



EUROPEAN CLUSTER  
COLLABORATION PLATFORM

# Country factsheet

Singapore

An initiative of the European Union





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## Introduction



This document presents an overview of the cluster policy in Singapore. Given its importance to contextualise the cluster policies (and related) analysed in the factsheets, a comprehensive outlook of the country in socioeconomic terms can be consulted in the [World Bank Singapore's Overview](#).

The “Country Snapshot” is a bi-annual update, highlighting the country’s recent developments, economic outlook and major overview of the World Bank’s partnership with the country.

# 01

## National cluster policy, programmes and initiatives



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## 1. National cluster policy, programmes and initiatives

Policy type:	Broad policy	National cluster policy
Policy name:	The Industry Transformation Programme Industrial policy	Research Innovation Enterprise 2025 Plan
<p><b>POLICY OBJECTIVES</b></p> 	<p><b>Strengthening cooperation between companies or industry and RTDI actors</b></p> <p><b>Increasing competitiveness and boosting scale up of SMEs</b></p> <p><b>Supporting internationalisation activities</b></p> <p><b>Enhancing the visibility of clusters</b></p> <p><b>Fostering innovation and strengthening innovation ecosystems</b></p> <p><b>Supporting the creation of new cluster organisations</b></p> <p><b>Promoting employment and upgrading skills and competences</b></p> <p><b>Connect to global supply chains</b></p>	<p><b>Strengthening cooperation between companies or industry and RTDI actors</b></p> <p><b>Supporting internationalisation activities</b></p> <p><b>Fostering R&amp;D activities, technology development and implementation</b></p> <p><b>Supporting the consolidation of existing cluster organisations</b></p> <p><b>Fostering innovation and strengthening innovation ecosystems</b></p> <p><b>Promoting entrepreneurship, start-ups and spin-offs</b></p> <p><b>Promoting social and sustainable economy and other solidarity-based initiatives</b></p> <p><b>Promoting employment and upgrading skills and competences</b></p>
	<p>The Industry Transformation Programme was launched to develop roadmaps for 23 industries which aim to lay out the blueprint and key strategies needed to drive the specific industry forward. Each roadmap has thereby individual key objectives and has a growth and competitiveness plan developed specifically for them.</p> <p>The roadmaps are called Industry Transformation Maps (ITMs) and are strategically guided by four pillars:</p> <ol style="list-style-type: none"> <li>1) Productivity - strategies to support companies especially SMEs to move to higher value-added activities and raise operational efficiency.</li> <li>2) Jobs &amp; Skills - investing in upskilling and deep skills to Support staff in the shift to greater value creation.</li> </ol>	<p>The Research Innovation Enterprise 2025 Plan's (RIE2025) efforts are organised along four strategic domains: (i) Manufacturing, Trade and Connectivity, (ii) Human Health and Potential, (iii) Urban Solutions and Sustainability and (iv) Smart Nation and Digital Economy. Its efforts are further supported by three cross-cutting horizontals: (i) Academic Research, (ii) Manpower and (iii) Innovation and Enterprise. These are broadly in line with past RIE plans. To build on their progress and create greater value RIE2025 emphasises the following three strategic focus areas: (i) expanding of RIE mission to tackle a broader spectrum of national needs, (ii) enriching the scientific base and (iii) scaling up platforms to drive technology translation and strengthen the innovation capabilities of enterprises.</p> <p>Internationalisation activities are encouraged in RIE2025 by the promotion and facilitation of open innovation partnerships across the international ecosystem for</p>



	<p>3) Innovation - strategies to leverage R&amp;D to develop new products and services.</p> <p>4) Trade and Internationalisation - supporting companies in expanding to overseas markets.</p>	<p>enterprises to tap on new markets and partners. The concept of a sustainable economy is promoted across the strategic domains, for instance in sustainable manufacturing, driven by climate change concerns and commitments to minimise the carbon and waste footprint.</p>
<p><b>POLICY FOCUS</b></p> 	<p><b>Cross-sectoral</b></p> <p>Under the Programme, the focus of the ITMs are to address increasingly complex challenges that require cross-cutting solutions from multiple stakeholders. In that regard, strategies are developed to upgrade the industries' productivity and innovation level, as well as encourage the industry to take ownership of the transformation effort and sustain it.</p> <p>The 23 national industries were aggregated by the Future Economic Council (FEC) into six economic clusters to maximise opportunities for collaboration and better respond to the needs of SMEs and industry. The new economic clusters are: 1) Manufacturing; 2) Built environment; 3) Trade and connectivity; 4) Essential domestic services; 5) Modern Services; and 6) Lifestyle.</p>	<p><b>Cross-sectoral</b></p> <p>The RIE2025's focus areas seek to promote Science and technology across sectors to meet future challenges and respond to shifts in the global economy.</p>
<p><b>RESPONSIBLE AUTHORITIES</b></p> 	<p><b>Provides funding</b></p> <p><b>Oversees the implementation</b></p> <p>The FEC (which operates under the Ministry of Trade and Industry) has overall responsibility for the ITMs as well as their implementation. To do so, the FEC has 6 sub-committees, with each sub-committee overseeing a group of ITMs within the same broad cluster of industries.</p> <p>Each ITM is overseen by one governmental agency which has also the role of coordinating among agencies and with the tripartite partners (industry associations, labour unions, and government officials).</p>	<p><b>In charge of drafting</b></p> <p><b>Provides funding</b></p> <p><b>Oversees the implementation</b></p> <p>The National Research Foundation (NRF), a department within the Prime Minister's office provides funding for strategic initiatives and for building up R&amp;D capabilities. The Research Innovation and Enterprise Council, chaired by the Prime Minister, oversees the five-year long-term strategies and is supported by the NRF Board, which is also responsible for its formulation.</p>
<p><b>BENEFICIARIES</b></p> 	<p><b>SMEs</b></p> <p><b>Research organisations</b></p> <p><b>Academic institutions</b></p>	<p><b>SMEs</b></p> <p><b>Cluster organisations</b></p> <p><b>Research organisations</b></p>



		<p><b>Large firms</b></p> <p><b>Technology centres</b></p> <p><b>Others: Trade associations and labour unions</b></p>	<p><b>Academic institutions</b></p> <p><b>Start-ups</b></p> <p><b>Technology centres</b></p>
		<p>The ITMs seek to address issues within each sector, and deepen partnerships between large enterprises and SMEs, public research institutions, education, and training providers, as well as Trade Associations and ministerial authorities, unions, individuals and the government.</p>	<p>RIE2025 promotes strong partnerships across businesses, universities, research institutes, and the government.</p>
<p><b>INSTRUMENTS</b></p>	Financial	<p><b>Funding collaboration initiatives</b></p> <p><b>Support to R&amp;D projects, SMEs becoming cluster members, etc.</b></p> <p><b>Innovation: voucher, support to hire PhDs, cooperation with R&amp;I actors</b></p>	<p><b>Funding collaboration initiatives</b></p> <p><b>Support to R&amp;D projects, SMEs becoming cluster members, etc.</b></p> <p><b>Financing start-ups</b></p> <p><b>Innovation: voucher, support to hire PhDs, cooperation with R&amp;I actors</b></p>
	Technical assistance	<p><b>Support for soft skills development: coaching, management training, upskilling/reskilling</b></p>	<p><b>Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence</b></p> <p><b>Support for soft skills development: coaching, management training, upskilling/reskilling</b></p> <p><b>Support for networking and partnership building (at national and/or international level)</b></p>
	Explanation	<p>The four objectives of the ITMs are achieved through tailored policies and programmes dependent on the government agency responsible. This process is overseen by the FEC</p> <p>However, each ITM has The Skills Framework as an integral component which provides key information on employment tendencies in the specific sector and a list of training programmes for skills upgrading and mastery which is targeted the different enterprises under the respective broad industrial clusters.</p>	<p>The RIE2025 budget is directed at a diversified portfolio of foundational and applied R&amp;D projects including governmental support for start-ups. Regarding technical assistance, the RIE2025 foresees strong support for talent development in terms of hard and soft skills. The facilitation of partnerships across local and international ecosystems is a key pillar of the broader RIE2025 Strategy.</p>
	Period	<p><b>Unlimited</b></p>	<p><b>Limited period</b></p>



<b>HISTORY</b> 	Ending year (for policies with limited period)	-	2025
	Starting year	2018	2021
	Explanation	The sources do not indicate any end date. In view of the type of programme, it is more likely that it is unlimited/ undetermined.	The RIE2025 runs from 2021 to 2025. It was officially published in December 2020.
<b>BUDGET</b> 	Overall	EUR 2.8 billion <sup>4</sup> (SGD 4.5 billion)	The budget for the RIE2025 is at about 1% (EUR 15.5 billion, SGD 25 billion) of Singapore's GDP over 2021-2025.
	Annual	The budget is not publicly available.	EUR 3.75 billion (SGD 6.25 billion)
	Source of funding	The Industry Transformation Maps are financed by the Ministry of Trade and Industry.	The entire budget of all initiatives under RIE2025 is EUR 15.5 billion (SGD 25 billion). It is financed by the National Research Foundation which is under the Prime Minister's Office.
<b>POLICY EVALUATION</b> 	Availability	<b>no policy evaluation</b>	<b>no policy evaluation</b>
	Results	No publicly available policy evaluation has been identified.	No publicly available policy evaluation has been identified.
<b>POLICY ALIGNMENT WITH THE EU PRIORITIES</b> 	<b>Green economy</b> <b>Digitalisation</b> <b>Social inclusion</b>	<b>Green economy</b> <b>Digitalisation</b> <b>Social inclusion</b>	

02

## State of play of cluster policy



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## 2. State of play of cluster policy

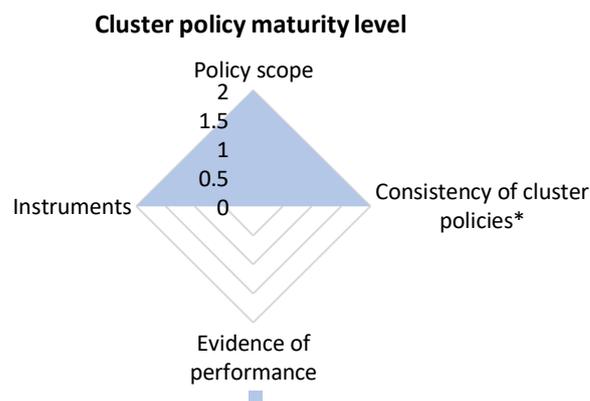
The data below illustrates how the country ranks in terms of maturity of cluster policy. The maturity index is based on a combination of factors presented in Chapter 1 and which are scored based on their existence:

- **Policy scope:** whether the country has a dedicated cluster policy, or cluster creation and/or development is targeted through broader policies (existence of broader policies = 1 point; existence of targeted cluster policies = 2 points)
- **Consistency of cluster policies:** assessment of the duration and experience of the country in doing cluster policies. This dimension assesses only existing cluster policies and not broader policies (no cluster policies available = 0 points; < 10 years of experience or > 10 years (but interrupted) = 1 point; > 10 years (but with clear continuity) = 2 points)
- **Evidence of performance:** the existence of monitoring and evaluation mechanisms determines the degree of policy development in the country (no evaluations = 0 points; existence of evaluations of past policies or in-itinere = 0.5 points; existence of ex-ante and/or ex-post evaluations = 0.5 points)
- **Instruments:** whether the policies provide any instruments to support the policy implementation, being these financial and/or technical assistance (1 point for each type of instrument available)

It is important to note that the maturity does not reflect the performance of a country, but only the degree of development of their cluster policy at the moment when the data was collected (2020). The maturity index illustrates how the country scores for each of these four dimensions (policy scope, consistency of cluster policies, evidence of performance and instruments) compared to the maximum score that they can reach.

	Singapore	Maximum score
Policy scope	2	2
Consistency of cluster policies*	2	2
Evidence of performance	0	1
Instruments	2	2

\* This dimension is scored solely if the country has a dedicated cluster policy and it assesses only cluster policies



### State of play of cluster policy in the country

#### Policy evaluation (for terminated policies)

#### No policy evaluation

Currently, there is no policy evaluations which are publicly available.



<b>Policy approach in the country</b>	<p><b>Specific policies to support cooperation projects</b></p> <p><b>Broad-based framework policies to support cooperation effectiveness</b></p>
<b>Continuity</b>	<p>According to the European Observatory for Clusters and Industrial change (EOCIC) report, Singapore was one of the first Asian countries to introduce the cluster approach to promote industrial development and base their economy on innovation and differentiation in the 1990s. The then government sought to prioritise areas with the highest growth potential. Therefore, they launched the first Strategic Economic Plan which set out to establish competitive and industry-leading clusters within the areas of chemicals, biomedical science, and engineering. By linking education and entrepreneurship policies to industrial development, Singapore has for years outlined policies which assigned specific areas to host knowledge clusters and identified special areas of R&amp;D to establish knowledge hubs.</p> <p>Singapore has a longer history of promoting and supporting private-public-collaborations across business, research and government agencies.</p>
<b>Consistency</b>	<p><b>&gt; 10 years (but with clear continuity)</b></p> <p>In 1986 a review from the national Economic Review Committee suggested to set up five-year plans that would move Singapore up in the economic value chain, away from low-cost competition in traditional manufacturing and services to develop new high-technology clusters and activities. With the launch of Singapore's first five-year National Technology Plan in 1991, the government began to invest in R&amp;D in a significant and structured way. Since then the budget increased for every plan significantly. The current RIE2025 is the country's seventh five-year plan.</p> <p>The different strategies outlined in the plans, have had a consistent focus on supporting ties and concrete partnerships between technology, research, and innovation across the private and public sectors. The current phase of Singapore's broader economic transformation involves strengthening linkages between complementary industries and this is done so by grouping them into economic clusters under the Industry Transformation Programme. The current national cluster policy is also an expression of this approach. Within the previous RIE plan, RIE2020, the approach was to further strengthen cooperation between academia, businesses and the government. Under RIE2020, the Innovation &amp; Enterprise (I&amp;E) Cluster Fund was established and focused on key priorities, including (i) targeted support to help firms scale-up, (ii) fostering stronger collaboration and cohesion, (iii) encouraging greater industry participation and (iv) supporting domain-specific strategies. Under RIE2025 the extension of the Cluster Fund has not been announced yet.</p>

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