

# HP, NTU Corporate Lab A Boost For Singapore Manufacturers In Industry 4.0 Era

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Singapore manufacturers receive a needed boost with the opening of the digital manufacturing corporate lab, a joint initiative between global technology giant Hewlett-Packard (HP) and Nanyang Technology University, Singapore (NTU).

The lab includes technologies aimed at making manufacturing and supply chain operations more efficient, cost-effective and sustainable, such as 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 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, senior vice president (research), NTU.

“Over the last year, we are able to see the first fruits of the collaboration, which combines NTU’s deep capabilities in machine learning, data science, AI and additive manufacturing, with HP’s expertise in innovation and technology solutions,” added Lam.

“Technologies developed at the Corporate Lab can then be test-bedded on the NTU Smart Campus, a microcosm of an urban city.”

**READ: [Siemens And HP Deepen Additive Manufacturing Alliance To Advance Digital Manufacturing.](#)**

A new skills development program was also revealed, aimed at helping Singapore workers upgrade themselves with in-demand skills in additive manufacturing and digital design.

These programs are supported by the Singapore government under its national future-ready training framework, SkillsFuture.

Six courses are expected to be developed, training 120 workers in its first year – with that figure expected to increase in subsequent years – in domains such as additive manufacturing or 3D printing, digital product designs, data management, automation, user experience, and business models.

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

**READ: [HP Accelerates Democratisation of 3D Printing in Asia Pacific With Breakthrough Full Colour Platform.](#)**

Today, more than 60 scientists, researchers, and engineers contribute to the lab with that number expected to grow to 100 over the coming years.

Some of the industry’s most pressing challenges are expected to be tackled in areas such as 3D printing, cybersecurity, as well as new applications, and the impact of artificial intelligence and machine learning.

“HP’s passion for innovation, together with NTU’s world-class research capabilities, allows us to achieve new breakthroughs and unlock new solutions for both business and society,” said Shane Wall, chief technology officer and head of HP Labs, HP.

“Our joint work in 3D printing, AI, machine learning, security, and sustainability will produce disruptive technologies that define the future of manufacturing,” added Wall. “Working together, we can create the workforce of the future and ensure the 4th Industrial Revolution is also a sustainable revolution.”

**READ: [Rolls-Royce And NTU Extend Research Partnership With S\\$88mn Investment.](#)**

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