وزارة التعليم
Ministry of Education

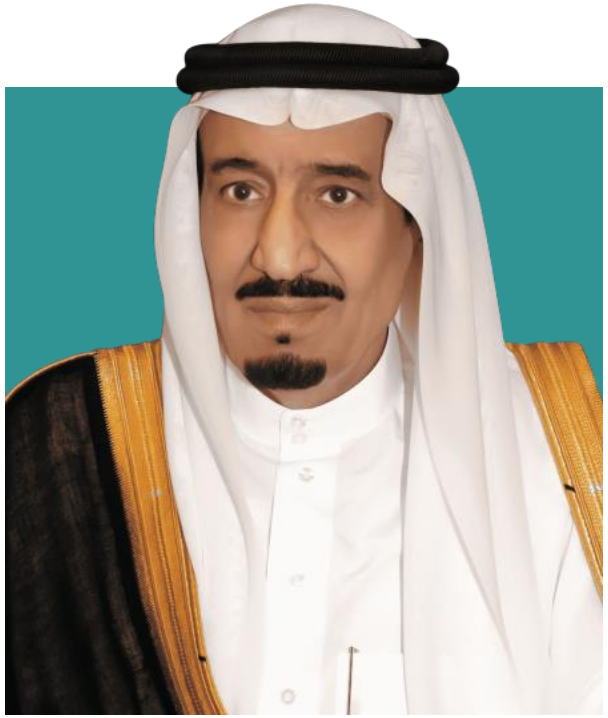
Inventions Geneva

The Saudi Inventions

50th International Exhibition of Inventions Geneva

2025

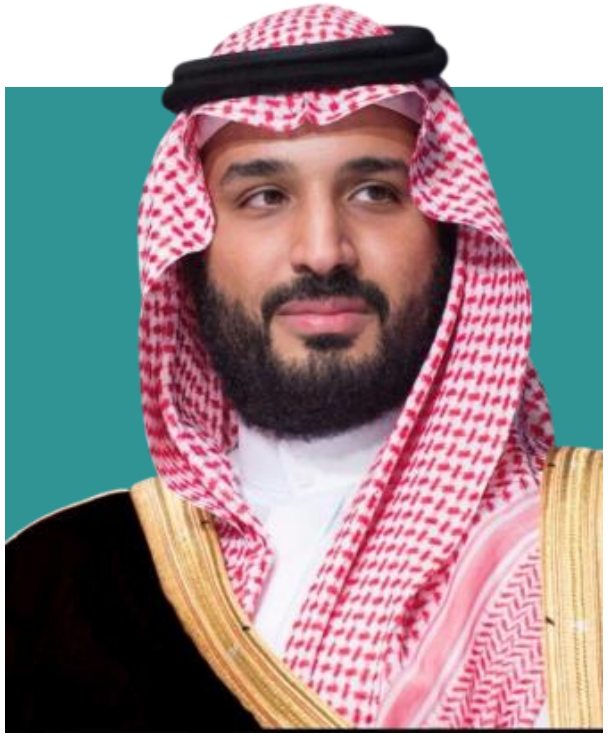
9-13 April



King Salman Bin Abdul Aziz Al Saud

Custodian of the Tow Holy Mosques

“My Primary goal is to be an exemplary and leading nation in all aspects, and I will work with you in achieving this endeavour”



Prince Mohammed Bin Salman Al Saud

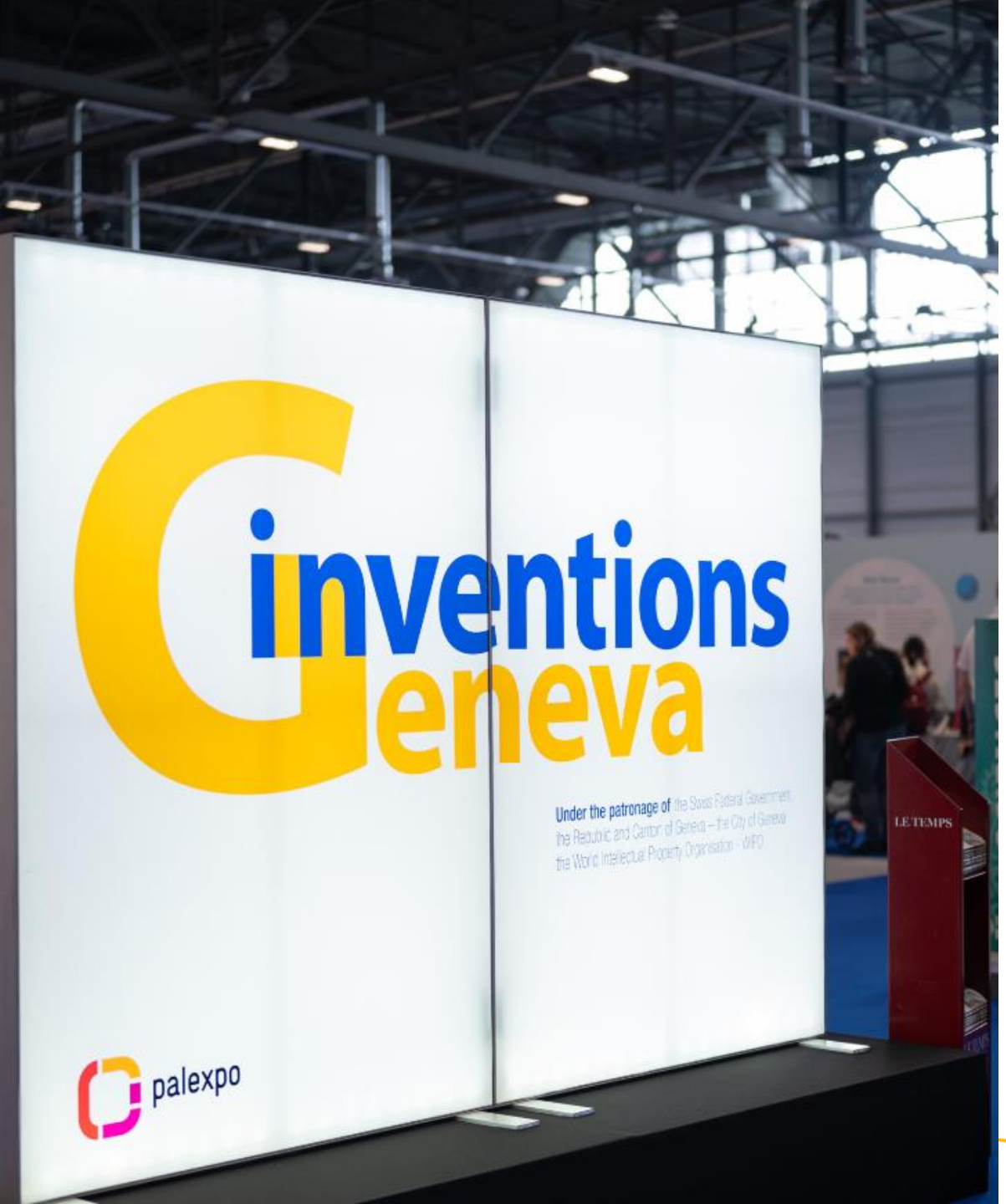
Crown Prince and Prime Minister

“It is my pleasure to present Saudi Arabia’s vision for the future. It is an ambitious yet achievable Blueprint, Which expresses our long-term goals and expectations and reflects our country’s strengths and capabilities. All success stories start with a vision, and successful visions are based on strong pillars.”

Yousef Bin Abdullah Al-Benyan

Saudi Minister of Education

> We are committed to fostering a globally competitive and innovative generation in line with the objectives of the Human Capability Development Program and Saudi Vision 2030.



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50Th International Exhibition of Inventions Geneva

9-13 April 2025 Palexpo

List Of Exhibition Classes

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Inventions Geneva

CLASSE A

- Mécanique
- Moteurs
- Machines
- Outillage
- Métallurgie
- Procédés industriels

- Mechanics
- Engines
- Machinery
- Tools
- Metallurgy
- Industrial processes

CLASSE B

- Horlogerie
- Bijouterie
- Machines
- Outillage

- Watchmaking
- Jewellery
- Machinery
- Tools

CLASSE C

- Electronique
- Electricité
- Moyens de communication
- Réseau électrique

- Electronics
- Electricity
- Methods of communication
- Electrical network

CLASSE D

- Bâtiment
- Architecture
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- Menuiserie

- Building
- Architecture
- Construction
- Materials
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CLASSE E

- Sanitaire
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CLASSE F

- Sécurité
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- Security
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CLASSE G

- Quincaillerie
- Bricolage

- Ironmongery
- Do-It-Yourself

CLASSE H

- Ameublement
- Architecture d'intérieur

- Furnishing
- Interior architecture

CLASSE I

- Arts ménagers
- Matériel pour restaurants

- Domestic science
- Restaurant equipment

CLASSE J

- Matériel et équipement commercial, industriel et de bureau

- Commercial, industrial and office equipment

CLASSE K

- Agriculture
- Horticulture
- Jardinage

- Agriculture
- Horticulture
- Gardening

CLASSE L

- Habillement
- Textiles
- Machines et accessoires

- Clothing
- Textiles
- Machines and accessories

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CLASSE M

- Médecine
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- Matériel pour handicapés

- Medicine
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- Material for disabled

CLASSE N

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- Photo
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CLASSE O

- Méthodes et matériel d'enseignement
- Instruments de musique
- Matériel pour les arts

- Teaching methods and materials
- Musical instruments
- Art materials

CLASSE P

- Moyens de transport
- Automobiles
- Marine
- Aviation
- Accessoires

- Transport
- Motor vehicles
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- Aviation
- Accessories

CLASSE Q

- Paramédical
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- Drinks
- Cosmetics

CLASSE R

- Sport
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- Sport
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CLASSE S

- Nouveautés pratiques
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- Practical novelties
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CLASSE T

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- Publicity
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CLASSE U

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- Jouets

- Games
- Toys

CLASSE V

- Protection de l'environnement
- Recyclage

- Protection of the environment
- Recycling

CLASSE W

- Matériel informatique
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- Cyber-sécurité
- Blockchain
- Internet des objets (IoT)

- Hardware
- Software
- Cyber-security
- Blockchain
- Internet of things (IoT)

CLASSE Z

- Energie
- Energie renouvelable et verte

- Energy
- Renewable and green energy

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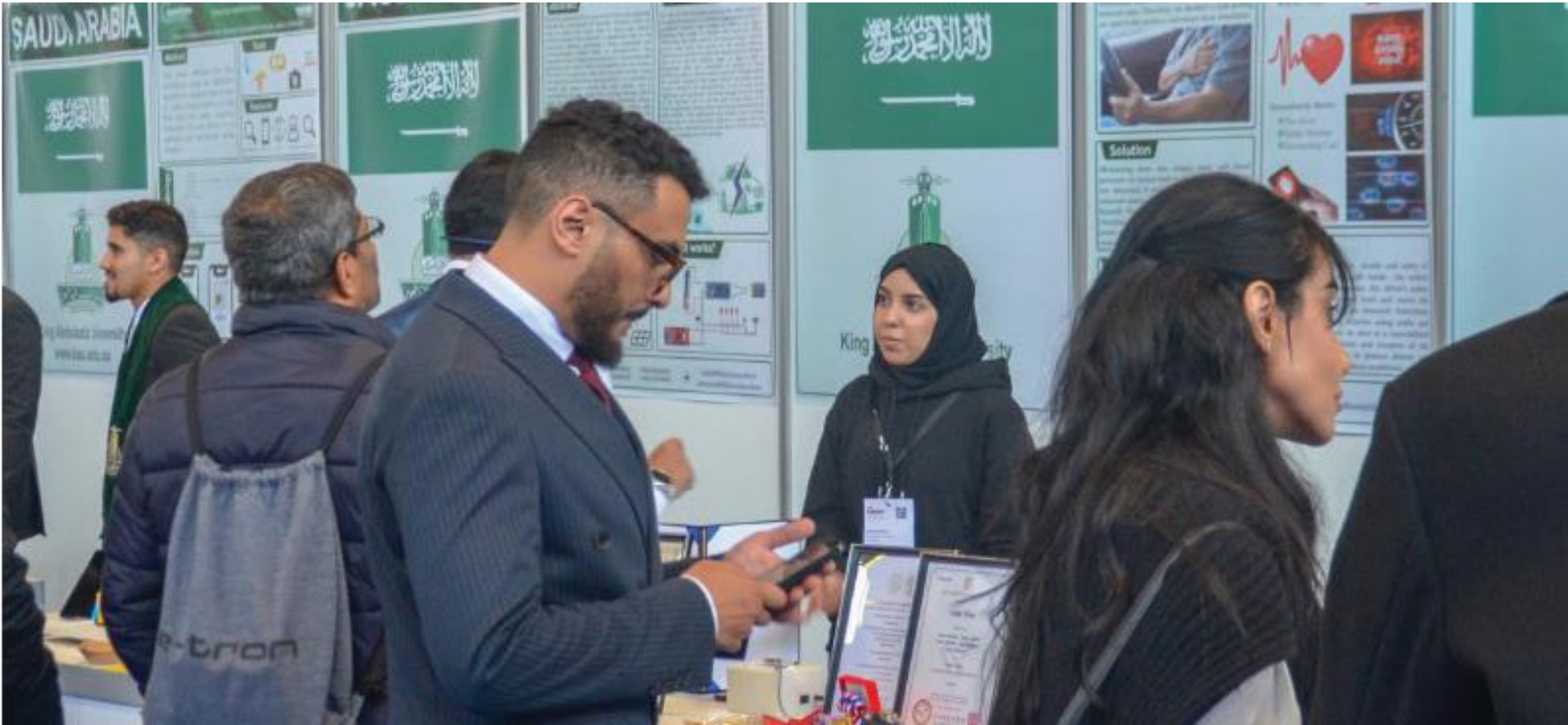

Participating Entities

134 Saudi inventions

13 Scientific Fields

Saudi Universities

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J86	Piperidine compounds as PDE5 inhibitors and their effect on sexual behavior and erectile dysfunction in male rats	M	The study focuses on the treatment of erectile dysfunction in normal and/or diabetic male rats using simple molecules and an easy preparation method.	Prof. Adel Shaban Azab Morsy
I85	Multifunctional Adjustable Tooth Holder for Tooth Cutting Device	M	This patented device offers an attractive entry into the expanding dental research market. Its innovative design, easy production, and market exclusivity position it as a potential standard tool in labs, offering significant returns for early investors. It is designed to stabilize, tilt, and measure the amount of tooth needed to be prepared prior to cutting and tooth crown/root removal in a simple and efficient manner in dental research laboratories. It ensures stability, precision, and repeatability, helping to produce uniform and standardized in-vitro samples without wasting tooth samples and time	Dr. Sarah Al-Angari

King Saud University

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J92	System and Method for Treating Early Onset Scoliosis	Q	Algarni Rod is a growing rod that grows spontaneously as the child grows which allows the correction of early onset scoliosis without the need for multiple surgeries or clinic visits to lengthen the rod. Algarni rod allows the spine to grow normally while holding the correction of the spine deformities.	Dr. Nizar abdullah Algarni
I87	Compensation Device and Method for Dc Grids Using Renewable Energy	C	Renewable energy's growth demands stable DC grids. This research introduces a DC compensation device with energy storage to enhance stability during disturbances. Operating in three modes—Normal (full current), Series (voltage regulation), and Parallel (load balancing)—it mitigates voltage instability, improves power quality, and boosts grid resilience. Ideal for microgrids, data centers, and large-scale DC networks, it ensures reliable power delivery and supports renewable energy integration.	Dr. Faisal Khalid Alsaif

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J88	Endodontic Point Containing Ultrasonic Deformable Material	M	A revolutionary endodontic point designed to enhance root canal therapy. This device utilizes ultrasonic deformable material technology to improve sealing and void elimination, ensuring a superior and long-lasting endodontic treatment.	Dr. Mohammed Alshehri
J90	Endodontic Micro Surgical Suction Tip for Management Of a Necrotic Tooth	M	A breakthrough dental device combining dual-barrel reciprocating syringe technology for simultaneous irrigation and aspiration during root canal treatment. Features innovative rubber seal design for precise depth control and complete protection against chemical burns and contamination.	Dr. Mohammed Alshehri, Dr. Omar Alshehri, Dr. Ibrahim Alqwizany

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I91	Shovel	A	This Advanced Shock-Alleviation Shovel is a revolutionary tool designed to reduce user pain and fatigue and increase efficiency during digging tasks, especially on hard surfaces. The Shovel operates with no need for external power source. Featuring an innovative attachment impact mechanism, this shovel leverages advanced technology for enhanced performance.	Prof. Osama J. Aldraihem
J84	Combination Cheek Retractor/ Mouth Mirror Attachment for Dental Tools	M	The dual mouth mirror and cheek retractor simplify dental procedures by combining a mouth mirror, cheek retractor, and dental instrument into a single tool. Using a link key screw, various dental instruments can be attached, enabling one-handed operation.	Prof. Salwa Omar Bajunaid

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I89	Freezing Desalination System Using Thermoelectric Coolers	A	This patent describes a novel freezing desalination system that efficiently converts saltwater to freshwater using a thermoelectric cooler (TEC). The system utilizes a controlled freezing process, where ice forms on a conductive interface, and a current reversal mechanism allows the ice to detach and melt in a separate chamber, producing desalinated water. The system is designed to minimize energy required for desalination.	Dr. Obida Zeitoun
I93	Aerosol box for protection during aerosol-generating procedures	M	The aerosol box is a sealed enclosure for a patient's head, neck, and chest, designed for aerosol-generating procedures. It features a flexible floor, a top with a central viewing window, and transparent wall panels configured as a polygonal frustum. These panels include a patient entryway and sleeve-glove assemblies for healthcare workers. The box is made of material impermeable to aerosol-borne contaminants.	Dr. Rakan M. AlQahtani


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Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I94	Dual Lumen Extracorporeal Membrane Oxygenation Catheter with Single Entry Port Bypassing The Right Heart and Lungs	M	A Single-entry ECMO catheter simplifies cardiopulmonary failure treatment, reducing dual-vessel ligation risks. Cuts complications, hospital stays, costs, and boosts therapy accessibility.	Dr. Ali HANEEF, Dr. Abdelhamid SAOUDI
I95	Artificial Hypothalamus for Body Temperature Regulation	M	Smart artificial hypothalamus using fuzzy logic and sensors for precise body temperature regulation, improving heatstroke treatment and thermal management. It enhances patient outcomes, reduces healthcare costs, and creates a market for advanced devices.	Dr. Abderrezak BOUCHAMA, Dr.Ali ALMUNTASHRI

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I96	Neuropilot Manual Neural Navigation Device	M	A manual skull-mounted navigation tool uses protractors and pre-surgery scans to enhance brain surgery precision in emergencies/low-resource settings. Affordable and reduces complications.	Dr. Momen SHARAB, Dr. Balgees AJLAN
I97	Chromosomal Enhancement and Auto Chromosomal Abnormalities Detection Using Chromosomal Ideograms	M	The chromosomal abnormality detection method converts images to ideograms and compares them with controls for precise diagnosis. This method enables earlier genetic disorder diagnosis & reduces diagnostic costs.	Dr. Yahya BOKHARI - Dr. Areej ALHAREERI - Dr. Azizah ALKHALDI - Dr. Abdulrhman ALJOUIE

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I98	Electronic Key Control Palatal Expander	M	An electronic key-enabled asymmetric upper jaw expander enhances orthodontic precision, improving efficacy/comfort. It also reduces treatment time/costs via automated adjustments.	Dr. Nora ALHAZMI
I99	Bifunctional Balloon-expandable and Self-expandable Stent	M	The dual-design bifurcation stent (balloon-expandable main/self-expanding "trumpet") prevents distortion/fractures. It also reduces complications, repeat procedures, and healthcare costs for coronary artery disease.	Dr. Muhammad KHAN

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I100	Ostial Stenting Under Vision	M	A stenting system with integrated Intravascular Ultrasound (IVUS) enables real-time vessel imaging for accurate lesion/branch treatment, potentially reducing complications and costs.	Dr. Muhammad KHAN
I101	Sustained Release of a Therapeutic Agent from PLA-PEG-PLA Nanoparticles for Cancer Therapy	M	A HER2-targeted nanoparticle with PEG-PLA polymer and cancer drugs enables precise breast cancer therapy. Its scalable, controlled-release design enhances drug delivery, reduces side effects, and lowers costs.	Dr. Salam MASSADEH, Dr.Manal ALAAMERY

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I102	Nanotechnology Used for Hair Strength and Color	Q	Nanomaterials delay graying and enhance hair strength/color via targeted follicle delivery. This improves hair health and drives growth in nano-based cosmetic markets.	Dr. Majid ALFADHEL , Dr. Abdulaziz ALDAYEL, Dr. Youssra AHMED
I103	Medical Material Delivery Device	M	A Burst-release expandable device delivers targeted therapies via controlled disruption, improving precision and reducing tissue damage. This device also reduces treatment costs by minimizing complications.	Dr. Riyadh ALOKAILI


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Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K85	Process for Forming and Quality Proofing a Friction Stir Welded Plate	A	A method checks friction stir weld quality by impacting a welded plate and comparing its damping capacity to a defect-free plate. A small difference means no defects. It helps detect tiny flaws that cause minimal, hard-to-measure frequency changes.	Waheed Sami AbuShanab
K83	Systems and Methods for Mixed Layer Depth	V	An innovative method for determining the depth of the surface mixing layer in oceans using vertical temperature or density profiles has overcome most challenges faced by traditional methods, with over 95% of the data interpreted.	Abdulla Poyil, Mohammed Alsaafani, Turki Alraddadi, Alaa Albarakati

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K87	Method of electrocatalytic water splitting	Z	This innovation revolutionizes green hydrogen generation via electrochemical seawater splitting by developing a synergistic 3D architecture of ternary mixed oxides of Fe, Co, and Ni, paving the way for sustainable and scalable hydrogen production.	Yasser Shaban, Shahed Khan, Mohamed Abdel Salam, Radwan Al-Farawati, Mohammed Ghandourah, Doaa Baamer , Mousa Zobidi
K73	Distributed Airborne Acoustic Anti-Drone System (DAAAds)	F	Detecting malicious drone attacks on vital infrastructure is a challenging process. Utilizing the engine acoustic vibration, the Distributed Airborne Acoustic Anti-Drone System (DAAADS) offers a cost-effective, fully automated, and accurate solution.	Ahmed Barnawi

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K74	Zeinmersome Nanocarriers for Drug Delivery to the Liver	M	This novel nanoformulation of olmesartan medoxomil improves its pharmacokinetics and hepatic delivery. It could be useful for treating hepatic fibrosis and its associated duodenal changes.	Hussam Murad, Osama Ahmed, Usama Fahmy
K77	Simplified PCR for The Detection of Common Aneuploides in Human Reimplantation Embryos	Q	A new method detects aneuploidy in IVF embryos using unique STR markers. Analyzed via sensitive multiplex PCR, it identifies abnormalities in chromosomes (13, 18, 21, XY) with high accuracy and includes DNA fingerprinting for contamination detection.	Aisha Elaimi, Ashraf Dallol, Adeel Chaudhary, Adel Abuzinadah, Muhammad AlQahtani

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K81	Biofixation of Greenhouse Gas by Mass Culture of Haematococcus sp. Ka0-01 Microalga in High Efficiency	K	Le milieu de culture pour Haematococcus sp. KAU-01 utilise des gaz de combustion comme le dioxyde de carbone, le monoxyde de carbone et les oxydes de N ou S et qui fixent le C, N ou S pour produire des rendements de biomasse supérieurs.	Adnan Jaman Turki, Md Abu Affan, Salim Marzooh Al-Harbi
K75	Pressure Stabilisation System	M	The Pressure Stabilization System tracks vein diameter changes during dialysis using piezoelectric sensors in the central venous catheter, detecting early hypotension signs to enhance patient safety.	Hala Mugharbel, Layan Aseeri, Reem Hussein, Hossam Khalifa

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K79	HepatoScan	M	The HepatoScan device is an innovative medical tool that uses laser technology and light sensors to quickly detect liver diseases, such as cirrhosis and fatty liver, in a non-invasive, precise, and rapid manner.	Rahaf Hussain Alem, Raghad Mohmoud Aljondi, Renad Abdullah Alafandi
K76	Self-Repairing Sewage Pipes (Hesn)	V	(Husn)is an innovative capsule that enables self-healing in concrete. It has a moisture-resistant outer layer and an inner core with Bacillus bacteria and nutrients. When water seeps in, the capsule dissolves, activating bacteria to produce calcium carbonate, sealing cracks naturally.	Mody Albugami, Sarah Al-Mutairi, Ghala Al-Maliki

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
	HealWave Patch	M	HealWave Patch: non-invasive tech combining nitroglycerin, heat, vibration, and pressure to boost healing, reduce ischemia, and enhance postop recovery.	Aljawharah khalid alsaleh


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Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H95	Smart Mind-based Wheelchair Controlled Using Mind Signals and Eye Blinks Wirelessly	M,T	BCI technology enables wheelchair control through brain signals, using EEG to detect concentration, meditation, and eye blinks. Signals are processed wirelessly, guiding movement, speed, and direction, enhancing mobility and safety	Dr.Haya Alshahrani
H101	Tool Designed to Isolate Structurally Compromised Teeth that Rest on the Gingiva and Secure the Rubber Dam	M	This invention introduces a grasping tool that secures the rubber dam by resting on the gingiva instead of clamping the cervical area. It is made of biocompatible, radiolucent, and sterilizable material.	Dr.Fahda Algahtani

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H99	Dental retentive fiducial marker	M	A Reusable retentive fiducial marker with needles that can be inserted into the soft tissue to ensure that it is fixed during digital scanning. It overcomes the disadvantages of the available fiducial markers, in terms of reusability and accuracy.	Dr.Sarah Alnafaiy
H103	Novel Antidiabetic Pharmaceutical Composition Comprising Friedelin as a Potential Active Ingredient	M	This invention introduces a novel antidiabetic pharmaceutical composition containing friedelin from Syzygium cumini bark, which effectively inhibits α-amylase in a dose-dependent manner, demonstrating potential for diabetes treatment.	Dr. Taghrid AlOmar

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H97	Saussurea costus extract as bio mediator in synthesis iron oxide nanoparticles (IONPs) and their antimicrobial ability	M	Saussurea costus plant and iron oxide nanoparticles(IONPs) are a strategy in green nanotechnology. Using antibacterial and anticancer, is environmentally friendly and eliminates antibiotics, and low-cost biological method and strong antibacterial substance .	Prof.Jehan S Albrahim


TROJENA
The mountains of NEOM

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H77	Bio-MXenes: Biohacking Precision Diagnostics 2D Material-based electrochemical biosensor for enzyme-free microRNA biomarker detection	Q	A portable biosensor for detecting microRNA cancer biomarkers from liquid biopsy offers an accessible and transformative strategy for cancer screening & monitoring	Dana Alsulaiman
J75	CRISPR-based multiplex detection of human papillomavirus (HPV) variants	Q	Single-step, patented, thermostable CRISPR-based diagnostics	Magdy Mahfouz , Ahmed Ghouneimy

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I75	improving and reducing the cost of graphene production processes while using crude oil as a primary raw material	Q	KAUST IP on PCR-based diagnostic technology is manufactured at scale and at a competitive price	Muhammad Tehseen
I76	Rapid Zika Virus Detection with a locally developed Nanobody Lateral Flow Assay	Q	A next-generation LFA (lateral flow assay) that uses nanobodies as detection units. Nanobodies can be locally produced from bacteria.	Stefan Arold , Raik Grünberg

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I77	Toughened thermoplastic adhesive tape for medical joint support applications	Q	We propose an advanced tape solution that overcomes the limitations of the current tapes by incorporating sacrificial defects at the interface between the adhesive and the carrier.	Ahmed Wagih Abdelhady
I74	Super-Resolution Imaging of Ferromagnetic Tubulars: Deep Neural Network-Based Electromagnetic Inversion	A	a multi-frequency data acquisition model, coupled with a novel convolutional recurrent hybrid neural network (HNN), is developed to fully visualize metallic pipelines. Massively parallelized simulations are used to create training data, which is verified by an experimental setup.	Shehab Ahmed

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H75	CirCoLi A new paradigm for Li-ion battery recycling	V	Faster process, smaller footprint, greener compared to conventional hydrometallurgy.	William L Roberts , Paolo Guida
J74	CO2MinX Carbon Mineralization and Resource Extraction from Basalts	V	Reducing emissions in KSA and globally is essential for meeting energy and environmental sustainability targets.Our innovative solution leverages volcanic basalt to permanently remove CO_2 from the atmosphere and extract valuable minerals.	Hussein Hoteit , Abdirizak Omar

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J77	Algae-Based Plastics: Utilizing Red Sea Algae for the Production of Completely Biodegradable Packaging Materials	V	This invention extracts polysaccharides from Red Sea Sargassum to create 100% biodegradable bioplastics, addressing ocean plastic pollution and massive Sargassum blooms with a sustainable solution.	Fang Fang , Peiren Liu
J76	All-in-One Infrared Imaging Technology for Climate Monitoring	V	An innovative multi-band IR imaging system integrating low-cost, scalable colloidal quantum dot (CQD) photodiodes with CMOS technology, enabling simultaneous imaging across NIR, SWIR, MWIR, and LWIR spectra.	Osman M. Bakr , Ali Alrashoudi


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Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K89	Apparatus, Methods, and Design System for Wide-Band Millimeter Wave Transition	C	Apparatus and systematic method for transitioning between Rectangular Waveguides (RWG) and Substrate Integrated Waveguides (SIW) or Air-Filled Substrate Integrated Waveguides (AFSIW) for millimeter-wave (mmWave) communication systems.	Prof. Muhammad Shah Alam,
K91	Method of fabricating metal oxide nanomaterials using a thermally decomposable solid substrate	A	This invention is a ready-to-use industrial protocol that removes the cooking step, which takes 6 to 24 hours. It is green, fast, energy-conserving, and universal, and composites are produced with a homogeneity typical of true solutions and uniform size.	Dr. Babiker Yagoub Elhadi Abdulkhair

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K93	Copper Oxide-Magnesium Aluminate (Cuo.Mgal2o4) Spinel Nanocomposite And Method Of Synthesis Thereof	Z	A method for producing H2 gas via hydrolysis of NaBH4 using CuO-MgAl2O4 nanocomposite. Higher hydrogen generation rates were observed with the 20%CuO@MgAl2O4. It provides faster rates than the self-hydrolysis of NaBH4.	Dr. Mohamed Nady Abd El-Hameed Ibrahim
K95	Novel P-gan High Electron Mobility Transistor(HEMT) Using Mos2-based 2d Barrier	C	A novel p-GaN HEMT with a MoS_2-based 2D barrier enhances electron mobility and strain engineering. It operates reliably up to 82V (gate) and 131V (drain), delivers 7.3W at V_DS = 8V, and shows I_ON/I_OFF~10^6, R_ON/R_OFF ~ 10^{-6}, with a 0.85V threshold.	Dr. Ghada Khouqeer

OXAGON

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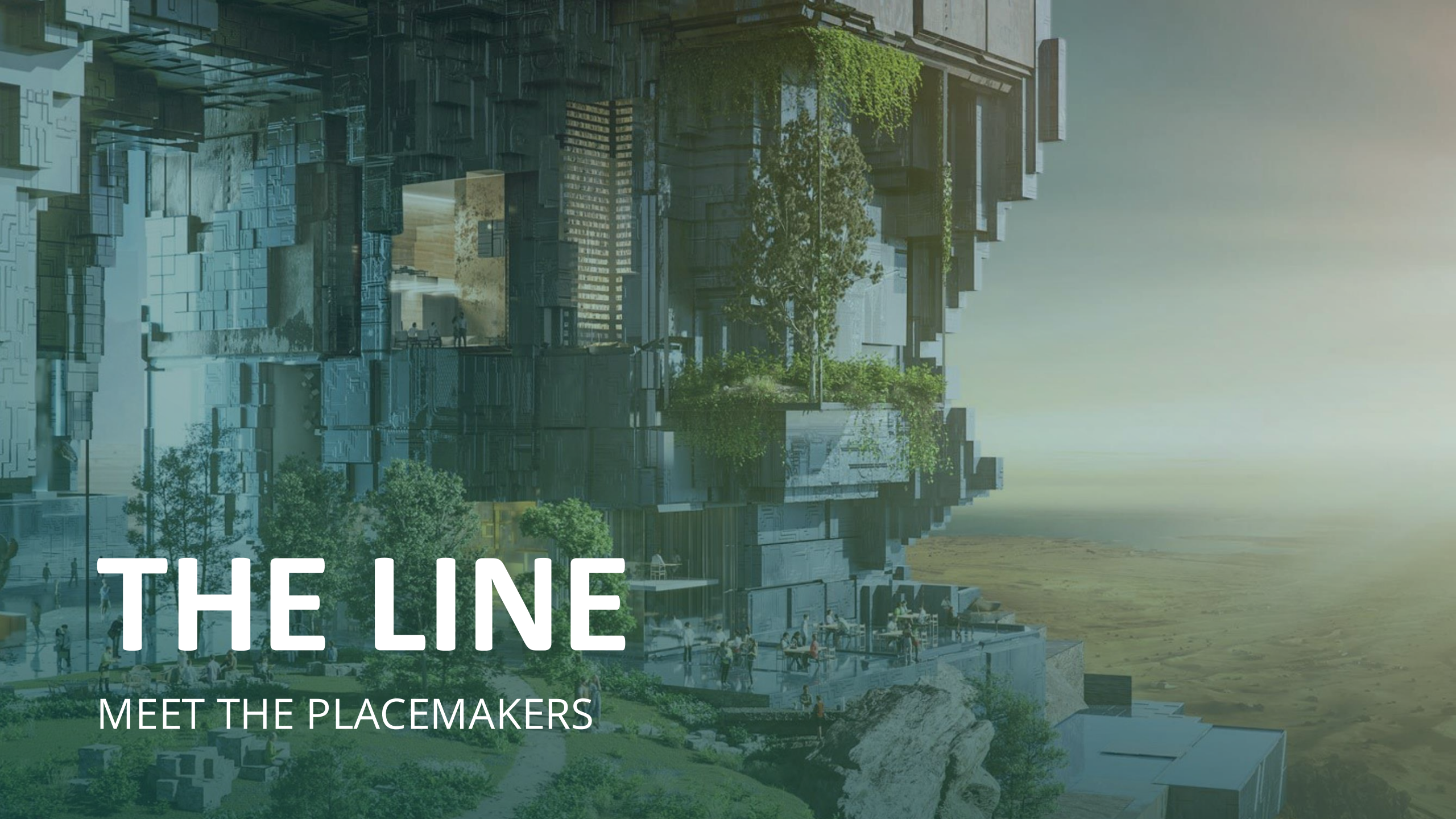
Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K86	Super-Hydrophilic Formula For Oil Spill Clean-Up	V	This invention features a super surfactant formula designed to improve oil spill cleanup on water. Unlike traditional methods that break oil into smaller droplets and cause them to sink, this formula lumps the oil into a controlled layer, keeping it on the surface for easier collection. It also slightly solidifies the oil-water interface, preventing re-spreading and making cleanup faster and more efficient. This innovative approach enhances oil spill response, minimizes environmental damage, and improves recovery efforts	Mr. Ali A. Binabdi
J85	Dual Direction Accident Prevention and Assistive Braking System	P	This invention features a dual-directional braking system that not only enhances forward collision prevention but also mitigates rear collisions by detecting and automatically responding when trailing vehicles fail to brake timely, significantly reducing accident risks in emergency situations.	Dr. Ammar Ayad Alzaydi

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J91	Robotic System for Floor Marking	H	The machine is a small autonomous robot that can draw large size shapes with high accuracy. It is an omnidirectional wheeled robot with a pen plotter. The robot shows an accuracy of ±2 cm and it avoids obstacles.	Dr. Uthman Baroudi
K88	AI Based Medical Diagnostic Setup for Brain EEG Prediction for Foot Amputees	Q	This setup generates brain signals to enable a sense of touch for foot/leg amputees using prosthetics. It records foot pressure and brain signals during various postures and trains an AI model to predict touch sensations, offering a more human-like experience. The invention has the potential for neuro-rehabilitation research and could improve users' quality of life. Currently, at the lab stage, it requires miniaturization and clinical testing for widespread use.	Dr. Asad Muhammad Butt

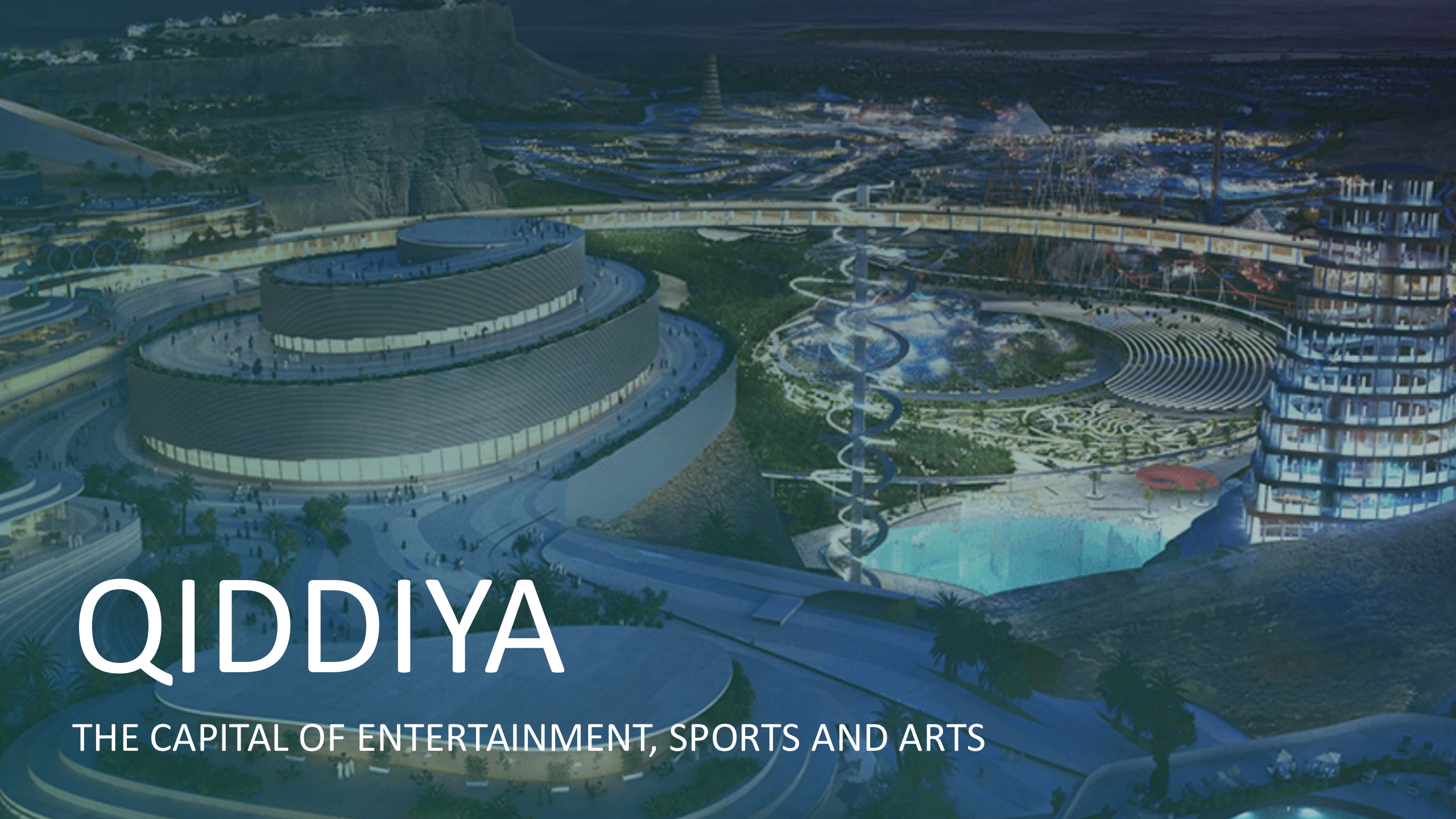
Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K92	Vessel Cleaning Robotic System	A	This patent enhances safety by reducing human exposure to hazardous environments through automated inspection and cleaning robots, preventing accidents and leaks in the Oil-Gas industry. The robot cleans 50m-long vessels opened every 5 years, saving lives and reducing cleaning time from 9 to 2 days. It extends to public security, archaeology, and environmental monitoring, cutting labor costs by 50-80%, ensuring regulatory compliance, and driving industrial innovation for a sustainable economy.	Prof. Samir Mekid
J87	Fault-Tolerant Secure Backstepping Control for Nonlinear Multi-Agent Systems Using Reinforcement Learning	P	An AI-driven system for coordinating unmanned vehicle swarms using leader-follower control. It ensures stable maneuvering despite faults and cyber-attacks, leveraging reinforcement learning to adapt movements in real-time, ideal for defense, logistics, and smart mobility.	Prof. Sami El Ferik

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J89	Eco-adaptive Platform for Floating Photovoltaic System	Z	The floating photovoltaic system (FPVS) revolutionizes marine renewable energy with a platform made from repurposed buoyant materials supporting bifacial PV panels. It features an active adaptive anchoring mechanism with self-regulating tension cables and a quick release for relocation. Smart sensors monitor performance, ensuring stability during severe weather. This sustainable design integrates cutting-edge technology for offshore energy solutions.	Dr. Shafiqur Rehman Hafez Waliullah
K84	Advanced Flood Susceptibility Mapping Using Optimized Swarm Intelligence and Deep Learning.	D	The present invention has contributed to the field of hydrological engineering and in particular flood subsidence susceptibility mapping. The newly developed technology in this invention is based on a hybrid computer aid model through the integration of a nature optimization algorithm with a deep neural network model for detecting the flood subsidence susceptibility mapping model for a highly experienced catchment with flood events.	Dr Ahmed Mohammed Ahmed Al-Areeq

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K90	Adaptive Power Smoothing Filter for Solar Energy Using Moving Linear Regression	Z	This power quality controller for solar PV systems integrates an MR filter, SoC feedback, and BESS to enhance stability. The MR filter reduces solar PV output fluctuations, while SoC feedback ensures efficient battery use. The BESS balances power flow between the PV system and the grid. Together, they minimize power variability and boost reliability.	Dr. Muhmmad Khalid
J93	Universal Debonding Test Apparatus for Carbon Fiber Reinforced Polymer-Concrete System	D	This test apparatus simulates debonding between CFRP and concrete in CFRP-strengthened structures. It includes primary and secondary structural blocks, an adjustable hanger, and a receiving slot. The adjustable hanger is used for double-shearing and mixed-mode tests, while the secondary block supports various tests like shear and bend. An attachment mechanism ensures stability during testing.	Dr. Faisal Mukhtar


THE LINE
MEET THE PLACEMAKERS

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K94	Dental material containing nanosized fillers and preparation methods thereof	M	The invention relates to a self-cured dental restoration material that includes nanosized inorganic fillers, particularly boron nitride and zirconia. The material is designed to have superior mechanical strength and stiffness. The fillers are ultrasonically mixed with a polymer resin and solvent, resulting in a composite with enhanced hardness, flexural strength, and durability. This innovation aims to improve the longevity and performance of dental restorations.	Dr. Mana Alqahtani, Prof Nacer Badi
K96	DeepRawNet: Empowering Deepfake Audio Detection through Dynamic Enhancements	F	DeepRawNet is an audio spoofing detection framework that enhances RawNet2 by increasing the negative slope in fixed Sinc filters, upgrading LeakyReLU to PReLU, substituting convolution layers with transpose convolutions in residual blocks, and incorporating LogSoftmax.	Dr Lubna Abdulaziz A. Alharbi



QIDDIYA

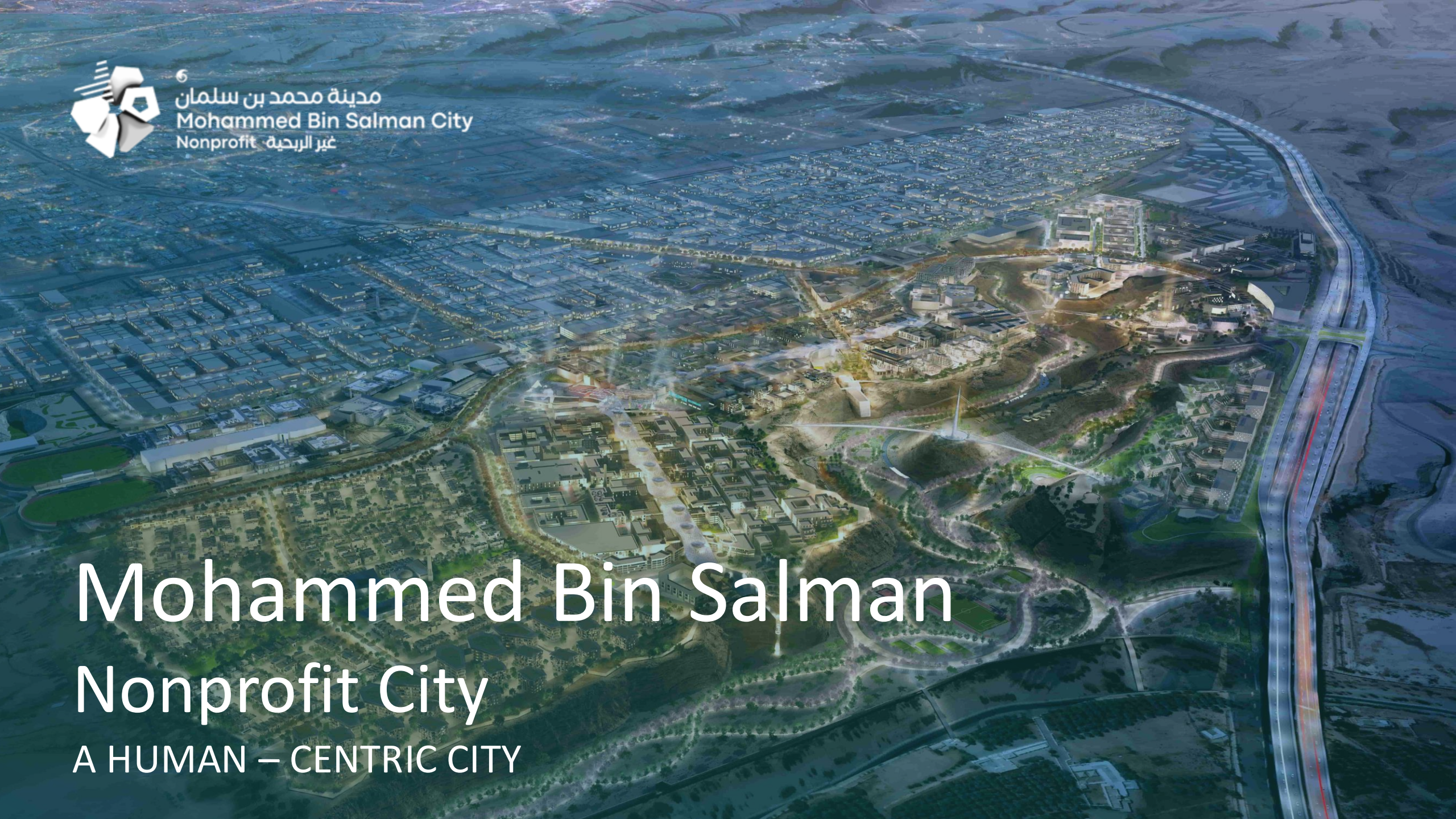
THE CAPITAL OF ENTERTAINMENT, SPORTS AND ARTS

Qassim University

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K102	Lightweight nanocomposite material for hard helmets	D	A high-entropy nanocomposite helmet made from equal-weight thermoplastic granules (HDPE, PC, PPE, and PET), offers high strength, impact resistance, and durability while remaining lightweight. Its advanced polymer blend enhances energy absorption, reducing fractures and improving safety in high-impact conditions.	Abdulaziz Alaboodi, Kaled Alqidah, Sivasankaran Karunanithi Rasu ،Subbaraan Govindasamy, Qassim University
K100	Date washing and drying machine	A	A machine that washes and dries dates. It has an upper section with an electric pump that sprays water under pressure on the dates using sprinklers and a fan above them for drying. It is 100% health safe, low price, easy to use, has a washing speed of 30 sec, 50% saving water, and high removal of pollution.	Abdullah Nasser Alsaif, Saleh Sulaiman Alhewairini, Essam Mohamed Abd-Elmoniem, Qassim University

Qassim University

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K98	Unmanned aircraft for harvesting dates	A	The invention is a remote-controlled drone designed for harvesting dates. It has a winch, a robotic arm featuring a saw and gripper, and two cameras. The drone is operated via a smartphone app or a remote controller.	Hanafy Mohammad Omar, Saad Mukas, Qassim University



Mohammed Bin Salman

Nonprofit City

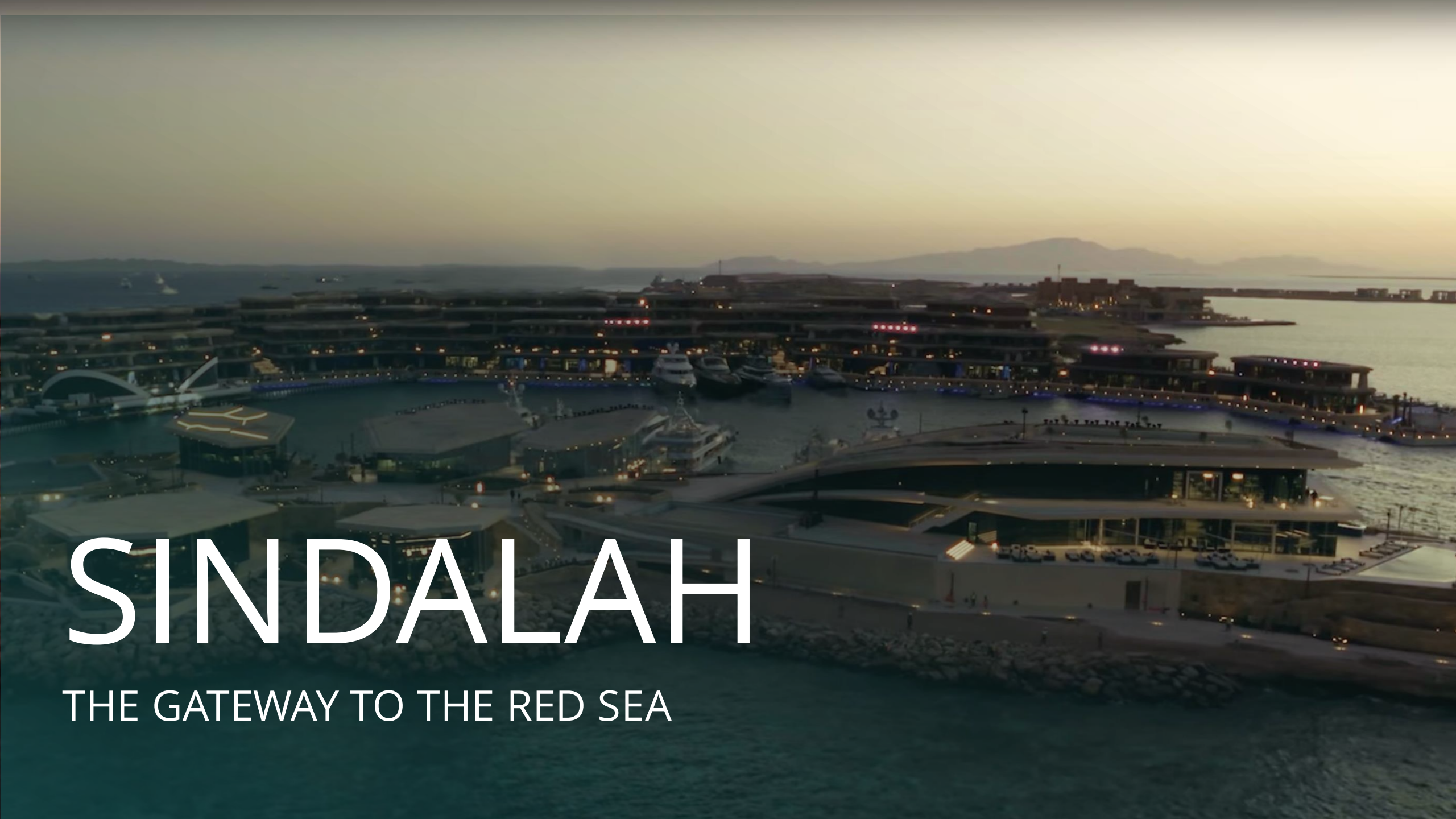
A HUMAN – CENTRIC CITY

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J103	Smart Robotic Device for Automated Environmental	U	A rugged, solar-powered robotic device for environmental monitoring with a modular sensor arm (temperature, humidity, LiDAR, camera), adaptive suspension, and labeled components for rough terrain navigation.	Amjad Aldweesh

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J102	Real-Time Antigen-Antibody Detections (RTAAD)	M	RTAAD is a diagnostic device that provides real-time, precise antigen-antibody detection using advanced technology, ensuring accurate, rapid results with enhanced sensitivity and reduced errors.	Dr. Naif Khalaf Alshammari; Dr. Meshari Saud Alazmi and Dr. Alaa Aldeen Mastur Ali Mohammed

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K101	Air Medical Station	M	Air Medical Station (AMS) is an innovative, portable system designed to manage in-flight medical emergencies by assessing cases in real time. It provides instant medical guidance to flight crews and enables seamless communication with ground-based specialists. AMS ensures rapid, accurate responses, enhancing patient safety and reducing emergency landings.	Ziyad Khalid
K97	AirEco	F	AirEco is a drone that detects and locates organisms and measures the vital functions of the ecosystem and the surrounding climate, enabling it to detect organisms that have fallen to low places such as mountain slopes. It uses artificial intelligence and machine learning technologies, combining advanced detection, measurement, and analysis capabilities in a small, easy-to-operate aircraft.	Rafeef Alshahrani

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K99	Using new technologies to reduce forest fires and firewood	V	A patent to raise the level of environmental protection in general and forests in particular from forest fires and illegal logging by using flame sensors, control units, and a positioning unit to warn of forest fires before they spread, in addition to a small fire extinguishing unit that uses the soil around trees to extinguish them.	Hasil Alasmari

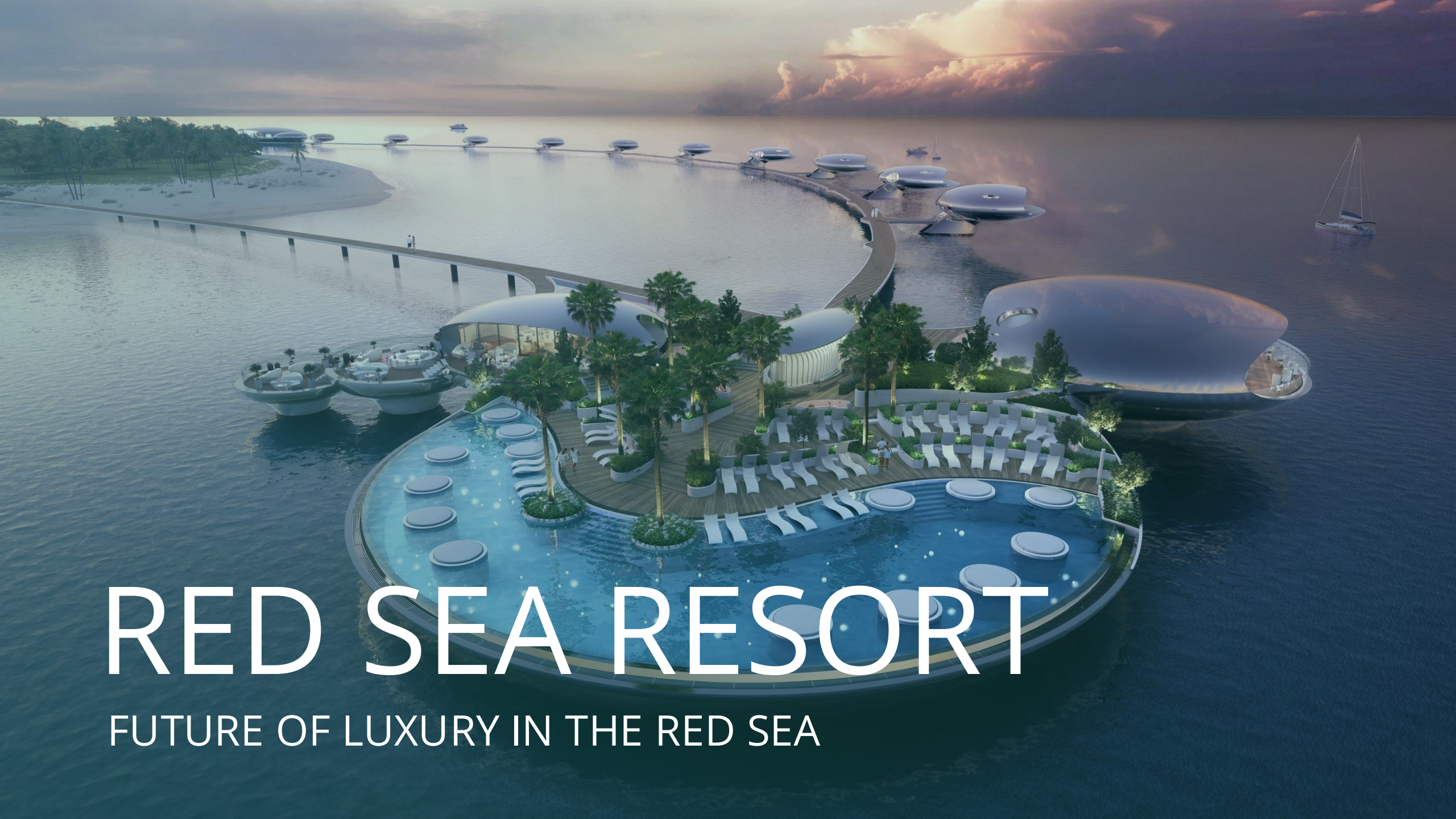

SINDALAH
THE GATEWAY TO THE RED SEA

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K105	Safe simulator for the detection and decontamination of gamma radioactive sources	Z	The current invention relates to a safe simulator that teaches staff and students how to utilize an alcohol sensor to detect radioactive contamination without being exposed to any radiation doses. The device is cheap and does not expose the trainees to any radiation dose. It can also be used to train people in evaluating the effectiveness of removing radioactive pollution. The way it works depends on simulating the detection of radioactive material by detecting alcohol gas (or any perfume that contains a percentage of alcohol) using the sensor to detect the percentage of alcohol gas after calibrating it with the percentage of detecting gamma radiation sources, which is done by computer, where the trainee can obtain the imaginary level of radioactive contamination.	Prof. Mohammed Khalil Saeed, Prof. Mohammed AlAyed
K103	Nanocomposite photocatalyst and method of degrading organic pollutant therewith	Z	A ZnO-based nanocomposite with date seed-derived activated carbon and Au NPs for efficient visible-light-driven degradation of organic pollutants in wastewater, offering a sustainable and high-performance remediation solution.	ALSAIARI Mabkhoot, FAISAL Mohd, HARRAZ Farid A.

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H109	Micro phase-change photoluminescent material-based traffic signs for improved nighttime visibility and safety / Luminescent concrete composition and product	A	Improved Safety and Visibility. Luminescent concrete compositions contain cement, fine aggregates such as sand, and a phosphor such as strontium aluminate. Glow-in-the-dark concrete products are made therefrom, and methods of producing such products are also specified. The glow-in-the-dark concrete products demonstrate good mechanical strength (e.g. compressive strength) and skid resistance. The addition of phosphorescent strontium aluminate provides luminance that persists to the concrete products for up to 10 hours.	Prof. Muhammad Saleem
H105	Nanomac Method of Fixating a Tissue Sample / Method of Fixating a Tissue Sample	Q	Novel formaldehyde-free tissue fixating solution is presented that can potentially replace formalin with its added practical, environmental, and cost-effectiveness advantages. A method of fixating a tissue sample includes treating the tissue sample with a nano-tissue fixative solution to form a fixated tissue sample. The composition of nucleic acids in the fixated tissue sample is not altered. The nano-tissue fixative solution includes acetic acid, at least one alcohol, chloroform, titanium dioxide nanoparticles, zinc oxide nanoparticles, and silver nanoparticles.	Prof. Khaled Fikry Salama and Dr. Amal Abdullah Alodaini

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H107	System and Methods for Recycling Heat and Water in a Steam Press Machine	V	A steam press system and methods for controlling steam generation and recycling steam are provided. The steam press system includes a first and second steam plate configured to receive and evacuate steam. The steam press system further includes a first pump configured to draw steam from the first steam plate and the second steam plate, a heat exchanger configured to condense the steam into fresh water and heat the fresh water. The steam press system further includes a third pump to pump the heated water into a storage tank. The steam press system further includes a fourth pump configured to pump the heated water from the storage tank to a steam generator. The steam generator is configured to receive the heated water, boil the heated water to generate steam, and deliver the steam to the first steam plate and the second steam plate.	Prof. Fahad Ghallab Al-Amri

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H111	Smart Life Vest	F	The Smart Life Vest is a product designed to prevent drowning incidents by instantly recognizing unusual movements through combining advanced technology with innovative safety features.	Dr. Ahmed S. Kassab, Dr. Sajid Khalifa, Ms. Areej Saleh Alghonaim



RED SEA RESORT

FUTURE OF LUXURY IN THE RED SEA

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I104	MolecuLab : an integrated framework for designing and analyzing drug-like molecules	W	Traditional drug discovery is slow and costly, with many candidates failing due to poor solubility, toxicity, or low efficacy. Our AI-powered framework accelerates drug identification using machine learning and generative models, optimizing molecular properties in silico to reduce experimental screening, making the process faster, cheaper, and more efficient.	Mashail N. Alkhomsan, Rana M. Alanazi, Wasn R. Alanazi, Wajd F. Alhuzaym, Meshal Alzaid, Hassan Hassan, Hani Negm
I108	Green Capsule : biopolymeric materials for desert agriculture and water resource sustainability	K	Green Capsule technology combats desertification using biodegradable seed capsules that retain moisture to support plant growth in arid areas. It promotes pastoral and medicinal plant cultivation, enhancing ecosystems, soil quality, and food security, aligning with Saudi Arabia's Vision 2030.	Afnan Abuarab, Kadi Alruwaili, Sulafah Al Jaddua, Meshal Alzaid, Hassan Hassan, Mohamed Al-Aasser

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I106	Ultrafiltration filters to enhance water treatment efficiency and provide sustainable solutions.	V	Ultrafiltration (UF) membranes offer efficient water treatment but face challenges like fouling and variability. Machine learning (ML) enhances performance by optimizing flux, rejection rates, and fouling control. This study explores ML integration for real-time monitoring, predictive maintenance, and sustainable water treatment.	Mashail N. Alkhomsan, Rana M. Alanazi, Wasn R. Alanazi, Wajd F. Alhuzaym, Meshal Alzaid, Hassan Hassan, Ibrahim Hotan Alsohaimi, Malak G. ALHassan
I110	Recycling Waste to Create Nanofibers for Medical and Industrial Applications	V	Camel milk protein-based nanofibers promote diabetic wound healing and provide radiation shielding. They enhance tissue regeneration, prevent infections, and offer lightweight, effective protection, repurposing waste for sustainable biomedical and industrial solutions.	Kadi L. Alruaili, Afnan Qasem Abu arab, M. R. El Aassar, Ziyad A. Alrowaili, Malak G. AL Hassan, Sulafa I. AUaddua, Meshal Alzaid, Hassan Hassan, Shimaa Nabil, Modather F. Hussein, Hani Negm

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I107	Artificial Bone Structure and Method of Manufacturing Artificial Bone Structure	M	An artificial bone structure replaces natural bone, featuring a solid cylindrical portion with an auxetic structure of artificial osteons. It mimics natural bone behavior, enhances tissue compatibility, and supports osseointegration. Made via 3D printing, it ensures precision, durability, and patient-specific customization	Dr. Ibrahim Mohammed Alarifi
I109	Circular Capsulotomy Incision Tool	M	A circular capsulotomy incision tool offers a precise, cost-effective solution for cataract removal. Using a sharp-edged resilient ring and a pulley mechanism, it creates clean, accurate cuts without requiring complex equipment or extensive surgeon training, making cataract surgery more accessible and reliable.	Dr. Saad Hamdan Alenezi

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I111	Development of an Innovative System for Disinfecting Milk Using Multi-Stage Hybrid Ultraviolet (UV) Techniques	A	A new light-based sterilization system offers a chemical-free alternative to traditional pasteurization, preserving milk's natural taste and nutrients. Using helical quartz tubes and UV-B/UV-C lamps efficiently eliminates bacteria at 5–100 mL/min flow rates. This innovation could revolutionize dairy processing.	Dr. Muhammad Abdel Qader Abu Ame


ALULA
Maraya Architectural illusion

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J105	Turbu Dissipator	V	This heat sink enhances solar panel performance by effectively absorbing and dissipating heat. Its innovative design, verified by CFD simulation, boosts energy efficiency and electricity production while reducing maintenance needs.	Khalid Almaliki - Hamid Turkestan - Ammar Nader Shah - Dr. Hassan Alattar
J104	Juteable	H	Smart & sustainable cafe tables: sustainable and recyclable materials, modular connectivity, integrated wireless charging & outlets, table-side tablets for ordering/payment, and waiter call buttons enhance dining.	Nadeem Kutbi - Khaled Alshehri -Nawaf Alwafi- Dr. Yousef Dobah

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I105	Braille vision	M	Phone accessory featuring multiple Braille cells. This accessory is connected to the phone through an app that converts text in pictures into Braille characters, thereby enhancing the reading experience for the blind	Lamyaa Alzubaidi - Dr.Haya Alhummiany

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K104	Two-Factor Authentication Using Molecular Communication—A System and Method	D	This invention introduces a two-factor authentication (2FA) system using molecular communication for enhanced security. It can protect pacemakers and medical implants by ensuring only authorized access, preventing cyber threats, and improving healthcare safety.	Dr Nidal Nasser
K108	Computer Mouse With Enhanced Design and Functionalities	W	The invention describes an ergonomic computer mouse with an enhanced design featuring several touch centers. The invention is addressing an ever-growing need for a more ergonomic design for computer mice, for prolonged, accurate, and intensive usage, with added functionalities in order to keep up with the recent developments in computer interaction and user experience, including but not limited to more immersive video gaming as well as 3D interaction with virtual and/or augmented reality environments, in addition to the control of equipment and drones.	Dr Farid Amalou

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K106	Neuromodulation of baroreceptor reflex	M	The invention introduces advanced methods to modulate the baroreceptor reflex, a key mechanism in blood pressure regulation, through electrical stimulation of aortic baroreceptor afferent fibers. This approach aims to treat hypertension by optimizing autonomic control of cardiovascular function.	Dr Ibrahim Salman

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J111	Foot-Eye Coordination Measurement Device	Q	This invention measures visuo-motor synergy using foot pedals and light panels. It evaluates speed and accuracy in 90 movements, benefiting pilots, drivers, athletes, and medical research.	Dr. Ahmed AlZahrani
J110	Compact Mini-Computer for Robotic Machine-Learning Operations	W	UV-C sanitizing device with infrared sensors for touch-free disinfection. It detects obstacles and activates UV-C lamps for sterilization, ensuring hygiene and safety. It is ideal for modern sanitation.	Dr. Reem Abdullah Alshahrani, Dr. Mashael Mohammed Asiri, Dr. Saad Abdullah Alahmari, Dr. Rana Ibrahim Alabdan

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K110	A Contactless Ultraviolet-c Based Sanitizing Device	Q	UV-C sanitizing device with infrared sensors for touch-free disinfection. Detects obstacles, activates UV-C lamp for sterilization, ensuring hygiene and safety. Ideal for modern sanitation.	Abdullah Khalaf ALANAZI, Ashraf Talaat MOHAMED, Hala Mohamed ABO-DIEF, Tanay PRAMANIK, Ramesh Chandra PANDA,


NEOM نيوم
NEOM
Is the land of the future

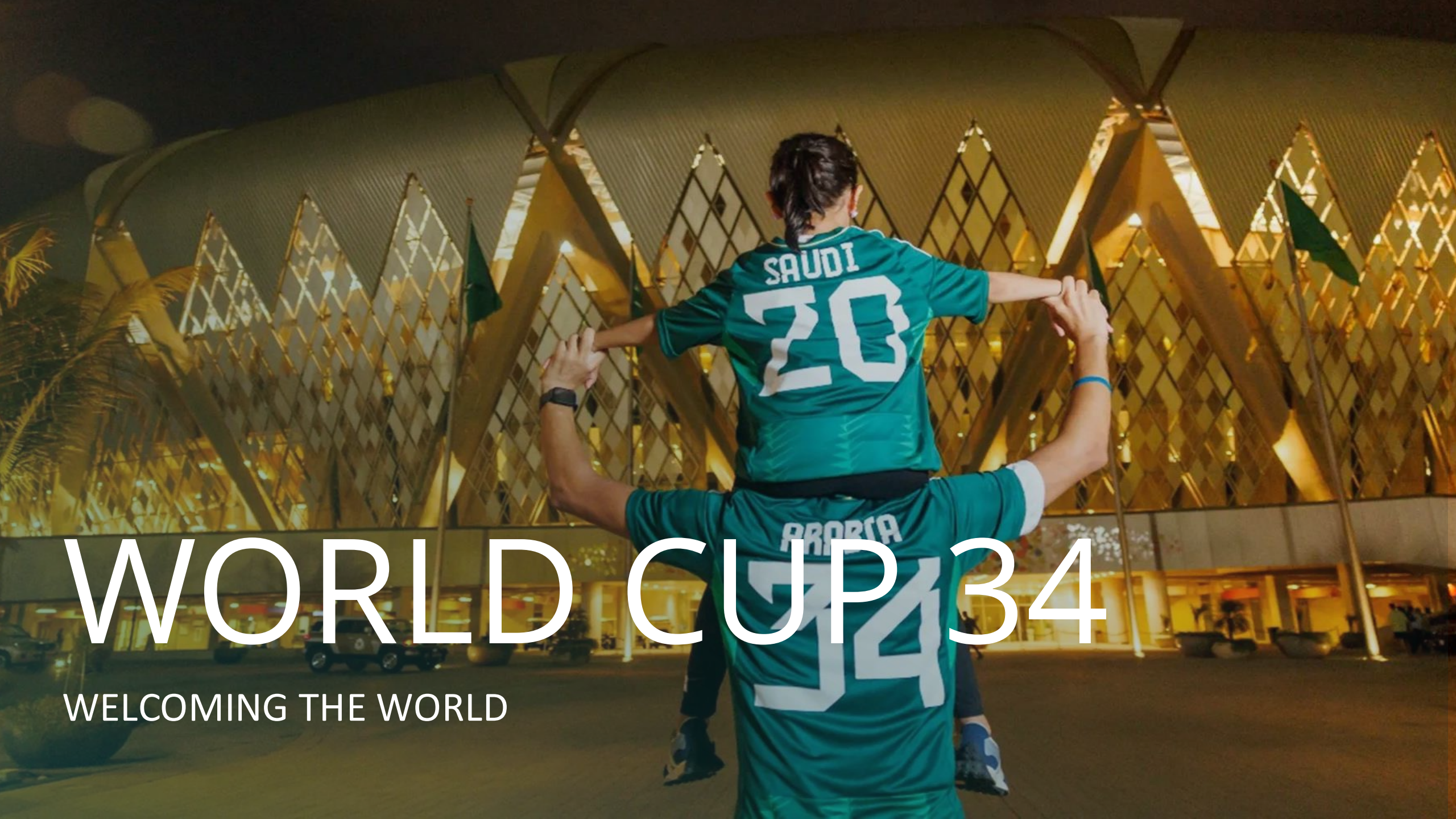
Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K107	Liquid products purity measuring device	V	This device analyzes a sample of a liquid product with electromagnetic waves and uses artificial intelligence to determine the quality of the sample and its purity, then the results are displayed on the screen of the portable device.	Dr.Thamer Almoneef, Dr. JAOUHAR MOUINE
K111	Moving Units of Geological Polymers and Natural Fibers for Water Purification	D	Moving units of geopolymer (MUG) and natural fibers for water purification have been developed at Prince Sattam bin Abdulaziz University as a patent under number: SA 14328 on 5/12/2023. Water purification units consist of geopolymer-based composites, foam, and vascular natural fibers. These units include three main parts: the outer layer of geopolymers, natural vascular fibers, the inner layer of foamed geopolymers, and side fins of tubular fibers, as well as a vacuum tube in the center. These units are made of natural minerals and natural fibers and are highly capable of absorbing various contaminants, whether metal ions or organic pollutants. Its modus operandi is used either as stationary filters or light-moving materials to be transferred by water currents on the surface of water bodies such as ponds, rivers, lakes, seas, reservoirs, etc. In addition, the financial cost of producing these units is reasonable. On the other hand, these units can be completely recycled to produce different types of functional construction materials	Dr. Bader Ali Alharbi, Dr.Mazen Alshaaer

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K109	Blood Glucose Monitoring through Breath Analysis	M	Breath analysis for glucose monitoring is an innovative technique that examines the components of exhaled air to determine glucose levels in the body. This method relies on detecting specific compounds in the breath that are associated with blood sugar levels. It is a non-invasive and user-friendly alternative compared to conventional methods such as finger-prick tests. This approach offers a painless and convenient way to monitor glucose, making it a promising advancement in diabetes management and overall health monitoring.	Dr. Yousef Salem Alharbi

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K113	InstaMon PackCap AI-Driven Adaptive Traffic Monitoring & Packet Capture	W	An agent is a specialized network device and software application designed to discreetly monitor network traffic without interfering with its flow. It employs and customizes the high-performance capture engine and adopts a brain-inspired hierarchical temporal memory (HTM) model named Simplified single cell assembled sequential hierarchical memory (s.SCASHM) to continuously learn the user traffic behavior within the organization's network.	Prof.Rahmat Budiarto Mr.Abdulaziz M AlGhamdi DR. Abdulkhaliq Hajjad ALGhamdi Khali Ali Alzahrani is

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K114	Recycling Date Palm Seeds to Produce Glass-like Sheets	D	Date palm seeds are ground into a fine powder, compressed into a disc, and treated with sodium hydroxide and sulfite at 100°C for 12 hours to remove lignin. The disc is then bleached with hydrogen peroxide, making it transparent.	Chawki Awada, Mohd Al Saleh Al Othoum, Mohammed Ibrahim Albossed
K112	Recycling Palm Leaves to Produce Filters for Purifying Contaminated Water	V	Palm leaves are recycled into water filters by drying, grinding, extracting cellulose with sodium perchloride and hydroxide, treating with chloroacetic acid for carboxymethyl cellulose, coating iron-silver nanoparticles, and compressing into a filter.	Mai Mostafa Khalaf Ali, Mohamed Gouda, Hany M. Abd El-Lateef

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K116	Recycling Palm Leaves to Generate Electricity from Wastewater	Z	Using palm fronds to generate electricity from wastewater in stages: collecting, drying, grinding, producing cellulose, converting to carboxymethyl cellulose, creating a nickel/cobalt catalyst, and using it in urea fuel cells for power generation.	Hany Mohamed Abd El-Lateef Ahmed, Mohammed Gouda, Mai Mustafa Khalaf Ali, Fatimah Abdrabalameer Salman



WORLD CUP 34

WELCOMING THE WORLD

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K118	Static Electrostatic Generator For High Voltage Low Power Applications	C	A Static Electrostatic Generator (SEG) is an electrical device that generates high-voltage, low-current static charges. Unlike traditional generators relying on mechanical methods, this novel design manipulates capacitor plate geometry to produce excess charge. It is lightweight, scalable, and requires no mechanical movement, offering enhanced efficiency, flexibility, and simple manufacturing.	Hosam Alharbi, Muhammad Khalid, Mohammad Abido

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K115	Smart HemaTissue 3D: Dynamic 3D Bone Marrow Model for Physiological Simulation and Cellular Interaction Studies	Q	This dynamic 3D bone marrow model features multiple chambers, an adjustable flow system, and a biomimetic blood barrier. It enables the study of cellular interactions and the simulation of physiological conditions in vitro.	Dr Saeed Kabrah, Dr Arwa Flebman, Dr Ahmad Kabrah, Ms Hebah Kabrah
K117	BioNourish: Intelligent Device and System for Treating Nutrient Deficiencies	Q	The device monitors nutrient levels through biometric sensors and automatically delivers dietary supplements via biodegradable microneedles without injection or blood sampling, ensuring precise and personalized nutrient delivery.	Dr Saeed Kabrah, Ms Raghad Alzaylaee, Ms Njoud AlMajnuni

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K119	VentoGo: Smart Portable Device for Diagnosing and Classifying Epidemic Respiratory Diseases Using Instant Analysis of Vital Signs and Laboratory Indicators.	Q	An innovative portable device for diagnosing infectious respiratory diseases by analyzing vital signs and lab data, enabling rapid and accurate healthcare delivery.	Dr Saeed Alghamdi, Dr Ahmed Kabrah, Dr Saad Allghamdi, Mr Ahmed Alshareef, Dr Saeed Kabrah, Dr Arwa Flemban

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K121	Differential Dielectric Constant Sensing System And Method	M	A Quad-stub microwave differential sensor is designed to introduce a second transparency window upon small dielectric variations in the testing sample. This allows accurate measurement of ethanol concentrations as low as 2.5% v/v with ~20 µL samples.	ABUTARBOUSH Hattan, AMIN Muhammad, SIDDIQUI Omar, ATTA Raghied

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K125	Flexible Pavement Structure	D	The present invention deals with a new protection technique to simultaneously improves the waterproofness or impermeability, the thermal insulation, and the bearing capacity of flexible pavement structures.	Dr Tahar Ayadat
K123	Convergent-Divergent Nozzle for Dehumidification Process	A	A method for dehumidifying humid gas involves a convergent conduit, separation unit, and a divergent conduit. A volume of humid gas dehumidifies in the convergent conduit, forming droplets, which are extracted in the separation unit.	Dr Esam Jassim

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
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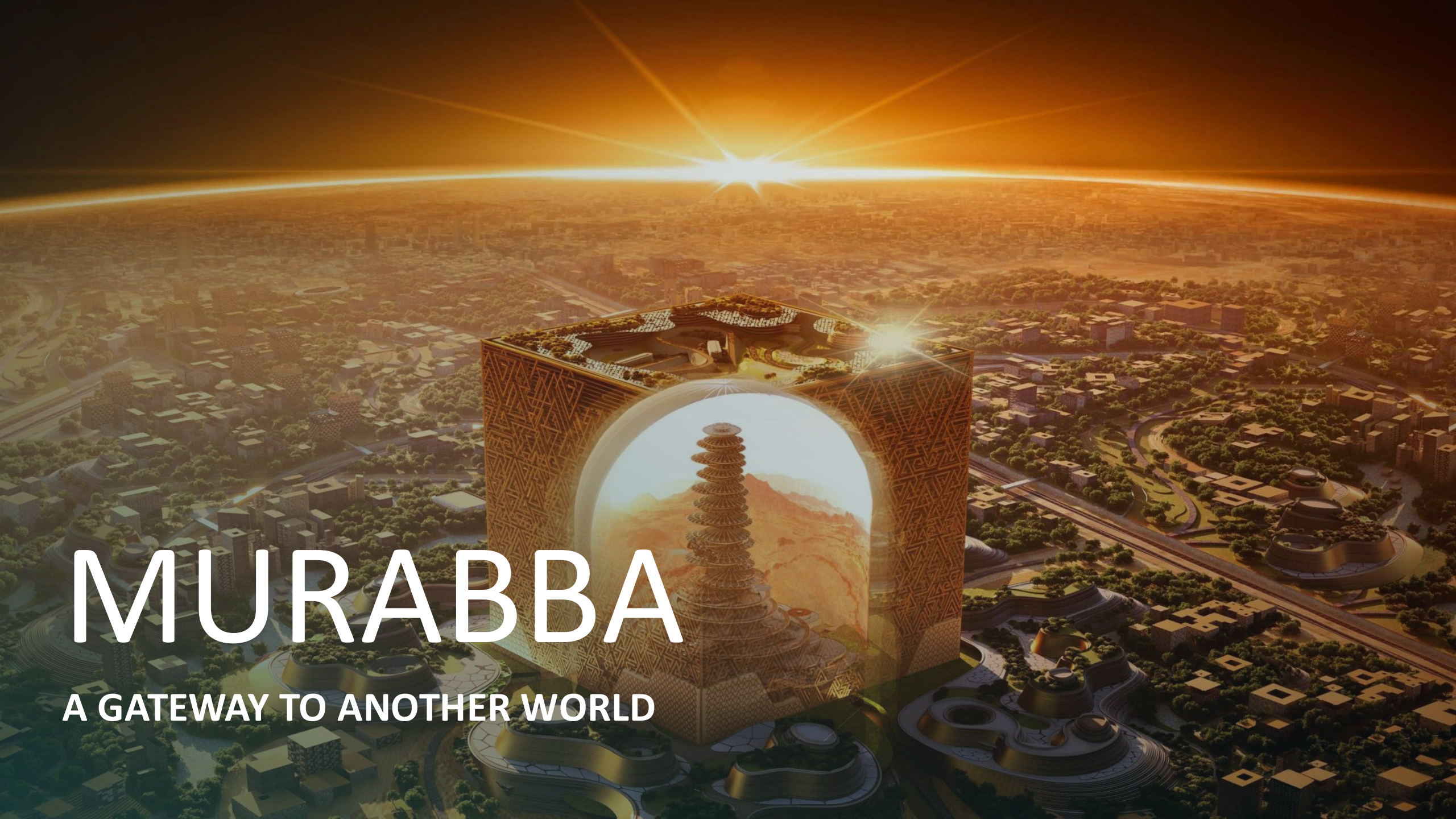
Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J95	Designing a Smart System for Predicting Energy Consumption in Bisha City, Kingdom of Saudi Arabia	Z	The system uses advanced technologies to predict and monitor electricity consumption. It analyzes data to provide real-time alerts for abnormal usage. It seeks to renewable energy integration, promoting sustainability.	Prof.Khaled Abuhasel, Lina Alghamdi, Lolah Kadasah
J94	Designing a Smart System to Handle Accidents in the City of Bisha in the Kingdom of Saudi Arabia	P	A smart system in Bisha, Saudi Arabia, uses sensors, GIS, and real-time alerts to cut emergency response times from 30-60 min to 11-15 min, improving road safety and urban resilience.	Prof.Khaled Abuhasel, Elaf Alghamdi, Lina Alhamzah

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
	A 3D-printed, latticed spica cast for infants with DDH.	M	It offers custom fit, ventilation, improved hygiene, and comfort. Made from recyclable PLA, it replaces traditional plaster casts with a sustainable, patient-centered solution.	Abdullah Abumadian, Sultan Alhaddad, Fawaz Alghamdi


MURABBA
A GATEWAY TO ANOTHER WORLD

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K127	Smart cane and glasses for the blind	M	The product is a smart cane and glasses for the visually impaired, featuring sensors for obstacle detection, adjustable distance, health monitoring, and an emergency button with GPS tracking.	Shahad Alomani

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K129	IoT and AI-enabled immersive Relaxation and Communication Systems with VR/AR for Quarantined Patients, Healthcare, and Emotional Well-Being	W	This invention revolutionizes healthcare and emotional well-being by integrating AI, biometric monitoring, and IoT into an adaptive relaxation and communication system. Designed to combat stress, isolation, and mental health challenges, it delivers real-time, personalized therapy through AI-driven adjustments and immersive VR/AR environments. Ideal for quarantined patients, medical facilities, and emotional support, it enhances connection, relaxation, and psychological well-being in a fully responsive and intelligent experience.	Dr. Miram Ali, Dr. Saleh Alyhya

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K131	Mine Detector Robot	A	Model of a smart landmine detection robot that can be operated automatically and detect landmines planted to prevent causalities. It's powered by solar & avoids obstacles. GPS and GSM are employed to identify locations & send locations to eliminate	Dr. Abdulrahman Alansari

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K124	Enhanced Antibacterial Orthodontic Mini-Screws with Green-Synthesized Hydroxyapatite	M	This invention improves orthodontic mini-screws by integrating hydroxyapatite nanoparticles from Salvadora persica (Miswak). This modification enhances antibacterial properties, reducing infection risks and improving safety and efficacy in clinical use.	Dr. Anwar alhazmi
K122	A novel approach to developing a product for liver regeneration	M	Lactotransferrin (LTF), an iron-binding glycoprotein, was formulated into dextran-DHA nanoparticles for targeted therapy. Characterization confirmed stability, and in vivo studies demonstrated immunomodulation, reducing pro-inflammatory cytokines and promoting liver regeneration.	Dr. Osama ali Madkhali

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K120	Baby cry detector with real-time notification using IoT.	W	An IoT-enabled infant monitoring apparatus incorporating cry detection, environmental sensing, and automated response mechanisms. It features real-time parental notification and remote monitoring via the MQTT server with automated cradle control.	RAHMANI Mohammad Khalid Imam, NAFIS Md Tabrez, MUZAFFAR Abdul Wahab, KHAN Shahnawaz, TAHIR Muhammad

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J125	Composition and Device for Developing Novel Leading Bromo- and Fluoro-based α, β-Unsaturated Ketones for Treating Parkinson's Disease	M	Formulate a novel Parkinson's disease (PD) treatment using a lead compound (23x more potent than reference drugs currently used) to enhance MAO-B inhibition, improve dopamine levels, and minimize side effects compared to existing therapies.	Dr. Mohammed Ghoneim

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Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I90	Electronic Speed Bump	A	The electronic retarder aims to reduce speed bumps by controlling their height using a linear motor. This will help to solve traffic jams, especially during off-peak hours	Mohammed Yaser Al Abbas
H85	Smart T-shirt for Down's syndrome	M	Smart T-shirt for Down's syndrome, featuring built- in touch , pulse rate, and temperature sensors to monitor their well-being in real-time.	Farah Fahad Alnaim
I84	Eco-sense Acidic Rain Detector	V	Our project, the Eco-Sense Acidic Rain Detector, uses Arduino to help farmers detect and manage acidic rain. Rainwater is collected, and its pH is measured. If acidic, it is filtered before use; otherwise, it is used for irrigation.	Alayed,dimah . Abdullah S

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H93	Development of a Low-Cost, High Quality Micro Gas Sensor Using Heat-Treated methods with Unique Micro-Structured Electrodes d Designed for Enhanced Sensing.	F	Developed in cleanrooms, this invention enhances the breakthrough of gas detection, with advanced sensing capabilities, supporting global environmental goals, industrial safety, and space missions. The sensor is set to solve real-time gas build-up.	Abdulrahman Wajdy Qattan
I88	The Fastest Key with NFC Technology: A Supportive Solution for Seniors and People of Determination	W	The fastest key with NFC technology is a smart innovation that enables seniors and people of determination to open doors quickly without searching for the key traditionally. It installs without changing the door lock, making it a practical, cost-effective, and easy-to-use solution to enhance daily life quality.	Alotaibi,yazeed Khaled S

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I86	Experimental Investigation of Nano-Enhanced Immersion Cooling for Lithium-Ion Battery Thermal Management	C	A nano-enhanced cooling breakthrough for lithium-ion batteries cuts heat, boosting performance, safety, and lifespan—transforming tech, EVs, and renewable energy systems	Alharbi, Abdulaziz Raja Y
I92	A robot for identifying available beds in emergency rooms at the nearest hospitals for ambulance drivers.	W	A Robot For Identifying Available Beds In Emergency Rooms At The Nearest Hospitals For Ambulance Drivers.	JEHAD BAKHEET ALJOHANI \ Abdulrahman Fahad Alduraibi
H91	Diverse Sign Language Companion (D.S.L.C.)	C	(DSLC) A bridge between sign language and spoken language, converting spoken words into sign language and vice versa. It is the only device capable of performing both functions. Moreover, it does not require an internet connection, making it usable anywhere.	Amin Ayman Sejiny \ Makki Mohammad Zakri

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
H87	A robot for identifying available beds in emergency rooms at the nearest hospitals for ambulance drivers.	V	A robot for identifying available beds in emergency rooms at the nearest hospitals for ambulance drivers.	Yusuf Khalid Alghamdi \ Ahmed Ali albassam
H89	An intelligent system for detecting and removing microplastic particles in the oceans.	V	An intelligent system for detecting and removing microplastic particles in the oceans.	ABDULLAH AHMED ALHEDARI \ Turki Faisal Algarni

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
J83	"FCFJ" joints to accelerate the movement of humanoid robots while maintaining their balance	W	Improving the efficiency of the knee joints of one of the forms of Humanoid Robots, Bioloid PREMIUM, to perform regular tasks with greater balance when increasing the speed of movement by adding the innovative (FCFJ)	Alyami Hamed
I83	Improving and reducing the cost of graphene production processes while using crude oil as a primary raw material	Z	Exploration of the feasibility of producing graphene from crude oil, with the aim of reducing costs and enhancing production yields. Leveraging extensive crude oil reserves and oil waste surplus	Alqarzaie Alanoud

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I81	Next-Gen TiO_2-ZnO/C_{60} hybrid photocatalyst for urban pollution reduction in construction & infrastructure applications	D	TiO_2-ZnO/C_{60} hybrid photocatalytic composite with visible light activation for air purification. The composite is applied as a coating on urban infrastructure, turning them into air-purifying surfaces for sustainable cities.	Alharbi Raseel
J79	AI-powered assistive glasses for real-time object detection and navigation aid for the visually impaired	W	The AI-Powered smart glasses for enhanced mobility of the visually impaired are designed to enhance situational awareness and promote greater independence. They consist of : a processing panel for computation , and glasses equipped with cameras.	Alsager Turki

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
I79	Designing an intelligent self-learning robot for adaptive object sorting	W	The challenge many self-learning robots face in primary and secondary education is that they are often programmed for specific tasks. As a result, these robots frequently struggle to adapt to diverse environmental scenarios.	Alhazzaa Sarah

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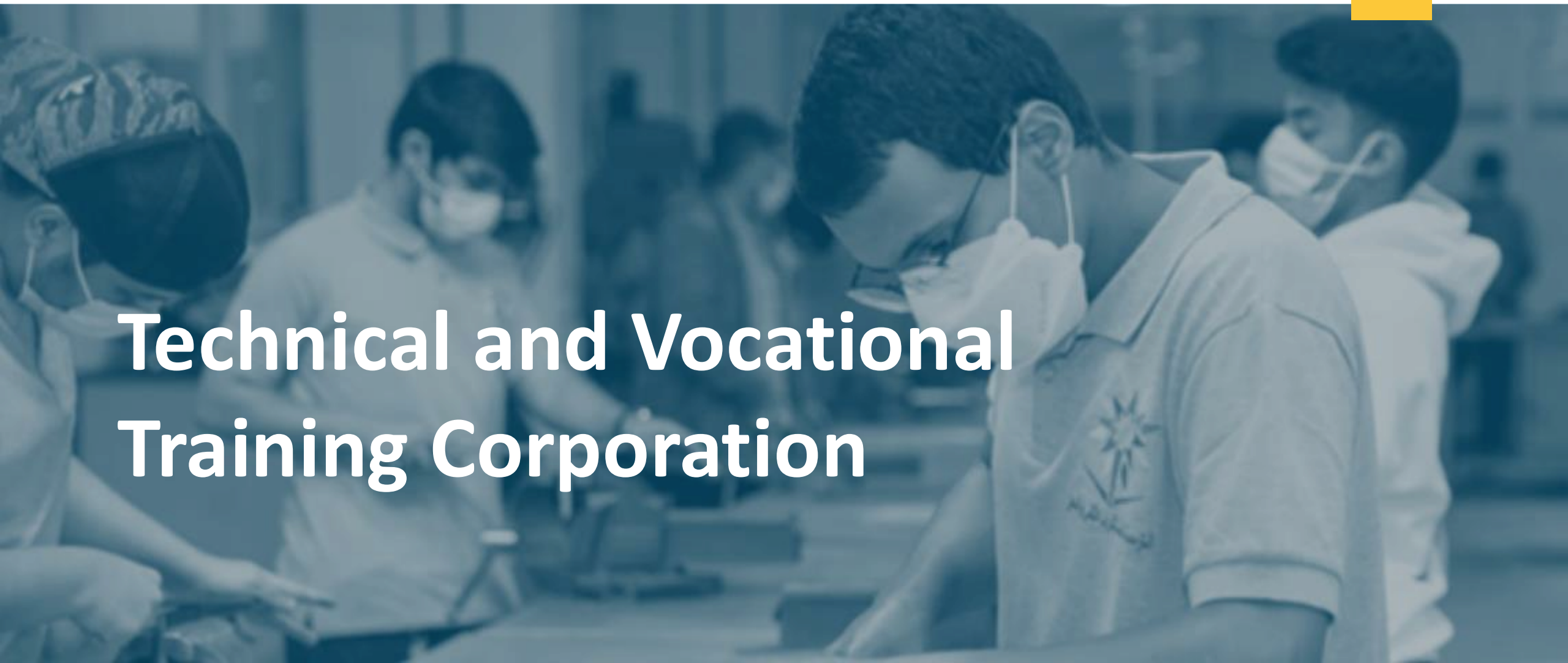

Technical and Vocational Training Corporation

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K80	Dermatological Disease Diagnostic	M	The skin is the largest organ in the human body, playing a vital role in protecting the body from harmful external substances such as fungi, bacteria, allergens, and viruses. However, the skin is susceptible to a variety of conditions that can affect its function and overall health. Among these conditions, skin lesions are one of the most common issues, affecting a large number of people worldwide.	Meshari Fahad Alharbi
K82	clay air conditioner	A	It reduces electricity consumption with minimal means, and Clay's ability to cool the atmosphere has been exploited here. The innovative part is the aluminum balls inside the hollow clay cylinder, which gives a longer stopping time.	Salah Hassan Tukruna - Yousef Abdulbari Aidarous - Mohamed Ahmad Aldeubayl

Booth Number	Invention Title	Classification of the Invention	Description of the Invention	Inventor's Name
K78	Protection Of Beachgoers On Beach	F	Beach Protector is an innovative solution to enhance beach safety by detecting and deterring dangerous marine creatures. It consists of a Raspberry Pi 5 enclosed in a waterproof case, attached to a floating buoy at the beach edges, and quipped with a GPS, camera.	Rayyanah Bu Tuwaybah - Saja Almuhaini - Hadeel Alsalman - Rawan Almukahhil - Athraa Alyatim - Kawther Alreshed

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Workshop Series

Guest Speaker

Dr. Ali Al-Shaikhi

10 April 2025

12:30 PM- 12:50 PM

H79 SA Ministry of Education Pavillon

KFUPM's Transformation Journey: Paving the Way to a World-Class Research-Intensive University

Ministry of Education
(Kingdom of Saudi Arabia)

Workshop Series

Guest Speaker

Dr. Mashail Alkhomsan

10 April 2025

2:00 PM- 2:30 PM

H79 SA Ministry of Education Pavillon

Transforming Ideas into Market-Ready Inventions: A UX, AI, and Marketing Approach

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Ministry of Education
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Workshop Series

Guest Speaker

Prof. Abdulrahman Al Lily

10 April 2025

3:30 PM- 4:00 PM

H79 SA Ministry of Education Pavillon

How a Saudi University Became No. 1 in U.S. Patents in 2024

Ministry of Education
(Kingdom of Saudi Arabia)

Workshop Series

Guest Speaker

Dr. Omar Albalawi

11 April 2025

1230 PM- 12:45 PM

H79 SA Ministry of Education Pavillon

"Building a Thriving Innovation Ecosystem: University of Tabuk's Model & Its Innovative AI-Driven Project Platform"

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Inventions Geneva

Ministry of Education
(Kingdom of Saudi Arabia)

Workshop Series

Guest Speaker

Abdulaziz Raja

11 April 2025

2:00 PM- 2:30 PM

H79 SA Ministry of Education Pavillon

From Idea to Invention: Navigating the Path to Innovation

Ministry of Education
(Kingdom of Saudi Arabia)

Workshop Series

Guest Speaker

Dr. Ahmed Alfadhel

12 April 2025

12:30 PM- 12:50 PM

H79 SA Ministry of Education Pavillon

Overview of KFUPM's Innovation and Entrepreneurship Ecosystem

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Workshop Series

Guest Speaker

Mohammed ALABBAS

12 April 2025

2:00 PM- 2:20 PM

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Turning ideas into great invention

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