

# Half-Day Seminar

## From Riverbanks to the Cloud: IoT-Driven Design with MacRa for Sustainable Flood Protection

### Synopsis

Over the years, double twisted steel wire mesh products have evolved significantly. This versatile material is now used in a wide range of hydraulic applications, including channel and river lining, river walls, flood walls, ponds, culverts, and weirs. The talk will highlight the sustainability aspects of hydraulic application system, showcasing it as a nature-based solution for flood mitigation efforts.

One of the advantages of this system is that the spaces between the stones create a preferred habitat for various species, thereby enhancing biological diversity. Additionally, vegetation growth through the steel meshes promotes their integration into the river environment. The design can be done with cloud-based software MacRa via platform.

Join this webinar as we cover design considerations and the selection of suitable systems for these applications.



### About the Speaker

Ir. Mohd Rizal bin Ahmad

Ir. Mohd Rizal bin Ahmad is a geotechnical engineering professional with over 15 years of experience spanning consultancy, specialist contracting, and advanced geosynthetic applications across Malaysia and Southeast Asia. Graduated from Selangor University with bachelor's degree in civil engineering, he currently serves as the Business Development Manager at Maccaferri Malaysia, where he plays a pivotal role in promoting sustainable, high-performance systems such as TerraMesh™ in major infrastructure and slope stabilization projects.

Ir. Rizal's core expertise includes ground improvement, reinforced soil structures, basal reinforcement, and the integration of geosynthetics in challenging soil environments. He has contributed to high-impact projects throughout Malaysia, Indonesia, Vietnam, and the Philippines — including airport expansions, urban highway reinforced soil walls, port reclamations, power plant foundations, and critical slope protection works.

A strong advocate for innovation in geotechnical engineering, Ir. Rizal promotes the adoption of automation and digital technologies, particularly IoT-based early warning systems for real-time monitoring and predictive slope failure detection.

He has delivered invited lectures at international conferences and is committed to advancing industry standards through knowledge-sharing, integrated design approaches, and sustainable engineering practices



In collaboration with

**MACCAFERRI**



**23 Oct 2025 (Thurs)**



**8.30am – 12.30pm**



**IEM Secretariat Office**  
1-04-02 E-Gate, Lebuhr Tunku Kudin 2  
11700 Gelugor, Penang

**BEM CPD Hours: 3**

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### Agenda

Time	Details
8.30am-9.00am	Registration & Breakfast
9.00am-12.00pm	From Riverbanks to the Cloud: IoT-Driven Design with MacRa for Sustainable Flood Protection
12.00pm-12.30pm	Q&A