



Co-directors of the HP-NTU Corporate Lab, NTU Associate Professor Tan Ming Jen (left) and Mike Regan (right), discussing on the project to develop a new intelligent design software that will speed up and optimise the 3D-printing process for HP Multi Jet Fusion printers.

HP-NTU Corporate Lab Showcases R&D Innovations And Announces Digital Manufacturing Skills Development Programme



(Left to right) The HP-NTU Corporate Lab was officially opened today by NRF Singapore Executive Director Lim Tuang Liang, NTU Senior Vice President (Research) Prof Lam Khin Yong; HP Inc CTO Shane Wall; HP Inc Chief Technologist, Print, Glen Hopkins. At the opening, Prof Lam also presented token of appreciation to Mr Wall.

Researchers from global technology leader **HP Inc.** and **Nanyang Technological University, Singapore (NTU Singapore)** in the **HP-NTU Digital Manufacturing Corporate Lab** has showcased digital manufacturing technologies set to make manufacturing and supply chain operations more efficient, cost-effective and sustainable.

Among them are intelligent design software tools that automate advanced customisation, as well as supply chain models that enable faster time to market while lowering carbon footprint.

The lab also unveiled a new skills development programme aimed at helping Singapore train and upskill its talents in additive manufacturing – from fundamentals of additive manufacturing and digital product designs to data management and automation, under the SkillsFuture programme.

The Corporate Lab aims to train some 120 working professionals per year through the new skills development programme, which includes the fundamentals of Additive Manufacturing, digital product designs, data management, automation, user experience and business models. The new short courses are payable with SkillsFuture credits and are open for registration.

With the intelligent design software tools being developed by the lab, engineers can customise and optimise their materials’



– Examples of 3D printed products from the HP Multi Jet Fusion printer, which allows for flexible designs with both soft and hard plastic in a single print

mechanical properties more effectively. The automated tools let designers achieve designs that have the best combination of properties to achieve the desired strength,

flexibility, and weight. Imagine a customised, lightweight 3D-printed plastic cast aimed at giving patients greater comfort and fit.

Another research project is the design and optimisation of end-to-end supply chain operations. Mass customisation requires state-of-the-art supply chain design for digital factories. With advanced business models and analytics to model supply chains, manufacturers will be able to decrease the time required to identify parts suitable for 3D printing production as well as to measure the impact on carbon footprint.

As a result, manufacturers will be able to scale production of customised goods quickly during periods of high demand, reduce time to market while improving sustainability at the same time.

Professor Lam Khin Yong said, “The advanced technologies and automation solutions jointly developed by NTU and HP are expected to impact businesses in Singapore and beyond, as these innovations are geared towards efficiency, productivity and most importantly, sustainability,” said Professor Lam Khin Yong, NTU Senior Vice President (Research).

A workforce equipped with new design, thinking and technical skills is critical to unleashing the potential of digital manufacturing.

“The new SkillsFuture courses developed jointly with HP also bring valuable industrial perspectives to help upskill and train a critical talent pool for Singapore. This will support the country’s drive towards becoming a smart nation as it faces the challenges of the 4th Industrial Revolution,” Professor Lam continued.