

Accelerated Change in ASEAN'S MANUFACTURING Sector

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In 2019, ASEAN countries were just starting to embrace Industry 4.0

5 key components of Industry 4.0:

- INTERNET OF THINGS**: Sensors allow equipment to share data to a central repository.
- BIG DATA ANALYTICS**: Uncover patterns and correlations in your data to raise productivity.
- CLOUD-BASED TECHNOLOGIES**: Cost-effective infrastructure, scalable on-demand.
- ARTIFICIAL INTELLIGENCE**: Apply machine learning to your datasets for enhanced solutions.
- ADVANCED MANUFACTURING**: Innovative technologies to improve your product design and production.

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How critical is manufacturing to ASEAN?

Home to the sixth largest global economy in 2019 at around US\$3 trillion, ASEAN is projected to grow at an average of 4.9% per annum for the next decade. As a core growth driver, manufacturing contributes about US\$670 billion or 21% to the region's GDP in 2018.

Size of ASEAN's manufacturing sector

compared to total GDP of the country in 2018

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62.9% (INDONESIA) 39.8% (ASEAN) 37.5% (MALAYSIA)

In spite of its size, ASEAN's manufacturing sector only ranks fourth in the world, behind China, United States and Germany. In terms of average productivity, all ASEAN member states, with the exception of Singapore, scored significantly lower than United States and Germany.

Comparing ASEAN's manufacturing productivity

manufacturing productivity is defined as value added per employee, measured in thousands of US\$, as of 2017

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137 USA 92 GERMANY 16 CHINA 15 ASEAN

Room to grow in terms of productivity

Gains in manufacturing productivity

From 2008 to 2017

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4% CHINA 38% ASEAN 4% USA 8% GERMANY

Potential gains in productivity with Industry 4.0

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THEN, COVID-19 CAME AND CHANGED EVERYTHING

Urgent need for TRANSFORMATION

COVID-19 drove an urgent need to modernise operations.

“Being able to manufacture on manual processes and operations, coupled with the lack of visibility designed into their supply chains have hindered. Both hinder manufacturers’ ability to respond dynamically during times of uncertain demand. Modernising these capabilities will be essential for manufacturers to recover from the pandemic quickly.”

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To put it simply, COVID-19 is spearheading this sector towards urgent transformation.

Challenges of racing up the INDUSTRY 4.0 LADDER

With a renewed urgency to commit to Industry 4.0, ASEAN manufacturers are now rushing headlong into technological upgrades. 39% of manufacturers have implemented a nerve-centre, or control-tower, approach to increase visibility and control across their supply-chain transparency.

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Around a quarter of manufacturers are planning automation programs to stem the challenges arising from Industry 4.0.

While the escalated pace of change is impressive, the race to becoming smart factories of tomorrow is marred with three challenges: data silos, lack of skilled managers and cybersecurity threats.

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According to a IDC study, manufacturing data is rarely housed in a common data lake or system, but typically in siloed systems.

Operators and engineers must manually piece together information from these siloed systems in a tedious and time-consuming process - which naturally hampers innovation and discourages collaboration in a company.

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Building smart factories with LUMADA

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With a firm belief in the ASEAN's manufacturing sector, Hitachi first set up Lumada Centre, in Thailand as a digital services hub, analysing data from Asian companies with IoT capabilities, big data and AI to help them climb the Industry 4.0 ladder.

Lumada is an IoT platform that allows you and Hitachi to co-create customized digital solutions to suit your business needs. It offers access to Hitachi's advanced technologies through the analysis of your data, which is then used to add value to your business operations through the implementation of big data analytics and artificial intelligence.

Having worked closely with manufacturers, Hitachi understands that talking about smart factories and data analytics can sound intimidating at first. However, many manufacturers become more receptive after learning how new technologies help to lower costs, raise productivity and ultimately, increase their profits.

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“ASEAN Manufacturing need digital transformation to improve not only their Cost Competitiveness but also Risk Competitiveness. AI and Analytics, core components of Hitachi's Smart Manufacturing solution, can help.”

Mr. Akhiro Ohashi
Executive Director
ICT Solutions Business
Hitachi Asia (Thailand) Co., Ltd.

Besides enabling smart factories, Hitachi also aims to elevate the logistics sector by incorporating smart technologies across the entire logistics and delivery network.

In 2019, Hitachi rolled out a sharing service for commercial vehicles in Thailand.

With this service, business owners can benefit from the efficient use of out-of-service vehicles across their fleet and perform joint deliveries for cargoes with close-proximity end destinations.

Not one to stand still, Hitachi is evolving Lumada's capabilities further through research

Through research partnerships with industry leaders and Microsoft, Hitachi is able to offer solutions in several key areas:

- Increase Manufacturing Productivity**: Analyse data collected from manufacturing sites to optimise factory operations.
- Optimise Logistics with Data Analytics**: Analyse traffic congestion, storage and delivery locations to enable smart routing to save miles and deliver faster.
- Predictive Maintenance and Remote Assist**: Deploy predictive maintenance, real-time remote assistance and remote training for first-line workers, using HoloLens 2.

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