

Media Release
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World Economic Forum – EDB Manufacturing Transformation Insights Joint Report offers new insights on the Industry 4.0 maturity of the manufacturing sectors globally

- The Smart Industry Readiness Index (SIRI) is the first international programme to benchmark the current state of manufacturing globally
- Data from nearly 600 manufacturing companies across 30 countries shows that semiconductors, electronics, and pharmaceutical sectors are frontrunners in digital transformation
- Productivity and quality-linked performance indicators are key focus areas for both multinational corporations (MNCs) and small and medium-sized enterprises (SMEs) alike, but flexibility and speed are fast-emerging areas of priority
- The International Centre for Industrial Transformation (INCIT) – an independent, non-governmental, not-for-profit organisation – has been established to work with both public and private sector partners to scale the SIRI programme internationally

The Singapore Economic Development Board (EDB) – in partnership with the World Economic Forum (“The Forum”) – launched the [2022 edition of the Manufacturing Transformation Insights Report](#) today. The report offers new insights and findings emerging from the [Global Smart Industry Readiness Index \(SIRI\) Initiative](#). The initiative aims to build the world’s largest data sets and benchmarks on the current state of manufacturing globally by accelerating the adoption of SIRI as the international standard for Industry 4.0 benchmarking and transformation.

The report is an outcome of an 18-month Forum-EDB partnership and draws on data from close to 600 manufacturing companies across 30 countries to outline the current state of industrial transformation across different sectors. It presents detailed case studies on how different stakeholders – ranging from manufacturers to industry associations and governments – are actively leveraging the SIRI programme to accelerate their digital transformation journeys. Key findings of the report are summarized in Annex A of this press release.

Jeremy Jurgens, Managing Director of the World Economic Forum said: “The Global SIRI Initiative is one of our fastest growing initiatives, having scaled internationally to more than 30 countries over the last 18 months. Through this report, we hope to revolutionise the way by which the global manufacturing community approaches digital transformation; from one that is anecdote-based to one that relies on a standardised methodology and is supported by quantitative insights.”



“Our partnership with the Forum has established SIRI as an independent, international benchmark to accelerate the pace of transformation for the manufacturing sector around the world. The insights and real-life case studies presented in this report will provide public and private sector stakeholders with the ability to develop tailored interventions and uncover new opportunities that digital transformation can offer,” said Dr. Beh Swan Gin, Chairman, EDB.

To support the international scale-up of SIRI, a new non-governmental, not-for-profit organisation – [International Centre for Industrial Transformation \(INCIT\)](#) – has also been established since May 2021. As a neutral, independent entity, INCIT will work with both public and private sector manufacturing-related organisations to catalyse and support industrial transformation across geographies and industries.

“We are confident that the findings from this 2nd edition of the Manufacturing Transformation Insights Report will modernise the way by which the global manufacturing community approaches digitalization,” said Raimund Klein, Chief Executive Officer, INCIT. “As we progress into the post-COVID new normal, we invite manufacturers – of all sizes and industries – to take decisive action by leveraging the SIRI Programme to set themselves on the right trajectory for transformation.”

“Global Launch Event – Manufacturing Transformation Insights Report 2022” on 24 February 2022

As part of the launch of the report, the Forum and EDB will be co-organizing a webinar on 24 February 2022, 1100hrs CET / 1800hrs SGT. The webinar will include a presentation by the Forum on key findings from the report, as well as a panel discussion by key industry leaders. To sign-up for this webinar, please visit the event’s registration page at <https://go.gov.sg/12rwx1>.

Annex A: Key Findings

1. Semiconductors, Electronics and Pharmaceuticals lead the 2022 Maturity rankings, with Logistics making gains

In spite of their frontrunning positions, these top three industries are not shielded from present-day challenges like the ongoing value-chain disruptions, global chip shortage and industrial decarbonization. These developments will reshape the global manufacturing landscape and companies from these leading sectors – as long-standing pioneers of innovation and adopters of new concepts and technologies – must confront these topics proactively to redefine them into opportunities for all.

The top five most digitally mature sectors in 2019 and 2022

Rankings		
	2019	2022
1	Semiconductors	Semiconductors
2	Pharmaceuticals	Electronics
3	Electronics	Pharmaceuticals
4	Energy & Chemicals (Downstream)	Energy & Chemicals (Downstream)
5	Medical Technology	Logistics

2. A high level of diversity exists across various industry sectors; more tailored approaches are required to better support industry transformation

Governments and solution providers tend to apply “one-size-fits-all” approaches in supporting manufacturers on their digitalisation journeys, such as state-level subsidies for the adoption of new automation equipment or industry-led forums that study use cases of global companies. The impact and efficacy of such blanket interventions has been limited.

3. The most digitally mature companies are seeking to integrate their already digitised processes and systems, while the average manufacturer is still looking to digitise existing operational processes

New digital and hardware technologies, coupled with integrative design principles, have opened a world of possibilities for manufacturers. Over the past two years, most manufacturers have taken first steps towards digitalisation in response to pandemic-related challenges. Companies which have started earlier are now progressing to the next level of integrating their digitised processes.

4. Top companies have focused significantly on Connectivity to enable greater integration and insights generation

In today's digital economy, connectivity is fast joining automation as a key driver of success. Top companies acknowledge the importance of Connectivity. Many have already established interoperable and secure networks within their production sites, where equipment, machinery and computer-based systems can interact and exchange information with few restrictions.

5. Manufacturers should put more emphasis in refreshing and broadening their strategies for digitalisation and workforce retraining

With the advent of digitalisation, job scopes and work arrangements are evolving rapidly. As manufacturers formalise their digitalisation strategies to upgrade their manufacturing and enterprise processes, there is a need to also re-examine the way they organise their workforce and workspaces as remote working becomes more prevalent in the digital era.

6. Productivity- and quality-linked KPIs are key focus areas of MNCs and SMEs, but flexibility and speed are fast-emerging areas of priority

Exponential demand growth, changing consumer patterns and chronic supply-chain disruptions during the pandemic have prompted some groups of companies to shift their focus to flexibility and speed-related KPIs to strengthen adaptability and resiliency. Initiatives that demonstrate such shifts include efforts by manufacturers to reorganize their supply chains based on regional geographical markets, practising dual/triple sourcing and adopting hybrid inventory management models that include elements of both "just-in-time" and "just-in-case" strategies.

7. Data confirms SME-dominated sectors are less mature than MNC-dominated sectors

The bottom five-ranked industries are dominated by SMEs. While this might not surprise many, the SIRI insights validate this long-standing narrative. Through the COVID-19 pandemic, SMEs continue to face intense short-term business pressures, limited expertise and tight resources, all of which hinder the adoption of new advanced manufacturing processes and technologies.

8. MNCs and companies ahead of the maturity curve are more likely to plan for the long term

Companies that are larger or further ahead in the digitalization journey tend to think more long term than smaller companies or those still early in the journey. In time, this will widen the maturity divide between those that are ahead and resource-rich and those that are not.

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About the Singapore Economic Development Board

The Singapore Economic Development Board (EDB), a government agency under the Ministry of Trade and Industry, is responsible for strategies that enhance Singapore's position as a global centre for business, innovation, and talent. We undertake investment promotion and industry development, and work with international businesses, both foreign and local, by providing information, connection to partners and access to government incentives for their investments. Our mission is to create sustainable economic growth, with vibrant business and good job opportunities for Singapore and Singaporeans.

For more information on EDB, please visit <http://www.edb.gov.sg/>

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