

Where Engineering Disciplines Intersect and Innovation Begins

#IMECEIndia2025



Dear Engineers,

Welcome to the fourth issue of IMECE India 2025 newsletter!

In this edition, we're pulling back the curtain to explore the unseen technologies that power our industries and innovations.

We will also uncover the invisible backers of new-age hardware startups and get to the heart of 'What really makes an engineer?' with the visionaries behind IMECE India 2025.

This edition delivers:

- 1. Capital Goods: The Invisible Infrastructure That Powers Our World**
- 2. Hardware Startup Conclave: Innovation Square @IMECE India 2025**
- 3. IMECE India: Spotlight Series**

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What if the technologies that power our world suddenly go silent?

The solutions to our everyday problems are not always visible on the screen in our hands, but they are still there behind the innovations we touch.

CAPITAL GOODS

The Invisible Infrastructure That Powers Our World

Our daily lives are surrounded by thermal and pressure technologies in plain sight, yet we fail to notice. The hydrogen fuel cell vehicles store gas at 700 bar in carbon fiber tanks.

You must be thinking so what? Let us explain. 700 bar is roughly equal to the weight of a car balanced on an area the size of a postage stamp.

And still closer to you, the processor in your laptop can generate 65 Watts heat in a space smaller than a postage stamp. This heat is enough to boil water if left uncontrolled. Effective thermal management keeps the laptop running smoothly on your lap!



Did you know that a single data center that powers our AI needs as much electricity as the whole city of Chandigarh?

It is an engineering challenge to design cooling systems for these data centres.



The refineries that form the backbone of India's industrial corridors utilize pressure vessels in processes like hydrocracking.

The principles of managing immense pressure also allow us to explore the crushing depths of our oceans!

These invisible architects don't just support technology, they enable the energy transition defining our future.

"Pressure vessel design has evolved from simple containment to sophisticated systems. Modern reactors, carbon capture units, and renewable energy storage all depend on our ability to safely manage extreme pressures."



Dr. Dipak Chandiramani
Track Chair of Pressure Technologies

Thermal management is the critical enabler across industries.

"From quantum computers operating at near absolute zero to hypersonic aircraft flying at Mach 5, we're painting temperature gradients that enable the impossible."



Prof. R Saravanan
Track Chair of Advances in Thermal Technologies.

IMECE India 2025 brings together the engineers mastering these thermal and pressure frontiers that power tomorrow's world.



Hardware Startup Conclave: Innovation Square @IMECE India 2025

India's first dedicated hardware startup platform backed by ASME's credibility at the world's grandest mechanical engineering conference.



17 September 11-12, 2025 | HICC, Hyderabad

Two intensive days where your working prototype gets in front of the people who can actually help you scale: investors who write checks for hardware, manufacturers who can build your vision, and mentors who've walked this exact path before.

- 1. Startup Showcase:** Your prototype takes center stage where real investors and manufacturing partners are actively hunting for their next big partnership.
- 2. Curated Workshops:** Learn from experts, covering everything from design for manufacturing to fundraising tactics that actually work for physical products.
- 3. Elevator Pitch Competition:** Present your vision directly to VCs and angel investors who specialize in hardware deals.

"Hardware start-ups face a distinct set of challenges - from longer development cycles and capital-intensive prototyping to navigating intricate manufacturing partnerships. At Innovation Square, part of IMECE India 2025, we bring together cutting-edge technologies, domain expertise, and targeted funding to empower hardware entrepreneurs where it matters most - at the intersection of innovation and execution."

Mr. Balachandran Hari, Deputy Director - L&D Business Development & Operations, ASME India

Register now: www.asme-india.org/imece/register

What really makes an engineer?

Curiosity, Creativity & Courage!

Introducing IMECE India: Spotlight Series -
A Conversation With India's Top Engineering Minds



Listen to the engineering visionaries behind IMECE India on the passion of being an engineer, on innovation, sustainability and inclusivity, on AI meeting human intelligence and more!

#IMECEIndia2025 10-13 September 2025 | HICC, Hyderabad



Discover more about the IMECE India 2025 tracks on the **official website:**

www.asme-india.org/imece/tracks



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