IEM
The Institution of Engineers, Malaysia

15TH IEM CHEMICAL ENGINEERING DESIGN COMPETITION



SUSTAINABLE TRANSFORMATION OF END-OF-LIFE TYRES INTO VALUE-ADDED PRODUCTS

ABOUT THE COMPETITION

This competition challenges undergraduate students to design innovative and sustainable chemical engineering solution for the conversion of the end-of-life-tyres into valuable products. Let your ideas drive a circular economy and a cleaner future.

Any information regarding the software training will be announced on IEM's social media platforms. Further details and arrangements will be communicated directly to registered participants only.

REGISTRATION FEE

Malaysia Team - IEM members
RM350/team
(there will be additional charges of RM75 per person for Non-IEM Members)

International Team
USD130/team

COMPETITION TIMELINE

REGISTRATION DEADLINE	TRAINING DATE	SUBMISSION OF PROGRESS REPORT	SUBMISSION OF FINAL DESIGN REPORT	MGNT REPRT & SLIDES (SHORTLISTED ONLY)	FINALE
19 NOV 2026	19 DEC 2026	22 JAN 2027	2 APRIL 2027	4 JUNE 2027	26 JUNE 2027

SPONSORED BY:

Honeywell

HONEYWELL ENGINEERING SDN BHD

🎓 ABOUT THE COMPETITION

The 15th IEM Chemical Engineering Design Competition 2026/2027 provides a platform for chemical engineering students to apply their knowledge and creativity to a real-world engineering design challenge.

This year's theme, **"Sustainable Transformation of End-of-Life Tyres into Value-Added Products,"** challenges participants to develop innovative, sustainable and economically viable processes to transform waste tyres into useful, high-value products.

The competition aims to enhance students' practical design skills, problem-solving abilities and understanding of sustainable chemical engineering.

🎯 OBJECTIVES

✅ Enhance design competency and practical application of chemical engineering knowledge.
✅ Foster collaboration and knowledge exchange among students, academia, and industry.
✅ Promote sustainability and circular economy practices in chemical engineering.

👩‍🔬 ELIGIBILITY

- Open to all diploma and degree-level chemical engineering students from Malaysian and international institutions.
- Teams of 3–5 members from the same institution.
- Teams may use process simulation software, particularly UniSim, for mass and heat balance (MHB) simulations. Honeywell supports the competition by providing UniSim to help participants simulate complex chemical processes and ensure fair evaluation.

📂 DELIVERABLES

STAGE 1

✔️ Progress Report (max 30 pages, excluding Appendix)

- Demonstration of the sustainability concept
- Process flow diagram and equipment selection
- Mass and energy balances

✔️ Final Design Report (max 30 pages, excluding Appendix)

- Equipment design (1 major unit operation)
- Process and instrumentation diagram
- Economic performance

STAGE 2 – (if and upon being shortlisted) DESIGN FINALE

✔️ Management report (10 pages)
✔️ Management report presentation (10 min followed by 15 min Q&A)

Details of deliverables are made available upon registration

✔️ Criteria are subject to change without prior notice.
✔️ The number of pages of the progress report and final report exclude appendixes.
✔️ Maximum 30 pages for appendixes.
✔️ 50% of marks will be deducted for not complying with the requirements stated in the deliverables.

DESIGN COMPETITION TIMELINES

(subject to change)



- REGISTRATION DEADLINE
  19 NOV 2026
- TRAINING DATE - VENUE: WISMA IEM, PETALING JAYA
  19 DEC 2026
- DEADLINE FOR SUBMISSION OF PROGRESS REPORT
  22 JAN 2027
- DEADLINE FOR SUBMISSION OF FINAL DESIGN REPORT
  2 APRIL 2027
- DEADLINE FOR SUBMISSION OF MANAGEMENT REPORT AND SLIDES (SHORTLISTED TEAMS ONLY)
  4 JUNE 2027
- FINALE PRESENTATION (SHORTLISTED TEAMS ONLY)
  26 JUNE 2027

The Institution of Engineers, Malaysia

Please email the registration form to ezzaty@iem.org.my

15TH CHEMICAL ENGINEERING DESIGN COMPETITION

REGISTRATION FORM

Name of Institution: _____

Team Leader: _____

Mobile Number: _____

Email Address: _____

Team Members & IEM Membership no:

1._____

2. _____

3. _____

4. _____

5. _____

Name of Advisor: _____

Mobile Number / Contact Number:: _____

Email Address:: _____

I/We understand that the fee is not refundable if i/we withdraw after my/our application is/are accepted by the Organising Committee. However, substitution of participants is allowed. If I/we failed to attend the competition, I/we will still settle the registration fee in full. All payment must be received **before 19 November 2026 (1.00pm).**