

Virtual half Day Course on “From prototype to mass production transforming engineering concepts into reliable industrial products”

Date : 12 August 2026 (Wednesday)

Time : 9.30 am - 12.30 pm

Platform: Zoom

**BEM APPROVED CPD: Applying
REF NO : Applying**

Executive Summary

The transition from a validated benchtop prototype, simulation model, or pilot-scale design to a commercially viable, certified, and mass-producible industrial asset is one of the most challenging phases in the engineering lifecycle. Across all disciplines—from electrical and mechanical systems to chemical processes and structural designs—projects often succeed in the safety of a controlled laboratory or software environment, only to struggle when exposed to unpredictable field conditions, scaling constraints, and rigorous international regulations.

This technical talk addresses the vital gap between "Proof of Concept" (PoC) and a "Market-Ready Product." Drawing on real-world product realization insights and global design-to-manufacturing practices from the Plexus Penang Design Centre, this session introduces a structured framework designed to help engineers understand what is required to transition their technical solutions into ruggedized, safe, and sellable products.

The session will explore the core pillars of modern product commercialization, including:

- **Real-World Design for Excellence (DFX):** Gaining an understanding of how a global design center bridges the gap between early prototypes and high-volume factory assembly lines to minimize manufacturing friction from day one.
- **Industrial-Grade Environmental Design:** Getting key ideas on protecting physical, electronic, and structural systems against harsh operational environments—such as extreme thermal loads, mechanical vibration, and dust ingress.
- **The Compliance and Test Engineering Gateway:** Acquiring a high-level appreciation of modern test development strategies and early pre-compliance pipelines (such as safety and EMC testing) necessary to achieve globally certified, market-ready products.

By shifting the engineering mindset from individual troubleshooting to systematic product lifecycle management, attendees will gain a clearer picture of how to optimize development timelines, reduce expensive redesign loops, and successfully plan their path from concept to market.

Key Learning Outcomes

By attending this technical session, participants will be able to:

- **Understand the Lifecycle Chasm:** Gain a clear overview of the key technical, operational, and regulatory gaps when transitioning a prototype into a commercial, industrial-grade asset.
- **Gain Awareness of Design for Excellence (DFX) Principles:** Learn the fundamental concepts of designing for easier manufacturing (DFM), production testing (DFT), and secure supply chains (DFS) from the early design stages.
- **Get Ideas for Environmental Ruggedization:** Discover common physical and material protection strategies used to mitigate risks caused by thermal stress, mechanical vibration, and electromagnetic interference.
- **Understand Compliance & Certification Processes:** Obtain a high-level roadmap of validation testing, pre-compliance, and international certification loops.
- **Appreciate the Value of Engineering Documentation:** Understand how systematic trace documentation helps prevent late-stage product failures once deployed on production floors or in customer environments.

Targeted Audience

This talk is designed to be highly interdisciplinary and holds direct value for:

- Professional Engineers (Ir.) and Graduate Engineers across all disciplines (Mechanical, Electrical, Electronics, Chemical, Mechatronics, Civil, and Systems Engineering).
- R&D Engineers & Product Designers who want to scale their physical prototypes into commercial devices.
- Quality Assurance, Testing, and Compliance Managers managing strict regulatory frameworks.
- Project Managers & Engineering Directors responsible for accelerating time-to-market while managing operational risk.
- Engineering Entrepreneurs & Innovators looking to build scalable hardware or industrial assets.



Speaker :
Ir. Irsyaduddin Bin Wan Zohal

Ir. Wan Muhammad Irsyaduddin Bin Wan Zohal is a Professional Engineer and accomplished Mechatronics Engineer with extensive experience in research and development, embedded software engineering, electronics design, and product innovation. He graduated with a Bachelor of Engineering (Mechatronics) from the International Islamic University Malaysia (IIUM) and is registered as a Professional Engineer (Ir.) with the Board of Engineers Malaysia.

Currently serving as the Head of Research & Development at Avialite Sdn Bhd, Ir. Irsyaduddin leads the end-to-end development of innovative LED aviation lighting solutions, from initial concept and prototyping to mass production. His responsibilities include technology scouting in emerging areas such as the Internet of Things (IoT), solar integration, and high-efficiency technologies, as well as ensuring product compliance with international aviation standards. He is also actively involved in value engineering, cost optimisation, and maintaining ISO 9001 quality management standards.

His technical expertise covers embedded C/C++ programming, RTOS, embedded Linux, electrical and electronic circuit design, multilayer PCB design, solar control systems, innovation management, and design verification. Throughout his career, he has contributed to numerous engineering projects, including solar-powered aviation warning lights using MPPT charging technology, GSM-based wireless monitoring systems, IoT-controlled automation systems, and embedded software applications.

Beyond his professional engineering career, Ir. Irsyaduddin has contributed to engineering education as an industry panel member, invited lecturer, project evaluator, and innovation presenter at various Malaysian institutions. His strong combination of technical expertise, innovation leadership, and industry experience reflects his commitment to advancing engineering technology and developing practical, high-performance solutions.

Chairman,
Project Management Technical Division
The Institution of Engineers Malaysia,
Lots 60 & 62, Jalan 52/4, P.O. Box 223 (Jalan Sultan),
46720 Petaling Jaya, Selangor Darul Ehsan
Tel: 03- 7890 0134
Email: syafiq@iem.org.my
Website: www.myiem.org.my

REGISTRATION FORM

**VIRTUAL HALF DAY COURSE ON “FROM PROTOTYPE TO MARKET :
TRANSFORMING ENGINEERING CONCEPTS INTO RELIABLE INDUSTRIAL PRODUCTS”**
12 August 2026 (Wednesday) Closing Date : 10 Aug 2026

REGISTRATION FEE'S (subject to 8% SST)		
	ONLINE FEE (Via IEM Portal)	NORMAL FEE (Via Quotation & Invoice)
IEM Student Members	40.00	50.00
IEM Graduate Members	75.00	90.00
IEM Corporate Members	125.00	150.00
Non-IEM Members (Non of the Above	240.00	300.00

NAME	MEMBERSHIP NO. / GRADE	FEES (RM)
Sub Total:		
SST Added 8% :		
Total Amount Payable :		

Organisation :
Contact Person :
Position:
Billing Address:
.....
Company Registration No : **Tax Identification (TIN no) :**
Contact Details: Office No:
Email Address:
Date Submitted : **Handphone No:**

CANCELLATION POLICY

IEM reserves the right to postpone, reschedule, allocate or cancel the course. Full refund less 30% if cancellation is received in writing more than 7 days before start date of the event. No cancellation will be accepted prior to the date of the event. However, replacement or substitute may be made at any time with prior notification and substitute will be charged according to membership status.

PERSONAL DATA PROTECTION ACT

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.