



Manufacturing Sector Brief
SINGAPORE



SECTOR OVERVIEW

The manufacturing sector accounts for around 20% of the country's GDP and is considered a key pillar of the economy. Singapore is the 5th largest global exporter of high-technology products by value¹. It produces 3 out of the top 10 top pharmaceutical drugs by global revenue², and is the world's 8th largest exporter of chemicals³. The country is also home to a diverse base of precision engineering firms with expertise to manufacture complex components and equipment for sub-sectors such as aerospace, electronics, and medical technologies.

¹ Source: UN Comtrade Data 2019.

² Source: Fiecepharma special report "top 20 drug by global sales 2019".

³ Source: World Trade Statistical Review 2020.

Table 1: Manufacturing By Industry Cluster - Value Added (Million - Singapore Dollars)

● Sectors	● 2020	● 2019	● 2018
All Manufacturing	89,788.5	92,570.4	99,540.8
Electronics	35,173.5	39,374.1	39,071.2
Biomedical	15,380.8	12,362.7	17,672.5
Precision Engineering	13,432.8	12,406	13,826.6
Chemicals	12,609.8	11,869.9	12,896.1
General Manufacturing	7,854.4	8,294.8	7,869.9
Transport Engineering	5,337.3	8,262.9	8,204.5

Source: Economic Development Board

Table 2 : Manufacturing Sector Employment According to top sub-sectors

● Sectors	● 2020	● 2019	● 2018
All Manufacturing	366,579	379,499	381,872
Computer, Electronics & Optical Products	80,074	82,070	84,196
Machinery and Equipment	61,052	64,078	64,784
Other Transport Equipment	55,557	58,769	58,583
Fabricated Metal Products	33,068	35,089	35,971
Food, Beverage and Tobacco	31,357	31,894	30,771

Source: Economic Development Board



SUBSECTOR

Key manufacturing sub-sectors include electronics, biomedical sciences, chemicals, and transport engineering. In the area of semiconductors, Singapore is recognized as a critical node in the global supply chain for storage and memory products and microelectromechanical systems (MEMS). Leading industry names include GlobalFoundries, Infineon Technologies, Micron and ST Microelectronics. In healthcare, the country hosts manufacturing activities from 7 of the 10 largest pharmaceutical companies, including GlaxoSmithKline, Merck, Novartis, and Pfizer. In the area of energy and chemicals, Singapore is home to over 100 global E&C companies, including the likes of BASF, BP, ExxonMobil, Mitsui Chemicals, Shell and Sumitomo Chemicals. And as a global aviation hub, Singapore houses a healthy mix of manufacturing and aftermarket services activities from leading aerospace companies including Airbus, Boeing, Bombardier, GE Aviation, Pratt & Whitney, and Roll-Royce



STRATEGIES AND POLICIES

In early 2021, Singapore announced its Manufacturing 2030 goal to grow its manufacturing sector by 50% and maintain its share of about 20% of GDP in the next decade. To achieve this, the government has adopted a three-pronged strategy: 1) attract the best global and local companies in niche areas that will help Singapore remain a critical node in global value chains; 2) grow the size and capabilities of local enterprises in advanced manufacturing; and 3) attract more Singaporeans into manufacturing.

Singapore is a trusted partner for companies looking to boost their innovation capabilities in the region. Based in the heart of Asia and boasting one of the strongest innovation ecosystems in the region, companies seeking to engage in research and development will find their home in Singapore. For example, some of the most innovative companies from Siemens to Visa and ABB have their key innovation centres based out of Singapore.

In December 2020, Singapore launched the Research, Innovation and Enterprise (RIE) 2025 plan, which commits to sustain investments in RIE activities at about 1% of GDP, or S\$25 billion, for 2021-2025⁴. The RIE2025 plan builds on the progress of previous RIE investments to grow and strengthen capabilities in support of Singapore's long term economic, social and security needs. Manufacturing, Trade and Connectivity is one of four RIE domains of strategic importance. These RIE investments allow Singapore to continue strengthening capabilities in advanced manufacturing technologies, such as robotics and additive manufacturing.

⁴ Source: DPM Heng Swee Keat at the RIE2025 Press Conference, <https://www.pmo.gov.sg/Newsroom/DPM-Heng-Swee-Keat-Opening-Remarks-at-the-RIE2025-Press-Conference>.



CURRENT STATE OF PLAY

Singapore is an attractive location for global manufacturers, given its excellent physical and trade connectivity with major economies in the world, world-class infrastructure, availability of highly skilled talent, vibrant and robust business environment, trust and good governance, as well as rule of law. Singapore also has a strong intellectual property protection and a largely English-speaking population.

As a global hub for innovation, Singapore has built a vibrant ecosystem comprised of global R&D labs for leading Fortune 500 companies, as well as over 150 venture capital funds, incubators, and accelerators. The manufacturing sector consistently accounts for about 50% of the overall Business Expenditure in Research and Development (BERD)⁵ in Singapore.

In February 2021, Singapore launched the Southeast Asia Manufacturing Alliance (SMA)⁶. This is a tripartite agreement between EDB, ESG and private sector partners to promote a network of industrial parks to manufacturers who are interested to invest in both Singapore and the region. The SMA brings together the complementary advantages of different locations in the region and Singapore to help businesses grow their manufacturing footprint in Southeast Asia and diversify their supply chain. The SMA's first three Strategic Partner companies are CapitaLand, Sembcorp Development and Gallant Venture. Collectively, these companies operate over 10 industrial parks across Malaysia, Vietnam and Indonesia.

The government has laid the foundation for the country to present substantial opportunities in energy and environment, ICT and digital technologies, healthcare and MedTech, and aviation and defence attracting investors from developed countries such as the European Union and United States. The government is also investing heavily in automation, artificial intelligence, and integrated systems under its Smart Nation initiative and seeks to establish itself as a regional hub for these technologies. Other developing sectors include aeronautics and aircraft parts, petroleum and refinery trade, telecommunications, computer hardware and software, environment, luxury goods.

Given Singapore's ageing population, it has compelled the government to explore new growth drivers for the economy. The government has recently introduced programmes that support firms and the industry on the recruiting, hiring, and training of Singaporean workers.



WAY FORWARD

In addressing the challenges faced by the manufacturing industry, the Singapore government actively encourages the upskilling of employees to realise a future-proof industry.

The SkillsFuture Series initiative offers a curated list of relevant programmes in Advanced Manufacturing, to effectively upgrade and retrain employees. The SkillsFuture Queen Bee partnership with Bosch Rexroth and OMRON also aims to strengthen the talent pipeline in Advanced Manufacturing through the know-how of industry leaders. This creates a robust and flexible human capital strategy in the manufacturing sector, which is needed to better position Singapore for the future.

Singapore's strategy to develop its advanced manufacturing sector may face labour crunch due to its ageing workforce. Even as the government extends the retirement age and retains senior workforce, concerted efforts are needed to ensure that the sector is attractive to Singapore young talent. This includes efforts to uplift the image of Manufacturing-related jobs, strengthen learning and career progression opportunities within the sector and the need to scale industry attachments (i.e. through internships, work study).

⁵ Source: R&D Expenditure 2014-2018, Agency for Science, Technology and Research (Nov 2020).

⁶ Source: New Alliance to Help Manufacturers Expand into Southeast Asia,

<https://www.edb.gov.sg/en/about-edb/media-releases-publications/new-alliance-to-help-manufacturers-expand-into-southeast-asia.html>



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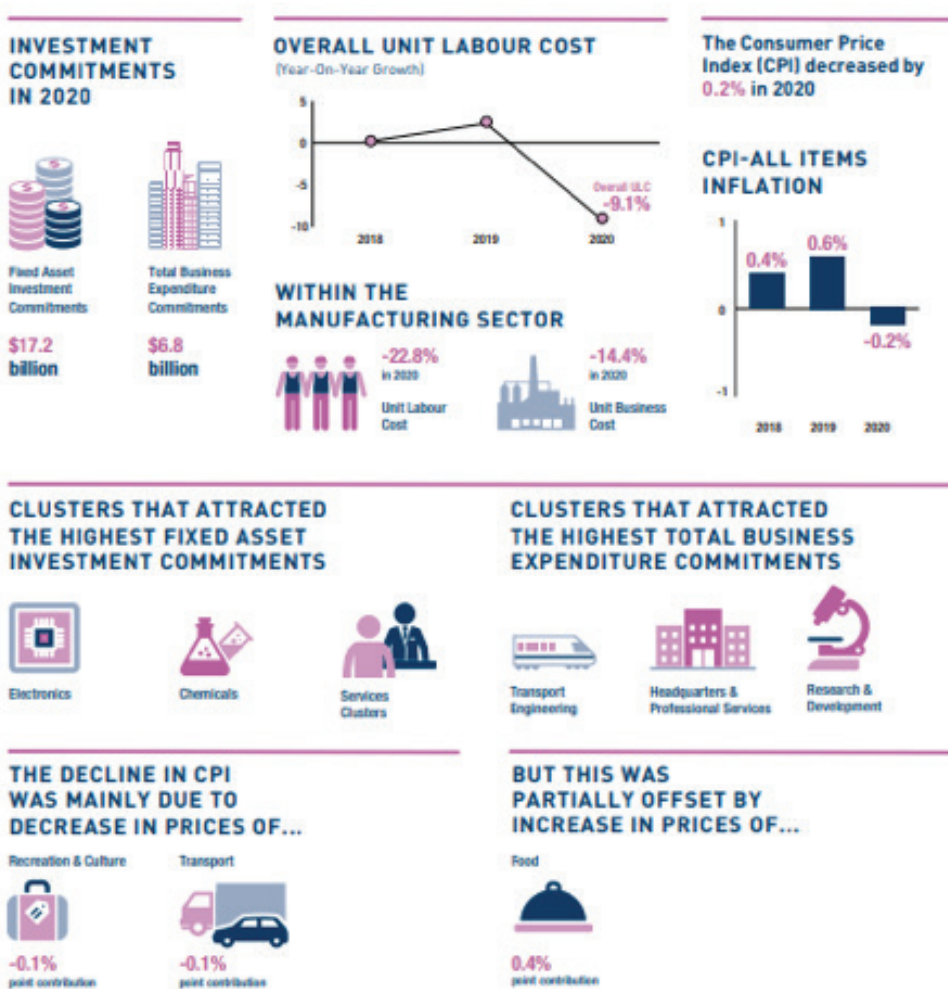
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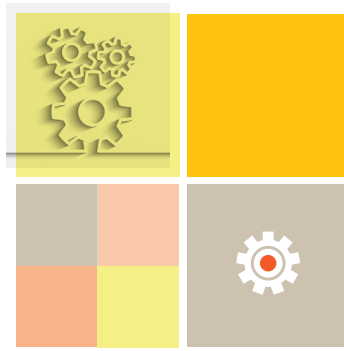


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Figure 1: Singapore 2020 – Cost, Investment and Prices





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