Enterprise Singapore

MEDIA RELEASE

New Centre of Innovation for Advanced Manufacturing to enable local enterprises deepen technology and innovation capabilities

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1. Enterprise Singapore (EnterpriseSG), in partnership with five local institutes[1], has launched the Advanced Manufacturing Centre of Innovation (AMCOI). There will be a total of 14 centres under the AMCOI umbrella, providing niche expertise and resources in various emerging areas such as robotics & autonomous technology, data science and analytics, artificial intelligence and additive manufacturing. This was announced by Deputy Prime Minister Heng Swee Keat at the Industry Transformation Asia Pacific 2024 today.

2. The addition of AMCOI expands innovation support for local advanced manufacturing companies, such as semi-conductor and marine & offshore manufacturers, who will now be able to partner industry-specific centres under the AMCOI to advance, testbed and commercialise manufacturing solutions to drive business growth and technology developments. Companies may leverage the expertise and resources of these centres to innovate and expand their suite of product and service offerings.

3. The AMCOI also allows for inter-centre synergies, such as industry knowledge transfers, project collaborations and sharing of technical expertise between institutes. These may include co-development and integration of the latest technologies and solutions to meet new customer demands, improve product reliability and safety, and development of new products and services or enhancement of existing products and services to serve a wider range of customers.

4. The AMCOI builds on the current Centre of Innovation for Electronics & Internet of Things (COI-EIoT) at Nanyang Polytechnic and the Precision Engineering Centre of Innovation (PECOI) at the A*STAR Singapore Institute of Manufacturing Technology (SIMTech), to include technology and innovation centres from Ngee Ann Polytechnic, Singapore

[1] The five institutes include Nanyang Polytechnic, Ngee Ann Polytechnic, Singapore Institute of Manufacturing Technology, Singapore Polytechnic and Temasek Polytechnic.

Polytechnic and Temasek Polytechnic. Details of the 14 centres under the AMCOI can be found in Annex A.

5. Over the next two years, the AMCOI aims to support over 800 Singapore companies from the advanced manufacturing sector in more than 100 joint innovation projects to generate new revenue streams. Examples of these projects include the development of microfluidic chips[2] to advance commercial medical products in the healthcare sector and leveraging real-time machining data to support smart factory projects.

6. "The global manufacturing landscape has evolved immensely with the emergence of new technologies like AI, and trends like additive manufacturing that require niche technical expertise. To stay relevant and leverage new industry demand, local enterprises must innovate and develop new capabilities to build new revenue streams," said Ms Anne Ho, Director for Advanced Manufacturing at EnterpriseSG. "The Advanced Manufacturing Centre of Innovation offers an industry-specific platform for local manufacturers to equip themselves with the necessary resources and facilities to enhance their competitiveness and offer higher-value products and services for their customers."

7. The COIs are part of the initiatives under the Research, Innovation and Enterprise (RIE) 2025 plan that focuses on four key areas - health, sustainability, digital economy, and manufacturing. Since the latest RIE 2025 was announced in 2020, local and locally based companies have leveraged the expertise and resources at the COIs to engage in more than 350 innovation projects covering various sectors such as Energy, Environment and Water, Food Manufacturing, and Built Environment.

8. Local companies interested to work with the COIs can find out more here. Eligible companies who embarked on innovation projects with the COIs can also tap on the Enterprise Innovation Scheme (EIS) to benefit from tax deductions/allowances. More information on EIS can be found here.

[2] Microfluidic chips, also known as a lab-on-a-chip or biochips, are small-scale devices used across diverse scientific studies and industrial fields. They allow precise control, manipulation, and analysis of tiny volumes of fluids.

Annex A: Details on AMCOI

Annex B: Examples of SMEs that have grown as a result of working with the COIs

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About Enterprise Singapore

Enterprise Singapore is the government agency championing enterprise development. We work with committed companies to build capabilities, innovate and internationalise.

We also support the growth of Singapore as a hub for global trading and startups, and build trust in Singapore's products and services through quality and standards.
Visit www.enterprisesg.gov.sg for more information.

ANNEX A

Details on the Advanced Manufacturing COI

Centres under the Advanced Manufacturing COI	Area of expertise
Nanyang Polytechnic - Additive Manufacturing Innovation Centre (AMIC) - Autonomous Technology Innovation Centre (ATIC) - Automation & Robotics Innovation Centre (ARiC) - Centre for Digital & Precision Engineering - Centre for Applied AI (C4AI) - Centre for Electronics & IOT (CEIoT)	The Centres at Nanyang Polytechnic provide innovation, capabilities & business development support via a range of industry-specific services that include additive manufacturing, design and digitalisation, autonomous technology, robotics, precision engineering, applied artificial intelligence and electronics & internet-of-things. The Centres also facilitate industry partnerships and networking activities to encourage innovation sharing, company collaborations and assist in manpower training and funding access for SMEs.
Ngee Ann Polytechnic - Advanced Manufacturing & Automation	Ngee Ann Polytechnic's Centre for Advanced Manufacturing & Automation provides industry-specific expertise and facilities in the areas of smart sensors, predictive maintenance, dashboard monitoring, manufacturing execution and cybersecurity solutions. These resources and specialised areas of support allow companies to develop new products, enhance existing manufacturing technologies and scale to new growth areas.
A*STAR Singapore Institute of Manufacturing Technology (SIMTech) - Precision Engineering Centre @ SIMTech	The Precision Engineering Centre @ SIMTech supports precision engineering companies by helping them leverage advanced innovative manufacturing technologies to sustain, transform and advance their businesses locally and internationally. Companies can access technologies and resources in additive manufacturing, metal & ceramic forming, polymer & composite processing, circular processing, smart microfluidics, adaptive robotics & mechatronics, as well as optics & image processing.
Singapore Polytechnic - Advanced Manufacturing Centre (AMC) - Data Science & Analytics Centre (DSAC)	The Centres at Singapore Polytechnic provide a holistic suite of innovation capabilities, including 5G & wireless communications, additive manufacturing (including materials development), artificial intelligence, autonomous mobility, data science & analytics, internet of things applications and smart robotics and automation. The Centres

- Innovation Centre for Additive Manufacturing (ICAM) - 5G & AIOT Centre (5G & AIOT)	provide manufacturers with the expertise and knowledge to help shorten their time to market with the latest manufacturing resources while helping companies to enhance their efficiency and productivity through pooled resources and knowledge sharing from industry experts.
Temasek Polytechnic - Advanced Manufacturing Centre (AMC) - Digital Fabrication for Additive Manufacturing Centre (DFAMC)	The two Centres at Temasek Polytechnic specialise in areas such as internet-of-things, artificial intelligence, system analytics, robotics and drones, and design for additive manufacturing for health care devices. Companies may access a suite of resources, from laboratory facilities to consultancy and training, to help their business develop and testbed new solutions.

ANNEX B

Examples of SMEs that have grown as a result of working with the COIs

Advanced Micro Foundry (AMF)

Advanced Micro Foundry (AMF) specialises in integrated optics manufacturing. It partnered the Digital Fabrication for Additive Manufacturing Centre at Temasek Polytechnic in 2023 to develop and optimise designs for obsolete parts from their existing equipment.

By tapping into the Centre's expertise in additive manufacturing, AMF was able to utilise 3D printing technology to manufacture and redesign spare or obsolete parts at lower quantities and prices. This allowed the company to reduce their reliance on original equipment manufacturers (OEMs) who are generally more expensive and required AMF to procure parts in higher quantities. The advancement allowed AMF to become more productive, resilient, self-sufficient, and reduced their running manufacturing costs.

Mencast Marine

Mencast Marine is a propeller manufacturer and repair service provider. It collaborated with Singapore Polytechnic's Innovation Centre for Additive Manufacturing in 2023 to manufacture customised, high-quality ship components such as stern-bearing housings[3]. Through the application of additive manufacturing, Mencast was able to manufacture its own parts and reduce reliance on vendors and third-party suppliers. This allowed the company to enhance its supply chain resilience and optimise productivity and cost savings by more than 20%. The collaboration also allowed Mencast to develop a multi-material combination powder to be applied directly on steel, which was not commercially available at the time. This advancement allowed Mencast to enhance propeller repairs and modification services to better serve their marine and offshore customers.

Looking ahead, Mencast is now well-positioned to meet clients' demands by innovating and manufacturing new products and solutions. Equipped with in-house additive manufacturing capabilities, Mencast is able to capture opportunities and keep up with the emerging trends in the maritime sector.

[3] Stern bearing housing is the main structure of the stern tube bearing, usually made from durable materials such as white metal or composite materials. It supports and bears the load from the propeller shaft.