
CREaTE
PUSAT KECEMERLANGAN
KEJURUTERAAN DAN TEKNOLOGI



Industry

UMPSA and CREaTE JKR forge strategic collaboration in enhancing energy efficiency and building sustainability

11 February 2026

MELAKA, 16 December 2025 – Universiti Malaysia Pahang Al-Sultan Abdullah (UMPSA) forged a strategic collaboration with the Centre of Excellence for Engineering and Technology, Public Works Department (CREaTE JKR) in innovative research and technical applications that contribute to the development of national infrastructure.

The ceremony witnessed the Vice-Chancellor of UMPSA, Professor Dr Yatimah Alias, exchanging

agreement documents with the Senior Director of CREaTE JKR, Ir. Dr Sherliza Zaini Sooria.

According to Professor Dr Yatimah, the collaboration between UMPSA and JKR has been established since 2014 in sharing research expertise that bridges the academic and industrial worlds.

“This time, through the research project titled ‘Application of Augmented Reality & Digital Twin in Energy-Efficient Air Conditioning & Mechanical Ventilation (ACMV) Retrofitting’ with a project cost valued at RM450,000 and matching funds from UMPSA valued at RM225,000 involving experts from the UMPSA BIM Centre of Excellence, it is expected to bring a significant impact in enhancing energy efficiency and sustainability of air cooling systems in government buildings.

“This research project will develop a system application that utilises Augmented Reality and Digital Twin technologies to enable digital design data of air cooling systems to be accessed directly via mobile devices such as tablets or mobile phones for use by on-site personnel.

“It also enables construction personnel to perform cross-checks of construction, including checking the accuracy of on-site installations such as alignment and size of air ducts, types and methods of installation of motor systems and air distribution, as well as monitoring the performance of air cooling systems in real time with the presence of integrated digital twin information together with IoT sensors,” she said.

She added that data connectivity within the cloud system allows ACMV equipment performance information to be accessed continuously by users, government regulatory authorities, or client parties.

“For this project, UMPSA will deploy robots for confined spaces, BIM, Augmented Reality models, and sustainable energy efficiency dashboards for four selected government buildings nationwide,” she said during the programme held at the Centre of Excellence for Engineering and Technology JKR, Melaka.

In addition to monitoring performance and maintenance trends, this application is expected to extend the economic lifespan of systems through better planning and readiness, which ultimately can enhance transparency, energy efficiency, and productivity of national assets.

Besides UMPSA, CREaTE also forged collaborations with Universiti Teknologi MARA (UiTM) and Monash University Malaysia.

Also present were the Rector of Universiti Teknologi MARA (UiTM) Shah Alam, Associate Professor Ir. Dr Shela Belayutham, the Dean of the School of Engineering, Monash University Malaysia, Dr Nur Hazlia Ariffin, and the Director of the Innovation, Research and Engineering Development Division of JKR CREaTE, Ir. Dr Haji Abdul Murad Zainal Abidin.

Also present were the Director of the Centre for Consultancy and Commercialisation, Associate Professor Dr Saiful Anwar Che Ghani, and the Director of the Centre for Innovation and Building Information Modelling (BIM) Modelling Platform, Associate Professor Dr Ahmad Tarmizi Haron.

By: Mimi Rabita Abd Wahit, Centre for Corporate Communications

Translation by: Ts. Dr. Rozaimi Abu Samah, UMPSA Press

- 75 views

View PDF