



HP Partners with SkillsFuture Singapore and Singapore Institute of Management to Ramp Up Sustainable Manufacturing and Green Procurement Skills

As a SkillsFuture Queen Bee, HP, along with SIM, will train, mentor and raise the capabilities for Singapore's evolving workforce

News Highlights:

- HP Singapore has been appointed SkillsFuture Queen Bee
- HP will work with the Singapore Institute of Management Group Limited (SIM) to deliver courses on Sustainable Manufacturing
- Aim: To train over 1,500 learners and provide mentorship in 100 proof-of-concept projects, supporting 180 companies
- SkillsFuture Singapore will support participating companies and learners through grants and course fee subsidies

SINGAPORE, August 18, 2022 – HP Singapore (HP) has partnered SkillsFuture Singapore (SSG) as a SkillsFuture Queen Bee to uplevel Sustainable Manufacturing and Procurement capabilities in the manufacturing industry. The programme involves HP and SIM developing a curriculum featuring 15 courses, while also mentoring manufacturing companies as they develop Proof-of-Concepts to support business transformation.

HP was appointed an SkillsFuture Queen Bee for its industry-recognised capabilities in Sustainable Manufacturing and Procurement. As a company that places sustainability at the heart of how it does business, HP has successfully implemented sustainable manufacturing practices across its manufacturing operations in Singapore. As an example, implementing Advanced Manufacturing in its Printhead manufacturing line has resulted in a 20% decrease in manufacturing costs and a 70% improvement in productivity and quality. Better quality in turn means less material waste.

Examples of sustainable manufacturing include the following:

- **Wastewater recycling:** HP Singapore's first water recycling plant began operations in June 2022 and recycles wastewater discharge, allowing the water to be reused in its cooling tower operations. With this, HP aims to achieve annual savings of up to 67,000m³ of water, equivalent to 27 swimming pools.
- **Automation and analytics:** HP aims to continually reduce CO₂ emission by leveraging analytics around its use of energy; by using automated LED lighting (so lights turn off when not in use); and by continually retrofitting and optimizing its machinery.
- **Improving Yield via Machine Learning:** By deploying advanced analytics and machine learning models, HP has enabled real-time detection, diagnostics, and prediction of product quality across its Printhead manufacturing line. Increasing product quality increases yields and results in less discarded materials during production. This in turn means energy savings as well as longer lasting products.
- **3D Printing:** HP utilises 3D Printing or Additive Manufacturing in parts of its Printhead manufacturing line, thereby reducing the Supply Chain touchpoints – such as the need to order, transport and store inventory.
 - **HP Multi Jet Fusion** 3D printing technology has helped replace parts of traditional manufacturing thus streamlining processes. For example:

- **HP 3D printed bracket chains** have replaced some machine parts on HP's Print Head manufacturing line.
- **3D printed pallets**, which transport parts on the line's conveyor belts, have replaced third party manufactured pallets.
- **By 3D printing Drill Extraction Shoes** used on the line, HP has reduced the number of parts it needs to procure for the line and has in turn improved operational cost efficiency while reducing production time from 3-5 days to 24 hours

Moving to 4th Industrial Revolution manufacturing also provides the opportunity to upskill workers, moving them from repetitive, mundane work into higher value work. Today 35% of HP's technical workforce in its ISO have had the opportunity to take on new roles as needs evolve, thanks to internal and external training and reskilling.

HP and SIM aim to train over 1,500 learners and provide mentorship for 100 proof-of-concept projects, supporting 180 companies. Participants will build up a range of hard and soft skills that span the most critical challenges and needs in manufacturing today, from sustainable product design, ethical sourcing, green building, to facilities management, systems thinking and problem solving.

"SSG seeks to partner SkillsFuture Queen Bee companies such as HP, to uplift the capabilities of our workforce. As industry captains, our SkillsFuture Queen Bee catalyse workforce reskilling in support of business innovation, for the companies in their network. We thank HP and SIM for joining hands to advance this endeavour for the manufacturing sector. We are confident that companies in HP's network, particularly SMEs, will benefit greatly from this arrangement," said Tan Kok Yam, Chief Executive of SSG.

"SIM is pleased to be the training arm for this SkillsFuture Queen Bee partnership to deliver training outcomes that contribute towards sustainable manufacturing capabilities. We believe in sustainability as a business strategy and have even designed an upcoming training programme on it. This partnership with HP Singapore and SSG is aligned with our raison d'être of almost 60 years, to enable and empower both individuals and enterprises to continuously reskill and upskill to remain relevant in and thrive in the workplace of the future," said Seah Chin Siong, President and Chief Executive Officer, SIM.

"Fundamental to digital manufacturing is increased efficiency and productivity that in turn results in greater sustainability. As a SkillsFuture Queen Bee, HP is proud to partner SIM and SSG in this nation-wide effort to upskill Singapore's manufacturing ecosystem. Sustainability is front and centre of how we manufacture and sell, and we look forward to leveraging our own innovation and expertise to futureproof Singapore's current generation of skilled, manufacturing talent," said Ng Tian Chong, MD of Greater Asia, HP Inc.

The 15 courses are divided into four tracks and designed to be completed within short timeframes. There is also the opportunity for companies to work on POCs and as a SkillsFuture Queen Bee, HP will provide mentorship to participants.

Companies may enrol employees into individual courses under each different track to suit their needs:

- **Engineering** – Courses under this track feature product design and sustainability as the core focus areas. They cover how companies can achieve digital transformation through design thinking in manufacturing, and guidance on designing customer-centric sustainable products.
- **Sourcing** – This track focuses on materials selection and ethical sourcing, primarily covering the environmental, social and governance pillars of sustainability, green process design and sustainability design, and how a lean and green business model can deliver sustainability across the whole business value chain.
- **Production** – This track focuses on enabling companies to develop factories of the future. Companies will learn about manufacturing and sustainability, green building and facilities management, along with ESG and carbon footprint management.
- **Aftermarket** – Courses in this track focus on creating a circular economy. The courses cover the process of green design and sustainability design, how business acumen and leadership can help companies achieve manufacturing success, and how leaders can implement change and transformation for SMART manufacturing and sustainability.

The courses will begin in September 2022 and companies can apply for the courses here: <https://hpqb.sim.edu.sg/>

About HP

HP Inc. is a technology company that believes one thoughtful idea has the power to change the world. Its product and service portfolio of personal systems, printers, and 3D printing solutions helps bring these ideas to life. Visit <http://www.hp.com>.

About the Singapore Institute of Management

The Singapore Institute of Management (SIM) is one of the region's leading education and lifelong learning institutions, recognised for empowering individuals and enterprises to thrive across life stages through learning. Seeded by the Singapore Economic Development Board in 1964, SIM has, for close to 60 years, been leading in the development of work and industry skills for Singapore's growth. Through harnessing new knowledge, skills and technology, SIM provides skills-based learning experiences that enable students, professionals, and enterprises to Learn for Life and Thrive for Life. SIM achieves this through SIM Global Education (SIM GE) and SIM Academy. SIM GE focuses on higher education pathways and SIM Academy focuses on Professional Development (PD) and Enterprise Solutions (ES) for career transitions and advancements, and integrated learning solutions for enterprises. For more information on the Singapore Institute of Management, visit sim.edu.sg

About SkillsFuture Singapore

SkillsFuture Singapore (SSG) drives and coordinates the implementation of the national SkillsFuture movement, promotes a culture of lifelong learning and strengthens the ecosystem of training and adult education in Singapore. Through a holistic suite of national SkillsFuture initiatives, SSG enables Singaporeans to take charge of their learning journey in their pursuit of skills mastery. SSG also works with key stakeholders to ensure that students and adults have access to high quality and industry-relevant training that meet the demands of different sectors of the economy for an innovative and productive workforce. For more information, visit www.ssg.gov.sg