Singapore

NTU, Hyundai Motors sign research agreement on electric vehicle manufacturing

(From left) Mr Hong Bum Jung, Mr Youngcho Chi, Professor Subra Suresh and Professor Lam Khin Yong attended the signing ceremony held at NTU on Sep 1, 2021. (Photo: NTU Singapore)

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SINGAPORE: Nanyang Technological University (NTU) announced on Thursday (Sep 2) that it has entered into an agreement with Hyundai Motor Group for a series of joint research projects focusing on "advanced solutions" for electric vehicle manufacturing.

The agreement was signed on Wednesday by Professor Lam Khin Yong, NTU's senior vice president (research), and Hyundai Motor Group's senior vice president Hong Bum Jung.

The research will focus on "advanced solutions for the manufacturing of electric vehicles and to develop future mobility solutions", NTU said in a news release.

"Focusing on Industry 4.0 technologies, these projects aim to develop solutions that can transform conventional car manufacturing facilities into state-of-the-art factories of the future," it said.

The initial stage, which starts this month, will involve four pilot projects on artificial intelligence and additive manufacturing, or 3D printing.

One of the projects aims to develop machine learning algorithms for vehicle image processing to ensure the quality of electric vehicles powered entirely by batteries.

"The application of an AI-based image processing sensor in the plant will help detect defects and anomalies during the manufacturing process, ensuring high levels of safety and reliability of the final product," NTU said.

Another project will look at integrating 3D printing in the electric vehicle manufacturing process.

Researchers will explore how 3D printing can be effectively used in the customisation of automotive components, and how they may be implemented in a smart factory operation, the university said.

"This will support the smart manufacturing vision, where customers can order and customise a car model to their taste," added NTU.

The agreement between NTU and Hyundai also "paves the way for future collaborations aimed at nurturing talent in the automotive sector", NTU added.

This includes the launch of 3D printing competitions, focusing on the innovative use of the technology in automotive engineering, as well as joint educational seminars.

"The partnership between NTU and Hyundai Motor Group provides one more example of how our close collaboration with industry plays an important role in developing relevant solutions to address real world issues," said NTU president Professor Subra Suresh.

"This collaboration with Hyundai Motor Group will build on NTU's core strengths, in areas such as additive manufacturing, AI, autonomous and electric vehicles, and big data to bring about benefits to the automotive industry, Singapore and the global society."

NTU was announced as Hyundai's first academic research partner for its Hyundai Motor Group Innovation Centre in Singapore in October last year.

The centre, an open research facility for Hyundai's future mobility research and development, will be located at the Jurong Innovation District, a five-minute drive from the NTU Smart Campus.

It is expected to be completed by the end of 2022.

President and chief innovation officer of Hyundai Motor Group Youngcho Chi said: "(The innovation centre) aims to build an ecosystem for the future mobility industry based on open innovation.

"We are going to strengthen collaboration with NTU and develop advanced solutions to revolutionise future mobility value chain going forward."

Source: CNA/ga