Fakulti Kejuruteraan Awam
UNIVERSITI TEKNOLOGI MARA

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FCE

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ADVANCING KNOWLEDGE. CREATING IMPACT

Our news & research highlights reflect the faculty's continued commitment to advancing knowledge with real-world impact.

*STRUCM**RESEARCHHIGHLIGHTS***

FROM INDUSTRY MATCHING PROGRAMME (IMAP) GRANT RESEARCH *TO REAL-WORLD SOLUTIONS UITM –FARO ENGINEERING TEAM IN ACTION AT SUNGAI PAONG*

Written by: Dr Nurbaiah Mohammad Noh

From 25 to 28 October 2025, a multidisciplinary team of 15 delegates from UiTM, FARO, JKR Sarawak, and Politeknik Port Dickson successfully completed a four-day technical site visit to Sungai Paong, Baram, as part of an effort to assess the feasibility of constructing a new modular bridge for the local community. The expedition aimed to collect comprehensive on-site data to support the Industrial Industry Matching Programme (IMaP) research grant project titled "Design Optimization and Robustness Analysis of Locally Made FARO Logistic Support Bridge for Efficient Economical Bridge Solution." This research is led by Dr. Hazrina Mansor, Faculty of Civil Engineering, Universiti Teknologi MARA (UiTM), with FARO as the main industry collaborator. FARO is represented by its Executive Director, Nik Mohd Afi Rusyaidi Bin Rosman.

During the visit, the research and technical teams carried out several key activities to assess the site's suitability for future bridge construction. A hands-on site assessment was essential to ensure the accuracy, relevance, and overall success of the study. Accordingly, the site visit included aerial surveys using drones to map potential locations and evaluate terrain conditions, ground-truthing activities, engagement with local community leaders to understand their specific needs and challenges, as well as preliminary soil testing and topographic assessments at selected sites. The first location visited was Long Bedian, where two proposed sites; Sungai Belanah and Sungai Apoh were assessed. High-resolution aerial imagery was captured using drone technology to analyze the river geometry, flow characteristics, and the most suitable alignment for the proposed bridge.

A soil investigation was also conducted using a Mackintosh probe to determine the soil's bearing capacity, which is critical for selecting an appropriate foundation system and ensuring the stability and safety of the modular bridge structure. In addition, the team engaged with members of the local community to gain insights into their urgent need for a new bridge, as the previous structure had been destroyed by heavy rainfall. Feedback from residents highlighted the bridge's vital role in facilitating daily travel, access to schools, economic activities, and emergency response.

This technical visit reinforces the strong partnership between UiTM, government agencies, and FARO in advancing innovative civil engineering solutions for rural regions. The findings from this expedition will be incorporated into the ongoing IMaP project, with further analyses and design refinements planned. The collaboration represents a step forward in addressing rural infrastructure challenges and improving accessibility for the Baram community.

"This collaborative effort integrates community needs and technical expertise to address rural infrastructure challenges, enhance connectivity, support emergency access, and deliver sustainable, inclusive engineering solutions for long-term regional development."

MORE INFORMATION
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