هاكاثون الصّناعة
Industrial Hackathon

مدينة الملك عبدالعزيز للعلوم والتقنية

جامعة الملك عبدالله للعلوم والتقنية
King Abdullah University of Science and Technology

Sipchem
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SIDF ◇
صندوق التنمية الصناعية السعودية

Industrial Hackathon

The Fourth Edition 2025

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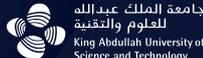
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Partner**

Table of Contents

Quotes from the Speech of His Excellency the Minister of Industry and Mineral Resources

H. E. Mr.
Bandar bin Ibrahim AlKhorayef

Minister of Industry and Mineral Resources and Chairman of the Board The Saudi Industrial Development Fund (SDIF)

❝ Through the Industrial Hackathon, we aspire to convey a message to society that innovative solutions are not necessarily complex, and that everyone has the ability to contribute to developing new products, creating new solutions, and improving existing ones. ❞

❝ With the participation of national talents, we work to address challenges and achieve sustainability across all industrial sectors. ❞

❝ Through the hackathon, we aim to empower creative minds from across the Kingdom to find solutions that contribute to building a prosperous industrial future. ❞

❝ Together, we transform ideas into reality, serving society and contributing to the growth of our economy. ❞

❝ The Industrial Hackathon serves as a platform for creative thinking and a vital driver for developing solutions in the industrial sectors. ❞

❝ Our goal is to build a strong foundation rooted in innovation and efficiency, and to enhance the Kingdom's global competitiveness. ❞

Hackathon Overview

Under the patronage of H. E. Mr. Bandar AlKhorayef, Minister of Industry and Mineral Resources, and for the fourth consecutive year, The Saudi Industrial Development Fund (SIDF) organized the Industrial Hackathon under the theme "Your Idea Creates Impact", with the aim of supporting and advancing the national industrial sector.

The hackathon provided an opportunity for talented citizens and residents across the Kingdom to present innovative solutions addressing developmental challenges and opportunities faced by national entities, and to explore ideas that drive industrial progress in Saudi Arabia.

This hackathon stands as a unique platform for discovering creative solutions that contribute to accelerating industrial advancement and fostering sustainable development in alignment with the goals of Saudi Vision 2030.
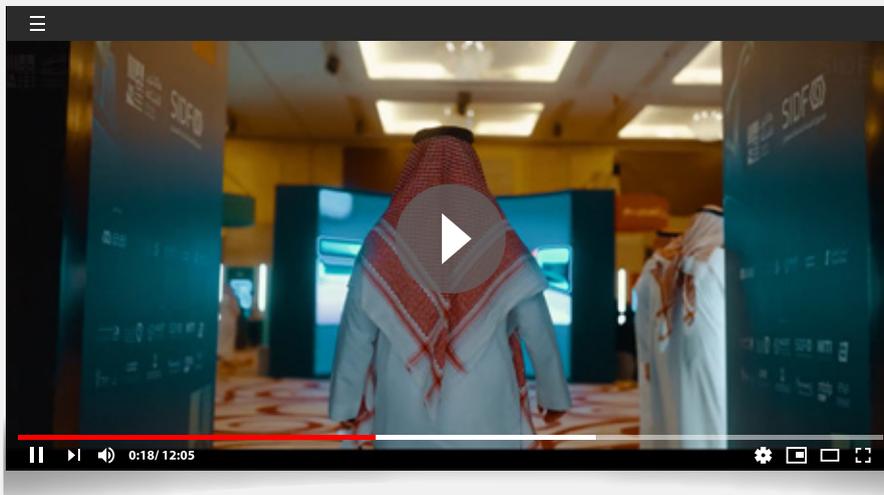
watch the video

Hackathon Objectives

Encouraging new and innovative ideas across various industrial fields

Providing a platform for young talents to showcase their skills and creativity

Seeking solutions that contribute to enhancing sustainability within the industrial sector

Promoting communication and collaboration among participants from diverse disciplines and expertise

Target Audiences

Male and female participants aged 18 and above

Students and researchers

Entrepreneurs and startups

Engineers and industrial designers

Developers and programmers

Track 1 | Design Track

Challenge 1: Loading and Unloading Efficiency

Coca-Cola

Design solutions that enhance product distribution within trucks by introducing innovative methods to increase loading capacity and minimize wasted space.

Performance Metrics
- Reduction of operational and logistics costs
- Product safety assurance
- Loading and unloading speed
- Optimal space utilization

Challenge 2: Innovative Packaging for Miska Gum

BATOOK

Design new packaging solutions for "Miska Gum" that go beyond traditional designs, preserve the unique properties of mastic, and reflect a modern and appealing visual identity.

Performance Metrics
- Industrial producibility
- Preservation of mastic quality and properties
- Enhanced user experience
- Cost reduction

Challenge 3: Contemporary Jewelry with a Saudi Identity

L'AZURDE

Create a jewelry collection that represents the modern Saudi identity, combining heritage and contemporary design in a way that rivals international jewelry.

Performance Metrics
- Uniqueness of the design concept
- Connection to the Saudi identity
- Feasibility of transforming the design into a tangible product
- Local and global appeal

Track 2 | Production Track
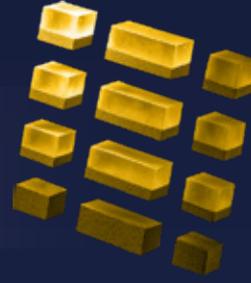
Challenge 1: Water Management and Disposal in Production Lines

نقاء

Develop a smart and safe solution to drain water from rejected containers in a manner that preserves its quality and prevents contamination by microplastics or impurities, enabling its reuse and reducing material waste.

Performance Metrics

- Improved production efficiency
- Reduced waste percentage
- Enhanced water sustainability

Challenge 2: Optimizing Mold Changeovers

exa

Develop an effective solution to reduce mold changeover time in tile production lines, thereby enhancing operational efficiency, minimizing downtime, and improving the factory's ability to meet evolving market demands.

Performance Metrics

- Compliance with quality and safety standards
- Mold flexibility across product types and varying production scales
- Reduced changeover time

Challenge 3: Contemporary Jewelry with a Saudi Identity

شركة Saudi
هـرف Artisanal
السعودية Company

Develop a solution or mechanism that accelerates the clay drying process in handcrafted pottery production while maintaining quality and preventing cracks or fractures during or after drying.

Performance Metrics

- Reduction of production costs
- Preservation of coloring quality
- Resistance to cracking and breakage

Track 3 | **Sustainability Track**

Challenge 1: **Sustainable Alternatives to Aluminum in Packaging**

باجة baja

Develop an alternative to aluminum used in packaging materials that maintains protection against sunlight, light exposure, and heat, while aligning with environmental sustainability principles.

Performance Metrics

- Reduction of carbon footprint
- Preservation of protective packaging properties
- Ease of manufacturing processes
- Sustainability and recyclability

Challenge 2: **Reuse of Spent Bleaching Powder**

عافية

Develop sustainable and effective solutions to reuse spent bleaching powder or convert it into economically valuable materials, while minimizing environmental impact and maximizing resource utilization.

Performance Metrics

- Environmentally friendly solution
- Safe handling and processing of bleaching powder
- Cost reduction

Challenge 3: **Reuse of End -of- Spool Threads**

شماغ وغتر **CASTLE**

Develop a practical solution to enable the reuse of thread remnants at the end of spools without compromising final product quality or operational efficiency.

Performance Metrics

- Reduction of operational costs
- Production speed and efficiency
- Preservation of fabric quality

Track 4 | Automation Track

Challenge 1: Predicting Maintenance Needs for Green Hydrogen Machines

ACWA POWER
كوا باور

Develop an automated digital tool that predicts failures and maintenance needs in electrolyzers used for green hydrogen production.

Performance Metrics

- Assessment of operations and maintenance readiness
- Risk visualization and reporting capabilities
- Prediction of equipment failure probabilities

Challenge 2: Quality Inspection for Solar Panels

Desert Technologies

How can we automate the inspection process to detect micro-cracks and cell defects with greater accuracy, continuity, and efficiency, eliminating reliance on manual inspection?

Performance Metrics

- Ease of integration into production lines
- User interface simplicity
- Defect detection accuracy

Challenge 3: Automating Maamoul Production

ABDUL SAMAD AL QURASHI
عبد الصمد القرشي

Develop a solution that automates key stages of maamoul production, including mixing, forming, and drying, to enhance efficiency, reduce waste, and maintain product

Performance Metrics

- Improved process monitoring and control
- Flexibility in adjusting product size
- Increased efficiency and productivity
- Applicability across production stages

Registration Figures

Amid an atmosphere filled with creativity and competition, the fourth edition of the Hackathon was launched, witnessing a huge turnout that exceeded expectations.
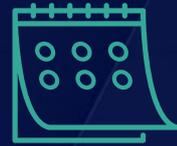
Registered Teams

+960
Teams
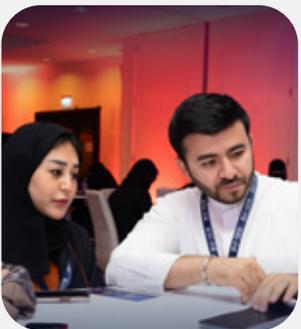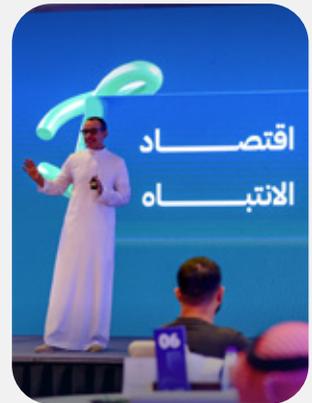
Registered Participants

+9600
Participants

Registration Phase

From 24 August to 2 October

Bootcamp Highlights

Industrial Hackathon Success Stories

Discover Najoud Al-Hilabi's journey, from a question to an achievement, empowered by the Industrial Hackathon.

watch the video

See how the Industrial Hackathon experience guided Raed and Yasser on their journey toward entrepreneurship.

watch the video

See how the Industrial Hackathon experience opened new horizons for Abdulaziz and Dr. Fawaz.

watch the video
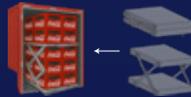
Winners

Track Design

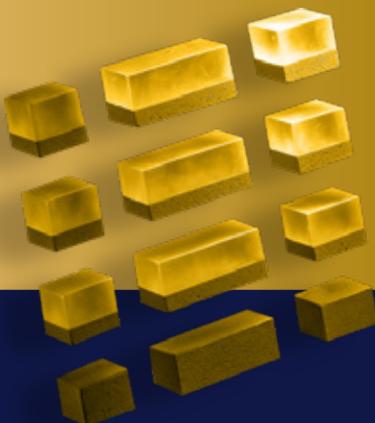|	First Place	Second Place	Third Place
	Red Spark	New Vision	GemX 2030
Challenge	Coca-Cola	BATOOK	LAZURDE
Idea	An innovative cart inspired by an ambulance stretcher, featuring a removable second layer inside the truck to accelerate loading and unloading while optimizing space utilization.	A sustainable and practical medal-shaped package that can be easily carried or attached, combining a modern design with elements inspired by Saudi culture.	A jewelry collection that embodies the modern Saudi Vision, along with a creative platform that connects Saudi designers with the artisans of beauty at L'azurde factories.

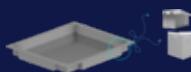## Track Production

	First Place	Second Place	Third Place
	Swift Mold	Sahabah	Malqaf
Challenge	Exa	Nova	Saudi Artisanal Company
Idea	A single smart mold replacing dozens of molds, reducing changeover time from four hours to fifteen minutes and increasing productivity by more than forty hours per week.	A system that employs an intelligent recovery line connected to the production line to safely reclaim water from rejected or non-conforming bottles.	An innovative product inspired by traditional wind catchers in Saudi architecture, developed to create an optimal environment for drying pottery pieces.

Winners

Track Sustainability

First Place
Nabtar

Challenge

Baja

Idea

A project that redefines nut packaging through a biodegradable and plantable bag made from locally sourced, sustainable materials.

Second Place
EcoLoop

Challenge

شماغ CASTLE

Idea

An intelligent machine that collects and merges wasted threads generated from spinning and weaving processes, transforming them into new, reusable spools within the same production line.
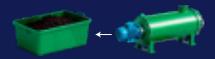
Third Place
Al Estidamah Al Arabia

Challenge

عافية

Idea

Transforming used bleaching powder (SEB) from a high-risk industrial waste into a valuable bio-based product through the adoption of specialized microbial bioprocessing technologies.

Track Automation

First Place
Misbar

Challenge

Desert Technologies

Idea

A multispectral AI-based inspection system for photovoltaic panels that integrates electroluminescence (EL), infrared (IR) imaging, and production line data.

Second Place
VIA

Challenge

Abdul Samad Al Qurashi

Idea

Transforming the factory into an interconnected smart ecosystem featuring a centralized control system, automated start-stop functionality, advanced precision sensors, and an intelligent digital tracking system.

Third Place
DigiSight

Challenge

ACWA Power

Idea

The project introduces an intelligent monitoring and predictive maintenance system for Alkaline Water Electrolyzers (AWE) used in green hydrogen production.

Winners

1 First place

2 Second place

3 Third place

Design Track

Production Track

Sustainability Track

Automation Track

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**To learn more about
the Industrial Hackathon
or to contact
the winning teams**

hackathon.info@sidf.gov.sa

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