Launch of AI Centre of Excellence for the Manufacturing Sector

What is it?

The AI Centre of Excellence (CoE) for the Manufacturing Sector is a pilot initiative jointly developed by the Ministry of Trade and Industry (MTI) and the Agency for Science, Technology and Research (A*STAR). It forms part of Singapore's effort under the Singapore National AI Strategy 2.0 (NAIS 2.0) to build a thriving industry ecosystem in Singapore with significant value creation from AI and capabilities across the AI technology stack.

The AI CoE will convene stakeholders from the manufacturing sector across industry, research, and the startup ecosystem, to develop AI-enabled solutions that address use cases across the manufacturing sector. This includes harnessing AI to better optimise manufacturing processes, enhance quality assurance, product and component design, as well as leveraging on large-language models to complement human operators in the workforce. In doing so, the aims are to uplift the AI capabilities within the sector, improve the productivity of the manufacturing sector and boost the sector's competitiveness.

The pilot will be launched by the end of 2024 and will span over three years. The pilot will inform the approach to establish CoEs for other sectors in Singapore's economy, such as biomedical sciences, transport and logistics, and financial services.

How does it work?

The AI CoE will leverage the manufacturing domain expertise of A*STAR's Advanced Remanufacturing and Technology Centre (ARTC) and the Singapore Institute of Manufacturing Technology (SIMTech), as well as the AI capabilities of A*STAR research entities such as the Institute of High Performance Computing (IHPC), Institute for Infocomm Research (I^2R) and other Institutes of Higher Learning to apply AI to sub-industries along the manufacturing value chain.

The CoE will work with companies to develop relevant use cases that can benefit from AI; these use cases may fall into potential areas such as product or component design, quality assurance, operations optimisation, industrial automation, and predictive maintenance. Companies will work with a dedicated team to develop AI-based solutions. They will receive training and technical consultancy on the development and management of AI models that are directly relevant to their challenges. They will also learn ways to better optimise their data infrastructures, including techniques such as data correction and AI model retraining and updates, and ensuring the ongoing relevance and accuracy of AI applications within their operations.

By working with the CoE to co-develop solutions, companies in Singapore will be able to create higher value products, customise AI solutions which can be scaled on the production floor, and accelerate the transformation of their operations, processes and business activities through the adoption of AI.

To enable safe and secure test bedding and experimentation with AI solutions, the pilot will create a sandbox to support companies in assessing the viability of new ideas prior to larger-scale implementation. It will offer a wide range of AI tools and services that allow AI model training that meets specific use case requirements. Companies will be able to collectively test AI solutions and concepts using data, which could in turn foster innovation across the sector.

How can companies tap on the AI CoE for the Manufacturing Sector?

Companies keen to participate in the CoE can contact A*STAR at https://www.a-star.edu.sg/contact-us.

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