harry / Gómez-Morón Castro, Arturo Guillermo
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**Plastidobe**
Plastidobe is a sustainable construction system that combines recycled plastic panels with rammed earth to create affordable, earthquake-resistant, bioclimatic homes. It employs structural geometry to form durable panels used in trapezoidal wall configurations, enhancing seismic stability. The system ensures excellent thermal regulation, ideal for Peru’s varied climates. Lightweight and stackable, panels are easy to transport to remote areas. By integrating local soil and post-consumer plastic, Plastidobe reduces costs and environmental impact. Designed for low-tech, self-built assembly, it empowers rural communities while preserving ancestral construction techniques and supporting circular economy principles.		

PE-30	NAME(S)	HERNAN AUGUSTO GUEMBES FLORES
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**High Efficiency JetFan Type Equipment**
We are pleased to introduce our High-Efficiency JetFan-Type Impulsion System. This equipment is an innovative solution for generating ventilation and air renewal in parking areas and underground basements of commercial and residential buildings. It offers a creative and revolutionary alternative compared to traditional systems commonly used for ventilating such spaces. Our High-Efficiency JetFan-Type Impulsion System is unmatched by other types of equipment, with a unique technology and design that currently does not exist in the market.		

PE-31	NAME(S)	Francisco, Hoffmann Quiñones
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**REMOTE-CONTROLLED INTEGRATED MOBILE EQUIPMENT FOR TRANSPORTING DISABLED PATIENTS**
Device that integrates the functions of an elevating chair, transport lift, and all-terrain tracks, enabling individuals with disabilities to carry out multiple activities with full autonomy via remote control. The elevating chair allows users to move in an upright position comfortably and safely. The transport lift enables controlled transfers to other settings, such as the bed, bathroom, swimming pool, or for walking rehabilitation, among others. The all-terrain tracks provide free movement through streets, parks and beaches, and even the ability to climb stairs. This contributes to social inclusion, improved quality of life, and a greater sense of freedom and self-esteem.		

PE-32	NAME(S)	Roberto David Portocarrero Calle / Roxani Keewong Zapata
ORGANIZATION		INDECOPI
TITLE OF ENTRY		**EQUIPMENT FOR THE CRYSTALLISATION OF SUGAR CANE HONEY FOR THE PRODUCTION OF GRANULATED PANELA**
This invention presents a mechanized system for the crystallization of sugarcane syrup in the production of granulated panela. Traditionally performed manually, this process was limited by the physical capacity of the operators. The proposed equipment mechanizes the crystallization stage, reducing operational costs and increasing productivity, benefiting small organic panela producers in rural areas of the Piura highlands. The first prototype was developed with support from INIA and the IDB, under the project “Development of technologies to optimize the primary process of granulated panela,” led by PROGRESO and CITEagroPiura.		

PE-33	NAME(S)	Maria Pia, Pacheco Del Solar / Gonzalo, Leon Vivar
ORGANIZATION		INDECOPI
TITLE OF ENTRY		Vuelve Pet, a sustainable way to say goodbye to pets
Vuelve Pet offers a sustainable alternative to traditional pet aftercare by transforming pet remains into nutrient-rich compost through a controlled biotransformation process. This service provides an eco-conscious, accessible and emotionally supportive solution for pet owners, helping reduce environmental impact and promote soil regeneration.		

PE-34	NAME(S)	Fernando Felipe, Pérez Riojas
ORGANIZATION		INDECOPI
TITLE OF ENTRY		3 RIDE - Reduced-volume three-wheeled vehicle for a driver sitting upright.
It's a small three-wheeled vehicle with an indirect steering system via a linkage; this allows the front wheels to be spaced together to ensure optimal handling while maintaining stability. Designed for people who want the freedom to ride a bicycle but are afraid of two wheels. It can be stored indoors without taking up much space. Lightweight, with a tubular structure, it is easily accessible for climbing on and riding. Various accessories can be added, such as lights, brakes, and baskets.		

PE-35	NAME(S)	Eduardo Raúl Picoaga Boluarte
ORGANIZATION		INDECOPI
TITLE OF ENTRY		Meat smoker for a gas stove
The meat smoker is a versatile culinary innovation, made of stainless steel, that works on gas, electric, and charcoal stoves. It allows you to conveniently prepare foods with an authentic smoky flavor. Its accessible and efficient technology makes it a high-impact socioeconomic solution, ideal for homes and culinary businesses. Easy to use and manufacture, it promotes an ancestral experience with identity. Its high quality and added value give it national and international commercial reach, positioning it as a key tool in gastronomy and export, combining tradition, technology, and sustainable development.		

PE-36	NAME(S)	Eduardo Raúl Picoaga Boluarte
ORGANIZATION		INDECOPI
TITLE OF ENTRY		Convertible assembly dome for a pickup truck hopper
The convertible dome for pickup trucks is a practical and adaptable innovation that allows the truck bed to be fully or partially covered, protecting its contents according to the user´s needs. Its modular design, with independent, roll-up, micro-perforated grilles, provides ventilation, safety, and visibility. Easy to use, assemble, and fold, it facilitates the transport of tools, equipment, or belongings. Its simple and functional technology provides socioeconomic value by improving efficiency in sectors such as construction, plumbing, and logistics. With great commercial potential, it is a versatile, exportable, and sustainable solution for markets where pickup trucks predominate.		

PE-37	NAME(S)	Rosa Carolina Posso Castaneda / Adrián Jesús Posso Castaneda / Hector Posso Castañeda
ORGANIZATION		INDECOPI
TITLE OF ENTRY		3D CHESS GAME SET: THE CONQUEST OF MACHU PICCHU
A realistic-scale 3D model of the Machu Picchu citadel transformed into an extendable chessboard, depicting the historic battle between the Incas and the Spanish. This recreational and educational resource highlights the benefits of science-based sport, facilitating the interactive teaching of Peruvian history, fostering socialization, and promoting an education rooted in cultural identity. A project with strong potential in the educational, cultural, and tourism sectors.		

PE-38	NAME(S)	Luis José Silva Berrospi
ORGANIZATION		INDECOPI
TITLE OF ENTRY		Tannin Extraction Method by Ultrasound and Freeze-Drying from Tara Pods
This invention proposes a method for obtaining powdered tannic extract with more than 75% tannin concentration from tara pods (Caesalpinea Spinosa). The process uses ultrasound-assisted maceration and freeze-drying to ensure high yield and purity. The extract is validated for use in leather tanning, food formulations, and pharmaceutical products due to its antioxidant and anti-inflammatory properties.		

PE-39	NAME(S)	Felipe Antonio Solís Rosas Martinez
ORGANIZATION		INDECOPI
TITLE OF ENTRY		A precision conical roller seeder for wheat
The invention consists of a wheat seeder that maximizes the use of the land to be sown by prioritizing optimal seed distribution (3,000,000 seeds/ha), each with its own space, resulting in excellent germination. A competitive advantage is achieved through good germination (all seeds germinate within 48 hours of sowing, avoiding harmful overlap and competition between seeds for light and nutrients).		

PE-40	NAME(S)	Jenny Marianella, Soria Nina / Daniel Augusto, Licetti Arena
ORGANIZATION		INDECOPI
TITLE OF ENTRY		ALKALINE ELECTROLYZER MODLE FOR OBTAINING GREEN HYDROGEN FROM SEAWATER
Alkaline electrolyzer module for obtaining green hydrogen from seawater, it is a machine that performs the function of separating seawater or wastewater molecules into hydrogen and oxygen by electrolysis, through non-corrosive alkaline electrodes, it has two independent chambers that allow the gases to be obtained separately in addition to an electrode agitation system that allows greater efficiency in obtaining gases, it has a filtration system, a cooling system, a waste extraction system, a gas purification system and a compression mechanism to store the gases obtained, it has electronic safety systems, which detect dangers through sensors, blocking hydrogen to avoid accidents.		

PE-41	NAME(S)	Jenny Marianella, Soria Nina / Daniel Augusto, Licetti Arena
ORGANIZATION		INDECOPI
TITLE OF ENTRY		ELECTRICAL POWER GENERATOR MODULE, DRIVEN BY WAVE MOTION, FOR PLATFORM OR DOCK.
Wave-driven electric power generating module for a platform or dock. This technology harnesses the motion of ocean waves to convert it into electrical energy. It uses a blade driven by the swaying of the waves, with a mast connected to a gear mechanism, generating rotary motion from the blade's pendulum motion. This motion is rectified in a single direction by a gear train and a flywheel, which transmits its rotation, through an automated pulley tensioner, to a dynamo to generate electrical energy. This energy is stabilized in a capacitor bank to regulate the appropriate voltage and amperage for consumption.		

PE-42	NAME(S)	OSCAR ALEJANDRO VILLALOBOS URIZAR
ORGANIZATION		INDECOPI
TITLE OF ENTRY		Pressurized Bulb for Protection Against Biological Particles with Integrated Collar and Configurable Air Duct for Powered Air-Purifying Respirators
A pressurized bulb for protection against biological particles, designed as part of a powered air-purifying respirator (PAPR). The device includes an integrated collar that is tightened by the bulb and conforms around the user's neck. It features configurable air duct pathways that allow purified air to enter the bulb from either the front or rear of the user's neck. The purified air is then filtered again by the collar before being released to the external environment. This design enhances sealing, comfort, and filtration efficiency in environments with airborne biological contaminants.		

PE-43	NAME(S)	Consuelo Corazón Cano Gallardo / Marlene Michele Bustamante Carvallo / Carlos Gustavo Perez Zuñiga / Diego Martin Arce Cigüeñas / Francisco Fabian Cuellar Cordova
ORGANIZATION		PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
TITLE OF ENTRY		Humanoid Robot with Interchangeable Hand Modules for Remote Healthcare and Telemedicine
The invention is a humanoid robot with interchangeable hand modules designed for remote healthcare and telemedicine. It features an anthropomorphic structure with facial expression screens, articulated arms, and autonomous mobility using LIDAR, ultrasonic and infrared sensors. Its hands incorporate interchangeable modules for specific clinical tasks, including measuring body temperature and oxygen saturation, dispensing alcohol gel, and enabling interpersonal audio communication. This modularity ensures hygienic handling, easy maintenance, and rapid adaptation to different scenarios. The robot enhances empathy in care, reduces exposure risks, and supports healthcare delivery in underserved or high-risk environments such as hospitals, rural clinics, or pandemic zones.		

PE-44	NAME(S)	Consuelo Corazón Cano Gallardo
ORGANIZATION		PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
TITLE OF ENTRY		Bird kettle
The design presents an electric kettle aimed at improving the user experience through a functional, ergonomic, and emotional approach. Its morphology is inspired by the shape of a bird: the lid represents the head and beak, the front display evokes the chest, the handle simulates the wings, and the base—where the ignition switch is located—symbolizes the tail. The grip, water display, and lid holder have been optimized. Furthermore, priority was given to redistributing the center of gravity to reduce wrist strain, achieving a safer, more accessible product that is aligned with emotional trends in user experience.		

PE-45	NAME(S)	**María del Rosario, Sun Kou / Daniel Cristopher, Obregon Valencia / Ana Lucía, Paredes Doig / Angela Vanessa, Pinedo Flores**
ORGANIZATION		PONTIFICIA UNIVERSIDAD CATÓLICA DEL PERÚ
TITLE OF ENTRY		**PROCEDIMIENTO PARA LA PREPARACION DE CARBON ACTIVADO A PARTIR DE SEMILLAS DE AGUAJE (MAURITIA FLEXUOSA) MEDIANTE UN TRATAMIENTO QUIMICO**
The patent describes a method to produce activated carbon from Mauritia flexuosa (aguaje) seeds for removing heavy metal ions from water. It uses 10–14% phosphoric acid as the activating agent and a tubular furnace with nitrogen flow. Carbonization involves three heating stages: 200 °C and 300 °C for 30 minutes each, followed by 500–600 °C for 60–90 minutes, at a heating rate of 10 °C/min. The process yields activated carbon with high mechanical strength, good yield, and excellent adsorption capacity for metal ions, making it suitable for environmental remediation and water purification applications.		

PE-46	NAME(S)	**Gilberto de Jesús Colina Andrade / Ruly Terán Hilares / Edilberto Vicente Medina Cabrera / Lucía del Carmen Martínez Pujadas / Jose Luis Carrasco Bocangel / Jose Rafael Chambilla Caceres / Higinio Porto Huasco / Jose Luis León Tiznado / Mónica Meylín Yugra Condori / Janeth Flor de María Pari Checca**
ORGANIZATION		UNIVERSIDAD CATÓLICA DE SANTA MARÍA
TITLE OF ENTRY		**EXTRACTION AND STAINING OF PHYCOCYANIN BIOPIGMENT: FROM *Arthrospira platensis* ON ALPACA FIBER**
The present invention describes a process for the extraction and dyeing of phycocyanin biopigment from Arthrospira platensis. As shown in the attached figure, the process is divided into two stages: the first involves the extraction and stabilization of the biopigment, while the second involves dyeing the alpaca fiber with the biopigment and fixing the color using the appropriate mordants. The procedure includes: 1. Phycocyanin extraction protocol, 2. Stability process of phycocyanin and 3. Alpaca yarn dyeing protocol with different mordents.		

PE-47	NAME(S)	**Eveling Gloria, Castro Gutierrez / Jackeline Melady Peña Alejandro / Nicolas Esleyder Caytuiro Silva**
ORGANIZATION		UNIVERSIDAD CATÓLICA DE SANTA MARÍA
TITLE OF ENTRY		**ASSISTIVE DEVICE FOR BANKNOTE RECOGNITION FOR VISUALLY IMPAIRED PERSONS**
The invention is an assistive device for visually impaired individuals, designed to recognize banknotes using computer vision and provide audible feedback. It features a Raspberry Pi with an integrated camera, deep learning-based software, and a text-to-speech system that announces the banknote's denomination in real time. The device is portable, affordable, energy-efficient, and works offline with a rechargeable battery. Its modular design allows the integration of new algorithms to improve accuracy and adapt to different user contexts, making it a practical, accessible, and reliable tool for the visually impaired.		

PE-48	NAME(S)	**JOSDAN JAVIER GARCIA GONZALES / JOSELITO SANCHEZ PEREZ**
ORGANIZATION		UNIVERSIDAD CATÓLICA SANTO TORIBIO DE MOGROVEJO
TITLE OF ENTRY		**Semi-Automatic Rotary Machine for Sandal Manufacturing**
The semi-automatic rotary machine developed for sandal manufacturing enhances sustainability by reducing energy consumption by 15 %, optimizing material use, and eliminating polluting processes such as wood-fired heating. Production waste decreased from 8.12 % to 1.7 %. Its ergonomic design minimizes disergonomic risks by reducing physical strain, automating repetitive tasks, and improving operator posture. Additionally, it increases production efficiency by 12 %, with a cycle time reduction from 234.7 to 17.7 minutes per dozen. This innovation significantly improves occupational health, environmental performance, and operational productivity, offering a scalable solution for small and medium-sized enterprises in the footwear industry.		

PE-49	NAME(S)	**Brayan Jair, Larrea Chonate**
ORGANIZATION		UNIVERSIDAD CATÓLICA SANTO TORIBIO DE MOGROVEJO
TITLE OF ENTRY		**Automatic electric rice transplanter with geopositioning**
The current invention presents an automatic electric rice transplanter with geopositioning. This machine can operate in flooded agricultural fields, transplanting seedlings taken directly from seedbeds, thus avoiding the use of trays or seed mats. It also employs its geopositioning system to follow pre-generated routes and automatically correct any navigation errors. The transplanter integrates systems for seedling storage, selection, and placement, ensuring high planting precision and uniformity. This proposal, along with other agricultural machinery that use this navigation system, will improve agricultural productivity, optimize resource use, and allow farmers to have greater economic resilience and adaptation to climate challenges.		

PE-50	NAME(S)	Ana Lucia Mayana Herrera / Marlon Yuri Garcia Paitan
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**PROCESS FOR THE DETERMINATION OF THE CELLULAR IMMUNE RESPONSE TO SARS-COV-2 VIRUS PEPTIDES BY QUANTIFYING THE RELATIVE GENE EXPRESSION OF CXCL10 BY REAL-TIME PCR**
Measuring cellular immunity, vital for understanding viral responses like SARS-CoV-2, typically involves costly, unscalable T-cell isolation methods. To overcome this, a new standardized, scalable real-time PCR technique has been developed. It directly quantifies X-L10 gene expression from peripheral blood, avoiding PBMC isolation and compatible with cryopreserved samples. This method utilizes X-L10 as a highly sensitive and specific molecular marker for T-cell activation post-antigen stimulation. Offering high reproducibility and precision, this accessible and efficient alternative enables broader, more equitable assessment of cellular immunity to viral variants, vital for current and future pandemic preparedness.		

PE-51	NAME(S)	Connie Gallardo Vela / Milagros Flores / Oscar Reategui Arevalo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**PROCEDURE AND FORMULATION OF NUTRITIONAL FEED FOR HENS ENRICHED WITH ANTHOCYANINS FROM THE CROWN OF PURPLE CORN (ZEA MAYS L.)**
Purple corn cobs, rich in **bioactive compounds**, are largely wasted, limiting their high-value application. This research proposes an innovative process to extract and standardize these compounds, incorporating them into poultry feed to **enrich eggs for human consumption**. This method provides sustainable **use for agricultural waste**, creates natural dyes, and generates nutritious functional products. It supports a circular economy, boosts farmer income, and meets consumer demand for natural, healthy options. This solution contributes to environmental sustainability, agricultural innovation, and provides valuable functional food for consumers like the elderly and athletes.		

PE-52	NAME(S)	Connie Gallardo Vela / Deysi Inga / Oscar Reategui Arevalo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Formulation of feed for broiler chickens enriched with omega-6 and omega-3 from Sacha Inchi oil (Plukenetia volubilis)**
This invention focuses on **valorizing Sacha Inchi (Plukenetia volubilis),** an Amazonian plant whose rich essential oil and protein content are currently underutilized due to inefficient farming and processing, and limited market access. The project proposes an **innovative, sustainable production model and technology** to obtain high-quality Sacha Inchi oil. This oil is then integrated into poultry feed, specifically to **enrich chicken meat and eggs** for human consumption by optimizing their Omega-6 to Omega-3 fatty acid balance. This approach provides a high-value product, boosts producer profitability, fosters economic development, and promotes environmental sustainability. It directly addresses consumer demand for healthy, sustainable food, solidifying Sacha Inchi's role as a valuable superfood.		

PE-53	NAME(S)	Giovanna Janet Gomez Oquendo / Andrés Loza
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Optimized thermal drying method of Tenebrio molitor larvae to improve protein digestibility**
This invention optimizes the thermal drying process for mealworm larvae to enhance their protein digestibility. Current methods often degrade essential proteins or create compounds that reduce nutrient bioavailability, while also needing to ensure microbiological safety. Our optimized process ensures the final product retains its high **nutritional value** and becomes a more efficient protein source for various human and animal food applications, capitalizing on insects' potential as a sustainable protein.		

PE-54	NAME(S)	Rodrigo Ernesto Salazar Gamarra / Salvatore Binasco Lengua / Claudio Peña Soto
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Soft Tissue Retractor Oriented to Comprehensive Intraoral Scanning**
This invention presents a novel **soft tissue retractor** specifically designed to optimize **comprehensive intraoral scanning**. Current challenges in digital dentistry often stem from inadequate soft tissue management, leading to incomplete or inaccurate scans. This retractor aims to provide stable, wide, and unobstructed visibility of the entire oral cavity, including hard-to-reach areas, without hindering the scanner's operation. By ensuring consistent retraction and enhancing patient comfort, this device will significantly improve the efficiency, accuracy, and ease of acquiring full-arch digital impressions, thereby streamlining digital dental workflows for various restorative and orthodontic applications.		

PE-55	NAME(S)	Rodrigo Ernesto Salazar Gamarra / Salvatore Binasco Lengua / Claudio Peña Soto
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Soft tissue retractor with adjustable opening**

This invention introduces a novel **soft tissue retractor with adjustable opening** specifically for optimizing **intraoral scanning**. Current challenges in digital dentistry arise from inadequate and fixed retraction, leading to incomplete or inaccurate scans. This adjustable retractor provides precise, stable, and unobstructed visibility of the oral cavity by allowing clinicians to control its aperture. By ensuring customized retraction and enhancing patient comfort, this device significantly improves the efficiency, accuracy, and ease of acquiring comprehensive digital impressions, thus streamlining various digital dental workflows.

PE-56	NAME(S)	Rodrigo Ernesto Salazar Gamarra / Salvatore Binasco Lengua / Claudio Peña Soto
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Extraoral Scanning Tip for Intraoral Scanners**

This invention introduces a novel **extraoral scanning tip** designed to extend the functionality of existing **intraoral scanners**. While intraoral scanners excel at capturing oral cavity data, they often lack the optimal field of view or ergonomic design for efficiently digitizing physical dental models, impressions, or other extraoral objects. This innovative tip adapts directly to standard intraoral scanners, transforming them into versatile tools capable of accurate extraoral 3D data acquisition. By enhancing the utility of existing equipment, this invention streamlines digital dental workflows, reduces the need for dedicated lab scanners, and provides a cost-effective solution for comprehensive digital dentistry.

PE-57	NAME(S)	Rodrigo Ernesto Salazar Gamarra / Salvatore Binasco Lengua / Claudio Peña Soto
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Medical Headlamp with Automatic Light Orientation by Eye Tracking**

This invention introduces a novel **medical headlamp featuring automatic light orientation via eye tracking**. Current medical headlamps require manual adjustment, leading to workflow interruptions, potential sterility breaches, and suboptimal illumination during precise procedures. Our innovative headlamp integrates advanced eye-tracking technology to automatically direct its light beam, ensuring continuous, hands-free, and precise illumination of the clinician's exact point of focus. This significantly enhances procedural efficiency, accuracy, and sterility, while reducing eye strain, marking a substantial advancement in medical lighting and digital surgical assistance.

PE-58	NAME(S)	Richrad Francis Cisneros Macedo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Artificial Umbilical Cord for Incision Simulation**

This invention presents a novel **artificial umbilical cord** specifically designed for **incision simulation**. Current medical training often lacks realistic models for practicing umbilical cord clamping and cutting, leading to reliance on real-life, high-stakes scenarios or less accurate simulators. Our innovative artificial cord replicates the anatomical features and tactile sensations of a real umbilical cord, providing an authentic training experience. This ensures safe, repeatable practice, enhancing trainee confidence and practical skills, ultimately improving neonatal care by reducing risks associated with this critical procedure.

PE-59	NAME(S)	Richrad Francis Cisneros Macedo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Cervical examination and family planning training**

This invention introduces an **electronic uterus** designed for advanced **cervical examination and family planning training**. Current training methods often lack the realism needed to accurately simulate cervical conditions, impeding effective learning for crucial diagnostic and procedural skills. Our innovative electronic uterus provides a dynamic, interactive platform that mimics various cervical states and allows for realistic practice of examinations and contraceptive device placements. This significantly enhances trainee proficiency, improves diagnostic accuracy, and supports comprehensive education in reproductive health, ultimately leading to better patient care.

PE-60	NAME(S)	Richrad Francis Cisneros Macedo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		**Digital Simulation Speculum for Gynecological Training**

This invention introduces a novel **digital simulation speculum** designed to revolutionize **gynecological training.** Traditional methods often lack the realism and versatility to effectively teach speculum insertion, cervical examination, and patient interaction. Our innovative digital speculum system provides realistic haptic feedback and dynamic visual simulation of the cervix and vaginal canal, mimicking various anatomical and pathological conditions. This allows for safe, repeatable, and objectively measurable practice, significantly enhancing trainee proficiency, diagnostic accuracy, and patient communication skills, ultimately leading to improved women's healthcare.

PE-61	NAME(S)	Juan José Avalos Arancibia
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Nasal bleeding simulator device

This invention introduces a novel **nasal bleeding simulator device** designed for realistic training in epistaxis management. Traditional methods often lack the realism needed to accurately simulate the varied presentation and flow of nasal hemorrhages, hindering effective learning for crucial diagnostic and procedural skills. Our innovative device provides a dynamic, interactive platform that mimics different bleeding scenarios, allowing for realistic practice of assessment, packing, and cauterization techniques. This significantly enhances trainee proficiency, improves clinical preparedness, and ultimately leads to better patient outcomes in managing nasal bleeding emergencies.

PE-62	NAME(S)	José Humberto Calderon Castro
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Paracentesis trainer developed using 3D printing technology

This invention introduces a novel **paracentesis trainer developed using 3D printing technology**. Current training methods for this crucial abdominal fluid drainage procedure often lack realism, repeatability, and anatomical fidelity, limiting effective skill acquisition. Our innovative 3D-printed simulator provides highly realistic anatomical layers and tactile feedback, mimicking the sensation of needle insertion through the abdominal wall and into simulated fluid. This ensures safe, repeatable practice, significantly enhancing trainee proficiency, procedural confidence, and ultimately improving patient safety and outcomes in clinical settings.

PE-63	NAME(S)	Jorge Alfredo Salas Sinclair / Italo Erio Rodriguez Tejeda / Richard Francis Cisneros Macedo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Multi-purpose Simulator for Training in Male Urinary Catheterization, Rectal, and Genital Examination

This invention presents a novel **multi-purpose simulator** for comprehensive training in **male urinary catheterization, rectal examination, and male genital examination**. Current medical education often relies on separate or less realistic models, leading to fragmented learning and higher costs. Our innovative simulator provides a single, anatomically accurate, and haptic-enabled platform that mimics these critical male-specific procedures. This significantly enhances trainee proficiency, improves diagnostic and procedural skills, and streamlines medical education by offering a highly realistic and cost-effective solution for integrated practice, ultimately leading to better patient care.

PE-64	NAME(S)	Angel Francisco Samanez Obeso / Italo Erio Rodriguez Tejeda / Patricia Liliana Salas Castillo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Ergonomic rigid board

This invention introduces an **ergonomic rigid board** designed to enhance patient comfort and optimize clinician posture and efficiency during medical procedures or patient handling. Current rigid surfaces often lack ergonomic features, leading to patient discomfort, pressure points, and musculoskeletal strain for medical professionals. Our innovative board combines robust rigidity with patient-conforming and clinician-friendly contours. This ensures stable support while significantly improving comfort, reducing fatigue, and streamlining various medical workflows, ultimately leading to safer procedures and better patient outcomes.

PE-65	NAME(S)	Betty Britany Samaniego Castro
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Ergonomic menstrual cup with customized fit and health sensors

This invention introduces an innovative **ergonomic menstrual cup** designed with **a customized fit and integrated health sensors.** Traditional menstrual cups often provide a generic fit, leading to user discomfort or leaks. Our novel cup offers a personalized fit, potentially via user-specific sizing or adaptable materials, ensuring superior comfort and leak protection. Crucially, embedded sensors monitor vital menstrual health parameters such as flow volume, temperature, and pH, transmitting data to a companion app. This empowers users with unprecedented insights into their reproductive health, enabling early detection of anomalies and fostering a more informed approach to menstrual care.

PE-66	NAME(S)	Pedro Luis Tinedo Lopez / Ann Rosemary Chaname Marin
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Modified transparent silicone rubber blocks with light sensors

This invention introduces novel **modified transparent silicone rubber blocks integrated with light sensors**. Traditional methods for simulating biological tissues or creating advanced soft sensors often lack precise control over both optical and mechanical properties, limiting realistic feedback. Our innovative blocks are chemically or structurally modified to achieve tunable optical characteristics (e.g., scattering, absorption) while maintaining silicone's flexibility, with embedded light sensors providing real-time data on light propagation or deformation. This enables highly accurate tissue phantoms for medical imaging research, advanced haptic-feedback simulators.

PE-67	NAME(S)	Iván Karlo BEST CUBA / Oscar Reategui Arevalo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Nutraceutical beverage derived from mashua and camu camu, along with its obtaining procedure

This invention introduces a novel **nutraceutical beverage derived from mashua and camu camu**, along with its **obtaining procedure**. Existing nutraceutical beverages often lack a synergistic blend of specific bioactive compounds or utilize ingredients with limited regional availability and sustainability. Our procedure details the optimal extraction, stabilization, and blending of compounds from both mashua (rich in glucosinolates and polyphenols) and camu camu (exceptionally high in Vitamin C and antioxidants). The resulting beverage offers enhanced nutritional value, robust antioxidant properties, and potential health benefits, providing a natural, sustainable, and highly bioavailable functional drink that leverages Andean and Amazonian superfoods.

PE-68	NAME(S)	Iván Karlo BEST CUBA / Oscar Reategui Arevalo
ORGANIZATION		UNIVERSIDAD CIENTÍFICA DEL SUR S.A.C.
TITLE OF ENTRY		Nutraceutical Beverage from Mashua and Camu Camu

This invention introduces a novel **nutraceutical beverage** combining **mashua** and **camu camu**. This functional drink leverages the unique synergy between mashua's glucosinolates and polyphenols and camu camu's exceptionally high Vitamin C and antioxidants. It addresses the market need for highly bioavailable, natural, and sustainable functional beverages, offering enhanced nutritional value, robust antioxidant properties, and various health benefits, derived through an optimized process that preserves its potent bioactive compounds.

PE-69	NAME(S)	Jose Antonio, Aquino Rojas / Olivia Maudette, Aguilar Cruzatt
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Compact, self-contained system for detecting toxic gases with wireless alerts

Compact and autonomous system for toxic gas detection, enclosed in a polycarbonate housing with a matching lid, secured by hex bolts. It integrates four sensors: MQ-2 (propane, LPG, methane, hydrogen), MQ-3 (alcohol, ethanol, smoke), MQ-7 (CO), and MQ-135 (ammonia, CO_2, benzene). An ESP32 processes the signals using PID control and sends alerts via Wi-Fi and Bluetooth. When dangerous levels are detected, it activates an amplified siren secured with star screws. The system is powered by an AC-DC module and includes a backup battery.

PE-70	NAME(S)	Fernando Whills Camayo Huamanculi / Kevin Jhonatan Camayo Huamanculi
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Automated Rainwater Harvesting Device for Agricultural Irrigation

An innovative device designed to efficiently capture, store, and distribute rainwater in agricultural areas by utilizing natural precipitation. The system features a multi-level rainwater collection mechanism, where the water is filtered in the deepest central part of the device to remove impurities before use. Automation is achieved through soil moisture sensors strategically located at the “T” connections of each water valve, enabling the controlled distribution of water according to crop needs. The device aims to optimize water usage in agriculture, reduce dependency on external sources, and enhance sustainability by operating with renewable energy, specifically solar power.

PE-71	NAME(S)	Jezzy James, Huaman Rojas / Roger Fernando, Asto Bonifacio
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		SISTEMA ROBÓTICO ASISTIVO PARA LA INTERACCIÓN Y MONITOREO DE SEGURIDAD EN NIÑOS CON TRASTORNO DEL ESPECTRO AUTISTA

This invention integrates a friendly cat-shaped assistive robot with a smart wristband to enhance social interaction and provide continuous safety monitoring for children with Autism Spectrum Disorder (ASD). An ESP32 controller fuses RGB-depth vision, infrared proximity and galvanic skin response biosignals to detect stress and environmental hazards in real time. On-board AI adapts responses, including calming music, multicolour LEDs, expressive animations and educational games, to the child's emotional state. A 3D-printed ABS chassis keeps the device lightweight, while a 12-hour lithium battery and Bluetooth connectivity enable untethered use in classrooms, clinics and homes, fostering inclusive personalised therapy.

PE-72	NAME(S)	Roger Fernando, Asto Bonifacio
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		DISPOSITIVO AUTÓNOMO PARA LA REGENERACIÓN DE TEJIDOS MEDIANTE BIOESTIMULACIÓN ADAPTATIVA

This autonomous device accelerates tissue regeneration through adaptive bio-stimulation. A flexible medical-grade silicone cuff integrates biocompatible electrodes with piezorresistive pressure, non-contact temperature and skin-conductance sensors that continuously track the lesion's physiological state. An on-board ESP32 microcontroller executes artificial-intelligence algorithms to adjust electrical and mechanical stimuli in real time, delivering personalised therapy while preventing under- or over-stimulation. An inertial-measurement unit compensates for patient movement, and a Li-Po battery plus wireless ESP32 link enable untethered use and remote monitoring. The ergonomic strap ensures secure placement on various body regions, providing a non-invasive solution for clinical and home settings.

PE-73	NAME(S)	Jezzy James, Huaman Rojas / Roger Fernando, Asto Bonifacio
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		SISTEMA AUTÓNOMO HÍBRIDO DE GENERACIÓN DE ENERGÍA SOLAR, EÓLICA E HIDRÁULICA PARA LA ALIMENTACIÓN DE SISTEMAS IOT EN ZONAS RURALES

This autonomous hybrid system integrates solar, wind and hydraulic energy sources to provide continuous power in off-grid rural areas. It includes a photovoltaic panel on an adjustable frame, an Archimedes wind turbine with speed multiplier, and a micro-hydraulic unit fed by rainwater. A hybrid MPPT controller manages and stores energy in lithium batteries, ensuring uninterrupted power through a UPS-enabled charge-discharge circuit. The system feeds IoT devices for agricultural, environmental and infrastructure monitoring. Modular and scalable, it operates independently and adapts to various climatic conditions, offering a robust and sustainable solution for remote energy needs.

PE-74	NAME(S)	Jezzy James, Huaman Rojas / Roger Fernando, Asto Bonifacio
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		ROBOT MÓVIL AUTÓNOMO PARA LA APLICACIÓN DE PESTICIDAS CON VISIÓN ARTIFICIAL Y BRAZO PARALELO EN AGRICULTURA DE PRECISIÓN

This autonomous agricultural robot optimises pesticide application by integrating artificial vision, a high-precision parallel arm, and solar energy. It detects affected areas in real time using RGB and thermal cameras processed by AI algorithms. A parallel arm with servomotors applies pesticides precisely to targeted zones, reducing chemical use and environmental impact. The robot navigates autonomously over rough terrain using all-terrain traction wheels and adjustable suspension. A solar panel with MPPT controller ensures energy autonomy for extended operation. Designed for rural environments, this system offers a sustainable solution for precision agriculture with minimal human intervention and maximised treatment efficiency.

PE-75	NAME(S)	Sario Angel, Chamorro Quijano / Roger Fernando, Asto Bonifacio
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		MÁQUINA MEDIDORA DE PH PARA TOMATES MEDIANTE ACCIONAMIENTO ELECTROMECÁNICO Y VISIÓN ARTIFICIAL

This machine performs non-destructive pH and temperature measurement of tomatoes using electromechanical actuation and artificial vision. The system identifies and positions the fruit through a camera and stepper motor, while a stainless-steel sensor coupled to a linear actuator measures internal parameters. An ESP32 microcontroller coordinates the motion and data acquisition, ensuring precise alignment and real-time readings. Designed for producers and agro-industrial centers, it improves process efficiency and standardizes quality control. Unlike manual methods, this solution reduces human error and supports the rapid classification of large batches of tomatoes based on objective physiological data.

PE-76	NAME(S)	Sario Angel, Chamorro Quijano / Roger Fernando, Asto Bonifacio
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		DISPOSITIVO RECOLECTOR CASERO DE AGUA DE LLUVIA MEDIANTE DESPLIEGUE AUTOMÁTICO

This invention proposes a home-based rainwater harvesting device equipped with an automatic deployment mechanism. Designed for domestic use, it unfolds autonomously during rainfall and retracts when not in use, optimizing water collection without human intervention. Its compact structure, ease of installation, and integration with smart control systems make it an affordable and sustainable solution for water conservation in urban and rural households.

PE-77	NAME(S)	Franklin Rodolfo, Rojas Ortiz
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Transparent Piezoelectric Device for Wireless Charging of Cell Phones

The transparent piezoelectric device allows mobile phones to be recharged wirelessly, converting mechanical energy into electricity using zinc oxide (ZnO). This energy flows through copper conductors to an electromagnet inside an ultra-thin housing, which integrates a current rectifier, a 5V voltage converter, and a 300mAh, 3.7V battery. The accumulated energy is transferred via a Qi module, eliminating cables. A manual switch allows power generation to be activated or deactivated. This aesthetic and functional design boosts the phone's autonomy with a renewable source, seamlessly integrating with the device.

PE-78	NAME(S)	Fernando Whills Camayo Huamanculi / Kevin Jhonatan Camayo Huamanculi
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Detachable Multi-Support Device for the Shaft of a Unidirectional Hydrokinetic Turbine

The Detachable Multi-Support Device for the Shaft of a Unidirectional Hydrokinetic Turbine is an innovative solution for generating clean energy continuously, efficiently, and with minimal maintenance in rivers and water currents. Its main feature is a detachable bearing that allows for quick installation and removal of the turbine, reducing maintenance time and simplifying field operations. The Archimedes screw-type turbine, equipped with four helical blades, is housed within a water collection chamber that channels the water flow efficiently while protecting the turbine from sediments and debris, ensuring stable performance. A transmission shaft connects the turbine to a 90° gear, which redirects the rotation toward a power generator that converts mechanical energy into electricity. This modular and adaptive design not only enhances hydrokinetic energy capture but also enables deployment in remote areas, contributing to environmental sustainability and decentralized energy development.

PE-79	NAME(S)	Josmell Baruc Cabrera Loayza
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		PROCEDURE FOR THE PRODUCTION OF MULTIVITAMIN GUMMIES WITH HIGH IRON CONTENT BASED ON WHEAT SPROUT EXTRACT FOR THE PREVENTION OF ANEMIA IN VULNERABLE POPULATIONS

This invention presents a standardized procedure for producing multivitamin gummies with high iron content from wheatgrass extract, aimed at preventing anemia in vulnerable groups. Falling under food biotechnology and nutrition, the project addresses the challenge of wheatgrass's unappealing taste and preparation difficulties, despite its known health benefits. Wheatgrass is rich in iron, chlorophyll, vitamins, and minerals, making it a valuable therapeutic alternative for improving blood health and hemoglobin levels. The 15-stage process covers everything from wheat acquisition and disinfection to extraction, pasteurization, flavoring, gelation, molding, refrigeration, and packaging, making this nutrient-rich supplement accessible and palatable.

PE-80	NAME(S)	Jershon Jorge, Machuca Barzola / Kevin Jhonatan, Camayo Huamanculi
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Automated Azimuthal Solar Tracking Device for Floating Solar Panels in Aquatic Environments

The device is designed to maximize solar energy capture through automatic sun tracking along the azimuth axis, allowing the panels to remain optimally oriented throughout the day. Installed on water surfaces such as lakes or reservoirs, it takes advantage of underutilized areas without occupying agricultural or urban land. Its floating structure includes supports, motors, rotation mechanisms, and high-precision sensors that ensure efficient and autonomous solar tracking. In addition to significantly increasing energy generation, this device helps preserve natural water resources by reducing evaporation and preventing water overheating. An intelligent solution that combines technology, sustainability, and energy efficiency.

PE-81	NAME(S)	Fernando Whills Camayo Huamanculi / Kevin Jhonatan Camayo Huamanculi
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Clamping Device with 120º Rotation for Floating Solar Panels in Aquatic Environments

An innovative device designed to efficiently capture, store, and distribute rainwater in agricultural areas by utilizing natural precipitation. The system features a multi-level rainwater collection mechanism, where the water is filtered in the deepest central part of the device to remove impurities before use. Automation is achieved through soil moisture sensors strategically located at the “T” connections of each water valve, enabling the controlled distribution of water according to crop needs. The device aims to optimize water usage in agriculture, reduce dependency on external sources, and enhance sustainability by operating with renewable energy, specifically solar power.

PE-82	NAME(S)	Jershon Jorge Machuca Barzola / Kevin Jhonatan Camayo Huamanculi
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Automated Rainwater Harvesting Device for Agricultural Irrigation

The invention consists of a modular and multifunctional device that integrates structural support, solar energy capture, and groundwater extraction into a single unit. Its design features adaptable legs connected by a central piece, which secures a hooked leg to a base that holds and protects the water pump. The solar panels are mounted directly on the legs, allowing energy collection without rotating mechanisms and optimizing space. Additionally, the system includes detachable support to facilitate pump maintenance, and a hydraulic conduit that enables the water to be transported to higher levels.

PE-83	NAME(S)	Jershon Jorge, Machuca Barzola / Kevin Jhonatan Camayo Huamanculi
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Lifting and Lowering Device for Hydrogen Supply Tank for Maintenance

The research proposes a lifting and lowering device for hydrogen tanks that enhances operational safety and efficiency during maintenance tasks. It features a stable base, a mobile structural support, and a bearing system controlled by motors and a control panel. The design aims to optimize ease of operation and automate vertical movement, thereby contributing to safer hydrogen storage management.

PE-84	NAME(S)	Albert Jorddy, Valenzuela Inga / Liz Analy, Tapahuasco Zuñiga
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		METHOD FOR PRODUCING CLAY TILES WITH TANNERY WASTE AS A REINFORCING ADDITIVE

This invention transforms highly polluting waste into a high-value solution: clay tiles reinforced with leather tanning residues. The process involves controlled thermal treatment up to 1150 °C and an optimized mix of clay, albite, and chamotte. The result is tiles with high mechanical strength, no water infiltration, and resistance to freeze–thaw cycles. Beyond being a product, it is a sustainable and low-cost response to environmental and structural demands. Designed for roofing in harsh climates, this circular and scalable innovation supports waste valorization in construction and offers an efficient alternative to conventional materials in the transition toward green infrastructure.

PE-85	NAME(S)	Albert Jorddy, Valenzuela Inga
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Procedure for producing sustainable, self-repairing concrete

We propose a sustainable and self-healing concrete, developed by incorporating Bacillus bacteria encapsulated in expanded perlite. The system enables autonomous crack sealing up to 0.30 mm through calcium carbonate precipitation, enhancing structural durability. The concrete achieves compressive strength greater than 320 kg/cm² and integrates an eco-efficient mix design with optimized water-cement ratio and reduced cement content, minimizing CO_2 emissions. This innovation transforms concrete into a regenerative material with enhanced mechanical and environmental performance. It contributes to long-term infrastructure resilience and aligns with the United Nations Sustainable Development Goals (SDGs) in engineering for sustainable development.

PE-86	NAME(S)	Romel Moises, Olivera Perez
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		AUTOMATED MODULAR HOUSING FOR EMERGENCIES IN NATURAL DISASTERS USING A SYSTEM OF HYDRAULIC CYLINDERS AND AN ELECTRONIC CONTROL

The installation of temporary housing after natural disasters requires rapid and effective solutions. This research proposes a modular system with four key components. The first is an electrical control system with hydraulic cylinders and a biometric sensor to deploy the shelter, including an emergency fail-safe. The second, a winch-based retraction system, facilitates panel movement using a motor and steel rope. The third uses hydraulic cylinders to precisely expand or contract the structure. Finally, the roof incorporates pulleys and grooved wheels that guide the rope with minimal friction, ensuring efficiency and reliability in emergencies.

PE-87	NAME(S)	Albert Jorddy, Valenzuela Inga / Nabilt Jill, Moggiano Aburto / Heydi Karina, Hinostroza Maraví
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		**An automated cart that can detect leaks in residential pipes using geophones and obstacle sensors.**
Automated cart designed to detect leaks in household water pipes with high precision, without the need to break walls or damage structures. It incorporates sensitive geophones, obstacle sensors, and an autonomous navigation system that enables efficient and non-invasive scanning of floors and walls. Its compact structure and intuitive operation reduce time, costs, and risks for the operator. Ideal for water services, urban maintenance, and social housing. It improves preventive control of water losses and promotes the responsible use of water resources. Contributes to SDGs 6, 9, and 11, strengthening the development of more sustainable, resilient, and smart cities.		

PE-88	NAME(S)	Sario Angel, Chamorro Quijano / Roger Fernando, Asto Bonifacio
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		**ROBOT PARA LA REHABILITACIÓN FÍSICA DE ADULTOS MAYORES MEDIANTE REALIDAD VIRTUAL**
This invention presents a robotic system designed for the physical rehabilitation of elderly individuals through immersive virtual reality environments. The robot includes a seat, sensors, a real-time feedback system with camera and gyroscope, and a virtual reality headset to guide and motivate users. It allows users to perform physical exercises while monitoring and correcting posture. This integrated system enhances engagement, safety, and rehabilitation effectiveness both at home and in clinical settings.		

PE-89	NAME(S)	Diego Ricardo, Cajachagua Guerreros / Jhon Rodrigo, Ortiz Zacarias / Roberth Leonel, Fernandez Alcocer / Carlos Alberto, Coaquira Rojo
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		**POWER GENERATION SYSTEM IN ELEVATED TANKS USING PELTON TURBINES WITH AUTOMATED CONTROL AND MONITORED WITH HMI**
Innovative energy generation system using Pelton turbines in elevated tanks, with automated control and HMI supervision. It uses ultrasonic sensors, centrifugal pump, and solenoid valve to manage water flow. Generates clean 220V electricity by harnessing water's potential energy. Modular and safe design enables deployment in rural or infrastructure-limited areas. Enhances water efficiency and supports energy sustainability.		

PE-90	NAME(S)	Diego Ricardo, Cajachagua Guerreros / Jhon Rodrigo, Ortiz Zacarias / Roberth Leonel, Fernandez Alcocer / Carlos Alberto, Coaquira Rojo
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		**RAINWATER HARVESTING STRUCTURE WITH ENERGY GENERATION AND WATER REUSE THROUGH SENSORS AND AUTOMATED CONTROL**
Innovative rainwater harvesting structure integrating solar panels, turbine generator, and automated control with sensors. Captures rainwater through an inverted-cone roof, channels it for reuse, and generates energy simultaneously. Managed by a microcontroller, it regulates flow via solenoid valve and monitors levels with sensors. Ensures autonomous, sustainable operation. Promotes efficient use of natural resources in both rural and urban settings.		

PE-91	NAME(S)	Diego Ricardo, Cajachagua Guerreros / Jhon Rodrigo, Ortiz Zacarias / Sliver Ivan, Del Carpio Ramirez / Carlos Alberto, Coaquira Rojo
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		**AUTOMATED MACHINE FOR COFFEE HUSK PEELING AND BEAN GRADING WITH ARTIFICIAL VISION AND RECIRCULATION SYSTEM**
This invention introduces an automated coffee husk peeling and grain classification machine. It integrates artificial vision, PLC control, and a recirculation system to optimize post-harvest coffee processing. The system detects partially hulled grains and reprocesses them automatically, enhancing efficiency and quality. Featuring a 2-DOF robot, HMI interface, and automated sorting, it minimizes human labor and operational errors.		

PE-92	NAME(S)	Diego Ricardo, Cajachagua Guerreros / Alem, Huayta Uribe / Helder Alexis, Mayta Leon / Sthuar Jimmy, Nuñez Ovalle
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		**MULTIFUNCTIONAL TOOL WITH INTERCHANGEABLE HEADS FOR TAPPING APPLICATIONS BY MEANS OF A THREADED COUPLING SYSTEM**
This invention presents a multifunctional striking tool with interchangeable heads connected via a threaded coupling system. A single ergonomic handle supports various specialized heads, such as combo, rubber, welder's chisel, mechanical, and carpenter heads. It reduces tool volume and improves transport, safety, and task efficiency. Ideal for construction, maintenance, and workshops.		

PE-93	NAME(S)	Abel Baresi, Landeo Barreto / Jorge Martín, Vega Rosales
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		SHOE WASHING DEVICE USING PRESSURE TURBINES, CLEANING ROLLERS AND A VENTILATION DRYING SYSTEM
This invention is an automated sneaker washing device that integrates pressure turbines, rotating cleaning rollers, and a ventilation-based drying system. It performs deep yet gentle cleaning using pressurized water and soft bristle rollers, followed by uniform drying with warm or cool air. Users can select different washing cycles via a control panel, depending on shoe material and dirt level. Its compact, modular design makes it suitable for home use and efficient in water and energy consumption. The device provides a complete, user-friendly solution for maintaining shoes clean, extending their lifespan and offering professional results at home.		

PE-94	NAME(S)	Diego Ricardo, Cajachagua Guerreros / Jhon Rodrigo, Ortiz Zacarias / Sliver Ivan, Del Carpio Ramirez / Carlos Alberto, Coaquira Rojo
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		UNDERWATER ROBOT FOR THE TREATMENT OF POLLUTED WATER IN SEPTIC TANKS
This invention presents an autonomous underwater robot designed for treating contaminated water in septic tanks. It integrates suction, filtration, and disinfection (UV light and chlorine) into a compact system that operates in confined aquatic environments. The robot enhances water purification efficiency while minimizing human exposure to health risks. Its modular design ensures mobility, remote monitoring, and environmental sustainability.		

PE-95	NAME(S)	Diego Ricardo, Cajachagua Guerreros / Jhon Rodrigo, Ortiz Zacarias / Sliver Ivan, Del Carpio Ramirez / Carlos Alberto, Coaquira Rojo
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		AUTOMATIC COFFEE BEANS DRYING MACHINE WITH HMI CONTROL, ARTIFICIAL VISION AND HEAT TRANSFER SYSTEM
This invention is an automatic coffee bean dryer integrating HMI control, artificial vision, and a heat transfer system. It ensures optimal drying through real-time temperature and humidity monitoring. The machine reduces human error, improves coffee quality, and minimizes energy waste. Designed for efficiency and scalability, it supports sustainable coffee production.		

PE-96	NAME(S)	Diego Ricardo, Cajachagua Guerreros / Alem, Huayta Uribe / Helder Alexis, Mayta Leon / Sthuar Jimmy, Nuñez Ovalle
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		AUTOMATED POTATO CHUÑO PROCESSING MECHANISM USING HEATING, FREEZING AND LEACHING STAGES WITH INTEGRATED PROCESS CONTROL
This invention presents an automated mechanism for processing chuño (freeze-dried potatoes) through heating, freezing, and leaching stages. It replicates traditional methods with greater efficiency and precision using modern components such as a gear motor, improved turbine, and automated lifting system. The system enhances product quality, reduces manual labor, and ensures sustainability through efficient energy use.		

PE-97	NAME(S)	Sliver Ivan, Del Carpio Ramirez / Carlos Alberto, Coaquira Rojo
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		AUTOMATED EXCAVATOR MACHINE FOR FIGHTING FOREST FIRES BY DOUBLE RAKE AND GPS MONITORING
This invention describes an automated excavator designed to assist in forest firefighting. It features front and rear rakes to clear and level terrain for firebreaks, GPS for remote tracking, solar-powered lighting, and obstacle sensors. It transports essential tools for firefighters, reducing their exposure and improving response effectiveness in remote or hazardous zones.		

PE-98	NAME(S)	Abel Baresi, Landeo Barreto
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		FOOD PREPARATION PROCEDURE USING AUTOMATIC COOKING DEVICE WITH INGREDIENT RELOADING SYSTEM
This invention is an automatic cooking device designed to prepare meals through a programmed ingredient dispensing and cooking system. It features multiple compartments for storing ingredients, which are released in sequence based on a predefined recipe. The device controls cooking time and temperature autonomously, using sensors to ensure precision and safety. Users can start the process with minimal input and receive a notification when the meal is ready. This invention promotes convenience, consistency, and efficiency in home cooking, making healthy food preparation more accessible and less time-consuming.		

PE-99	NAME(S)	Abel Baresi, Landeo Barreto / Luis Angel, Fabian Aliaga
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		WIRELESS CHARGING TECHNOLOGY AT MEDIUM DISTANCE FOR MOBILE AND PORTABLE DEVICES
This invention introduces a wireless charging system capable of transmitting energy at medium distances without physical contact. Using a combination of electromagnetic resonance and signal alignment, the device powers smartphones, tablets, and other portable electronics within a defined radius. It eliminates the need for charging cables or close contact with a charging base. Designed to integrate into homes, offices, and public spaces, this system offers a convenient, efficient, and scalable solution for powering multiple devices simultaneously, enhancing user mobility and supporting the evolution of truly wireless environments.		

PE-100	NAME(S)	DE LA CRUZ CASAÑO Rafael / CÁRDENAS CALIXTO Jeyson Antonio / CALDERON TOVAR Carlos Martin / CALLUPE SEGURA Ángel Joaquin / PAUCAR HUAMÁN Isaac Isaias
ORGANIZATION		UNIVERSIDAD CONTINENTAL S.A.C.
TITLE OF ENTRY		Vertical axis wind turbine with double curved blades
Vertical axis wind turbine with double-curved blades to improve efficiency and reduce noise by allowing the wind to be directed towards the top, bottom, and sides, respectively, and preventing the creation of vortices. It enables the proper capture of kinetic energy from any direction thanks to the curved lateral ends that orient according to the wind. The blades are attached to the shaft with fasteners that also prevent deformation and eliminate the need for cross-sectional supports at the top and bottom, which would reduce efficiency.		

PE-101	NAME(S)	Deyby Maycol, Huamanchahua Canchanya
ORGANIZATION		UNIVERSIDAD DE INGENIERÍA Y TECNOLOGÍA
TITLE OF ENTRY		Automatic, portable, and modular n DoF upper limb exoskeleton for patients in physical recovery from muscle weakness caused by COVID-19.
A portable upper-limb exoskeleton with *n* degrees of freedom (n DoF), designed for patients undergoing post-COVID-19 rehabilitation. The device features external rigid plates shaped like links, connected by joints that allow movement in multiple directions. Flexible guides are positioned over the plates, through which data cables run, connecting sensors distributed along the arm to an embedded system located on the back. This system, controlled by a microcontroller, manages data acquisition and processing. The rigid plates can be made from materials such as acrylic, MDF, metal, cardboard, or engineering plastics.		

PE-102	NAME(S)	Silvia Patricia, Ponce Álvarez / Abel Aurelio, Gutarra Espinoza
ORGANIZATION		UNIVERSIDAD DE LIMA
TITLE OF ENTRY		Biodegradable and antibacterial plastic made from Bolaina wood waste
The biodegradable and antimicrobial plastic obtained from Bolaina tree logging waste has good mechanical strength, flexibility, and oxygen permeability, demonstrating the quality of this material. Microbiological tests also showed that it has an antimicrobial effect on E. coli contamination, which would allow it to be used in the food industry to extend the shelf life of packaged foods. This plastic, being of plant origin, offers a great advantage over traditional plastics, as it can degrade naturally when exposed to the environment. Furthermore, its manufacture adds value to Bolaina tree waste, which could also be scaled up to other forest waste.		

PE-103	NAME(S)	Jenny Rosalyn, Huerta León / Mario Christian, Aguirre Gihua / Marleny Flor, Capcha Siccha / Higor Marlon, De La Cruz Sotomayor / Jhonnel Williams, Samaniego Joaquin
ORGANIZATION		UNIVERSIDAD MARÍA AUXILIADORA S.A.C.
TITLE OF ENTRY		Modular Essential Oil Extractor by Steam Distillation with Optimized Baskets and Recirculating Cooling System
The invention consists of a portable modular steam distiller for extracting essential oils from plant material. It features a dual extraction chamber with stackable perforated trays, a stainless steel steam generator, and a spiral condenser with a recirculating cooling system. The modular design allows increased efficiency, parallel sample processing, and easy cleaning. This equipment improves essential oil yield while maintaining cleanliness, safety, and compatibility with laboratory settings.		

PE-104	NAME(S)	Pedro Córdova Mendoza / Luisa Antonia Pacheco Villa García / Isabel Natividad Urure Velazco / Isis Cristel Córdova Barrios / Teresa Oriele Barrios Mendoza / Jhohans Mikhail Ochante Alejos / Angelita Magdalena Martínez Contreras / Zulema Inocencia Gutiérrez Lazo De La Vega / Cecilia Teresa Ventura Miranda / Carmen Elvia Mejía Lengua / Karen Leticia Llerena Ururi / Pedro Luis Berrocal Pacheco / Myriam Arias Patiño / Eddie Loyola Gonzáles / Josefa Bertha Pari Olarte / Donato Efraín Ambia Pereyra / José Francisco Kong Chirinos / Dante Fermín Calderón Huamaní / Máximo Isaac Sevillano Díaz
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		SMART ANTI-BEDSORE THERAPEUTICAL CUSHION WITH AUTONOMOUS VIBRATOR AND PORTABLE SOLAR BATTERY
The invention is a therapeutic anti-bedsore smart cushion with an autonomous vibrator and portable solar battery, designed to prevent pressure ulcers in immobilized patients. Made with biodegradable and hypoallergenic materials, it integrates air chambers that redistribute pressure, a low-frequency vibration system that stimulates circulation, and generates energy using piezoelectric and kinetic technology. It has a dual power supply (solar and mains electricity), with automatic control that adjusts vibration and pressure according to the user's posture, improving comfort and health. It is suitable for beds and wheelchairs, optimizing the quality of life of critically ill patients.		

PE-105	NAME(S)	Josefa Bertha Pari Olarte / Eddie Loyola Gonzales / José Francisco Kong Chirinos / Donato Efraín Ambia Pereyra / María Emilia Dávalos Almeyda / Freddy Emilio Tataje Napuri / Javier Hernán Chávez Espinoza / Rita Lucy Valenzuela Herrera De Matta / Cristina Esther Uribe Rosas / Angelita Magdalena Martínez Contreras / Patricia Cecilia Castillo Romero / Pedro Córdova Mendoza / Teresa Oriele Barrios Mendoza / Jhohans Mikhail Ochante Alejos / Isis Cristel Córdova Barrios / Jorge Edinson Poma Deza / Juan Felipe Panay Centeno / Máximo Isaac Sevillano Díaz
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		SMART MODULAR PILLBOX WITH MEDICATION PRESERVATION BELOW 25 DEGREES
The smart modular pillbox preserves medications below 25 °C and 60% humidity, preventing degradation. It runs on solar power with a rechargeable Type-C battery. A thermostat and fan regulate temperature, monitored through an app. It features 21 compartments (23x18.2x9 cm) and sensors for temperature and humidity. Its design ensures continuous and safe preservation of medications.		

PE-106	NAME(S)	Janet Natalia Mendoza Rejas / Amelia Rosa Mendoza Rejas / Héctor William Carlos Cruces / Miguel Ángel Tataje Arango / Belinda Marleni Navarro Guerra / Nelly Rosario Aquije Muñoz / José Ernesto Rojas Campos / Carlos Bruno Odar Aquije
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		CONTENEDOR DE BASURA DE CUATRO RUEDAS CON SENSOR INTELIGENTE PARA LA GESTIÓN EFICIENTE DE RESIDUOS CON PANEL SOLAR Y TERMOSTATO PARA MANTENER LA BASURA A UNA TEMPERATURA BAJA
A smart waste bin with four wheels, equipped with a solar panel, thermostat, and intelligent sensors to optimize waste management. It maintains low internal temperature to prevent odor and rapid decomposition. Real-time monitoring of fill level, humidity, temperature, and gas emissions improves collection efficiency. The system includes RFID, image recognition, and wireless communication with mobile devices for enhanced control. Made of high-density polyethylene, the 1000-liter container ensures durability, hygiene, and sustainability, contributing to environmental protection and energy efficiency through green innovation.		

PE-107	NAME(S)	CARMEN NAVARRO DE BERNAOLA / ROGER NAVARRO MENDOZA / JUAN TEODORO BERNAOLA RAMOS / ULDARICO CANCHARÍ VASQUEZ / MIRANDA HUAMAN DAVID MAXIMO / ERICKA JANET VILLAMARES HERNÁNDEZ / YRMA ROSA GODOY PEREYRA / FERNANDO ALBERTO EUGENIO GUERRERO SALAZAR / ESTHER JESÚS VILCA PERALES / ARTURO FABIÁN GODOY PEREYRA
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		Children’s Jacket with Smart Hood and Anti-Stress Sensors
The following invention is developed within the technical field of child wellness and health, targeting children between the ages of 6 and 11. It is a children's jacket with a smart hood designed to relieve emotional and physical stress in children. The hooded jacket is equipped with sensors and a smart microchip that displays details of the child's health status through an application, which also provides support suggestions including specialized centers and recommended websites.		

PE-108	**NAME(S)**	**Roger Navarro Mendoza / Sergio Arturo Rojas Chacaltana / David Maximo Miranda Huaman / Ana Cecilia Alvarez Arbulú / Kreeny Mónica Palomino Rivera / Noelia Meliza Hernandez Aparcana / Fenia Maitee Palacios Guillen / Diana Fiorella Flores Rojas / Juan Jesús Daniel Bernaola Navarro / Lisbeth Nathaly Vilca Misarayme / Maritza Elizabeth Arones Mayuri / Máximo Isaac Sevillano Díaz**
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		**MULTIFUNCTIONAL DIGITAL RULER WITH LED LIGHT, BUILT-IN LASER, SHARPENER, CALCULATOR AND PENCIL HOLDER.**
The following is a technical field of measuring and drawing tools, specifically designed to facilitate precision in construction, design, or carpentry projects. The multifunctional digital ruler is a useful tool that combines several functions, such as a built-in laser for precise alignments, an LED light for improved visibility, a pencil sharpener, and a calculator to facilitate mathematical operations. It also includes a pencil holder, making it ideal for drawing and calculation tasks.		

PE-109	**NAME(S)**	**Roger Navarro Mendoza / Sergio Arturo Rojas Chacaltana / David Maximo Miranda Huaman / Ana Cecilia Alvarez Arbulú / Kreeny Mónica Palomino Rivera / Noelia Meliza Hernandez Aparcana / Fenia Maitee Palacios Guillen / Diana Fiorella Flores Rojas / Juan Jesús Daniel Bernaola Navarro / Lisbeth Nathaly Vilca Misarayme / Maritza Elizabeth Arones Mayuri / Angelita Magdalena Martinez Contreras**
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		**Smart home made of cedar, designed with an automatic dog spray system, equipped with an integrated solar panel that helps combat fleas and ticks.**
The following invention is developed in the technical field of animal care technology and pet shelter design. The smart house, made of cedar, is designed with an automatic dog spray system and equipped with an integrated solar panel that helps combat fleas and ticks. This invention combines construction elements, solar technology, and natural biocides for parasite control and flea and tick elimination. It features a monitoring system that allows pet owners to check their pets' temperature, humidity, and activity in real time through a mobile app. This type of home is not only a refuge for pets but also contributes to their health and happiness, allowing them to enjoy a safe and comfortable environment..		

PE-110	**NAME(S)**	**Teresa Oriele Barrios Mendoza / Pedro Córdova Mendoza / Dante Fermín Calderón Huamaní / Máximo Isaac Sevillano Díaz / Rosalio Cusi Palomino / Jorge Luis Valcárcel Corzo / Isis Cristel Córdova Barrios / Isabel Natividad Urure Velazco / Luisa Antonia Pacheco Villa García / Cecilia Teresa Ventura Miranda / Luis Alberto Massa Palacios / Zulema Inocencia Gutiérrez Lazo De La Vega / Carmen Elvia Mejía Lengua / Karen Leticia Llerena Ururi / Angelita Magdalena Martínez Contreras / Myriam Arias Patiño / Ramiro Zuzunaga Morales / Félix Ricardo Belli Carhuayo / Luis Alberto Peña Quijandría / Luis Andrés Franco Quispe / Manuel Antonio Puemape Guía / Eufemio Noa Chávez / Jhohans Mikhail Ochante Alejos / Pedro Luis Berrocal Pacheco / Emily Zuzunaga Concha**
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		**ASYMMETRIC SOLAR DISTILLER WITH ARTIFICIAL INTELLIGENCE FOR SEAWATER DESALINATION WITH SOLAR PANEL**
The invention is an asymmetric solar still with artificial intelligence for seawater desalination, optimizing evaporation and condensation through a geometric design that tracks the sun's path. It incorporates sensors and actuators connected to an intelligent Arduino controller, automatically adjusting angles and orientation for maximum solar capture. This improves energy efficiency, reduces contaminants, and produces purified water, even in areas lacking infrastructure. Its smart system analyzes environmental data to forecast production and maintenance, offering a sustainable solution to obtain potable water from saline or polluted sources while reducing costs and environmental emissions.		

PE-111	**NAME(S)**	**Janet Natalia Mendoza Rejas / Marina Kelibe Oré Choque / Giuliana Edith Soto Loza / Belinda Marleni Navarro Guerra / Amelia Rosa Mendoza Rejas / Nelly Rosario Aquije Muñoz / José Ernesto Rojas Campos / Edwin Martin Cordero Tataje / Edwin César Delgado Asto / Carlos Bruno Odar Aquije / Luis Alberto Pecho Tataje / Carolina Socorro Román Estrada / Amanda García Aquije**
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		**Smart Solar Anti-Stress Cane Designed For People With Disabilities, Visual Impairments, Or Alzheimer's Disease**
Created to improve the lives of individuals who are physically disabled, visually impaired, or suffer from Alzheimer's, this device addresses problems related to orientation, getting lost, stress, and lack of autonomy. It operates using sensors that detect obstacles and cortisol levels (stress), and it integrates GPS, a voice assistant, and a daily route projector. It is powered by solar energy or a Type-C charger and can be controlled via a mobile phone. Aimed at people with physical or cognitive disabilities, it differs from other canes by providing emotional support, safety, and connectivity in a functional, durable, and portable device.		

PE-112	NAME(S)	Esther Jesús Vilca Perales / Ericka Janet Villamares Hernández / Fernando Alberto Eugenio Guerrero Salazar / Arturo Fabián Godoy Pereyra / Uldarico Cancharí Vasquez / Flor Angélica Lavanda Reyes / Yrma Rosa Godoy Pereyra / Carmen Navarro De Bernaola / Fernando José Guerrero Godoy / Juan Teodoro Bernaola Ramos / Roger Navarro Mendoza / Angelita Magdalena Martinez Contreras
ORGANIZATION		UNIVERSIDAD NACIONAL "SAN LUIS GONZAGA
TITLE OF ENTRY		**Smart Digital Pen with Infrared Thermometer and Spelling & Grammar Corrector**
This invention is developed within the technical fields of health and orthography. Specifically, it refers to a pen with a digital thermometer that monitors the vital signs of the user, and a spelling corrector that assists in writing correctly.		

PE-113	NAME(S)	Lawrence Enrique Quipuzco Ushñahua
ORGANIZATION		UNIVERSIDAD NACIONAL AGRARIA LA MOLINA
TITLE OF ENTRY		**Compost–digester for organic waste**
The *compost-digester* is equipment for the treatment of domestic or agricultural organic waste generated in houses dedicated to family farming for the production of compost, biogas and organic fertilizer. The *compost-digester* combines two technologies, composter and biodigester, in a single portable device to treat organic waste of solid, semi-solid and liquid consistency. The cover of the composter with transparent polycarbonate sheets and the composting process, when temperatures between 45° and 60°C are reached, allow optimal temperature conditions to be maintained for the growth of methanogenic bacteria in the biodigester.		

PE-114	NAME(S)	José Carlos Alvarez Merino / Carlos Raymundo Ibañez
ORGANIZATION		UNIVERSIDAD PERUANA DE CIENCIAS APLICADAS S.A.C.
TITLE OF ENTRY		**Device and Method for Evaluating Prostate Function Through Urinary Flow in an Intelligent Urinal**
The invention consists of a system for evaluating prostate function through graphical imaging of the urine stream in a urinal, where a proximity sensor activates both a lateral camera and an axial camera that record the characteristics of the urine stream, which are, in turn, indicative of the prostate's condition. The activation time of both cameras is controlled by a timer. The images captured and generated by both the lateral and axial cameras are transduced and processed by a microprocessor, and subsequently displayed on a screen.		

PE-115	NAME(S)	Paredes Bautista Diego Eloy / Bulnes Garcia Kevin
ORGANIZATION		UNIVERSIDAD PERUANA DE CIENCIAS APLICADAS S.A.C.
TITLE OF ENTRY		**UN SISTEMA AUTOMATICO DE DECANTACIÓN DE BIODIESEL PARA LA OPTIMIZACIÓN DEL TIEMPO DE SEPARACIÓN DE GLICERINA MEDIANTE ELECTROCOAGULACIÓN**
Este trabajo presenta el diseño y la implementación de un sistema automático de decantación de biodiesel mediante electrocoagulación. Se construyó un equipo con un **tanque de fibra de vidrio**, un sistema de agitación, sensores y un transformador de alta tensión para generar el campo eléctrico necesario. Las pruebas demostraron una separación eficiente de fases, reduciendo los tiempos de decantación en un 40% respecto a métodos tradicionales. Esto confirma la viabilidad técnica del sistema propuesto para procesos industriales de biodiesel.		

PE-116	NAME(S)	Tony Steven, Chuquizuta Trigoso / Thony, Arce Saavedra / Narda Jesús, Chappa Abad / Cesar David Samaniego Rafaele / Wilson Manuel Castro Silupu
ORGANIZATION		UNIVERSIDAD NACIONAL AUTÓNOMA DE CHOTA
TITLE OF ENTRY		**A HEATING AND CLEAN COMBUSTION DEVICE**
This is a heating and clean combustion device characterised by the incorporation of a convection heat transfer chamber in the form of a heating tunnel with fins inside. This increases the inlet air temperature and helps to generate an air-conditioned environment in rural area dormitories. It has an adjustable inlet chamber for fuel and air, which guarantees continuous use. Additionally, it features a coal and ash management system that prevents blockages. The base includes levellers to facilitate installation on any surface.		

PE-117	NAME(S)	Tony Steven, Chuquizuta Trigoso / Hersila, Huancas Vasquez / Miguel Ángel, Cataño Sánchez / Ilse Silvia, Cayo Colca / Wilson Manuel Castro Silupu
ORGANIZATION		UNIVERSIDAD NACIONAL AUTÓNOMA DE CHOTA
TITLE OF ENTRY		**ELECTRIC GUINEA PIG STUNNER**
The electric guinea pig stunner aims to address the issue of stunning by contusion in guinea pigs, thereby reducing stress and potentially enhancing the quality of the carcass. The system comprises an electrical circuit that converts the 220 V power supply into 110 V discharges, with application times ranging from 6 to 12 seconds. The voltage control system uses a transformer, while the timing system uses a relay-based circuit. The discharge is carried out in a stunning tunnel designed for one guinea pig at a time. Copper electrodes arranged on both sides of the stunning tunnel allow rapid electrical transfer.		

PE-118	NAME(S)	Tony Steven, Chuquizuta Trigoso / Hubert Luzdemio, Artega Miñano / Alicia Elizabeth, Medina Hoyos / Yajaira Marianela, Gavidia Pérez
ORGANIZATION		UNIVERSIDAD NACIONAL AUTÓNOMA DE CHOTA
TITLE OF ENTRY		A SELF-CONTAINED MAGNETIC BIOSTIMULATOR FOR SEED GERMINATION
An autonomous magnetic biostimulator improves seed germination using a static magnetic field to optimise parameters such as germination percentage, emergence speed, and vigour indexes. The device comprises magnets, a structural support, a plate, threaded rods, washers and nuts. These elements can be stacked to form containment modules that can be adjusted to control the magnetic flux density and polarity. Thanks to the use of permanent magnets, it operates without external power, making it environmentally friendly, efficient, and easy to assemble and disassemble.		

PE-119	NAME(S)	Duany Davila Honorio / Leydi Mendoza Urriburu / Derick Kenny Pérez Villanueva / Jose Luis Valverde Calero / Abrahams Moises Cabrera Montalvo
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		OUTDOOR WIND ADVERTISING PANEL
An innovative outdoor advertising display featuring a telescopic vertical column with internal linear actuator for height adjustment. The system includes a rotating metallic frame with dual-sided contiguous screens, powered by a vertical wind generator mounted around the column. A sealed housing within the frame protects the battery bank and electronic controller. The frame rotates via a bearing assembly and gear motor system. Integrated sensor-controlled luminaires provide illumination. This self-sustaining design combines renewable wind energy with adjustable height and rotating display capabilities for enhanced advertising visibility.		

PE-120	NAME(S)	Pablo Rodríguez Ruiz / Jenny Caroline Muñoz Saenz / Andrea Manuela Camac Ramos / Johan Edgar Ruiz Espinoza / Henry Francisco Aguado Taquire
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		SOLAR PUBLIC FURNITURE WITH AUTOMATIC SPRINKLER CLEANING SYSTEM
A solar public furniture unit that integrates a table with two benches forming a single body, supported by four columns that hold up a sloped roof. The central columns have a height 1.03-1.07 times greater than the end columns. It includes an automatic cleaning system with a gutter at the roof edge, a motor pump that drives water from a tank to discharge pipes on both roof surfaces, distributed sprinklers, LED lights on the lower surface, an electrical outlet next to the battery, and a filter in the supply pipe. This innovative design combines seating functionality, lighting, and self-cleaning through solar energy.		

PE-121	NAME(S)	Yina Milagro Ninahuanca Zavala / Wilinton Sánchez Flores / Anayeli Guadalupe Meza Cruz / Carlos Gerardo Flores Espinoza / Nataly Lucia Cordova Zorrilla
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		EQUIPMENT FOR THE CORRECTION AND ADDITION OF STIRRUPS
Motorized equipment for stirrup correction and addition comprising: cylindrical handle with neck ending in fixed C-shaped clamp, adjacent mobile clamp with same shape, axial motor connected to neck for axial rotation, transverse motor for mobile clamp movement, holes at fixed clamp ends, internal battery powering both motors, integrated buttons as control switches, and embedded charging port connected to battery for system recharging.		

PE-122	NAME(S)	Carlos Enrique Quispe Eulogio / Juan Carlos Solano Ayala / Mario Maximo Ore Robles / Pilar Doris Ledesma Mascaró / Edith Ancco Gomez
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		AUTONOMOUS EQUIPMENT FOR ENVIRONMENTAL WATER DISTILLATION
Autonomous equipment for environmental water distillation comprising: parallelepiped cabinet with two front access doors, upper semicylindrical tunnel with fans at ends, mesh tray collecting condensed water from fog-catching meshes, interior boiler with electric resistances at base, collector container for distilled water, level sensor in boiler, solenoid valve in supply pipeline, control unit with microcontroller associated to Bluetooth module and integrated battery, photovoltaic panel covering exterior of semicylindrical tunnel.		

PE-123	NAME(S)	**Milka Gloria Godiño Poma / Nielsen Kaimer Torres Rosales / Allison Daniela Apari Roman / Sandro Enrique Ruiz Bustamante / Jorge Franklin Garcia Cuba**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**SMART THERMOS WITH WATER PURIFICATION SYSTEM**
Innovative device that combines thermal thermos with integrated purification system. Features stainless steel casing with internal concentric cylindrical container. Includes activated carbon filter connected to upper nozzle, electric resistances for heating between walls, induction charging coil at base and external digital display. Unique feature: photovoltaic panel mounted on rotating frame via bearing, allowing optimal solar capture. Self-sustaining system that purifies, heats and maintains water temperature through renewable energy, ideal for portable outdoor use and applications requiring hot purified water.		

PE-124	NAME(S)	**Karina Rosario Olivera Bordaes / Maricielo Lucia Lazaro Mayta / Frank Caleb Mercado Granados / Carmen Lily Winchez Aylas / Jhomel Juvencio Huaman Molina**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**FULL COVERAGE SUNSHADE WITH INTERCOM AND ENERGY AUTONOMY**
Innovative device with vertical pole supporting radial solar panels in raincoat style. Features transparent roll-up curtains at edges, central microphone and speaker, microcontroller with GPRS/GPS modules, rechargeable battery, upper transmission antenna and integrated flashlight. Combines solar protection, wireless communication, geolocation, and autonomous lighting through photovoltaic energy. Ideal for outdoor activities, emergencies and remote communication with complete energy independence.		

PE-125	NAME(S)	**Pierre Chipana Loayza / Oscar Lucio Ninamango Solis / Skaidrite Del Rocio Landeo Bancovich / Angie Nicole Veliz Guzman / Heidi Viviana Cordova Calero**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**ECOLOGICAL GENERATOR FOR URBAN LIGHTING AND IRRIGATION**
Multifunctional urban system that integrates LED lighting and automated irrigation through solar energy. Comprises a hollow vertical column with two arms supporting LED luminaires with twilight sensors. Includes underground water reservoir, motor pump to drive water towards perimeter sprinklers, radial fog nets with conical collector for atmospheric water collection, disc-shaped photovoltaic panel that feeds integrated battery, and control unit with microcontroller managing both motor pump and luminaires. Provides sustainable solutions for public lighting and urban green space irrigation with complete energy autonomy.		

PE-126	NAME(S)	**Lizet Doriela Mantari Mincami / Edward Eddie Bustinza Zuasnabar / Hilario Romero Giron / Diego Estéfano Parodi Tardio / Albert Landa Landa Rosario**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**INTELLIGENT OFFSIDE DETECTION SYSTEM FOR SOCCER**
Intelligent offside detection system for soccer that combines LED advertising screens with automated tracking technology. Incorporates horizontal rails with mobile carts equipped with cameras, presence sensors, and drive wheels for dynamic displacement. Powered by photovoltaic panels integrated in casings and backup batteries. Includes twilight sensor for automatic LED screen brightness adjustment. Multifunctional solution that monetizes sports spaces through advertising while providing advanced automated refereeing technology to improve accuracy in offside decisions during soccer matches.		

PE-127	NAME(S)	**Jose Francisco Via Y Rada Vittes / Katherin Pilar Godiño Barzola / Dafne Alexa Sanchez Peña / Tatiana Cristina Rosario Rivera / Yanira Marianela Mendez Acosta**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**ECOLOGICAL SPHERE FOR THE GENERATION OF DRINKING WATER FOR ROAD DIVIDERS**
Ecological sphere generating drinking water for road dividers is composed of upper and lower glass hemispheres joined by neoprene gasket and screws. Four pillars support the assembly and hold a suspended interior bowl with a diameter of 0.8-0.9 times that of the hemispheres. Includes vertical axis with fog nets above the upper hemisphere, Fresnel lens below the lower one, built-in taps in pillars and battery bank under the lens. Autonomous system that generates drinking water through condensation and atmospheric humidity capture.		

PE-128	NAME(S)	Wilhelm Vladimir Guerra Condor / Angela Jessica Aragón Pizarro / Sandy Vanessa Huaman Rodriguez / Rosario Lavado Palma / Yuliana Angeles Chamorro Guillen
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		AUTONOMOUS BIOMETRIC AND ANTHROPOMETRIC CONTROL CABINET
The autonomous biometric and anthropometric control cabin is a mobile parallelepiped structure with a wheeled base, three transparent panels, a translucent door, and photovoltaic roof. It integrates electronic scale, glucometer, stadiometer and autorefractometer connected to a microprocessor with memory and Bluetooth communication. It includes UV-C lamps for vertical disinfection in panel corners and internal battery bank powered by roof solar panel, providing complete energy autonomy for automated biometric and anthropometric measurements with wireless connectivity and integrated sterilization capabilities.		

PE-129	NAME(S)	Mohamed Mehdi Hadi Mohamed / Jefrin Marlon Silva Murillo / David Ramos Piñas / Leonardo Favio Piñas Huamani / Francisco Cyl Godiño Poma
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		MULTI-ANGLE MANUAL PRESS FOR PIPE AND PROFILE CLAMPING
A multi-angular manual press for fixing tubes and profiles comprising a main base with fixed anvil and a secondary base with mobile anvil, joined by horizontal articulation that allows graduated rotation viewable in sexagesimal degrees through a knob. The threaded spindles incorporate servomotors at their ends and the system is powered by a rechargeable battery integrated in the main base, providing angular precision and automation in the clamping process.		

PE-130	NAME(S)	Amelia Celinda Chumpen Elera / Dayana Rita Rios Romero / Gabriel Elias Cardenas Arroyo / Alejandro Ovidio Ochoa Aliaga / Alex Albert Zuñiga Manrique
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		SLID ON OUTLET DEVICE
The invention describes a sliding electrical outlet device with an elongated main box that includes sliding rails for a mobile individual box. This contains a telescopic seat with an electrical coupling slot on its lateral face, perpendicular to the wall. The innovation allows the outlet to slide horizontally along the wall while the seat extends/retracts telescopically. When retracting the seat, the electrical slot remains hidden and protected from the environment, providing enhanced safety and functionality by integrating bidirectional mobility with environmental protection in a single device.		

PE-131	NAME(S)	Jesus Cesar Sandoval Trigos / Christian Romulo Barja Huayta / Diana Pariona Amaya / Jhoan Billy Yanasupo Roca / Carlos Alberto Ichpas Huaman
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		FOAM CLEANING PACKAGING WITH LID WITH BRISTLES AND VENTILATION DEVICE
The present invention refers to a foam cleaner container of the type that has multiple bristles on an upper and outer part of a lid of said cleaner container, where the lower zone of the cleaner container has a chamber separated from the dosing fluid, where said separated chamber has a ventilation device. The main technical contribution of the proposed invention is that it allows integrating a fan in a foam cleaner device of the type that has a lid with bristles, in such a way that the drying process of the foam on the cleaned surface can be accelerated.		

PE-132	NAME(S)	Fredi Gutierrez Martinez / Fredi Paul Gutierrez Meza / Rafael Wilfredo Rojas Bujaico / Leticia Katerin Gamarra Avila / Betfor Perez Acevedo
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		DESKTOP MONITOR STAND WITH ORGANIZER FRAME
The present invention relates to a desktop monitor stand with organizer frame that provides a first structure with pivoting arms that controls the position of a monitor, likewise, provides a writing platform and adhesive note support through the platform that extends and protrudes from the monitor, and allows the arrangement of documents or papers beside the monitor through a second structure of pivoting arms.		

PE-133	NAME(S)	Linda Flor Villa Ricapa / Karol Lisset Quispe Gutierrez / Edith Gavidia Gamboa / Jenny Miriam Camarena Hilario / André Guerrero Villanueva
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		A BALCONY LIFTABLE PLANT POT CONTAINMENT DEVICE FOR BALCONY POTS
The present invention relates to a plant pot containment device for balcony that comprises a mesh container suitable for containing a pot, a mesh lid shaped like a second container to protect the plant and at the same time serve as a receptacle for arranging the harvested fruits of the plant, at least one winch mechanism coupled in the lateral zone of the container and connected with the pot to be able to raise and lower it according to the user's needs on the balcony.		

PE-134	NAME(S)	**Lizet Doriela Mantari Mincami / Edith Mariela Quispe Sanabria / Julio Cesar Pizarro Avellaneda / Yesser Soriano Quispe / Hilario Romero Giron**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**INTERACTIVE EDUCATIONAL CYLINDER FOR MATHEMATICAL OPERATIONS WITH RESULTS VALIDATION**
The present invention is an interactive educational device for learning mathematical operations, which combines mechanical and electronic elements. It consists of a cylinder with rotating rings that allow the user to form operations. Sensors detect the position of the rings, and a microcontroller verifies if the operation is correct, providing immediate feedback through lights and sounds. The device is portable thanks to a rechargeable battery, features adjustable difficulty levels, and Bluetooth connection options for progress tracking. This tool promotes practical and autonomous learning in various educational environments.		

PE-135	NAME(S)	**Lizet Doriela Mantari Mincami / Edith Mariela Quispe Sanabria / Lisette Paola Campos Carpena / Yesser Soriano Quispe / Hilario Romero Giron**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**INTELLIGENT GLOVES FOR LEARNING BRAILLE AND SIGN LANGUAGE**
The present invention refers to a smart glove designed to facilitate learning of the braille system and sign language, specially directed toward people with visual and/or hearing disabilities. The device integrates technologies such as motion sensors, capacitive sensors, vibration motors, wireless connectivity, audio output, and LED visualization, enabling an interactive and multisensory learning experience. Thanks to its portable and ergonomic design, the glove allows real-time detection of manual gestures, provides tactile feedback through vibratory patterns and translates signs to text or voice, promoting educational inclusion and communication accessibility.		

PE-136	NAME(S)	**Lizet Doriela Mantari Mincami / Edith Mariela Quispe Sanabria / Isaac Wilmer Montero Yaranga / Jonh Alexander Taquio Yangali / Eucaris Del Carmen Agüero Corzo**
ORGANIZATION		UNIVERSIDAD PERUANA LOS ANDES
TITLE OF ENTRY		**MULTISENSORY EDUCATIONAL TABLE FOR CHILDREN WITH SPECIAL NEEDS**
The invention is a multisensory educational table designed for children with special needs that integrates tactile, haptic, visual and auditory stimuli to create an inclusive and adaptive learning experience. It includes a touch panel with pressure sensors, vibration motors, LED lighting, sound modules with voice recognition, Bluetooth/Wi-Fi connectivity, and proximity, infrared and motion sensors that detect user interaction and adjust system responses in real time. Its ergonomic, compact and portable design with rechargeable battery allows its use in various educational and therapeutic environments.		

PE-137	NAME(S)	**Marisol Edith, Zelarayan Adauto / Mario Jaime Andía / María Carmela, Rodríguez San Miguel / Gamaniel Domingo, Gonzales Salvador / Richard Miller, Armas Castañeda / Florencio Flores Ccanto / Isabel Menacho Vargas**
ORGANIZATION		UNIVERSIDAD NACIONAL DE EDUCACIÓN ENRIQUE GUZMÁN Y VALLE
TITLE OF ENTRY		**Smart Trigonometric Ruler with Angle Measurement and Automatic Calculation of Mathematical Functions**
This invention addresses the limited functionality of traditional rulers by integrating a physical tool equipped with digital sensors that enable accurate angle measurement, shape recognition, and automatic calculation of trigonometric functions. Through its digital screen, command panel, auditory feedback, and Bluetooth connectivity, it facilitates interactive real-time math learning. It is intended for use by students, teachers, and professionals in fields such as education, engineering, architecture, and technical design. The device fosters the development of spatial and logical-mathematical skills through a tangible, dynamic, and intuitive experience, adaptable to in-person or hybrid educational settings.		

PE-138	NAME(S)	**MORALES ROMERO, GUILLERMO PASTOR / CALLA VÁSQUEZ, KRISS MELODY / TRINIDAD LOLI, NICÉFORO LADISLAO / CASIMIRO URCOS, CONSUELO NORA / Shiguay Guizado, Giomar Arturo / Vilcapoma Lara, Narcio Felimon / FLORES CCANTO, FLORENCIO / QUISPE ANDIA, ADRIAN / Menacho Vargas, Isabel**
ORGANIZATION		UNIVERSIDAD NACIONAL DE EDUCACIÓN ENRIQUE GUZMÁN Y VALLE
TITLE OF ENTRY		**Ergonomic Educational Furniture for Teaching Reading and Writing with Graph Projection**
This ergonomic educational furniture is designed to enhance reading and writing instruction at the primary level by integrating postural and technological solutions into a single system. It features telescopic legs, an electronically tiltable tabletop, an adjustable stool, a mobile projector, a ring-type LED lamp, and an integrated camera. It also includes an electronic controller with a battery, USB port, physical buttons, and wireless connectivity. It projects graphs and instructional content directly onto the desk surface, adapting to students' height and handedness. It improves posture, reduces visual fatigue, and fosters interactive, inclusive, and multisensory learning within the modern classroom.		

PE-139	NAME(S)	**MORALES ROMERO, GUILLERMO PASTOR / CALLA VÁSQUEZ, KRISS MELODY / TRINIDAD LOLI, NICÉFORO LADISLAO / CASIMIRO URCOS, CONSUELO NORA / Shiguay Guizado, Giomar Arturo / Vilcapoma Lara, Narcio Felimon / FLORES CCANTO, FLORENCIO / QUISPE ANDIA, ADRIAN / Menacho Vargas, Isabel**
ORGANIZATION		UNIVERSIDAD NACIONAL DE EDUCACIÓN ENRIQUE GUZMÁN Y VALLE
TITLE OF ENTRY		**Inclusive Multifunctional Math Ball for Interactive and Therapeutic Learning of Mathematical Concepts**
The Inclusive Multifunctional Math Ball is an educational and therapeutic device that facilitates the learning of mathematical concepts through tactile, visual, and auditory interaction. It features backlit buttons, a digital screen, motion and touch sensors, a sound system, Bluetooth connectivity, and a rechargeable battery. Ergonomically designed, it supports individual, competitive, and random use modes, adapting to various ages and abilities. It is especially beneficial for individuals with autism, attention deficit, or intellectual disabilities. Merging education and sensory stimulation, it promotes inclusive, motivating, and autonomous learning in regular classrooms and specialized therapeutic settings.		

PE-140	NAME(S)	**Isulina Luzmila Roque Rivera / Hellen Felicia Blancas Amaya / Guillermina Norberta Hinojo Jacinto / Isabel Menacho Vargas / Magda Marianella Tazzo Tomas / Zara Graciela Pablo Ricra / Janeth Gisella, Sanchez Berrospi**
ORGANIZATION		UNIVERSIDAD NACIONAL DE EDUCACIÓN ENRIQUE GUZMÁN Y VALLE
TITLE OF ENTRY		**Drawing Table for Children with Energy Generator**
The smart Drawing Table for Children with Energy Generator is equipped with automated telescopic legs, an electronically tiltable tabletop, an LED lamp with automatic activation, and a piezoelectric generator integrated into the footrest. Its ergonomic and multifunctional design encourages healthy posture, energy autonomy, and creative experience without the need for electrical connection. By transforming children's movements into clean energy, it offers a sustainable and innovative solution for school and home settings. Its compact and technological structure positions it as an advanced tool in the field of school supplies, integrating design, functionality, health, and ecological awareness from early childhood.		

PE-141	NAME(S)	**Hellen Felicia Blancas Amaya / Isulina Luzmila Roque Rivera / Guillermina Norberta Hinojo Jacinto / Isabel Menacho Vargas / Magda Marianella Tazzo Tomas / Zara Graciela Pablo Ricra**
ORGANIZATION		UNIVERSIDAD NACIONAL DE EDUCACIÓN ENRIQUE GUZMÁN Y VALLE
TITLE OF ENTRY		**Three-compartment Pencil Case Kit with Tracing Features**
This invention presents an innovative school pencil case consisting of three foldable compartments and equipped with two tracing systems: a digital one using a mobile phone screen with an adjustable reflective base, and a physical one through a vertical holder and transparent sheet. It allows easy image tracing on paper, enhancing artistic and visual skills. It includes organized cavities for school supplies, paper holders, and a portable ergonomic design. Ideal for school-age children, it promotes creativity, motor coordination, and visual expression. Its functional structure makes it a versatile and intuitive educational tool for artistic learning.		

PE-142	NAME(S)	**Magda Marianella Tazzo Tomas / Isulina Luzmila Roque Rivera / Guillermina Norberta Hinojo Jacinto / Isabel Menacho Vargas / Hellen Felicia Blancas Amaya / Zara Graciela Pablo Ricra**
ORGANIZATION		UNIVERSIDAD NACIONAL DE EDUCACIÓN ENRIQUE GUZMÁN Y VALLE
TITLE OF ENTRY		**Clothing for Students with Anxiety**
This smart wearable is designed to support physiological regulation of anxiety in students. It features sensors that monitor heart rate and respiration, automatically triggering a pneumatic compression system that mimics the calming effect of a hug. The garment includes a touchscreen, rechargeable battery, and solar panel. Its ergonomic, non-invasive design allows continuous use in school or therapeutic environments. It promotes emotional self-regulation, reduces anxiety crises, enhances academic performance, and decreases reliance on anxiolytics. It represents an innovative mental health solution for school settings through portable and autonomous technology.		

PE-143	NAME(S)	**JHON HAROL GONZÁLES GARAY**
ORGANIZATION		UNIVERSIDAD PERUANA UNIÓN
TITLE OF ENTRY		**Caja hexagonal desmontable y vertical para la crianza de Abejas**
La presente invención se refiere a una caja hexagonal desmontable y vertical para la crianza de abejas del tipo que presenta en un extremo una base con una piquera por donde ingresan las abejas, un agujero de ventilación protegido con una malla mosquitero y en el extremo opuesto una tapa con un agujero de exudación cubierto por un mosquitero por donde se disipa la humedad y los malos olores caracterizada porque comprende un nido de fundación, al menos un melario, un sobre nido de cría, unas láminas protectoras que permiten visualizar al interior de la colmena y unas láminas divisorias.		

PE-144	NAME(S)	Vanesa Amparo Ayala Mariaca / Daniela Ayala Mariaca
ORGANIZATION		UNIVERSIDAD PERUANA UNIÓN
TITLE OF ENTRY		MODULAR COAT RACK WITH FASTENERS FOR THE ORGANIZATION OF CLOTHING AND ACCESSORIES

The present invention relates to a modular coat rack with fasteners for the organization of clothing and accessories, comprising a telescopic bar on which at least one hanger is detachably hung, with internal dividers, at least one bidirectional hook, at least one multiform hanger; and anchor heads attached, respectively, to each hanger, bidirectional hook, and multiform hanger to allow them to hang from the telescopic bar. The invention helps organize different types of clothing and accessories. It guarantees a balanced distribution of the garment's weight, prevents the garment from deforming or wrinkling, and optimizes space.

PE-145	NAME(S)	Vanesa Amparo Ayala Mariaca / Joseph Mathias Reyes Saccsa / Hector Joel Ojeda Huanca
ORGANIZATION		UNIVERSIDAD PERUANA UNIÓN
TITLE OF ENTRY		MODULAR MULTI-ASSEMBLY STORAGE BAR

The present invention relates to a multi-assembly modular bar for storage, which permits lateral and vertical connection without tools. It incorporates rail-type hooks that can be inserted into side openings for perpendicular connection between modules, and a system of guides with protrusions and cavities for precise vertical coupling. It includes strategic magnets that reinforce stability, anti-slip strips and sections covered with transparent sheets for visibility of contents. The system is complemented by right-angle vertical supports and wing plates, allowing for internal configurations. Its components are dimensionable, standing out for their versatility, ease of installation and organizational efficiency.

PE-146	NAME(S)	Vanesa Amparo, Ayala Mariaca / Joseph Mathias, Reyes Saccsa / Andres Ruiz Souza
ORGANIZATION		UNIVERSIDAD PERUANA UNIÓN
TITLE OF ENTRY		MULTIFUNCTIONAL DISASSEMBLED SHELF

A multifunctional disassembled shelf, of a type comprising flat supports, characterized in that the shelf also comprises of: vertical frames comprising of a plurality of upper slots into which the flat supports are inserted; and a perforated plate comprising of a plurality of holes and inserted into lower slots; and connecting rods connecting the vertical frames by means of holes.

PE-147	NAME(S)	Wilson Manuel Castro Silupú / Jorge Carlos Mogollón Rojas / Matthew's Daniel Juárez Rojas / Luis Alberto Nuñez Alejos / Jhony Alberto Gonzales Malca
ORGANIZATION		UNIVERSIDAD NACIONAL DE FRONTERA
TITLE OF ENTRY		DISPOSITIVO PARA EL ANÁLISIS DE SUSTANCIAS EN POLVO MEDIANTE ESPECTRÓMETRO

The invention relates to a device for analyzing powdered substances using electromagnetic wave spectroscopy. It includes a spectrometer sensor that moves along a single axis and a rotating sample holder, allowing sampling from multiple points on the plane. The sensor moves linearly through a linear motion system. This configuration enables a more complete and representative analysis by eliminating blind spots common in traditional devices. The device collects samples from different coordinates on the sample holder base, enhancing the accuracy in characterizing the analyzed substances and improving overall measurement reliability in spectroscopic evaluations of powdered materials.

PE-148	NAME(S)	Estrellita Mayra, Calle Berrú / Lesly Carolina, Flores Mendoza / Manuel Jesús, Sánchez Chero
ORGANIZATION		UNIVERSIDAD NACIONAL DE FRONTERA
TITLE OF ENTRY		OSMOTIC DEHYDRATOR WITH BEARINGS AND CONCENTRATION SENSOR

The invention is an osmotic dehydrator equipped with bearings and a concentration sensor. It consists of a cylindrical tank with a heating system comprising a thermostat and a switch. The recirculation system consists of stopcocks, silicone hoses, and two water pumps. The concentration sensor is used with a basket that allows it to float isolated from the fruit. The control system, consisting of an emergency stop, two LEDs for turning the system on and off, two switch selectors, the tablet holder, and the pump power LEDs, is assembled in the control box. All of the above components are attached to a metal structure with clamps to immobilize the tank and bearings for mobility.

PE-149	NAME(S)	Alberto Claudio Miano Pastor
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Floating Device for Laboratory-scale Studies of Refractance Window Drying

A sample holder has been created for the study of drying by refractance window at laboratory scale. The main problem with these studies is that the samples can sink or get wet, negatively affecting the drying process and the study. This container facilitates the study of this process by allowing a sample of constant thickness to float in the water of the equipment without getting wet. Additionally, this container enables weight measurements of the sample throughout the process for drying kinetics studies and to determine drying times. The container is reusable and easy to produce, even using 3D printing.

PE-150	NAME(S)	Meliza Lindsay, Rojas Silva / David Angel, Asmat Campos
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Bioplastics functionalized with silver, zinc oxide, and silica nanoparticles

This invention presents a method for obtaining bioplastics functionalized with silver, zinc oxide, and silica nanoparticles. These nanoparticles were synthesized biogenically (green synthesis) using agro-industrial residues from asparagus and blueberries. Functionalization with nanoparticles aimed to enhance the physical, mechanical, and barrier properties of the bioplastics, making them suitable for packaging fresh berries. The innovation supports the circular economy of agro-industries by utilizing agricultural byproducts while improving packaging performance. Results show that the bioplastics developed exhibit excellent characteristics, contributing to sustainable food packaging solutions.

PE-151	NAME(S)	David Angel Asmat Campos / Meliza Lindsay Rojas Silva
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Método para la síntesis biogénica de nanopartículas de Sílice. Method for the biogenic synthesis of silica nanoparticles.

A sustainable, cost-effective, and environmentally friendly method is presented for the biogenic synthesis of silica nanoparticles (SiO_2 NPs) using bioactive compounds extracted from Asparagus officinalis agro-industrial waste. Unlike conventional approaches that extract silica NPs directly from plant material -offering poor control over size, morphology, and reproducibility- this method builds nanoparticles from precursors, a significantly more complex challenge. Ultrasound-assisted extraction enhances the bioactivity of reducing agents, allowing controlled and reproducible synthesis. The process stands out for its simplicity, low energy input, and valorization of organic waste, aligning with green nanotechnology and circular economy principles.

PE-152	NAME(S)	Jazmín Sabrina, Jiménez Gutiérrez / Miriam Vanesa, Pablo Mori / Fiorella Celeste, Ramos Dueñas / Núñez Del Prado, Alarcón Robert / López Lucana, Fredy Reynaldo
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Multifunctional school desk with drop-down table, adjustable magnetic whiteboard, integrated storage and inclusive accessibility.

The present invention, a multifunctional school desk, includes a sliding folding table with an adjustable magnetic whiteboard, installed on a fixed table with compartments that function as a shelf. The folding table incorporates an oval cutout for ease of use by children in wheelchairs and a single pencil holder at one end. In addition, the desk features a perforated plate attached to the lower sides of the fixed table, which functions as a footrest and storage space for educational materials. It is an inclusive, functional, and adaptable design for the school environment.

PE-153	NAME(S)	Nathaly Naomi Tarazona Mallqui
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Rescue leash with quick release, pressure control and articulated mechanism for pet restraint.

The present invention proposes an innovative device designed to intervene in fights between dogs, allowing them to be separated safely, quickly and without risk for the owner. The system releases the dog from the end of the leash and allows to hold the aggressor at a distance by means of a rigid structure and a mechanism of controlled adjustment. Its design seeks to avoid direct contact with animals, reducing possible bites or injuries during the incident.

PE-154	NAME(S)	Nathaly Naomi, Tarazona Mallqui / Gustavo Antonio, Camacho Córdova / José Guillermo, Rojas Paredes / Rudy Gianfranco, Gutierrez Diaz
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Container with closed system for hygienic mixing of liquids on street sale

Ming Push is a stainless steel container, designed for mixing drinks in public sale environments. Incorporates a syringe-type mechanism that allows to suck and expel liquids efficiently without exposing the contents to the environment, reducing the risk of cross contamination. Its snap-on lid, ergonomic grip and grate nozzle facilitate the handling and separation of solid waste. The cylindrical base prevents build-up of debris and improves cleaning. This invention represents a reusable alternative to disposable utensils, reducing the use of plastics and improving safety in beverage preparation.

PE-155	NAME(S)	Luis Antonio, Flores Chacayan / Michael David, Garay Sanchez / Miguel Alfredo, Lévano Stella / Katherine Susan, Llanos Chacaltana
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Electronic auxiliary handle for drills with a measurement system for depth, height, and tilt angle parameters during drilling
An electronic auxiliary handle for drills features a measurement module that tracks depth, height, and inclination. It determines the drill's angle, distance to the wall, and height from the floor, transmitting data to a display system. An emergency module detects faults and risks, notifying the user while storing measurement data. This enhances precision, safety, and operational efficiency.		

PE-156	NAME(S)	Patricia Daniela, Garrido Inga / Luis Antonio, Flores Chacayan / Michael David, Garay Sanchez / Yoshimi Shinji, De la Fuente Nolasco / Lennin Patrik, Chavez Balvino
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Adaptive wristband-shaped mouse for computer navigation by users with upper limb amputation
An adaptive wristband mouse enables computer navigation for users with upper limb amputations. It features an adjustable wristband with a control unit, rechargeable battery, accelerometer for movement detection, wireless connectivity, and programmable buttons that emulate a conventional mouse. This ergonomic and versatile device enhances accessibility and usability across multiple platforms, improving the computer experience for individuals with amputations.		

PE-157	NAME(S)	Michael David, Garay Sanchez / Luis Antonio, Flores Chacayan
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Autonomous device for detecting leaks in water tanks with wireless alert and real-time recording
This invention introduces a compact, smart device for detecting water leaks in storage tanks. It monitors unintended water flow using a built-in flow sensor and alerts users through sound and wireless notification. The system also quantifies water loss and displays its estimated cost in local currency on an screen. Powered by rechargeable batteries and designed for easy installation, the device enables timely response to prevent waste. Its integration of monitoring, alerting, and cost calculation offers a practical solution to improve water conservation and efficiency in residential settings.		

PE-158	NAME(S)	Luis Antonio, Flores Chacayan / Michael David, Garay Sanchez / Jose Hernan, Gomez Padilla / Gustavo, Paz Purizaca
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Pothole detection and environment mapping system with pollution alerts for vehicles
This invention is a smart vehicle device that detects potholes, speed bumps, and environmental pollution in real time. Using a combination of sensors, GPS, and motion detection, it maps dangerous areas and sends alerts to drivers. All data is transmitted wirelessly to a central database for analysis and public reporting. The system operates autonomously and is designed for easy installation. It improves road safety, facilitates monitoring of urban infrastructure, and fosters awareness of environmental conditions, making it a practical solution for both private users and urban planners.		

PE-159	NAME(S)	Sandra Victoria Jade, Reyes Quispe / Luis Antonio, Flores Chacayan / Michael David, Garay Sanchez / Brandon Cesar, Pilco Sanchez
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Autonomous robotic system for dynamic urban waste management with detection and temporary container function in high-demand areas
An autonomous robotic system designed to support dynamic urban waste management. Equipped with a portable waste container and environmental sensors, it offers pedestrians an accessible disposal option in high-traffic areas. The robot navigates autonomously, detects fill levels, and transmits real-time alerts, allowing authorities to optimize waste collection routes. Its rechargeable power system ensures energy autonomy, reducing operational costs and enhancing sustainability in urban environments.		

PE-160	NAME(S)	Michael David, Garay Sanchez / Luis Antonio, Flores Chacayan / Jose Antony, Hurtado Agreda / Cristhian Eduardo, Holguin Barriga / Leandro, Escobar Flores
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		Expandable flotation device with emergency alert and electromagnetic repellent.
A portable flotation device for people in aquatic environments, with an emergency geolocation system and an electromagnetism predator deterrent system. It consists of a flotation module that automatically activates upon detecting immersion, allowing the user to stay afloat without losing balance and transmitting distress signals to the rescue team; a deterrent module that scares away predators without harming them; and a signal that sends a user location signal for rescue.		

PE-161	NAME(S)	Xiomara Atalia, Llanos Janampa / Luis Antonio, Flores Chacayan / Michael David, Garay Sanchez / Leandro Angel, De La Cruz Garcia / Oscar Daniel, Sanchez Bazan
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**Device designed for lint absorption, as well as the measurement and collection of environmental parameters using environmental sensors**
This invention presents an autonomous robotic system designed to monitor air quality, humidity, and temperature in textile companies. It integrates environmental sensors and a mobile mechanism capable of detecting and absorbing textile fibers and dust particles in real time. The system enhances occupational health and safety by reducing airborne contaminants, while also providing continuous data logging for environmental analysis. Its modular design allows for easy integration into existing industrial workflows, offering a sustainable solution to maintain optimal working conditions in textile production environments.		

PE-162	NAME(S)	Adriana Margarita, Turriate Guzman / Ricardo Raul Soto Enciso
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**Portable feeding device for autistic infants or adolescents.**
The product is made of a single piece of non-toxic silicone in the shape of a circle with a hole in the center, resembling a coaster. The top part is narrower than the bottom. Part of the plate's base fits into the narrow top, providing stability through fit. At the other end of the piece, at the bottom, the edges have a suction cup surface, allowing it to adhere to the table and prevent movement; it will require force to remove it. The circular base features a bubble texture on its upper surface, providing a tactile and sensorial experience.		

PE-163	NAME(S)	Ruth Aracelis Manzanares Grados / Kelly Ivanna Curasi Anchayhua
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**Portable hazardous gas detection device in work environments with visual alert**
Portable gas detection device designed to improve occupational safety by detecting flammable, toxic, and poor-quality air gases. It emits a red LED visual alert when critical thresholds are reached. The system integrates real-time monitoring with strategically placed sensors, enabling fast hazard response. Its ergonomic, lightweight design includes adjustable straps and a USB-rechargeable battery, ensuring comfort, autonomy, and adaptability for various industrial environments.		

PE-164	NAME(S)	Ruth Aracelis Manzanares Grados / Kelly Ivanna Curasi Anchayhua
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**Intelligent fish monitoring device for feeding and atypical behavior control**
This advanced system improves conventional fish feeding by integrating a guided movement mechanism and a submersible camera that monitors fish behavior and health in real time. It ensures uniform food distribution to prevent competition, overfeeding, and stress. The system includes software for early detection of disease or aggression, sending alerts to the user for preventive action, optimizing aquatic health and resource efficiency.		

PE-165	NAME(S)	Ruth Aracelis Manzanares Grados / Kelly Ivanna Curasi Anchayhua
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**Process for producing a compostable, fertilizer, semi-waterproof plant pot**
This innovative process creates compostable and semi-waterproof pots from natural materials like coconut fiber, Enterolobium contortisiliquum pods, and Emerita analoga. These pots enrich the soil and promote plant growth, providing key nutrients such as saponins, chitin, and nitrogen. They offer nutritional benefits and retain optimal moisture. Moldable in various designs, their biodegradability and resistance make them a versatile and functional option for both indoor and outdoor transplants, reducing plastic pollution and fostering sustainable gardening.		

PE-166	NAME(S)	Ruth Aracelis Manzanares Grados / Kelly Ivanna Curasi Anchayhua
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**Procedure for the preparation of a compostable urn for the funeral service of pets**
This procedure creates a compostable urn where the coffee eraser provides fertilizer properties, the corn pancake provides resistance and the septas hardness and repellency. The urn not only houses ashes, but can be planted, offering essential nutrients for the growth of a plant. As a compost, it enriches the soil with macronutrients, calcium and magnesium, improves the soil structure and acts as a pest repellent, thanks to its citric aroma and antimicrobial compounds.		

PE-167	NAME(S)	Ruth Aracelis Manzanares Grados / Kelly Ivanna Curasi Anchayhua
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**An organic fertilizer material to produce packaging protectors made from the waste of Robinia pseud acacia L. as a replacement for expanded polystyrene**
When we purchase a packed product, it often has an expanded polystyrene packaging protector that is then disposed of contaminating the environment. The invention relates to an organic fertilizer material that replaces expanded polystyrene when used as packaging protection. It has a low density, so it does not increase the weight of the packages and can then be discarded or also stored for future use in city gardens and departments.		

PE-168	NAME(S)	Ruth Aracelis Manzanares Grados / Kelly Ivanna Curasi Anchayhua
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**A semi-waterproof agricultural padding for low weed growth made from cat hair and polysaccharide E-415**
Mulching is necessary for plants or crops, and mulching of fallen leaves or lawn mowing waste can be done, but these items are difficult to get for individuals or families who live in apartments, so we have invented a mulching material with the remains of cat hair, fibers of celery and an organic binder, creating a flexible material, very easy stored, odorless, does not bring insects, waterproof, which facilitates moisture conservation after watering the plant, saving water and being a fertilizer material.		

PE-169	NAME(S)	Ruth Aracelis Manzanares Grados / Kelly Ivanna Curasi Anchayhua
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**An organic material fertilizer for the elaboration of scrapers for cat by using pineapple shell**
The scrapers are made of cardboard, plant fibers or synthetic materials, which do not favor the environment. This invention proposes a new material for cat scrapers using pineapple peel and other binders in such a way that the scraps that are detached from the scraper can be discarded in the garden or pots to serve as fertilizer material, giving a second use to the remains of the product, taking advantage of all the material, and creating awareness in taking care of our environment giving comfort to our pets.		

PE-170	NAME(S)	Cristina Nayeli, Guzmán Abregú / Kassandra, Montezuma Sobrino / Renzo Alexander, Morales Montes / Jhony Miguel, Sánchez Ramirez / Eduardo Martin, Reyes Rodriguez
ORGANIZATION		UNIVERSIDAD PRIVADA DEL NORTE S.A.C.
TITLE OF ENTRY		**Integrated obstacle detection assistance system with sensory helmet and smart glasses**
The integrated assistance system for the detection of obstacles with sensory jacket and intelligent glasses allows blind people to detect obstacles when moving, thanks to the sensors that are incorporated into the jacket, also has intelligent glasses that detect objects in front and by voice commands will indicate which are the possible objects, allowing the blind person to move more freely and safely.		

PE-171	NAME(S)	Picoy Gonzales, Juan Antonio / Picoy Nolazco, Jhojan Andre / Huarcaya Taype, Rosaura / Palomino Torres, Edgardo / Pacovilca Alejo, Olga Vicentina / Mayhua Mendoza, Paul Herber / Reymundo Soto, Emiliano / Huarac Quispe Yohnny / Sanchez Araujo, Victor Guillermo / Leyva Yataco, Leonardo
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		**Detachable Support Accessory for Fixing Curtain Rods**
A detachable support accessory for curtain rods that allows easy installation with a single wall perforation. It includes variable-diameter holes, a threaded terminal, a detachable coupling, and a cord loop for curtain tieback, enhancing safety, versatility, and wall protection.		

PE-172	NAME(S)	Mulato Huamani, Javier / Leon Gomez, Rodolfo
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		**Hydroponic Tower with Solar Panels and Sunshade**
A hydroponic tower system equipped with solar panels and a sunshade. It operates independently using solar energy to power a micro pump that recirculates a nutrient solution. The sunshade reduces thermal stress, enabling efficient vertical cultivation.		

PE-173	NAME(S)	Castro Illesca, Juan Pablo / Mucha Meza, Enrique Ronald / Roncal Guzmán, Fausta Johanna / Taipe Suárez, José Antonio
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		**Optimized Hydrodynamic Screw System for Converting Kinetic Hydraulic Energy into Electricity**
An optimized hydrodynamic screw system that converts kinetic hydraulic energy into electricity for residential and agro-industrial use. It integrates a screw turbine, control module, solar panels, and battery banks to ensure stable energy distribution regardless of water flow variation.		

PE-174	NAME(S)	De la Cruz Hilario, Hector Luis
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Remote-Controlled Robot with Disinfectant Applicator and Temperature & Proximity Sensors
A mobile robot designed for remote public interaction, integrating a disinfectant applicator, proximity sensors, and infrared temperature measurement. It enhances health safety by allowing remote monitoring and contactless hygiene protocols.		

PE-175	NAME(S)	Zaravia Apacclla, Wilmer / Jurado Perez, Sixto Aurelio / Mayhua Mendoza, Paul Heber / Castrejon Valdez, Manuel
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Adjustable Worktable with Tilting Boards and Integrated Lighting for Fiber Separation
A multipurpose worktable with four independent tilting boards designed for fiber separation. It includes integrated lighting with adjustable arms, control boxes for each board, and ergonomic design features such as edge channels and adjustable tilt angles (0°–45°), improving both comfort and efficiency for group-based manual operations.		

PE-176	NAME(S)	Zaravia Apaccla, Wilmer / Mayhua Mendoza, Paul Herber / Ccanto Chocca, Elmer
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Specialty fiber shaking machine
This invention is a fiber shaking machine designed to separate external contaminants from specialty fibers such as alpaca, vicuña, mohair, and cotton. It includes a removable housing, an aligned input and output tray, a helical rotor with spikes connected to a motor, and a frequency converter to control speed. A mesh screen collects the debris, and an inclined platform channels it to the outside. A control panel with a display shows the rotation speed. This system improves fiber quality, prevents tangling, and facilitates maintenance, protecting the operator's health.		

PE-177	NAME(S)	Meza Ccanto, Anderson / Castañeda Dueñas, Julio Cesar
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Pig Farrowing Cage
This invention relates to a pig farrowing crate designed to improve animal welfare and reduce piglet mortality. It includes adjustable fixed and movable frames to accommodate the sow's space, integrated doors with feeders, side sections for piglets, and a separate feeder with teats. A thermally insulated platform provides comfort for the piglets. The movable frame adapts to the sow's size, reducing stress and improving milk production. Horizontal and angled bars protect piglets from crushing, while all structural parts can be configured according to the needs of the animals and operators. The design also facilitates maintenance and reuse.		

PE-178	NAME(S)	Canchari Fierro, Estefani Deniss / Aliaga Berrocal, Jesus Antonio
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Device with Filter Compartments
This invention relates to a wastewater filtration device featuring three compartments separated by perforated internal walls. Each chamber contains specific filter materials, such as gravel, coarse sand, fine sand, cotton, and activated carbon. Water flows sequentially from one compartment to the next, moving alternately up and down through the filter media to maximize purification. An inlet and outlet guide the water flow, and maintenance hatches facilitate maintenance. This configuration improves filtration efficiency and allows for different combinations of filter materials, making it adaptable to different levels of water contamination in domestic and industrial environments.		

PE-179	NAME(S)	Pecho Taipe, John Cristians / Quinto Contreras, Luciano Ezequiel
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Solar Food Dehydrator with Automatic Temperature Regulation and Efficient Solar Radiation Captur Entry Category: Nature & Green Innovation
This invention presents a solar-powered food dehydrator that automatically regulates temperature and captures solar radiation efficiently. It features an inclined trapezoidal casing to maximize solar energy collection, a translucent polycarbonate cover, and a black anodized aluminum air collector to enhance thermal absorption. Inside, it has a drying chamber, air circulation system, and a PID-controlled temperature regulation mechanism powered by solar panels. A visual display shows real-time temperature status. This eco-friendly system speeds up dehydration and ensures high product quality while remaining off-grid.		

PE-180	NAME(S)	Mulato Huamani, Javier
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Hydroponic Plant Growing Chamber with Lighting System

This invention is a hydroponic plant growing chamber that enables cultivation without soil under controlled environmental conditions. It features a dual-compartment system: the upper section includes LED lights (red, blue, and white) to stimulate photosynthesis and regulate temperature, while the lower section holds a nutrient solution tank with an aerator and a perforated sponge sheet for seed support. The inner walls are lined with mirrors to maximize light reflection. Equipped with ventilation fans, a thermohygrometer, and programmable timers, this chamber improves growth rates, saves energy, and ensures optimal plant health throughout the growing cycle.

PE-181	NAME(S)	Ore Areche, Franklin / Paricanaza Ticona, Danitza Corina / Muñoz Ccencho, Rosmery Verónica
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Process for Obtaining Functional Flour from Freeze-Dried Potato (“Tunta” or “Chuño”) and Opuntia apurimacensis or Berberis flexuosa

This invention presents a process for obtaining functional flour based on freeze-dried potato (“tunta” or “chuño”) enhanced with water-soluble compounds from Opuntia apurimacensis peel or Berberis flexuosa pulp. These native fruits are rich in antioxidants such as betalains, anthocyanins, and polyphenols, which improve the nutritional and functional properties of the final product. The flour is produced by hydrating chuño in bioactive solutions, followed by low-temperature drying, milling, and sieving. The result is a naturally pigmented and antioxidant-rich flour that supports food health benefits and can be used in the preparation of various fortified food products.

PE-182	NAME(S)	Taipe De La Cruz,Jessica / Ventura Roman, Almer
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Process for Extracting Dye from Imillay Root (Hypseocharis bilobata) for Wool Dyeing

This invention describes a process for extracting natural dye from the Hypseocharis bilobata (Imillay) root to dye wool fibers. The method includes cleaning, drying, and crushing the root, followed by heat-assisted extraction and dyeing steps using natural or chemical mordants like alum. The process ensures uniform coloring, colorfastness, and soft texture of the wool, without the use of harmful chemicals. The resulting dyed wool maintains a dark brown shade with long-lasting color and ecofriendly attributes, suitable for textile applications such as clothing and artisan crafts.

PE-183	NAME(S)	Quispe Boza, Noemi Yessica / Chuquilin Goicochea, Roberto Carlos
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Process for Producing Expanded Quinoa with High Digestibility

This invention presents a process for producing expanded quinoa with improved in vitro protein digestibility of 93–96%. The procedure standardizes grain moisture and expansion pressure, avoiding nutritional losses common in traditional high-pressure methods. It includes grain selection, moisture adjustment to 14–16%, and expansion at 140–180 psi. The product is sieved and cooled before packaging. This optimized process maintains protein quality while improving texture and digestibility, offering a functional food alternative with high nutritional value for health-conscious consumers and food manufacturers.

PE-184	NAME(S)	Carhuapoma Delacruz, Victor / Lizana Hilario, Epifanio / Jurado Escobar, Melanio
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Dehydrated Selective Culture Medium for Aspergillus spp

This invention describes a dehydrated selective culture medium designed for rapid and effective growth of Aspergillus spp. within 18–48 hours. It is composed of natural and biodegradable ingredients such as potato, olluco, maize, and lentil flours, and includes selective agents like crystal violet and sodium chloride to inhibit bacterial growth. With a final pH of 7.0 ± 0.2 and average particle size of 2.27 mm, it promotes morphologically typical Aspergillus colonies. It is easy to preserve at room temperature, cost-effective, and offers high selectivity and specificity for fungal cultivation.

PE-185	NAME(S)	Corilla Flores, Denis Dante / Soto Nuñez, Americo / Soto Escobar, Mauricio
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Production Process of Loquat Pulp Compote (Mespilus germanica L.) with Agar Extracted from Cochayuyo (Chondracanthus chamissoi)

This invention presents a food product made from loquat pulp (86–90%) and agar derived from cochayuyo (0.10–0.20%) intended for infant nutrition. The process uses only natural, nutrient-rich ingredients—maize flour, powdered milk, sugar, and a natural gelling agent—to ensure viscosity and sensory quality without chemical preservatives. The agar is extracted through a sustainable method, and the final compote meets food safety and quality standards, offering an effective alternative to conventional infant foods.

PE-186	NAME(S)	Orejon Montalvo, Tania Yesenia / Ticsihua Huaman, Jovencio
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Functional Beverage Based on White Cactus Pear (Opuntia ficus) and Goldenberry (Physalis peruviana) with High Nutritional Value
This invention presents a functional beverage developed from white cactus pear (Opuntia ficus) and goldenberry (Physalis peruviana), aimed at enhancing human health through high antioxidant and phenolic content. The beverage combines 25–27% white cactus pear and 23–25% goldenberry with water, sugar, and CMC. Its production method preserves bioactive compounds through controlled pasteurization, resulting in a product with 783.52 µmol Trolox/100 ml antioxidant capacity and 254.15 mg GAE/100 ml of phenolic content. It helps prevent osteoporosis, cardiovascular, digestive, and mental diseases, meeting NTP standards and being suitable for all consumers.		

PE-187	NAME(S)	Paricanaza Ticona, Danitza Corina / Ore Areche, Franklin / Huaylla Ramirez, Kamiggia Jhonal
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Composition and Process for Preparing an Isotonic Beverage Based on "Tuna Ayrampo" (Opuntia apurimacensis)
This invention presents an isotonic beverage made from the pulp of Opuntia apurimacensis (Tuna Ayrampo), enriched with electrolytes such as sodium, potassium, and magnesium. The beverage is designed to restore hydration and energy after physical activity, providing antioxidants and minerals derived from natural sources. Its formulation ensures optimal pH (2.8–3.5), Brix (4–7°), and osmolarity for effective electrolyte absorption. The product is pasteurized and bottled under controlled conditions to ensure safety & shelf life.		

PE-188	NAME(S)	Picoy Gonzales, Juan Antonio / Cárdenas Pineda, Lina Yubana / Zárate Cáceres, Cesia Rebeca / Ordoñez Ccora,Gabriela / Guerra Olivares, Tula Susana / Enríquez Nateros, Liliana / Ccente Condori, Marleny Elizabeth / Príncipe Sipión, Erick Leif
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Neceser Obstétrico
This is an innovative obstetric kit designed for portability, safety, and efficient storage of tools used by obstetric professionals. It features an ergonomic and modular structure to accommodate various instruments, ensuring rapid deployment during maternal care interventions in both rural/urban environments.		

PE-189	NAME(S)	Picoy Gonzales, Juan Antonio / Guerra Olivares, Tula Susana / Cardenas Pineda, Lina Yubana / Ordoñez Ccora, Gabriela / Mendoza Vilcahuaman, Jenny / Muñoz De La Torre, Rossibel Juana / Leyva Yataco, Leonardo / Zarate Caceres Cesia Rebeca
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA
TITLE OF ENTRY		Maletín Obstétrico
The Obstetric Bag is a portable container designed to store and organize the instruments used by midwifery professionals. Its structure allows for quick access, protection, and hygiene of medical tools, facilitating care in emergency or field scenarios, especially in underserved areas.		

PE-190	NAME(S)	Benites Pariente ,Jhonathan Stivins / Cardenas Pineda, Lina Yubana / Zumaeta Mori, Jhon Dennis / Alva Mantari, Alicia Katherine
ORGANIZATION		UNIVERSIDAD NACIONAL DE HUANCAVELICA / ASOCIACIÓN CIVIL UNIVERSIDAD DE CIENCIAS Y HUMANIDADES
TITLE OF ENTRY		Wireless Portable Device for Detection of Heavy Metals in Blood
This invention presents a portable device for detecting heavy metals in human blood, specifically lead, cadmium, arsenic, mercury, and molybdenum. It consists of a protective casing, a microprocessor-driven circuit board, a voltammetric sensor with a carbon screen-printed electrode, a display, and a rechargeable battery. The device processes voltammetry data, stores over 3000 samples internally, and transmits results via WiFi or Bluetooth. It also includes LED indicators for battery level and configuration buttons. It can function autonomously in offline environments and sync with web or mobile applications asynchronously. Its goal is to enable accessible and affordable environmental health diagnostics.		

PE-191	NAME(S)	July, Zegarra Choque / Ana Claudia, Terrones Ojeda / María Laura, Rengifo Delgado / César Humberto, Manayay Segura
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		Dehydrator with cutter for organic waste that uses solar radiation to heat the dehydration air flow
Addressing the challenge of low organic waste reuse (only 10% in Latin America), this dehydrator innovates by using solar radiation to heat dehydration air through solar-tracking heat collectors; automating the process with shredding blades that reduce waste volume and sensors that optimize dehydration. Transforming waste into animal feed inputs, promoting circular economy. This project directly contribute to SDGs 7 and 11, offering a sustainable and scalable solution for organic waste management		

PE-192	NAME(S)	July, Zegarra Choque / Marco Aurelio, Intor Guevara
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		Water disinfection system using uvc, root irrigation and trellising
Addressing the global challenge of untreated wastewater (80% used for irrigation), our innovative system combines UV-C disinfection to eliminate pathogens from water; adjustable root irrigation with lever-activated tanks for efficient water use and adaptable plant support structure for healthy vegetable growth. Developed by USIL researchers, this sustainable solution directly contributes to SDG 6, ensuring safe crops while promoting water reuse in agriculture.		

PE-193	NAME(S)	Olga Gabriela, Castro Matos / Carlos Fernando, Cardenas Agurto
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		Food transport and protection box with temperature stabilization and food temperature preservation
The innovation addresses key pastry transport challenges by a thermal-stabilized box uniquely harnesses vehicle's existing AC system through thermoconductive walls, eliminating need for separate refrigerants. It has a 3-link gimbal base to prevent movement damage, maintains perfect temperature using car's AC (no extra energy) and universal compatibility with all AC-equipped vehicles. This solution reduces food waste and energy costs while ensuring optimal food safety.		

PE-194	NAME(S)	Luciana, de la Fuente Carmelino / Ana María, Muñoz Jauregui / Juana Patricia, Lozada Huancachoque / Jorge Enrique, Huaman Ricaldi
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		Mouthwash in tablet form without water in its composition with vegetable oils as antimicrobial active ingredients
This is a revolutionary water-free antimicrobial mouthwash tablet, that redefines oral hygiene by presenting a 100% water-free formula with plant-based antimicrobial oils (eucalyptus, clove, cinnamon). Eco-friendly production reduces water consumption and chemical pollution. Compact tablet format enhances portability and supply chain efficiency. This breakthrough aligns with SDG 3 (Health) and SDG 12 (Responsible Consumption), offering a safe, sustainable alternative to conventional mouthwashes.		

PE-195	NAME(S)	Luciana, de la Fuente Carmelino / Ana María, Muñoz Jauregui / Juana Patricia, Lozada Huancachoque / Jorge Enrique, Huaman Ricaldi
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		Anhydrous sunscreen balm with SPF 30 sun protection factor that includes natural oils in its composition
It addresses both skin health and environmental concerns by eliminating water from its formulation while providing protection against UV-related skin damage (associated with 90% of skin cancers) using sacha inchi & aguaymanto oils, which offer antioxidant benefits and reduce skin irritation risks compared to conventional sunscreens. Supports SDG3 & SDG12 by conserving water resources and using sustainable production methods, demonstrating how advanced skincare can align with planetary wellbeing.		

PE-196	NAME(S)	Luciana, de la Fuente Carmelino / Ana María, Muñoz Jauregui / Juana Patricia, Lozada Huancachoque
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		Paraben-free collagen and elastin production stimulating cream containing vegetable oil and extracts
This paraben-free collagen and elastin stimulating cream utilizes plant-based oils and extracts to counteract skin aging factors like sun exposure and pollution while improving skin firmness and elasticity; its non-comedogenic formula ensures optimal absorption without pore clogging, offering a safe alternative to synthetic products, and aligns with SDG3 by promoting skin health through natural, allergen-free ingredients that revitalize the skin's youthful appearance without compromising safety.		

PE-197	NAME(S)	Luciana, de la Fuente Carmelino / Ana María, Muñoz Jauregui / Juana Patricia, Lozada Huancachoque
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		Natural gel for moisturizing the scalp and fortifying the hair follicle
This anhydrous natural gel hydrates the scalp and strengthens hair follicles using active ingredients like aguaymanto and ungurahui oils, addressing dryness and preventing irritation while being water-free in both composition and production; aligning with SDG 3 (Health and Well-being), this sustainable solution promotes healthy hair growth without contributing to water scarcity, offering an effective alternative to conventional scalp treatments through its innovative, eco-conscious formulation.		

PE-198	NAME(S)	**Juana Patricia, Lozada Huancachoque / Ana María, Muñoz Jauregui / Keidy, Cancino Chavez / Jorge Enrique, Huaman Ricaldi**
ORGANIZATION		UNIVERSIDAD SAN IGNACIO DE LOYOLA S.R.L.
TITLE OF ENTRY		**Cream with moisturizing effect especially for very dry skin formulated with plukenetia huayllabambana oil**
Addressing the global challenge of xerosis (affecting 29% of the population) we present an innovative moisturizing cream formulated with Peruvian Plukenetia huayllabambana oil offering deep hydration without corticosteroids or synthetic compounds; its unique two-phase preparation ensures stability & efficacy while promoting sustainable use of Amazonian resources, aligning with SDG 3 through a safe, natural solution for very dry skin that combines traditional knowledge with scientific formulation.		

PE-199	NAME(S)	**Carmen Eleana, Ortiz Salas / Roberto Freddy, Raucana Sulca / Grover, Riveros Soto / Alejandrina Nelly, Huarcaya Junes / Alva Hurtado, Jorge Elias Domingo**
ORGANIZATION		UNIVERSIDAD NACIONAL DE INGENIERIA
TITLE OF ENTRY		**KALLPA: Intelligent Device for Energy Measurement in Standard Penetration Tests (SPT)**
The project aims to consolidate the development of a national device capable of accurately measuring impact energy during Standard Penetration Tests (SPT), a key geotechnical procedure in civil engineering. It addresses technological gaps in Peru, such as reliance on imported systems, high costs, and manual data processing. KALLPA is a portable, smart device compliant with ASTM D4633. It digitizes signals from accelerometers and strain gauges, transmitting them for real-time analysis. Its proprietary software, Kallpa Processor, synchronizes graphs and instantly calculates energy. Validated in more than 20 real tests in Peru, KALLPA is a reliable and cost-effective tool for geotechnical applications.		

PE-200	NAME(S)	**ORIANA RIVERA LOZADA DE BONILLA / SHEYLLA LORZA HUAMAN / PAOLO CAYETANO TERREL / MIGUEL IPANAQUE ZAPATA**
ORGANIZATION		UNIVERSIDAD SEÑOR DE SIPÁN S.A.C.
TITLE OF ENTRY		**Regenerative and Anti-Aging Dermal Composition Based on Açaí and Buriti Oils**
This invention introduces a regenerative and anti-aging dermal composition formulated with natural oils extracted from *Euterpe oleracea* (açaí) *and Mauritia flexuosa* (buriti), combined with maracuja, avocado, and Brazil nut oils. These components are rich in antioxidants, carotenoids, and essential fatty acids that help restore skin elasticity, stimulate cellular regeneration, and protect against oxidative damage. The formulation provides deep hydration, enhances skin firmness, and reduces visible signs of aging. It is designed for topical application and can be formulated as a cream, gel, lotion, or serum.		

PE-201	NAME(S)	**ORIANA RIVERA LOZADA DE BONILLA / SHEYLLA LORZA HUAMAN / PAOLO CAYETANO TERREL / MIGUEL IPANAQUE ZAPATA**
ORGANIZATION		UNIVERSIDAD SEÑOR DE SIPÁN S.A.C.
TITLE OF ENTRY		**Natural Anti-Helicobacter pylori Syrup Based on Muña, Passion Fruit, and Garlic**
This invention introduces a natural syrup designed to combat *Helicobacter pylori*, a bacterium linked to chronic gastritis, gastric ulcers, and stomach cancer. The formulation integrates essential oils of *Minthostachys mollis* (muña), Passiflora edulis (passion fruit), *Allium sativum* (garlic), and *Mauritia flexuosa* (aguaje). Each component provides complementary antimicrobial, antioxidant, and anti-inflammatory properties. The synergy of these oils effectively inhibits H. pylori while minimizing side effects and resistance. This innovation represents a safe, plant-based alternative to traditional antibiotic therapy.		

PE-202	NAME(S)	**ORIANA RIVERA LOZADA DE BONILLA / SHEYLLA LORZA HUAMAN / PAOLO CAYETANO TERREL**
ORGANIZATION		UNIVERSIDAD SEÑOR DE SIPÁN S.A.C.
TITLE OF ENTRY		**Anxiolytic and Anti-Stress Composition Based on Ashwagandha, Blueberry, and Green Tea**
This invention introduces a natural phytotherapeutic composition with anxiolytic and anti-stress effects. It is formulated using standardized extracts of *Withania somnifera* (ashwagandha), *Vaccinium corymbosum* (blueberry), and Camellia sinensis (green tea), each with well-documented neuroprotective, adaptogenic, and antioxidant properties. The combination works synergistically to reduce cortisol levels, modulate neurotransmitters, and protect neural tissues from oxidative damage. This formula is suitable for oral administration in capsule, powder, or syrup form, offering a safe, plant-based alternative to synthetic anxiolytics.		

PE-203	NAME(S)	**ORIANA RIVERA LOZADA DE BONILLA / SHEYLLA LORZA HUAMAN / PAOLO CAYETANO TERREL**
ORGANIZATION		UNIVERSIDAD SEÑOR DE SIPÁN S.A.C.
TITLE OF ENTRY		**Larvicidal Composition Based on Annona Extract and Essential Oils for Vector Control**
This invention introduces a botanical larvicidal composition designed to control disease vectors such as *Aedes aegypti*, the mosquito responsible for transmitting dengue, chikungunya, Zika, and yellow fever. The formulation is based on bioactive extracts from *Annona muricata* (soursop) leaves and a synergistic blend of essential oils including citronella, clove, and lemongrass. These natural compounds exhibit potent larvicidal activity by disrupting the respiratory and neurological systems of mosquito larvae. The composition is safe for humans, environmentally friendly, and effective in domestic and peri-urban breeding sites such as stagnant water containers.		

PE-204	NAME(S)	**Becquer Frauberth, Camayo Lapa / Miguel Angel, Quispe Solano / Erika Amelia, De La Cruz Porta / Roberto César, Asto Hinojosa / Brecio Daniel, Lazo Baltazar**
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		**AUTOMATED DUAL DRYER OF AGRICULTURAL PRODUCTS**
Dual automated dryer for agricultural products, consisting of an inclined solar collector connected to the bottom of a drying chamber containing racks with multiple trays. The chamber incorporates fans with removable air filters and a heat exchanger mounted on gas-fired electric burners. Inside are temperature, humidity and weight sensors located under the racks. The support structure has a solar panel on the roof that charges batteries, which power a control panel with an electronic controller and wireless communication module for remote monitoring and management.		

PE-205	NAME(S)	**Becquer Frauberth, Camayo Lapa / Roberto César, Asto Hinojoza / Adrian Becquer, Camayo Vivas / Miguel Ángel, Quispe Solano / Brecio Daniel, Lazo Baltazar**
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		**AUTOMATED ANAEROBIC FERMENTER FOR COFFEE BEANS**
An automated anaerobic fermenter for coffee beans comprising a support base with a rotatable circular basket driven by a central electric motor, placed over a heat exchanger with an electric resistance. The system includes a hinged lid with a UV-C lamp, contact sensor, and pressure relief valve; a drainage drawer with pH sensor; temperature and pressure sensors; and a variable speed controller. A wireless communication module connected to an electronic controller enables remote regulation of basket rotation, fermentation temperature, and liquid drainage, allowing precise and automated control of the fermentation process.		

PE-206	NAME(S)	**David Elvis Condezo Hurtado / José Eduardo Galarza Linares / Bartolomé Saenz Loayza / Becquer Frauberth Camayo Lapa / Brecio Daniel Lazo Baltazar / Roberto Asto Hinojosa**
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		**MODULAR ROBOT WITH DRIVE-OVER TRANSMISSION LINES FOR INSPECTION AND PREVENTIVE MAINTENANCE**
The present invention is in the field of mechatronic devices for maintaining electrical infrastructure, specifically mobile robots for inspecting, cleaning, and monitoring high-voltage electrical transmission lines. More specifically, it is a modular robot that moves along conductor cables via a rail system. It incorporates modules for cleaning, visual capture, and remote visualization. It has applications in preventive maintenance without interrupting the electrical service.		

PE-207	NAME(S)	**David Elvis Condezo Hurtado / José Eduardo Galarza Linares / Bartolomé Saenz Loayza / Roberto César Asto Hinojosa / Becquer Frauberth Camayo Lapa / Brecio Daniel Lazo Baltazar / Evelyn Victoria Tinoco Bernuy**
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		**UNMANNED GROUND VEHICLE FOR AGRICULTURAL INSPECTION WITH ANTI-STUCK TECHNOLOGY**
The device is an unmanned ground robot designed for agricultural inspections on uneven terrain. It incorporates cameras with two degrees of freedom to detect pests, weeds, and infections visually, improving crop diagnosis. Its lightweight design with an acrylic chassis and counterweight enables stable mobility. Independent motors on each wheel facilitate turns and mobility in muddy or grassy areas. The structure features anti-stuck technology with efficient traction wheels. It operates via wireless control and is powered by rechargeable lithium batteries.		

PE-208	NAME(S)	David Elvis Condezo Hurtado / José Eduardo Galarza Linares / Bartolomé Saenz Loayza / Joel Colonio Llacua / Delgado Beltrán Sergio Joel / Quispe Alanya Jholissa Flor
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		AUTOMATIC REWINDER FOR PRECISE WINDING OF ELECTRICAL CABLES

The automatic rewinder precisely winds electric cables by automating the winding process of universal electric motors through a microcontroller- and sensor-controlled system. This system ensures precision in the number of turns and uniformity in the winding. It incorporates a guide claw, an orientation hook, and a turning system that prevents cable deviation. Its robust, adaptable structure features a numerical keyboard control interface and an LCD display that allows for flexible configurations of different types of universal motor windings. Powered by 220V and protected by a regulator, the rewinder optimizes production time, reduces manual error, and ensures high-quality winding.

PE-209	NAME(S)	David Elvis Condezo Hurtado / José Eduardo Galarza Linares / Bartolomé Saenz Loayza / Joel Colonio Llacua / Becquer Frauberth Camayo Lapa
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		DUAL-AXIS SOLAR TRACKER WITH GPS CONTROL AND MACHINE VISION ALGORITHMS

This invention is a dual-axis solar tracker that uses GPS control and machine vision algorithms to optimize solar energy collection. Its structure enables precise movement along the azimuthal and zenithal axes via electric motors and linear actuators. GPS sensors determine the location of the sun, and cameras correct the tracker's orientation in real time. The tracker includes an autonomous power supply, remote monitoring, environmental sensors, and high wind protection mechanisms. Thanks to self-diagnosis and automatic lubrication, the tracker offers high efficiency and safety while requiring minimal maintenance, making it ideal for maximizing energy generation in modern photovoltaic installations.

PE-210	NAME(S)	LAZO BALTAZAR, Brecio Daniel / CALDERÓN FLORES, Vilma Rosario / SANDOVAL SERVA, Bladimir / MENDOZA CASAS, Norma Mayela / CAMAYO LAPA, Becquer Frauberth / OCHOA SOSA, Salome
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		PYROLYSIS SYSTEM WITH ELLIPTICAL HEAT CIRCULATION FOR OBTAINING FUEL FROM PLASTIC WASTE

Revertir el efecto de contaminación de los residuos plásticos utilizando principios de ingeniería inversa mediante pirolisis de los residuos plásticos en la obtención de combustibles para aplicaciones industriales. Se ha diseñado y fabricado el prototipó, energéticamente eficiente y adaptable a diferentes tipos de plásticos, que consiste en: reactor con circulación de calor elíptica que mejora la distribución térmica, sistema de condensación y enfriamiento los productos generados. Se ha obtenido diferentes tipos combustibles líquidos y gaseosos con alto poder calorífico, el mismo que reduce significativamente los residuos y promueve la economía circular.

PE-211	NAME(S)	Miguel Angel Quispe Solano / Bécquer Frauberth Camayo Lapa / Armando Felipe Calcina Sotelo / Silvia Marina Álvarez Bernuy / Rafael Matencio Gerónimo / Erika Amelia de la Cruz Porta / Roberto César Asto Hinojosa / Galia Mavel Manyari Cervantes / Edgar Rafael Acosta López / Emilio Fredy Yabar Villanueva
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		Procedure for the Production of Functional Cookies with Low Glycemic Impact and High Antioxidant Capacity

This invention describes a functional cookie with low glycemic impact and high antioxidant capacity. The formulation uses coffee husk flour and stevia to partially replace wheat flour and sugar, respectively. The process includes optimized steps of creaming, mixing, molding, baking, and packaging. The cookie offers improved fiber content, antioxidant activity, and sensory acceptability. It supports metabolic health and reduces oxidative stress. The product stands out for its nutritional functionality, sustainability, and consumer appeal, representing an innovative and health-oriented bakery solution with commercial potential in the functional food industry.

PE-212	NAME(S)	CALCINA SOTELO ARMANDO FELIPE / CAMAYO LAPA BECQUER FRAUBERTH / CALCINA DAMAS GIULIANA PAOLA
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		Surveillance and Security Robot

This innovative autonomous robot is designed for indoor surveillance and security. it integrates an ESP32-C3 microcontroller with Arduino, ultrasonic sensors, cameras, and AI navigation. Its six-wheel drive system with suspension ensures smooth and stable movement. Support arms and joints provide flexibility and durability. A communication module enables remote control via Wi-Fi/Bluetooth, while side compartments house rechargeable batteries. The top capsule protects the processing and power systems. Ideal for offices, warehouses, and commercial spaces, this robot offers a smart, efficient, and scalable solution for real-time monitoring and enhanced indoor security.

PE-213	NAME(S)	Nilda Campos Acevedo / Edgar Ruben Arias Rosales / Roberto Cesar Asto Hinojosa / Salome Ochoa Sosa
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		3566-2023/DIN PROCESS FOR OBTAINING PROTEIN CONCENTRATE FROM GUINEA PIG BLOOD (CAVIA PORCELLUS) AND COCOA (THEOBROMA CACAO L.)
The invention relates to a process for obtaining a protein concentrate from guinea pig (Cavia porcellus) blood and cocoa (Theobroma cacao L.). The steps comprise obtaining the inputs; preparing the concentrate with 39% cocoa paste, 28% guinea pig heme iron, and sugar; packaging; refrigeration; and storage. The protein concentrate obtained is characterized by its heme iron content, which approximates the daily requirement of preschool-aged children, and by the additional proteins, macronutrients, and micronutrients that contribute to increasing their hemoglobin level to prevent or treat anemia.		

PE-214	NAME(S)	Luis Alberto Yarlequè Chocas / Luis Gabriel Rueda Yarlequè / Leda Javier Alva / Edith Rocìo Nuñez LLacuachaqui / Roberto Cesar Asto Hinojosa
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		DIGITAL TACHISTOSCOPE FOR CONTROLLED VISUAL STIMULUS PRESENTATION
This document describes a digital tachistoscope for the controlled presentation of visual stimuli, which facilitates studies on visual perception and cognitive processing. It is designed to present images and stimuli at controlled speeds for research in these areas. This digital tachistoscope offers a precise, flexible, and user-friendly tool for conducting advanced research in various fields of visual and cognitive studies.		

PE-215	NAME(S)	Roberto César, Asto Hinojosa / Vilma Rosario, Calderón Flores / Helmer, Lopez Gutierrez / Rolando Zócimo, Quispe Ramos / Johana Corali, Velasque Orosco
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		ROCEDURE FOR OBTAINING FINE TEXTILE FIBRES FROM BANANA PSEUDOSTEM
Dos situaciones: La Industria textil generadora de impactos ambientales en todo su ecosistema comercial y el Perú, gran productor de plátanos, actividad que genera un alto porcentaje del residuo de pseudotallo. Generaron el desarrollo del procedimiento para la obtención de fibras finas a partir del residuo pseudotallo se dio, mediante un pretratamiento mecánico y posterior tratamiento de hidrolisis enzimática, en un control de su concentración, de parámetros para la reacción de hidrolisis, alcanzó, disminuir el diámetro de las fibras, mejorar su flexibilidad y obtener una sensación agradable al tacto. lo que permite que este tipo de residuos alcancen propiedades textiles.		

PE-216	NAME(S)	Milagros Brigitte Hurtado Torres / Andrea Gianella Hurtado Torres / Rommel Rashuaman Sapallanay / Herlez Rashuaman Sapallanay / Jose Luis Solis Rojas
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		PREPARATION OF SAUSAGE BASED ON GUINEA PIG MEAT WITH THE ADDITION OF BROAD BEAN FLOUR (Vicia faba) AND INCA MUÑA ESSENTIAL OIL (Clinopodium bolivianum (Benth.) Kuntze)
This invention consists of a sausage formulated from guinea pig meat, combined with fava bean flour as a natural binder and essential oil of *inca muña* as a preservative agent. The product is processed through grinding, mixing, stuffing, and thermal treatment to ensure microbiological safety and optimal texture. The formulation replaces synthetic additives with native functional ingredients, providing extended shelf life and enhanced sensory properties. The essential oil acts as an antioxidant and antimicrobial agent, preserving the product's quality naturally.		

PE-217	NAME(S)	Norma Nélida Gamarra Mendoza / Lino Achallma Mendoza
ORGANIZATION		UNIVERSIDAD NACIONAL DEL CENTRO DEL PERÚ
TITLE OF ENTRY		Process for obtaining a biofertilizer from trout by-products (Oncorhynchus mykiss)
The innovation consists of the development of a biofertilizer with trout by-products (viscera, muscle-bone) to take advantage of the main chemical elements Nitrogen, Phosphorus, Potassium and other minor elements, which are essential nutrients for organic crops. The viscera and muscle-bone were hydrolyzed with proteases and fermented with lactic bacteria separately, dried, ground and sieved, obtaining viscera, bone and residual muscle meal. Chemical element analysis was performed and the biofertilizer was formulated in relation to the N, P and K content. It was applied to the cultivation of native potatoes, obtaining satisfactory results.		

PE-218	NAME(S)	José Carlos Mallma Soto
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		RECYCLING MACHINE WITH HYDRAULIC DISPENSING SYSTEM

The invention consists of a recycling machine with a hydraulic dispensing system, designed to release dry food or water as a reward upon detecting the deposit of recyclable materials. The system comprises three recycled material inlet openings (1) for bottles and cans, which are discharged into a storage area (6). The accumulated weight is recorded by a storage scale (4) linked to a weight reader (10), which activates the dispensing mechanism. The contents are contained in a bellows-type container (2) connected to the dispensing wing (3) by a control valve. The hydraulic system uses water stored in a water container (7), together with reused water contained in the lubricant store (8). These tanks are isolated by hermetic seals (5) that guarantee hygiene. Finally, the reward is delivered to the user through a delivery container (9), accessible to pets.

PE-219	NAME(S)	MILON GUZMAN JUAN JOSE / DIAZ COA MARIO ENRIQUE
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		Portable and Autonomous Device for the Disinfection of Medical Equipment Using UV-C Radiation and Ozone

The portable and autonomous device for the disinfection of medical equipment using UV-C radiation and ozone is designed to eliminate pathogens present on items used by personnel exposed to infectious diseases, such as clothing, medical instruments, and accessories. The system consists of a compact chamber with a front door that allows the insertion of materials to be disinfected. Its interior is lined with a reflective material to optimize the dispersion of UV-C radiation. At the top of the device is the control unit, which regulates the operation of the ozone generator connected to the internal chamber. Additionally, circulation fans are installed at the bottom of the chamber to ensure homogeneous ozone saturation, guaranteeing an efficient disinfection process across all surfaces of the treated materials.

PE-220	NAME(S)	JOSE FERNANDO ARANGO ROSAS
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		ECO-FRIENDLY BRICK MADE FROM RECYCLED PAPER, RECYCLED GLASS, CACTUS MUCILAGE, CEMENT, AND GYPSUM TO OPTIMIZE THERMAL RETENTION IN HOUSING

This invention relates to the composition and manufacturing process of an eco-friendly brick made from recycled materials, specifically designed to enhance thermal retention in housing, while reducing natural resource exploitation and minimizing environmental impact. The composition includes 55% to 75% recycled paper, 10% to 15% recycled glass, 8% to 15% water, 8% to 12% cactus mucilage, and 5% to 8% cement and gypsum, based on the total weight. The production process involves several stages: preparation of paper and glass, extraction of cactus mucilage, mold creation, mixture preparation, molding, curing, and demolding. The result is a sustainable, functional brick with low environmental impact.

PE-221	NAME(S)	GUARNIZ AVALOS GUSTAVO OMAR
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		Wave Energy Converter for Electricity Generation

This invention is a wave energy converter that consists of a point absorber connected to the end of an articulated arm mounted on a main frame. Through a system of pulleys and one-way bearings, the vertical motion of the point absorber is transformed into unidirectional rotational motion along a shaft. This rotational motion is transmitted through a speed multiplier, which ultimately delivers mechanical energy to a rotating electrical generator, thereby producing electrical energy. A flywheel is used to store the rotational kinetic energy, allowing it to be efficiently delivered to the generator when needed. An important function of the pulley system is to reduce the transmission ratio of the speed multiplier. In the event of extreme wave conditions, the pulley system is capable of lifting both the arm and the point absorber above the sea surface to protect the system.

PE-222	NAME(S)	SALVADOR REYES REBECA / MERINO RAMIREZ PRAXEDES JEANPIERRE
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		IMPREGNATION PROCESS OF MEDICAL FABRICS WITH EXTRACT OBTAINED FROM SUPERCRITICAL FLUIDS OF CHAMOMILE RESIDUES

This invention relates to an impregnation process of medical fabrics through the application of a solution made from an extract obtained using supercritical fluids from chamomile residues, contributing to the development of a sustainable, cost-effective, and functional textile material for the healthcare sector, providing antifungal and antibacterial properties at low extract concentrations. First, the process of preparing the impregnation solution involves: selecting and cleaning the residues; washing them with chlorinated water and rinsing with distilled water; drying by forced convection; grinding and sieving the particles; placing them in a supercritical fluid extractor; and storing them in a refrigerated environment.

PE-223	NAME(S)	OVALLE PAULINO DENIS CHRISTIAN
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		PREDICTIVE DIAGNOSTIC SYSTEM FOR LUMBAR INJURIES BASED ON MACHINE LEARNING ALGORITHMS

This invention relates to a predictive diagnostic system designed for the identification and prevention of lumbar injuries, using machine learning algorithms. The system is based on the analysis of biomechanical data collected from patients, utilizing trained predictive models to recognize patterns associated with lumbar conditions such as herniated discs, spondylolisthesis, and other anomalies. It includes an intuitive graphical interface that allows healthcare professionals to easily access diagnostic results, facilitating clinical decision-making and improving the efficiency of treatment for these disorders.

PE-224	NAME(S)	CASTILLO ALVAREZ YOISDEL / Carhuancho León, Fanny Mabel / JIMENEZ BORGES REINIER / PATIÑO VIDAL CARLOS DIEGO / Samaniego Nolasco, Jose Alberto / Pinares Buendía José Santos
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		ANAEROBIC BIODIGESTION SYSTEM FOR SUSTAINABLE PRODUCTION OF BIOGAS AND BIOFERTILIZER

The invention describes an anaerobic biodigestion system for the sustainable production of biogas and biofertilizer, comprising a main reactor preferably buried entirely underground, a feed inlet for supplying organic substrate and/or manure, a biofertilizer outlet with a filtration and purification system, and a biogas outlet connected to an external biogas storage system. To optimize the efficiency of the anaerobic digestion process in rural settings, the organic substrate feed inlet and the biofertilizer outlet are positioned on the lateral surface of the reactor, at approximately 0.1 m and 0.65 m from the base of the main reactor, respectively. Additionally, the feed inlet and the biofertilizer outlet are located at opposite ends and are inclined between 44.5° and 45.5°.

PE-225	NAME(S)	Gómez Montoya Juan Pablo
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		Four-Stage Upflow Anaerobic Biodigester System for Domestic Use in Biofertilizer Production

The present invention is a four-stage anaerobic biodigester for domestic use, an innovative device designed to produce biofertilizer primarily from organic waste, maximizing the efficiency of the anaerobic digestion process. Its compact and portable structure, made of stainless steel, makes it ideal for installation in any home or small farm. This biodigester consists of four interconnected chambers that separate the hydrolysis, acidogenesis, acetogenesis, and methanogenesis phases, improving the quality of the biofertilizer produced. It features a top-loading funnel and three strategically placed control valves to manage the flow of liquids and gases. Unlike traditional one- or two-stage biodigesters that require permanent installations, this device can be easily transported according to the user's needs.

PE-226	NAME(S)	Francisco Javier Alcántara Benjumea
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		Electric Power Network Analyzer Based on the ADALINE Network Using 8-Bit Hardware with Limited RAM and EEPROM Memory

This invention consists of a network analyzer that measures the main power quality parameters in three-phase systems, using a measurement procedure based on the ADALINE network programmed into a microcontroller (MCU) with limited integrated RAM and EEPROM memory. This makes it possible to simplify the hardware used to acquire and process input channel signals for this type of measuring equipment, since most current network analyzers use microcontrollers that require more complex programming environments, methods such as Fast Fourier Transform (FFT), and greater RAM and EEPROM capacity.

PE-227	NAME(S)	LILIAN LISETTY INGARUCA PAREDES / VALKIRIA RAQUEL IBARCENA IBARCENA / JESÚS ALEJANDRO CÁRDENAS QUISPE / PATRICIA CAROLINE DELGADO MENESES
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		Process for the Manufacture of Eco-Friendly Construction Blocks Made from Gypsum, Cardboard, and Textile Fibers

This invention presents an innovative procedure for manufacturing ecological construction blocks using shredded cardboard, textile fibers, gypsum, and water. The main novelty lies in the use of recycled materials, such as cardboard and textile fibers, resulting in blocks with excellent thermal and acoustic properties, ideal for sustainable construction. Unlike conventional bricks, these ecological blocks are lighter, making them easier to handle and transport, reducing logistical costs and improving construction efficiency. The manufacturing process includes several stages, such as mixing, molding, and drying, ensuring a final product with low thermal conductivity (50-60 W/mK) and high compressive strength (up to 4.9 MPa). Furthermore, these blocks are eco-friendly, as they utilize recycled waste, contributing to waste reduction and improving sustainability in the construction industry.

PE-228	NAME(S)	Pedro Miguel Portillo Mendoza
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C.
TITLE OF ENTRY		Cable winch with camera vision
The present invention relates to a camera-enabled cable winch, which allows for both the visual inspection of obstructions in ducts and the installation of electrical cables, thanks to a threaded head system with interchangeable terminals. This tool comprises a flexible PVC-coated steel cable, a spring guide, a bronze head with female threads, and two threaded accessories: a micro-camera with illumination and a cable eyelet. The invention improves efficiency/safety of electrical cable laying, especially in obstructed conditions.		

PE-229	NAME(S)	Francisco Javier Alcántara Benjumea
ORGANIZATION		UNIVERSIDAD TECNOLÓGICA DEL PERÚ S.A.C. / ELECTRIM SERVICIOS E.I.R.L.
TITLE OF ENTRY		Protection System with Open-Core Transformer for Ground Fault Current Detection
This invention describes a protection system with an open-core transformer that enables the detection of ground fault current and/or insulation problems to prevent short circuits. It is designed to be portable for installation on any electrical line. The system includes a protection relay connected to a current transformer with an open core, which determines the value of the fault current. The protection relay consists of an electronic board connected to a microcontroller, an electromechanical relay, an alarm system, a display screen, a switch to enable or disable the output contacts, and control buttons for adjusting the scale and threshold current.		

PE-230	NAME(S)	Deyvid Piero, Tolentino Isidro / Ada Heidy, Santiago Bejarano
ORGANIZATION		UNIVERSIDAD NACIONAL HERMILIO VALDIZÁN
TITLE OF ENTRY		System for the automated analysis of dental radiographs and generation of clinical reports
XRAI is a groundbreaking AI powered dental diagnostic system that uses twin neural networks trained on anonymized radiographic datasets to detect invisible pathologies such as early infections, bone lesions, and caries. Designed for rapid deployment in underserved areas, it empowers dentists with sub 10 second automated interpretation, redefining how we perceive and act on dental X-rays.		

PE-231	NAME(S)	Orizano Acuña Vanesa / Carbajal Roble Kevin Carlos / Estacio Laguna Roger / Ramirez Bacilio Mirozaqui Nelson
ORGANIZATION		UNIVERSIDAD NACIONAL HERMILIO VALDIZÁN
TITLE OF ENTRY		Automated Equipment for the Production of Essential Oils and Alcoholic Distillates Assisted by Ultrasound
ECOMACHINE is an innovative, automated industrial equipment designed for the production of essential oils and alcoholic distillates such as vodka, whisky, and aguardiente, using ultrasound technology. It transforms agro-industrial waste into high-value products, contributing to the circular economy and environmental sustainability. The system significantly enhances process efficiency, reducing production time by up to 70% and increasing yield by 60%. This technological solution empowers entrepreneurs to boost productivity, lower costs, and maximize the use of available resources in the agro-industrial sector.		

PE-232	NAME(S)	Isabel Menacho Vargas / Claudia Noemi Rivera Rojas / Giuliana del Socorro Raggio Ramirez / Doris Elida Fuster Guillén / Giomar Arturo Shiguay Guizado
ORGANIZATION		UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS
TITLE OF ENTRY		MAGNETIC RETRACTABLE GAME TABLE WITH SOLAR LIGHTING AND DISINFECTION SYSTEM
The invention consists of a foldable table with a tilting top, articulated legs, and a magnetic locking system for vertical storage. It features a built-in solar-powered LED lamp, enabling use in areas without electricity. It is designed for small spaces requiring functionality, organization, and energy autonomy. By combining a retractable structure, efficient storage, and self-sustaining lighting, it offers an innovative, practical, and sustainable solution. It is ideal for homes, mobile classrooms, workshops, or community settings where portability, structural simplicity, and energy independence offer advantages over conventional tables.		

PE-233	NAME(S)	Isabel Menacho Vargas / Giomar Arturo Shiguay Guizado / Giuliana del Socorro Raggio Ramirez / Doris Elida Fuster Guillén
ORGANIZATION		UNIVERSIDAD NACIONAL MAYOR DE SAN MARCOS
TITLE OF ENTRY		MAGNETIC PANEL CONVERTIBLE INTO SENSORY FURNITURE WITH TEXTURES FOR THE DEVELOPMENT OF TACTILE ATTENTION
The invention consists of a magnetic panel that can be transformed into sensory furniture, integrating various textures to stimulate and develop tactile attention. Designed to support sensory and cognitive development in children, particularly those with special educational needs, the panel fosters active exploration and fine motor skills. Its modular and foldable structure allows for easy storage and adaptation to different environments such as classrooms, therapy rooms, or homes. The invention combines play, education, and therapy into 1 inclusive and portable solution that enhances sensory experiences & learning through touch.		

POLAND

PL-01	NAME(S)	Krzysztof Czajka, Assoc. Prof., DSc, PhD, BEng / Janusz Skrzypa / Barbara Rogosz, PhD / Dominika Kufka, PhD / Anna Kisiela-Czajka, PhD, BEng
ORGANIZATION		Wroclaw University of Science and Technology / "Poltegor-Instytut" Opencast Mining Institute
TITLE OF ENTRY		**Reactor for Catalytic Pyrolysis and Gasification of Solid Fuels**

A reactor designed for catalytic pyrolysis and gasification of solid fuels, including biomass, waste, polymers, and fossil fuels, enabling the execution of pyrolysis and gasification processes in modified gas atmospheres containing nitrogen, oxygen, carbon dioxide, and their mixtures. The reactor consists of a heat-resistant cylindrical body that is open at the top, with its inner lateral surface and bottom wall lined with thermal insulation. The body is sealed at the top with a cover, which has thermal insulation on its underside, extending into the reactor chamber. The cover also houses an outlet nozzle for pyrolytic gas.

PL-02	NAME(S)	Mikołaj Zarzycki / Magdalena Dudek / Andrzej Raźniak / Maciej Cader
ORGANIZATION		AGH University of Krakow / Łukasiewicz Research Network – Industrial Research Institute for Automation and Measurements PIAP
TITLE OF ENTRY		**Hybrid electric propulsion with a hydrogen fuel cell stack for an unmanned robotic platform, equipped with a mobile infrastructure for hydrogen refueling and battery charging with energy from renewable sources**

The real demonstration presents small, unmanned ground vehicles (UGVs) with electric propulsion using a 2kW PEMFC fuel cell stack powered by hydrogen. The digital twin model for the small-tracked mobile robot is also elaborated. Its prediction of electrical energy and hydrogen needs considers terrain variations and data from the GIS. It supports the logistics of hydrogen production and delivery. The mobile green hydrogen station is included as an optional part.

PL-03	NAME(S)	Małgorzata Policht / Joanna Feder-Kubis / Lucyna Balcerzak / Daniel Strub
ORGANIZATION		Wrocław University of Science and Technology; Faculty of Chemistry, Poland
TITLE OF ENTRY		**Protic ionic systems supporting nanoparticles stability and bioactivity as a brilliant solution for bio(nano)technology**

This invention presents a novel class of salicylate-based protic ionic liquids (PILs) as multifunctional systems that stabilize silver nanoparticles (AgNPs) and exhibit strong antimicrobial activity. Salicylic acid is used to prepare bioactive ionic stabilizers, while green tea polyphenols reduce silver ions to AgNPs. **The resulting nanomaterial is biocompatible, eco-friendly, and cost-effective.** Validated at lab scale, it prevents AgNP aggregation, remains non-cytotoxic, and shows long-term activity against resistant microbes. This technology merges green chemistry with microbiology to support the development of safe, sustainable nanomaterials for biomedical and biotechnological applications.

PL-04	NAME(S)	Przemysław Pietrusiak / Joanna Feder-Kubis / Barbara Pawłowska / Robert Biczak
ORGANIZATION		Wrocław University of Science and Technology; Faculty of Chemistry / Jan Długosz University in Częstochowa, Faculty of Science and Technology
TITLE OF ENTRY		**Green-derived innovation: Choline-terpene salts for smart agriculture**

This invention introduces terpene-based choline salts as a breakthrough in sustainable crop protection and growth enhancement. These innovative quaternary choline chlorides, enriched with natural monoterpenes like (−)-menthol, (+)-fenchol, and (−)-borneol, combine high bioactivity with biocompatibility. Developed via a mild, eco-friendly synthesis, they demonstrate excellent stability, surface activity, and safety. Field trials confirm significant biomass gains in wheat and maize, especially at early stages. Offering low environmental impact with high efficacy, these salts meet global demands for safe and effective agrochemicals. This nature-powered solution opens new directions for greener agriculture and represents a key innovation in next-generation crop management.

PL-05	NAME(S)	Marcin Wekwejt, PhD / Rafał Jesiołkiewicz, MSc / Anna Ronowska, PhD / Aleksandra Mielewczyk-Gryń, PhD / Justyna Kozłowska, PhD
ORGANIZATION		Student Research Group 'Materials in Medicine', Gdańsk University of Technology
TITLE OF ENTRY		**DuoSet-SaMgCem: A dual-setting injectable bone cement composed of magnesium phosphate and cross-linked sodium alginate hydrogel for minimally invasive orthopedic procedures**

This invention introduces a novel dual-setting biocomposite bone cement intended for the minimally invasive treatment of bone defects, particularly in osteoporotic bone. The material is composed of magnesium-potassium phosphate and sodium alginate hydrogel, cross-linked using calcium carbonate and gluconolactone. Its setting mechanism combines ceramic hydration with polymeric gelation. The optimized formulation improves injectability, enhances paste cohesion, and reduces brittleness without compromising mechanical strength or cytocompatibility. Moreover, the bioactive composition promotes favorable interactions with bone tissue, supporting regenerative processes. This cement demonstrates superior functional performance, offering a promising alternative to conventional materials in orthopedic and trauma-related clinical applications.

PL-06	NAME(S)	Marcin Wekwejt, PhD / Monika Wojtala, MSc / Anna Ronowska, PhD / Aleksandra Mielewczyk-Gryń, PhD / Justyna Kozłowska, PhD
ORGANIZATION		Student Research Group 'Materials in Medicine', Gdańsk University of Technology
TITLE OF ENTRY		**MgCarraGelCem: A regenerative injectable biocomposite bone cement combining magnesium phosphate and carrageenan hydrogel with enhanced handling properties**

The invention introduces a novel injectable biocomposite bone cement composed of magnesium-potassium phosphate and cross-linked carrageenan hydrogel. Its dual-setting mechanism: combining ceramic hydration and polymer gelation - enables precise control over the setting process, reduces brittleness, and improves injectability. The cement hardens at a reduced temperature, minimizing the risk of thermal damage to surrounding tissues. High cohesion in aqueous environments ensures stability during clinical application. Additionally, the controlled release of bioactive magnesium ions promotes osteogenic activity and supports bone regeneration, making it a promising solution for treating bone defects, including those associated with osteoporotic fractures.

PL-07	NAME(S)	Sylwia Wencel / Waldemar Szczepaniak
ORGANIZATION		Czestochowa University of Technology / Metalurgia S.A. Radomsko
TITLE OF ENTRY		**Development of Technology and Launch of Production of Nickel-Plated Welding Wires with Increased Corrosion Resistance**

The project results provided the basis for their implementation in the business activities of the consortium member—Metalurgia S.A. Radomsko. This implementation is crucial for the steel construction sector, where welding wires are used in automatic and semi-automatic welding processes. Thanks to increased corrosion resistance and improved electrical conductivity, nickel-plated welding wires have significantly enhanced the quality and durability of welds, reducing the risk of technological defects and improving welding process stability. Metalurgia S.A., as part of the Czech consortium MORAVIA, introduced this technology to the international market, opening new opportunities for the export of Polish technological innovations. The product—nickel-plated welding wires with increased corrosion resistance—has the potential to dominate the market segment previously occupied by copper-coated and organically coated wires, representing a breakthrough in welding materials technology.

PL-08	NAME(S)	Sylwia Wencel / Anna Radecka
ORGANIZATION		Czestochowa University of Technology / Metalurgia S.A. Radomsko
TITLE OF ENTRY		**Development of an Innovative Technology and Launch of Production of a Wide Range of Wires and Fasteners Made from TRIP Steel**

The main objective of the project was the development of two innovative technologies:
1. A two-stage heat treatment technology for TRIP wires, which serve as a semi-finished product for the production of fasteners. This process resulted in wires with a multiphase TRIP (Transformation Induced Plasticity) structure, characterized by high mechanical strength and appropriate plasticity, enabling their further processing in fastener manufacturing. The research involved determining the optimal heat treatment parameters, analyzing the retained austenite content, and conducting strength tests along with microstructural evaluations.
2. A plastic forming technology for fasteners made from TRIP-structured wires, eliminating the need for traditional heat treatment (quenching and tempering) as well as additional finishing operations such as straightening. The developed technology enables the production of screws and bolts with increased resistance to dynamic loads, meeting the requirements of property class 8.8, used in construction and steel structure industries.

PL-09	NAME(S)	Tomasz Siuda
ORGANIZATION		OIL AND GAS INSTITUTE - NATIONAL RESEARCH INSTITUTE
TITLE OF ENTRY		**TUBE FLOWMETER FOR MEASURING LEAKS**

The innovation of the invention lies in the use of a pressurised tube coiled at a suitable radius which limits the d!mensions of the device and allows the measuring range of the flow of air or any'gas to be freely adjusted, both by the amount of pressure applied to the instrument and by changing the diameter or length of the tube itself.

PL-10	NAME(S)	Tomasz Siuda
ORGANIZATION		OIL AND GAS INSTITUTE - NATIONAL RESEARCH INSTITUTE
TITLE OF ENTRY		**PURE HYDROGEN BURNER FOR DOMESTIC GAS COOKERS**

The essence of the invention is a burner of a suitable shape and a gas nozzle, which enable the combustion of pure hydrogen while maintaining the thermal-performance parameters of the burner such as its efficiency (efficiency level at 5/%). The burner can be used for existing gas cookers as well as newly designed ones. It can also be present as a single burner in gas stool-type appliances or in the burner group of a typical gas cooker or gas hob.

PL-11	NAME(S)	Stefan Ptak / Agnieszka Skibińska / Wojciech Krasodomski / Artur Antosz / Zygmunt Burnus / Magdalena Żółty / Grażyna Żak / Jarosław Markowski / Sylwia Jędrychowska / Agnieszka Wieczorek
ORGANIZATION		OIL AND GAS INSTITUTE - NATIONAL RESEARCH INSTITUTE
TITLE OF ENTRY		**COLD HARDENING FLUID**
The inventive solution of the present patent application is the innovative composition of a quenching fluid for cold heat treatment of steel, containing as the main ingredient a vegetable base oil, modified jojoba oil, and with additives with various refining functions, including modified lanolin. The fluid maintains stable performance during heat treatment and ensures that the desired martensitic or bainitic structure of the hardened workpieces is achieved.		

PL-12	NAME(S)	Agnieszka Skibińska / Stefan Ptak / Dariusz Sacha / Magdalena Żółty / Iwona Rycaj / Małgorzata Maślanka / Kamil Pomykała / Iwona Kornecka / Piotr Szajnowski
ORGANIZATION		OIL AND GAS INSTITUTE - NATIONAL RESEARCH INSTITUTE
TITLE OF ENTRY		**GREASE FOR BEARINGS IN OFFSHORE WIND TURBINES AND METHOD OF MANUFACTURING OFFSHORE WIND-TURBINE BEARING GREASE**
The present patent application is concerned with a lubricant for use in wind turbines. Its primary function is to ensure the reliable operation of wind turbines in a range of climatic conditions. The grease in question is characterised by a number properties, including, but not limited to, excellent mechanical stability and good extreme pressure transmission. This renders it suitable for utilisation in situations where high and long-term bearing loads are to be expected.		

PL-13	NAME(S)	Maciej Major / Izabela Adamczyk
ORGANIZATION		Czestochowa University of Technology, Faculty of Civil Engineering
TITLE OF ENTRY		**OPENWORK WALL BLOCK**
The invention concerns a new solution of an openwork wall block made of a recycled concrete mix (the additives used are: polyethylene terephthalate in the form of PET flakes and SBR rubber granulate of various fractions), intended for use in construction, in particular for the construction of walls exposed to external dynamic impact, e.g. foundation walls of machines or external load-bearing walls of buildings located near railway tracks, trams or communication routes with high traffic of wheeled vehicles.		

PL-14	NAME(S)	Norbert Szczygiol / Mariusz Urbański / Paweł Helbrych
ORGANIZATION		Czestochowa University of Technology, Faculty of Civil Engineering
TITLE OF ENTRY		**NEW TYPE OF STEEL FIBRE REINFORCEMENT FOR CEMENTITIOUS COMPOSITES**
The invention concerns a new shape of steel fibre reinforcement designed for cement-based composites. It significantly improves mechanical and structural properties of fibre-reinforced concrete. The proposed solution addresses technological problems of currently used fibres, such as clustering (“hedgehog” effect), poor workability, or uneven distribution in the mix. This novel type of reinforcement consists of closed geometric shapes, which prevent tangling, improve uniform dispersion, and enhance the bond with the cement matrix. This novel type of reinforcement consists of closed geometric shapes, which prevent tangling, improve uniform dispersion, and enhance the bond with the cement matrix.)		

PL-15	NAME(S)	Przemyslaw Postawa / Piotr Gorak / Jaroslaw Kret
ORGANIZATION		Czestochowa University of Technology, Faculty of Mechanical Engineering, Department of Technology and Automation
TITLE OF ENTRY		**CLA Composite Lightweight Aggregate – innovative material made from recycling of ash and plastic waste**
The subject of the invention is a new composite aggregate made from recycling of ashes and plastic waste. As a matrix in the created composite the waste of a post-consumer thermoplastic polymers could be used. The filler's role was fulfilled by fine-grained anthropogenic raw materials. What problem the invention solves: • waste management of PET, PE, PP plastic, • management of waste of combustion processes (fly ashes), • the possibility of using waste heat from other processes for their production, • reduction of energy compared to current methods of producing lightweight aggregate by 60-70%		

PL-16	NAME(S)	Robert Rossa / Szczepan Opach / Łukasz Cyganik / Jan Mikoś / Henryk Pampuch / Bartłomiej Będkowski / Bartosz Cholewa
ORGANIZATION		Łukasiewicz – Upper Silesian Institute of Technology
TITLE OF ENTRY		**Low magnetic, high strength squirrel cage induction motor type SINMK280-4 with nominal power PN = 90 kW.**

The motor has characteristic electromagnetic and mechanical features. In terms of the electromagnetic circuit design the characteristic features are: ○ three-phase squirrel cage induction motor with an internal aluminum rotor, ○ motor stator equipped with two windings: - main winding - responsible for generating a torque on the motor shaft, - compensatory winding - responsible for suppression of stray magnetic field in the space around the motor. In terms of the mechanical design the characteristic features are: ○ the mechanical design of the entire motor is resistant to the effect of mass inertia forces generated during the acceleration of up to 30g in any direction (X,Y,Z), ○ all motor components (except magnetic core) are made from non-magnetic materials (aluminum alloys, non-magnetic stainless steel).

PL-17	NAME(S)	Tomasz Wolnik / Bartłomiej Będkowski / Szczepan Opach / Tomasz Jarek / Łukasz Cyganik / Jan Golec
ORGANIZATION		Łukasiewicz Research Network – Upper Silesian Institute of Technology
TITLE OF ENTRY		**Ultra-Light Motor Series LEMoK**

The subject of the application is a series of innovative, ultra-light LEMoK motors with an above-average power density coefficient. The series of developed solutions includes both permanent magnet motors, as well as motors independent of permanent magnets, i.e. an induction motor (IM) and a synchronous reluctance motor (SynREL). LEMoK series motors are characterized by the highest power value in their class in relation to their dimensions and weight, not seen on the market so far. LEMoK is a series of ultralight electric motors designed for the most demanding applications, where the dimensions and weight of the motor are of priority importance. LEMoK motors are intended mainly for the aviation, automotive, water industries, as well as for industrial applications as special drives.

PL-18	NAME(S)	Piotr Dukalski / Bartłomiej Będkowski / Łukasz Cyganik / Tomasz Jarek / Tomasz Wolnik / Tadeusz Glinka
ORGANIZATION		Łukasiewicz – Upper Silesian Institute of Technology
TITLE OF ENTRY		**A system of technological solutions for designing wheel hub motors for EVs**

The solution is a system of design solutions for wheel hub motors. The solutions allow the design team to design engines of this type for various applications in the field of electric vehicles. Passenger vehicles, heavy transporters, heavy industrial vehicles, buses, unmanned vehicles. The solutions include technologies related to cooling systems, electric motor structures, assembly technology, and tests of this type of electric motors. The solutions allow for the design and testing of innovative wheel hub motors, including those with an oil cooling system, planetary gears, with a nominal current density of 37 A/mm2. The solutions used are tested in the laboratory and in an electric car.

PL-19	NAME(S)	mgr inż. Piotr Śliwiński / mgr inż. Maciej Piotrowski
ORGANIZATION		Łukasiewicz Research Network – Upper Silesian Institute of Technology
TITLE OF ENTRY		**Electron Beam Dissimilar Brazing of Titanium using keyhole remelting as heat source for butt-joining thick materials**

The design of welding technology we propose ensures that heat is uniformly applied to the butt joint axis by using the keyhole melt-through technique. By remelting the less reactive material through, the heat is evenly applied to the joint axis, thus avoiding problems such as overheating of the top (heated) layer or lack of wetting through underheating in the bottom layer. In addition, thanks to the high energy density and the possibility of using high remelting speeds, it is possible to shorten the heat cycle very dramatically, thus limiting the formation of titanium intermetallic phases. Titanium-steel and titanium-inconel joints can be used in the chemical, petrochemical and other industries to make pipe and tube connections that require a high level of tightness, good corrosion resistance and high strength - without exposure to high temperatures.

PL-20	NAME(S)	Janusz Pikuła / Zygmunt Mikno
ORGANIZATION		Łukasiewicz Research Network – Upper Silesian Institute of Technology
TITLE OF ENTRY		**Method of welding fence panels, especially from metal rods**

The object of the invention is to develop such a cycle for welding fence panel elements in which, by setting parameters for successive sequences, the deformations occurring in the process and their adverse effects on the characteristics of the structure are reduced. The process according to the invention for welding fence panels, in particular of metal rods in a cross-rod configuration, in which rows of parallel longitudinal rods are connected at predetermined intervals to rows of transverse rods at crossing points and form meshes defined by the spacing between the longitudinal rods and the transverse rods, characterized in that the sequence of making the welds in the rows from the first to the last row is such that the welds are made at the crossing points in the row, each time on non-adjacent successive longitudinal bars, in the direction from the edge longitudinal bar of the panel to its central longitudinal bar, until all the welds in the row have been made.

PL-21	NAME(S)	Adam Zieliński / Hanna Purzyńska
ORGANIZATION		Łukasiewicz – Upper Silesian Institute of Technology
TITLE OF ENTRY		**Cyclic creep as a necessary component in the assessment of the material condition of power boiler elements operating in the control system.**

The credibility of the condition assessment and the forecast of further safe operation depend primarily on the characteristics and material data and knowledge of the destruction processes occurring in the materials in use. It is important to know the relationship between the changes occurring in the microstructure and the level of properties responsible for transferring the required operating loads, related to the degree of exhaustion. In order to obtain an acceptable level of credibility of the created condition assessment and the forecast of further operation, material data are necessary for materials from each type of steel used, with a different degree of "exploitation", and in the case of changed operating conditions, taking into account not only the effect of creep but also thermo-mechanical fatigue, especially in relation to materials with a significant degree of exhaustion, i.e. after operation beyond the design operating time.

PL-22	NAME(S)	Daniel Malecha / Robert Albrecht / Maciej Zubko / Stanisław Małecki
ORGANIZATION		Baterpol S.A. / Faculty of Non-Ferrous Metals, AGH University of Krakow / Institute of Materials Engineering, University of Silesia
TITLE OF ENTRY		**Alternative technology for refining recycled Pb while preserving Sn**

In recent years, the rapid development of the automotive and energy storage sectors has led to a significant increase in the consumption of lead-acid batteries, which in turn generates an increasing flow of units at the end of their life. Conventional battery designs have been characterized by an increasing proportion of tin added as a major alloying element in the lead grids, which increases their durability and electrical conductivity. At the same time, this trend poses a challenge to the recycling industry - the recovery of lead while maintaining the valuable tin content, so that the resulting alloy retains optimal properties for reuse. In this study, an industrial-scale lead pyrorefining process was developed and implemented according to the methods described in the patent applications, enabling the selective removal of impurities while maintaining the tin concentration in the metal. We performed a detailed characterization of the dross obtained in the process, both in terms of chemical and phase analysis, supplemented by microscopic observations. Additionally, DTS-TGA analysis was performed on the metal dross collected immediately after the addition of aluminum scrap to lead. The obtained results allow for the assessment of the process efficiency and indicate directions for its optimization in order to increase the recovery of the lead-tin alloy.

PL-23	NAME(S)	Emilia Szweda / Maja Szweda / Juliusz Szweda
ORGANIZATION		High School No. 4 at School Complex No. 6 in honor of King John III Sobieski in Jastrzebie-Zdroj / Silesian University of Technology / Public Primary School of the Salesian Sisters in Jastrzebie-Zdroj
TITLE OF ENTRY		**Help! Save the Dog**

The project involves developing the mobile application “Help! Save the Dog” — an interactive tool designed to support first aid for dogs. It features emergency instructions, personalized procedures, instructional videos with Polish Sign Language (PJM) interpretation, and offline functionality. Complementing the app is an innovative device that converts AED voice commands into text, created for deaf and hard-of-hearing individuals. Future plans include adding support for blind users through a screen reader and Braille markings. Both solutions address critical accessibility gaps in emergency situations, improving safety for both people and animals — because saving lives should never face barriers!

PL-24	NAME(S)	**Joanna Ortyl / Patryk Szymaszek / Filip Petko / Mariusz Galek / Andrzej Świeży / Kamil Pulit / Michał Sula / Małgorzata Noworyta / Przemysław Pazdan / Ireneusz Kownacki / Myong Joon Oh / Małgorzata Tyszka-Czochara**
ORGANIZATION		Cracow University of Technology
TITLE OF ENTRY		**Luminescent Iridium(III) Complexes with Coumarin Ligands as Innovative Theranostic Tools for Integrated Photodynamic Therapy and Imaging Diagnostics of Cancer, Utilizing Precision 3D-Printed Microneedles**

This research focuses on the development and evaluation of luminescent iridium(III) complexes with coumarin ligands for their use as theranostic agents in cancer treatment. The study specifically investigates the application of these complexes on eukaryotic cell lines, including both cancerous and healthy cells from selected tumor types. Through comprehensive in vitro and in vivo assessments, the research aims to establish the dual functionality of these compounds in photodynamic therapy and imaging diagnostics. The project leverages advanced 3D-printed microneedle systems for localized and personalized delivery, enhancing the precision of treatment. By combining therapeutic and diagnostic capabilities, this research could offer significant advancements in cancer management, providing a more targeted, efficient, and safer approach to therapy.

PL-25	NAME(S)	**Joanna Ortyl / Patryk Szymaszek / Agnieszka Sysło / Kasidid Yaemsunthorn / Maria Dera / Dominika Krok-Janiszewska / Magdalena Jankowska / Karolina Kuczyńska / Emilia Ferenc / Małgorzata Tyszka-Czochara**
ORGANIZATION		Cracow University of Technology
TITLE OF ENTRY		**Eco-Friendly Carbon Dots Synthesized from Citric Acid as Theranostic Agents for Combined Photodynamic Therapy and Real-Time Monitoring of Cancer Treatment for Advanced Therapeutic Applications**

This invention explores the innovative use of carbon dots synthesized from citric acid as eco-friendly theranostic agents in cancer treatment. These carbon dots offer a dual function: enabling photodynamic therapy and providing real-time monitoring through their inherent luminescent properties. Specifically, they facilitate photodynamic therapy using energy transfer and electron transfer processes in the developed therapeutic systems to generate singlet oxygen. Their synthesis from citric acid aligns with sustainable practices, offering a green alternative to traditional theranostic compounds. The research focuses on evaluating the effectiveness and safety of these carbon dots on cancerous and healthy cell lines in vitro, as well as in vivo on biological models. Fluorescence imaging is employed to track their distribution and therapeutic impact within cellular environments.

PL-26	NAME(S)	**Filip Petko / Andrzej ŚWIEŻY / Kamil Pulit / Katarzyna STARZAK / Joanna Ortyl**
ORGANIZATION		Cracow University of Technology
TITLE OF ENTRY		**Cationic Photoinduced Frontal Polymerization as Innovative High-Energy Efficient Method of Materials Curing**

Photoinitiated cationic front polymerization (CPF) is a novel, energy-saving method of curing materials. Unlike conventional photopolymerization, limited to thin layers by UV penetration, CPF generates a self-sustaining reaction front, in which the released heat sustains and spreads the polymerization deep into the resin/cured material. This enables uniform curing of resin and resin compositions with fillers, e.g. glass fiber, for a layer up to several millimeters thick, which is very important in the composite industry. In our invention, we use iodonium salt derivatives as photoinitiators, which ensures effective initiation of epoxy or oxetane ring opening. The aim of our research is the broad development of CPF technology - from photoinitiator optimization, through testing the mechanical and thermal properties of cured products, to scaling the process to efficient industrial production. CPF is just gaining attention from researchers, but it already shows the potential to revolutionize industrial processes by shortening cycle times and reducing energy consumption.

PL-27	NAME(S)	**Monika Topa-Skwarczyńska / Jakub PIETRASZEWSKI / Mateusz PYZNAR / Maciej GIBAS / Artur ZARZECKI / Wojciech SKWARCZYŃSKI / Joanna ORTYL**
ORGANIZATION		Cracow University of Technology
TITLE OF ENTRY		**Next-Generation Photopolymerization 3D Printer with Switchable Light Sources for Precise Dental Applications**

We have developed a novel 3D printer that utilizes two switchable light sources at 385 nm (UV) and 405 nm (visible) wavelengths, which were chosen for their wide use in dental 3D printing. This system allows the printer to work with a wide range of dental resins, and the innovative initiating systems developed by us, ensuring better polymerization process control and improved printed model accuracy. The innovation lies in the ability to change the light source during the 3D printing process, which enables the activation of two different curing mechanisms – each optimized for a specific light wavelength, improving precision and control. This approach helps prevent over-curing, a situation where the resin hardens too much and becomes brittle or cracks – switching the light at the right moment helps avoid this issue. The novel ability to adjust both wavelength and light intensity during printing provides a unique advantage on the market in producing high quality dental models, enabling precise control of the printing process.

PL-28	NAME(S)	**Dagmara Słota / Karina Niziołek / Julia Sadlik / Edyta Kosińska / Mateusz Urbaniak / Marcin Wekwejt / Kamila Lis / Mateusz Dyląg / Agnieszka Sobczak-Kupiec**
ORGANIZATION		Cracow University of Technology & University of Lodz & Gdansk University of Technology
TITLE OF ENTRY		**3D Printing Granulate Supporting Bone Tissue Regeneration**

3D printing has revolutionized the approach to creating personalized implants. This technology enables the production of customized implants tailored to the individual needs of each patient. 3D printing allows for faster treatment and minimizes the risk of complications while ensuring precise implant fitting, especially in complex reconstructions, such as those involving bone defects. Invention combines a stable polymer phase with bioactive ceramics, accelerating bone regeneration. This combination supports not only the structural integrity of the implant but also its biological interaction with surrounding tissues. The structure is biomimetic, mimicking the natural architecture of bone, enhancing regeneration process and integration with the body.

PL-29	NAME(S)	**Karina Niziołek / Dagmara Słota / Katarzyna Haraźna / Mateusz Dyląg / Agnieszka Sobczak-Kupiec**
ORGANIZATION		Cracow University of Technology
TITLE OF ENTRY		**Hierarchically Structured, Functionally Graded Multi-Layer Polymer–Ceramic Composites for Osteochondral Tissue Engineering**

Gradient composite biomaterials offer a breakthrough approach for the repair of osteochondral defects by recreating the complex transition between hard bone and elastic cartilage. These advanced structures integrate the mechanical stability of a PLA base with progressively increasing layers of bioactive polymers and calcium phosphate ceramics, mimicking the natural bone–cartilage interface. The developed scaffold consists of a PLA scaffold coated with sequential layers of polyvinylpyrrolidone (PVP), polyethylene glycol (PEG), and pullulan. Within these polymeric layers, calcium phosphate ceramics are incorporated in a controlled gradient—from high ceramic content near the PLA base to minimal ceramic content toward the outer polymer-rich surface. This architecture reproduces the gradual change in stiffness, porosity, and bioactivity observed in native osteochondral tissue.

PORTUGAL

PT-01	NAME(S)	**Fernando Maldonado Lopes**
ORGANIZATION		INVENTARIUM SCIENCE – SRD Security, Research & Development – Portugal
TITLE OF ENTRY		**SHOCK4SHIELD**

Is essentially an electrified riot control shield, designed to provide added protection for Police and military personnel in hazardous crowd control situations. It can be used like any normal shield or activated to provide a less-than-lethal immobilizing shock by the user.

PT-02	NAME(S)	**Fernando Maldonado Lopes**
ORGANIZATION		INVENTARIUM SCIENCE – SRD Security, Research & Development – Portugal
TITLE OF ENTRY		**JET4BATON**

Professional Police & Army Anti-Riot Tactical Batons Exclusively designed to: *Peace Maintenance *Law Enforcement & Prison Control with Incorporated Red Pepper or Tear Gas canister and Front Impact Shock Absorber System; extra protection for police and military personnel in hazardous crowd control situations, able to reach 10 meters of effective defensive range.

QATAR

QA-01	NAME(S)	**Ms. Marwa Anas Fadhil Alani / Ms. Ala Husam Subhi Alardah / Ms. Mennatalla SheikhMohamed Saifeldin kuna / Mr. Abdulnaser Maamon Rabie / Ms. Amna Abdulfattah Deyab Osman / Dr. Noora H. Al-Qahtani**
ORGANIZATION		Qatar University (QU)
TITLE OF ENTRY		**974.HUB Research Group: Empowering Future Leaders Through Sustainability Education and Innovation**

The **974.HUB Research Group** is a transformative initiative designed to empower the next generation of sustainability leaders in Qatar. It integrates immersive education, applied research, and entrepreneurial innovation to tackle pressing environmental and technological challenges. Participants engage in hands-on research, industry-driven mentorship, and cross-sector collaboration. Aligned with the Qatar National Vision 2030 and the UN Sustainable Development Goals, the program delivers real-world impact in areas such as renewable energy, water solutions, and climate resilience. **974.HUB Research Group** positions Qatar as a global leader in sustainability education and green innovation.

QA-02	NAME(S)	**Dr. Mohamed A. Helally / Mr. Khalid H. Labda / Mr. Abdalla A. Alodat / Mr. Mohammed Al-Hajri / Ms. Ala Husam Subhi Alardah / Ms. Amna Abdulfattah Deyab Osman / Dr. Mostafa Hussein Sliem / Dr. Noora H. Al-Qahtani**
ORGANIZATION		Qatar University (QU) and Al-Andalus Preparatory Secondary Private School for Boys
TITLE OF ENTRY		**Advanced 3D polymeric sponges offer promising solutions for addressing environmental challenges in Qatar's marine ecosystems.**

Oil contamination in marine environments, particularly in petroleum-rich regions such as Qatar, poses a threat to both biodiversity and human activities. This invention presents graphene–chitosan-based 3D polymeric sponges engineered for efficient oil-water separation. These sponges exhibit high porosity, hydrophobicity, and lipophilicity, enabling effective absorption of heavy oil-in-water emulsions. Surface functionalization enhances performance under Qatar's harsh climatic conditions. The study investigates their reusability, scalability, and industrial viability. This eco-friendly solution supports Qatar's environmental strategies by providing a sustainable approach to mitigating oil spills, protecting marine ecosystems, and promoting resource recovery.

QA-03	NAME(S)	**Ms. Amna Abdulfattah Deyab Osman / Mr. Abdulnaser Maamon Rabie / Ms. Ala Husam Subhi Alardah / Ms. Marwa Anas Fadhil Alani / Dr. Noora H. Al-Qahtani**
ORGANIZATION		Qatar University (QU)
TITLE OF ENTRY		**Preserving Qatar's Heritage: Advanced Sustainable Solutions for Islamic Manuscript Conservation and Digital Empowerment**
This groundbreaking project presents a sustainable, science-driven solution to preserve Qatar's priceless Islamic manuscripts, with a focus on the chemical degradation of iron gall inks and verdigris pigments. Utilizing cutting-edge, non-invasive technologies—XRF, Raman spectroscopy, and FORS—this initiative creates a first-of-its-kind national digital database cataloguing ink and pigment profiles of early Qur'anic texts as a basis for future AI solutions. By merging advanced material science with cultural heritage preservation and digital accessibility, it ensures the manuscripts' longevity, supports global scholarly research, and fosters community engagement to protect Qatar's invaluable legacy for future generations.		

QA-04	NAME(S)	**Ms. Mennatalla SheikhMohamed Saifeldin kuna / Ms. Zainab Khaled Smati / Ms. Sara Ahmad M. A. Al-Baker / Ms. Ala Husam Subhi Alardah / Ms. Marwa Anas Fadhil Alani / Dr. Noora H. Al-Qahtani**
ORGANIZATION		Qatar University (QU)
TITLE OF ENTRY		**Transforming Plastic Waste into High-Performance Energy Storage: A Breakthrough in Sustainable Materials**
This groundbreaking innovation redefines plastic waste as a strategic resource for advanced energy storage solutions. Utilizing a precise thermal and chemical activation process, discarded polyethylene plastics are upcycled into graphene-like carbon nanostructures with exceptional electrochemical properties. These structures are then engineered into cutting-edge electrodes for high-performance supercapacitors. The invention not only diverts non-biodegradable waste from the environment but also advances the next generation of sustainable energy systems. By merging circular economy principles with frontier materials science, this project delivers scalable, eco-efficient technology with a global impact on energy security and environmental resilience.		

QA-05	NAME(S)	**Sheikh Hamad Bin Fasial Bin Saoud Al-Thani / Ms. Ala Husam Subhi Alardah / Mr. Mohammed Darwish / Dr. Noora H. Al-Qahtani**
ORGANIZATION		Qatar University
TITLE OF ENTRY		**Deploying IoT-Based Drones for Air Quality Assessment in Remote Agro-Industrial Zones**
This project introduces a low-cost, IoT-enabled drone system designed to monitor air quality in agricultural areas adjacent to industrial zones in Qatar. Equipped with an ESP32 NodeMCU, MQ-135 gas sensor, and PMS5003 particulate matter sensor, the drone detects pollutants such as ammonia, SO_2, benzene, and PM1.0–PM10. Data is transmitted via Wi-Fi or Bluetooth for real-time remote analysis. The mobile platform ensures spatially distributed, on-demand monitoring, supporting precision agriculture, pollution control, and environmental sustainability in Qatar's rapidly industrializing environment.		

QA-06	NAME(S)	**Hind Alshammari / Maali Alshammari / Ghala Alshammari / Eng. Azza Abouhashem / Dr. Mohammed Hassan**
ORGANIZATION		Qatar University Young Scientists Center
TITLE OF ENTRY		**Remediation of the soil in Qatar to handle Harsh environments using sustainable biodegradable polymers**
Many challenges are facing agricultural food production in dry countries such as the Gulf. Some of these challenges are climate conditions that do not support agriculture due to hot weather, low rainfall and humid conditions for the long summer. Also the rare of freshwater and limited soil for agriculture. However, food security is a national priority for the State of Qatar and the government has launched many initiatives to improve local agricultural production while reducing its import dependency. Therefore, in the last decade between 2010 and 2019, the greenhouse and open field production of the most consumed vegetables in the country has increased from 31.573 tons to 66.500 tons, recording an approximate 110% increase. This research aims to use eco-friendly material which is chitosan that has dual functionality as a soil conditioner, moisture retainer, antimicrobial agent, and plant growth promoter. Chitosan offers a sustainable, all-in-one product that aims to solve the problem of agriculture in hot countries such as Qatar.		

QA-07	NAME(S)	Dr. Aboubaker Elbashir / Hussain ALKhayyat / Rabeah AL-Kuwari / Mohammed AL-Marri / Fahad AL-Hashmi
ORGANIZATION		Qatar University Young Scientists Center
TITLE OF ENTRY		**SaltFuel Innovation: Harnessing Biosaline Acacia for Biodiesel**

This study investigates the utilization of biosaline plants, specifically Acacia Ampliceps, for sustainable biodiesel production in Qatar's arid environment. Oil extraction from Brassica canola seeds yielded 26.5% oil content, which was converted to biodiesel and blended with conventional diesel (DB20: 20% biodiesel, 80% diesel). Engine performance testing revealed that DB20 blend demonstrated reduced exhaust emissions including CO_2, CO, and NOx compared to pure diesel (D100), while maintaining acceptable fuel consumption and volumetric efficiency. The research addresses Qatar's high per-capita CO_2 emissions by exploring locally cultivated, salt-tolerant plants as renewable fuel alternatives, contributing to environmental sustainability and supporting Qatar National Vision 2030's energy diversification goals.

QA-08	NAME(S)	Amen Allah Benhassan / Albaraa Ahmed / Ali Al-Baker / Yousef Hassan / Shoaib Alam Mallick / Rana Magdy Abdou
ORGANIZATION		Qatar University Young Scientists Center
TITLE OF ENTRY		**Innovative wheelchair for disabled basketball players**

Wheel chair basketball is one of the most popular sports between disabled people. One of the factors causing an increase in the number of injures between the wheel chair basketball players, is the old traditional design of the wheelchair. Thus, this project was developed to create a safe and inclusive sports environment for players with physical disabilities. It introduces an innovative smart-oriented system that can easily control the wheel chair using the head cues and directions. Additionally it has other advancements in the wheels structure and design. This novel technology-based wheelchair will reduce the injury risk between players and is a transformative step in the adaptive sports technology.

QA-09	NAME(S)	Fahad Hazam / Mohammed Ahmed / Ahmed Al-Sulaiti / Mohammed Al-Ansari / Ruba Ali
ORGANIZATION		Qatar University Young Scientists Center
TITLE OF ENTRY		**Smart Refereeing: An Arduino-Based Sensor System for Accurate Paddle Sports Scoring**

This project introduces a sensor-based system using force sensors and an Arduino microcontroller to enhance refereeing accuracy in paddle sports. The system detects whether the ball touches the glass or ground first, providing real-time, objective feedback for scoring decisions. Automating the decision-making process reduces human error and increases referee efficiency, ensuring fairer and faster calls. The technology has the potential to be adapted to other sports, offering broader applications in sports officiating. This innovation represents a significant advancement in the use of sensors and automation to improve the accuracy and transparency of competitive sports.

QA-10	NAME(S)	Shahad Alkhair / Dr. Aboubaker Elbashir / Dr. Saeed Hashim Almeer
ORGANIZATION		Qatar University Young Scientists Center
TITLE OF ENTRY		**Inclusive Environmental Problem-Solving Program for Students with Hearing Disabilities: Empowering Change through the SDGs**

This invention is an inclusive, school-based program designed to develop problem-solving skills among students, particularly those with disabilities such as deafness or hearing impairments. The program integrates STEM education with environmental topics aligned to the SDGs, aiming to equip students with the skills to address environmental challenges. Through experiential learning, students explored problems, identified root causes, and brainstormed creative solutions. Finally, program concluded with a poster exhibition, promoting teamwork and providing a platform for students to showcase their ideas. This model offers a scalable, adaptable, and accessible approach to inclusive education, with strong potential for commercialization in sustainability-focused learning contexts.

ROMANIA

RO-01	NAME(S)	Oana-Roxana LĂPUȘAN (HANDABUȚ) / Ovidiu NEMEȘ / Ana Maria JEFLEA
ORGANIZATION		Technical University of Cluj-Napoca
TITLE OF ENTRY		**Natural fiber-based eco-materials**

Natural fiber composites (NFCs) are gaining prominence as sustainable, eco-friendly, and cost-effective alternatives to composite materials. Utilizing renewable resources like flax, jute, hemp, wool, and bagasse, these composites offer advantages such as biodegradability. Even though NFCs have advantages, they struggle with issues like natural fibers soaking up water and not sticking well to certain types of plastics.These issues can compromise the material's performance and durability. To overcome these limitations, various surface treatments are researched, including chemical, plasma, and biological methods, as well as the use of coupling agents or nanofillers. These modifications aim to enhance the bond between fibers and the matrix, thereby improving mechanical properties, thermal insulation, and wear resistance.

RO-02	NAME(S)	Plitea Nicolae / Pîslă Doina Liana / Vaida Liviu Călin / Gherman Bogdan George / Tucan Paul George Mihai
ORGANIZATION		Technical University of Cluj-Napoca
TITLE OF ENTRY		PRoHep-LCT- parallel robot for laparoscopic treatment of hepatic tumors

The invention relates to a parallel robot for laparoscopic treatment of unresectable liver tumors. According to the invention, the robot consists of two robotic modules: the intra-operatory ultrasound (I-US) guiding module is designed for guiding a hepatic ultrasound probe in the operating field; the needle guiding module is designed for guiding and inserting brachytherapy needles in hepatic tumors (which are localized using I-US). Each robotic module has five degrees of freedom and are placed on a common frame which is fixed on the patient's bed. Furthermore, both parallel robotic modules consist of two parallel mechanisms, one with three degrees of freedom and is used for positioning an automated medical instrument (to manipulate a hepatic ultrasound probe, or for brachytherapy needle insertion), and the second mechanism with two degrees of freedom for the automated instrument orientation.

RO-03	NAME(S)	BODOGA Alexandra / NISTORAC Andreea / LOGHIN Maria-Carmen
ORGANIZATION		Gheorghe Asachi Technical University of Iasi
TITLE OF ENTRY		Device and Method for Disinfection of Contaminated Clothing Products

The present invention relates to a device for disinfection of clothing products contaminated with pathogens comprising a gas impermeable enclosure equipped with a sealing system wherein the gas impermeable enclosure has a one-way mechanical valve connectable to a vacuum pump, said mechanical valve being provided with a closing cap; and wherein the gas impermeable enclosure further comprises an input connectable to an ozone generator. The invention also discloses a method for disinfection of clothing products contaminated with pathogens with the device of the invention comprising the step of introducing the products to be disinfection into the gas impermeable enclosure, vacuuming the air, and injecting ozone at a certain concentration for a specific time.

RO-04	NAME(S)	CAŞCAVAL Dan / GALACTION Anca Irina / POSTARU Mădălina / TUCALIUC Alexandra
ORGANIZATION		Gheorghe Asachi Technical University of Iasi & Grigore T. Popa University of Medicine and Pharmacy Iasi, Romania
TITLE OF ENTRY		Process For Separating 7-Aminocephalosporanic Acid

The invention relates to a process for separating 7-aminocephalosporanic acid from aqueous solutions or from media resulting from chemical and enzymatic reactions. According to the invention, the process consists in the reactive extraction of the aqueous solution containing 7-aminocephalosporanic acid with n-heptane containing di-(2-ethylhexyl)-phosphoric acid in a concentration of 20 g/l, while intensively stirring the phases at a temperature of 25°C, for 1 min, followed by the re-extraction of 7-aminocephalosporanic acid from the extract with an aqueous hydrochloric acid solution, while stirring, at a temperature of 25°C, for 1 min, with an extraction yield of 97.5%.

RO-05	NAME(S)	BUNEA Georgiana / ALEXA-STRATULAT Sergiu-Mihai
ORGANIZATION		Gheorghe Asachi Technical University of Iasi
TITLE OF ENTRY		Mobile Experimental Stand for Testing a Linear Structural Element Under the Action of High Temperatures

The invention refers to a mobile experimental stand for testing a linear structural element, with a length of approximately 1 ÷ 4 m, to temperatures of 600ºC÷800ºC. It may be used in testing various types of beams or columns to high temperatures. The stand presents versatility, the height of the burner and the distance between burners being easily set according to the user's needs. Furthermore, the stand is simple enough to be disassembled and moved to other locations, thus reducing transportation costs for the client.

RO-06	NAME(S)	BĂLȚATU Mădălina Simona / VIZUREANU Petrică / GEANTĂ Victoraș / ȘTEFĂNOIU Radu / VOICULESCU Ionelia / SANDU Andrei Victor
ORGANIZATION		Gheorghe Asachi Technical University of Iasi
TITLE OF ENTRY		Biocompatible titanium-based alloy with the addition of molybdenum, zirconium, and tantalum

The invention is about making a new titanium-based alloy called TMZT, which comes from the Ti15Mo7ZrxTa system (where x can be 5, 10, or 15), designed for use in medicine, particularly for orthopedic implants. The controlled choice of alloying elements—molybdenum, zirconium, and tantalum—gives the material a set of excellent properties: excellent biocompatibility, high mechanical strength, and a modulus of elasticity close to that of human bone (51.93–76.88 GPa), thus reducing the risk of stress and bone resorption. The alloy is made by melting materials with over 99% purity in a controlled argon environment, which helps keep the composition uniform and the structure strong. The resulting structure is of the solid solution type, thermodynamically stable, which contributes to increased corrosion resistance and excellent behavior in biological environments. Cell viability tests have demonstrated superior compatibility compared to classic alloys such as 316L stainless steel or CP titanium, supporting the use of this material in regenerative medicine.

RO-07	NAME(S)	**Kamel Earar / Emil CEBAN / Viorel JINGA / Mariana JIAN / Solomon OLEG / Simona PÂRVU / Andrei Victor SANDU / Mariana LUPOAE**
ORGANIZATION		Dunarea de Jos University of Galati & Nicolae Testemițanu State University of Medicine and Pharmacy & Carol Davila University of Medicine and Pharmacy
TITLE OF ENTRY		**Phytotherapeutic Formulations for Preserving Prostate Health and Balancing Urinary and Salivary pH**

The invention relates to a phytotherapeutic formulation designed to support long-term prostate vitality and promote a balanced internal environment. It consists of extracts or dried parts of carefully selected medicinal plants known for their synergistic effects: Urtica dioica (nettle) – recognized for its diuretic, anti-inflammatory, and detoxifying properties; Epilobium parviflorum (small-flowered willowherb) – known for its targeted anti-inflammatory action on prostate tissue; Equisetum arvense (horsetail) – valued for its remineralizing and pH-regulating effects on the urinary tract; Taraxacum officinale (dandelion) – a powerful liver and kidney detoxifier that contributes to creating an alkaline systemic environment; and Betula pendula (birch) – offering mild diuretic and anti-inflammatory support. The composition is intended to maintain prostate health and function over time, while also aiding in the regulation of urinary and salivary pH.

RO-08	NAME(S)	**Emil CEBAN / Kamel EARAR / Oleg SOLOMON / Mariana JIAN / Viorel JINGA**
ORGANIZATION		Dunarea de Jos University of Galati & Nicolae Testemițanu State University of Medicine and Pharmacy & Carol Davila University of Medicine and Pharmacy
TITLE OF ENTRY		**Phytotherapeutic Support for Prostate Health Using Xanthium spinosum**

Prostate health is a key factor in maintaining male reproductive function. Maintaining optimal prostate health is a fundamental goal in preventive medicine. A balanced lifestyle and the use of phytotherapeutic preparations with anti-inflammatory and diuretic properties can contribute significantly to prevention. Among these, Xanthium spinosum (spiny cocklebur) stands out as a valuable medicinal plant with documented therapeutic potential. This invention explores the application of Xanthium spinosum in supporting prostate health through its phytotherapeutic properties. The plant, naturally occurring in Europe including Romania, contains a unique mix of bioactive compounds such as essential oils, fatty acid salts, flavones, phytosterols (including beta-sitosterol), saponins, tannins, caffeic and chlorogenic acids, and xanthanin lactones. These compounds give the plant significant therapeutic qualities relevant for prostate and urinary tract conditions.

RO-09	NAME(S)	**Kamel EARAR / Aurel NECHITA / Mircea BEURAN / Mariana JIAN / Oleg SOLOMON / Claudia HADJIOGLO / Emil CEBAN**
ORGANIZATION		Dunarea de Jos University of Galati & Nicolae Testemițanu State University of Medicine and Pharmacy
TITLE OF ENTRY		**Intelligent device integrated in Mobile prostheses for patients with disabilities.**

The device has a chip that is mounted in the acrylate prosthesis, in the case of mobile prosthesis or even in other types of prosthesis. The chip contains the patient's identity information, the emergency contact number, so that it can be identified in case of loss. It is very useful for patients with Alzheimer's or memory loss. Relatives can monitor the patient's location (GPS) with the help of a phone program. The idea is similar to pet chips.

RO-10	NAME(S)	**D.E. COLBU / I. SANDU / V. VASILACHE / I.C.A. SANDU / G. COLBU / I.G. SANDU / N. COLBU / A.V. SANDU**
ORGANIZATION		Romanian Inventors Forum
TITLE OF ENTRY		**Composition and process for treating old wood artifacts against insects, fungi and water, Patent RO134566 (B1)**

The invention relates to a composition and a process for insecto-fungicidal and hydrophobic treatment of old wooden artifacts used in workshops for the preservation and restoration of works of art and antique furniture, on sites for the rehabilitation, preservation and restoration of monuments, which contain structural and ornamental elements made of old wood.

RO-11	NAME(S)	**Iolanda-Gabriela CRAIFALEANU / Claudiu-Sorin DRAGOMIR / Daniela DOBRE, Emil Sever GEORGESCU, Alexandra-Marina BARBU**
ORGANIZATION		National Institute for Research and Development in Constructions, Urbanism and Sustainable Spatial Development, URBAN-INCERC
TITLE OF ENTRY		**Implementation of Data Quality Assurance Criteria within a Large Distributed Seismic Infrastructure of National Interest in Romania**

The National Network for the Seismic Monitoring and Protection of Building Stock (RNMPSPC), a Special Objective / Installation of National Interest of Romania, operates 64 accelerometers nationwide. The network's advanced stations integrate with the European Plate Observing System (EPOS). Recently, RNMPSPC underwent comprehensive digital transformation, implementing advanced software for next-generation data acquisition, processing, and real-time transmission. This system ensures full compatibility and enables real-time ground motion streaming to EPOS data portal.

RO-12	NAME(S)	Andreea HEGYI / Henriette SZILAGYI† / Carmen DICO / Vasile MEIȚĂ
ORGANIZATION		National Institute for Research and Development in Constructions, Urbanism and Sustainable Spatial Development, URBAN-INCERC
TITLE OF ENTRY		**Composite thermal insulation panels with sheep wool core and production methods**

The invention relates to composite thermal insulation panels featuring a core made of sheep wool, enclosed within protective outer layers. These panels offer enhanced thermal and acoustic insulation, moisture regulation, and environmental sustainability. The production method involves cleaning, treating, and compressing sheep wool, followed by lamination with vapor-permeable or waterproof outer sheets, depending on application requirements. The resulting panels are lightweight, biodegradable, and suitable for use in construction and renovation. This innovation combines traditional natural materials with modern fabrication techniques to produce high-performance, eco-friendly insulation solutions.

RO-13	NAME(S)	Gabriela CĂLĂTAN / Andreea HEGYI / Henriette SZILAGYI† / Vasile MEIȚĂ
ORGANIZATION		National Institute for Research and Development in Constructions, Urbanism and Sustainable Spatial Development, URBAN-INCERC
TITLE OF ENTRY		**Wall Construction System Based On Unfired Clay**

This invention presents a wall construction system utilizing unfired clay as the primary building material, offering a sustainable and energy-efficient alternative to conventional masonry. The system includes modular clay elements that are air-dried and assembled without high-temperature processing. It ensures good thermal mass, moisture regulation, and acoustic performance while significantly reducing embodied energy. The construction method supports ease of assembly, reuse, and full recyclability. This eco-innovative solution is ideal for low-carbon buildings and heritage-sensitive contexts.

RO-14	NAME(S)	Adrian-Victor LĂZĂRESCU / Andreea HEGYI / Alexandra CSAPAI / Brăduţ Alexandru IONESCU / Mihail CHIRA
ORGANIZATION		National Institute for Research and Development in Constructions, Urbanism and Sustainable Spatial Development, URBAN-INCERC
TITLE OF ENTRY		**Optimizing the durability and resistance of smart-eco-innovative geopolymer materials - performance and valorisation**

This project focuses on enhancing the durability and resistance of smart, eco-innovative geopolymer materials developed from industrial by-products. By optimizing their mechanical, chemical, and environmental performance, the study aims to extend service life while reducing environmental impact. Advanced testing and modelling assess long-term behavior under various stressors. The project also emphasizes the valorisation of waste streams and resource efficiency, aligning with circular economy goals. Applications target high-performance, low-carbon construction solutions suited for harsh environments and sustainable infrastructure.

RO-15	NAME(S)	Mircea Iosif RUS
ORGANIZATION		National Institute for Research and Development in Constructions, Urbanism and Sustainable Spatial Development, URBAN-INCERC
TITLE OF ENTRY		**The influence of external risks in the sensitivity analysis of construction works**

Sensitivity analysis in construction activity is an essential process for assessing the impact of different variables or factors on a construction project. This analysis is important to understand how changes in key parameters can influence the final results of the works such as costs, delivery times or construction quality. The assessment of external risks in construction sensitivity analysis is a crucial aspect of the construction planning and management process. External risks are factors which cannot be directly controlled by the project team, but which can significantly influence the success of construction works.

RO-16	NAME(S)	Lăcrămioara POPA / Cristina Elena DINU-PÎRVU / Mihaela Violeta GHICA / Valentina ANUȚA / Răzvan-Mihai PRISADA / Marina-Theodora TALIANU
ORGANIZATION		Carol Davila University of Medicine and Pharmacy, Bucharest, Romania
TITLE OF ENTRY		**MICROEMULSIONS WITH MICONAZOLE FOR BUCCAL APPLICATION AND METHOD FOR OBTAINING THEREOF**

The invention refers to a coarse dispersion designed as a microemulsion for miconazole delivery, intended for oromucosal application to treat oral candidiasis, and to a method for obtaining it. The method used to prepare the oil-in-water microemulsion, according to the invention, consists of: Miconazole base 2% is weighed and solubilized in oleic acid 5% under stirring, and thereafter Tween 20 (40%) is added. To the resulting mixture, polyethylene glycol 400 (PEG 400), in concentrations ranging from 0 to 20%, is added under continuous stirring. A sweetener solution is prepared separately using 5% xylitol and 28–48% distilled water (based on the total weight of the microemulsion). The sweetener solution is then added dropwise into the miconazole-based solubilized mixture (composed of oil and the two stabilizers), under continuous stirring until 20 g of oil-in-water microemulsion is obtained.

RO-17	NAME(S)	Mircea MANOLESCU
ORGANIZATION		A BETTER LIFE SOLUTIONS
TITLE OF ENTRY		**iSentinel Road & Rail**

Earthquakes strike without warning, often leaving devastating impacts. **iSentinel® ROAD & RAIL** is meticulously engineered to mitigate these effects, upon detecting the imminence of an earthquake, iSentinel® initiates safety protocols seconds to tens of seconds before the destructive seismic waves arrive. This vital window of time allows traffic lights to turn red, preventing vehicles from entering high-risk areas such as tunnels, viaducts, and bridges. The system automatically slows or stops trains before the seismic shockwave arrives, a critical measure in preventing derailments—a common consequence of earthquakes. By averting derailments, iSentinel® not only saves lives but also protects valuable infrastructure and assets worth hundreds of millions, if not billions, of euros.

RO-18	NAME(S)	Aurel Mihail ȚÎȚU / Daniel BÂLC / Emanuel BÂLC / Ștefan ȚÎȚU
ORGANIZATION		"Lucian Blaga" University of Sibiu, Romania
TITLE OF ENTRY		**Modular Mecanum Wheel Assembly Optimized for Traction on Sandy and Unstable Surfaces**

This modular Mecanum wheel is specifically designed to ensure advanced mobility on low-traction surfaces or terrains that are traditionally challenging for this type of wheels, such as sand, gravel, or soft surfaces. Its modular design allows for rapid configuration and adaptation of individual components, providing a flexible solution for off-road applications or operations in difficult environments. Each roller is built using materials optimized for effective contact with sandy surfaces, featuring a profile that maximizes the contact area while minimizing sinking.

RO-19	NAME(S)	Florin Miculescu / A. Maidaniuc / Mihnea Costoiu / Augustin Semenescu / M. Miculescu / Florentina Ionita-Radu / Marius Arghirescu
ORGANIZATION		National University of Science and Technology POLITEHNICA Bucharest
TITLE OF ENTRY		**Method for obtaining hydroxyapatite scaffolds with predetermined physico-chemical characteristics for major bone reconstruction (Patent RO 131943)**

The proposed method consists of the fabrication of scaffold structures for major bone defect repair, based on monophasic (hydroxyapatite – HAP) or biphasic (hydroxyapatite + tricalcium phosphate - α-TCP or β-TCP) ceramics, which fulfill the product requirements related to mechanical strength and biocompatibility. The technical problem solved by this invention is the need for adequate adaptation of phase order and phase parameters, and for developing a specific procedure for producing a scaffold structure for major bone repair with predictable porosity and mechanical strength.

RO-20	NAME(S)	MICULESCU Florin / MICULESCU Marian / COSTOIU Cosmin-Mihnea / CHIVU Oana-Roxana / BARBU Catalin-Alexandru / SEMENESCU Augustin
ORGANIZATION		National University of Science and Technology POLITEHNICA Bucharest
TITLE OF ENTRY		**MECHANICAL-ELECTRIC CLOTHES DRYER**

The invention relates to a clothes dryer, which can be used in homes or hotels, for large or small, colored or white laundry or towels. By applying the invention, the drying of wet laundry or towels is achieved without generating turbulent air currents, which contain large amounts of water vapor, which, by condensation, would damage the furniture or the room in which the drying is performed. It is estimated that the time required for drying laundry is reduced by more than half the period required for natural drying and by at least 10-20% compared to solutions that involve the use of hot air currents from electric resistance fans. Additionally, since the drying occurs naturally and the air currents have low speeds, the conditions are created for the efficient removal of water vapor, simultaneously with the drying of the laundry.

RUSSIA

RU-01	NAME(S)	Bazrov Chermen Vladimirovich
ORGANIZATION		N/A
TITLE OF ENTRY		**Non-stick grill and barbecue grate**

The invention relates to devices for cooking food and can be used both in public catering outlets and in everyday life when cooking over an open fire. The grate does not need to be coated with expensive and environmentally unsafe non-stick coatings and does not need to be greased with oil or fat. The device allows the user to prepare an environmentally friendly grill or barbecue without using oil and fat. The implementation of the proposed device will eliminate the need to apply environmentally hazardous non-stick coatings, which will significantly reduce the emission of harmful substances used to produce non-stick coatings in the world.

SAUDI ARABIA

SA-01	NAME(S)	Meshari sultan mohammed alsheeban
ORGANIZATION		King Saud University
TITLE OF ENTRY		**AI-Based Smart Glasses for Alzheimer's Patients: A Real-Time Cognitive Support and Safety Monitoring System**

This invention presents AI-powered smart glasses designed to transform Alzheimer's care by combining real-time facial recognition, precise medication verification via computer vision, and GPS geofencing for safety. An offline voice assistant ensures private, smooth interactions. Utilizing edge AI and quantum-assisted computing for rapid, reliable processing, this device restores patient autonomy, reduces caregiver burden, and advances quality of life. This innovative technology sets a new benchmark in managing neurodegenerative diseases by addressing cognitive support, medication adherence, and safety in an integrated, user-friendly wearable solution.

SA-02	NAME(S)	Faris Ahmed Kamin Alshammari / Fawziah Essa Saad Alqahtani
ORGANIZATION		Ministry of Health (MOH)
TITLE OF ENTRY		**System for triaging emergency patients by measuring vital signs and predicting the condition**

This invention utilizes artificial intelligence to detect common diseases rapidly and autonomously triage emergency patients within minutes. Utilizing a smart capsule equipped with integrated sensors and an interactive display, the system captures vital signs and symptom inputs without requiring any medical staff involvement. Patients can identify the pain location using a visual body interface, while the AI algorithm analyzes the data in real time to assess severity and determine the likely condition based on global triage protocols. Results are instantly transmitted to the healthcare facility's system, enabling faster clinical response, reducing crowding, and enhancing efficiency and quality of emergency care.

SA-03	NAME(S)	Manar Yahya Assiri / Emtenan Abdullah Alhakami / Abeer Hammad Albalawi / Elham Ali Alahmari
ORGANIZATION		University of Tabuk
TITLE OF ENTRY		**AutoGuard Patch**

AutoGuard Patch is a wearable nanotech device that monitors and predicts Lupus flare-ups. **It measures cortisol, skin temperature**, and **EDA (electrodermal activity)** through a flexible biosensor and sends the data to a mobile app. The app uses personalized algorithms to detect risk patterns and alerts users early. The patch is non-invasive, easy to use, and designed specifically for Systemic Lupus Erythematosus (SLE) patients.

SA-04	NAME(S)	Moaaz Abdulrazack Amir / Baraa Abdulrazack Amir / Amaar Abdulrazack Amir
ORGANIZATION		Imam Abdulrahman Bin Faisal University
TITLE OF ENTRY		**Automatic Mid-Stream Urine Collection Device**

The "Automatic Mid-Stream Urine Collection Device" revolutionizes urine sample collection by automatically separating the mid-stream urine from forestream, ensuring clean and accurate samples. It integrates seamlessly with traditional collection cups, requiring no proprietary technology, making it user-friendly in healthcare settings. A cellulose sponge expands upon contact with urine, pushing a plunger to seal off the contaminated forestream. This compact, cost-effective design enhances patient compliance and minimizes contamination risks, reducing the need for unnecessary antibiotic prescriptions. Ultimately, the device simplifies the collection process, improves diagnostic outcomes, and represents a significant advancement in urine collection methods in clinical practice.

SA-05	NAME(S)	Moaaz Abdulrazack Amir / Baraa Abdulrazack Amir / Amaar Abdulrazack Amir
ORGANIZATION		Imam Abdulrahman Bin Faisal University
TITLE OF ENTRY		**Syringe Sleeve with Multimodal Feedback for Visually Impaired Users**

This device enables visually impaired users to accurately measure liquid doses, thus enhancing the safety of medication self-administration and user independence in other non-medical tasks. The designed product attaches to standard-sized syringes and features raised ridges, braille indices, and large font English numbers. The product is designed to accommodate several varying volumes of syringes (1ml–50ml) and has a central channel which shows color cues indicating the drawn amount of medication, intended for low-vision users. It contains no electronic components, ensuring affordability and reusability. This innovative product represents a practical advancement in accessible devices which aim to increase inclusiveness.

SA-06	NAME(S)	Abeer Hammad Albalawi / Manar Yahya Assiri / Emtenan Abdullah Alhakami / Elham Ali Alahmari
ORGANIZATION		University of Tabuk
TITLE OF ENTRY		BASIRA

BASIRA is a standalone smart bracelet designed to assist visually impaired individuals in navigating their surroundings safely and independently. Equipped with built-in sensors (GPS, compass, motion detectors), it delivers directional guidance through vibration patterns—no phone or external support needed. **BASIRA** enhances daily mobility with intuitive feedback: steady vibrations for correct paths, pulsing alerts for turns, and rapid vibrations for nearby obstacles. It adapts to the user's activity in real-time, promoting safety, confidence, and independence in public spaces.

SA-07	NAME(S)	Rahaf Youse Almutairi / Aljoud Abdullah Almousa / Fatima Hani Alsnsari
ORGANIZATION		Princess Noura University (PNU)
TITLE OF ENTRY		Integrated R&D Approach to Optimize Bombyx mori Silk Harvesting Techniques

This study investigates the potential of low-intensity, bio-compatible wave stimulation to enhance silk production in Bombyx mori. The hypothesis posits that mimicking natural environmental cues—such as gentle vibrational patterns—can reduce larval stress and promote cocoon formation. This approach is non-invasive, chemical-free, and environmentally safe. Although limited research exists on wave-based stimulation in silkworms, the method offers a novel direction for sustainable sericulture. The anticipated outcome is a 5-10% increase in silk yield, making this technique a promising alternative for improving productivity in both small-scale and industrial farming settings without compromising the biological integrity of the organism.

SA-08	NAME(S)	Dalal Mohammed Alshehri / Co-inventor: Dalal Mohammed Akram Motabagani
ORGANIZATION		King Faisal University
TITLE OF ENTRY		AI-Powered Dash Cam for Crash Triage & Emergency Response

AI-powered crash response system that delivers structured injury triage and critical patient information from any vehicle to hospitals and EMS. It combines a compact AI dash cam with real-time injury analysis (victim count, GCS estimation, airbag, and posture detection) and integration with the driver's Health App. Upon crash detection, it provides on-screen feedback, transmits triage data and health information, and shares live location with the nearest hospital. If critical injury is detected, a two-way call is initiated between hospital staff and the vehicle. The system aims to improve emergency outcomes, particularly in low-resource settings.

SA-09	NAME(S)	Dalal Mohammed Akram Motabagani
ORGANIZATION		King Faisal University
TITLE OF ENTRY		Smart Ear Endoscope with Remote Augmented Reality

Smart Ear AR endoscope is the world's first low-cost AI + AR endoscope for real-time ear diagnosis and remote ENT support. It integrates high-resolution imaging, AI-powered detection (AOM, CSOM, wax), and augmented reality overlays to guide users and enable remote consultations. Designed for use in primary care, school screenings, and LMIC clinics, it operates independently or via mobile. With a projected unit cost under $80 and estimated diagnostic accuracy >99% in simulation, it offers an accessible solution for early detection and triage. The concept is supported by 17 healthcare professionals and aims to scale through telemedicine networks.

SA-10	NAME(S)	Dalal Mohammed Akram Motabagani
ORGANIZATION		King Faisal University
TITLE OF ENTRY		SkullScope-D

SkullScope-D is a Doppler-integrated endoscope developed to reduce vascular injuries during skull base surgery. It overlays real-time Doppler flows onto the endoscopic field to help surgeons identify hidden vessels before dissection. Unlike existing systems that require bulky probes and costly consoles, SkullScope-D is compact, cost-effective (about US $2,500), and designed for low-resource operating rooms. It improves safety where intraoperative Doppler is unavailable and preventable bleeding is common. By merging imaging and vascular mapping in a single tool, it provides a practical path to safer, more accessible skull base surgery.

SA-11	NAME(S)	Dalal Mohammed Akram Motabagani / Dalya Mohammed Akram Motabagani / Abdulmalek Waleed Alhithlool
ORGANIZATION		King Faisal University and Vision College
TITLE OF ENTRY		**LacriTest – AI-Powered Tear Diagnostics**

LacriTest is a portable diagnostic device that leverages biosensors and artificial intelligence to analyze tear fluid for the early detection of ocular and systemic conditions. It identifies biomarkers such as TNF-α, IL-6, sodium, potassium, glucose, and proteins using micro-volumes of tears. Designed for use in primary care and ophthalmology, LacriTest delivers non-invasive, real-time results through a compact interface. By enabling early screening for dry eye, inflammation, and diabetes-related ocular issues, it addresses diagnostic gaps—particularly in underserved settings. With simulation-based validation and an emphasis on accessibility, LacriTest empowers healthcare providers with a fast, low-cost diagnostic solution.

SA-12	NAME(S)	Ghadah Ali AlQarni / Dalal Mohammed Akram Motabagani
ORGANIZATION		King Faisal University
TITLE OF ENTRY		**AI-Enhanced Lactatometer**

AI-Enhanced Lactatometer is the first handheld device combining biosensor lactate testing with real-time AI-based clinical decision support. It measures blood lactate in under 60 seconds from capillary samples, enabling early detection of sepsis, shock, and trauma-related hypoxia. Designed for use by non-specialists, it functions offline and requires no lab infrastructure. The compact, standalone reader uses eco-friendly materials and is priced under $50 for global accessibility. It's ideal for emergency, rural, and resource-limited settings, and integrates seamlessly with telemedicine and digital health systems to improve outcomes.

SA-13	NAME(S)	Danah Abdullah Alnoghaither
ORGANIZATION		Shaqra University
TITLE OF ENTRY		**AI-Driven Drone System for Smart, Efficient, and Sustainable Parking Management**

Managing parking in crowded areas is a growing challenge in modern cities. This project introduces an intelligent drone-based system for detecting and classifying parking availability using AI. A convolutional neural network (CNN) is integrated with drone technology to monitor high-traffic areas, identifying vacant and occupied spots with high accuracy. The drone captures real-time aerial images, enabling efficient parking management. The system demonstrates strong potential for smart mobility applications and urban sustainability. While current work focuses on AI and drone integration, future plans include a mobile app for live parking insights and reservations. This solution aligns with global smart city initiatives.

SA-14	NAME(S)	Safa'a Hussain Al-Hussain
ORGANIZATION		Alkifah Academy
TITLE OF ENTRY		**ConvertPy : Leveraging Large Language Models (LLMs) for Reliable and Scalable Code Translations**

Python remains widely used for its simplicity and readability but lacks the ability to generate standalone executables without relying on an interpreter. Existing solutions like bundling tools or manual translation often introduce overhead, complexity, or loss of fidelity. This project presents ConvertPy—a framework that leverages large language models (LLMs) to automatically translate Python code into C++ and compile it into native, dependency-free executables. The prototype was tested on diverse Python samples, demonstrating high semantic accuracy and zero manual corrections. The translated C++ maintained original logic while optimizing performance. ConvertPy offers a scalable, efficient, and eco-conscious approach to cross-language software deployment.

SA-15	NAME(S)	Salem Abdulaziz Salem Al-Hassan
ORGANIZATION		Jouf University
TITLE OF ENTRY		**A Self-Sustained Wind-Powered Water Desalination System for Remote and Arid Regions**

This invention integrates a wind-powered system with a water desalination unit to provide clean drinking water using renewable energy. Designed for arid and remote regions, the system reduces dependence on fossil fuels and supports sustainable water access. It includes a wind turbine, charge controller, battery storage, inverter, and desalination unit. Tested in real-world conditions in Saudi Arabia, it demonstrated effective performance under varying wind speeds. Aligned with global sustainability goals and Vision 2030, this scalable and eco-friendly solution offers a practical approach to addressing water scarcity and energy sustainability challenges in underserved areas worldwide.

SA-16	NAME(S)	Turki H ALessa
ORGANIZATION		Jouf University
TITLE OF ENTRY		**Smart Solar-Thermoelectric Energy Harvester with Tracking and Mirror Amplification**

This invention presents an enhanced thermoelectric energy generation system that utilizes a parabolic mirror array and a dynamic solar tracking mechanism to concentrate sunlight onto thermoelectric generator (TEG) modules. By intensifying heat absorption, the system significantly boosts energy conversion efficiency—even in cold or low-radiation environments. The generated power is stored via an integrated battery system, ensuring continuous output. Designed as a scalable, low-maintenance solution for off-grid and sustainable energy applications, this invention addresses critical global challenges in energy access and climate change by transforming abundant solar heat into clean, reliable electricity.

SA-17	NAME(S)	Muneef Alghaly / Mohannad Alshammari / Saud Alzarei
ORGANIZATION		Jouf University
TITLE OF ENTRY		**Recycling Aljouf's Date Seeds Waste into Sustainable Concrete: A Circular Economy Solution**

This project presents an innovative approach to sustainable construction by recycling Aljouf's abundant date seed waste into concrete as a partial replacement for traditional aggregates. The invention promotes circular economy principles by transforming agricultural byproducts into valuable construction materials, reducing environmental impact and conserving natural resources. Experimental results demonstrated that replacing up to 25% of coarse aggregate with date seeds maintains acceptable strength and workability, making it a viable eco-friendly alternative. This solution aligns with Saudi Vision 2030 goals and supports green building practices while offering cost-effective benefits and new opportunities for local industries.

SA-18	NAME(S)	Fawaz Falah Alruwaili / Maan Hasan Alahamdi / Naif Afet Alshammri
ORGANIZATION		Jouf University
TITLE OF ENTRY		**COST-BENEFITS OF INSTALLING SOLAR PANEL SYSTEM IN PARKING LOTS AT JOUF UNIVERSITY**

This invention proposes the integration of high-efficiency photovoltaic (PV) solar panels into university parking lots to generate clean energy while providing shaded parking. The project utilizes available space at Al-Jouf University to reduce reliance on grid electricity and cut operational costs. Through comparative analysis of advanced solar panels (LONGi, Jinko, and NOMAC), the design optimizes energy output and economic efficiency. Aligned with Saudi Vision 2030, the system also supports future electric vehicle fast-charging infrastructure, making it a scalable and sustainable solution for campuses and public facilities.

SA-19	NAME(S)	Nawaf Mohammed Alzarea / Sami Awadh Al-Rashidi
ORGANIZATION		Jouf University
TITLE OF ENTRY		**NFC-Enhanced Tourism Experience**

This invention introduces an NFC-enabled smart wristband system designed to modernize and secure Hajj and Umrah permit management. Integrating Raspberry Pi 5 with NFC technology and the government-certified Nafath application, the system provides seamless, contactless identity verification for millions of pilgrims. It enhances security, reduces administrative delays, and improves crowd control using real-time data analytics. Tested in high-density conditions, the system proved reliable and user-friendly. This innovation supports Saudi Arabia's digital transformation and offers a scalable model for managing large gatherings worldwide, paving the way for smart, paperless, and health-aware event management in future global applications.

SA-20	NAME(S)	Faten Farhan Eid Alanazi
ORGANIZATION		Tabuk University
TITLE OF ENTRY		**SenseView Screen**

This innovation introduces a smart bedside screen connected to an advanced medical staff program. It transforms patient care into an intelligent and responsive experience. Using AI, it monitors vital signs in real time, detects early signs of complications and alerts the care team instantly. It provides medication reminders with barcode confirmation, voice interaction and a personalized interface with both medical information and entertainment. All data syncs live across staff devices to help prioritize tasks and prevent errors. Scalable and easy to implement, it meets the urgent needs of modern hospitals by improving safety, efficiency and patient experience.

SA-21	NAME(S)	WURAYF MANSOUR .M
ORGANIZATION		UMM AL-QURA UNIVERSITY
TITLE OF ENTRY		**FaintGuard :Smart Contactless System for Diagnosing Syncope Cases:Instant Cause Analysis and Automatic Emergency Connectivity**

FaintGuard is an intelligent, portable device designed for the instant diagnosis of syncope (fainting) using advanced biosensors and AI algorithms. The system detects vital signs noninvasively and identifies the syncope type cardiac, neural, or orthostatic within seconds. Based on the diagnosis, it delivers real-time, condition-specific first-aid instructions to bystanders and autonomously alerts emergency services with GPS location data. FaintGuard empowers public safety in schools, workplaces, and critical environments by bridging the crucial gap between collapse and medical intervention, potentially saving lives and reducing complications from delayed or incorrect emergency responses.

SA-22	NAME(S)	Alanood Nawaf Alduraibi
ORGANIZATION		King Fahd University of Petroleum and Minerals (KFUPM)
TITLE OF ENTRY		**LUNARIS – Intelligent Lunar Resource Extractor Powered by AI and Solar Energy**

LUNARIS is an AI-powered, solar-operated device that autonomously extracts water and rare minerals—such as lunar diamonds—from moon soil. It combines robotic arms, advanced sensors, and intelligent algorithms to analyze and process regolith. Designed for sustainability and space economy, LUNARIS aims to support long-term lunar missions with in-situ resources while reducing dependence on Earth-based supply chains. LUNARIS integrates advanced geophysical and chemical sensors with real-time AI analysis to scan, interpret, and map subsurface materials with high precision. Once optimal zones are identified, the system initiates targeted drilling and extraction, all powered by renewable solar energy, eliminating the need for fuel-based logistics.

SA-23	NAME(S)	TURKI Abdullah A ALMOHSEN
ORGANIZATION		Qassim University
TITLE OF ENTRY		**Automatic medicine dispensing device**

A portable automated medication dispensing device consisting of containers for solid medications and containers for liquid medications. At the end of each container, there is a medication dispenser, a control unit, a display screen, a data input interface, a data processor, and a medication collection channel. This channel transfers medications from their respective containers to a designated collection vessel for each type of medication. The device dispenses medications and their respective doses based on the entered information. When it is time to take the medication, the device automatically transfers the required dose from the appropriate container to the collection vessel and issues an alert accordingly.

SA-24	NAME(S)	RAHAF FAHAD ALZAHRANI
ORGANIZATION		TAIF UNIVDERSITY
TITLE OF ENTRY		**Judur: Goal-Guided Constrained Optimal Search (GGCOS): A Logic-Based Defensive Reasoning Framework for Cybersecurity**

Judur is a logic-based cybersecurity framework that prevents system compromise by eliminating all potential attack paths before runtime. Unlike detection systems, Judur starts from the attacker's goal and works backward to block every possible route. It operates without data, learning, or prediction—making it deterministic, explainable, and verifiable. Successfully tested in simulated networks, Judur neutralizes threats proactively and is compatible with SOAR/XDR platforms. It represents a shift from reactive defense to strategic denial, offering a robust layer of preemptive protection for critical infrastructures.

SA-25	NAME(S)	Jana Mashnan Al-mubarak
ORGANIZATION		Princess Nourah bint Abdulrahman University
TITLE OF ENTRY		**Advanced High-Efficiency System for Electricity Generation from Soil Using Enhanced Microbial Fuel Cells**

This invention presents an integrated, high-efficiency system that converts biological energy from soil into renewable electricity using enhanced microbial fuel cells. It combines nanomaterial-coated electrodes, genetically modified microbes, and biochemical catalysts. A smart hydrogel with a moisture sensor and an AI control unit ensures ideal operating conditions. The system is IoT-enabled, desert-resistant, and suitable for scalable deployment in agriculture, energy, and environmental monitoring.

SERBIA

RS-01	NAME(S)	Veljko Milkovic
ORGANIZATION		Veljko Milkovic Research and Development Center
TITLE OF ENTRY		**Two-Stage Mechanical Oscillator – A Mechanical Amplifier of Clean Energy**

EXIT FROM THE CENTURIES-OLD VICIOUS ENERGY CIRCLE
The entire energy industry today is in a vicious cycle of rotation for centuries, because turbines, rotors, flywheels, gears, pulleys, cam mechanisms, etc, which are dominant in energetics, are far less efficient than oscillations and technical solutions based on them, such as Veljko Milkovic's two-stage oscillator technology. Given the current energy situation (crisis), global warming and all that, it is time to give some thought to these more advanced and forward-thinking oscillation-based technologies and use the achieved ultra-efficiency effects by applying elasticity-based improvements to accelerate our world's transition to an energy-sustainable future.

SINGAPORE

SG-01	NAME(S)	LEOW WEE DAR
ORGANIZATION		SINGAPORE INVENTORS DEVELOPMENT ASSOCIATION (SIDA)
TITLE OF ENTRY		**A CLIMATE MITIGATION DEVICE**

A climate mitigation device reduces heat wave impact, wildfire risk, and produces fresh water. As solar energy heats a wall, a dry thermal air stream rises and is captured by a structure that directs it to a fluid dispersion system. On hot days, solution fluid (e.g., seawater) is released into this system. The air stream evaporates the fluid, becoming humid. As it cools along the air channel, condensation forms, collecting fresh water. The remaining moist air exits into the environment. The evaporation and condensation help cool the area and lower fire risk during extreme heat events.

SOMALIA

SO-01	NAME(S)	Abdullahi Muse Abdi / Ibrahim G. Jama / Rahma Said Mohamed
ORGANIZATION		EcoHub Somalia
TITLE OF ENTRY		**EcoSmart Charcoal: Sustainable Fuel from Agricultural Waste**

EcoSmart Charcoal is a sustainable biofuel innovation that transforms agricultural waste like maize cobs and coconut shells into eco-friendly charcoal. It reduces deforestation, provides affordable fuel for low-income households, and promotes circular economy practices. Developed in Somalia, where energy insecurity and deforestation are critical, this solution addresses environmental degradation while generating income for youth and women through green entrepreneurship.

SPAIN

ES-01	NAME(S)	Giorgi Mikiashvili
ORGANIZATION		Giorgi Mikiashvili's Future Lab
TITLE OF ENTRY		**Innovative Travel Suitcase – Universal Comfort**

Introducing a revolutionary travel suitcase that transforms into a warm or cool bed, a drawer unit, a reclining lounger. Its versatility makes it perfect for use in airports, bus stations, outdoor picnics, hunting and fishing trips, the beach and many other settings. This multifunctional suitcase—my original inventions designed with a single, powerful concept in mind: to deliver maximum comfort for the user through simplicity and innovation.

SRI LANKA

LK-01	NAME(S)	Walpitage Jithuka Mindiya Walpita
ORGANIZATION		Ananda College Colombo - 10
TITLE OF ENTRY		**Nano Carbon and Nano ZnO Solar Ray Filter**

As an avid sky observer, I faced the challenge of studying the sun due to UV and IR radiation. I created a solar ray filter using Nano Carbon and Nano ZnO to block harmful UV and IR rays, providing IR-less red light. This eco-friendly material can be used for Sky observations, welding works, solar photography, and lunar observations. Additionally, I developed UV and IR protected greenhouse polythene and biodegradable polythene covers to protect plants from UV damage and heat stress caused by IR radiation, especially in hot countries like Sri Lanka.

LK-02	NAME(S)	G.G.Sugame Lavanya Abeysiri Gunawardena
ORGANIZATION		Sirimavo Bandaranaika school, Colombo 07, Sri Lanka
TITLE OF ENTRY		**Automated Rain, Wind and Snow Protective Device**

Many households and industries rely on sunlight to dry various items like clothes, shoes, food items like tomatoes, fruits, rice grains, chilies, dry fish, etc. but sudden rainfall, snowfall, or strong winds can disrupt this process, causing damage. This device addresses this issue by detecting abrupt weather changes and automatically deploying a protective cover to safeguard the items until conditions improve. Once the weather stabilizes, the device retracts the cover automatically and remains open until it detects another adverse weather event. Its customizable dimensions make it suitable for different industries, ultimately saving time, effort, and money by protecting goods from unpredictable weather.

LK-03	NAME(S)	Mohamed Firdhous Rasheed
ORGANIZATION		Sri Lanka Inventors Commission
TITLE OF ENTRY		Project-0 Floating Valve / Directional Control Floating Valve

Project-0 Floating Valve is a cheap but very effective directional valve that can make a big difference in organic waste management and in handling various types of hazardous liquids and can be used for a new air lifting technology. Although the said air lifting technique is in practice, it is not practices as mean of air lifting (liquid) but for other purpose i.e spraying liquids. The Project-0 Floating valve can make a big difference and can make air lifting method as equal to mechanical pumping but can be considered a better option to handle various types of liquids and it is a very useful component in bio-methane (a renewable energy resource) production.

SUDAN

SD-01	NAME(S)	Mohammed Mohammed Hussain
ORGANIZATION		Port Sudan
TITLE OF ENTRY		Marine Train

The train consists of solar strips installed on the metal surface on the train to generate solar energy to feed batteries used for light ingredients and other uses within the wagon. Both sides of train are covered with transparent glass panels and there are seats for as many as 64 passengers it's the total of the two wagons air-conditioned from the inside, and it consists fully safely tools and it sails without railway. This innovative mode of transportation, with its unprecedented design, comprises multiple parts and incorporates state-of-the-art safety features, representing a new era in train technology. Furthermore, its environmental impact is minimized using clean, dual-energy sources."

SD-02	NAME(S)	Khawla Osman Bashir Mohamed / Hisham Tarig Osman Mohamed / Tebyan Khalid Yousif Hamza / manal ismail abdelmahmoud Mohamed / ELMAHAL ABBAS MUBARAK ABBAS
ORGANIZATION		Smart Care Tech
TITLE OF ENTRY		Smart washing machine

A smart washing machine combining washing, ironing, and folding into a single appliance represents a significant leap in laundry automation. Such a machine aims to streamline the entire process, from cleaning to storage, minimizing user effort and saving time. While still largely in development or in early commercial stages, the concept envisions a system that can wash, then automatically iron or de-wrinkle using steam or other methods and finally fold the garments neatly. This all-in-one approach promises to revolutionize laundry chores, offering convenience and efficiency for the modern household.

SWEDEN

SE-01	NAME(S)	Dr. Adrian Jose Cabezas Morales
ORGANIZATION		Nano Control AB
TITLE OF ENTRY		A new technology for effective clean air in commercial airline cabins

After several successful projects in various industries, we have now developed a new technology that can be used to catch and destroy airborne viruses and bacteria such as COVID-19 without the use of filters. The Nano Controls technology can be connected to the existing air purification system in the aircraft cabin to minimize the transmission of airborne contaminants, to kill airborne pathogens, reduce the spread of diseases like COVID-19 and improve air quality. The new technology is easy to install and relatively inexpensive to maintain. Nano Control's particle separator is scalable technology.

SWITZERLAND

CH-01	NAME(S)	François Thury
ORGANIZATION		N/A
TITLE OF ENTRY		Solfegietto® - Glissando®

The idea is to learn music while having fun. It allows anyone who doesn't know anything about music but is interested in learning it. For kids, it allows them to learn music like a play with their teachers, grandparents, friends and siblings. With the 2 in 1 solution, all musicians will find their account there. Glissando® is the basics. It allows you to learn the name of musical notes. To learn, without fuss and in a fun way, the main names of the notes of the bass and treble clefs. The app chooses the note for you to hear it, sing it, and place the puck on the corresponding note on your staff. The Solfegietto® is played on an A1 format tarpaulin sheet. The aim is to give a playful aspect to learning music for young and old alike. The application that accompanies the players makes the flow of the game more fluid and manages the questions to be asked. It takes between two and seven players to play.

CH-02	NAME(S)	Céline Chevalier Delerce
ORGANIZATION		Association Suisse Corée (ASAMCO)
TITLE OF ENTRY		**Amythis Sàrl: New concept for inventors from / for Switzerland**

This concept is new and unique in the world. Switzerland is a small country where we speak many languages & dialects: French, German, Italian and Romanche as four main languages. Switzerland is a federation of 26 “Cantons” like small “States” and “half states”: so, each of them has their own leadership to decide rules of laws. How to help all our inventors in this context? Amythis Sàrl was founded in 2013 to support ASAMCO members (inventors) to boost their innovation and inventions in South Korea and now in other Fairs in the world like in Canada. We provide global services for inventors: Public Relations, fund raising, communication & web marketing, graphism support and websites, logistics support, translation, etc. to help our inventors to show their inventions and to bring them all solutions for their needs, even sales.

TAIWAN, R.O.C.

TW-01	NAME(S)	TZU-HSIEN,YU / CHIA-CHU,DAI / HSU-WEI,TANG
ORGANIZATION		Fengjie Biomedical Co., Ltd.
TITLE OF ENTRY		**100% COLLAGEN**

Fengjie Biomedical’s “100% COLLAGEN” features hydrolyzed bovine collagen sourced from GELITA—a globally renowned collagen manufacturer with over 100 years of expertise in Germany. It focuses on Type I and Type III collagen—covering over 90% of the body’s collagen needs. With a low molecular weight of 3,000 Da, these peptides are highly absorbable and support comprehensive skin beauty and maintenance. Numerous studies have shown that collagen supplementation can improve skin elasticity, firmness, and hydration, as well as reduce hair loss, strengthen nails, promote wound healing, and support joint repair—making it a favorite among beauty-conscious consumers.

TW-02	NAME(S)	Yung-Hsiang Lin
ORGANIZATION		TCI Co. Ltd.
TITLE OF ENTRY		***Lactiplantibacillus plantarum* TCI837**

One in every six women worldwide suffers from iron-deficiency anemia, and conventional iron supplements face challenges such as low bioavailability and undesirable side effects. To address this, TCI utilized its proprietary Bio Resource Data Mining technology to screen thousands of biological raw materials and ultimately identified Lactiplantibacillus plantarum TCI837 from raisins. This strain exhibits excellent colonization ability and significantly enhances iron absorption in the human gut, helping to improve physiological indicators and symptoms of iron-deficiency anemia while reducing pro-inflammatory gut bacteria.

TW-03	NAME(S)	Liu Shuang
ORGANIZATION		Shuyu Zhizao (Yunnan) E-commerce Co., Ltd
TITLE OF ENTRY		**Roselle Kanzan flower Beverage**

The global skin whitening products market is projected to grow from USD 8.9 billion in 2024 to USD 13.87 billion by 2033. In response to this trend, Shuyu Zhizao (Yunnan) E-commerce Co., Ltd. launched the Roselle Kanzan Flower Beverage, featuring the patented ingredient Formosa Ruby Chenopodium formosanum (Djulis) extract. This is combined with Double Nutri liposome emulsification technology, which enhances bioavailability by 2 times to help brighten skin tone, improve hydration, and inhibit melanin production. This product also contains a 7-plant brightening complex, including Kanzan Flower Extract, White Tomato Extract, PQQ (Pyrroloquinoline quinone), Muscadine Grape, Hibiscus sabdariffa Extract, Pleurotus citrinopileatus, and Acerola. These ingredients support mitochondrial activity, accelerate cellular metabolism, reduce advanced glycation end products (AGEs), and inhibit melanin production. Together, they help brighten skin, reduce collagen degradation, and maintain elasticity and a radiant glow.

TW-04	NAME(S)	Liu Shuang
ORGANIZATION		Shuyu Zhizao (Yunnan) E-commerce Co., Ltd
TITLE OF ENTRY		**Collagen tripeptide flavored beverage**

The global collagen market is projected to reach USD 1.85 billion by 2030. In response to this trend, Shuyu Zhizao (Yunnan) E-commerce Co., Ltd. launched the “Collagen Tripeptide Flavored Beverage”, which contains 50,000 mg of patented MAXICOLLAGEN® collagen tripeptide per box. It is enhanced with the patented Double Nutri® liposome emulsification technology, which doubles bioavailability and helps restore skin elasticity, increase skin moisture content, and reduce wrinkles. The product's key active ingredient, MAXICOLLAGEN® collagen tripeptide, has been clinically proven to increase skin collagen density by 13%, reduce wrinkles by 10.4%, and boost skin hydration by 7.8% after just 7 days of continuous intake. A 100% improvement rate was recorded among trial participants.

TW-05	NAME(S)	CHLOE CHIH / BLAIR CHIH
ORGANIZATION		Taiwan Math/Science Circle (TWMC)
TITLE OF ENTRY		Eco Pro

Eco Pro is a cutting-edge sustainable solution designed to promote eco-friendly living through intelligent design, smart energy management, and environmental awareness. Built with a commitment to green innovation, Eco Pro enables users to reduce their carbon footprint while maximizing efficiency and convenience across daily life or industrial operations. Whether applied as a smart device, a system integration platform, or a product suite, Eco Pro serves as a practical tool in the global movement toward sustainability and climate responsibility. Eco Pro is unique for its integration of sustainability, technology, and user-centric design. By blending smart analytics with everyday practicality, it transforms how individuals and organizations engage with energy and the environment. It promotes behavioral change while delivering measurable environmental benefits. Whether deployed in a home, business, or public setting, Eco Pro encourages accountability, efficiency, and green transformation

TW-06	NAME(S)	Chen, Hsuan-Mu / Angelina Huang / Yu, Yu-Hsiang / Chu, Ting-Yi
ORGANIZATION		Taiwan Math/Science Circle (TWMC)
TITLE OF ENTRY		Ener Trek

The Versatile Mobile Green Energy Device is a next-generation portable power solution that integrates multiple renewable energy harvesting technologies into a single, compact, and user-friendly unit. It is designed for off-grid usage, disaster response, outdoor activities, and daily eco-conscious use. By allowing users to generate and store energy anytime, anywhere, this device represents a significant step toward decentralized, sustainable energy independence.

TW-07	NAME(S)	CHEN, YEN-LING / BAI, YI-CEN / CHANG, SHU-MENG
ORGANIZATION		Taiwan Math/Science Circle (TWMC)
TITLE OF ENTRY		Smart Lunch Box

The Smart Lunch Box is an innovative food storage and heating device designed to enhance the daily dining experience through smart temperature control, modular design, and IoT connectivity. It aims to solve the common issues faced by office workers, students, and travelers who need to store, reheat, and monitor their meals conveniently and safely. This product integrates intelligent thermal regulation, food safety sensors, and mobile app control, allowing users to schedule heating times, monitor internal temperature, and receive notifications about food freshness—all from their smartphones.

TW-08	NAME(S)	TSENG, TZU-YU / TSENG, TZU-HSUAN
ORGANIZATION		Taiwan Math/Science Circle (TWMC)
TITLE OF ENTRY		Portable Heating and Cooling Bluetooth Music Neckband

This innovative wearable device combines personal thermal regulation with wireless music entertainment, offering a unique solution that integrates “cooling and heating functions” with “Bluetooth audio playback” in a compact and ergonomic form. Designed to be worn around the neck, the device allows users to easily switch between cool and warm air modes based on ambient conditions, while simultaneously enjoying high-quality wireless audio. It delivers comfort and relaxation anytime, anywhere.

TW-09	NAME(S)	LEE, LEONARD SHANJI / LEE, MATTHIS SHANSHU
ORGANIZATION		Taiwan Math/Science Circle (TWMC)
TITLE OF ENTRY		Intelligent Food Recognition System

Caregiver Database: Collects and records caregivers' health information and medical history, providing personalized monitoring support.
1. Food Identification and Monitoring: Leveraging IoT technology and sensors, the system identifies whether caregivers are suitable for specific foods, helping them avoid inappropriate diets.
2. Alert System: When inappropriate foods are identified, the system triggers an alert to alert both the consuming individual and their caregiver.
3. Dietary Record: Automatically records daily diet patterns for future medical diagnosis and helps identify potential sources of illness.

TW-10	NAME(S)	Wei-Jhen, Chen
ORGANIZATION		Taiwan Math/Science Circle (TWMC)
TITLE OF ENTRY		Smart Wearable Fitness Device

This project presents a smart wearable fitness device that integrates multiple sensor technologies with intelligent computing capabilities. It is designed primarily for fitness enthusiasts and professional athletes, aiming to enhance workout efficiency, prevent injuries, and help users precisely monitor their training status through real-time physiological and motion data tracking. The device incorporates various sensor modules—such as heart rate sensors, accelerometers, gyroscopes, and electromyography (EMG) sensors—to accurately record key performance indicators, including heart rate, step frequency, movement angles, and muscle activity. Through its built-in algorithms, the device performs data analysis and provides real-time feedback via a mobile app or an on-device display interface.

TAJIKISTAN

TJ-01	NAME(S)	Madina Karieva Zarifovna
ORGANIZATION		Avicenna Tajik State Medical University
TITLE OF ENTRY		**Device for congenital hip dislocation treatment**

The invention relates to orthopedic devices for treating congenital hip dislocation in young children. It simplifies splint length adjustment and ensures proper joint formation, allowing use beyond one year of age. The device stabilizes femoral heads in acetabulum cavities after closed reductions, surgery (adductor myotomy), and functional treatment while facilitating childcare (diaper changes, hygiene). Congenital hip dislocation is a common musculoskeletal disorder and a major medical and social issue, especially in Central Asia, where its prevalence is high. The invention addresses these challenges by improving treatment efficiency and ease of use.

TJ-02	NAME(S)	Zarrina Zyaminzoda
ORGANIZATION		Technological University of Tajikistan
TITLE OF ENTRY		**Eco-Friendly Technology for Sustainable Textile Processing**

This invention proposes an environmentally sustainable textile finishing system integrating sericin extracted from silk waste, bio-based dyes from native Tajik plants, and biodegradable surfactants. A novel multilayer coating method immobilizes sericin-based nanocapsules containing essential oils onto natural fabrics, enhancing antibacterial and protective properties. The process significantly reduces water and energy use, while improving color fastness and ecological safety. This approach offers a green alternative for industrial textile processing and supports the development of eco-certified fabrics.

THAILAND

TH-01	NAME(S)	MISS. LUANRUTHAI CHUARCHOMPOO
ORGANIZATION		Wichai Wittaya School
TITLE OF ENTRY		**Anti-Sweat Hand Spray**

This research aimed to develop and evaluate the effectiveness and safety of a hand spray for reducing palm sweating. Four formulas—A, B, C, and D—were tested. Formulas A and B only moisturized the skin, while C and D effectively reduced sweating. Formula D showed the longest effect, lasting up to 72 hours. Key ingredients included Aluminum Chloride Hexahydrate, Witch Hazel Extract, Aloe Vera Gel, Ethanol, Tea Tree Oil, and Lavender Extract. Results indicated that formula D was the most effective, offering sweat reduction, skin hydration, and odor control, making it suitable as an anti-sweat hand spray.

TH-02	NAME(S)	Miss Nanida Pramonphongphan / Miss Adinda Telaga Putri / Miss Phinrada Kasidisdolakul / Miss Chonpicha Nutjureekit / Mr. Freedan Basumatary
ORGANIZATION		Wichai Wittaya School
TITLE OF ENTRY		**Development of a Biogel from Karaya Gum Mixed with Ground Shrimp Shells, Ground Crab Shells, and Coconut Husk Fibers to Enhance Moisture Retention and Promote Plant Growth in Arid Areas**

This study developed a biogel from natural Karaya gum mixed with ground shrimp shells, crab shells, and coconut husk fibers to improve soil moisture and plant growth in arid areas. Results showed the biogel enhanced soil moisture retention by 2–3 times and significantly boosted plant growth ($p < 0.05$). Nutrient analysis revealed the presence of nitrogen, phosphorus, potassium, calcium, and magnesium at beneficial levels. These findings indicate that this eco-friendly biogel offers a sustainable solution for improving agricultural efficiency and promoting plant development in dry environments.

TH-03	NAME(S)	Yuta Kobayashi / Kunlanard Langkaphin / Panupong Uprajong / Pannawish Nilsakul / Phuktharin Phaisanthanaphat / Phakkamon Jongborirak
ORGANIZATION		Unity Concord International / Montfort College / Chiang Mai Thepbodint
TITLE OF ENTRY		**Herbal Mouthwash Infused with Thai Herbal Seeds**

This project aims to develop herbal mouthwash with Ma-Khueng solution for the elderly. This product may reduce bad breath, prevent tooth decay, decrease bacteria in the oral cavity. According to a study on the medicinal plant, Zanthoxylum rhetsa (Roxb.) DC (Ma- Khueng), a genus of Zanthoxylum belonging to the Rutaceae family. It was found the main component was alkaloids and secondary was lignans, coumarins, and amides. These components which are biologically active in inhibiting bacteria, anti-inflammatory, antifungal, antioxidant and inhibition of cancer cells. Let's experiment with oil extraction according to folk methods at a concentration of 1% and prepare it into a solution from 2 types in 4 recipes, as follows: Mouthwash mixed with 5 % and 10% solution from Ma-Khueng seeds, another one solution from Ma-Khueng seeds and seed shells in concentrations of 5% and 10%. These were found that Ma-Khueng seeds mouthwash in concentrate 5% have appropriate physical characteristics and properties. It has a sweet taste, cool, pH 6.8, clear liquid, light brown, and dissolves well in water, stable at room temperature. Therefore, it is a suitable development to herbal mouthwash product for the elderly.

TH-04	NAME(S)	Ponpomkwan Chanhom / Dhammawit Haemanwichian / Nutatcha Yowcharoensuk / Chayanan Manawongcharoen / Phuwit Suwannatain / Kamolnid Rochanasiri
ORGANIZATION		Chiang Mai University Demonstration School
TITLE OF ENTRY		**ThermiZen Soothing Spray**

Burns and scalds are caused by heat exposure. First aids quickly and effectively help accelerate the healing of wounds, reduce injuries and prevent infections. Our article presents a study of indigo effective as ancient Thai herbal medicine. Commonly, in Thailand, indigo known as Kram/Kam, the botanical name Indigofera tinctoria L. Indigo extract contains phytochemicals with antioxidant properties. and there are biologically active compounds in the group of flavonoids, saponins, quinones, sterols, triterpenes, tannins, and polyphenols. As well as indigo leaf extract, can also be used to fight microorganisms in a group of pathogens. This experiment brought the indigo stalk fermented with an organic solution, namely hot water, cold water and 95% ethanol in a closed container for 24 hours, a total of 3 samples will be obtained. When examining the physical characteristics of indigo extract concentrate, they include color, odor, and viscosity. The general characteristics and chemical properties were checked, including measuring the acidity-alkalinity with a pH meter. The indigo stalk extract fermented with hot water is suitable characteristics. They are composing of odor dry leaves odor, medium viscosity, lumpy appearance, pH 5.47, % yield of 0.34. Additionally, there are also suitable properties ingredients for base lotions. The lotion characteristics are sticky, cooling and fresh.

TH-05	NAME(S)	Tarawin Kiatlertpongsa / Napamanee Kornthong
ORGANIZATION		Ruamrudee International School / Thammasat University
TITLE OF ENTRY		**NEPPY: Organic Repellents for Infants and Kids made from Catnip: DHF Protection**

Dengue Hemorrhagic Fever (DHF) surged globally in 2023, with Thailand reporting a 300% rise in cases and deaths increasing from 34 to 147. Infants and young children are especially vulnerable, highlighting the need for safe and effective repellent. This project introduces a catnip-based cream as a non-toxic alternative to DEET. Catnip (Nepeta cataria) contains nepetalactone, offering a 94% mosquito-repelling efficacy. Using the rapid hot oil immersion method, we extracted the essential oil and formulated it into a child-safe repellent cream. This cream provides a sustainable, organic solution for dengue prevention in endemic areas, addressing both public health and pediatric safety needs.

TH-06	NAME(S)	Thanida Maneesri / Sajitha Thapniwat / Rattasart Chaisuwan / Pawarisa Chanthatham / Thananchanok Wongkhun
ORGANIZATION		Montfort College Secondary School
TITLE OF ENTRY		**Development of Bioplastic from Orange and Lime Peels**

This invention addresses severe global plastic pollution by transforming abundant agricultural waste into an environmentally friendly material alternative to traditional plastic to keep marine ecosystems, human and animal food chains safe from plastic waste accumulation. Therefore, this project aims to develop bioplastic from orange and lime peels through a process of pectin extraction from the fruit peels, combined with additives to enhance flexibility and durability. Bioplastic from orange and lime peels can help reduce plastic waste, create sustainable materials, and add value to agricultural waste.

TH-07	NAME(S)	Miss Puttachat Pongsuchat / Mr. Piyakiat Boonruang
ORGANIZATION		Purevera Company Limited
TITLE OF ENTRY		**PP LIFTOGOLY NECK PACK**

PP Liftology Neck Pack is a dual-step skincare innovation targeting aging signs on the neck. It combines a high-performance peptide-rich serum with a precision-cut bio-cellulose mask to deliver hydration, visible lifting, and skin rejuvenation in just 15 minutes. Designed to address the often-overlooked neck area, it offers non-invasive, professional-grade results at home. The product bridges cosmetic care and anti-aging science through ergonomic design, active ingredients, and sensory-enhancing textures, meeting modern demands for fast, effective, and targeted skincare.

TH-08	NAME(S)	Panut Nakarakornkul / Peeraya Jeethanawanit / Phandaree Temtanaruk / Yanisa Pitchakham / Phatcharida Inthama
ORGANIZATION		Chiang Mai International School / Dara Academy / Srinakharinwirot University
TITLE OF ENTRY		**AquaSustain: Smart Swine Water Recovery**

This study introduces a photobioreactor-based smart wastewater treatment system integrating light exposure with Spirulina sp. cultivation to remove excess nutrients from swine biogas effluent. Experimental results showed nutrient removal efficiencies of 100% for NH_4^+-N, 90.50% for NO_3^--N, and 95.12% for PO_4^{3-}-P within 8 days. The final effluent met criteria for agricultural reuse, while the algal biomass exhibited high potential as an organic biofertilizer rich in essential nutrients. This eco-engineered system demonstrates a cost-effective and sustainable approach to nutrient remediation and biomass valorization, contributing to environmental biotechnology and integrated waste management strategies.

TH-09	NAME(S)	Miss Pitchaya Sasibutra
ORGANIZATION		Brighton College Bangkok
TITLE OF ENTRY		Green Halo: An Upcycled Mobility Aid Enhancing Life for Blind Dogs
The Green Halo is a simple, eco-friendly device made from upcycled plastic to help blind dogs move safely. It attaches to a harness and acts like a bumper, warning dogs of nearby obstacles. Inspired by upcycling in Thailand, it's easy to make and good for the environment. The Green Halo improves daily life for blind dogs and their owners.		

TH-10	NAME(S)	Mr. SITHSAKORN JANTRAKUL / Mr. CHAIYANAT KUPTIVEJ
ORGANIZATION		RUAMRUDEE INTERNATIONAL SCHOOL / BANGKOK PATANA SCHOOL
TITLE OF ENTRY		RICESENSE/ FUTURE OF GOOD LIFE PROJECT
RiceSense is a low-cost, portable smart device designed to help rice farmers track and report water levels for low-carbon rice certification. It addresses the needs of older farmers who may not use smartphones or complex technology. The device verifies real-time GPS location and securely uploads field data—such as date, time, and water depth—directly to the cloud. This simplifies compliance, reduces the need for auditors, and ensures reliable, scalable monitoring. By supporting alternate wetting and drying (AWD) practices, RiceSense helps lower methane emissions, enhance traceability, and accelerate access to carbon credit opportunities for sustainable rice farming communities.		

TH-11	NAME(S)	Assoc. Prof. Natt Leelawat / Dr. Jing Tang / Isoon Chanchongkham / Prarunchai Ruttanaprasert / Teerawat Riensuwon
ORGANIZATION		Chulalongkorn University
TITLE OF ENTRY		Building Fire Evacuation Strategy Improvement using Agent-Based Simulation
Fire disasters in urban buildings contain severe risks due to congestion and inadequate evacuation strategies. This invention enhances fire evacuation efficiency by utilizing Agent-Based Simulation to model human movement dynamics during emergencies. With the integration of real-world building layouts, pedestrian flow patterns, and fire source locations, the model can identify bottlenecks that slow down evacuation. It was tested with survey and testing scenarios. The results show some congestion points. This study provides valuable solutions to enhance emergency preparedness. This approach provides valuable insights for safer building designs, thereby reducing risks and strengthening overall fire safety resilience.		

TH-12	NAME(S)	Assoc. Prof. Supavadee Aramvith Ph.D. / Assist. Prof. Tansiphorn Na Nan Ph.D. / Adisa Sriwarasas / Watchara Ruangsang Ph.D.
ORGANIZATION		Chulalongkorn University
TITLE OF ENTRY		AI-based Cocoa Seed Quality Grading System
Traditional cocoa bean quality assessment is time-consuming, subjective, and requires trained experts. This project presents an automated grading system that integrates a custom imaging chamber with a sophisticated AI analysis module. The system utilizes a novel hybrid AI model, combining YOLOv11 for rapid object detection with a Vision Transformer (ViT) for high-accuracy classification. It effectively grades beans based on color and defects, reducing inspection time by over 80% while improving accuracy by up to 17.4%. This innovation provides a fast, objective, and standardized solution for quality control in the cocoa industry.		

TH-13	NAME(S)	Kandit Kornmatitsuk / Thanapong Petchsuk
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		ALSenses: An Adaptive Multi-Sensor Communication Device for Enhancing Autonomy in ALS Patients
"ALSenses" is a communication device designed to support individuals with severe motor and speech impairments associated with ALS. Our approach integrates multiple interchangeable sensor modules—a gesture sensor, a low-force joystick, and an eye-tracking module—into a single platform. Each module can be swapped and calibrated effortlessly. These inputs are interpreted by an onboard processing unit (a Raspberry Pi), with a screen displaying actions and responses. "ALSoft" is the core software for processing the inputs and visible elements on the display and handling external devices. Patients can make requests to caregivers, send commands to IoT systems, and call for help.		

TH-14	NAME(S)	Warapron Chotisawat / Apinya Binsan / Teerapong Yata / Sariya Asawakarn / Sirakarnt Dhitavat
ORGANIZATION		Biochemistry Unit, Department of Physiology, Faculty of Veterinary Science, Chulalongkorn University
TITLE OF ENTRY		An Innovative PhytoNano-MyoSpray: A Pain Relief Spray from Nanostructured Lipid Carriers carrying Herbal Extracts (AMFINE Spray)

This project presents a hot-formula, nano-herbal spray developed to relieve muscle pain and early symptoms of office syndrome. Utilizing Thai herbs wintergreen oil, black pepper extract, and clove oil, the formulation employs nanotechnology to enhance skin absorption, prolong effectiveness, and reduce irritation. The lipid-based nanoparticles encapsulate active compounds, allowing for deep skin penetration and sustained release. Designed for working-age individuals, this innovative solution integrates traditional Thai medicine with modern delivery systems to provide safe, natural, and efficient relief from muscle tension and pain.

TH-15	NAME(S)	Charkrid Laoprapassorn / Sippaphas Toviwat / Wiritphol Prechatanasak / Jeerasak Jitrotjanarak
ORGANIZATION		King Mongkut's Institute of Technology Ladkrabang International Demonstration School (KMIDS) / Bangkok Christian College
TITLE OF ENTRY		SPECTRA

This project "SPECTRA" is a portable rehabilitation device designed to assist individuals with shoulder and upper back conditions. Based on relevant national and international studies, the system incorporates evidence-based physical therapy techniques, interactive feedback, and motion tracking. It enables users to perform self-managed rehabilitation while improving neuromuscular control and motivation through technology such as mobile applications and virtual reality. SPECTRA aims to reduce pain, restore mobility, and enhance patient outcomes. This innovation supports personalized healthcare and has the potential to ease the burden on public health systems while sustainably improving quality of life.

TH-16	NAME(S)	Ploypin Rungrojchaipon / Pawin Rungrojchaipon
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		BioNanofiber Air Shield

BioNanofiber Air Shield is an innovative, reusable bilayer filter designed for superior air purification. It combines electrospun fibers in two functional layers: a superhydrophobic poly (methylmethacrylate) / polydimethylsiloxane (PMMA/PDMS) layer that blocks moisture infiltration, and a superhydrophilic chitosan fiber layer that effectively captures harmful particulate matter (PM 2.5). Additionally, the chitosan fibers offer strong antibacterial properties, ensuring cleaner air while also protecting against harmful microbes. This advanced filter provides a powerful, multi-functional solution for air quality improvement. The electrospun forms on thin mulberry paper sheets and fine mesh plastic netting, invented by CUD secondary school students. We designed this eco-friendly material in everyday products such as Japanese-style sliding doors (Shoji), pleated curtains, fine mesh plastic netting for insect protection and lamps, blending functionality with tradition.

TH-17	NAME(S)	Nattarin Ouicharoen / Phichphanita Mathasuriyapong / Thunthita Padetpai
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		BLUE TANIQUE

BLUE TANIQUE is an innovative herbal extraction machine that utilizes advanced nano-extraction techniques to efficiently process sea morning glory into highly bioavailable nano-form compounds. This groundbreaking technology combines traditional herbal knowledge with modern science, enhancing the efficacy, absorption, and shelf life of key bioactive compounds. It unlocks diverse product possibilities—from soothing creams and fast-acting pain relief gels to refreshing nano-drinks and premium supplements. BLUE TANIQUE showcases the potential of sea morning glory as a valuable herbal resource, contributing to health innovation, local economic development, and sustainability through high-performance, nature-based solutions.

TH-18	NAME(S)	Associate Professor Dr.Prakob Koraneekij / Professor Dr.Jintavee Khlaisang
ORGANIZATION		Center of Excellence in Educational Invention and Innovation, Faculty of Education, Chulalongkorn University, Thailand
TITLE OF ENTRY		Code Craft: A Design Thinking Coding Playground

Code Craft is a design–thinking–driven coding playground that empowers Thai university students with computational thinking and digital literacy. Integrating low-code development, AI-powered assistance, and gamification, the platform supports flexible, engaging learning both inside and outside the classroom. Through a structured five-phase process - Discovery, User Analysis, Ideation, Prototyping, and Evaluation—students create meaningful tech solutions. Significant gains in computational thinking ($p < 0.001$) and high user satisfaction affirm its impact. Code Craft bridges education and innovation, preparing learners for the evolving digital economy.

TH-19	NAME(S)	Pornprapat Jirapojaporn / Napisa Laipanya / Vichapol Prasattongosoth / Jeerasak Jitrotjanarak
ORGANIZATION		Ruamrudee International School
TITLE OF ENTRY		DeeDough
DeeDough is a science-inspired modeling dough infused with benzalkonium chloride, offering both safety and innovation for creative play. This ingredient provides natural antimicrobial properties, helping reduce bacteria growth and keeping the dough cleaner and more hygienic for kids and adults. Despite its protective qualities, DeeDough remains soft, flexible, and easy to mold, making it perfect for imaginative creations and educational activities. Its antimicrobial feature makes it ideal for classrooms and homes alike, encouraging worry-free play. Non-toxic, non-staining, and packaged for long-lasting freshness, DeeDough blends creativity, safety, and modern science into a fun and practical play experience.		

TH-20	NAME(S)	Assoc.Prof. Praweenya Suwannatthachote, Ph. D. / Asst. Prof. Pornsook Tantrarungroj, Ph.D.
ORGANIZATION		Chulalongkorn University
TITLE OF ENTRY		designCLASS: Intelligent Supervised Learning Design Platform
The designCLASS Platform is an innovative online tool that supports educators in designing outcome-based instructional plans through a structured seven-step process. Integrating advanced AI analytics and feedback, it guides users in defining learning outcomes, aligning assessments, and creating learning activities. The platform also offers an AI-powered supervisory agent that acts as a cognitive companion to enhance reflective practice and professional development. By facilitating effective technology integration into face-to-face and blended classrooms, it aims to improve instructional quality and promote better student learning outcomes.		

TH-21	NAME(S)	Boonyada Sangmanee / Nichanun Subsompon / Poramit Sangmanee / Nattheera Subsomopon
ORGANIZATION		King's College International School Bangkok
TITLE OF ENTRY		Drip Drop Machine
Used cooking oil is often discarded into drains, which then flows into rivers or causes blockages in the pipes. Our machine is designed to collect excess cooking oil in exchange for money. Users can pour oil into the machine and it will measure the volume being inputted, as well as filter out any impurities or detect the amount of water in the oil. The amount of money a user receives depends on the volume and purity of the oil. The oil is then taken to be converted into jet fuel which is a more sustainable alternative to current jet fuels.		

TH-22	NAME(S)	Titapa Simapichaicheth / Celine Boonyanusasna
ORGANIZATION		NIST International School/ Shrewsbury International School
TITLE OF ENTRY		Elder-joy-xercise
Elder-joy-xercise is an innovative solution designed to promote physical activity among the elderly through interactive gaming. By integrating exercise devices with a game-controlled interface and cloud-based tracking, Elder-joy-xercise transforms routine workouts into enjoyable activity. The project addresses age-related physical decline, including sarcopenia, while also supporting cognitive and emotional health. Devices like hand compressions, finger-dexterity trainers, and arm-leg bicycle convert physical actions into in-game commands via Bluetooth. Users can customize their exercise intensity and track progress via our Goldfitt application. Designed for individuals aged 65 and older, Elder-joy-xercise offers elderly a fun way to stay active and independent in daily life.		

TH-23	NAME(S)	Wiritphol Prechatanasak / Charkrid Laoprapassorn / Sippaphas Toviwat / Jeerasak Jitrotjanarak
ORGANIZATION		Bangkok Christian Collage, King Mongkut's Institute of Technology Ladkrabang International Demonstration School (KMIDS)
TITLE OF ENTRY		FaceRehab: Face Activation and Coordination Enhancer: AI-powered facial motion detection system
FaceRehab is designed to be intuitive and user-friendly for a wide range of users— from facial paralysis patients and post-operative recovery cases to older adults or anyone looking to improve facial muscle balance and coordination. FaceRehab Quest is available as a web-based application, making it easy and accessible for users across multiple devices—whether it's a laptop, tablet, or mobile phone with a front-facing camera. No need to download or install any application. Users simply visit the FaceRehab website via a web browser and grant camera access when prompted. After entering the platform, users can choose from targeted facial training missions. The system will display the user's face in real-time with overlaid facial landmarks indicating the focus points. Users are guided to perform specific facial movements, and the system provides real-time visual feedback: green points indicate a correct movement, while red points signal errors.		

TH-24	NAME(S)	Pluemkamon Thongkham / Phattanun Ratanasangsathein
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		Kronoscope

Kronoscope is an educational app that takes users on a journey through Thailand's rich historical periods while connecting them to global events happening at the same time. The app features an interactive timeline that highlights key Thai eras such as Sukhothai, Ayutthaya, Thonburi, and Rattanakosin, and places them side by side with significant global events like the European Renaissance or the rise of the Ming Dynasty in China. It allows users to explore how Thai history has been influenced by and has influenced the world. Using augmented reality, users can visit historical landmarks like Ayutthaya Historical Park or Sukhothai and see what these places may have looked like in the past. Kronoscope also tells cultural stories, shares interesting facts, and presents historical connections. The app makes learning fun and meaningful for students, travelers, and history lovers alike. Kronoscope turns local Thai history into a global experience, helping users see the broader context of the past.

TH-25	NAME(S)	Thipok Tungsiripat / Komed Nachaeng (Advisor) / Anyaporn Boonmahitthisud (Advisor)
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		MacaShield: Fire-Safe, Eco-Friendly Electronic Cover Plate from Agricultural Waste

MacaShield is a flame-retardant electric cover plate made from macadamia nutshell waste designed to reduce fire risks caused by flammable plastic components in electrical systems. Unlike traditional covers that rely on toxic brominated flame retardants, MacaShield uses a green composite made of nutshells, stone powder and polyester resin. This innovation delivers natural flame resistance, high mechanical strength, and environmental sustainability. Targeted for use in construction, green buildings and interior applications, MacaShield transforms agricultural waste into high-value material, reduces plastic consumption, and supports circular economy and Net Zero goals - making it a safe sustainable alternative for the future of building systems.

TH-26	NAME(S)	Assistant Professor Dr.Pornpimol Sukavatee / Professor Dr.Jintavee Khlaisang
ORGANIZATION		Chulalongkorn University
TITLE OF ENTRY		Magic: English Gamified Quest in the Metaverse to empower real speaking and listening communication with motivation for EFL learners

MAGIC is a gamified metaverse research-based innovation designed to enhance English oral communication among Thai university students and EFL learners worldwide. It comprises four real-life themed lessons and five task-based activities. Developed through a mixed-methods design with 67 participants, Exploratory Factor Analysis (EFA) identified four key components: digital gamification design, oral communication enhancement, motivation augmentation, and immediate feedback. Results showed a significant improvement in oral communication ($p = .000$), and students reported a high motivation level ($M = 4.04$, $SD = 0.51$). MAGIC offers a scalable, engaging model for promoting communicative competence among EFL learners.

TH-27	NAME(S)	Nattarin Ouicharoen / Phichphanita Mathasuriyapong
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		Mag Neuro Care™

MagNeuroCare™ was inspired by common issues like neck pain, dizziness, poor sleep, and fatigue—symptoms often linked to insufficient blood flow to the brain. Designed with an ergonomic U-shape, this neck support pillow features high-density memory foam for optimal support and a cooling gel layer to ensure maximum comfort throughout use.

TH-28	NAME(S)	Intira Phrompan / Kanyarat Kwiecien / Jiraporn Panomsuay / Natnicha Maneephruek / Pachara Wongchaiwan / Chutipa Asavalertplakorn
ORGANIZATION		Chulalongkorn University
TITLE OF ENTRY		Mandala Sculpting Activity Kit for Visually Impaired Children

The mandala sculpting activity kit for visually impaired children is designed to enhance aesthetic experiences for children with visual impairments aged 6 to 12 years. Engaging in these activities supports their overall development by improving perception, emotional skills, and social interactions while also enhancing sensory awareness. This program promotes educational equality for socially disadvantaged children, catering to both those who are completely blind and those with low vision. It promotes peace of mind, enhances concentration, and cultivates an appreciation for aesthetics in art creation. Participants often feel a sense of accomplishment and self-worth upon completing the activities.

TH-29	NAME(S)	Nattarin Ouicharoen / Chomchan Sittikit / Ploychompoo Thepthong
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		Merrygold Pets (Pets products with marigold extract)

In Thailand, common varieties like Sovereign and Jamaica are cultivated. Marigolds, widely used for decoration and ceremonies, often get discarded despite their great properties! Our innovation upcycles these leftover marigolds, turning them into valuable products. We extract their compounds using nano-level techniques to create tiny Nano-Bubbles. Our pet line includes shampoo, soap, and hair oil. Knowing pet skin is four times more sensitive than human skin, these products are formulated with marigold to help reduce inflammation, deodorize, and nourish their fur.

TH-30	NAME(S)	Sirakarnt Dhitavat / Nikom Chaisiri / Sujin Sirisawadi / Nunthida Kunnasut
ORGANIZATION		Biochemistry Unit, Department of Physiology, Faculty of Veterinary Science, Chulalongkorn University
TITLE OF ENTRY		NITRATE TEST KIT

This invention presents a nitrate test kit designed for monitoring nitrate concentration in aquaculture water. It provides accurate results within 5 minutes using a safe, cadmium-free colorimetric method based on color comparison. The kit is user-friendly, cost-effective, and does not require specialized technical skills. It is suitable for detecting nitrate levels in the 0–50 mg/L range, enabling farmers to assess water quality efficiently and prevent nitrate-induced harm to aquatic animals. This innovation supports sustainable aquaculture by offering a practical tool for on-site water quality management.

TH-31	NAME(S)	Pabhada Asawakarn / Punama Chulamokha Suchato / Phimphitcha Aemnawachat / Pariwat Thamma
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		Peel Power: Fruit Waste into Bioactive Extracts

This project investigates the potential of fruit peels waste from eight fruits: pineapple, watermelon, banana, Marian plum, orange, sapodilla, pomelo, and pomegranate as natural sources of enzyme inhibitors and antioxidants. Using 70% ethanol extraction, the peels were tested for α-Amylase, α-Glucosidase inhibition, and DPPH radical scavenging activity. Watermelon and sapodilla peels showed dual-enzyme inhibition, while pineapple peel exhibited strong α-Glucosidase inhibition. Pomegranate peel had the highest antioxidant activity. These findings highlight the opportunity to transform agricultural waste into valuable bioactive products, supporting sustainability and offering potential applications in functional food, supplements, and natural health industries.

TH-32	NAME(S)	Puncharat Jensuttiwetchakul / Phiwasut Saengtrakul / Chuck Leeyakars
ORGANIZATION		Chulalongkorn University Demonstration Elementary School
TITLE OF ENTRY		Smart Adjustable Pill Box

People who take multiple medications face problems with regular pill organizers that have fixed compartments and limited space for original packaging. These problems often force patients to remove pills from their protective pouches or blister packs, which can damage the medication and lead to mistakes. To solve these issues, our team created a new adjustable pill organizer with three main improvements: (1) compartments that can change size to fit entire medication pouches and original packaging, (2) built-in cutting tools designed for blister packs, and (3) flexible compartment placement that lets people customize layouts based on their medication schedules and dosing needs. This solution keeps medications safe while helping patients stick to their treatment plans and avoid errors.

TH-33	NAME(S)	Pabhangkorn Jaturaworaporn / Nadcha Wasanapradit / Jiraphat Lohavattanakul
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		Smart Patient Lifting Fabric that analyzes the risk of pressure ulcers

The lifting fabric has pressure sensors positioned in various locations to detect areas of highest pressure when a patient lies on it. The data is sent to an application that displays pressure levels using graphs with different colors and heights. If any area experiences excessive pressure for too long, the application issues an alert. This helps caregivers reposition patients to prevent pressure ulcers, improving the efficiency and quality of bedridden patient care.

TH-34	NAME(S)	Dr. Jing Tang / Assoc. Prof. Natt Leelawat / Maykey Mekworawuth / Tanadeach Oumimpuech / Pithawat Komolpis
ORGANIZATION		Chulalongkorn University
TITLE OF ENTRY		Immersive Solution for Tsunami Evacuation in Phuket

This project utilizes Virtual Reality (VR) to simulate real-life evacuation scenarios. In our VR simulation, participants experience tsunami evacuation in Pha Tong, Phuket, Thailand. The environment presents a beautiful and detailed atmosphere. This helps us understand how people make decisions in emergencies in diverse scenarios. We include participants from five different age groups, so our study gives useful information for disaster preparedness. Our research shows that VR can be a powerful tool for evacuation studies and public safety.

TH-35	NAME(S)	Poomkarn Taedullayasatit
ORGANIZATION		Shrewsbury International School, Bangkok (Riverside), Thailand
TITLE OF ENTRY		**Actimus**

Actimus is an innovative rehabilitation device that integrates electromyography (muscle contraction measurement) and electrostimulation (muscle stimulation) into a gamified, portable system. Designed for individuals recovering from injury, neurological disorders, or age-related muscle decline, it transforms traditional physical therapy into an engaging experience. The device connects to a mobile app that guides users through an interactive magic-tiles-style game, where real-time muscle activity and stimulation are synchronized. Actimus enhances neuromuscular control, accelerates recovery, and offers an affordable, accessible solution to physical rehabilitation, especially in underserved or home-based settings.

TH-36	NAME(S)	Sirinda Chalermthiralert
ORGANIZATION		International School, Bangkok, Thailand
TITLE OF ENTRY		**BeeFriend**

This invention introduces a natural insecticide made from waste materials—mussel shells and eggshells—rich in calcium carbonate ($CaCO_3$). It effectively deters pests using physical, chemical, and environmental mechanisms while remaining harmless to essential pollinators like bees. The insecticide offers a sustainable solution to pest control, minimizing chemical use and turning food industry waste into valuable agricultural products.

TH-37	NAME(S)	Thanaporn Pongphaew / Rattakorn Gulrajani / Jeerasak Jitrotjanarak
ORGANIZATION		Harrow International School, Bangkok, Thailand / Georgetown Preparatory School, USA
TITLE OF ENTRY		**BioSync**

BioSync is a wearable system that detects muscle movement through tactile sensors adhered to the skin, allowing users with upper limb loss to intuitively control a bionic arm. The system processes real-time biological signals and translates them into precise robotic actions. Integrated software supports calibration, visualization, and rehabilitation. BioSync combines low-cost hardware with adaptive algorithms to offer a flexible, responsive solution. Built on open-source technology, this invention enhances user mobility, reduces rehabilitation time, and promotes independence, making it a practical advancement in the field of assistive robotics.

TH-38	NAME(S)	Phichphanita Mathasuriyapong / Nattarin Ouicharoen / Thunthita Padetpai / Chomchan Sittikit / Ploychompoo Thepthong
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		**Herbal Extraction Machine Using NanoTechniques**

This groundbreaking innovation combines **nanobubble** and **ultrasonic techniques** to enhance the extraction and separation of active ingredients from Thai herbs. By improving both the efficiency and quality of extraction, this method significantly increases the value of traditional herbal products. It also supports the development of **safe, eco-friendly community-based products**, positioning them as a model for **sustainable innovation** and **future development** in the herbal and wellness industries.

TH-39	NAME(S)	Patarapol Vanichvatana / Thavinn Uttamoat / Nisha Luangvaranunt / Napat Luangvaranunt / Jeerasak Jitrotjanarak
ORGANIZATION		Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		**Khaenova – A Modern Evolution of Traditional Free Reed Instruments**

Khaenova is an innovative redesign of the traditional Thai *Khaen*, a free reed mouth organ. By replacing degradable bamboo with durable acrylic and 3D-printed components, and using CNC and laser technology to produce consistent reeds, Khaenova enhances durability, sound quality, and playability. It also introduces modern reed mounting and precise tuning methods. Supporting SDG 9, 11, and 4, the project integrates industrial innovation with cultural preservation and educational accessibility. Khaenova not only revitalizes a regional musical heritage but also creates opportunities for broader cultural exchange and learning, making traditional music more sustainable, standardized, and globally relevant.

TH-40	NAME(S)	Issara Chaisupat
ORGANIZATION		Shrewsbury International School, Bangkok (Riverside), Thailand
TITLE OF ENTRY		**MATCHA**

Matcha is a low-cost, interactive robotic device designed to support dementia patients, especially in ASEAN's low- and middle-income countries. Embedded in a plush toy of the patient's choice, Matcha can speak, blink, nod, and respond to touch, simulating the emotional comfort of real pet therapy. It also collects patient interaction data and uploads it to the cloud for caregivers and doctors to analyze behavior patterns. This solution promotes emotional well-being while providing valuable medical insight at a fraction of the cost of conventional robotic pets.

TH-41	NAME(S)	Jirasita Tohtubtiang / Chiratchaya Hemrungrojn / Jeerasak Jitrotjanarak / Parinton Jangtawee
ORGANIZATION		Shrewsbury International School / Chulalongkorn University Demonstration Secondary School
TITLE OF ENTRY		NanoNypa Shield
NanoNypa Shield is an antibacterial wound dressing tape that uses green-synthesized silver nanoparticles (AgNPs) derived from discarded Nypa fruticans leaves. It targets a key healthcare challenge: wound infection, which affects up to 30% of wounds globally. Our AgNPs are five times more effective per ppm than conventional AgNP and last three times longer than povidone-iodine, allowing for lower-cost production and longer protection. Easy to use and suitable for non-clinical settings, it is designed for mass accessibility, especially for middle to low-income populations. This innovation bridges nanotechnology, waste reuse, and preventive care, offering a scalable solution for infection control.		

TH-42	NAME(S)	Varanpat Chuaysuk
ORGANIZATION		Prasarnmit Demonstration School, Bangkok, Thailand
TITLE OF ENTRY		QuackTime
QuackTime is a user-friendly pill reminder device designed to assist elderly individuals and patients with memory loss. It features an interactive, analog-style clock for setting pill times by moving pins, and a mechanical dispenser that ejects a ball containing the medication at the selected time. This non-digital, intuitive design removes the barrier of technical complexity, making daily medication routines easier, safer, and more reliable for users with cognitive or technological challenges.		

TH-43	NAME(S)	Tarawin Kiatlertpongsa / Weeranda Kiatlertpongsa
ORGANIZATION		Ruamrudee International School, Bangkok, Thailand
TITLE OF ENTRY		Sunpack
SUNPACK is a lightweight, solar-powered backpack designed to maintain cold-chain storage for vaccines, medicines, and biological tissues. It targets remote and rural areas where transportation is difficult and electricity is unreliable. The system integrates a compact refrigerator, a high-capacity battery, and solar charging capability, ensuring medical supplies remain at the required low temperatures throughout the journey.		

TH-44	NAME(S)	Sithsakorn Jantrakul
ORGANIZATION		Ruamrudee International School, Bangkok, Thailand
TITLE OF ENTRY		Wheelchair Lever Kit
The Wheelchair Assistant Lever is an innovative attachment designed to reduce the physical effort required to propel a wheelchair. Installed on the wheel, this lever-based mechanism allows users to move forward using ergonomic hand movements without touching the tire directly. The system improves posture, reduces hand strain, and enhances overall comfort and safety for users. It is lightweight, easy to install, and adaptable to standard wheelchairs, making it a practical solution for everyday mobility.		

TH-45	NAME(S)	Thitibhadee Lertthawonkit
ORGANIZATION		Patumwan Demonstration School, Srinakharinwirot University
TITLE OF ENTRY		Golden Relief – The Power of Herbal Oil
Golden Relief is a colorless, non-staining herbal oil that preserves the full therapeutic power of traditional Thai yellow oil — but without the common drawbacks. Inspired by the wisdom of Thai herbal medicine, we've reimagined this remedy for the modern lifestyle. Traditional yellow oils often stain clothes, have a strong smell, and feel greasy — making people reluctant to use them in everyday situations, especially at work or in public. Golden Relief solves all of these problems. It's designed to be fast-absorbing, non-greasy, and mild in scent — so you can apply it comfortably anytime and anywhere.		

TH-46	NAME(S)	Mrs. Phensiri Na Nakornphanom / Mr. Nopphawat Ariyahchatraweekul / Mr. Woraphong Janetanakit / Assoc. Prof. Inthawoot Suppavorasatit / Assoc. Prof. Kitipong Assatarakul
ORGANIZATION		Faculty of Science, Chulalongkorn University and Get Taste Thai Co., Ltd.
TITLE OF ENTRY		Thai Fruit-Infused Herbal Effervescent Tablet
The Thai Fruit-Infused Herbal Effervescent Tablet is an innovative health supplement that combines traditional Thai herbal extracts with Geographical Indication (GI) certified fruit flavors using advanced microencapsulation and effervescent technology. This formulation enhances bioavailability, masks herbal bitterness, and delivers health benefits such as anti- inflammatory or energy- boosting effects. It modernizes Thai herbal wisdom into a fast-dissolving, portable format that meets the needs of today's wellness-focused consumers. By adding value to local herbs and fruits, it supports rural economies, promotes biodiversity, and elevates Thailand's position in the global functional food market. The product shows strong potential for commercial scalability and international distribution.		

TH-47	NAME(S)	**Ms.Pingtham Boonyapabhat / Ms.Ravipreeya Ratprasartporn / Ms.Chayapa Ruktanonchai**
ORGANIZATION		Mater Dei School
TITLE OF ENTRY		**Innovative Herbal-Loaded Microneedles: A Cutting-Edge Solution for Psoriasis Treatment**
This invention offers a steroid-free approach for psoriasis treatment. Anti-inflammatory Black ginger (Kaempferia parviflora) and Centella asiatica extracts are coupled with innovative microneedle patch to create microchannels through the affected skin allowing the active ingredients to reach dermis layer for enhanced therapeutic effects. The patch features an integrated tube for easy medication delivery, provides a novel herbal-based alternative treatment with minimal side effects.		

TH-48	NAME(S)	**Ms. Sunanta Sirimongkol / Mr. Woraprat Prawatwong / Mr. Pratya Kangwanrattanasin**
ORGANIZATION		Princess Chulabhorn Science High School Lopburi
TITLE OF ENTRY		**Development of a Specialized Machine Learning System: for comprehensive Neurological and cerebrovascular Risk Assessment from MRI and CTScan**
This project develops an AI based program to analyze MRI and CT brain images using Machine Learning. Five deep learning models classify normal, tumor, ischemic stroke, hemorrhagic stroke, and vascular occlusion. YOLOv8 detects abnormal areas, while UNet segments their boundaries. Trained on over 1,000 real images, the system runs in a Docker container for real-time use. Results show 0.975 accuracy and 0.965 F1 Score. This aids rapid medical decisions in rural hospitals lacking specialists, crucial for timely brain emergency treatments. Keywords: Machine Learning, YOLOv8, UNet, Stroke, Brain Tumor, MRI/CT		

TH-49	NAME(S)	**Napakorn Pongsak**
ORGANIZATION		Shrewsbury International School Bangkok
TITLE OF ENTRY		**Hempcrete**
Hempcrete is a sustainable construction material made from hemp hurd, a widely underutilized agricultural byproduct in Thailand. By mixing hemp hurd with water and lime binder, hempcrete is created. This innovation repurposes waste in a carbon-negative building block that is significantly lighter than concrete yet strong enough to build houses. Hempcrete is locally sourced, non-toxic, and provides excellent insulation and moisture regulation, making it ideal for tropical climates. It offers a low-cost, scalable alternative to conventional bricks, helping reduce emissions from both agriculture and construction while creating new economic value for rural communities.		

TH-50	NAME(S)	**Miss Peeraya Kulyadul / Miss Napa-ai Suriyabhivadh / Miss Proudpalin Suriyabhivadh**
ORGANIZATION		Bangkok Patana School
TITLE OF ENTRY		**SHINE BEYOND THE SHADOW: Inclusive 3D Tactile Board Game for the Visually Impaired**
Shine Beyond the Shadow is an innovative multisensory educational and rehabilitation game created to empower individuals with visual impairments. Using 3D-printed tactile components, pattern recognition, and logic-based assembly, it transforms learning into an interactive and enjoyable experience that develops cognitive skills, fine motor coordination, and confidence. The game enables both visually impaired and sighted players to engage equally, fostering inclusion and empathy. Successfully tested in real-life, its modular design allows scalability across diverse institutions, including schools, therapy centers, and homes. Shine Beyond Shadow addresses a critical gap in accessible learning, offering a practical, scalable solution for global inclusive education.		

TH-51	NAME(S)	**Asst. Prof. Dr. Chutima Kongjaroon / Narathip Puangbuyai / Janthakan Sittiwannarat / Kantaphong Sakulchangsatjatai / Nuttanich Chaikwaeng**
ORGANIZATION		Maejo University
TITLE OF ENTRY		**Refined Refreshment: The Essence of Cold Brew Coffee**
Cold brew coffee is traditionally brewed by steeping ground coffee in water for 12–24 hours. However, the application of gastronomic sciences techniques can significantly reduce extraction time to just 30 minutes by accelerating the infusion of aromas and flavors from coffee into water. Comparative analysis of caffeine content, total phenolic content, and DPPH scavenging activity revealed that the rapid method produced slightly lower caffeine levels but enhanced antioxidant properties, particularly in blends with higher Robusta content. These findings demonstrate that the innovative method offers a time-efficient alternative with comparable or superior antioxidant potential.		

TH-52	NAME(S)	Asst. Prof. Dr. Chutima Kongjaroon / Narathip Puangbuyai / Janthakan Sittiwannarat / Kantaphong Sakulchangsatjatai / Nuttanich Chaikwaeng
ORGANIZATION		Maejo University
TITLE OF ENTRY		**Chrysanti: Luxury Oral Care Chewing Gum Infused with Chrysanthemum Extract**

Chrysanthemum indicum contains various bioactive compounds that contribute to its medicinal properties. Phytochemicals in chrysanthemum, including flavonoids and phenolic compounds exhibit antioxidant, anti-inflammatory, and antimicrobial activities beneficial to health. Isoflavone found in dried chrysanthemum contained genistein and daidzein. Furthermore, it also contained polyphenolic compound including gallic acid, isoquercetin, quercetin, rutin, catechin and tannin. The innovative solution contained 15.60 mg GAE/g of total phenolic compounds and demonstrated 60.54% DPPH radical scavenging activity. The application of spray dryer was applied onto the extract to obtain phytochemical power from chrysanthemum and mixed with natural gum to produce a chewing gum with anti-inflammatory properties.

TH-53	NAME(S)	Parama Linpiyawan
ORGANIZATION		International Community School Bangkok
TITLE OF ENTRY		**NoSore: A Bedsore Prevention Device**

NoSore is a low-cost and affordable smart bedsore (also known as pressure ulcer) prevention pad. It's a mattress topper with integrated pressure sensors for constant and accurate monitoring, allowing caregivers to be alerted when specific areas of a patient's body experience prolonged pressure for timely intervention to prevent the formation of a bedsore. This innovative approach has the potential to reduce the prevalence of pressure ulcers in Thailand and around the world by offering a low-cost alternative to existing solutions. It bridges the gap between affordability and effectiveness, making it a practical choice for families, caregivers, and healthcare facilities alike.

TH-54	NAME(S)	Preyahathai (Homey) Aroonvanichporn
ORGANIZATION		NIST International School Thailand
TITLE OF ENTRY		**The SMART insole**

Given the overcrowded nature of public hospitals in Thailand and the unaffordable cost of existing gait-analysis machines, many patients with physical disabilities have limited access to these necessary resources. The Smart Insole is a medical innovation designed to provide real-time weight distribution analysis from home and detect abnormalities among patients with mobility issues. Using six FSR sensors across the foot, this device enables patients and physicians to obtain actionable data-driven medical insights. The live cloud-based dashboard presents key metrics and a pressure heatmap; data can be exported in CSV format, helping physiotherapists to monitor progress and tailor treatment for optimal outcomes.

TH-55	NAME(S)	SARUN CHATTUNYAKIT / KREETA SUKTHANG / PATTARONG SOMBATKAEW / SUPANUT BUMRUNGMUANG / KITTIKON AUNHAKAN
ORGANIZATION		Rajamangala University of Technology Suvarnabhumi
TITLE OF ENTRY		**RUSBot: an Autonomous Service Robot for Reception and Document Transporting Task**

The invention, referred to as RUSBot, is an autonomous service robot designed for indoor reception and document transporting tasks. It features a mobility platform with integrated low-cost sensors for SLAM, path planning, obstacle avoidance, and user tracking. RUSBot supports programmable task execution, remote control, and application development through a web-based robot management platform. It can autonomously deliver documents, place them on desks, follow users, and operate within a mapped area up to 20×20 m². With a payload capacity under 10 kg, RUSBot enhances workflow efficiency and reduces repetitive tasks in office and institutional environments.

TH-56	NAME(S)	Siseerot Ketkaew
ORGANIZATION		N/A
TITLE OF ENTRY		**Mobile Pollution Suction and Removal Machine By Applying Electro-Plasma Technology in Metal Cutting and Assembly Plant**

In the research project test of the mobile pollution collector and remover by applying electro-plasma technology in the metal cutting and assembly factory, it was found that the developed mobile pollution collector and remover has corona pulse cell set, electrostatic cell set, and high intensity plasma cell set that can reduce PM1.0 PM2.5 dust, carbon dioxide gas, carbon monoxide gas, benzene gas, and ammonia gas respectively. It has a high-efficiency HEPA air filter set to help increase the efficiency of capturing PM2.5 dust particles, which was tested in a metal cutting and assembly room with an area of 120 square meters in 90 minutes. In the future, it can be used to benefit society very well, helping to improve people's quality of life and can be developed into a commercial product.

TH-57	NAME(S)	Thanabodee Withunchettanan
ORGANIZATION		International School Bangkok
TITLE OF ENTRY		VigorGrow

VigorGrow replaces subjective seedling checks with a data-driven, image-based approach. Standardized images of 14-day-old open-pollinated cucumber seedlings were captured using a 5 MP CMOS camera positioned 30 cm above the plants under LED lighting. A YOLO model accurately detects true leaves (mAP 96%, precision 93.4%, recall 94.4%), which are then analyzed using a multiple linear regression model trained on 800 seedlings. By using pixel count and RGB values, the model predicts seedling vigor with a correlation of 0.79, which is shown to increase agricultural yield by 26%.

TH-58	NAME(S)	Kunpol Poolvoraluk / Kuntee Poolvoraluk / Punn Sutivong
ORGANIZATION		NIST
TITLE OF ENTRY		Virtual Reality Reintegration for Incarcerated Mothers in Thailand

This project developed and implemented a Virtual Reality program for long-term prisoners in Thailand, simulating modern real-world tasks such as navigating public transportation systems. It also served as a leisure reward for inmates exhibiting good behavior. The project addressed the critical reintegration challenges faced by individuals who have been incarcerated for decades—many of whom return to a society that has changed beyond recognition. Without exposure to evolving norms, technologies, or environments, they risk reoffending simply due to disorientation and lack of preparedness. This VR system provided a safe, immersive way to rebuild confidence and break the cycle of re-incarceration.

TH-59	NAME(S)	Jarupat Bulpakdi / Titapa Khunsri / Kamolluck Saiviwat / Nobnatee Sainak / Janthakarn Bun-on
ORGANIZATION		Ruamrudee International School
TITLE OF ENTRY		ThaiMeSync: A Romanized Thai Keyboard (BetterThai) for Inclusive Communication. Reconstructing Thai Script from Latin Character Inputs Using Phonetic Mapping and AI, with a Focus on Accessibility for People with Disabilities

This project presents a Romanised Thai Keyboard that transcends English input into Thai characters. First, the English input is transcribed into the International Phonetic Alphabet(IPA). Next, a custom dictionary is used to map the IPA to its closest Thai equivalents. The IME, which is mostly programmed in C++, is integrated by scripting the Emacs text editor, an integral part of the GNU/Linux operating system. The project is maintained on GitHub for maximum collaborativeness. Future updates for BetterThai will feature a more complete dictionary, a reworked algorithm for searching the dictionary, and integration with Microsoft TSF.

TH-60	NAME(S)	Miss Nattanya Kliaosri / Miss Muthita Komonthiti / Mister Sapon Yingmi / Mister Thanpisit Thongnam
ORGANIZATION		Weerawatyothin School
TITLE OF ENTRY		Seed shake machine

The seed shake machine is made to study the efficiency and separation of seeds of the seed shake machine. The method is as follows: draw a model and cut the various types of steel as required. Then assemble it into a machine as designed and assemble it with a solar cell motor, solar charger controller, circuit breaker, into the seed shake machine. The experimental results 1. Seed shake machine can sort rice grains at 14.2 kg/hour and 71 kg/day. 2. Seed shake machine can sort rice grains in 3 sizes: larger than standard, standard size, and smaller than standard.

TH-61	NAME(S)	Benyapa Ongphiphadhanakul
ORGANIZATION		Shrewsbury International School
TITLE OF ENTRY		StepToSole

StepToSole is an innovative health technology device that integrates traditional body weight measurement with real-time AI-driven foot health monitoring. By passively capturing high-resolution foot images each time a user steps on the scale, the device analyzes for early signs of foot complications such as swelling, ulcers, and discoloration — critical conditions especially for diabetic and elderly populations. StepToSole bridges the gap between clinical foot care recommendations and everyday patient behavior by turning a daily habit into a powerful tool for preventive healthcare.

TH-62	NAME(S)	Andaman Khunaprapakorn / Arin Thongtang
ORGANIZATION		Shrewsbury International School Bangkok
TITLE OF ENTRY		Hospital-Aid Cup Attachment

The 'Hospital-Aid Cup Attachment' is designed to combat various disabilities and physical limitations. The attachment was developed with the elderly and hospital-ridden in mind, with the goal of helping them to drink water despite their medical condition. The attachment does this by fitting tightly into almost any cup and allows for the attachment of customized handles to be switched out freely and modularly attached. The attachment is entirely 3D-Printable. With the current design, an attachment can be made at 6USD per unit. With this device, bed-ridden hospital patients and elderly community members are able to independently and conveniently drink water.

TH-63	NAME(S)	Thanutpasit Suwannaruang / Kanyaphuk Suwannaprae / Nattaphon kasemsukphaisan
ORGANIZATION		Montfort College
TITLE OF ENTRY		Development of "Shallo-Gel": An Antifungal Hydrogel from Shallot Essential Oil to Prevent Fungal Growth

With the increasing availability of products derived from local plants, including shallots known for their properties, our team recognized the antifungal potential of shallots and conducted further research to add value. Initial experiments using bread showed that shallot oil, when formulated into a gel for longer shelf life and easier application, could inhibit fungal growth for up to two weeks, compared to 3–5 days without treatment. In Thailand, shallots are commonly used in food and herbal medicine, such as placing shallots the bedside to ease breathing during colds. Therefore, shallots are easily accessible and hold significant potential for practical use.

TÜRKIYE

TR-01	NAME(S)	Maryam Raei dehaghi / Samira Raei dehaghi
ORGANIZATION		N/A
TITLE OF ENTRY		Innovative methods for organ transplantation First method: Organ transplantation from deceased individuals to patients in need / Second method: The production of organs using genetic science and artificial intelligence

The project we have presented consists of two parts:
1. Organ transplantation from deceased individuals to patients in need.
2. The production of organs using genetic science and artificial intelligence.
In the first part (first method), we aim to solve the problem of organ shortage through the use of organs from deceased individuals. This process requires specific drugs and advanced medical devices such as the VITANODE, which helps maintain organ viability after death.
In the second part (second method), AI-powered microscopic cameras collect developmental data from inside a fetus. This data is then used in a specially designed smart chamber that simulates the fetal environment. By controlling the eight key levels of gene expression regulation, we can generate healthy and functional organs such as the heart, kidney, or other vital body parts.

TR-02	NAME(S)	Seyed Javad ROUDEHCHI TABRIZI / Mrs. Samar GOLDOUZ
ORGANIZATION		TED UNIVERSITY (TED Üniversitesi) - Ankara, Türkiye
TITLE OF ENTRY		Portable Microplasma Unit for Oil Waste Recycling and Energy Recovery

This invention presents a **portable microplasma unit** designed to recycle oil-based industrial waste through **high-temperature plasma pyrolysis**. Compact and modular, the system converts hazardous materials like oil sludge into synthetic gas (syngas), which is usable for heat or electricity. Unlike traditional methods, this device operates **on-site and off-grid**, making it ideal for remote, rural, or emergency environments. Key features include **low emissions, energy recovery, and environmental safety**. It provides a sustainable, scalable, and innovative solution for waste detoxification and clean energy generation — bridging the gap between industry and green technology.

TR-03	NAME(S)	Amir Mohammadzadeh / Faezeh Ahanj / Seyyede Sahar Asgari Ghalebin / Azarm Noavaran Savalan Company
ORGANIZATION		N/A
TITLE OF ENTRY		Phototherapy shirt for babies with jaundice, vitamin therapy and environmental disinfection with special application

This innovative smart shirt integrates phototherapy and ozone technology to address three key areas: 1.Neonatal Jaundice Treatment: Provides phototherapy for newborns using adjustable wavelengths (460-490 nm). 2.Natural Vitamin D Synthesis: Facilitates the natural production of Vitamin D through the skin. 3.Pathogen Disinfection: Achieves a 97.7% disinfection rate of pathogens using UVC light, eliminating the need for chemical agents. Key structural features include smart air filtration, an internal ozone reservoir, a cooling system, and comprehensive control via a mobile application. The strong economic justification for this invention is based on reduced treatment costs and cost-effective production.

TR-04	NAME(S)	Dr. Sadegh Karimi Masouleh
ORGANIZATION		N/A
TITLE OF ENTRY		Limita

This invention introduces a smart charging box with an automatic disconnection system that physically detaches the charging cable once a smartphone reaches full charge. Using a microcontroller and servo motor, the device monitors battery voltage and activates a soft mechanical release at a preset threshold (typically 4.2V). Unlike software-only solutions, this hardware-based approach prevents overcharging, reduces battery wear, lowers heat buildup, and protects the charging port. Compact, energy-efficient, and compatible with various connectors (USB-C, Lightning, MicroUSB), the device offers a practical, safe, and user-friendly solution for extending battery lifespan and promoting safer overnight charging.

TR-05	NAME(S)	Prof. Dr. Mehrdad Fojlaley / Dr. Abazar Karimi Panabandani / Erfan Broumand
ORGANIZATION		TITU INTERNATIONAL UNIVERSITY
TITLE OF ENTRY		Realtime Artificial Intelligence Based Traffic Control System

This proposal claims the development of a smart, real-time, and highly accurate monitoring system for identifying vehicles and measuring their speed by integrating 3D environmental reconstruction, radar technology, and advanced artificial intelligence (AI). The system uses YOLO algorithms for object detection, radar for precise measurement of speed and distance, and 3D modeling for depth and location awareness. The goal is to achieve over 90% identification accuracy and a speed error margin of less than ±5%, even under changing environmental conditions (e.g., low light or rain). This solution aims to improve road safety, reduce traffic violations, and optimize urban traffic management.

TR-06	NAME(S)	MEHRAN BAKHTIARI / Mohmmad Ahmadi Vashvaei / Morteza Nikparvar / Mahboubeh Hasheminezhad / Sima Hormozdiarycham / Mohammad Mahdi Azizollahi Nemat / Zahra Rahmani / Radmehr Hakamirad / Rasoul Abbaszadeh / Ershad Zamnpour
ORGANIZATION		N/A
TITLE OF ENTRY		Smart box for transferring all sensitive laboratory, pharmaceutical and medical samples

The box for transferring laboratory samples from minus 5 degrees Celsius to plus 60 degrees Celsius is used to transfer samples that must be moved from one city to another without being damaged along the way. In some cases, the samples must be kept at temperatures be placed in a dark environment with the desired temperature, for example, at a temperature of minus 5 degrees, with a constant temperature of several hours, or a temperature of 10 degrees plus, or for some samples, for example, a sperm sample, at a temperature of 37 degrees, or also a variety of primers and temperature-sensitive drugs and All laboratory samples or the transfer of human body organs such as heart, kidney, liver, etc. to be transplanted for a long time from one city to another need to maintain constant humidity and temperature with the desired temperature in the medical protocol. Also, this box will be prevented from accessing laboratory samples and stolen members by using a multi-digit code lock that is built in and a metal body that is fully protected. Also, this box will be connected to a lighter.

TR-07	NAME(S)	Dr. Aydin Ostovar
ORGANIZATION		N/A
TITLE OF ENTRY		Aydin's IQ Map: Personalized Learning Pathway for Gifted Success

This invention, "Aydin's IQ Map," is an innovative, responsive teaching device for 9- to 15-year-old students. It aims to stimulate cognitive intelligence, support multi-domain learning, and lead to achievement in competitive gifted entrance exams to school (grades 6–7, 9–10). The system constructs a personalized learning trajectory based on the learner's strongest intelligence (Gardner's MI theory), cognitive levels of achievement (Bloom's Taxonomy), and development models like Vygotsky's ZPD and Feuerstein's Instrumental Enrichment. The IQ Map is brought forth as a graphical, interactive blueprint that acknowledges the abilities, concerns, and personalized plans of development of the learner. With teachers' or parents' direction, students first complete an initial cognitive profile, which subsequently directs them to pre-set learning channels aimed at verbal reasoning, logical analysis, visual-spatial examination, creativity, and academic proficiency.

TR-08	NAME(S)	Reza Jamalpour / Pedram Foroughi Shad / Amirhossein Jamalpour / Mahdi Akhavan / Mahsa Ali Virdi
ORGANIZATION		N/A
TITLE OF ENTRY		The system for presenting concrete mixing plans for construction workshops based on artificial intelligence technology

The strength, workability, and durability of concrete depend on various parameters including the type of cement, the amount and quality of water, the type and quality of aggregates, curing, and more. Even if all the materials used in concrete are of good quality, the determining factor for the quality and strength of concrete is the grading of the aggregates (sand and gravel). The device mentioned is a system for providing concrete mix designs in construction workshops that offers the method for mixing the desired materials to achieve suitable and standard combined grading (e.g., sand and gravel mix). It also estimates the required amount of cement and water based on existing standards and the environmental conditions of the workshop and provides these as output to the user, enabling the user to perform the mix design accordingly to produce standard and appropriate concrete.

UNITED ARAB EMIRATES (U.A.E.)

AE-01	NAME(S)	**Khawla Osman Bashir Mohamed / Hisham Tarig Osman Mohamed / Tebyan Khalid Yousif Hamza / manal ismail abdelmahmoud mohamed / ELMAHAL ABBAS MUBARAK ABBAS**
ORGANIZATION		Smart Care Tech (SCT)
TITLE OF ENTRY		**Smart washing machine**

A smart washing machine combining washing, ironing, and folding into a single appliance represents a significant leap in laundry automation. Such a machine aims to streamline the entire process, from cleaning to storage, minimizing user effort and saving time. While still largely in development or in early commercial stages, the concept envisions a system that can wash, then automatically iron or de-wrinkle using steam or other methods and finally fold the garments neatly. This all-in-one approach promises to revolutionize laundry chores, offering convenience and efficiency for the modern household.

UNITED KINGDOM

UK-01	NAME(S)	**ANDREW SMITH**
ORGANIZATION		RAYDYNE ENTERPRISES LTD.
TITLE OF ENTRY		**MIXED-FLOW CENTRIFUGAL PUMP**

This recently patented Mixed Flow Centrifugal Pump introduces several new inventive concepts. These concepts deliver greater pumping efficiency and production cost efficiency to the pump industry. It increases pump design options and combinations of construction materials. The design principally utilizes the benefits of a specially engineered sinusoidal impeller within a toroid shaped pump chamber that closely mirrors the concave rotating profile of the sinusoidal impeller. This facilitates the use of double acting aqua plane technology to ensure ultra-smooth, reduced turbulence and interference, pumping efficiency and power.

UK-02	NAME(S)	**Nguyen Ha Bao Khanh**
ORGANIZATION		IVY Training Co., Ltd, Hanoi, Vietnam
TITLE OF ENTRY		**Gold price volatility forecasting with deep learning**

Gold is a safe-haven asset influenced by complex economic, financial, and political factors. Traditional forecasting methods often struggle to model the nonlinear relationships among these variables, limiting accuracy. This study introduces a bidirectional Long Short-Term Memory (Bi-LSTM) network to predict gold price volatility and assess risk, leveraging its strength in modeling temporal dependencies. Experiments using gold price data from 2008 to 2025 demonstrate the model's superior forecasting performance compared to traditional machine learning methods. The approach also addresses inefficiencies caused by herd behavior in investment decisions, highlighting its potential for financial risk analysis and decision-making support.

UNITED STATES OF AMERICA (U.S.A.)

US-01	NAME(S)	**Marvin Hicke**
ORGANIZATION		Webb School of Knoxville
TITLE OF ENTRY		**Under-$50 Smartphone-Based DIY Fluorometer for Detecting Micro- and Nanoplastics in Beverages**

We developed an innovative, smartphone-based DIY fluorometer for under $50, designed to detect micro- and nanoplastics in beverages. The system combines a custom-built microscope attachment equipped with LED lighting and a smartphone camera to photograph samples stained with fluorescent dyes. These dyes bind to plastic particles and emit fluorescence under specific lighting conditions, allowing visualization of even small plastic fragments. The captured images are then analyzed using a custom Python-based image processing program that quantifies fluorescence intensity and correlates it with plastic content. Additionally, pH levels are used as a tuning mechanism to adjust the sensitivity of the readings, making the system adaptable for different testing environments. This low-cost, portable setup offers a highly accessible alternative to expensive million-dollar lab equipment operated by highly trained technicians, empowering individuals, schools, and even policymakers to test beverages for plastic contamination with ease. Its affordability, user-friendliness, and adaptability make it a powerful tool for raising awareness and promoting action around the growing issue of plastic pollution.

US-02	NAME(S)	**Sara Sheikhlary**
ORGANIZATION		The University of Arizona
TITLE OF ENTRY		**CRISPlasma Kit: An Innovative Tool for Precision Gene Editing**

The CRISPlasma Kit is an advanced gene-editing solution that integrates cold plasma technology with the CRISPR-Cas9 platform to address key challenges like inefficient delivery, off-target effects, and DNA repair limitations. Featuring a compact, automated cold plasma generator, the kit enables safe and precise delivery of CRISPR components by transiently permeabilizing cell membranes, eliminating the need for viral vectors or chemical transfection agents. This innovative approach ensures high efficiency and minimal damage, making it ideal for research, clinical therapy, and agricultural applications. Combining efficiency, safety, and affordability, the CRISPlasma Kit is set to redefine standards in gene editing.

US-03	NAME(S)	Yobin Kim
ORGANIZATION		The Hotchkiss School
TITLE OF ENTRY		**MetaTrack: A Transwell-RNAseq Platform for Identifying Metastatic Cancer Cell Signatures and Therapeutic Targets**

MetaTrack is an innovative diagnostic and discovery platform that integrates transwell-based selection with RNA sequencing to isolate and profile highly metastatic cancer cells. Using human cell lines (A172, MCF7, MDA-MB-231), the system identifies unique phenotypic traits and metastasis-specific gene signatures, including MYBL2, REEP1, and IFNL1. The platform enables functional insights into tumor invasiveness, immune evasion, and genomic instability. With broad applications in biomarker discovery, drug screening, and personalized oncology, MetaTrack offers a scalable and reproducible workflow for metastasis research and clinical innovation. This invention bridges cell behavior and transcriptomics to target the deadliest feature of cancer—metastatic progression.

US-04	NAME(S)	Minsung Hyun
ORGANIZATION		Scarsdale High School
TITLE OF ENTRY		**PAX7Heal: A Gene Therapy-Based Innovation for Accelerating Muscle Wound Healing and Cellular Protection**

PAX7Heal presents a gene therapy approach that enhances muscle wound healing by overexpressing the transcription factor PAX7 in human muscle cells. Through a combination of gene ontology-based analysis and in vitro testing, this study identifies PAX7 as a key regulator of muscle regeneration. Experimental results show that PAX7 overexpression accelerates wound closure by 70% (vs. 20% in controls) and improves resistance to oxidative stress, increasing cell viability from 40% to 80% under H_2O_2 exposure. These findings demonstrate that PAX7 can activate regenerative and protective pathways, offering a promising therapeutic strategy for treating muscle injuries and enhancing tissue repair.

US-05	NAME(S)	Suhyule Kim
ORGANIZATION		Episcopal Highschool
TITLE OF ENTRY		**NeuroChill: A Cold Therapy-Based Innovation for Enhancing Brain Cell Integrity and Alleviating Depression**

NeuroChill introduces a novel therapeutic approach that uses controlled cold water exposure to stimulate neuroprotective pathways and modulate depression-related gene expression. Using A172 human glial cells, this invention explores how cold exposure (4°C for up to 45 minutes) affects cell viability, morphology, and expression of CREB and BDNF—genes crucial in neuroplasticity and mood regulation. The results show that 45-minute cold exposure maintains cell integrity while significantly increasing CREB (3–4x) and BDNF (2–3x) expression. This platform offers a biologically grounded, non-pharmacological method for managing depression and may lead to safer, cost-effective treatments targeting neuropsychiatric disorders.

US-06	NAME(S)	Phoonseeraah Tieanworn
ORGANIZATION		Choate Rosemary Hall, Wallingford, CT, USA
TITLE OF ENTRY		**Crafting Freedom**

Crafting Freedom – The Ada Initiative empowers migrant women vulnerable to exploitation by training them to create handcrafted products using local materials such as shells and stones. With added functional features like mosquito repellents, antibacterial properties, and aromatherapy elements, the products are both beautiful and practical. Sold under the brand Ada through tourism and online networks, this project offers a sustainable income, dignity, and a creative platform to transform lives at risk.

US-07	NAME(S)	Phongphol Damrongrat / Kornsiripatchara Damrongrat
ORGANIZATION		Webb Schools, Claremont, CA, USA / International School, Bangkok, Thailand
TITLE OF ENTRY		**Music without barriers**

Music Without Barriers reimagines music education by creating one-note instruments—such as bells, xylophones, flutes, and guitars—paired with a color-coded note system that replaces traditional sheet music. Designed for individuals with disabilities, children, and the elderly, this inclusive system simplifies music-making while fostering creativity, confidence, and well-being. The project brings joy and connection to all, regardless of ability.

US-08	NAME(S)	Aim Wanglee
ORGANIZATION		Loomis Chaffee School, Windsor, CT, USA
TITLE OF ENTRY		**Touch Tales**

TouchTales is an interactive sensory learning system designed for visually impaired children, utilizing recycled tennis balls to form textured rubber tiles. Each tile features a distinct surface such as grass, wood, or sand and contains touch sensors that wirelessly communicate with a central speaker. When a child steps or touches a tile, a related sound or story is played. This multisensory approach encourages tactile learning and environmental awareness. TouchTales supports inclusive education, fosters curiosity through sound and texture, and exemplifies a sustainable design by repurposing waste materials for meaningful educational use.

US-09	NAME(S)	Claire Kietduriyakul
ORGANIZATION		Loomis Chaffee School, Windsor, CT, USA
TITLE OF ENTRY		**Location-based emergency help transmitter**

The Location-Based Emergency Help Transmitter is a compact, wearable device designed to enhance safety for vulnerable workers in remote areas, especially migrant fishermen. Using a 433 MHz radio signal, it sends SOS alerts to a base receiver with GPS and a SIM card. The receiver then forwards location details via SMS to designated contacts or rescue teams. The system features both manual and automatic activation, including alerts when the wearer is unconscious or in water. This innovation ensures emergency communication even in areas without mobile coverage, helping save lives during critical situations.

US-10	NAME(S)	Nguyen Gia Bach
ORGANIZATION		IVY Training Co., Ltd, Hanoi, Vietnam
TITLE OF ENTRY		**Building voice chatbot in edge device**

This project presents the development of a voice-based chatbot deployed on an edge device for real-time interaction. Leveraging speech-to-text (STT), natural language processing (NLP), and text-to-speech (TTS) technologies, the system enables natural voice conversations without relying on cloud infrastructure. Built on a Raspberry Pi platform, the chatbot supports bilingual communication and lightweight AI processing, making it suitable for education, customer service, and remote assistance. The solution emphasizes low cost, privacy, and responsiveness, demonstrating the practical integration of AI in constrained environments.

UZBEKISTAN

UZ-01	NAME(S)	Jamshidbek Shamuratov / Parakhat Matyakubova / Patkhulla Ismatullayev
ORGANIZATION		Tashkent State Technical University
TITLE OF ENTRY		**Vibration viscometer for measuring liquid viscosity**

Viscosity values of liquids are important for prediction of liquid flow in many oil and gas and chemical product processes. In this paper, a description is given of a number of methods used for measuring the viscosity of liquids, including the capillary, rotational, oscillatory, and sonic viscometries. A description is also given of a number of models used for assessing the viscosity of elements, the dependence of viscosity on temperature, and the viscosity of multicomponent systems, including the Arrhenius equation. The scatter in the data to be found in the literature is emphasized by comparison of two data reviews on elements.

VIETNAM

VN-01	NAME(S)	Nguyễn Minh Thư / Nguyễn Trương Bảo Ngọc / Lê Thị Minh Thư / Nguyễn Đăng Quang
ORGANIZATION		Foreign Language Specialized School, CG Woodson Highschool, Hanoi-Amsterdam Highschool for gifted student, Lam Son High School
TITLE OF ENTRY		**A System for Monitoring and Predicting the Quality and Productivity of Tropical Fruit Crops in Vietnam**

Realize the problem of farmers wasting resources or unforeseeable weather change negatively impact the yield of fruits and crops in Vietnam. Our team has come up with the invention of a device which can both measure and control some foundational factors of the environment. This device includes the sensors, and microcontroller as hardware, transmits data through JavaScript Object Notion and illustrates it through charts and number on a visualize webpage. The performance of the device show high veracity, fast and suitable of initial conditions. We are looking forward to apply artificial intelligent to predict pest and better analyse and predict the data. In addition, we hope it can be commercialized and support more users in growing their crops.

VN-02	NAME(S)	Minh Khoi Luu / Duc Anh Tran / Trong Hoang Quan / Nhat Quang Nguyen
ORGANIZATION		Nguyen Sieu High School / Gia Dinh High School / HUS High School for Gifted Students / FPT High School
TITLE OF ENTRY		**ROMATE – Smart Turning Pillows for Paralyzed Patient Support**

ROMATE is a smart turning pillow system designed to assist in the care of paralyzed or immobile patients. It helps rotate patients smoothly using a compact electric cylinder and a 3D-printed gear mechanism, reducing caregiver workload. Integrated sensors monitor temperature, humidity, air quality (CO_2, SO_2, NO_x, PM2.5), and mattress moisture. Data is streamed in real time to the Blynk app, with alarms and notifications sent directly to nurses when thresholds are exceeded. ROMATE aims to enhance patient comfort, ensure timely response to risks, and support caregivers. Future developments include AI integration and increased load capacity for broader application.

VN-03	NAME(S)	**Nguyen Quynh Anh / Phan Hai Phong / Nguyen Doan Tam / Nguyen Anh Phuc / Nguyen Duy Duc Minh / Tran Anh Duc**
ORGANIZATION		Huynh Thuc Khang High School / Foreign Language Specialized School – VNU / Hanoi-Amsterdam High School / HUS High School for Gifted Students
TITLE OF ENTRY		**The Relationship Between Past and Current Inflation in Vietnam: A View from Quantitative Analysis**
This study focuses on analyzing inflation trends in Vietnam during the period from 2012 to 2024 and examines the linear relationship between current and past inflation using a linear regression model. The data employed consists of quarterly Consumer Price Index (CPI) figures, which were log-transformed to improve time series stability and capture proportional relationships between variables. The findings suggest that inflation in Vietnam has experienced renewed stability over the 2012–2024 period, following a phase of volatility between 2008 and 2011. Regression results indicate that a 1% increase in the previous quarter's CPI leads to a 0.983677% increase in the current quarter's CPI, implying a strong dependence of current inflation on its lagged values. The model demonstrates strong statistical significance and does not suffer from typical econometric issues. Beyond clarifying the influence of past inflation on current inflation, the study provides empirical evidence to support the formulation of more stable and proactive monetary and fiscal policies in the future.		

VN-04	NAME(S)	**Tran Khuong Bach**
ORGANIZATION		VNU-HUS High School for the Gifted Student, Hanoi, Vietnam
TITLE OF ENTRY		**AI-Powered acoustic analysis for early pest detection**
Early detection of crop pests is vital for protecting agricultural productivity and reducing chemical pesticide use. Traditional visual inspection methods often miss hidden pests in early stages. This study introduces an AI-powered approach using deep learning to analyze pest acoustic signals. Pest sounds were collected, preprocessed, and converted into Mel spectrograms to train a convolutional neural network (CNN) for identifying specific pest types by their unique acoustic signatures. The model achieved high accuracy in detecting both visible and hidden pests, offering a scalable, non-invasive, real-time pest monitoring solution that minimizes pesticide use and supports intelligent pest management in modern agriculture.		

VN-05	NAME(S)	**Tran Ha Khanh / Tran Phan Duc / Do Nhat Quang / Pham Duy Long / Nguyen Duc Anh**
ORGANIZATION		The Olympia School / VinSchool The Harmony / Foreign Language Specialised School
TITLE OF ENTRY		**AI-Driven Credit Risk Evaluation to Enable Financial Inclusion in Credit Card Services**
Credit access is vital for economic inclusion, yet many low-income individuals are excluded. Our AI-powered system evaluates credit card applications in real time, categorizing applicants as "creditworthy," "needs improvement," or "high potential." It provides instant recommendations and explainable feedback to help applicants improve. Using XAI (explainable AI), it enables fair, scalable credit assessment while educating users. This promotes financial inclusion and empowers the underbanked, allowing more people to access credit services and participate in the digital economy responsibly.		

VN-06	NAME(S)	**TRAN TUAN MINH / HO HIEN VINH / NGUYEN GIA HUNG / LE AN KHANH**
ORGANIZATION		Nguyen Gia Thieu High School / Hanoi-Amsterdam High school for the Gifted / British Vietnamese International School / Lam son High school for the Gifted
TITLE OF ENTRY		**Database Application in Automation and Control: Design of a Smart Home Monitoring and Control System Using SQL Server and C#**
In modern automation and smart home systems, data is a core component enabling real-time monitoring, control, and decision-making. Managing data efficiently and designing user interfaces for control are essential skills for engineers and developers in the automation domain. This project addresses the practical need to monitor and control smart devices (e.g., lights, fans, sensors) through a centralized system using a SQL Server-based database and a C#-based user interface, reflecting real-world industrial and home automation applications. This project highlights the integration of databases and programming in smart automation systems. It allows students to simulate a real-world smart home monitoring and control system without needing physical hardware. The approach enhances understanding of system architecture, data flow, and interface design. The resulting application is modular, scalable, and provides a solid foundation for senior projects, IoT applications, or industrial deployments."		

VN-07	NAME(S)	VUONG HUNG NAM / NGUYEN CHI MAI / NGUYEN THI BAO NGOC / DANG LE KHANH NGOC / VU NGUYEN HOANG NAM
ORGANIZATION		Tran Dai Nghia High School for the Gifted / Hanoi-Amsterdam High school for the Gifted / High School for Gifted Students, Hanoi National University of Education / SNA Marianapolis International School / Concordia International School
TITLE OF ENTRY		APPLICATION OF CIRCULAR ECONOMY IN THE DEVELOPMENT OF SMART FACTORIES AND ECO-INDUSTRIAL PARKS UNDER THE IMPACT OF THE FOURTH INDUSTRIAL REVOLUTION

Traditional linear industrial models are increasingly unsustainable due to climate change, resource depletion, and international emission reduction commitments. Globally, industry accounts for over 32% of CO_2 emissions and 36% of final energy use (UNEP, 2023). In Vietnam, the sector contributes 38% to GDP but generates substantial waste, particularly in textiles and food processing. A transition toward circular, smart, and sustainable industrial systems is essential. The Circular Economy (CE) offers a systemic approach to maximizing resource efficiency and reducing waste, while Industry 4.0 technologies (AI, IoT, Big Data, Blockchain) enable real-time monitoring and process optimization. However, Vietnam's implementation of CE in smart factories and eco-industrial parks remains limited due to a lack of assessment tools, institutional mechanisms, and supportive policies. This research seeks to build an integrated model combining CE, digital technologies, and sustainable governance to guide the transformation of Vietnam's industrial sector in line with global sustainability goals. This research addresses a critical challenge for Vietnam's industrial development: how to maintain economic growth while reducing environmental impact and enhancing competitiveness. The integration of Circular Economy principles, Industry 4.0 technologies, and sustainable governance offers a transformative pathway for building resilient, efficient, and future-ready industrial systems. The findings of this study are expected to provide a robust scientific basis, practical instruments, and strategic policy insights to support stakeholders — including enterprises, government agencies, and investors — in the transition toward a circular and intelligent industrial economy in Vietnam.

VN-08	NAME(S)	NGUYEN MINH DANG / NGUYEN VAN TUNG / TRINH QUYNH TRANG / LE QUANG HUY / NGUYEN CONG THANH
ORGANIZATION		Hanoi-Amsterdam High school for the Gifted / High School for Gifted Students, Hanoi University of Science / International Leadership of Texas Garland High school
TITLE OF ENTRY		Calculation – Design – Simulation of Mechanical Transmission Systems

Mechanical transmission systems are indispensable components in all engineering equipment—from industrial machinery to automated products such as robots and CNC machines. Studying and understanding these systems provides essential knowledge Therefore, a solid grasp of mechanical transmission systems forms a foundational pillar for mechanical, electromechanical, and mechatronics engineering. It equips students with early exposure to modern technologies and fosters the development of design-oriented thinking. The study "Calculation – Design – Simulation of Mechanical Transmission Systems" is not only highly practical but also serves as an early foundation for developing technical thinking among high school students. By integrating theoretical knowledge with software-based design skills, the program offers an effective preparation for future academic and professional pursuits in modern engineering and technological fields

VN-09	NAME(S)	NGUYEN HOANG KHA / NGUYEN MINH NHAT VAN / NGUYEN QUYNH ANH / NGUYEN MINH TRANG / BUI HAI DUONG
ORGANIZATION		Montverde Academy / High School for Gifted Students, Hanoi National University of Education / Lao Cai High school for the Gifted / Duc Tri High School / Newton Schools
TITLE OF ENTRY		Highly adsorptive removal of fluoroquinolon antibiotics in water using polyanion modified alumina nanoparticles

Antibiotic resistance gene and antibiotic resistance bateria are serious problem so that the removal of antibiotic in water attracted numerous studies. In this research, strong polyanion poly (2-acrylamide-2-methylpropane sulfonic acid) (PAMPs) was successfully fabricated via free radical polymerization for surface modification of alpha alumina (α-Al2O3) nanoparticles. Ther applications in the removal of the fluoroquinolon antibiotics including levofloxacin (LFX) and ciprofloxacin (CFX) in water were investigated. The PAMPs had an average molecular number of 6.76x105 g/mol and an average molecular weight of 7.28x106 g/mol. The synthesized α-Al2O3 was characterized by X-ray diffraction (XRD), Fourier transforms infrared spectroscopy (FT-IR), Transmission Electron Microscopy (TEM), and Brunauer-Emmet-Teller (BET) method. The removal efficiencies of LFX and CFX using PAMPs modified α-Al2O3 (PAMNA) were much higher than that using bare α-Al2O3. The presence of the PAMPs functional group determined by FTIR and the change in surface charge measured by zeta potential were identified as the major factors for PAMPs adsorption on α-Al2O3 nanoparticles surface. The optimal conditions for the removal of LFX and CFX using PAMNA were found to be pH 6, 10mM NaCl, and contact time of 90 min. The selected adsorbent dosage for CFX was 5 mg/mL, while the its dosage used to remove LFX was 20 mg/mL. The two-step isotherm and pseudo-second-order kinetic models were applicable to describe the CFX amd LFX adsorption isotherms and kinetics, respectively. The removal efficiencies of both LFX and CFX achieved greater than 80%. The present study demonstrated that PAMNA is a high performance adsorbent for removing fluoroquinolon antibiotics from aqueous solution.

VN-10	NAME(S)	BUI HOANG KHANH NGOC / NGUYEN LE KIM NGOC / TRUONG HUYNH TAM DAN / NGUYEN THUY DUONG / HOANG DAI NAM ANH
ORGANIZATION		Phu Nhuan High School / High School for Gifted Students in Social Sciences and Humanities / Tran Dai Nghia High School for the Gifted / Chu Van An High School for the Gifted / Ukraine
TITLE OF ENTRY		**Environmental protection education and promotion through the use of nanocomposite GO-TPA to remove streptomycin in solution**

To adsorb and remove antibiotic streptomycin (STM) from the water environment is a very practical research direction in the context of pollution caused by antibiotic residues in agricultural and medical wastewater becoming increasingly serious. In this study, graphene oxide (GO) material with large surface area, containing many functional groups that help adsorb pollutants well, is linked with N-[3-(Trimethoxysilyl)propyl]aniline (TPA) solution that can link with GO through covalent bonds, increasing stability and ability to capture antibiotic molecules, forming GO-TPA composite material. GO-TPA had outstanding physical and chemical properties: mechanical durability, chemical durability, reusability, strong adsorption with aminoglycoside compounds such as streptomycin. The project also proposes forms of propaganda and education on natural environmental protection in Vietnam such as: Organizing community communication campaigns with topics such as: “Say NO to antibiotics in wastewater - For the health of the ecosystem and the community”, with implementation in forms suitable for students and students such as: infographics, short videos, minigames on social networks, local radio. In addition, the project also proposes to include content in environmental education programs. Educational institutions and schools need to develop STEM lectures with green environmental protection topics such as: “Nano-adsorbents and water source protection”, so that students can visit real treatment models and experience adsorption simulation experiments. Using GO-TPA nanocomposites to adsorb and remove streptomycin from the environment is an effective and potential method.

VN-11	NAME(S)	PHAM QUOC VINH / HA SON HAI / TRAN QUYNH THY / HOANG MINH VU / DO MINH DUC
ORGANIZATION		Viet Anh High School / Viet Anh 3 High School / Vinschool Smart City / Marie Curie Hanoi School / Nguyen Hue High school for the Gifted
TITLE OF ENTRY		**Prediction financial stocks by hybrid model based on K-means algorithm and artificial fish swarm optimization**

The financial stocks prediction and recommendation are of great values. This study mainly analyzed the application of K-means clustering algorithm in stock forecasting and recommendation. Firstly, this study introduced the k-means algorithm briefly and analyzed its advantages and disadvantages. Then, the k-means algorithm was optimized by introducing artificial fish swarm optimization (AFS) to obtain hybrid model. Then stocks of 20 companies were taken as the research subject and predicted by proposed model. The results showed that there were obvious differences between "good" and "bad" stocks divided by new model, and the differences of "good" stocks were significantly larger than those of "bad" stocks. It shows that 20 stocks are well divided into high performance stocks and poor performance stocks through clustering. The study provides a good reference for investors to invest in stocks. The proposed model is worthy of further research in near future.

VN-12	NAME(S)	VO MINH ANH / BUI HOANG HONG SON / DINH LAM NGOC / VU HOANG NAM KHANH / TRINH HOANG TUNG
ORGANIZATION		Vietnam Australia International School / Everest School / William P. Clements High School / Vinschool The Harmony / Nguyen Tat Thanh High School
TITLE OF ENTRY		**Bank loan approval predictions system based on hybrid machine learning model**

Banks rely heavily on loans as a primary source of revenue; however, distinguishing deserving applicants who will reliably repay loans presents an ongoing challenge. Conventional selection processes often struggle to identify the most suitable candidates from a pool of loan applicants, because, the current loan approval process faces notable challenges, primarily concerning its efficiency and accuracy, as it heavily relies on manual procedures. The implications of these manual processes are considerable, ranging from potential financial losses for banks to the extreme scenario of systemic disruptions. Machine learning (ML) algorithms, which empower systems to autonomously decipher patterns and make data-driven predictions, have emerged as a promising solution to assess the risk.

VN-13	NAME(S)	NGUYEN DAC BAO MINH / TRAN HAI DANG
ORGANIZATION		Hanoi-Amsterdam High school for the Gifted / Vinh Phuc High school for the Gifted
TITLE OF ENTRY		**Enhancing Brainwave Pattern Analysis for Optimized Learning and Relaxation Using Convolutional Neural Networks Integrated with Involution Operators**

This research recruits 20 university students (aged 18-35, balanced gender) for a 4-week online intervention augmenting BWM-T with AI-neurofeedback. EEG data is acquired via 32-channel dry-electrode wearables during learning (n-back tasks) and relaxation (BWM-T sessions). Preprocessed signals (ICA for artifacts, 0.5-50 Hz filtering) feed into a CNN-Involution Network (CNN-InvNet): initial 1D convolutions extract temporal features, involution blocks capture dynamic wave interactions, LSTMs handle sequences, and classifiers output theta/alpha/beta/gamma states. Experimental participants receive real-time adaptive feedback (e.g., alpha-boosting cues), while controls get sham input. Assessments include Perceived Stress Scale (PSS), Distress Thermometer (DT), Positive and Negative Affect Schedule (PANAS), and cognitive tests, alongside EEG metrics like power spectral density. Our results show that CNN-InvNet yields 90% classification accuracy (theta: 89%, alpha: 92%), surpassing standard CNNs (84%) and FFT (70%), with 35% faster inference and 42% fewer parameters for mobile use. Post-intervention, the experimental group shows 25% alpha power increase during relaxation (correlating with BWM-T efficacy, r=0.68) and 30% theta-gamma coupling enhancement in learning, yielding 20% better memory recall. Psychological outcomes mirror 2021 findings: PSS drops from 22.5 to 15.2 (vs. controls' 20.1), DT from 6.8 to 3.5, negative affect -18%, positive +22% (all $p<0.01$). Cross-subject transferability reaches 85% F1-score via AI calibration, addressing variability. This approach overcomes EEG limitations like artifact noise and computational overhead, synergizing mind-body techniques with AI for scalable interventions. Future directions include hybrid EEG-fNIRS for deeper biochemical insights, validating long-term effects in larger cohorts amid evolving neurofeedback for stress management, and further research with expanded samples to enhance generalizability.

YEMEN

YE-01	NAME(S)	Wael Mustafa Abdullah Hassan
ORGANIZATION		Ma'rib Secondary School
TITLE OF ENTRY		**Aden**

Providing innovative chips as an alternative to traditional batteries to power electronic devices, which contributes to reducing dependence on traditional batteries and improving efficiency and sustainability. Providing more sustainable and efficient energy... reducing pollution from traditional batteries... lowering the long-term costs of electronic devices. Identifying current alternatives (rechargeable batteries) Studying leading companies in innovative energy technologies... Strengths, opportunities, and an innovative and environmentally friendly solution

JOIN US

WIIPA Family

World Invention Intellectual Property Associations

Introduction

In 2010, it was founded by Mr. Hsieh Hsin-Ming. At the moment, 50 member countries and partners have joined the "WIIPA Family" with the goal of promoting invention, innovation and intellectual property rights around the globe.

Founder

Since 1993, Mr. Hsieh Hsin-Ming has formed "TIPPA" Successfully, opened up a way for Taiwan's products to be in line with international standards and also laid the foundation for the establishment of WIIPA.

History

In 2000, Mr. Hsieh Hsin-Ming felt that the main axis of TIPPA is limited to Taiwan. With a vision to gain access in the international stage, he dedicated his time and effort to gather transnational forces to put his vision at work.

Fueled with a vibrant ideology, he continued to open doors of opportunities for young and talented inventors to a global level and thrived on gaining international attention for the establishment of WIIPA as a multinational organization.

Our Goal

WIIPA upholds the spirit of globalization and extends its vision across the globe. With technology, using network interface allows a fluid communication pattern for a more innovative exchange of ideas and information among stakeholders.

Members

WIIPA member states span across continents. The member countries in the "WIIPA Family" currently has 50 member states and partners.

WIIPA put great emphasis on "common concept" and "substantial participation". WIIPA members have certain privileges other associations aspire for. One of them is taking part in WIIPA meetings, conferences as well as exchange activities from time to time to have a full understanding and mastery of the development and complexity of international inventions.

www.wiipa.org.tw +886-2-87723898 wiipa@wiipa.org.tw

World Invention Intellectual Property Associations

WIIPA Family
Create Your Minds
Explore Your Life

www.wiipa.org.tw

Let Us Help You Build a World-Class Business and Brand that Attracts Greater Wealth and Opportunities.

Here at HOW Creative, we understand that every business has an equal opportunity for success. Every business has their own unique story to tell, which is why you should never settle for being a simple, knockoff brand.

Since 1987, HOW Creative has partnered with ALL size businesses to develop business, branding and marketing strategies, help execute powerful and innovative business ideas, and maintain Authentic Brands®. It is from this core expertise, that HOW Creative has evolved into a successful, international firm, whose unique core model includes two distinct, yet complementary domains: business and branding.

What Our Clients Are Saying:

As a studio marketing executive of Disney and then DreamWorks, over the years I have had the pleasure of working with HOW Creative of highly creative, innovative professionals of a variety of projects.

HOW Creative breathe new life into the StarPower program by re-branding the conference in a way that didn't compromise its long established brand equity. HOW Creative came up with the entirely new look for StarPower that had fun with the "idea" of entertainment marketing professionals. The campaign carried a unified, consistent message through all the program elements, from a series of teaser mailers to an ad campaign that ran in Brandweek and Adweek to the final conference brochure.

The results: a 25% increase in conference attendance, something that had never been achieved previously.

Holly Beverly, Vice President Marketing

Howard and his team showed us how to articulate our company brand vision, philosophy, values, position and brand promise into a solid core brand essence, including our brand identity, website, trade show display, printed collateral and other critical touchpoints. The result was ATI won #41 on the "Inc. 500" list of fastest growing privately held companies the following year.

The branding made a huge difference!

ATI had no branding whatsoever when we engaged HOW Creative; not even logo/brand icon. He guided us how to use branding to establish our Identity and vision in the telecommunications industry. The result was over 2000% growth in less than 4 years!

Thanks, Howard.

Nancy Ridge, Vice President

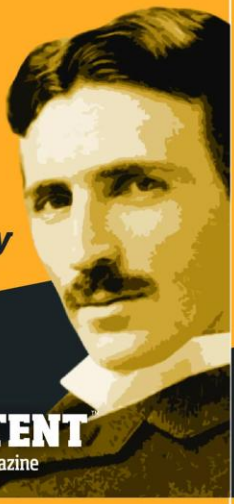
FREE (Value $250.) Consultation with Howard A. Lim
Email: Info@HOWCreative.com
Tel: 1-310-455-0389

A PARTCIAL CLIENT LIST:

HOW CREATIVE
We Design Businesses

The goal of an inventor essentially is to save human lives: it adds certainty to the essentiality

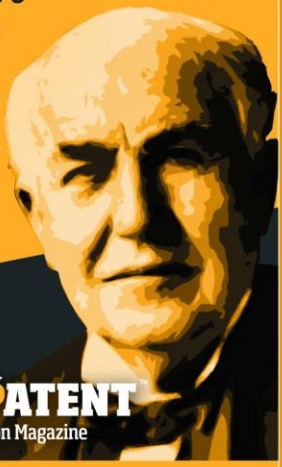
Nikola Tesla



THE PATENT
Invention Magazine

Genius is 1% inspiration and 99% sweat

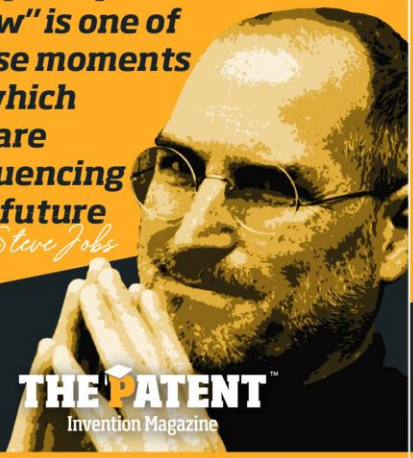
Thomas Edison



THE PATENT
Invention Magazine

The perception is that "now" is one of those moments in which we are influencing the future

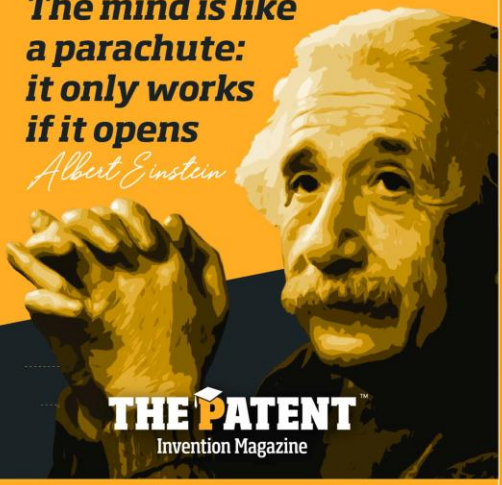
Steve Jobs



THE PATENT
Invention Magazine

The mind is like a parachute: it only works if it opens

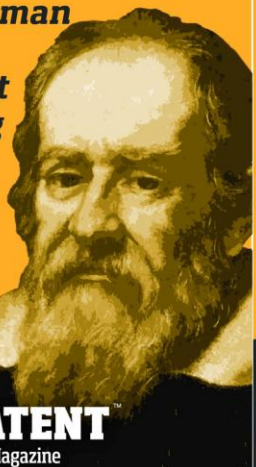
Albert Einstein



THE PATENT
Invention Magazine

I never met a man so ignorant that i couldn't learn nothing from him

Galileo Galilei



THE PATENT
Invention Magazine

Keep up with the latest news and learn new thing, possibily from the best. That's the recipe for success

Mark Zuckerberg

THE PATENT
Invention Magazine

CROATIA

2025 inova Croatia

49TH INTERNATIONAL INVENTION SHOW

ZAGREB, CROATIA, SEPTEMBER 25 - 28, 2025

2nd oldest world's invention show
2nd largest european invention show

INOVA is an exhibition of inventions, new products and innovations of young people. A lot of entertainment features will include attractive prizing programs. Indeed, the organizers are preparing numerous medals which will be conferred on the basis of decisions by an international jury. Many international awards, Best Croatian and Best International Award are already announced ...




HELD BY CROATIAN INVENTORS NETWORK AND WIIPA
/WORLD INVENTION INTELLECTUAL PROPERTY ASSOCIATIONS/

FORUM AND TRADE SHOW FOR:
- INVENTORS, ENTREPRENEURS, INTELLECTUAL PROPERTY OWNERS, COLLEGE AND UNIVERSITY GROUPS, RD INSTITUTES AND SCIENTISTS
- LONG TRADITION EXHIBITION - ONE OF THE OLDEST WORLD'S INVENTION SHOWS
- A LOT OF VISITORS WILL SEE YOUR EXHIBITS AMONG INVENTORS FROM MORE THAN 30 COUNTRIES WORLDWIDE

6 MONTHS SPECIAL ONLINE PROMOTION and ADVERTISING OF EXHIBITS UNTIL MAY, 2026

WELCOME TO ZAGREB
capital of the Republic of Croatia, is a charming 900 years old Central European city.
Organizers will be delighted to be your hosts.

Contact:
ZAGREB INVENTORS ASSOCIATION
Trg žrtava fašizma 14, HR-10000 Zagreb, Croatia
tel: +385 1 4612-517; fax +385 1 4662-680
info@savez-inovatora-zagreba.hr

SIH CROATIAN INVENTORS NETWORK

WIIPA

ZAGREB INVENTORS ASSOCIATION

inova

www.inova-croatia.com

2025年第13屆澳門國際創新發明展

The 13th Macao International Innovation and Invention Expo (MiiEX) 2025

澳門最具規模發明展

Macao's Largest Innovative Invention Expo

發明比賽，發明家交易、交流，免費知識產權講座

Invention Contests, Inventors exchange, Free IP seminar

2025.10.31 ~ 2025.11.2

9:30a.m. ~ 6:00p.m.

展會地點：澳門會展中心

Venue :Macau Convention Centre

https://www.macaoconvention.com/

主辦單位 Organizer
miia 澳門創新發明協會 Macao Innovation and Invention Association

指導單位 Guidance unit
中國發明協會 China Association of Inventions

協辦單位 Co-organizers
WIIPA 世界發明智慧財產聯盟總會 World Invention Intellectual Property Associations
HKFii 香港發明創新總會 Hong Kong Federation of Invention and Innovation
HKIA 香港發明協會 Hong Kong Invention Association

贊助單位 Sponsor
MELCO 新濠

電訊伙伴 Telecom Partner
CTM 澳門電訊

支持單位 Supporters
IFIA INTERNATIONAL FEDERATION OF INVENTORS' ASSOCIATION 國際發明聯盟協會

線上協辦單位 Online Co-organizer
华发七弦琴 国家知识产权运营服务平台 7ipr.com
国家知识产权运营（横琴）粤港澳合作平台

媒體支持單位 Media Partners
THE PATENT Invention Magazine
澳門衛視 澳門衛視西部機構 Macau Satellite TV Western Organization

電郵 / miia_macao@yahoo.com.hk　　網址 / Website: http://miiamacao.org

INTERNATIONAL WARSAW INVENTION SHOW

7-9 NOVEMBER

IWIS 2025

Copernicus Science Centre

For registration information, please contact info@tisias.org

WARSAW, POLAND

International Warsaw Invention Show IWIS

TISIAS
TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

TISIAS ESP CLIENT SERVICE OPERATIONS
Contact Our Agency Team: info@tisias.org

FALL 2025 EVENT: THE 19TH INTERNATIONAL WARSAW INVENTION SHOW, IWIS 2025

IFIA
INTERNATIONAL FEDERATION OF INVENTORS' ASSOCIATIONS

PRIX EIFFEL

INTERNATIONAL INVENTION AND INNOVATION CONTEST

11 – 12 November 2025 *in* PARIS, FRANCE

MAIN ORGANIZER

F.F.I. FEDERATION FRANCAISE DES INVENTEURS

CO-ORGANIZERS

EUROPE FRANCE INVENTEURS

HALLER pro inventio FOUNDATION

Eurobusiness

France

Together with the **French Federation of Inventors** and **French Association of Inventors Europe France Inventeurs**, we sincerely invite you to participate in International Invention Contest 'Prix Eiffel'. The patron of this event is an outstanding innovator and constructor, a leading figure of the era of industrialization of Europe and the world - Gustave Eiffel, who is known for his creation of many innovative projects both in France and in other countries, including Eiffel Tower, a symbol of Paris.

Event Dates: 11 – 12 November 2025 in Paris, France

*** Register by ESP CLIENT SERVICE →** info@tisias.org

PRIX EIFFEL INVENTION CONTEST

All inventions submitted to the Prix Eiffel Contest will be judged by the jury crew representing both science and industry. Amongst the awards granted are **Bronze, Silver, Gold, and Platinum Medals**. The best solution awaits the **Grand Prix Award**. The chairman of the jury is **Philippe Couperie Eiffel**, the descendant of the contest's patron, and honorary chairman of EFI and FFI associations. The Presidium includes Gérard Roquillon, President of the Federation of French Inventors' Associations; Patrick Herbault - President of Europe France Inventeurs, and on behalf of Poland prof. Krzysztof Biernat. The formal announcement of the results will be held in Paris, France.

CONTACT US FOR REGISTRATIONS: info@tisias.org

KIDE 2025
12/4 ~ 12/6

Kaohsiung International Invention & Design EXPO

Contact TISIAS ESP CLIENT SERVICE for registrations: info@tisias.org

WIIPA

TISIAS
TORONTO INTERNATIONAL SOCIETY OF INNOVATION & ADVANCED SKILLS

TIPA

ROMANIAN INVENTORS FORUM
FORUMUL INVENTATORILOR ROMANI

THE OFFICIAL DELEGATION OF ROMANIA

"Crossing the ocean to exhibit Romanian inventions in Canada!"

ROMANIAN INVENTORS FORUM (FIR) is a professional association with the purpose to support, stimulate, develop and valorize the scientifically, technically and artistically creativity of individuals or institutions from Romania and abroad.

Member of IFIA & WIIPA. Organiser of EUROINVENT.

Funding body for: International Journal of Conservation Science & European Journal of Materials Science and Engineering.

The 18th European Exhibition of Creativity and Innovation

EUROINVENT 2026

28 – 30 MAY 2026

Assoc.Prof.PhD.Eng. Andrei Victor SANDU
President
Romanian Inventors Forum

www.afir.org.ro euroinvent@yahoo.com
www.euroinvent.org euroinvent.org@yahoo.com

IFIA

INTERNATIONAL FEDERATION
OF INVENTORS' ASSOCIATIONS

IFIA Support Innovations and Innovators to Achieve the United Nations Sustainable Development Goals (SDGs)

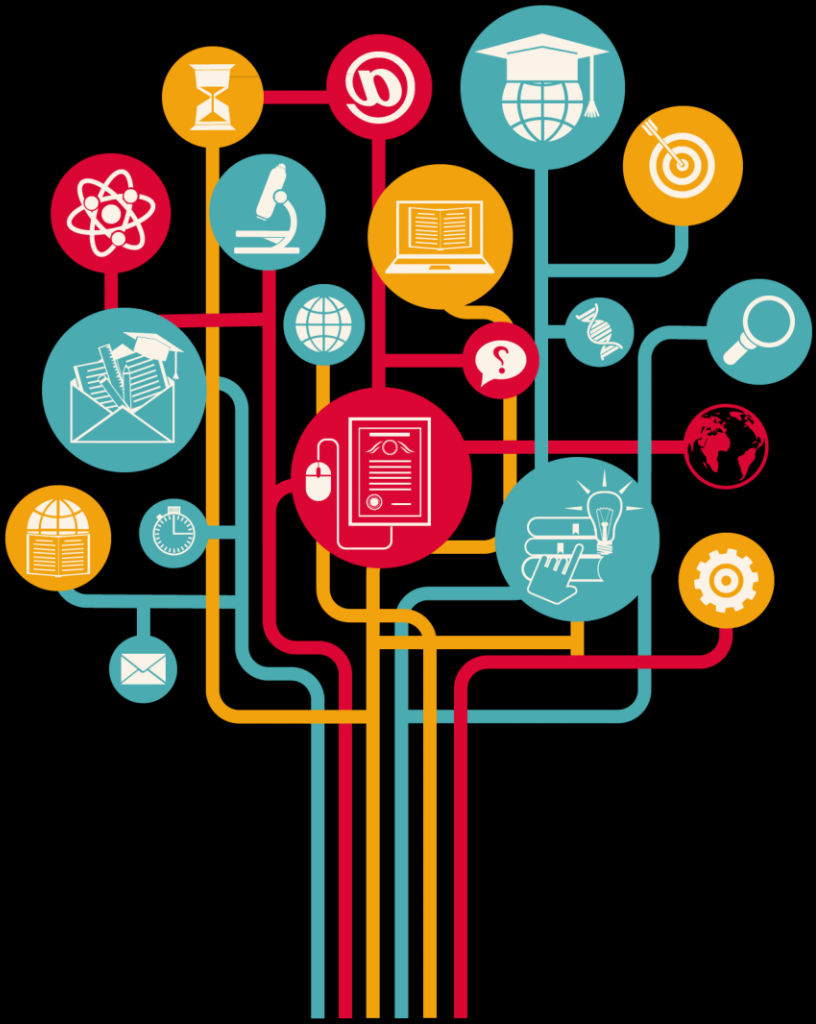
www.ifia.com

IFIAnews ifia.official ifia.official IFIA

IFIA

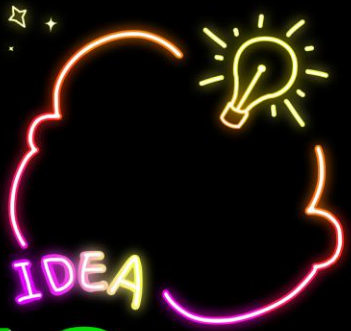
INTERNATIONAL FEDERATION
OF INVENTORS' ASSOCIATIONS

WE PAVE THE WAY FOR YOU TO CREATE AN INNOVATIVE FUTURE



www.ifia.com

10 years anniversary



TISIAS

TORONTO INTERNATIONAL SOCIETY
OF INNOVATION & ADVANCED SKILLS

www.tisias.org ican@tisias.org

iCAN 2025 – Toronto, Canada