The Institution of Engineers, Malaysia

WEBINAR TALK ON "ENGINEERING & AI: A CONJUNCTION OF SPHERES – PRACTICAL APPLICATIONS OF AI- DRIVEN GEOSPATIAL INTELLIGENCE FOR ENGINEERING OF THE FUTURE"

Organised By :
Civil and Structural Engineering Technical Division, IEM

WEBINAR DETAILS

- Date : 15th April 2026 , Wednesday
- Time : 3.00pm - 5.00pm
- Venue : Zoom - Virtual Platform
- BEM Approved CPD Hours : 2
  Ref No : Applying
- Registration Fees
  IEM Students : Free
  IEM Members : RM15
  Non-IEM Members : RM70

Speaker

Ir. Dr. Lim Eu Shawn

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Synposis

The construction and structural engineering sectors face growing pressure to inspect ageing infrastructure faster, safer, and more cost-effectively; from high-rise buildings and bridges to highways and port facilities. Artificial intelligence, combined with drone-based geospatial data capture, is now providing civil and structural engineers with powerful new tools to meet this challenge. This webinar will demonstrate how drone imagery and sensor data are converted into actionable engineering insights for the construction and structural engineering community.

Through real-world case studies, the webinar will cover:
- Automated structural defect detection: Using AI-powered image analytics to identify cracks, spalling, corrosion, and surface wear on buildings, bridges, and other civil structures, replacing laborious manual inspections with rapid, repeatable, and objective assessments.
- 3D digital twins and construction monitoring: Leveraging drone-captured point clouds and photogrammetry to build accurate digital replicas of structures and construction sites and enabling progress tracking.
- Predictive maintenance for structural assets: Applying an automated, data-driven structural health monitoring approach by combining continuous vibration measurements, digital twin calibration, and standards-based structural reassessment to identify deterioration trends early, prioritise repair interventions, and optimise life-cycle maintenance budgets for infrastructure portfolios
- Practical data pipelines for structural engineers: Understanding the end-to-end workflow from flight planning and data acquisition through AI processing to integration with structural engineering assessment and reporting frameworks.

The session will give attendees clear, practitioner-focused understanding of the tools, data pipelines, and competencies required to adopt AI-driven geospatial solutions within structural inspection and construction projects. It will also examine how these technologies are reshaping the role of the civil and structural engineer in the future built environment, from reactive inspectors to data-informed decision-makers.

Speaker’s Biodata

Dr. Shawn is currently the Chief Business & Solutions Officer at Aerodyne Group overseeing the division that takes care of the business development and technology rollout across the 45 countries that Aerodyne operates in. He oversees the strategic technology development, commercialization and group wide product management associated with strengthening Aerodyne’s position as AI-driven digital transformation company. He has previously led the Consultancy and Project Delivery portfolio at Universiti Teknologi PETRONAS where he grew UTP to be one of the largest university-based consulting outfit in Malaysia in the area of deep tech and specialist engineering. Shawn also comes from a background of technopreneurship and is also the technology founder of an engineering deep tech outfit, specializing in digital twins of critical public and energy infrastructure. On the nation building side, he also heads Energy Institute Malaysia as the Chairman and also Malaysian Structural Steel Association as an ex-co-member.