NTU and HP open lab for boosting manufacturing industry with digital technology

Technologies such as 3D printing, artificial intelligence, and machine learning will define the future of the manufacturing industry.

The Nanyang Technological University (NTU) saw the official opening of a new lab, which will operate with digital manufacturing technologies, within its premises on 21 January 2020.

The HP-NTU corporate lab is geared towards boosting manufacturing and supply chain operations, making them more efficient and feasible. The partnership on this lab between HP and NTU was first announced in October 2018.

The lab is made up of more than 60 scientists, researchers and engineers who are actively finding ways to overcome the challenges in the field of digital manufacturing, with solutions such as 3D printing and cybersecurity. New applications are also developed with the incorporation of technologies such as artificial intelligence and machine learning.

One of the ongoing research projects is focused on designing and optimising end-to-end supply chain operations to aid manufacturers rapidly scale the production of customised goods. This will be especially critical during the high demand phases.

The intelligent design software tools created at the lab will allow engineers to tailor and enhance the mechanical properties of their materials. Engineers will be able to customise the properties of the materials, such as strength, flexibility, and weight, and achieve the desired outcomes.

HP chief technology officer and head of HP Labs Shane Wall shared that technologies such as 3D printing, artificial intelligence, machine learning, security and sustainability are disruptive technologies that define the future of manufacturing. “Working together, we can create the workforce of the future and ensure the fourth Industrial Revolution is also a sustainable revolution,” he said.

The event also saw the launch of six SkillsFuture courses for manufacturing professionals. These courses will see about 120 workers every year undergoing courses in the fundamentals of additive manufacturing or 3D printing, digital product designs, data management, automation, user experience and business models.

Professor Lam Khin Yong, NTU’s senior vice-president of research, said that the joint establishment of advanced technologies and automation solutions by NTU and HP are focused on efficiency, productivity and, sustainability and will hence have a positive impact to businesses in Singapore.

“The new SkillsFuture courses developed jointly with HP also bring valuable industrial perspectives to help upskill and train a critical talent pool for Singapore,” he said. He added that this also in line with Singapore’s efforts of transforming into a smart nation and to overcome the challenges of the fourth Industrial Revolution.

The manufacturing industry is constantly seeing technology and innovation efforts for boosting the performance and the capabilities of employees within that sector.
This is in efforts of creating a pool of skilled workers for this industry.

SP will partner with big companies of this industry to create technology solutions and perform workforce training for organisations.

These will be structured towards helping organisations redesign operations and to promote technology adoption.

SP will also be implementing work-study programmes for students, entry-level professionals and employees. JTC will be providing support for this.

SP students will also be granted internships and opportunities to work on projects at various advanced manufacturing companies. Some of these companies are new additions to the Jurong Innovation District and will be established by JTC in the next 20 years.

SP students will have access to these opportunities in the next three years.

Some of these opportunities include programmes on the applications of Industry 4.0 methods and technologies by German engineering firm Bosch Rexroth at its regional training centre.

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