In collaboration with Kearney

WORLD ECONOMIC FORUM

Beyond Cost: Country Readiness for the Future of Manufacturing and Supply Chains

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Contents

Foreword 3

Executive summary 4

Introduction 5

1 Country archetypes and macro-dynamic trends 6

1.1 Mapping manufacturing's role in economic growth: four country archetypes 6

1.2 Macro-dynamic and foreign direct investment confidence shifts 7

2 A proactive approach to balancing readiness factors 9

2.1 Infrastructure 10

2.2 Resources and energy 12

2.3 Technology 14

2.4 Labour and skills 16

2.5 Fiscal and regulatory 18

2.6 Geopolitical landscape 20

2.7 Environmental, social and governance 22

3 The role of public sector investment 24

Conclusion 25

Appendices 26

A1 Indices underpinning the seven readiness factors 26

A2 Methodology for country readiness factor analysis 30

Contributors 31

Endnotes 34

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Foreword

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In the wake of recent elections, which promise to accelerate a sweeping range of policies aimed at resetting global trade through tariffs and export controls, supply chain leaders are adapting to significant changes. At the same time, they are navigating multiple global conflicts across Europe and the Middle East alongside the rapid advancement of future technologies like AI. In response, leaders are prioritizing a holistic range of actions to bridge the gaps between strategic intent and operational delivery.

As manufacturers are reassessing their footprints and network strategies, making location decisions based on cost alone is evolving into a more complex process that considers a country's ability to create environment change in line with strategic priorities. Building upon the World Economic Forum's white paper *From Disruption to Opportunity: Strategies from Rewiring Global Value Chains*, this report highlights seven country-level readiness factors beyond cost considerations that foreign investors are increasingly scrutinizing.

The interventions highlighted in this paper can help public and private sector stakeholders inform decision-making processes and identify appropriate conditions and policies to ensure the manufacturing sector delivers responsible growth. To be recognized as a favourable destination for manufacturing and supply chain operations, governments can strengthen their industrial agendas by developing strategic policy frameworks in collaboration with the private sector. Ultimately, this will aid corporations that are now balancing trade-offs between cost, performance, resilience and sustainability along their rewiring journey.

Amid the global rewiring and a new emerging chapter of global trade, we hope this paper can help structure how to answer these questions with more clarity and ensure that future global value rewiring changes work for all – including developed and developing countries and companies of all sizes – for the decade to come.

Executive summary

Beyond cost, seven readiness factors are crucial for countries aiming to become attractive destinations for foreign investment.

Ongoing global supply chain disruptions are pushing manufacturers to rethink their operations. Rather than solely focusing on cost, they are now balancing cost considerations with factors including performance, resilience and sustainability. For many, this means a renewed focus on regionalization, with over 90% of manufacturers prioritizing this approach according to a survey by the World Economic Forum and Kearney involving over 300 global operations executives and 60 consultations. Findings from this survey (captured in the previous white paper *From Disruption to Opportunity: Strategies from Rewiring Global Value Chains*), show that close to two-thirds of manufacturers are adopting a "power-of-two" geographical approach, ensuring the majority of their direct spending is sourced from two separate regions.

Analysis of macro-dynamic shifts from the early 2000s financial crisis to the present day, together with national strategies aimed at expanding the manufacturing sector, reveals four distinct country archetypes defined by two key dimensions: the contribution of manufacturing to gross domestic product (GDP) and the level of GDP per capita:

- **Adapter**: **limited contribution** of the manufacturing sector to GDP, and a GDP per capita level that sits **below** the global average
- **Converger**: **limited contribution** of the manufacturing sector to GDP, and a GDP per capita level that sits **above** the global average
- **Connector**: **strong contribution** of the manufacturing sector to GDP, together with a GDP per capita level **below** the global average
- **Scaler**: **strong contribution** of the manufacturing sector to GDP, together with a GDP per capita level **above** the global average

As countries prepare their systems for the future of manufacturing, foreign investment is increasingly favouring nations that proactively invest in and adopt policies across a holistic array of readiness factors, marking a striking paradigm shift beyond the cost advantage, which used to be the primary factor in the past few decades. These readiness factors are:

- **Infrastructure** – physical and intelligent infrastructure
- **Energy and resources** – natural resources and the energy mix
- **Technology** – the innovation system, technology adoption and intellectual property
- **Labour and skills** – skill levels, labour flexibility and retention, and workforce costs and availability
- **Fiscal and regulatory policies** – tax policies, the regulatory environment and the availability of capital
- **Geopolitical landscape** – trade policies, international relations and political developments
- **Environmental, social and governance** – sustainability, net zero, social responsibility and governance

Each of these readiness factors is underpinned by an array of indices (see Appendix 1). While these factors are instrumental in shaping a favourable environment, they alone do not guarantee a country's status as a preferred manufacturing destination. Additional drivers, including cost, market access and political priorities, play significant roles in determining manufacturing attractiveness. While the weight of these factors will vary by company, industry and position along the value chain, creating a favourable environment for investment and policy innovation is becoming a crucial differentiator for countries aiming to broaden their industrial agendas. This paper provides examples of best-practice policy interventions and public-private partnerships to help guide decision-makers in the design and implementation of next-generation industrial strategies.

Creating a favourable environment for the manufacturing and supply chains sector to flourish will require continuous discourse. Going forward, the World Economic Forum will continue to provide a neutral space and network for manufacturers across industries, the public sector, civil society and academia to successfully navigate these evolving market conditions to facilitate positive economic, environmental and societal impact.

Introduction

Five key trends are prompting industrial companies to holistically rethink their network design and geographical footprint.

According to a World Economic Forum and Kearney survey involving over 300 global operations executives and 60 consultations (included in *From Disruption to Opportunity: Strategies for Rewiring Global Value Chains*), over 90% of leaders are prioritizing regionalization, while close to two-thirds are planning to have a majority of their direct spending qualified from a second source in a second region. With the global operating environment projected to become increasingly volatile, safeguarding operations now involves strengthening the resilience of one's geographical footprint.

Where in the past, an organization's footprint was primarily driven by cost, it now reflects a more holistic approach that addresses five key trends shaping the future of global value chains. These trends include: a shift to more regionalized hubs, a transition to a digital-first model of operations, the adoption of more innovative approaches to sustainability and a deeper focus on skills and customer value. Such developments continue to influence significant shifts in global value chains, prompting companies to explore new geographies, rethink network designs and balance trade-offs between cost, performance, resilience and sustainability.

To successfully navigate these five trends, it's crucial for manufacturers and policy-makers to work together at a country and regional level. As such, the insights from this white paper are intended to elicit deeper exploration into the characteristics that make a country a favourable destination for next-generation manufacturing and supply chains over the next decade. In the next chapters, the paper will delve into country-level readiness factors underpinned by a set of indices from globally recognized data sources, as well as the role of public-sector investment and industrial policies.

1 Country archetypes and macro-dynamic trends

Macro-dynamic shifts and rising emphasis on resilience and sustainability have resulted in a fluctuation in foreign investment across countries.

1.1 Mapping manufacturing's role in economic growth: four country archetypes

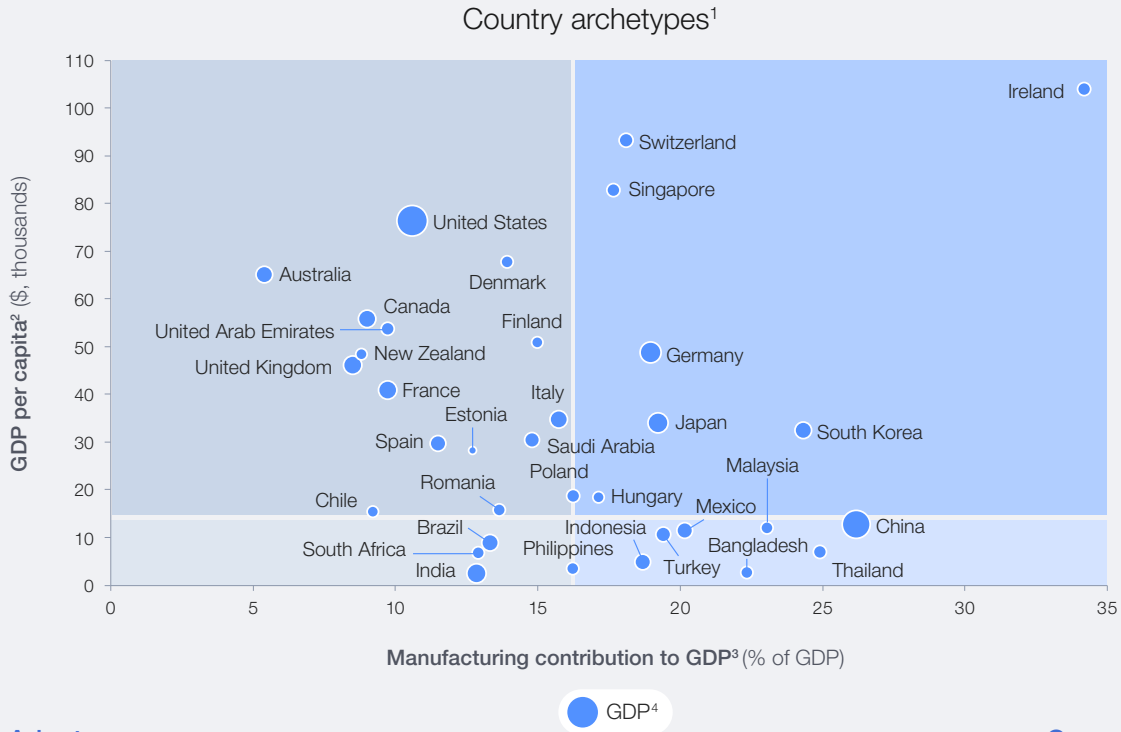
Macro-dynamic shifts since the financial crisis of the early 2000s have highlighted four distinct archetypes for country-level approaches facilitating the growth of the manufacturing sector (see Figure 1).

These archetypes are based on two dimensions: the contribution of the manufacturing sector to gross domestic product (GDP), and the level of GDP per capita.

FIGURE 1 **Country archetypes**

Converger
Limited contribution of the manufacturing sector to GDP, and a GDP per capita level that sits above the global average

Scaler
Strong contribution of the manufacturing sector to GDP, together with a GDP per capita level above the global average



Adapter
Limited contribution of the manufacturing sector to GDP, and a GDP per capita level that sits below the global average

Connector
Strong contribution of the manufacturing sector to GDP, together with a GDP per capita level below the global average

Notes: Non-exhaustive. **1.** Data sourced from the World Bank. Latest data point available was taken for each country. No data point is older than 2022. **2.** Y axis partition drawn at the global GDP per capita ($12,688). **3.** X axis partition drawn at the average manufacturing value added of countries within cohort (16%). **4.** Circle size indicates total GDP.

Source: World Bank; World Economic Forum; Kearney.

In Figure 1, "adapters" are characterized by the limited contribution of their manufacturing sector to GDP and a GDP per capita level that sits below the global average. This quadrant includes countries like Brazil and India. Brazil's economy is driven by natural resources, agriculture, commodities production and exports.[1] India's sizeable industrial sector is driven primarily by the service sector, which is the main contributor to the country's overall GDP.[2] India is also making significant strides in manufacturing, with some states positioning themselves as key manufacturing hubs for industries such as automotive, electronics and textiles.[3]

On the opposite bottom right side of the graph, "connectors" are distinguished by the strong contribution of the manufacturing sector to GDP, together with a GDP per capita level below the global average. Countries such as Bangladesh and Mexico exemplify these characteristics. Bangladesh's rapid industrialization, particularly in the textile and garment sectors, has made manufacturing a critical part of its economy. Mexico has developed a strong manufacturing base in sectors such as automotive and electronics, partly due to trade agreements such as the North American Free Trade Agreement (NAFTA) – now known as the US-Mexico-Canada Agreement (USMCA) – and its proximity to the US.

On the upper left segment of the graph are "convergers", whose GDP is above the global average but for whom the contribution of manufacturing to GDP is limited. The US and Denmark are prominent examples of these countries. The US remains a global leader in high-technology and innovation-driven manufacturing industries. Recent initiatives, such as the Inflation Reduction Act, the Creating Helpful Incentives to Produce Semiconductors (CHIPS) and the Science Act, highlight the country's strategic reinvestment in advanced manufacturing. Denmark has a manufacturing industry centred on specialized and high-quality products, particularly in pharmaceuticals, clean technology and food processing.

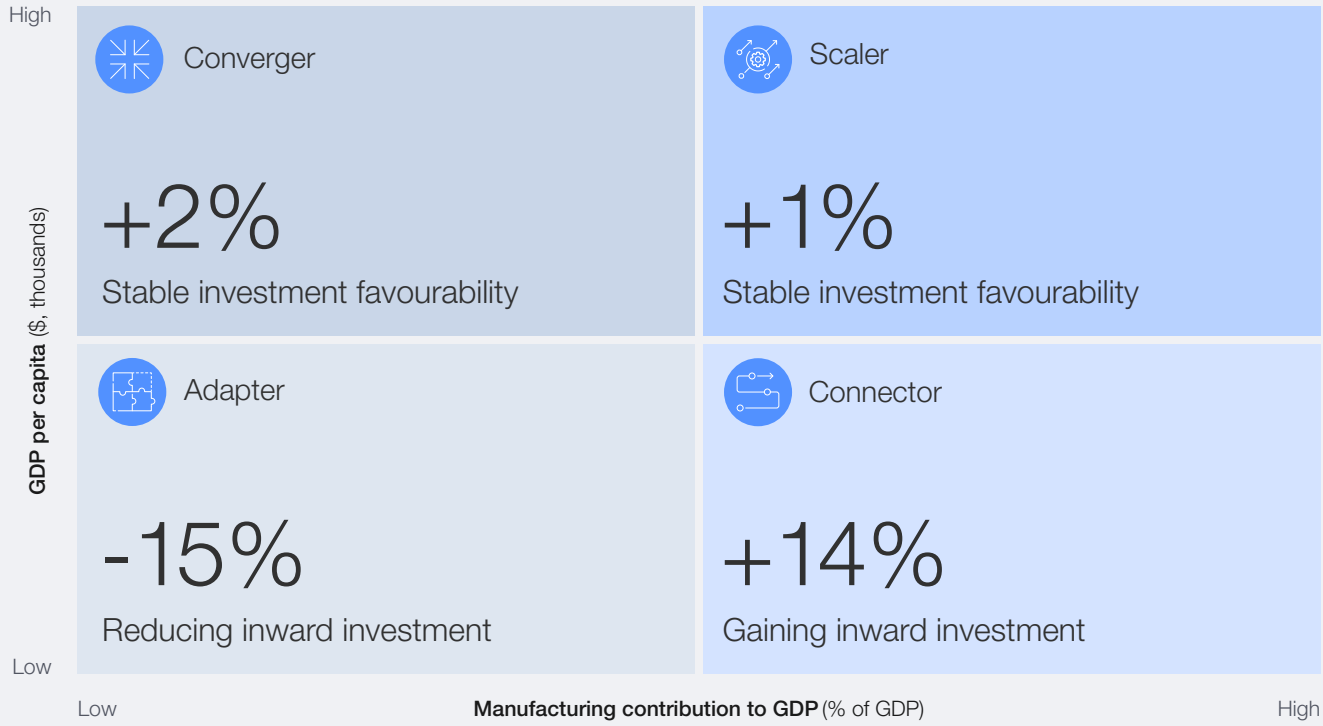
Finally, on the top right side of the graph sit "scalers", which have a GDP above the global average and whose manufacturing sectors contribute strongly to overall GDP. Ireland and Singapore exemplify these characteristics. Ireland has successfully harnessed favourable tax policies, its skilled workforce and strategic location to attract multinational corporations, particularly in pharmaceuticals and technology. Singapore, with its strategic location, pro-business government and advanced infrastructure, has developed a highly sophisticated manufacturing sector, particularly in electronics and chemicals.

1.2 Macro-dynamic and foreign direct investment confidence shifts

As foreign direct investment (FDI) flows shift, understanding the nuances of the four archetypes and their impact on investment confidence is critical. In this vein, since 1998, the Kearney Foreign Direct Investment Confidence Index (FDICI) has surveyed over 500 global business executives annually to ascertain which markets are likely to attract the most investment over the following three years. The index provides a forward-looking ranking on the attractiveness of certain markets in light of different investments and policies adopted over the past decade. By identifying these top-ranked markets, the report effectively signals where investment capital is most likely to be directed, reflecting investor confidence and strategic economic positioning.[4]

The historical progression of this ranking has seen a significant shift in the past decade, which is illustrated within the context of the country archetypes outlined in Figure 2. On average, adapters, who have typically relied on their best-cost status to attract FDI, have experienced a 15% decline in attractiveness for inward investment. Connectors, who (like adapters) have historically traded on their best-cost status but whose contribution of manufacturing to GDP is higher, have seen the appeal of their inward investment improve by 14%. Scalers show a relatively stable investment favourability. Similarly, convergers have maintained a relatively stable trajectory, with an increase of 2%. These trends align with the paradigm shift of foreign investment increasingly favouring nations that proactively invest in and adopt policies across a holistic array of factors.

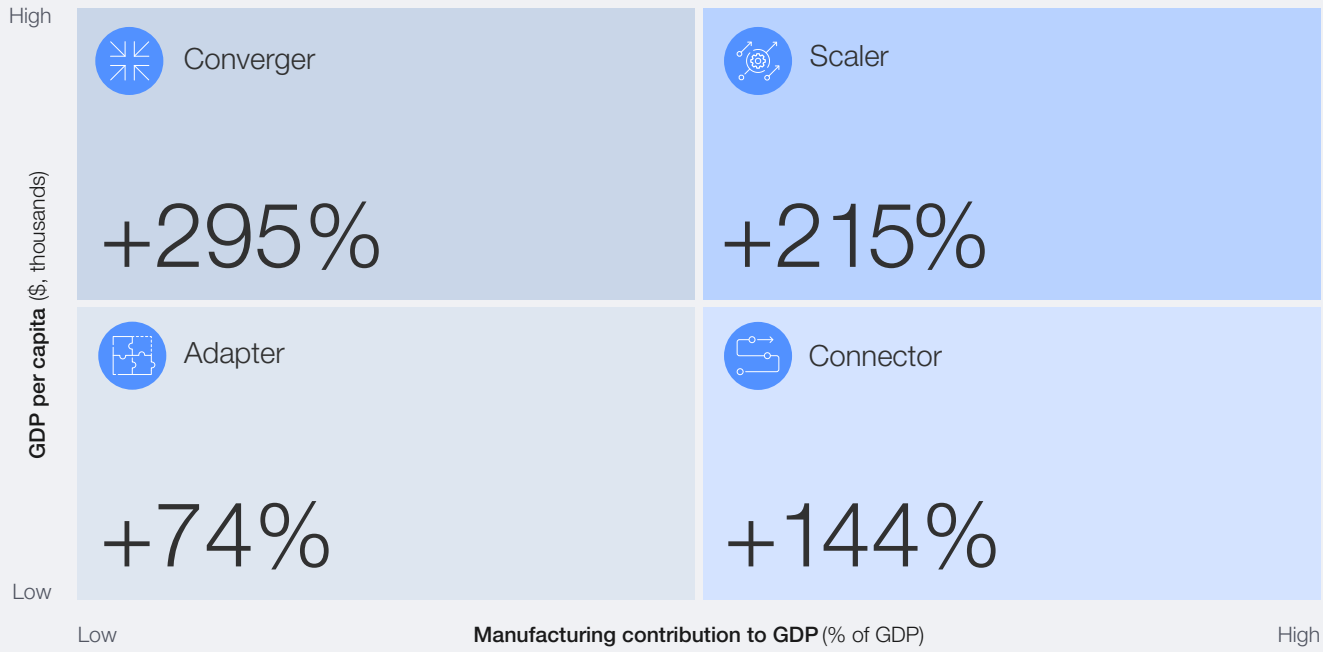
FIGURE 2 | **Changes in Foreign Direct Investment Confidence Index between 2013 and 2023**



Source: World Bank; Global Business Policy Council (GBPC); World Economic Forum in collaboration with Kearney.

The shift in FDI confidence is also aligned with actual changes in FDI[5] over the same period (see Figure 3). This graph shows that countries with higher GDP per capita have experienced a more significant increase in FDI, regardless of the contribution of manufacturing to GDP. On the bottom half of the graph, connectors stand out as more attractive destinations for manufacturing, with FDI growth levels that are double that of adapters.

FIGURE 3 | **Average percentage change in Foreign Direct Investment between 2013 and 2023**



Source: World Bank; Global Business Policy Council (GBPC); World Economic Forum in collaboration with Kearney.

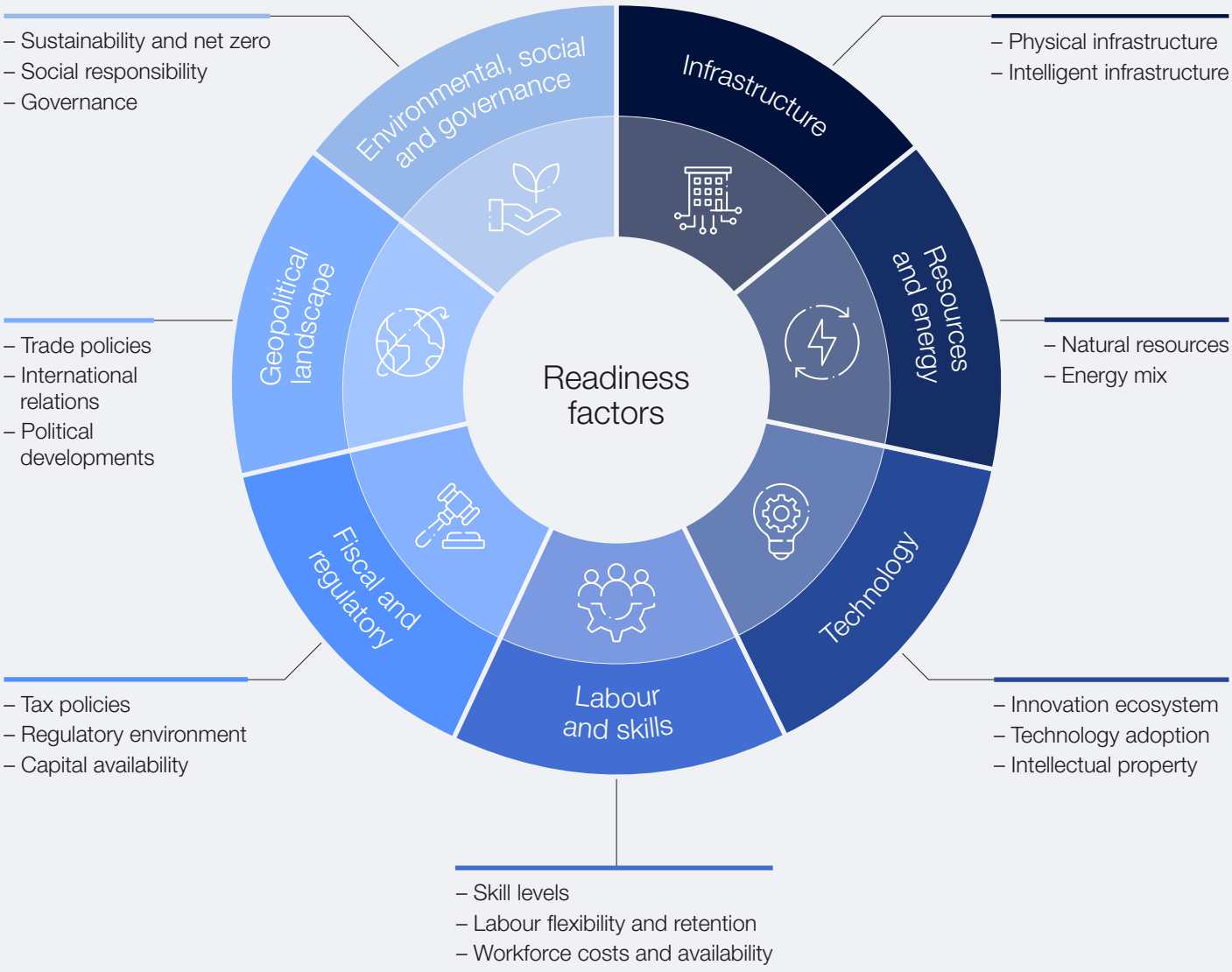
2

A proactive approach to balancing readiness factors

Seven readiness factors can make a country a favourable destination for next-generation manufacturing in the next 10 years.

The survey conducted by the World Economic Forum and Kearney has identified seven production readiness factors that undergird a country's ability to attract manufacturing and supply chain investment in the next 10 years (see Figure 4). This section provides an overview of the factors and how they have been integrated by the public and private sector. Using the indices that underpin each readiness factor (see Appendix 1) and a consistent methodology (see Appendix 2), it also highlights the top 3 countries based on current readiness, while not taking recent investments or time lags into account.

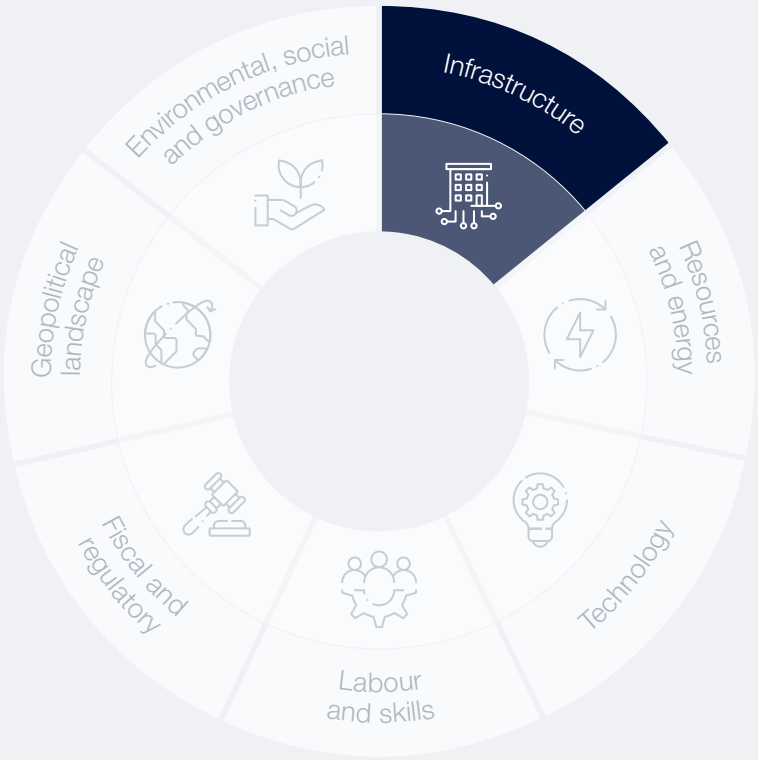
FIGURE 4 **Readiness factors**



Source: World Economic Forum in collaboration with Kearney.

2.1 Infrastructure

FIGURE 5 **Infrastructure**



Sub-factors

Physical infrastructure

Availability and quality of transportation networks (roads, ports, railways), utilities (electricity, water) and logistics capabilities.

Intelligent infrastructure

Penetration and reliability of high-speed internet, data centres and communication networks, integration of advanced technologies – e.g. internet of things (IoT), artificial intelligence (AI) and big data analytics – and measure of cybersecurity.

Indices

- Quality of transport networks and logistics capabilities
- Access to high-speed internet
- Secure data centres

Source: World Economic Forum in collaboration with Kearney.

Traditionally, infrastructure investment has focused on tangible assets such as transport networks, utilities and other physical facilities. Roads, ports, railways and logistics capabilities remain a key priority for stakeholders. Such physical infrastructure is essential to ensuring the smooth movement of goods, people and resources. As global value chains evolve, however, consultations reveal that the importance of intelligent infrastructure is growing. This shift does not diminish the necessity of physical infrastructure but rather underscores the need for an integrated approach that integrates the two.

The challenge for some countries is not merely upgrading their physical infrastructure but developing and implementing policies that facilitate the integration of these advanced technologies. A symbiotic relationship exists between tangible upgrades and the enhancement of intangible components such as data security, connectivity and digital governance.

Using the indices described in the production readiness model (see Appendix 1), the top three strongest-performing markets for the quality of their physical and digital infrastructure were Denmark (converger), the Netherlands (converger) and Singapore (scaler). While not yet appearing in the top 3 countries, China stands out as a global leader in infrastructure investment, underscoring its commitment to enhancing this readiness factor.[6]

> **Connectivity extends beyond physical infrastructure. We prepare and develop industrial parks with "plug-and-play" facilities with last-mile connection to utilities, research institutes and academia located close by, to enable companies to pilot products and kick-start production in a seamless manner. This is complemented by Singapore's trade connectivity. We are the largest air cargo hub in South-East Asia and the world's busiest transhipment seaport with an extensive network of 27 Free Trade Agreements, which provides ease of access for our goods and services to reach global markets.**
>
> Cindy Koh, Executive Vice-President, Singapore Economic Development Board

PUBLIC-PRIVATE PARTNERSHIP 1

Port expansion, DP World and Dominican Republic

The Dominican Republic partnered with DP World in 2003 to harness its strategic position in Caribbean trade, creating DP World Dominicana – a $700 million project responsible for building the island's most modern port.

Since President Abinader inaugurated its expansion in 2020, the port has managed 68% of DR's maritime cargo, created over 2,000 jobs and led to a projected 5-6% growth in GDP, outpacing the region's 2-3%. With an investment exceeding $100 million, DP World has developed 112,000 square metres (m^2) of warehouses and 3 million m^2 on the Caucedo peninsula, doubling its footprint to attract nearshoring for the US. Through innovations like CARGOES TOS+ and electric vehicles, DP World supports sustainable, paperless customs and single-window port processes, boosting security, efficiency and customs revenue. This public-private partnership enhances DR's competitiveness and trade resilience, aligning with its 2030 Agenda for a sustainable, prosperous future.

Source: DP World

PUBLIC SECTOR INTERVENTION 1

Partnership for Global Investment and Infrastructure, United States of America

The Partnership for Global Investment and Infrastructure (PGI) is a collaborative initiative between Group of Seven (G7) nations, led by the US, to help fund the infrastructure needs of low- and middle-income countries worldwide.

Impact

Financial	Regulatory	Operational	Strategic
Over the past three years, the US and its partners have mobilized over $60 billion in investments through federal and private funding, and are on course to hit the G7's target of $600 billion by 2027.	Ease of doing business through memorandums of understanding, like that of the ports of Rotterdam and Antwerp with Namibian Port Authority, aim to increase trade and investment to support renewable energy and hydrogen infrastructure.	PGI has aimed to empower women in sustainable sectors, promoting the Women in the Sustainable Economy Initiative (WISE) to advance women in the green and blue workforces of the future.	PGI's key strategic initiative, the Lobito Economic Corridor, focuses on critical transport infrastructure across Angola, Zambia and the Democratic Republic of the Congo, with the first transcontinental open-access rail network across the continent.

Source: The White House. (2024). *FACT SHEET: Partnership for Global Infrastructure and Investment at the G7 Summit*.

PUBLIC SECTOR INTERVENTION 2

National Semiconductor Strategy (NSS), Malaysia

The strategy is a comprehensive initiative designed to develop and expand the country's semiconductor system, focusing on infrastructure, talent and industry partnerships.

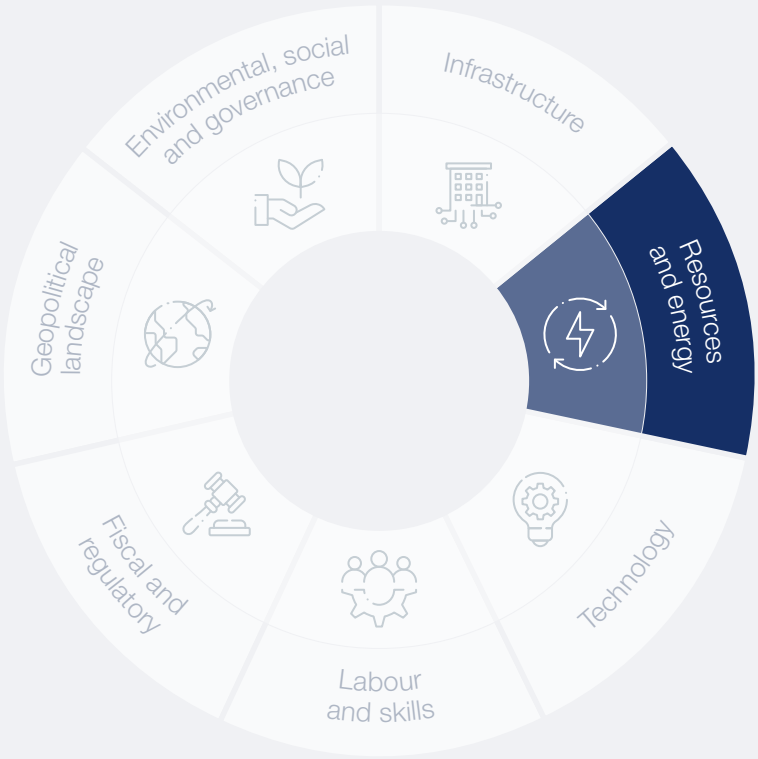
Impact

Financial	Regulatory	Operational	Strategic
Over MYR 25 billion (Malaysian ringgit) has been allocated to the semiconductor sector through the NSS over the next decade. The strategy has attracted MYR 33 billion in FDI thus far, boosting GDP and creating high-value jobs.	The strategy supports business growth with fiscal incentives, streamlined regulations and advanced facilities. Semiconductor firms can now deduct up to 60% of machinery and upgrade costs over five years, while incentivized organizations must fund training programmes to help upskill 60,000 engineers under NSS goals.	The strategy bolsters domestic expertise in semiconductor design, which attracts investors and local enterprises. It plans to train 60,000 engineers, establish 10 design firms and a dedicated research and development (R&D) hub, and spur the creation of over 100 high-revenue semiconductor-related businesses.	The NSS aims to position Malaysia as a global leader in semiconductor production, covering integrated circuit design, wafer fabrication, outsourced semiconductor assembly and testing, advanced packaging, and high-technology manufacturing. Industrial parks like Batu Kawan and Kerian Integrated Green Industrial Parks will play vital roles in R&D, training and deployment.

Source: Ministry of International Trade and Industry, Malaysia.

2.2 Resources and energy

FIGURE 6 **Resources and energy**



Sub-factors

Natural resources
Access to essential raw materials needed for manufacturing and supply chain operations

Energy mix
Access to diverse and sustainable energy resources critical for production processes

Indices

Quality of energy infrastructure and supply

Total natural resources

Energy security, equity and sustainability

Source: World Economic Forum in collaboration with Kearney.

As natural resources continue to dwindle, operations and supply chain executives are identifying environments that prioritize sustainable practices – whether through renewable energy, efficient resource use or adoption of circular economy principles. This requires countries to commit to sustainable policies and implement the innovation and technological advancement needed to operate efficiently with finite resources.

Using the indices described in the production readiness model (see Appendix 1), the top three strongest-performing markets for the quality of their energy infrastructure, natural resources, and energy security, equity and sustainability were Chile, Australia and Canada (all convergers).

> **We have a need to focus on how to promote adequate nationwide infrastructure, from roads and bridges, including the electric grid, by securing sustainable energy sources and increasing the reliability of emissions data. Ongoing federal support through grants and aid to companies helps balance between competitiveness and regulation for energy.**
>
> Larry Bucshon, US Representative, 8th Congressional District, Indiana

PUBLIC-PRIVATE PARTNERSHIP 2

Driving sustainable manufacturing, Siemens and Singapore

Siemens' partnership with Singapore's Economic Development Board (EDB) is advancing sustainable manufacturing through renewable energy integration. Siemens aims to achieve carbon neutrality in its own operations by 2030 and across its supply chain by 2050. In Singapore, the government's commitment to achieving net-zero emissions by 2050 and its Green Plan 2030 – which includes a target to source all energy from renewables – align with Siemens' sustainability goals, leading to the establishment of a factory there.

While Siemens estimated that on-site renewable energy could only provide up to 40% of the energy needed, the Singaporean government assured that the remaining energy would come from renewable sources. This partnership exemplifies how public-private collaboration can drive long-term sustainability in manufacturing.

Source: Siemens

PUBLIC SECTOR INTERVENTION 3

Demand Side Management Programme, United Arab Emirates

A suite of demand-side policies focused on energy efficiency in the industrial sector seek to position the United Arab Emirates as a leader in sustainable manufacturing.

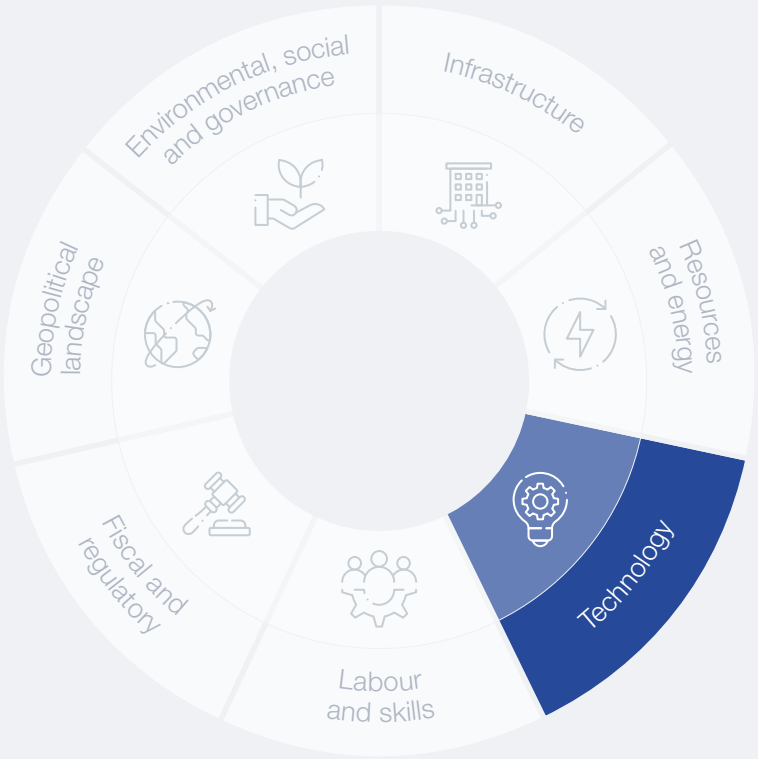
Impact

Financial	Regulatory	Operational	Strategic
Short-term costs of compliance among industries will be offset by a reduction in energy demand and usage, forecasted to unlock an estimated AED 14 billion (dirhams) in financial savings by 2050.	Stricter regulatory and transparency requirements promote greater energy efficiency and meet energy and water reduction targets of 40% and 50%, respectively, by 2050.	Businesses will have to adhere to energy efficiency and reporting requirements on a voluntary basis, but those that embark on the transformation will put themselves at a long-term competitive advantage.	Businesses across all sectors (e.g. steel, cement, chemicals, water desalination) must develop long-term energy efficiency strategies that align with the demands of the programme, putting the United Arab Emirates' industry on a path to becoming a leader in sustainable manufacturing.

Source: Ministry of Industry and Advanced Technology, United Arab Emirates.

2.3 Technology

FIGURE 7 **Technology**



Sub-factors

Innovation ecosystem
Presence of research and development institutions, innovation hubs and start-ups

Technology adoption
Rate of adoption of advanced manufacturing technologies, automation and digital transformation

Intellectual property
Strength of intellectual property laws and enforcement to protect innovations

Indices

- Digital technology readiness
- Presence of innovation hubs and startups
- Innovation ecosystem
- Access to capital for technology projects
- High-technology exports
- Digital competitiveness
- Advanced technologies adoption
- Information and communication technology (ICT) infrastructure development
- Intellectual property regime
- Cybersecurity

Source: World Economic Forum in collaboration with Kearney.

Technology is increasingly being viewed as a key driver of global power, affecting everything from labour markets to international competitiveness.[7] Cultivating a robust technology network – through innovation hubs, intellectual property protection and a forward-looking regulatory environment – will therefore be a key differentiating factor.

Countries that support the integration of advanced technologies for companies of all sizes – including small and medium-sized enterprises – and across industries can not only boost productivity but also enhance their strategic positions in global value chains.

Using the indices described in the production readiness model (see Appendix 1), the top three strongest-performing markets for technology readiness, innovation systems and cybersecurity capability, among other factors, were the US (converger), Switzerland (scaler) and Singapore (scaler).

> **Technology, and particularly AI, makes data the new gold, acting as the gateway to knowledge management and amplifying the power of information. As nations, from the US and China to tech hubs like Israel, fiercely compete for dominance in this arena, technology emerges not only as a critical driver of global competitive capability but also as a key enabler of national growth, despite the geopolitical tensions.**
>
> Bart Talloen, Former Vice-President, Supply Chain Innovation, Johnson & Johnson (1996-2023)

PUBLIC-PRIVATE PARTNERSHIP 3

Incentives for R&D, Intel and Israel

The Israeli government has provided extensive support for US component manufacturer Intel to expand its research and development capability in Israel in recent years. The most recent example was the provision of a $3.2 billion grant provided in December 2023 for the construction of a $25 billion computer chip plant in Kiryat Gat, Southern Israel.

The government has also supported Intel on several of its investment plans in the country, which total over $50 billion to date, and include four development centres and two fabrication plants. Intel has grown to become Israel's largest private-sector employer, with around 11,700 employees, and its operations have made a significant contribution to the national economy. In total, Intel was responsible for around 5.5% of the country's high-technology exports (worth $8.7 billion) and 1.75% of the country's GDP in 2022.[8]

Source: Astute Group. (2023). *Intel will receive $3.2 billion in Israeli funding to build chip factories*.

PUBLIC SECTOR INTERVENTION 4

National Research and Development Innovation Act, 2022, South Korea

South Korea's National Research and Development Innovation Act helps streamline governance of research and development (R&D) between government departments, enhancing the country's competitive edge.

Impact

Financial	Regulatory	Operational	Strategic
This act increases R&D funding, particularly around innovative and challenging areas such as defence. Government departments can also collect royalties and specific sums for reinvestment, dependent on research outcomes.	The act streamlines governance of R&D across government departments, mandates the open sharing of data, establishes standards regarding R&D outcomes and intellectual property rights, and promotes ethical research practices.	It creates an autonomous and responsible research environment, reduces the administrative burden and facilitates greater collaboration between the public sector, private sector, research organizations and academia.	It enhances domestic capability to develop and implement innovative next-generation technologies. It also serves as a template for best practices, and global excellence and cooperation on R&D.

Source: Korea Legislation Research Institute. (2020). *National Research and Development Innovation Act*.

2.4 Labour and skills

FIGURE 8 **Labour and skills**

Sub-factors

Skill levels
Availability of skilled workers

Labour flexibility and retention
Laws on temporary workers, power of unions and incentives to retain talent

Workforce costs and availability
Cost of labour and demographics of the labor force

Indices

- Availability of technology-skilled workers
- Science, technology, engineering and mathematics graduates
- Trade union density
- Labour cost

Source: World Economic Forum in collaboration with Kearney.

The traditional focus on best-cost labour as a competitive advantage is diminishing. In its place, the availability and quality of skilled labour are becoming paramount. As automation and advanced manufacturing technologies evolve, the demand for a highly skilled workforce capable of working alongside these innovations is increasing. Competitive countries are therefore investing in education, vocational training and lifelong learning programmes to address growing skills gaps. The ability to attract and retain a skilled labour force will be a critical factor in a country's attractiveness to global industrial companies.

Using the indices described in the production readiness model (see Appendix 1), the top three strongest-performing markets for the availability of technologically skilled workers, labor costs, STEM (science, technology, engineering and mathematics) graduates, and trade union density were Australia (converger), Ireland (scaler) and Saudi Arabia (converger).

> **Countries must focus on cultivating a workforce skilled in new manufacturing technologies such as AI and digitalization. As industries transition from electromechanical to digital systems, the competition for these highly sought-after skills intensifies, making it increasingly challenging not just to hire but to retain top talent.**
>
> Thierry Mabru, Senior Vice-President, Integrated Supply Chain, Garrett Motion

PUBLIC-PRIVATE PARTNERSHIP 4

SkillsFuture Initiative, Singapore

SkillsFuture is a national initiative aiming to enhance workforce capabilities through a public-private partnership model. Through the SkillsFuture Singapore (SSG) agency, the Singaporean government provides financial incentives such as credits and subsidies for training programmes. Designed in collaboration with the private sector, universities, polytechnics and business associations, SkillsFuture offers over 25,000 courses for Singaporeans to access training in emerging technical topics. To better expand offerings to meet specific organizational needs, SkillsFuture's Company Training Committees (CTCs) were expanded in 2023. CTCs are co-created with employers, employees and unions to develop in-house training programmes.[9]

Additionally, in June 2024, the government announced a $2,225 million investment in SkillsFuture as part of the nation's five-year plan targeting skills in high-growth sectors like AI and the green economy.

Source: SkillsFuture. (2024). *About SkillsFuture Singapore*.

PUBLIC SECTOR INTERVENTION 5

Labour Law Amendment, 2024, Mexico

An update to Mexico's Federal Labor Law, establishing stricter employer obligations enhanced penalties for non-compliance, and expanded protections to improve workplace conditions and combat labour exploitation.

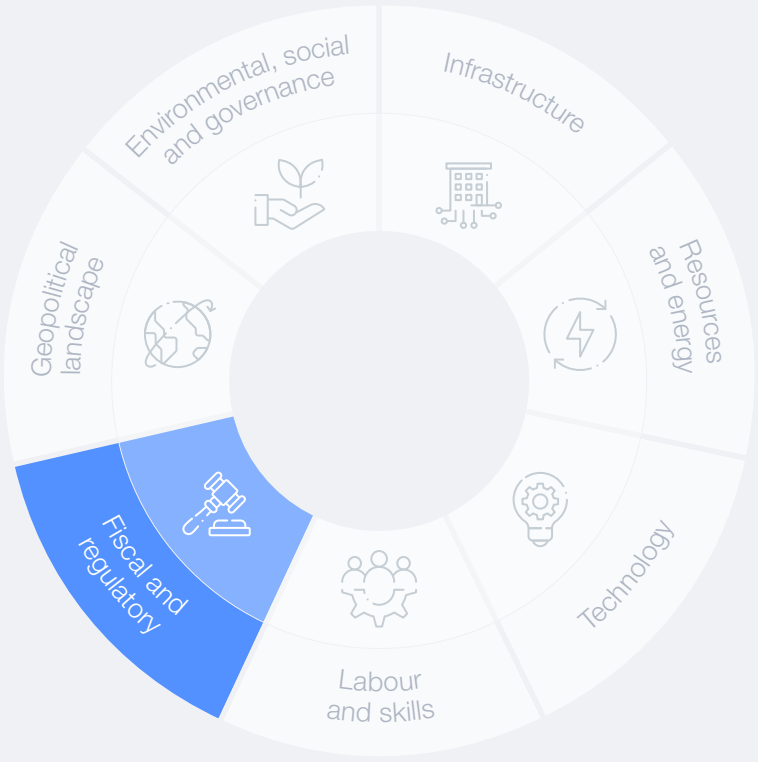
Impact

Financial	Regulatory	Operational	Strategic
The 2024 Amendment increased Mexico's national minimum wage by 20%, with wages rising to 248.93 pesos per day from 207.44 pesos, and from 312.41-374.89 pesos per day in the North Border Zone. The wage increase was an agreed-upon figure negotiated by employers, unions and the government.	Targeting unions, the amendment altered union law to increase transparency and the ability of workers to both form and dissolve unions. Additionally, health and safety standards, working hours and employee contract formalities have benefited from new compliance requirements.	Operational impacts to the workforce may be seen in the form of needed updates for safety and health regulations. Additionally, workforce changes such as maximum working hours and shift regulation may alter traditional production schedules and operator planning.	Labour relations will continue to evolve and be a pertinent factor for manufacturers as workers gain the potential to be more organized and empowered in their decisions.

Source: Myexperience. (2023). *Mexico's Minimum Wage Increased by 20% for 2024*; Co-Production International. (2023). *Major Boost for Workers: Minimum Wage in Mexico to Rise by 20% in 2024*.

2.5 Fiscal and regulatory

FIGURE 9 **Fiscal and regulatory**



Sub-factors

Tax policies
Corporate tax rates, incentives for investment and the overall tax burden

Regulatory environment
Ease of doing business, regulatory transparency and efficiency of legal systems

Capital availability
Access to credit to support and incentivize transformation projects

Indices

- International tax competitiveness
- Incentives for investment
- Ease of doing business
- Regulatory quality and stability
- Access to capital for transformation projects

Source: World Economic Forum in collaboration with Kearney.

Global economic and political volatility is on the rise, with the prospect of tariffs and a rise in protectionist policies adding to inflationary pressures, hampering growth prospects and potentially disrupting global trade flows. As a result, manufacturers are increasingly seeking environments with transparent, predictable regulatory frameworks that are conducive to business growth.

Using the indices described in the production readiness model (see Appendix 1), the top three strongest-performing markets for ease of business, regulatory quality and stability (among other factors) were Singapore (scaler), Switzerland (scaler) and Qatar (converger).

> **Fiscal and regulatory frameworks are essential for establishing the rules of the road for industries, while governments should be guided by data regulation that promotes open data to enable all partners to more clearly identify trends and spot risks and opportunities. The way countries shape these policies will significantly influence their participation in global value chains and their attractiveness for foreign investment.**
>
> Lorenz Noe, Research Manager, Open Data Watch

PUBLIC-PRIVATE PARTNERSHIP 5

Tax incentives for automotive manufacturing, Audi and Mexico

A range of tax incentives and a streamlined regulatory framework has prompted car manufacturer Audi to establish and expand its production capacity in Mexico.

The Mexican government provided tax incentives and streamlined regulatory processes to encourage German carmaker Audi to establish a manufacturing plant in San José Chiapa. The plant went into operation in 2016 and produced 175,626 vehicles last year.

With over 5,300 employees, the manufacturing facility has been a major generator of local jobs and has contributed to the growth of Mexico's automotive industry. Several premium and sports models are produced at the plant.

In June 2024, Audi announced plans to invest an additional €1 billion in its San José Chiapa facility to begin production of electric vehicles, including the newer Q8 E-tron. The decision is likely to create over 500 new jobs at the plant, which is located next to its just-in-sequence supplier network. The facility is said to be a prime example of an Audi Smart Factory model, having been entirely planned and designed for computer-simulated operations.

Source: Audi. (n.d.). *Audi in Mexico*; Automotive Logistics. (2016). *Smooth logistics underpins assembly at Audi's Mexican plant*.

PUBLIC SECTOR INTERVENTION 6

Knowledge Development Box, Ireland

The Knowledge Development Box (KDB) is a tax incentive policy tool aimed at reducing the corporate tax rate to attract multinational corporations to Ireland

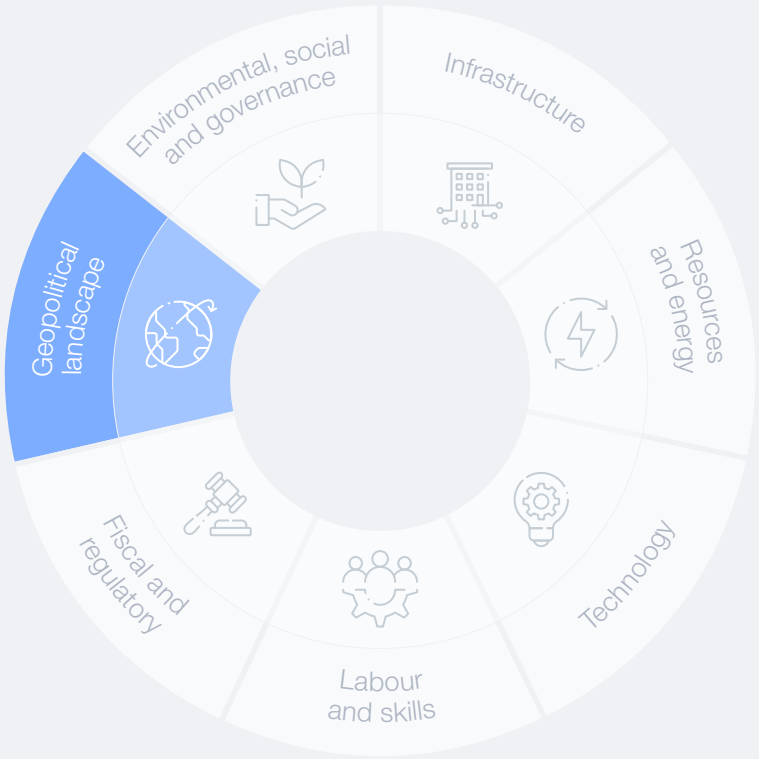
Impact

Financial	Regulatory	Operational	Strategic
The rate of reduction has generated substantial tax savings and boosted after-tax profits for firms across several industries, particularly those in innovative fields that carry out extensive R&D.	The government's introduction of a reduced 10% corporation tax rate on profits from intellectual property assets contrasts with the standard 12.5% corporate rate, incentivizing companies to carry out R&D activities in Ireland.	Companies must devote an increased amount of resources to comply with the tax incentive, such as tracking and documenting R&D activities, qualifying assets and tracking income. New systems and process may be required to monitor R&D activity and accurately track expenditure and income streams.	Companies are encouraged to take a long-term perspective on R&D investment and commercialize new innovations in Ireland before scaling to other regions. The policy also aligns with Ireland's aim of becoming a more advanced knowledge-based economy.

Source: Deloitte. (n.d.). *Knowledge Development Box (KDB)*; KPMG. (n.d.). *Knowledge Development Box*.

2.6 Geopolitical landscape

FIGURE 10 **Geopolitical landscape**



Sub-factors

Trade policies

Trade agreements, tariffs and regulations affecting cross-border trade and investment

International relations

Diplomatic relations and alliances that impact economic collaboration and security

Political developments

Geopolitical stability and personnel safety within the country's operating environment

Indices

- Perception of safety
- Trade agreements
- Tariffs affecting cross-border trade and investment
- Diplomatic relations and alliances
- Rule of law

Source: World Economic Forum in collaboration with Kearney.

Navigating the current geopolitical environment requires a strategic approach to international relations that balances national interests with global collaboration. Countries looking to strengthen their industrial ecosystems should build resilient diplomatic relations and alliances that can adapt and respond to the shifting tides of global politics. The ability to engage with diverse markets, mitigate geopolitical risks, protect staff in geographically risky environments and preserve economic collaboration will be key differentiators in attracting investment in the coming years.

Using the indices described in the production readiness model (see Appendix 1), the top three strongest-performing markets for trade policies, international relations, political stability and other factors were Ireland (scaler), Finland (converger) and Denmark (converger).

> **Geopolitics will increasingly shape global value chains, with countries falling into three broad categories: those closely aligned with the US, those closely aligned with China, and those maintaining an agnostic or equidistant stance, like Mexico and Vietnam. The latter group may hold significant advantages in supply chain dynamics, leveraging their neutrality and scale to build and serve diverse markets effectively.**
>
> Rajesh Achanta, Former Vice-President, Supply Chain, Consumer Packaged Goods, Asia (2020-2023)

PUBLIC-PRIVATE PARTNERSHIP 6

Production Linked Incentive Scheme, India

Emerging in 2020 as an inter-agency effort by the Indian Government to provide industry incentives for sales from domestically manufactured products, the Production Linked Incentive (PLI) Scheme has aided in providing India with a more stable and investment-friendly trade manufacturing environment.

Guaranteed financial incentives based on in-country manufacturing production volumes represent a major component of the PLI. For example, the programme pledges up to 6% incentives on incremental sales of manufacturing goods over a five-year time horizon.

This has spurred companies like Apple and its suppliers, including Foxconn, to work closely with the Indian government to increase in-country operations and expand product assembly portfolios. As a result, a greater reliance on domestic sourcing components has taken hold, reducing imports and benefiting the country's manufacturing capabilities.

Source: World Economic Forum. (2023). *World Economic Forum and ISSB Partner to Compile Learnings on Early Sustainability Reporting Effect*; The National Law Review. (2024). *ISSB Takes The Lead on Global Sustainability Disclosure Standards – Will The U.S. Follow?*.

PUBLIC SECTOR INTERVENTION 7

EU-Viet Nam Free Trade Agreement

The EU-Viet Nam Free Trade Agreement (EVFTA) is a comprehensive trade deal that eliminates tariffs on nearly all goods between the European Union and Viet Nam

Impact

Financial	Regulatory	Operational	Strategic
Vietnamese exports to the EU have grown by 50% since the agreement, with a focus on key sectors like apparel, food and beverages, and textiles. Consequently, the EU has risen to the top of the list of contributors to Vietnamese FDI, particularly in high-technology sectors.	The EVFTA has eliminated 99% of customs duties between Viet Nam and the EU – however, strict regulation on rules of origin have been put in place to aid a reduction in tariffs, including geographical indications across the food and beverage industry.	The EVFTA seeks to reduce customs procedures and should allow for ease of business. However, supply chain visibility is crucial to meet origin requirements, as numerous materials originate from non-EU partners, which would limit tariff benefits.	The EVFTA benefits both the EU, by allowing for greater value chain diversification as Viet Nam takes on a greater manufacturing role, and Viet Nam, which benefits from EU investment in renewable energy industries, helping both parties meet their energy transition goals.

Source: VCI Legal. (n.d.). *The EU-Vietnam Free Trade Agreement (EVFTA)*; Vietnam Briefing. (2024). The *EU-Vietnam Free Trade Agreement: Key Provisions and Implications for FDI*.

2.7 Environmental, social and governance

FIGURE 11 **Environmental, social and governance**

Sub-factors

Sustainability and net zero

Policies for environmental protection, renewable energy, carbon footprint management and achieving net-zero emissions

Social responsibility

Labour standards and corporate social responsibility initiatives

Governance

Corporate governance standards, ethical practices and transparency in business operations

Indices

- Renewable energy production
- Alignment with net-zero emissions goals
- Workers' rights
- Sustainability competitiveness
- Stable climate conditions
- Control of corruption

Source: World Economic Forum in collaboration with Kearney.

The increasing significance of environmental, social and governance (ESG) factors means that aligning policies and practices with ESG principles is now seen as essential for sustainable development and long-term economic resilience. ESG considerations are becoming increasingly relevant across all aspects of economic activity, and countries that successfully bridge the gap between government initiatives and corporate responsibility will stand out as value chain leaders. This alignment benefits from close cooperation between governments, businesses and civil society to craft ESG policies that are consistent and applicable across borders.

Using the indices described in the production readiness model (see Appendix 1), the top three strongest-performing markets for sustainability competitiveness, stable climate and renewable energy production, among other factors, were Norway, Denmark and Sweden (all convergers).

> **While all seven readiness factors are crucial, each company will have different thresholds and priorities for each. With the growing number of companies committing to carbon neutrality, a country's sustainability performance is becoming an increasingly important factor.**
>
> Gunter Beitinger, Senior Vice-President, Manufacturing; Head, Factory Digitalization, Siemens

PUBLIC-PRIVATE PARTNERSHIP 7

Advancing sustainability, NEOM and the Kingdom of Saudi Arabia

In alignment with national strategies like Vision 2030 and the Saudi Green Initiative (SGI) and global sustainability goals, the Saudi Ministry of Economy and Planning (MEP) is spearheading the development of a National Corporate Sustainability Strategy. This strategy includes six strategic programmes and over 20 initiatives to enable and incentivize corporate sustainability adoption by the private sector. A key initiative is the development of a unified National Corporate Sustainability Reporting Guideline, aligned with national objectives and guided by international best practices.

To ensure effective guidelines development, MEP has partnered with other key ministries, regulatory bodies and Saudi corporations, including NEOM, engaging them in technical committees and working groups. NEOM has contributed expertise and representatives to support the initiative's development and alignment. This collaboration emphasizes transparency, accountability and improved decision-making based on sustainability considerations. Guided by global standards and engaging diverse stakeholders, the strategy ensures practical, relevant outcomes that meet the needs of businesses operating in Saudi Arabia.

Source: NEOM and Ministry of Economy and Planning, Saudi Arabia

PUBLIC SECTOR INTERVENTION 8

Circular Economy 2050, 2016, the Netherlands

An initiative requiring companies to redesign production processes for reuse, repair and recycling, with strict waste management and resource-reporting standards to reduce raw material use by 50% by 2030 and become fully circular by 2050.

Impact

Financial	Regulatory	Operational	Strategic
Initial investments are needed for adapting processes, but reduced raw material and waste disposal costs offer long-term savings. Potential new revenue streams from resale, repair and recycling may offset costs, with government incentives available for support.	Businesses must meet high standards in resource management and waste reporting, with strict compliance requirements and potential penalties. Industry-specific guidelines ensure all sectors align with circular economy objectives.	Companies must revamp production lines and supply chains to prioritize reuse, recycling and repair. Reverse logistics and waste recovery become crucial, requiring new processes and technologies for resource efficiency.	The circular economy policy enhances reputations, reduces resource dependency and improves resilience. Companies can gain a competitive edge through innovation and align with consumer and investor sustainability expectations, positioning themselves for long-term industry leadership.

Source: Government of the Netherlands. (n.d.). *A Circular Economy in the Netherlands by 2050*.

3 The role of public sector investment

Government policies and investments have a key role to play in supporting a manufacturing-driven growth trajectory for countries.

While the seven readiness factors outlined in this paper and the sub-indices that underpin them (see Appendix 1) play a crucial role in attracting foreign investment, domestic government investment also helps shape a country's long-term economic trajectory.

A country's position within the four distinct country archetypes identified in this paper – adapters, connectors, convergers and scalers – is not static. Government policies and investments play a key role in future archetype shifts. There is, however, no one-size-fits-all standard around identifying target archetype, as this will depend on a country's priorities as well as various other factors.

Brazil and India are good examples of countries making concerted efforts to increase the manufacturing contribution to GDP. Both are adapters, but this status conceals a concerted effort from both countries to enhance their value-driven industrial capabilities. Brazil's government has introduced the Nova Indústria Brasil industrial policy to stimulate technological advancement, boost productivity and enhance competitiveness over the coming decade. Similarly, India's focus on improving infrastructure and regulatory frameworks, alongside initiatives such as Make in India, reflects an ambition to elevate the role of the manufacturing sector in the economy.

Saudi Arabia and the United Arab Emirates have traditionally relied on oil and natural resources, but they too are actively investing in diversifying their economies. Through initiatives such as Saudi Arabia's Vision 2030 and the United Arab Emirates' Operation 300 Billion, these nations are channelling significant resources into advanced manufacturing, technology adoption and sustainability.

In contrast, scalers such as the US and certain EU nations continue to harness government investment to maintain their advantageous position. The US is reinforcing its leadership in high-tech and innovation-driven manufacturing industries through initiatives such as the CHIPS Act and the Inflation Reduction Act and is boosting supply chain resilience through the Promoting Resilient Supply Chains Act. The EU's Next Generation EU plan, which emphasizes a green transition and digital transformation, seeks to sustain and enhance the region's competitive edge in global value chains.

These examples illustrate how government investment, while often taking longer to play out in the real economy, remains a critical component in enabling countries to become attractive destinations for manufacturing. As government investments mature, they contribute to a country's overall economic resilience and attractiveness. This reinforces the notion that a proactive approach to sustained industrial growth can, in many cases, create a favourable environment for the manufacturing and supply chains sector, though some countries may pursue other paths to economic resilience.

Conclusion

The continued pressure exerted by global megatrends will increasingly require manufacturers to rethink their value chain configurations and geographical footprints. According to the survey by the World Economic Forum and Kearney, over 90% of leaders say they are prioritizing regionalization, while close to two-thirds plan to source the majority of their direct spending from a second source in a second region. Over 10 years ago, best-cost was the key factor in determining which countries played a significant role in global value chains. Now, according to senior operations and supply chain executives, a full range of country-level production readiness factors are becoming key differentiators in attracting investment in global value chains (see Appendix 1). These factors include:

- Infrastructure
- Resources and energy
- Technology
- Labour and skills
- Fiscal and regulatory conditions
- The geopolitical landscape
- Environmental, social and governance

This new manufacturing paradigm is a crucial evolution for the industry, underscoring the need for private and public stakeholders to work together to advance technology infrastructure, improve educational access and enhance regulatory agility.

It is important to note, however, that these readiness factors alone do not guarantee a country's status as a manufacturing destination. Other considerations, including cost, market access and political priorities, remain critical drivers in determining manufacturing attractiveness. Furthermore, the relevance and weight of these readiness factors can vary significantly depending on the unique goals, industry contexts and strategic priorities of individual companies, highlighting that no single factor holds universal significance across all situations.

Reaping these rewards takes time. Achieving this goal will depend on much deeper collaboration between the public and private sectors, perhaps through technical committees, working groups and regulatory collaborations on capacity building and standards. In addition, countries that implement industrial policies and programmes that are synchronized with the production readiness factors outlined in this paper will have the potential to reinforce their positions as manufacturing leaders or establish themselves as new manufacturing hubs.

Going forward, the World Economic Forum will continue to provide a neutral space and network for manufacturers from industry, the public sector, civil society and academia to successfully navigate these evolving market conditions and help showcase best practice industrial strategies. Together, this collaborative approach will enable manufacturing and supply chains to flourish well into the future, marking the sector as the driving force behind a new wave of global societal, economic and environmental prosperity.

Appendices

A1 Indices underpinning the seven readiness factors

The data included in the report represents the best available values from various sources at the time the report was prepared. Some data may have been revised or updated by the sources after publication. The following notes provide descriptions and sources for all the indicators used to inform each of the seven production readiness factors.

Infrastructure

Quality of transport networks and logistics capabilities

- **The Logistics Performance Index** is a benchmarking tool to help countries identify the challenges and opportunities they face when evaluating their trade logistics performance, and is based on several key dimensions. These dimensions include customs efficiency, the quality of trade and transport infrastructure, the ease of arranging shipments and the quality of logistics services.[10]
- Unit: Score 1-5 (best)

Access to high-speed internet

- **Fixed broadband subscriptions (per 100 people)** measure the penetration and reliability of high-speed internet access through fixed broadband subscriptions, including cable modem, digital subscriber line (DSL), fibre-to-the-home/building and satellite broadband services.[11]
- Unit: Nominal value, count

Secure data centres

- **Secure Internet Servers (per 1 million people)** measures penetration and reliability of data centres through the number of distinct, publicly trusted Transport Layer Security (TLS)/Secure Sockets Layer (SSL) certificates found in the Netcraft Secure Server Survey.[12]
- Unit: Nominal value, count

Resources and energy

Quality of energy infrastructure and supply

- **Quality of electricity supply** measures the quality and availability of electricity and telephone infrastructure, as well as the reliability of energy supply.[13]
- Unit: Score 1-7 (best)

Total natural resources

- **Total natural resources rents (percentage of GDP)** represents the sum of oil rents, natural gas rents, coal rents (hard and soft), mineral rents and forest rents.[14]
- Unit: Percentage of GDP

Energy security, equity and sustainability

- **World Energy Trilemma Framework** measures the performance of countries' energy systems across three dimensions: energy security, energy equity and environmental sustainability.[15]
- Unit: 0-1 (best)

Technology

Digital technology readiness

- **Technology readiness**: Technology readiness measures the number of publications and patents filed on the 11 frontier technologies in a country.[16]
- Unit: Score 0-1 (best)

Presence of innovation hubs and startups

- **Valuation of unicorns**: Valuation of unicorns measures the total valuation of private companies with a valuation of over $1 billion.[17]
- Unit: Nominal value, $

Innovation ecosystem

- **Global Innovation Index** uses 80 indicators to track innovation trends across over 130 economies, covering various economic and venture capital landscapes.[18]
- Unit: Score 0-100 (best)

Access to capital for technology projects

- **Frontier technology readiness – Access to finance** measures availability of finance to the private sector. This indicator measures resources provided by financial corporations such as finance and leasing companies, money lenders, insurance corporations, pension funds and foreign exchange companies.[19]
- Unit: Score 0-100 (best)

High technology exports

- **High technology exports (percentage of manufactured exports)** are the percentage of products with high R&D intensity, such as in aerospace, computers, pharmaceuticals, scientific instruments and electrical machinery.[20]
- Unit: Percentage of manufactured exports

Digital competitiveness

- **The Digital Competitiveness Ranking** evaluates countries based on how they adopt and explore digital technologies, transforming government practices, business models and society.[21]

Advanced technology adoption

- **Frontier technology readiness – Industry activity** measures ongoing activities in an industry related to the use, adoption and adaption of frontier technologies. It considers three sectors that stand out as early adopters: manufacturing, finance and information, communication and technology (ICT).[22]
- Unit: Score 0-100 (best)

ICT infrastructure development

- **Frontier technology readiness – ICT deployment** measures the development level of ICT infrastructure.[23]
- Unit: Score 0-100 (best)

Intellectual property regime

- **The International Property Rights Index** scores the underlining institutions of a strong property rights regime, the legal and political environment, physical property rights and intellectual property rights.[24]
- Unit: Score 0-10 (best)

Cybersecurity

- **The Global Cybersecurity Index (GCI)** measures the commitment of countries to cybersecurity at a global level. Each country's level of development or engagement is assessed along five pillars: 1) legal measures, 2) technical measures, 3) organizational measures, 4) capacity development, and 5) cooperation – and then aggregated into an overall score.[25]
- Unit: Score 0-100 (best)

Labour and skills

Availability of technology-skilled workers

- **Frontier technology readiness – Skills** measures how using, adopting and adapting frontier technologies requires skilled workers, particularly those trained in technology through education and practical workplace training.[26]
- Unit: Score 0-100 (best)

STEM graduates

- **New tertiary graduates in STEM** outline data on graduates by field in STEM adjusted by country population.[27]
- Unit: Percentage of all new graduates

Trade union density

- **Trade union density rate (percentage of total employees)**: A trade union is defined as a workers' organization aiming to advance and defend the interests of workers. This trade union density rate conveys the number of union members who are employees as a percentage of the total number of employees.[28]
- Unit: Percentage of all employees

Labour cost

- **Mean nominal hourly labour cost per employee by economic activity** measures the cost incurred by the employer in the employment of labour in a specified reference period.[29]
- Unit: Nominal value, $

Fiscal policy and regulation

International tax competitiveness

- **International Tax Competitiveness Index** measures the competitiveness and neutrality of tax systems by evaluating over 40 tax policy variables.[30]
- Unit: Score 0-100 (best)

Incentives for investment

- **Government expenditure on economic affairs (percentage of GDP)** measures expenditures focused on economic development and improving the investment climate.[31]
- Unit: Percentage of GDP

Ease of doing business

- **Index of Economic Freedom** measures the degree of economic freedom available to individuals and businesses, considering two quantitative and qualitative factors, grouped into four broad categories, or pillars, of economic freedom: rule of law (property rights, government integrity, judicial effectiveness); government size (government spending, tax burden, fiscal health); regulatory efficiency (business freedom, labour freedom, monetary freedom) and open markets (trade freedom, investment freedom, financial freedom).[32]
- Unit: Score 0-100 (best)

Regulatory quality and stability

- **Regulatory quality** measures perceptions of the government's ability to implement sound policies and regulations.[33]
- Unit: Score -2.5-2.5 (best)

Access to capital for transformation projects

- **Domestic credit to the private sector** refers to the financial resources provided to the private sector by financial institutions, expressed as a percentage of a country's GDP. It is an indicator of the financial sector's role in supporting the private economy by supplying loans and other credit forms.[34]
- Unit: Percentage of GDP

Geopolitical landscape

Perception of safety

- **Perception of safety** measures the likelihood of political instability or politically motivated violence, including terrorism.[35]
- Unit: Score -2.5-2.5 (best)

Trade agreements

- **Regional trade agreements** are tracked in accordance with the General Agreement on Tariffs and Trade (GATT) and the World Trade Organization (WTO). This analysis shows the number of trade agreements a country is part of and measures how this affects cross-border trade and investment.[36]
- Unit: Numeric, count

Tariffs affecting cross-border trade and investment

- **The tariffs affecting cross-border trade and investment indicator** measures the average weighted tariff rates imposed on imported goods and services. Higher tariffs typically create barriers to trade and can discourage foreign investment by increasing the cost of imported inputs and goods.[37]
- Unit: Score 0-100 (best)

Diplomatic relations and alliances

- **The Global Diplomacy Index** assesses the strength and effectiveness of a country's diplomatic relationships, strategic alliances and international partnerships. This includes bilateral and multilateral agreements that facilitate economic cooperation, trade, security and defence collaboration.[38]
- Unit: Score 0-100 (best)

Rule of law

- **Rule of law** captures perceptions of the extent to which agents have confidence in and abide by the rules of society, including the quality of contract enforcement, property rights, the police and the courts.[39]
- Unit: Score -2.5-2.5 (best)

Environmental, social and governance (ESG)

Renewable energy production

- **Share of primary energy consumption that comes from renewables** measures the amount of modern renewable energy generation by country.[40]
- Unit: Nominal, terawatt-hours (TWh)

Net Zero Sovereign Index

- **The Net Zero Sovereign Index** is a benchmarking tool that helps investors assess how well countries align with 2050 net-zero emissions goals. It considers several key dimensions, including emissions reduction policies, renewable energy use, vulnerability to climate impacts, economic capacity for transition and social factors impacting transition fairness. By scoring countries across these dimensions, it highlights strengths and challenges, aiming to encourage a balanced and equitable approach to climate goals, especially between developed and emerging markets.[41]
- Unit: Very high to very low alignment

Workers' rights

- **Global Rights Index** rates countries on respect for workers' rights based on annual data.[42]
- Unit: Score 1-5 (best)

Sustainability competitiveness

- **The Global Sustainability Competitiveness Index** model is developed with a view of the fundamentals that shape the current and the future state (i.e. competitiveness level) of a nation-economy. It is based on a competitiveness model that incorporates all relevant pillars of sustained growth and wealth generation of a nation – natural capital availability, resource efficiency, social cohesion, government-led development direction and innovation and business capabilities.[43]
- Unit: Score 0-60 (best)

Stable climate conditions

- **Global Climate Risk Index (CRI)** identifies the extent to which countries have been affected by extreme weather events. These can be meteorological events such as tropical storms or tornados, hydrological events such as storm surges or flash floods, or climatological events such as wildfires or droughts.[44]
- Unit: Score 1-125 (lowest risk)

Control of corruption

- **The Corruption Perceptions Index (CPI)** scores and ranks countries/territories based on how corrupt their public sector is perceived to be by experts and business executives. The CPI draws on data from 13 surveys and assessments of corruption collected by a variety of reputable institutions.[45]
- Unit: 0-100 (very clean)

Country data

GDP per capita

- **GDP per capita** describes a nation's GDP divided by its midyear population. GDP is the sum of gross value added by all resident producers in the economy and any product taxes, minus any subsidies not included in the value of the products.[46]
- Unit: Nominal value, $

Manufacturing value added

- **Manufacturing value added (percentage of GDP)** outlines industries belonging to International Standards Industrial Classification (ISIC) divisions 15-37. Value added is the net output of a sector after adding up all outputs and subtracting intermediate inputs.[47]
- Unit: Percentage of GDP

A2 Methodology for country readiness factor analysis

For each of the seven readiness factors, a consistent methodology was applied to aggregate the index data, enabling identification of the top three countries for each factor.

Generalized approach

Data preparation

1. **Data collection**
   Gather the relevant data for each country (please see Appendix 1 for specific indices used).

2. **Selection of latest values**
   Use the most up-to-date data available for each country (considering no data from before 2022).

3. **Scaling indices**
   Normalize the data to ensure comparability across countries. Apply a minimum-maximum scaling approach to bring all the indices' values into 0-100 (best) range.

$$Index_{scaled} = \frac{Index_{country} - Index_{min}}{Index_{max} - Index_{min}}$$

$Index_{scaled}$	The scaled index
$Index_{country}$	The original value of the index for a given country
$Index_{min}$	The minimum value of the index across all countries
$Index_{max}$	The maximum value of an index across all countries

4. **Control for inverted relationships**
   Adjust for cases where higher values represent worse performance to maintain consistency in interpretation. In that case, the value of 100 after scaling does not indicate the most positive influence – which it should. The adjustment is as follows:

$$Index_{scale\text{-}adjusted} = 100 - Index_{scaled}$$

Modelling

1. **Calculate the raw score** of a given country for each of the seven readiness factors.

$$RawScore_{country} = \frac{Index_{1,country} + Index_{2,country} + \ldots + Index_{n,country}}{Number\,Of\,Indices}$$

2. **Final scoring**
   Rescale the raw score of a given country for each readiness factor to a standardized 0-100 range, where 0 indicates the least prepared and 100 indicates the most prepared.

$$FinalScore_{country_scaled} = \frac{RawScore_{country} - RawScore_{min}}{RawScore_{max} - RawScore_{min}}$$

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Endnotes

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