



2025

Welcome to
King Abdullah University of Science and Technology
National Transformation Institute



About KAUST

Established in 2009, King Abdullah University of Science and Technology (KAUST) is a graduate research University devoted to finding solutions for some of the most pressing scientific and technological challenges, both globally as well as in Saudi Arabia.





Board of Trustees



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Affairs and Security



Jonathan Grant
VP, Strategic
Initiatives



Vision

Be a destination for scientific and technological education and research.

Mission

Advance science and technology through **distinctive** and **collaborative research** integrated with graduate education.

Act as a catalyst for **innovation**, **economic development and social prosperity** in Saudi Arabia and the world.





KAUST Quick Facts

Total campus size:

39 Million+

square meters

KAUST Community Stats

8734

Community Residents

119

Nationalities

Our Academics Stats

1741

Students

36% **64%**

Saudi International

63% **37%**

Male Female

183

Faculty

3,071

Alumni

56%

International

44%

Saudi

974

Researchers and Postdocs

1,932

M.S.

1,139

Ph.D.

* A Master's program in professional studies focusing on AI is offered for Ministry of Interior employees. A similar program in Cybersecurity will be offered soon



Pillars of the University

The university encompasses a unique ecosystem where education, research, and innovation converge to support national transformation.



Education



Research



National Transformation



Academic Structure

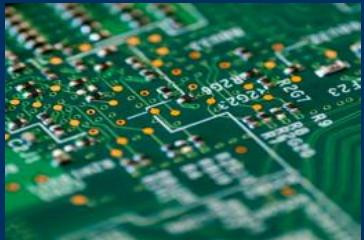
8 programs ranked in the top 100 globally by QS Ranking

3 DIVISIONS



BESE

Biological and Environmental
Science and Engineering Division



CEMSE

Computer, Electrical and
Mathematical Sciences and
Engineering Division



PSE

Physical Science and
Engineering Division

14 PROGRAMS

- Bioscience
- Bioengineering
- Environmental Science and Engineering
- Marine Science
- Plant Science

- Applied Mathematics and Computational Science
- Computer Science
- Electrical and Computer Engineering
- Statistics

- Chemical Engineering
- Chemistry
- Earth Science and Engineering
- Material Science and Engineering
- Mechanical Engineering



World-Class Faculty



Osman Bakr
Solar, Optoelectronics
Saudi
MIT, Harvard



Rod Wing
Plant Science
American
UC Davis, Berkeley



Mohamed Eddaoui
MOFs, CO₂ capture
American
Denis Diderot, Paris



Jorge Gascon
Catalysis
Spanish
University of Zaragoza



Carlos Duarte
Red Sea, Blue Carbon
Spanish
McGill University



Ivan Viola
Visual Computing
Austrian
Vienna Univ. of Tech



Peiying Hong
Water Security
Singaporean
University of Illinois



David Keyes
Applied Mathematics
and Computational
Science
American
Harvard University



Huabin Zhang
Catalysis, Energy
Conversion
Chinese
University of Chinese
Academy of Science



Matteo Parsani
Applied Mathematics
Italian
Politecnico Milano
Vrije Universiteit
NASA Langley



Sahika Inal
Bioelectronics
Turkish
Ecole des Mines



Michael Berumen
Marine Biology
American
James Cook University



Dana Al-Sulaiman
Material Science
Saudi
MIT, Imperial



Xiaohang Li
Materials, UV LEDs
Chinese
Georgia Tech

14 KAUST Faculty are Clarivate Highly Cited Researchers



Omar F. Mohammed
Cross-Field



Hylke Beck
Cross-Field



Osman M. Bakr
Chemistry



Carlos M. Duarte
Environment and Ecology



Yoshihide Wada
Environment and Ecology



Huabin Zhang
Cross-Field



Fernando T. Maestre
Environment and Ecology



Matthew F. McCabe
Cross-Field



Heribert Hirt
Cross-Field



Mohamed Eddaoudi
Chemistry



Luigi Cavallo
Cross-Field



Stefaan De Wolf
Cross-Field



Yun Hau Ng
Cross-Field



Salim Al-Babili
Plant and Animal Science

Recent International Prizes and Recognitions



Frontiers Planet Prize National Champion – Prof. Raquel Peixoto

National-level recognition in a globally oriented sustainability prize; highly competitive and prestigious.



L'Oréal-UNESCO For Women in Science Middle East Young Talents – Prof. Leena Ibrahim

A globally respected program recognizing emerging female researchers, regionally scoped.



Forbes Middle East 30 Under 30; Best Invention Award IFIA – Prof. Dana Al-Sulaiman

Recognized as one of the region's most promising talents for advancements in smart biosensors and medical technology.

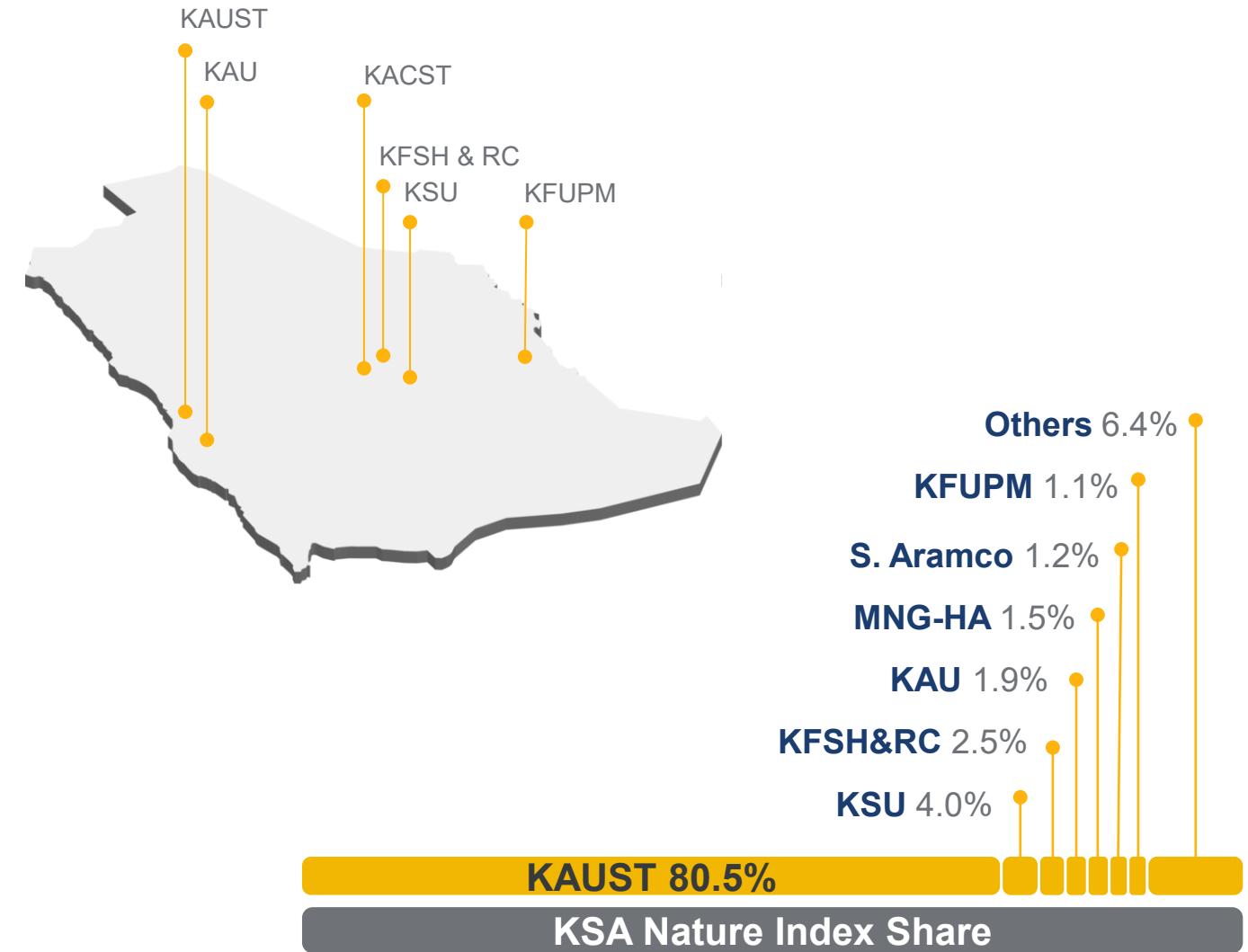


Sony Women in Technology Award – Prof. Yating Wan

Inaugural recipient status gives this much prestige; associated with a top global tech brand.

KAUST Impact

Nature Index Share 2024





#1 Arab University Rankings (THE)



Education

A national pride: KAUST tops Times Higher Education Arab University Rankings for second year in a row

Dec 04, 2024 Features

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King Abdullah University of Science and Technology (KAUST) has again claimed the top spot in the Times Higher Education (THE) Arab University Rankings — a source of national pride and a resounding testament to the University's academic prowess, research excellence and strategic investment in the Kingdom's future.



KAUST Academy Offerings



We believe in empowering individuals at every stage of their educational and professional lives. Our diverse portfolio of programs is tailored to meet the unique needs of different groups, ensuring a continuous pipeline of talent for the Kingdom:



Pre-University

Ignite young minds and build a strong foundation for future success



Undergraduate

Bridge the gap between academic knowledge and real-world application.



Professional Upskilling

Working Professionals

- College Preparation Program
- Research exposure programs
- Olympiad and International Competitions trainings

- KAUST Academy Specializations in Emerging Technology
- Gifted Students Scholarship
- Postgrad Degree Preparations

- Part-time Professional Masters
- Postgrad Certificates & Diploma
- Early career upskilling programs



The New **Strategy** Accelerating Impact





“

[KAUST] has ... become one of the leading research universities in the world. The new strategy ... represents a new era for the university to become a beacon of knowledge and a source of inspiration and innovation ... for the betterment of the Kingdom and the world.

”

*- Crown Prince Mohammed bin Salman
August 2023*





Accelerating Impact

A new strategy for KAUST

KAUST's new strategy presents new opportunities to accelerate the university's positive impact on the world through alignment with the Kingdom's Vision 2030 Research, Development and Innovation Authority's (RDIA) priorities, enhancing our global and local partnerships and focusing on commercialization and economic impact.



Research Alignment

Restructuring research funding and re-focused research to align with RDIA priorities.



Launch of NTI

Creating a National Transformation Institute to accelerate technology development and commercialization.



Enhanced Partnerships

International collaboration and partnerships to reinforce existing and building new partnerships.



Introducing

NATIONAL TRANSFORMATION INSTITUTE

Our Mission

ACCELERATING IMPACT

A shared mission to create transformative change through enhancing research commercialization and technology development to support economic diversification in Saudi Arabia.

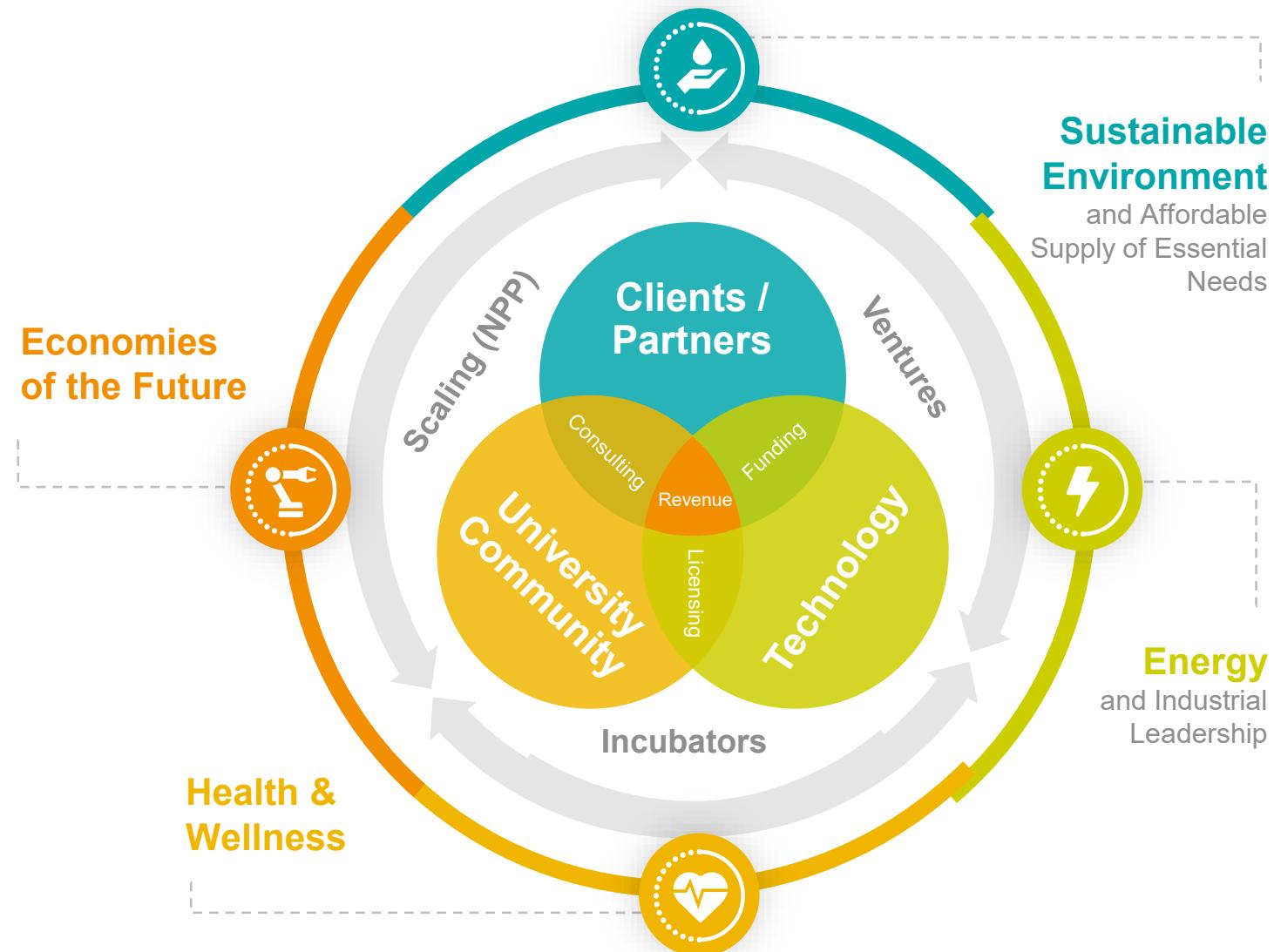
Our Purpose

INNOVATION WITH PURPOSE

Commitment to National Progress



NATIONAL TRANSFORMATION INSTITUTE



NTI STRUCTURE

01

National Priorities

- National and International Partnerships
- Engagement and Stakeholder Management
- International Hubs

02

Innovation

- Technology Transfer
- Innovation Ecosystem

03

Technology Projects

- KAUST Reefscape Restoration Initiative
- Cryogenic Carbon Capture
- KAUST Smart Future Mobility Sandbox
- Saudi Center for Vaccines & Protein Therapeutics

04

Consultancy

- Beacon development
- Faculty-led consultancy



Partnership





KAUST INDUSTRY COLLABORATION PROGRAM (KICP)

- KAUST Advisory Board seat
- KICP Workgroups and Consortiums membership
- Early access to KAUST talents
- Quarterly newsletter & invitations to KAUST's events
- Dedicated relationship management team





KAUST Industry Collaboration Program Members

HALLIBURTON

سابك
sabic

أرامكو السعودية
saudi aramco

DOW

BOEING

TAQNIA



AIR
PRODUCTS

KAPSARC
King Abdullah Petroleum Studies and Research Center

وزارة الاستثمار
Ministry of Investment

الجمعيات الصناعية
Industrial Clusters

منشآت
monsha'at

الشركة السعودية للكهرباء
Saudi Electricity Company
طلاقة مدفعة

شركة المياه الوطنية
National Water Company

هيئة تنمية البحث
والتطوير والابتكار
Research Development and Innovation Authority



National Industrial
Development and
Logistics Program

الصندوق
الصناعي
Saudi Industrial Development Fund

الم الهيئة الملكية لمحافظة العلا
Royal Commission for AlUla

MODON
Saudi Authority for Industrial Cities and Technology Park

الهيئة السعودية للمياه
Saudi Water Authority

وزارة الصناعة
والثروة المعدنية
Ministry of Industry and Mineral Resources



وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture



ALAT

NSG
NEO SPACE GROUP
مجموعة نيو للفضاء

ENQWA.
NEOM

ACWA POWER
أواباور

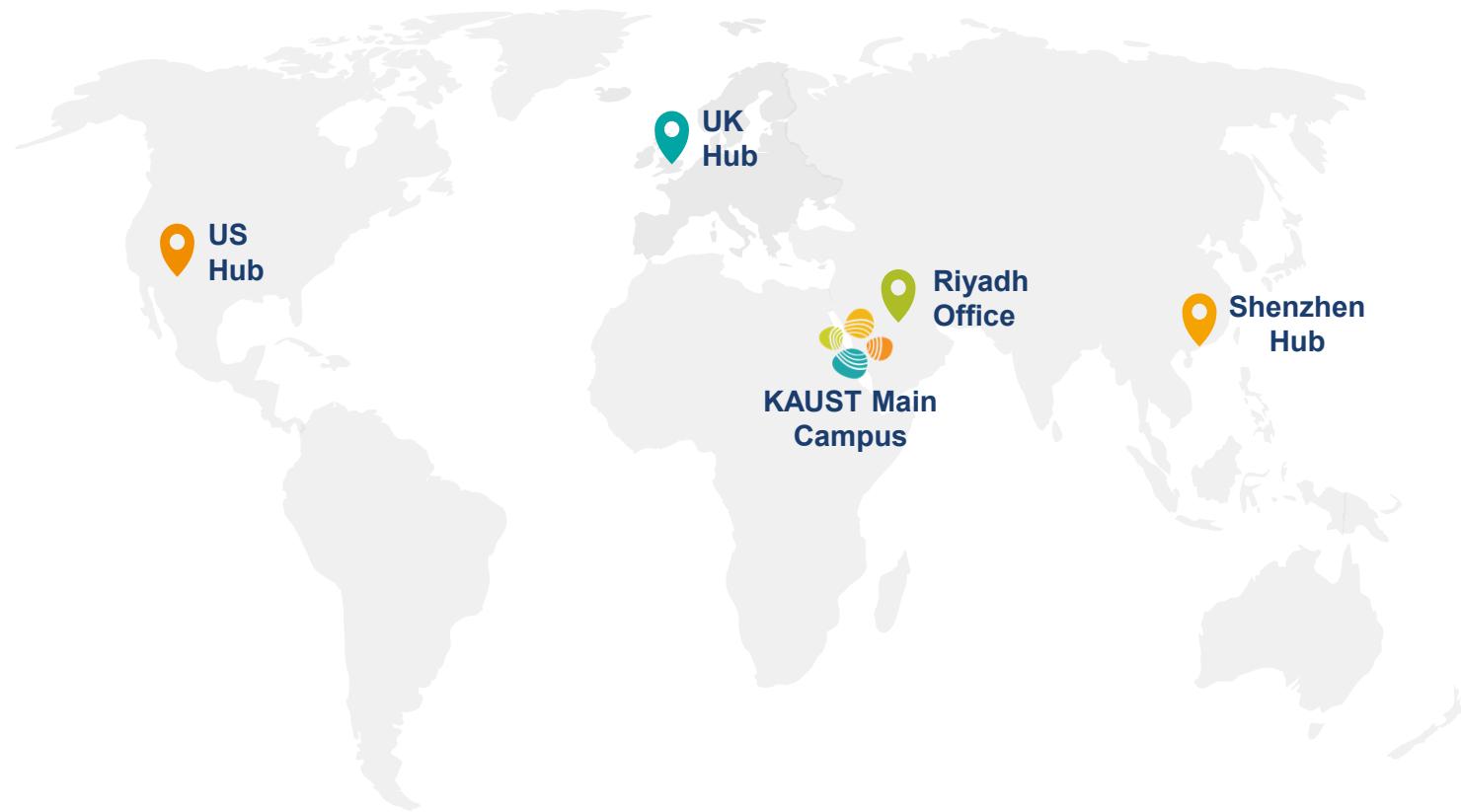
مدينة الملك عبد الله للطاقة
A-CARE



KAUST global and national hubs

As part of its strategy to extend global reach and national relevance, KAUST is establishing a network of hubs in key innovation ecosystems. These hubs serve as platforms to deepen research collaborations, accelerate commercialization, and strengthen alignment with Vision 2030 priorities.

The current and planned hubs in **Shenzhen, Riyadh, London, and Arizona** position KAUST at the intersection of science, industry, innovation and policy — both within the Kingdom and internationally.



China (Shenzhen) Hub

Status: Operational since 2023

Strategic Focus: Industry partnerships, innovation ecosystems, deep tech co-development



Riyadh Office

Status: In development

Strategic Focus: National policy alignment, government collaboration, Vision 2030



UK (London) Hub

Status: In development

Strategic Focus: Health technologies, AI, Sustainability and biotech.



US (Arizona) Hub

Status: In development

Strategic Focus: Photonic Economy, AI, Sustainability and Health technologies.



Economic & Societal Impact



BEACON DEVELOPMENT



KAUST Beacon Development (KBD) is Saudi Arabia's premier environmental consultancy, known for its timely and global-standard project delivery.

- KBD provides essential support for mega-projects and various governmental and corporate stakeholders across the Kingdom.
- Situated on the KAUST campus, KBD offers strategic environmental, geoscience, waste, agricultural, and marine services aligned with Vision 2030.
- Established in 2017 within KAUST, KBD now employs over 230 experts.



KBD IN NUMBERS



226 personnel



25 % female



43 % Saudi

53

Applied Solutions

- Aquaculture specialists
- Algal specialists
- Geoscience
- Waste Management
- Mining Services

35

Environmental Planning Personnel

- Experience in tourism, ports and harbours, mining, power and water infrastructure.
- Environmental planners, Environmental and Social Impact (ESIA) specialists, Strategic Environmental Assessment (SEA) specialists, Environmental and Social Due Diligence (ESDD) advisors

40

Terrestrial Ecology and Conservation Personnel

- Avifauna, reptiles, amphibians, mammals, bats invertebrates, botany, habitats, vegetation and freshwater ecology specialists.
- Protected Area management and natural heritage conservation specialists.

51

Marine Ecology and Conservation Personnel

- Sea turtle and marine mammal specialists
- Coral relocation specialists
- Fish and stock assessment specialists
- Socio-economic specialists

INTERNATIONAL HUBS (SHENZHEN, US AND UK UPDATES)

- TIE Students placement and support: 24 Students onboarding in mid June 2025 representing the first cohort of TIE students in Shenzhen
- Faculty Support hosted 31 faculty and staff visits and supporting 8 faculty projects
- Commercialization projects: 65 supply chain connectivity planning for the second commercialization bootcamp in Nov 2025 and launching one national initiative in progress in Hydrogen Technology Commercialization
- Partnership activation: collaborating with key national partners on launching national programs RDIA, MCIT, PIF, NTDP, MEWA and ME

KAUST UK Hub: Unlocking European Innovation and Commercialization Pathways

1. **King's College London:** MoU to be signed in October 2025 while partnership scopes are being developed in the following areas; TIE placement for the upcoming cohort and MedTech Commercialization workshops scheduled in Sept. 2025; Presidential visit in Oct 2025 to accelerate the partnership development and GMP Training engagement for the Saudi Vaccine and Biomanufacturing Center.
2. **University College London:** MoU to be signed in October 2025 while partnership scopes are being developed in the following areas; TIE placement for the upcoming cohort and Commercialization workshops; Presidential visit in Oct 2025 to accelerate the partnership development and GMP Training engagement for the Saudi Vaccine and Biomanufacturing Center.
3. **Imperial College London:** Potential TIE student placement for the upcoming cohort. Potential collaboration on Energy, climate and mining commercialization.
4. Oxford University: Exploring collaboration on healthcare technology commercialization and joining the Super Cluster in collaboration with RDIA and MCIT
5. Cambridge University: Planned visit in Sept 2025 to explore collaboration on AI technologies, biotech and joining the Super Cluster
6. MCIT Collaboration on Tech Founders and Multiverse Roadshow.
7. PIF Collaboration on technology development and commercialization.

KAUST-ASU Hub: A Gateway to North American Innovation

1. **Arizona State University:** MoU to be signed in Oct 2025 followed by key initiatives in the following areas:
 - a. Energy education, storage and renewables partnership framework in development
 - b. Algae Technology Innovation Partnership
 - c. Joint ocean research and water conservation projects
 - d. Semiconductor academic collaboration, talent development, research collaboration and commercialization
 - e. Potential for space technologies collaboration and health tech

KAUST International hubs will continue the discussion with the partners to develop the framework engagement and defined projects to collaborate on the strategic priorities for KAUST and the Kingdom.





Open Innovation Funnel





Dynamic Economy

- Oil, Gas & Sustainability
- Tourism & Hospitality
- Automotive & Mobility
- Culture & Heritage
- Sports & Entertainment
- Health & Wellness





INNOVATION ECOSYSTEM



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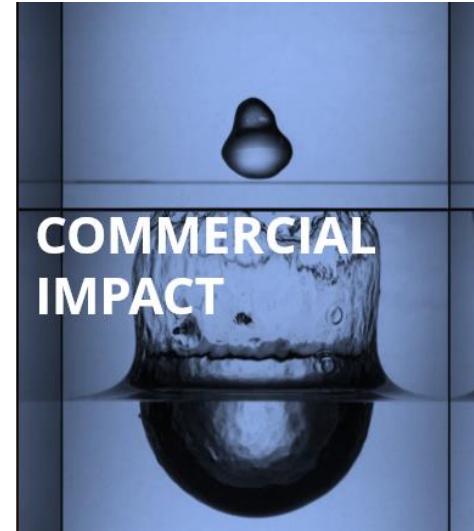
TECHNOLOGY TRANSFER & INNOVATIONOPS



We focus on **InnovationOps** – streamlining and scaling the process of turning research into market-ready innovation.



Continuously curate IP strategies for each science and technology package to best support KAUST's research and commercialization activities, and to maximize the value and impact potential of KAUST's IP assets.

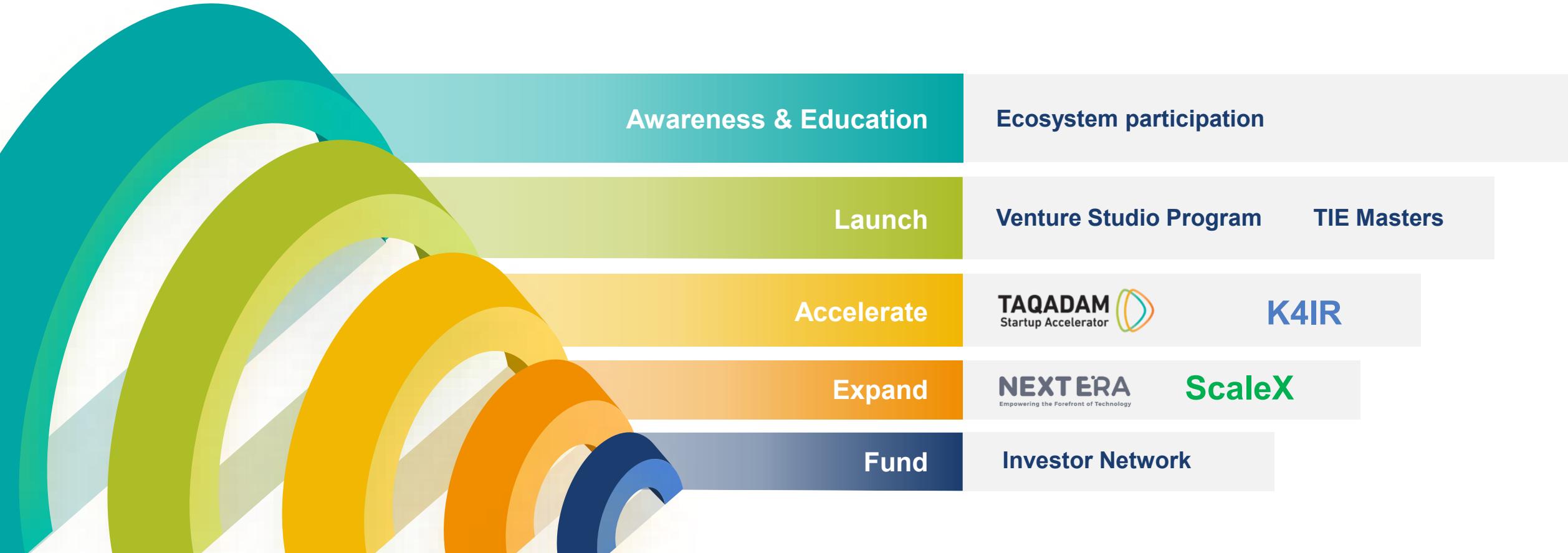


Maximize the impact from KAUST's science & technology, and do it in a way that delivers the right financial and reputational return to KAUST.



- 1025** Technologies in the portfolio
- 47** Technologies in focus
- 60** Commercial opportunities being developed
- 17** Commercial opportunities on sprint
- 04** Large translational programs worth **US\$2.5m+** being actively managed
- 02** Significant ventures being built
- 01** New industry concept being developed
+ Licenses, evaluations, spin-outs

OPEN FUNNEL PIPELINE



البرنامج الوطني
لتنمية تقنية المعلومات
National Technology
Development Program



برنامج تطوير الصناعة
الوطنية والخدمات
اللوجستي



وزارة الاتصالات
وتقنية المعلومات
MINISTRY OF COMMUNICATIONS
AND INFORMATION TECHNOLOGY



وزارة الاستثمار
Ministry of Investment



TEST BED FOR TECHNOLOGY AND INNOVATIVE SOLUTIONS



KAUST Innovation Ventures

KEY FUND STATISTICS

43

active start-ups
in our portfolio

\$50M+

invested by
KIV in > 50
companies

\$90M+

co-invested
by external
parties

\$140M+

raised in
total

INVESTMENT CRITERIA

Seed stage funding “go-to-market”

Investment
size:

\$100-250K

- Incorporated or operating in KSA
- Founding technical & commercial team in place
- Product/technology ready to go to market
- Initial commercial traction (customers, investors)

Follow on or early-stage funding

Investment
size:

>\$250K

- Experienced management in place (CEO, Board)
- Customers and revenue generating
- Co-investor (ideally to lead)

CO-INVESTORS

Local



Regional & International



Capital K





Portfolio Impact & Outcomes

*as of June 2025

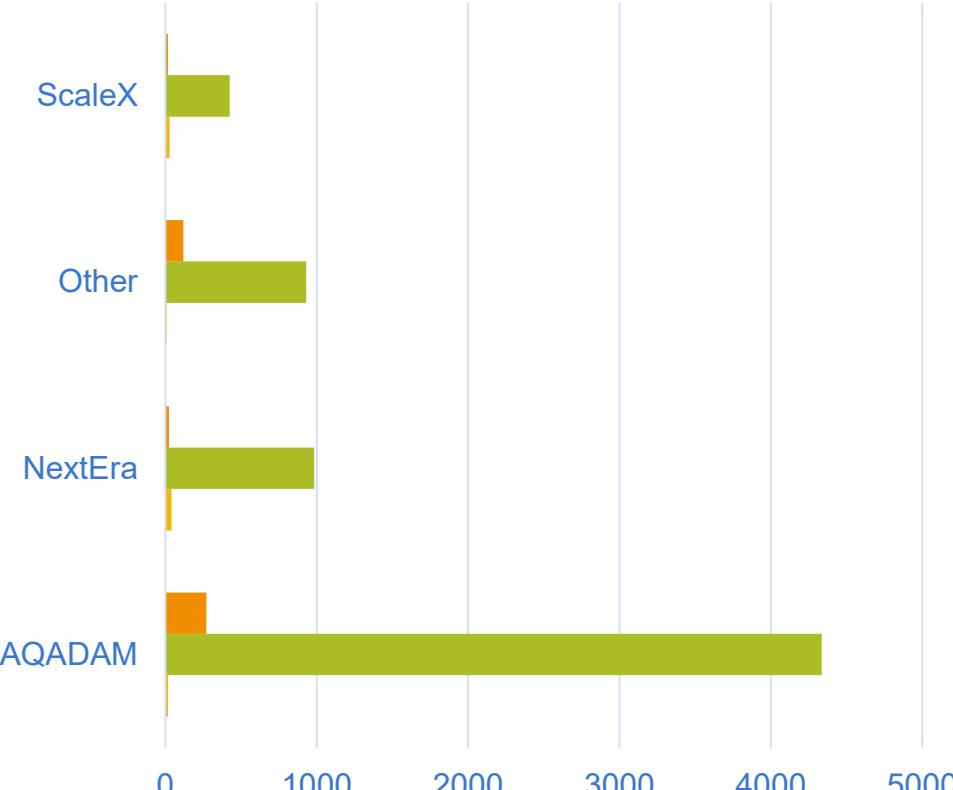


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PROGRAM CONTRIBUTIONS TO FUNDING RAISED & JOBS CREATED

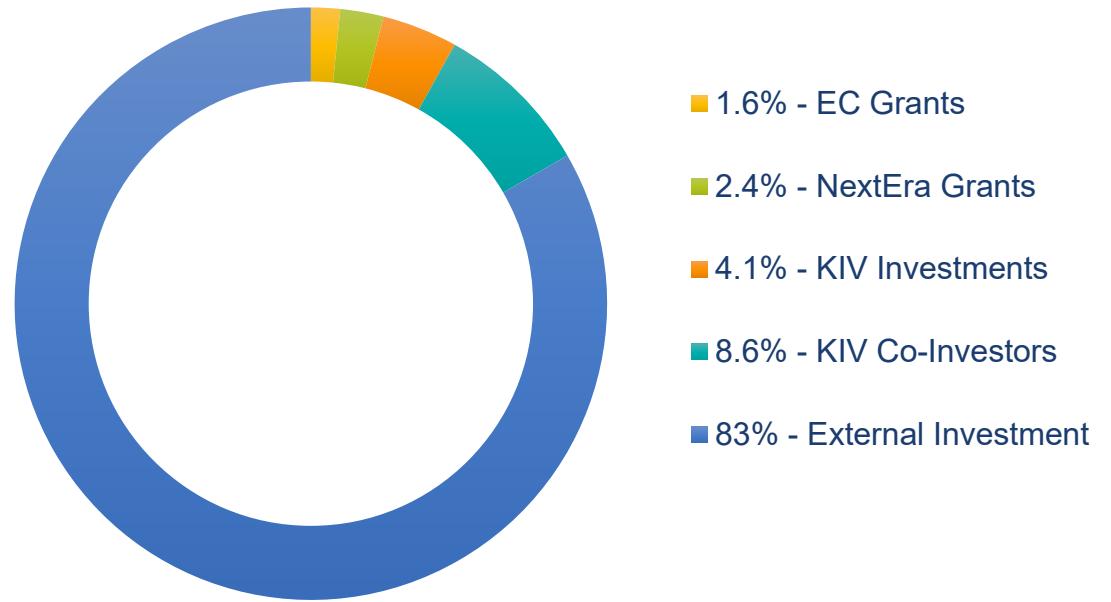
*as of June 2025

Jobs Created – By Program



Funding Raised - By Source

\$1.065B
Funding Raised



STRICTLY CONFIDENTIAL AND SENSITIVE



AI PORTFOLIO SAMPLE & KEY PARTNERSHIPS



IoT Network for smart city preventive maintenance - **STC IoT² RCRC, RCMC**



Drone services platform for digital twin and remote inspection and monitoring – Leveraging on premise servers for pre-processing - **GEOSA**



Construction Management platform including as built digital twin, identifying construction defects and document management – **Giga Projects Sites**



AI platform for health insurance under-writing, cost prediction and fraud detection in insurance network –



Real Estate and retail intelligence platform leveraging data sets from satellite imagery, real estate transactions and residency data to support real estate and retail investment intelligence - **Sakani**



Lisan is the most accurate Arabic spelling and grammar checker that provides agents for rapid creation of Arabic presentations and documents - **SEC, MoEducation**



KAUST NTI STRATEGIC INTERDISCIPLINARY INITIATIVES



**KAUST Coral
Restoration Initiative**



**Center for the Development
of Algal Biotechnology &
Aquaculture**



**Saudi Center for Vaccines &
Protein Therapies (SCVPT)**



**Future
Mobility Sandbox**



**Cryogenic
Carbon Capture**



ClimateCrete



Oil to Chemical



**Hydrogen Storage
(Ammonia Cracking)**



National Projects

KAUST CORAL RESTORATION INITIATIVE PROGRAM

Project Overview

KAUST's Coral Restoration Initiative (KCRI) industrializes reef restoration through a **100 hectares** of coral reef footprint and **2 million corals out-planted**. The world's largest coral nursery will propagate **400,000 corals annually**, supported by drone-powered 3D monitoring for precise restoration. The project transforms global operational scales by **10x**.

Key Stakeholders



جامعة الملك عبد الله
للغعلوم والتكنولوجية
King Abdullah University of
Science and Technology



نيوم NEOM

Project Highlights

Research Center

Pilot Nursery

National Talent Program

Advanced Coral Nursery

Research & Development

Ocean Nurseries

Advanced restoration

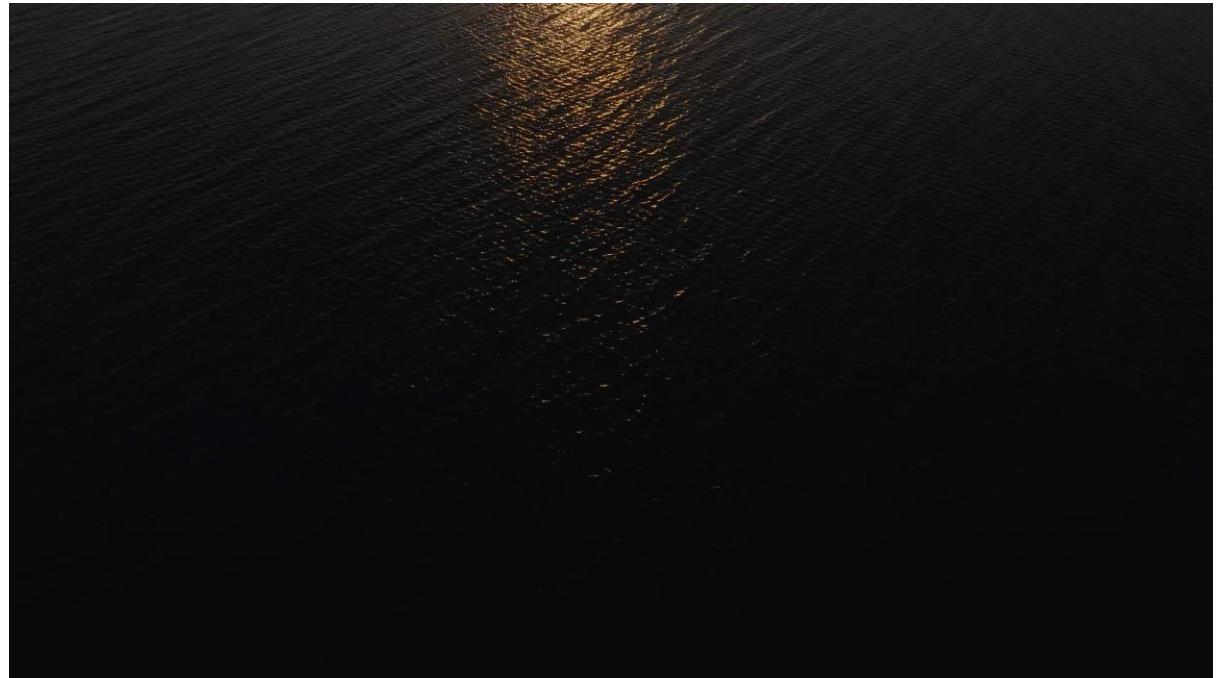
Monitoring & Digital Twin





National Projects

KAUST CORAL RESTORATION INITIATIVE PROGRAM



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National Projects

KAUST CORAL RESTORATION INITIATIVE PROGRAM

Project Status

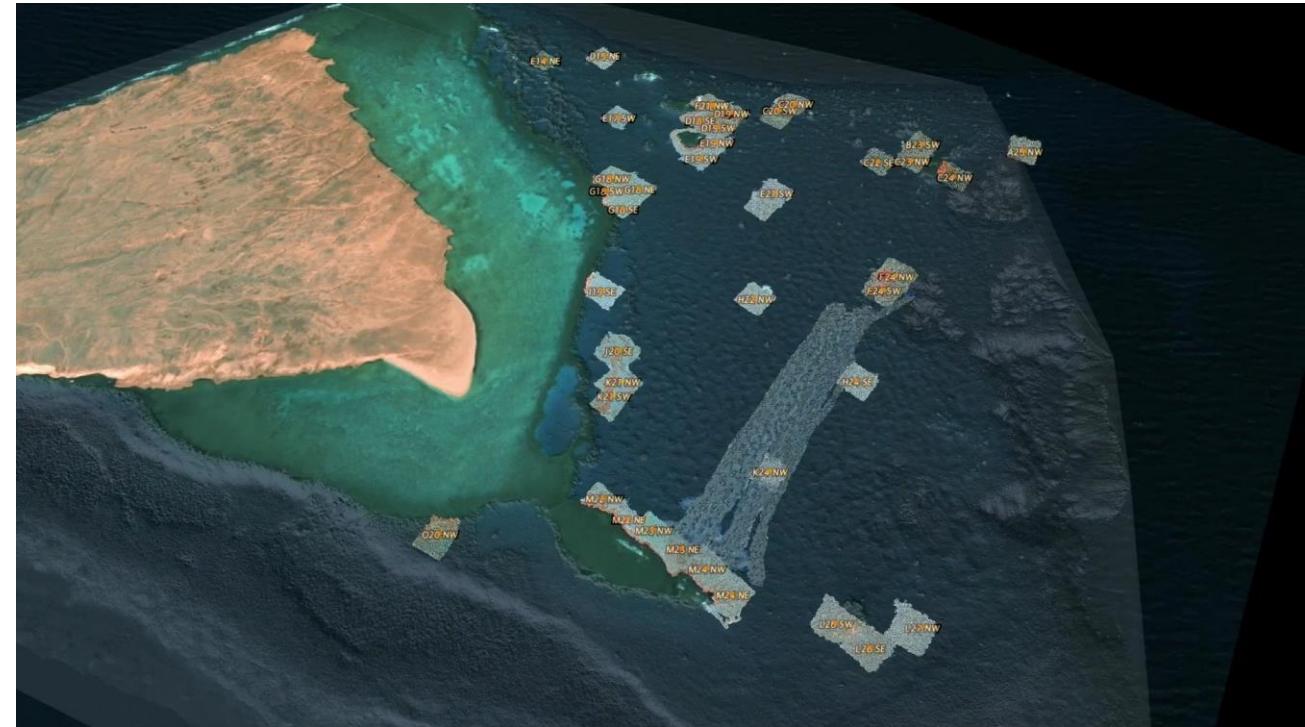
Phase 1 (2-year pilot phase) completed

Pilot nursery at full capacity – Main facility near completion

New advanced coral restoration systems developed

Digital twin taking shape

First coral planting underway



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National Projects

CENTER FOR THE DEVELOPMENT OF ALGAL BIOTECHNOLOGY & AQUACULTURE



Project Overview

In harnessing algae for sustainable food sources, KBD is innovating food security solutions, stimulating job creation, and fostering economic growth in Saudi Arabia.

Project Highlights



Achieved a **40-ton-per-hectare** farming efficiency, surpassing traditional methods by 60%



Established a Proof-of-Concept farm in KRTP **utilizing seawater** instead of freshwater



Expanded native species in Red Sea cage aquaculture



Fostered growth for small to medium-sized aquaculture businesses

Key Stakeholders



جامعة الملك عبد الله
للغعلوم والتكنولوجية
King Abdullah University of
Science and Technology

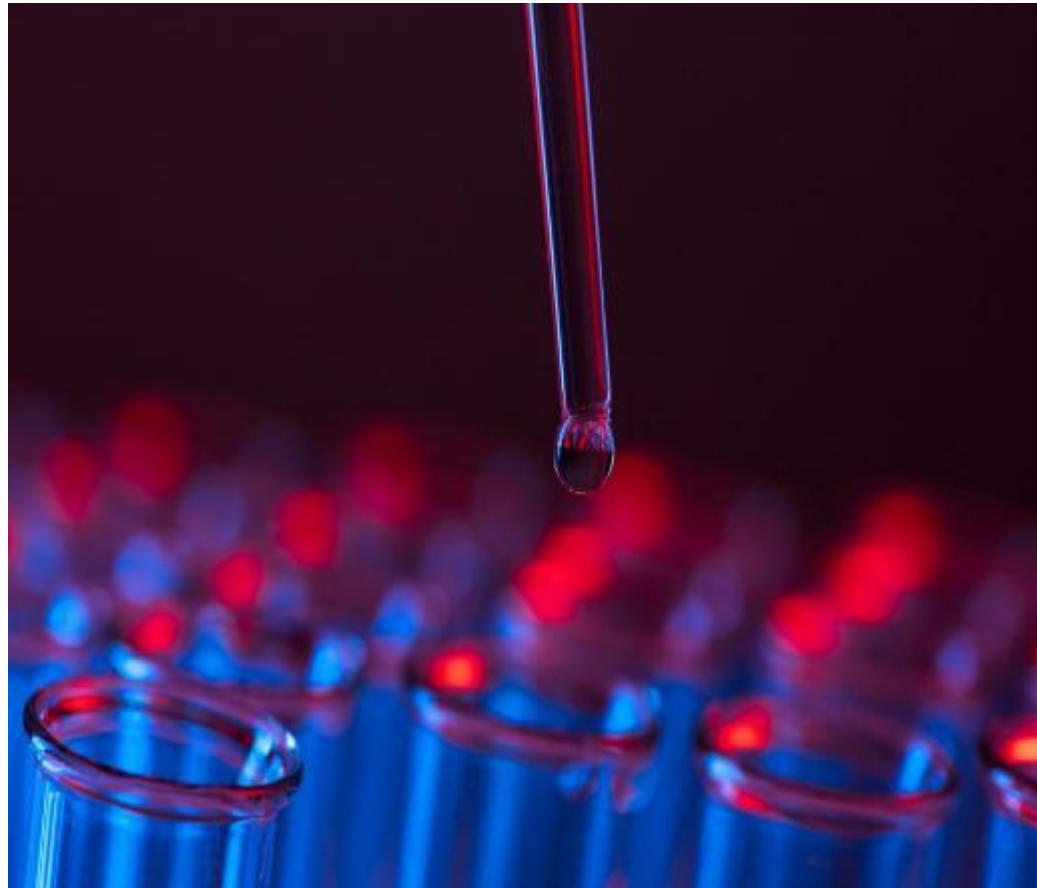


وزارة البيئة والمياه والزراعة
Ministry of Environment Water & Agriculture



National Projects

SAUDI CENTER FOR VACCINES & PROTEIN THERAPEUTICS



Project Overview

Led by KAUST, this national initiative will establish Saudi Arabia's first GMP biologics facility for human health.

- Design Completion & Training Programs : Jan 2027
- Construction Completion: Aug 2028
- Qualifications: Feb 2029

Project Highlights



Builds **local expertise** through biomanufacturing training



Advanced labs for vaccine & biologics development



Clinical trial manufacturing suites with scale-up potential



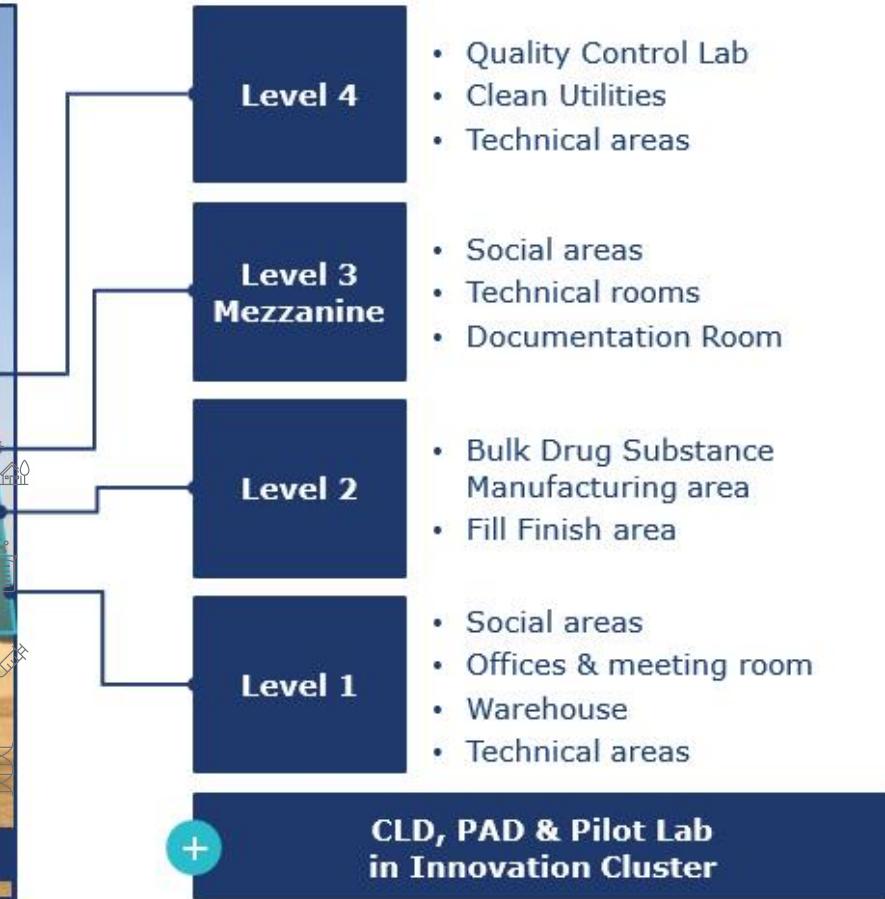
Aligned with Vision 2030, the center will **boost** Saudi Arabia's role in **global life sciences** through strong academia-industry partnerships



National Projects

SAUDI CENTER FOR VACCINES & PROTEIN THERAPEUTICS

Project Overview



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National Projects

CRYOGENIC CARBON CAPTURE



Project Highlights



First-of-a-kind 30 ton/CO₂ capture/day demonstration at Duba Green Power Plant **>99.9% Purity**



In Kingdom **IP development** platform for KAUST



Modular design, easy to retrofit with minimal impact on existing power plant operations

Key Stakeholders

Funding
Partners



Technology
Demonstration
Partners





National Projects

FUTURE MOBILITY SANDBOX

Project Highlights

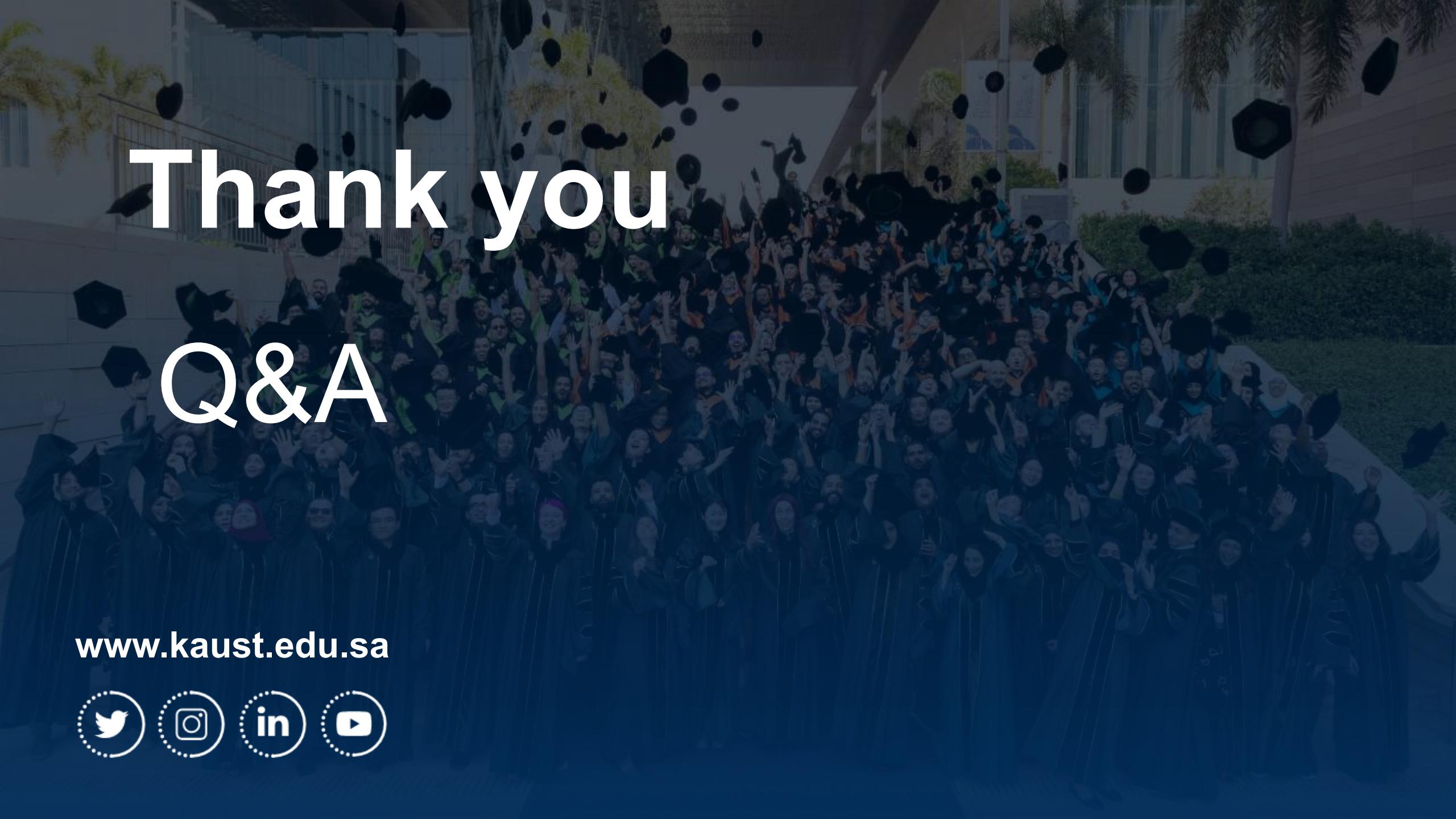
- World's **first multimodal mobility** testbed focusing on all three modes of transportation; land, sea, air
- Proving Ground to safely test and advance Connected and **Autonomous Vehicle technology** in a controlled environment
- Located on KAUST campus spanning a **1.56km² area**
- Partnership and funding by the **Ministry of Transport and Logistical Services (MOTLS)**

Key Stakeholders



National Industrial
Development and
Logistics Program



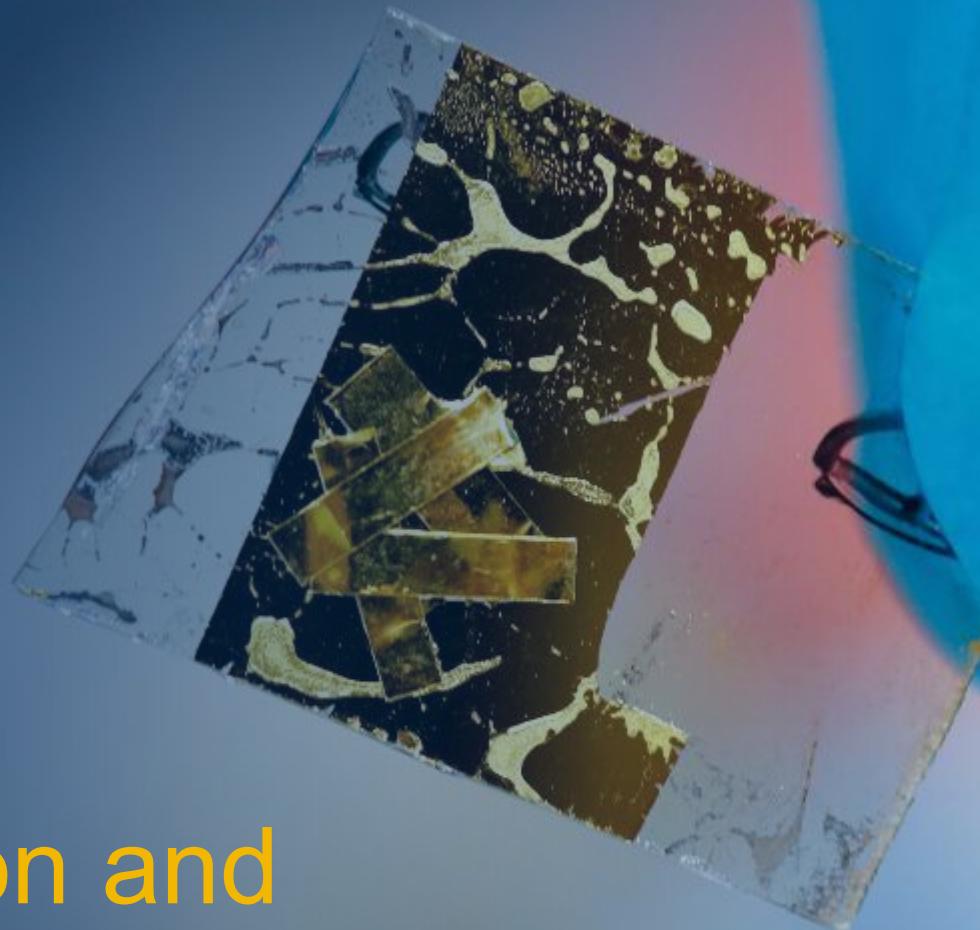
The background of the slide features a large, diverse crowd of people in graduation gowns and caps, cheering and clapping. The scene is set outdoors with modern buildings and palm trees visible in the distance.

Thank you

Q&A

www.kaust.edu.sa





Commercialization and Consultancy at **KAUST**