



UNIVERSITI  
TEKNOLOGI  
MARA

Fakulti  
Kejuruteraan Awam

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FACULTY OF CIVIL ENGINEERING  
UNIVERSITI TEKNOLOGI MARA





## 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE



# INDUSTRY, INNOVATION AND INFRASTRUCTURE: WHY IT MATTERS

### WHAT'S THE GOAL HERE?

To strengthen innovation, sustainable infrastructure knowledge, and industry collaboration through education, research, and community engagement.

### TEACHING & LEARNING

Goal: To equip students with knowledge and skills in modern infrastructure, innovation, and sustainable engineering practices.

#### Key contributions

- Integrate digital construction, sustainable infrastructure, and innovation topics into coursework.
- Encourage project-based learning linked to real industry and infrastructure challenges.
- Promote the use of modern engineering tools, technologies, and software in learning.
- Support experiential learning through industry-related academic activities.

Over  
**70%**  
industry  
collaborations  
and innovation  
projects  
enhanced  
infrastructure  
knowledge  
and practical  
engineering  
skills in FCE

## RESEARCH & PUBLICATION

Goal: To advance research and innovation that improve infrastructure resilience, construction practices, and technological development.

### Key contributions

- Conduct research on sustainable materials, smart infrastructure, and resilient construction systems.
- Collaborate with industry partners on research and consultancy projects.
- Support student involvement in innovation and applied engineering research - join IIDEX2025 with 10 contingents from FCE. Got 2 gold, 5 silver and 3 bronze.

## OPERATION

Goal: To provide facilities and an environment that support innovation, experimentation, and infrastructure-related learning.

### Key contributions

- Maintain laboratories and facilities that support engineering experimentation and research.
- Provide access to digital tools and platforms that enhance innovation in learning.

## COMMUNITY OUTREACH

Goal: To share engineering expertise that supports community infrastructure development and technological awareness.

### Key contributions

- Conduct outreach programmes related to infrastructure awareness and sustainable development.
- Collaborate with agencies and partners on community infrastructure-related initiatives.

## STEM KIT BUILDING @ UMP SA

FCE successfully conducted a STEM Kit Building engagement session at Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA). A total of 40 STEM Kit Building units were delivered on the same day, supporting hands-on STEM learning and early engineering exposure. The visit was led by Assoc. Prof. Ir. Ts. Dr. Mohd Khairul Kamarudin, together with the UiTM PJI and ICAN team, reflecting a strong commitment towards innovation-driven education and inter-university collaboration.



## STUDENT INITIATIVES

Goal: To encourage students to lead innovation-driven and industry-relevant activities.

### Key contributions

- Organise innovation competitions, technical talks, and engineering workshops.
- Participate in industry-linked student projects and challenges.
- Promote creative problem-solving and design-thinking activities among peers.

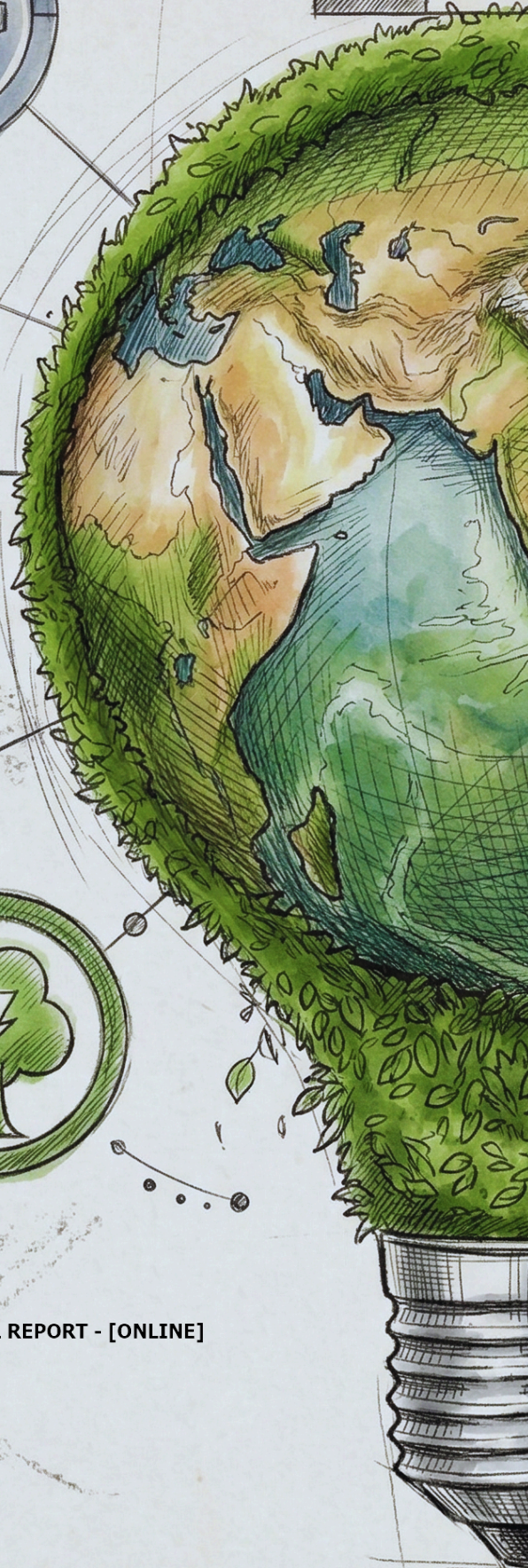
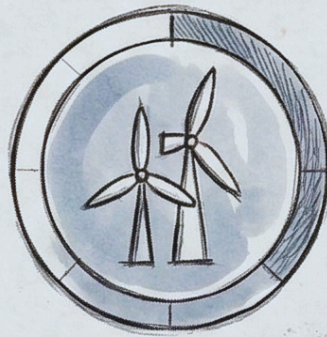
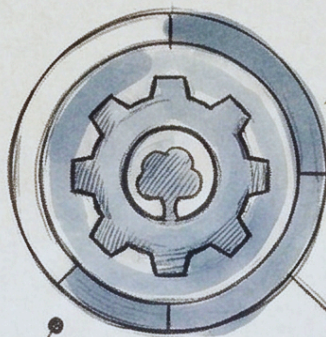
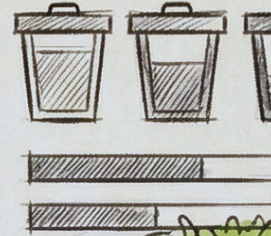


### Penyerahan STEM Kit sempena INNOVATHON SMK Seksyen 18

The initiative aimed to nurture early interest in engineering and problem-solving skills among school students. By exposing participants to hands-on learning tools, the faculty helped strengthen innovation culture and technical thinking at pre-university level. This collaboration supports SDG 9 by encouraging technological literacy and inspiring future engineers.



SUSTAINABLE DEVELOPMENT GOALS



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