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هيئة الاتصالات والفضاء والتقنية
Communications, Space & Technology Commission

منشآت monsha'at
الهيئة العامة للمنشآت الصغيرة والمتوسطة
Small & Medium Enterprises General Authority

مركز ذكاء

Executive Summary

The Internet of Things Challenge 22

#تحدي_إنترنت_الأشياء

شركاء التمكين

مركز ريادة الأعمال الرقمية
CENTER OF DIGITAL ENTREPRENEURSHIP

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General Entertainment Authority

الهيئة العامة للنقل
TRANSPORT GENERAL AUTHORITY

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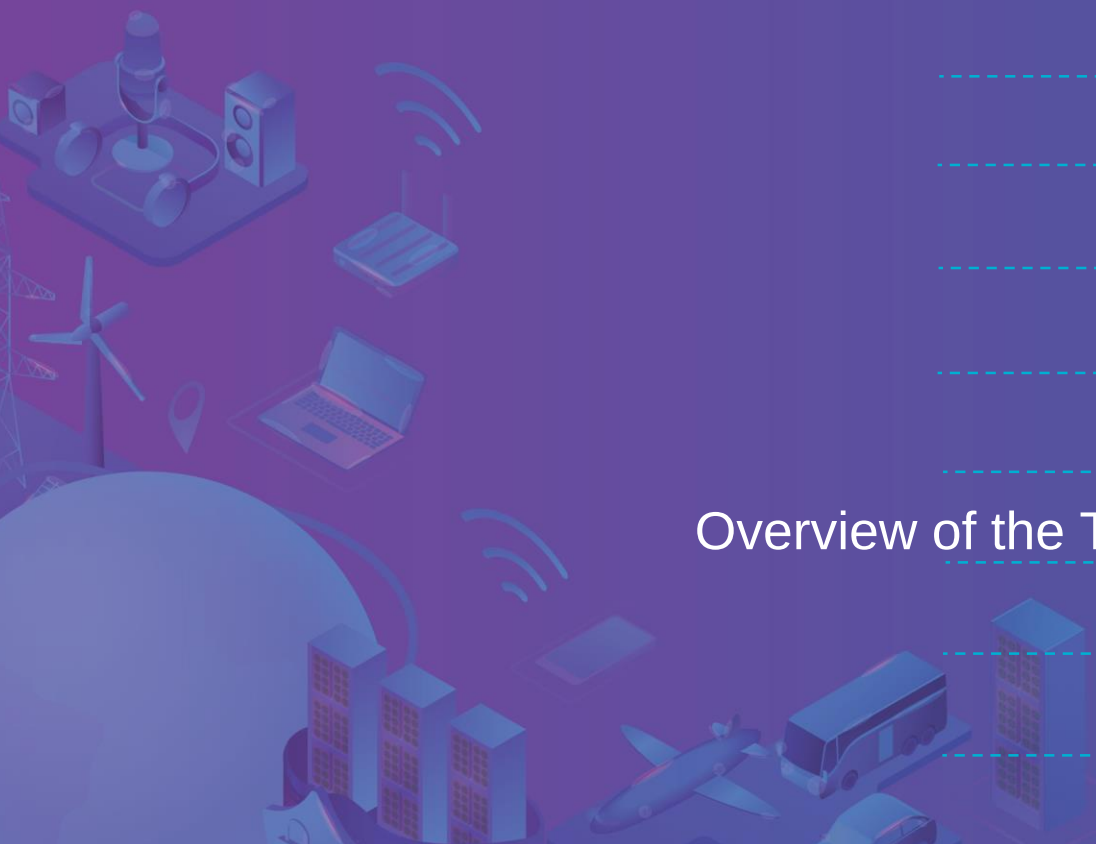
Ministry of Tourism

وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture

وزارة الصناعة والثروة المعدنية
Ministry of Industry and Mineral Resources

Table of Contents



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About the Challenge:
The Internet of Things Challenge 22

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The IoT Challenge 2022 is conducted by the IoT Centre to empower entrepreneurs in creating innovative solutions and delivering products based on IoT technologies in various fields to make the most of these technologies and to promote innovation among local talents.

The goals of the challenge are:

Being a service that aligns with the Kingdom's vision in vital areas such as sustainability or non-oil revenue development.

Increasing the presence of local companies in the Saudi market, contributing to price diversity.

Raising awareness of IoT technology among those interested and working in commercial, industrial, and technological enterprises.

Focusing on globally trending sectors and implementing them on a local scale.

#تحدي-إ

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TRANSPORT GENERAL AUTHORITY

وزارة السياحة
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وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture

وزارة الصناعة والثروة المعدنية
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Challenge Sectors

مجالات التحدي

- النقل — Transportation
- الصناعة — Industry
- الترفيه — Entertainment
- السياحة — Tourism
- البيئة — Environmental

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Ministry of Environment Water & Agriculture

وزارة السياحة
Ministry of Tourism

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Awards and Closing Ceremony

2 Jan

Mentoring Stage

20 – 24 Nov

Outcome:

Provided guidance sessions conducted by more than 10 mentors.

Received 30 revised initial design prototypes.

Received 30 professional investment pitches.

Training Stage

23 Oct – 10 Nov

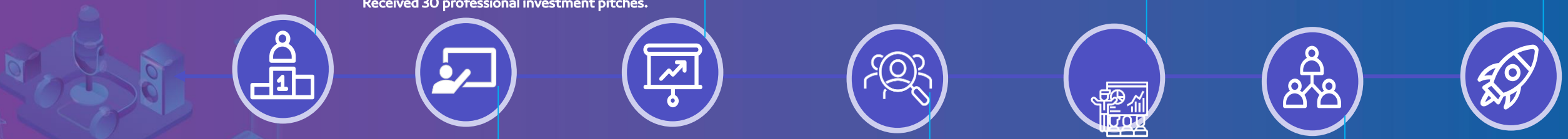
Outcome:

Training programs in the challenge sectors were provided in partnership with the Thakaa Group to 200 teams.

Registration Stage

10 Sep – 6 Oct

Over 2000 people have registered. Nine introductory and promotional meetings were held for the challenge.



Judging Stage

4 – 7 Dec

- Received 30 video clips.
- Preliminary judgment (December 4).
- Final judgment (December 7).

Outcome:

10 winning teams

Qualifying Stage

13 – 17 Nov

- Received at least 50 initial design prototypes.
- Received at least 50 initial investment presentation models

Acceptance Stage

9 – 20 Oct

Completion of screening, with 200 ideas accepted, a total of over 600 members in the accepted teams.

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Registration Stage مرحلة التسجيل

327
عدد الفرق
No. of Teams

822
عدد الأفكار
No. of Ideas

2051
عدد المسجلين
No. of Registrations

70
فكرة في مسار الترفيه
70 ideas in the entertainment sector

64
فكرة في مسار الصناعة
64 ideas in the industrial sector

137
فكرة في مسار النقل
137 ideas in the transportation sector

125
فكرة في مسار البيئة
125 ideas in the environmental sector

+403
فكرة في مسار السياحة
403+ ideas in the tourism sector

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Training Stage مرحلة التدريب

تم قبول 202 فكرة
202 ideas accepted

تشمل 600+ فرد مسجل!
600+ individuals registered

Mentoring Stage مرحلة الإرشاد

From 200 teams
من أصل 200 فريقاً

To 30 teams selected for the mentoring stage
تم اجتياز 30 فريقاً لمرحلة الإرشاد

70+ جلسة إرشادية
70+ Mentoring Sessions

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Strategic Partners

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Partners of the Thakaa Center

Enabling Partners

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One Million Riyals!

The prize value awarded to 10 winners from the strategic partner

The Silver Package of 300,000 riyals is awarded to 4 winners.

The prize value for each winner: 75,000 riyals

The Gold Package of 400,000 riyals is awarded to 4 winners

The prize value for each winner: 100,000 riyals

The Diamond Package of 300,000 riyals is awarded to 2 winners

The prize value for each winner: 150,000 riyals

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Communications, Space & Technology Commission

مركز ذكاء

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Overview of the Presented Program

The Internet of Things Challenge 22

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General Entertainment Authority

الهيئة العامة للنقل
TRANSPORT GENERAL AUTHORITY

وزارة السياحة
Ministry of Tourism

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Promotional Meetings for the Challenge

September - October

Program	Presenter	Time	Location
Meeting | Internet of Things Applications Presented by Dr. Fares Al-Maliki	CODE مركز ريادة الأعمال الرقمية CENTER OF DIGITAL ENTREPRENEURSHIP	14 September 7-8 pm	In-person – Centre of Digital Entrepreneurship - Riyadh
Session | Discover the Internet of Things Challenge 22!	مركز ذكاء | منشآت monsha'at	21 September 6-8 pm	Online
Session | Internet of Things and Industrial Automation Presented by Mr. Wissam Manshi	مركز ذكاء | منشآت monsha'at	27 September 7-8 pm	In-person – Centre of Digital Entrepreneurship - Riyadh
Session | Cybersecurity for Equipment and Internet of Things Presented by Dr. Abdurlrahman Al-Aql	CODE مركز ريادة الأعمال الرقمية CENTER OF DIGITAL ENTREPRENEURSHIP	28 September 6-8 pm	In-person – Centre of Digital Entrepreneurship - Riyadh
Session | Your Last Opportunity to Form a Team in the Internet of Things Challenge 22	مركز ذكاء | منشآت monsha'at	1 October 6-8 pm	Online
Session | The Second Session of Discover the Internet of Things Challenge 22	مركز ذكاء | منشآت monsha'at	2 October 6-8 pm	Online
Session | Develop Your Idea Before October 10th!	مركز ذكاء | منشآت monsha'at	6 October 6-8 pm	Online

Training Stage Agenda

3 weeks (23 October- 10 November)

Program	Presenter	Time	Location
Introductory Workshop: Innovation and Entrepreneurship	وزارة البيئة والمياه والزراعة Ministry of Environment Water & Agriculture / مركز ذكاء / منشآت monsha'at	23 October 6-8 pm	Online
Workshop: Smart Cities – Benefits and Exclusive Services for Beneficiaries	AHOY	25 October 6-8 pm	Online
Workshop: Uses of Smart Safes	Shttle شتل	26 October 6-8 pm	In-person – Thakaa Centre - Riyadh
Workshop: Model Investment Pitch	علم ELM	31 October 6-8 pm	In-person – Centre of Digital Entrepreneurship - Riyadh
Workshop: Artificial Intelligence and Smart Systems in Transportation and Traffic	الهيئة العامة للنقل TRANSPORT GENERAL AUTHORITY	2 November 6-8 pm	Online
Training Camp: Basics of 3D Design, Basics of 3D Printing	Voxel 3D	6-7 November 6-8 pm	In-person – Thakaa Centre - Riyadh
Training Camp: Internet of Things and Connecting Things to the Internet	code مركز ريادة الأعمال الرقمية CENTER OF DIGITAL ENTREPRENEURSHIP	9-10 November 6-8 pm	In-person – Centre of Digital Entrepreneurship - Riyadh
Training Course: From Idea to Market here	منشآت monsha'at	Always Available	Online

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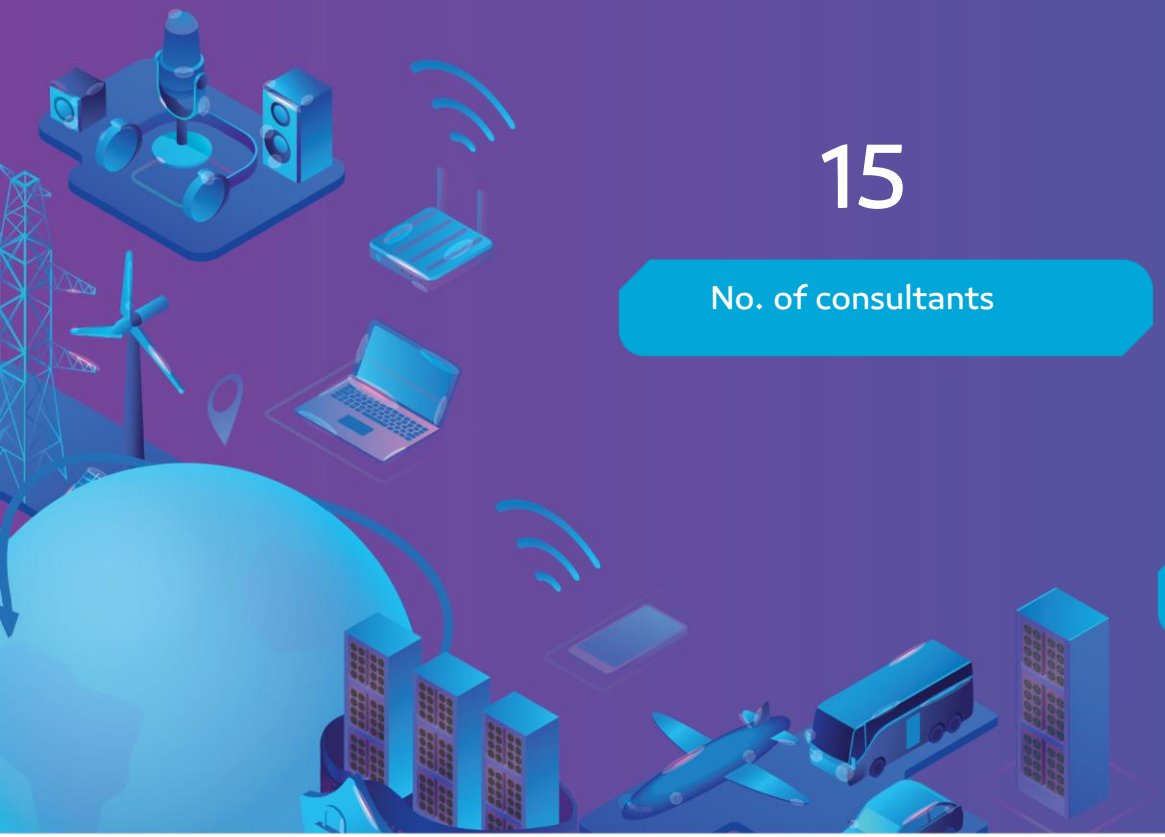

15
No. of consultants

70
Total consultations

15
Total no. of presented programs

200+
Total no. of benefited ideas

600+
Total no. of beneficiaries

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General Entertainment Authority

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وزارة السياحة
Ministry of Tourism

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Ministry of Industry and Mineral Resources

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Communications, Space & Technology Commission

مركز ذكاء

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Marketing Summary

Internet of Things Challenge 22

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Marketing Summary

September until January

Teaser and Launch

Publishing a Teaser Post

Invitation to Register Post

Marketing Summary

September until January

Registration Stage

Publishing a motion graphic video explaining the registration process

Introduction to the Challenge and its Stages

Marketing Summary

Intensifying the Promotion Campaign

September until January

Continually introducing the challenge sectors

Sharing the challenge through WhatsApp Groups

Publishing Promotional Interviews

Promotion using Influencers

Boosting the promotion of the challenge through SMS messages

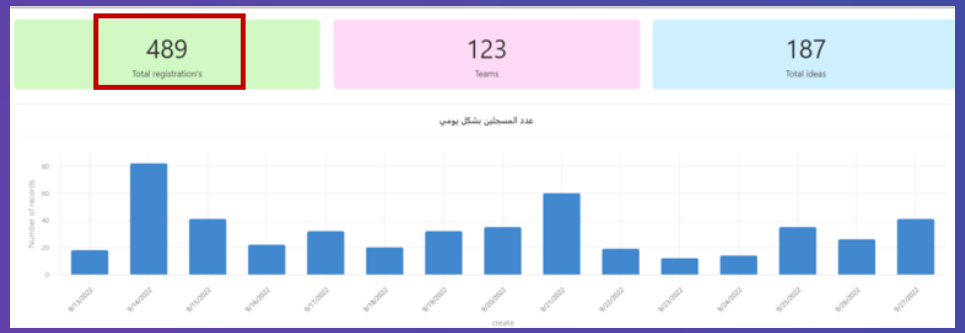
Marketing Summary

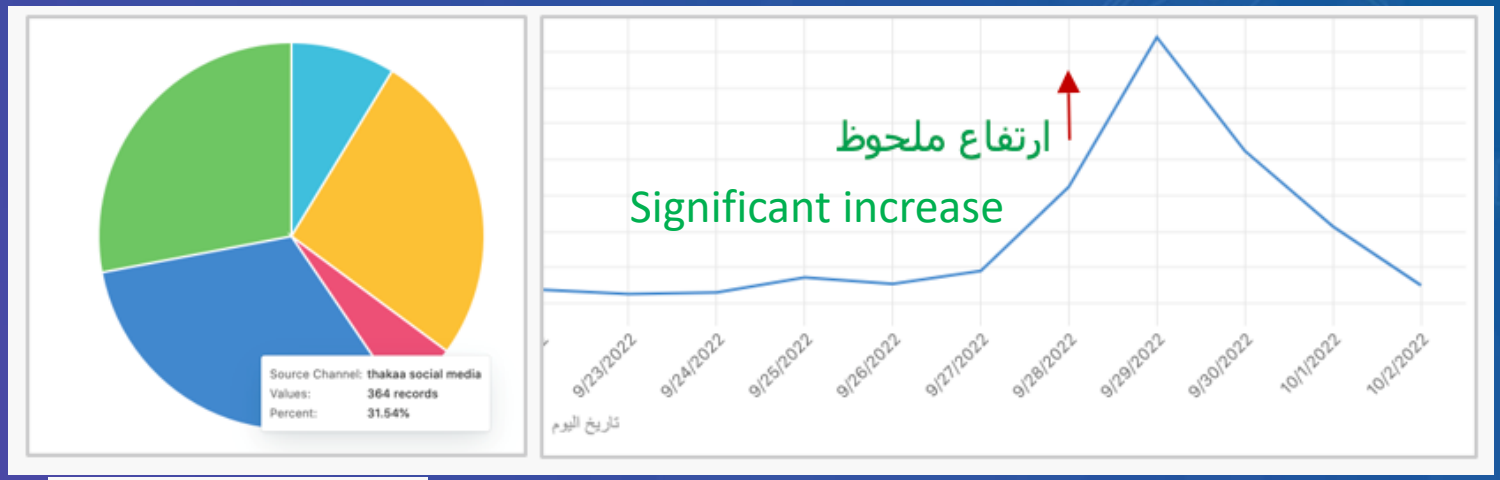
September until January

Intensifying the Promotion Campaign

By intensifying marketing promotion during the registration phase across both primary and secondary platforms, registration numbers saw a significant increase within one week.

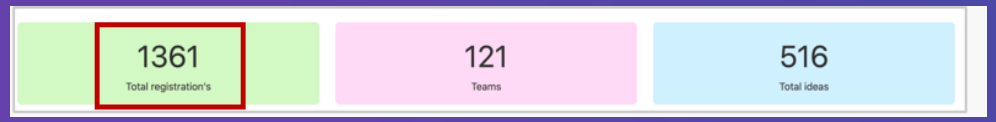
No. of Registrations





No. of Registrations

Surge in numbers within a week



Marketing Summary

September until January

Reminder Stage

Posting reminders about the registration deadline

Marketing Summary

September until January

Training and Mentoring Stages

Sharing the key figures of the challenge across social media platforms

Appreciation of the contributing mentors throughout the stages of the challenge

Marketing Summary

Preliminary Judging Stage

September until January

Appreciation of the judges of the preliminary judging stage

Announcement of the teams that have qualified for the final judging

Marketing Summary

September until January

Final Judging Stage

Posting coverage and highlights during the judging

Posting a promotional photo coverage for the judging day

Appreciation of the participating judges during the final judging

Marketing Summary

The Awards and Closing Ceremony

September until January

Post announcing the winning teams

Posting video interviews with the 10 winners

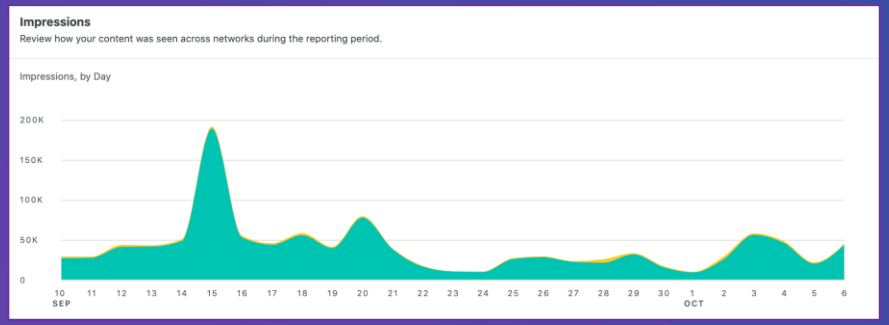
Posting a dedicated thread for the winners

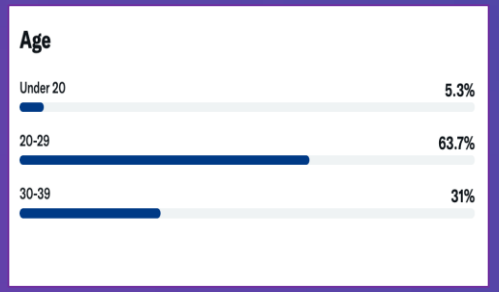
Posting coverage and highlights during the ceremony

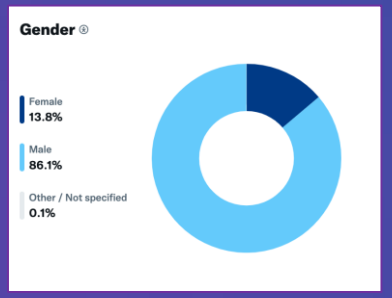
Marketing Summary

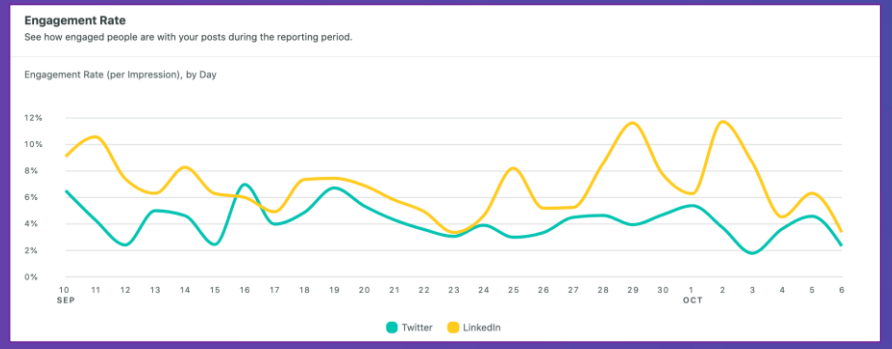
September until January

Key Marketing Figures for the Challenge









Additional followers during the registration stage

+1.500K

Total interactions

+45.500 K

Frequency of appearances

+1.110 M

Visits to the account

+4.377K

Total views

+175.300 K

Clicks on links and details

+10K

The numbers are approximate and may vary slightly depending on the monitoring period.

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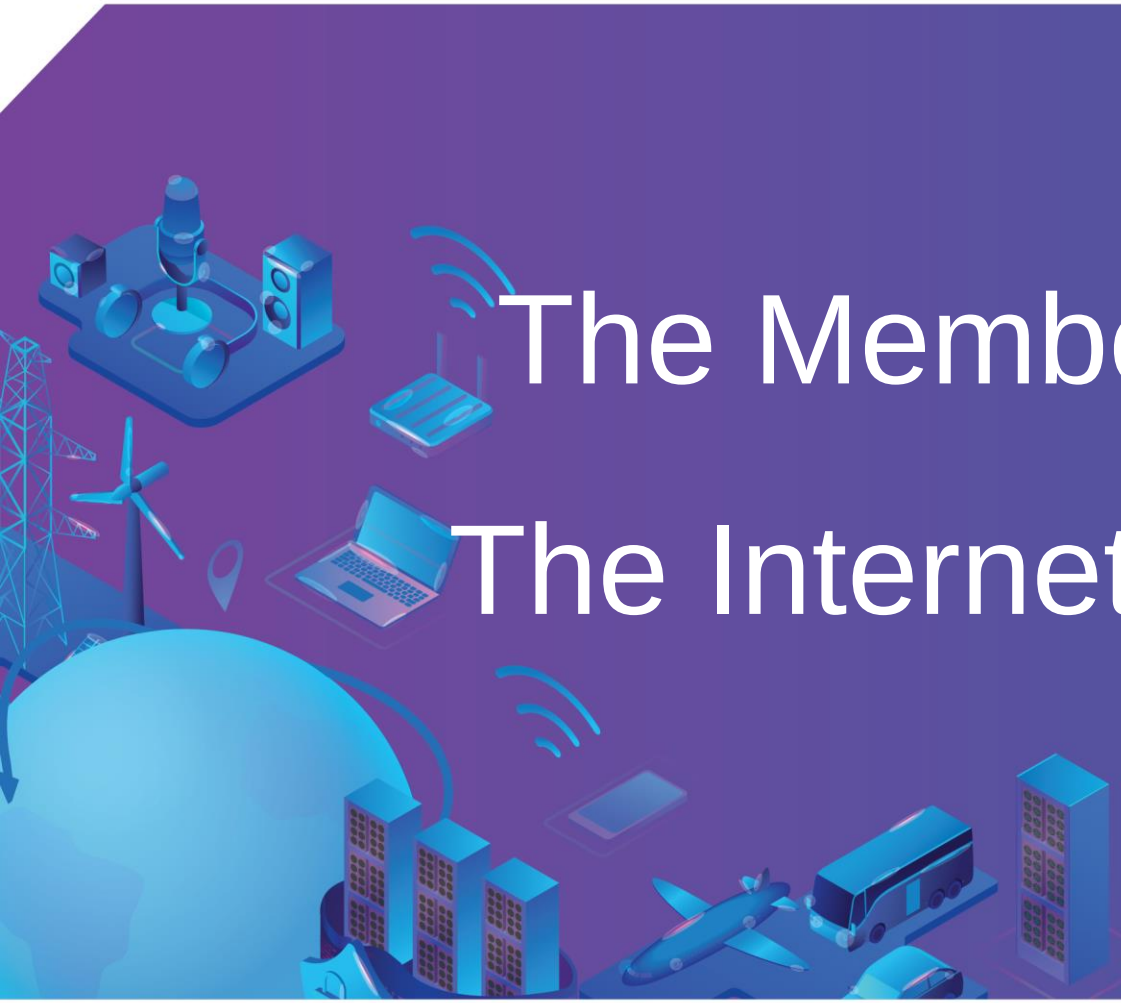

The Members of the Judging Panel

The Internet of Things Challenge 22

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Preliminary Judging Panel

Mr. Ahmed Al-Majid

Director of the Emerging Technologies Incentive Department
at the Communications and Information Technology Commission

Eng. Mansour Al-Obaid

Head of the Information Technology and Communications Committee at the Riyadh Chamber

Ms. Maha Taybah

Human Development Consultant and Investor

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الهيئة العامة للنقل
TRANSPORT GENERAL AUTHORITY

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The Final Judging Panel

Ms. Amal Asiri
Director of Higher Investments

Mr. Ahmed Al-Majid
Director of the Emerging Technologies Incentive Department at the Communications and Information Technology Commission

Eng. Mansour Al-Obaid
Head of the Information Technology and Communications Committee at the Riyadh Chamber

Ms. Maha Taybah
Human Development Consultant and Investor

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Communications, Space & Technology Commission

مركز ذكاء

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Mentoring Teams

The Internet of Things

Challenge 22

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الهيئة العامة للنقل
TRANSPORT GENERAL AUTHORITY

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Ministry of Tourism

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The Participating Mentors

20 November – 24 November

Ghali Miyajan

Business Technology Consultant
Thakaa Centre – Monsha'at

Area of Expertise

Growth strategies, technology deployment, business development, data analysis, and team management.

Book now

Abdulrahman Al-Ghamidi

Internet of Things Engineer
Thakaa Center – Monsha'at

Area of Expertise

Developing and programming technical projects, and steps for transforming ideas into prototype models.

Book now

Mundhir Ar-Radi

Innovation Consultant
Thakaa Center – Monsha'at

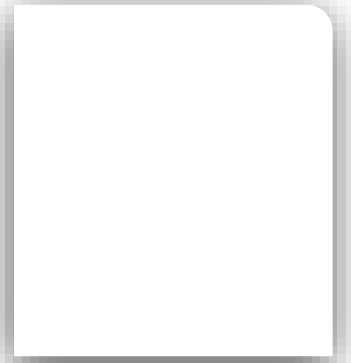
Area of Expertise

Modeling ideas using digital manufacturing techniques, adopting Internet of Things technologies, business development.

Book now

The Participating Mentors

20 November – 24 November



Mishal Mohammed Al-Zahra

Team Leader, Internet of Things
Communications and Information
Technology Commission

Areas of Expertise

Internet of Things Technology,
Artificial Intelligence

Book now

Abdulaziz Al-Batli

Advisor to the Deputy Governor,
Communications and Information
Technology Commission

Areas of Expertise

Cloud Computing, Digital
Transformation

Book now

Rayyan Fahad Al-Baraidi

Senior Specialist, Emerging Technologies
Incentives, Communications and
Information Technology Commission

Areas of Expertise

IOT - Smart Cities - LPWAN - Telecom -
Regulation and Compliance

Book now

The Participating Mentors

20 November – 24 November

Riham Rashid Ar-Rashid

Electrical Engineer
Digital Entrepreneurship Center CODE

Areas of expertise:

Electronics and programming, Internet of Things technology, digital manufacturing

احجز الآن

Murtadha Al-Nasser

Lab Supervisor
Digital Entrepreneurship Centre CODE

Area of Expertise

Internet of Things Technology

احجز الآن

Umar Usama Kaboush

Business Developer
Digital Entrepreneurship Center CODE

Areas of Expertise

Preparing work mechanisms and determining the appropriate revenue model, SWOT analysis

احجز الآن

The Participating Mentors

20 November – 24 November

Hamoud Aqla Al-Harees

COO
Jasser

Areas of Expertise

Business development and operations management

Book now

Adil Abdulkareem Mazi

Chief Executive Officer
AHOY Software Company for Information Systems Technology

Areas of Expertise

Technical business development and sales

Book now

Dr. Mohammed bin Hamad Al-Manae

Assistant Professor of Transportation and Traffic Engineering
King Saud University

Area of Expertise

Artificial Intelligence Applications in Traffic Engineering

Book now

The Participating Mentors

20 November – 24 November

Ghassan Abdullah Al-Hazaa

Co-Founder
Voxel 3D

Area of Expertise

Entrepreneurship, especially in the field of advanced industries

Book now

Wissam Abdulkhaleq Manshi

Chief Executive Officer
Smart Methods

Areas of Expertise

Control systems, robotics, and artificial intelligence

Book now

الشريك الاستراتيجي

هيئة الاتصالات والفضاء والتقنية
Communications, Space & Technology Commission

مركز ذكاء

منشآت
monsha'at
الهيئة العامة للمنشآت الصغيرة والمتوسطة
Small & Medium Enterprises General Authority

Evaluation Criteria

The Internet of Things

Challenge 22

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شركاء التمكين

مركز ريادة الأعمال الرقمية
CENTER OF DIGITAL ENTREPRENEURSHIP

الهيئة العامة للترفيه
General Entertainment Authority

الهيئة العامة للنقل
TRANSPORT GENERAL AUTHORITY

وزارة السياحة
Ministry of Tourism

وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture

وزارة الصناعة والثروة المعدنية
Ministry of Industry and Mineral Resources

Preliminary Judging Criteria

4 December

Sequence	Criteria	Main Points	Weighted Marks
1	Concept Stage	Is the product new and not entered the market before?	10
2	Magnitude of Impact	Is there a clear added value for the proposed solution? Does the proposed solution address the problem or contribute to its resolution?	20
3	Creativity and Uniqueness	Is the proposed solution new in the Saudi market? Is it innovative? Has technology been employed in a new and suitable way to solve an existing problem or improve the current situation?	10
4	Preparedness of the Business Plan	Is the proposed business model good? Does the team have a clear plan to generate profit?	10
5	Ability of the Team to Implement the Idea	Has the team built an initial prototype of the idea? Does the team have the qualifications to continue working on the idea?	40
6	Scalability	Can the enterprise expand after launching the product? Can they enter other sectors or markets? Is it possible to reach new customer segments?	10

Final Judging Criteria

7 December

Sequence	Criteria	Main Points	Weighted Marks
1	Magnitude of Impact	Is there a clear added value for the proposed solution? Does the proposed solution address the problem or contribute to its resolution?	20
2	Creativity and Uniqueness	Is the proposed solution new in the Saudi market? Is it innovative? Has technology been employed in a new and suitable way to solve an existing problem or improve the current situation?"	20
3	Preparedness of the Business Plan	Is the proposed business model good? Does the team have a clear plan to generate profit?	10
4	Ability of the Team to Implement the Idea	Has the team built an initial prototype of the idea? Does the team have the qualifications to continue working on the idea?	30
5	Scalability	Can the enterprise expand after launching the product? Can they enter other sectors or markets? Is it possible to reach new customer segments?	20

الشريك الاستراتيجي

هيئة الاتصالات والفضاء والتقنية
Communications, Space & Technology Commission

مركز ذكاء

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Small & Medium Enterprises General Authority

Teams Participating in the Preliminary Judging The Internet of Things Challenge 22

#تحدي_إنترنت_الأشياء

شركاء التمكين

مركز ريادة الأعمال الرقمية
CENTER OF DIGITAL ENTREPRENEURSHIP

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وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture

وزارة الصناعة والثروة المعدنية
Ministry of Industry and Mineral Resources

Teams Participating in the Preliminary Judging

Team Members:
Ibrahim Al-Dosari - Business Manager
Hadi Al-Hanfoush - Software Manager
Fadi Al-Hanfoush - Hardware Manager

Garage

Sector: Transportation

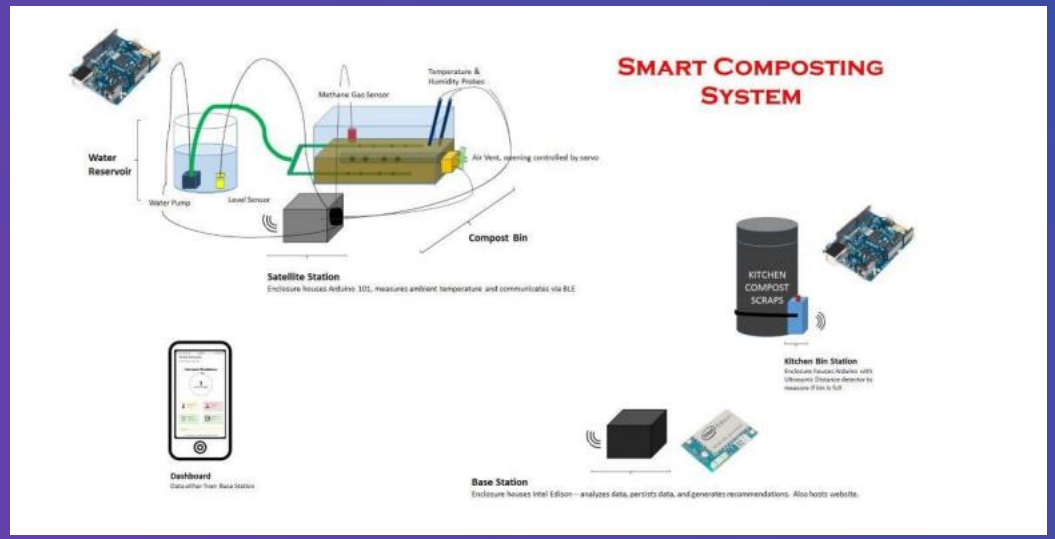
Idea Description:
A system for diagnosing the performance and faults of a car.

Teams Participating in the Preliminary Judging

ENVIROray
IOT Eco-system Solutions

Team Members:
Habib Al-Mousa - Executive and Marketing Director
Saleh Ali Al-Muslim - Technical Partner and Developer

Sector: Environmental



Idea Description:
An electronic panel connected to sensors that measures and monitors the suitable conditions for natural fertilizers, aiming to reduce carbon emissions by relying on simple and effective technological solutions.

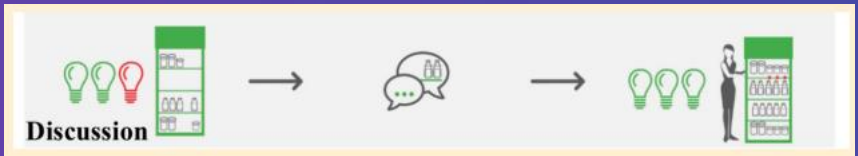
Teams Participating in the Preliminary Judging

رف

لا تخاف كل شي عالرف مضمون !

Team Members:
Amal Badiab - Electrical Engineering student
Rana Al-Mahmadi - Electrical Engineering student
Shatha Al-Ghamdi - Industrial Engineering student
Layan Abdullah - Electrical Engineering student

Sector: Transportation



Idea Description:
The Shelf Project is an Internet of Things application. It is simply the connection of shelves in stores to a mobile application. By linking surveillance cameras to the application, it becomes possible to identify the most in demand and consumed products. This is achieved by programming the cameras to automatically calculate the quantity of goods.

Teams Participating in the Preliminary Judging

Team Members:
Basma Bajkhaif - Graphic Designer
Ibrahim Al-Ghalayini - Mechanical Engineer
Abdullah Al-Juhi - Production Engineer
Osama Badghish - Programmer
Wissam Bamousa - Industrial Engineer

Sector: Environmental

Idea Description:
Farragh is a service provided through an application that allows customers to:

- Measure the level of wastewater in the tank.
- Receive alerts when the tank is full.
- Connect with wastewater disposal companies.

Teams Participating in the Preliminary Judging

Team Members:
Tahani Al-Mutawa - Project Manager
Mohammed Abdulatif - Public Relations
Fatima Mohammed - Designer
Abdullah Al-Dakhil - Programmer

Sector: Tourism

Idea Description:

A digital application that includes:

- Efficient digital utilization of technology in the field of tourism and hospitality.
- A customer experience characterized by comfort and integration.
- Cost, time, and effort savings for hospitality establishments.

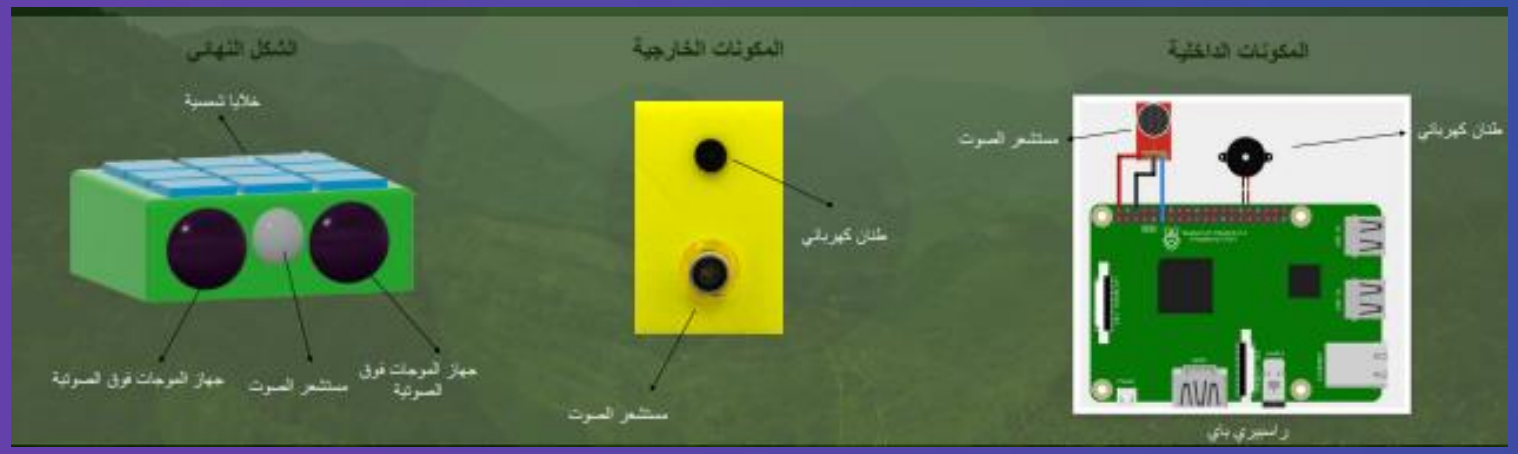
Teams Participating in the Preliminary Judging

Team Members:

Mohammed Al-Maliki
Artificial Intelligence Engineer and Data Scientist at WAKEB Company

Shahd Al-Mutairi
Data Analyst at the Social Development Bank

Sector: Environmental



Idea Description:

A product that relies on Internet of Things and artificial intelligence technologies to analyze bird sounds. It identifies the species and location of birds, distinguishing between local, migratory, and endangered birds.

Teams Participating in the Preliminary Judging

Team Members:
Reyuf Al-Sha'ary - Biomedical Engineering
Nada Rambo - Computer Engineering and Artificial Intelligence
Khaled Abdulghani - Web and Application Developer
Kamil Tahir - Computer Engineering and Artificial Intelligence

Sector: Environmental

Idea Description:

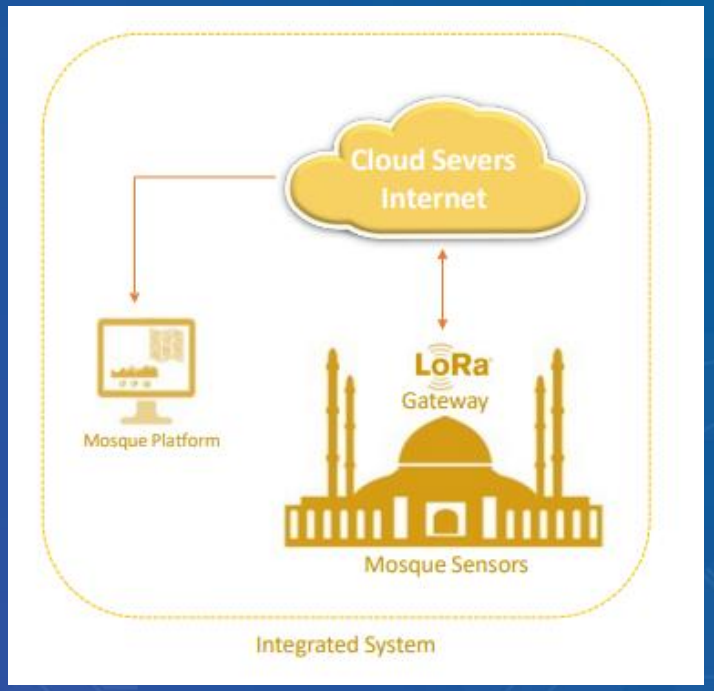
An IoT device with a built-in camera, supported by artificial intelligence technology to assist in detecting gas leaks in factories and determining the size of the leak. The thermal camera captures videos and sends them to an artificial intelligence model for analysis.

Teams Participating in the Preliminary Judging

Team Members:

Dr. Ahmed Al-Juhani - Ph.D. in Computer Science
Eng. Younis Al-Anazi - Masters in Computer Science

Sector: Industrial



Smart Mosques Maintenance Application

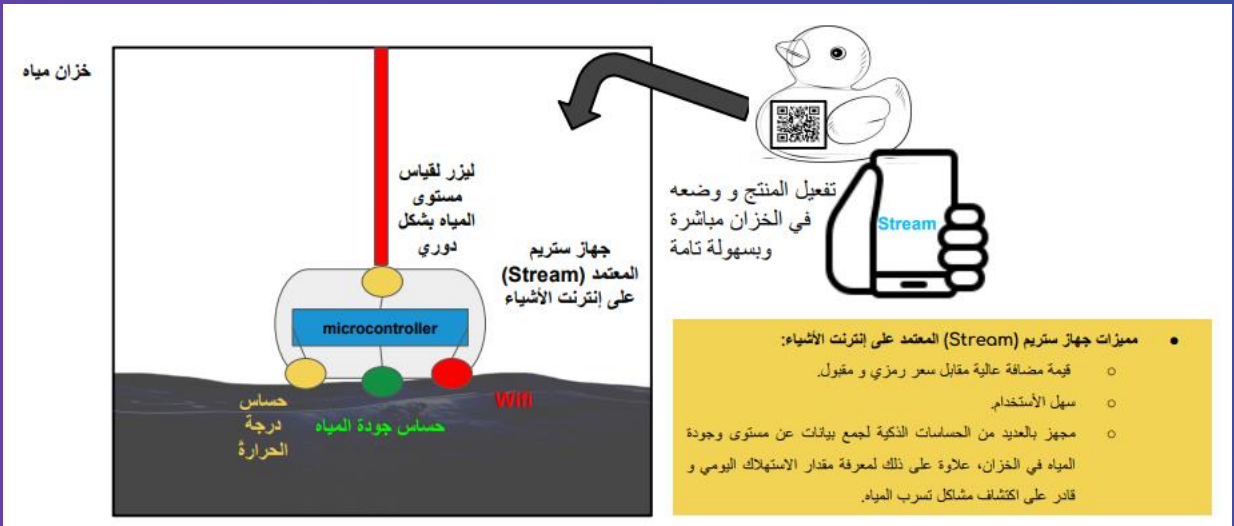
Idea Description:

The Smart Mosques platform utilizes Internet of Things technology for intelligent control and monitoring of mosque resources. This platform generates reports and notifications for monitoring electricity usage, air conditioning, temperature, potential theft, and water consumption. Additionally, it leverages solar energy in case of power outages.

Teams Participating in the Preliminary Judging

Team Members:
Mohammed Ali Mahzari - Ph.D. Student in Computer Science
Dr. Khaled Jaber Al-Maliki - Assistant Professor in the Department of Computer Science
Dr. Sahar Mohamed Al-Deeb - Assistant Professor in the Department of Computer Science
Dr. Awatif Salem Al-Obeid - Vice Dean of the College of Computer Science and Information Technology

Sector: Industrial



Stream

Idea Description:

Stream is a digital platform aimed at improving the management of water supply chains and logistics services using Internet of Things and artificial intelligence technologies. Stream collects and processes daily water consumption data from customers and provides a direct connection between customers and water transportation service providers.

Teams Participating in the Preliminary Judging

Smart Route Company

Team Members:

Abdulraheem Hamdi - Legal
Khaled - Electrical Engineer
Islam Najeeb - Programmer and Technical Support
Deema Al-Shammari - User Interface Designer
Mohammed Al-Balawi - Website Designer

Sector: Tourism

Idea Description:

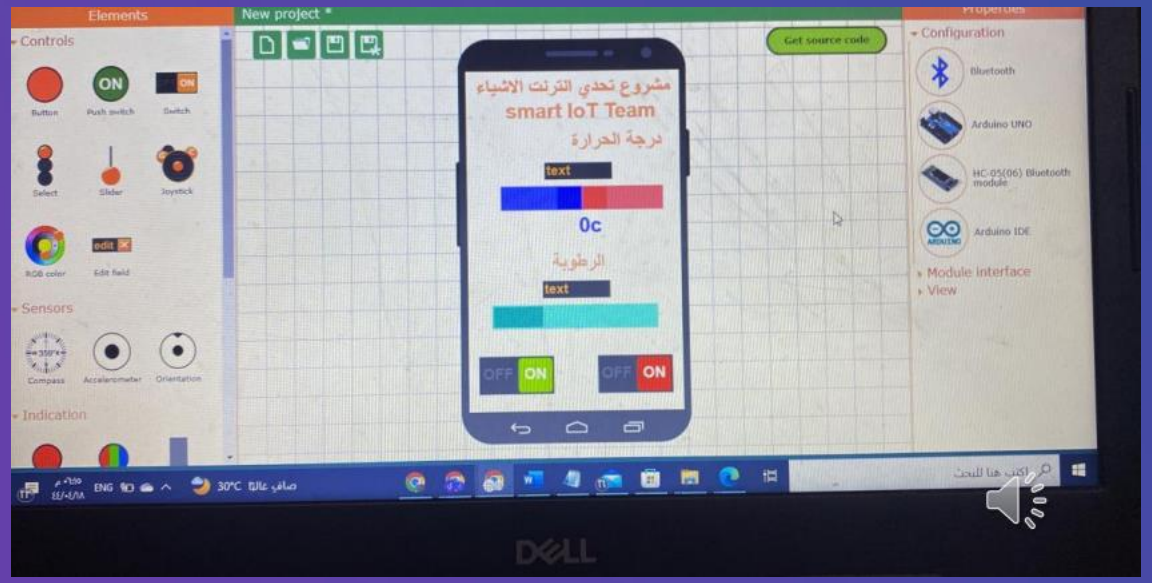
A bike rental project in tourist areas through the Internet of Things.

Teams Participating in the Preliminary Judging

Team Members:

Yahya Mureer – Master’s in Educational Technology
Ahmed Mureer - Master's in Data Analysis
Nouma Mureer - Bachelor's in Mathematics
Fahd Mureer - Bachelor's in Art Education

Bee Care
by smart IoT



Sector: Environmental

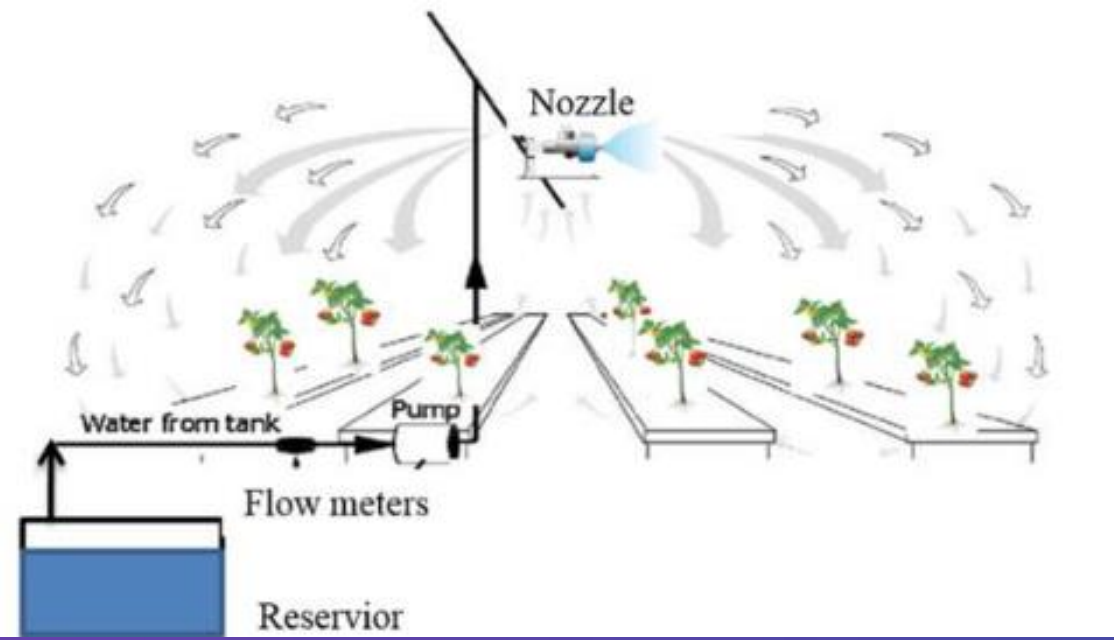
Idea Description:

A project for the protection and care of bees through the Internet of Things.

Teams Participating in the Preliminary Judging

Team Members:
Dania Al-Shuaibi - Electronics Engineering
Hind Al-Rashed - Electronics and Computer Engineering
Marwa Bakour - Electronics and Computer Engineering

Faseelah App



Sector: Environmental

Idea Description:

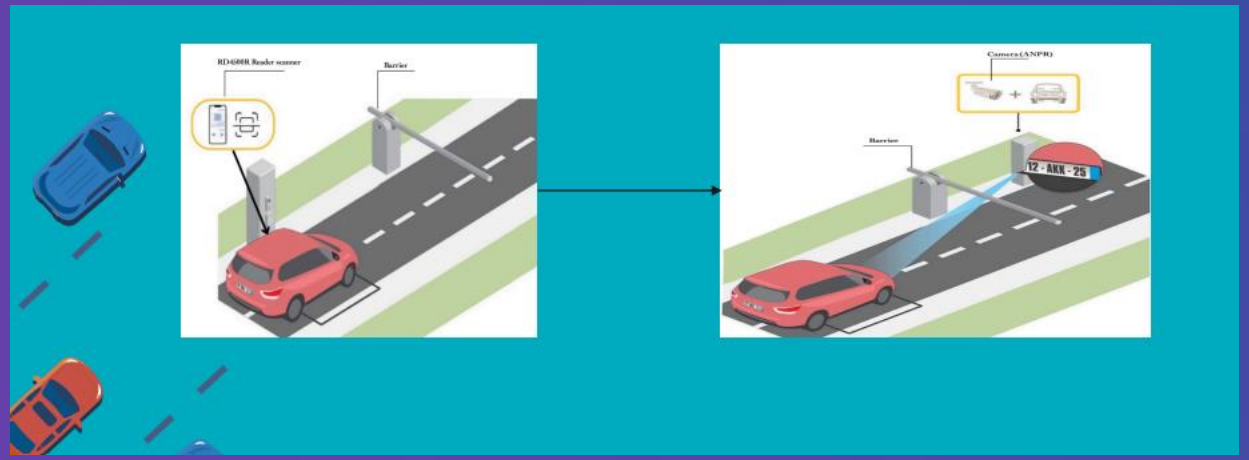
A self-sustaining system based on artificial intelligence to improve gardening conditions.

Teams Participating in the Preliminary Judging

SMART PARKING

Team Members:
Fatima Saad Al-Buqami - Information Systems Student
Abrar Al-Wuqdani - Computer Engineering Student
Shamoua Al-Thubaiti - Computer Engineering Student

Sector: Transportation



Idea Description:

An app linked to a device that allows you to know if a destination has available parking spaces and provides information about expected waiting times.

Teams Participating in the Preliminary Judging

visiontera
تحدي إنترنت الأشياء

Team Members:
Mohammed Al-Ahaidib - Artificial Intelligence Engineer
Saud Awad - Data Scientist
Dr. Majdool Safran - Faculty Member
Dr. Sultan Al-Farhood - Faculty Member

Sector: Tourism

Idea Description:

The Visiontera platform automatically and instantly analyzes the activity and behavior of website visitors using Internet of Things and artificial intelligence technologies.

Teams Participating in the Preliminary Judging

Nitx

LET THE WORLD SEE YOU!

Team Members:

Mohammed Al-Saad - Founder
Yazeed Al-Taweel - Developer
Sultan Al-Amberi - Developer
Khaled Saleh - Operations Manager
Abdulhadi Al-Qahtani - Co-founder

Sector: Industrial

Idea Description:

A small device connected to smart screens in restaurants and cafes, allowing remote control of the screen and uploading visual and audio content through a mobile phone without the need to be present at the screen location. Additionally, the development includes a sensor that provides an alert in case of power outage or screen closure.

Teams Participating in the Preliminary Judging

SEVEN ROADS

Team Members:
Talal Bashamil - Cybersecurity Specialist
Ayaat Al-Sayed - Technology Specialist
Mustafa Al-Hamad - Artificial Intelligence Specialist
Amal Al-Otaibi - User Interface Design
Touleen Al-Amoudi - Programmer

Sector: Transportation

Idea Description:

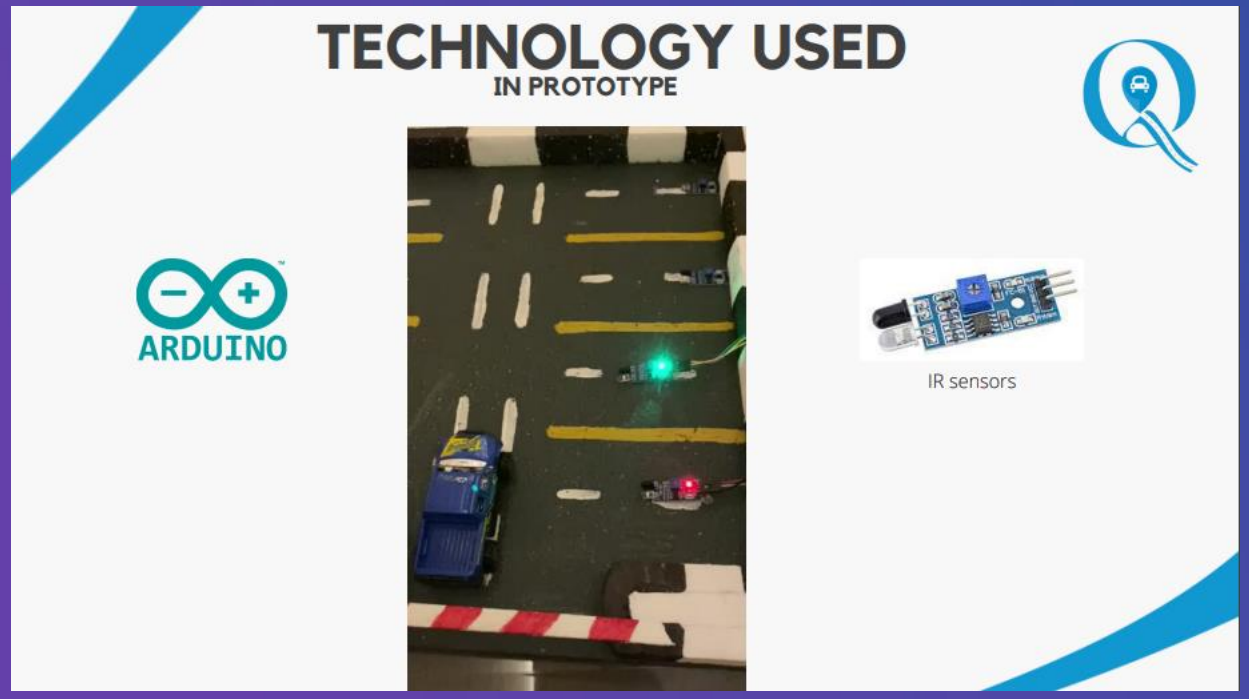
A platform that organizes transportation between cities and distances exceeding 60 minutes. It utilizes various devices including mobile phones, vehicle sensors, a vehicle inspection device, and a database connected to a server within the country to achieve maximum data confidentiality. The system is managed through an administrative dashboard, integrating all devices to provide data for study and analysis through artificial intelligence.

Teams Participating in the Preliminary Judging

Team Members:
Al-Jawhara Al-Rashdan - Software Engineer
Yadma Al-Sulami - Software Engineer
Manar Al-Dafayan - Software Engineer
Deema Al-Harbesh - Software Engineer
Ghaliya Aqeel - Software Engineer

QuickPark
QUICKPARK

Sector : Transportation



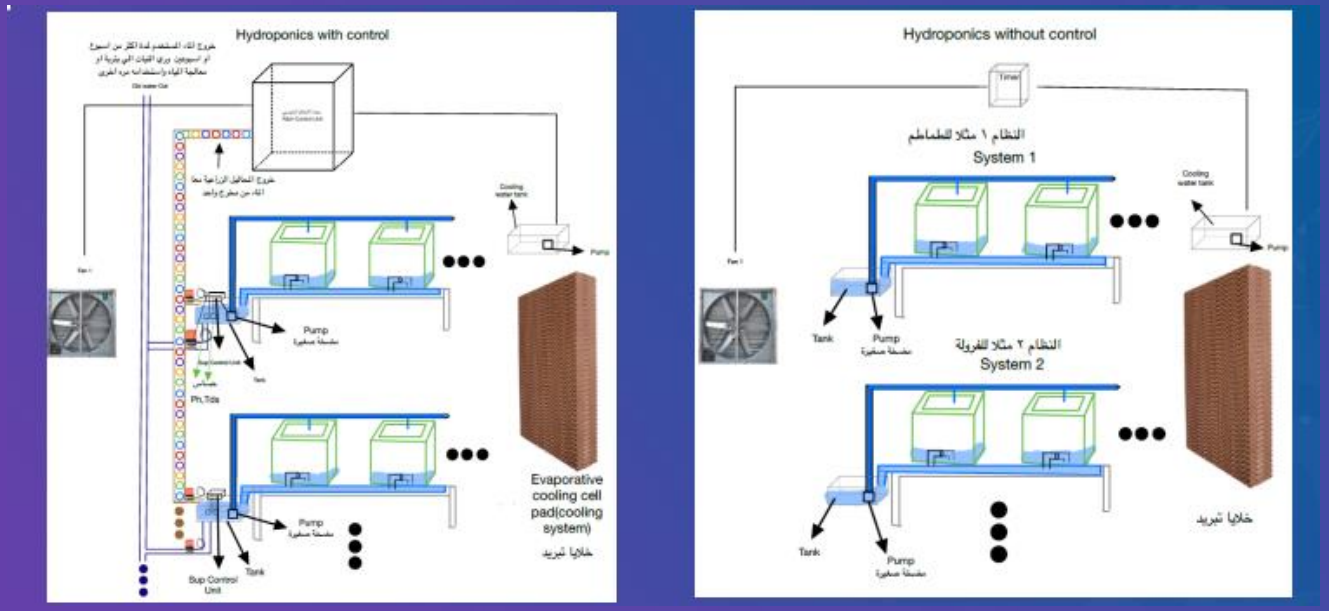
Idea Description:

The QuickPark application provides a parking reservation service for a nominal fee. Users can specify the entry and exit times and have the option to extend. Upon confirmation, the user receives a QR code, which is scanned using an external device for entry and exit. Our application utilizes artificial intelligence (computer vision) and sensors to ensure the availability of parking spaces.

Teams Participating in the Preliminary Judging

Team Members:
Dr. Abdullah Al-Zahrani - Electronics Engineer
Abdulrahman Al-Fakhri - Electronics Engineering Student
Rayan Qattan - Electronics Engineering Student

Sector: Environmental



Idea Description:

The Smart Control Box for Hydroponic Farm, Box Intelligent Hydroponics Control, involves designing a main and subsidiary unit to fully automate and control the hydroponic farm. The attached file contains a complete explanation along with designs and drawings.

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Overview of the Winning Teams

The Internet of Things Challenge 22

#تحدي_إنترنت_الأشياء

شركاء التمكين

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Ministry of Industry and Mineral Resources

The Winners of the Diamond Package: Team My Farm

Team Members:

Mohammed Mubarak - Bachelor's in Electrical Engineering
Muntathir Al-Saleh - Bachelor's in Electrical Engineering
Hani Al-Rumaih - Bachelor's in Mechanical Engineering
Jihad Al-Thanayan - Bachelor's in Software Engineering

Sector: **Environmental**

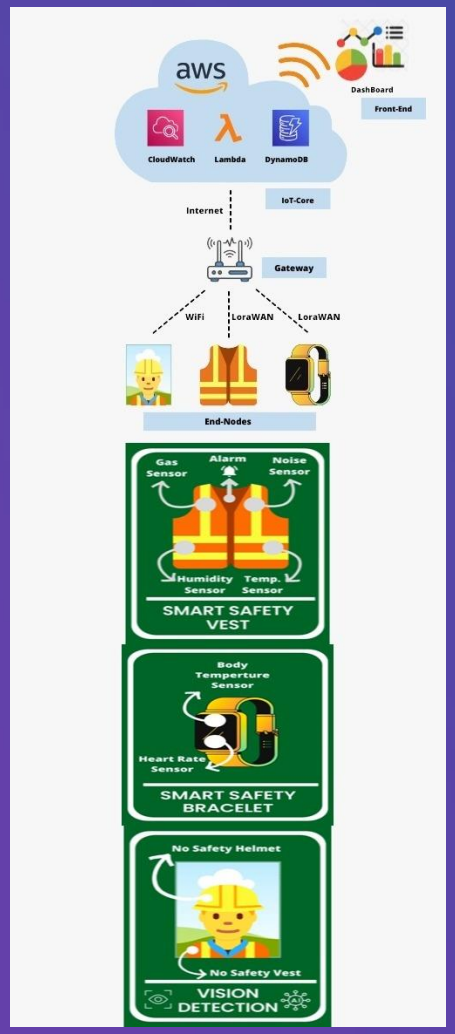
Idea Description:

A project that assists farmers in managing their farms easily in all aspects of agriculture, based on the concepts of precision farming and the Internet of Things.

It features:

- Solving agricultural problems such as water scarcity in fields and predicting soil moisture, taking into consideration climate, seasonal, and spatial changes.
- Flexibility in covering areas as needed, low energy consumption, and solar-powered charging for IoT devices.
- Compact size suitable for agricultural fields and IoT devices.

The Winners of the Diamond Package: Team Salim



Team Members:

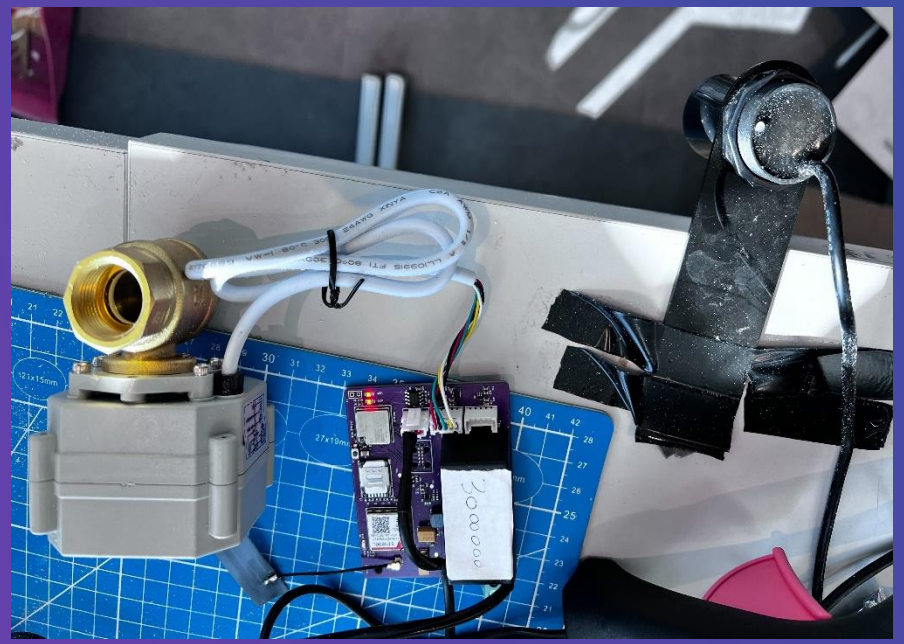
Mohammed Al-Harbi - Master's in Internet of Things
Musa Al-Akash - Master's in Internet of Things
Fahad Al-Mutrefi - Bachelor's in Electrical Engineering
Hussein Al-Jumaa - Engineer at Aramco
Ahmed Al-Musharraf - Master's in Internet of Things

Sector: **Industrial**

Idea Description:

Designing and building a comprehensive system for automating safety monitoring, with the aim of reducing work-related injuries and accidents by providing environmental monitoring for workers, monitoring vital signs, and detecting unsafe behaviors at work sites.

The Winners of the Gold Package: Team Juziyaat



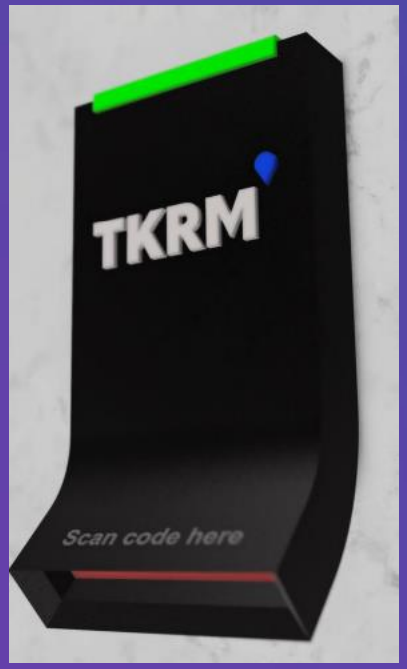
Team Members:
Mohammad Al-Baiti - Team Leader
Mohannad Al-Qurashi - Idea Owner
Abdullah - Electrical Engineer
Khaled - Computer Engineer
Abdulaziz - Software Engineer
Maha - Product Designer
Tariq - Electrical Engineer

Sector: **Environmental**

Idea Description:
A smart float to monitor daily water consumption and automatically shut off the water valve in case of any leakage.

The Winners of the Gold Package: Team TKRM

Team Members:
Naif Al-Muqbil
Ahmed Al-Samaani
Sami Al-Muqbil



Sector: **Tourism**

Idea Description:

A tourism solution to enhance the experience of tourists, allowing access to nearby restroom facilities. This is achieved by utilizing restroom facilities in commercial establishments, restaurants, and cafes around the user and connecting them through an app. The app provides information on the nearest available restroom, accessible through a barcode scan for a nominal fee. The idea ensures the cleanliness of the facilities, offering the potential for increased income for business owners and an improved experience for tourists.

The Winners of the Gold Package: Team XEFOX

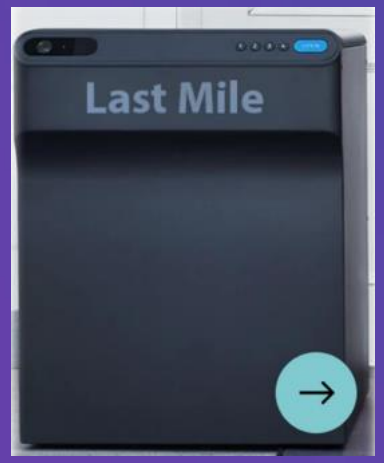
Team Members:
Mohammed Dames - Systems Engineer
Ahmed Al-Ghamdi - Electronics Engineer
Rafida Hamza - UX/UI Designer

Sector: **Transportation**

Idea Description:

An intelligent system designed to be installed on the infrastructure of traffic signals, bridges, and tunnels; to facilitate traffic flow, provide early prediction of problems before they occur, and automatically direct traffic and field teams to the areas most in need of emergency intervention.

The Winners of the Gold Package: Team Last Maile



Team Members:

Fahd Al-Muntasir - Bachelor's in Business Administration

Jari bin Abdullah - Bachelor's in Business Administration

Maha Al-Asmari - Bachelor's in Computer Science

Sector: **Transportation**

Idea description:

Receiving personal shipment orders conveniently and easily by placing them in a smart and automated box controlled through a simple smartphone application, using a barcode sent to the courier to open the box without the need for your presence at the location.

The Winners of the Silver Package: Team PASJ

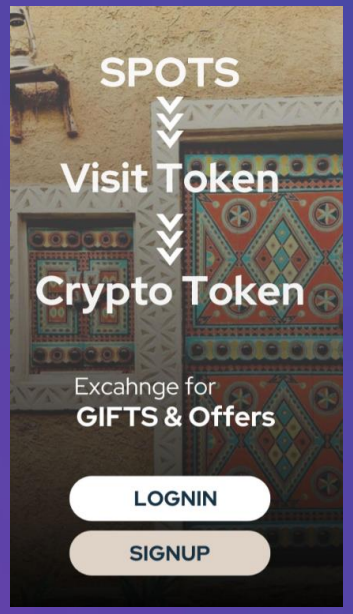
Team Members:
Fahad Al-Juaidan – Business Developer
Khawla Al-Ahaidib – Project Manager
Saud Al-Shamsi – Programmer

Sector: **Industrial**

Idea Description:

A new invention that operates on both traditional and alternative energy, addressing work challenges in exposed areas, providing a better work environment, and improving the quality of life. This device is attached to the safety vest, containing equipment within a small, lightweight box mounted on the back.

The Winners of the Silver Package: Team Token



Team Members:
Muhanad Al-Mamoun: Systems and Innovation Engineer
Zaid Abu Jabara: Control and Applications Engineer
Abdulaziz Al-Ghamdi: Marketing

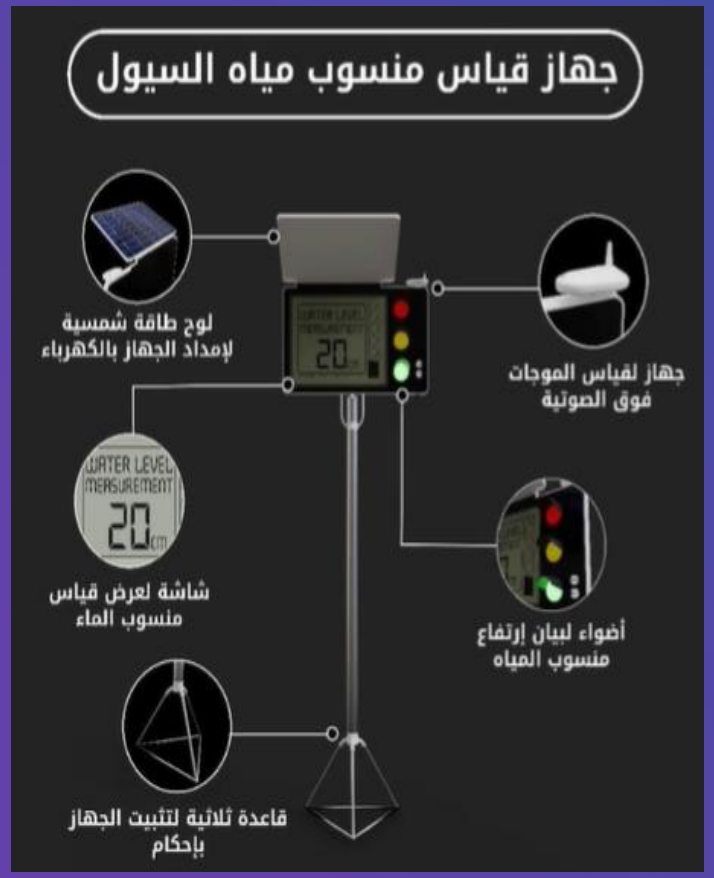
Sector: **Tourism**

Idea Description:

A new digital rewards system for tourists using IoT and blockchain technologies, providing visitors to Saudi Arabia with unforgettable sensory and digital experiences. The system offers the Tourism Board reports on thoughtful interactions with tourists at every step within the Kingdom.

The Winners of the Silver Package: Team Technological Risk Prevention

فريق درء المخاطر التقني



Team Members:
Jameel Al-Sahli - Master's in Crisis and Disaster Management.
Sara Al-Sahli - CEO of Seen Digital Marketing Company.

Sector: **Transportation**

Idea Description:

An innovative patented device that serves as an early warning system for the imminent danger of flash floods directly affecting people. The device is easily understandable for everyone, helping convey the idea of the flood danger without the need to follow weather updates. It provides accurate information about the depth of the flood, transmitting all data to emergency rooms monitoring roads, riverbeds, water movement, environmental studies, and water levels in wetland basins. It also assesses water levels in tunnels and enclosed spaces.

The Winners of the Silver Package: Team Tafany

Team Members:

Reem Al-Musaylim – Diploma in Information Technology
Khalifa Al-Musaylim – Bachelor's in Civil Engineering
Batool Al-Yami – Diploma in Information Technology

Sector: **Transportation**

Idea Description:

Automating the process of delivering online orders received from the branch by providing smart lockers as self-pickup points inside the branch. The solution will facilitate order pickup at any time, enhancing the user experience.

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Communications, Space & Technology Commission

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Small & Medium Enterprises General Authority

مركز ذكاء

Post Challenge Stage

The Internet of Things

Challenge 22

#تحدي_إنترنت_الأشياء

شركاء التمكين

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The Journey of the Participant After the Competition:

Market Entry

60 days

Providing guidance on:

- Website development
- Establishing social media accounts
- Reviewing company profiles
- Business model
- Pricing model
- Marketing plan

Registration Procedure

60 days

1- Formation of an entity (company or institution)
2- Setting up a bank account for the entity

Developing the Minimum Viable Product (MVP)

120 days

Providing guidance in specifying technical requirements during the development stages of the Minimum Viable Product (MVP).

The times given are estimated and may vary from one team to another

Requirements for Receiving the Prize

Schedule for Receipt (Proposed)	Requirements at the Stage	Percentage	Percentage of the Prize	Stage
January 2023	After the closing ceremony, within a period not exceeding one month	40%	40% of the prize	**Award**
According to the Progress of the Team	Completion of the work team	10%	30% of the prize	**Completion of the Foundations**
	- Completion of the establishment procedure - Issuance of a commercial register - Obtaining the necessary permits and licenses	5%		
	Completion of the initial prototype	10%		
	Creating the website and social media accounts	5%		
	Creating a plan for product launch in the market	2%		
According to the Progress of the Team	Developing a marketing plan for the product	2%	10% of the prize	**Readiness of the Product for the Market**
	The technical readiness of the minimum viable product and its market presentation capability	2%		
	Launching the product in the market and collecting feedback and comments	2%		
	Completing 10 consulting hours with the Thakaa Center	2%		
According to the Progress of the Team	Making the necessary modifications based on customer feedback	10%	20% of the prize	**Company Launch**
	Launching the final product in the market	5%		
	Selling the first model of the product	5%		

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Thank You

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