



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.

The COVID-19 pandemic caused an unprecedented shock to the Singaporean and global economy. Particularly international trade and travel-reliant sectors as well as the service economy (tourism) were negatively affected by domestic consumption and lockdowns. In response, the Singaporean government supported local firms and workers with a \$4 billion package, enabling enterprises to retain local employees. Furthermore, firms were helped with cash flow via a [Corporate Income Tax rebate](#).

Moving to 2022, the ongoing Russia military on Ukraine has also [taken its toll on the Singaporean economy](#), and industrial ecosystems, as escalating energy costs further increase the price of goods. This highlights the significance of policy efforts in supporting SMEs and clusters.

In the following, a succinct overview of the cluster policy in Singapore will be provided. The structure of this factsheet generally encompasses:

- 1) an overview of the national cluster policy and an insight into the regional cluster policy,
- 2) an assessment of the state of play of the national cluster policy.

01

National cluster policy, programmes and initiatives



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1. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing Singaporean cluster policies on a national level cluster policy.

The breakdown is presented in the form of a table, with the first column showcasing information on the aspects which constitute the policy (beginning with 'Policy Objectives', following with 'Policy Focus', etc.). The second column represents the case of a Singaporean broad cluster policy, whilst the third column represents a National Singaporean cluster policy.

Within the table the text presented in bold (black) depicts standardised categories across country factsheets (56 in total for 2022), which are applied for comparative purposes. This is followed by a complementary descriptive text to provide more insights about the cluster policy in Singapore.



Policy type:	National cluster policy	National cluster policy
Policy name:	Singapore Retail Industry Transformation Map (ITM) 2025	Research Innovation Enterprise 2025 Plan
<p>POLICY OBJECTIVES</p> 	<p>Strengthening cooperation between companies or industry and RTDI actors</p> <p>Increasing competitiveness and boosting scale up of SMEs</p> <p>Supporting internationalisation activities</p> <p>Enhancing the visibility of clusters</p> <p>Fostering innovation and strengthening innovation ecosystems</p> <p>Supporting the creation of new cluster organisations</p> <p>Promoting employment and upgrading skills and competences</p> <p>Connect to global supply chains</p>	<p>Strengthening cooperation between companies or industry and RTDI actors</p> <p>Supporting internationalisation activities</p> <p>Fostering R&D activities, technology development and implementation</p> <p>Supporting the consolidation of existing cluster organisations</p> <p>Fostering innovation and strengthening innovation ecosystems</p> <p>Promoting entrepreneurship, start-ups and spin-offs</p> <p>Promoting social and sustainable economy and other solidarity-based initiatives</p> <p>Promoting employment and upgrading skills and competences</p>



Policy type:	National cluster policy	National cluster policy
Policy name:	Singapore Retail Industry Transformation Map (ITM) 2025	Research Innovation Enterprise 2025 Plan
	<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.</p> <p>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"> 1) Productivity - strategies to support companies especially SMEs to move to higher value-added activities and raise operational efficiency. 2) Jobs & Skills - investing in upskilling and deep skills to Support staff in the shift to greater value creation. 3) Innovation - strategies to leverage R&D to develop new products and services. 4) Trade and Internationalisation - supporting companies in expanding to overseas markets. <p>The 'refreshed' iteration of the ITM Map – "Retail ITM 2025", builds on the aforementioned objectives with the following guiding objectives:</p> <ol style="list-style-type: none"> 1. Build global Singapore brands & support internationalisation. 2. Rejuvenate retail by catalysing new experiential concepts & innovations. 3. Strengthen Singapore's position as a vibrant lifestyle hub for global brands. 	<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 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>



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	4. Step up jobs & skills transformation & create quality roles for locals.	
<p>POLICY FOCUS</p> 	<p>Cross-sectoral</p> <p>Under the Programme, the focus of the ITM 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:</p> <ol style="list-style-type: none"> 1) Manufacturing; 2) Built environment; 3) Trade and connectivity; 4) Essential domestic services; 5) Modern Services; 6) Lifestyle. <p>Building on this, the refreshed ITM 2025 plan was initiated to strengthen Singapore as a global lifestyle and retail hub with innovative products and the creation of more employment opportunities in the many sectors.</p>	<p>Cross-sectoral</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>



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Policy name:	Singapore Retail Industry Transformation Map (ITM) 2025	Research Innovation Enterprise 2025 Plan
RESPONSIBLE AUTHORITIES 	Provides funding Oversees the implementation	In charge of drafting Provides funding Oversees the implementation
	<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>The National Research Foundation (NRF), a department within the Prime Minister's office provides funding for strategic initiatives and for building up R&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>
BENEFICIARIES 	SMEs Research organisations Academic institutions Large firms Technology centres Others: Trade associations and labour unions	SMEs Cluster organisations Research organisations Academic institutions Start-ups Technology centres
	<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,</p>	<p>RIE2025 promotes strong partnerships across businesses, universities, research institutes, and the government.</p>



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		as well as Trade Associations and ministerial authorities, unions, individuals and the government.	
INSTRUMENTS 	Financial	Funding collaboration initiatives Support to R&D projects, SMEs becoming cluster members, etc. Innovation: voucher, support to hire PhDs, cooperation with R&I actors Supporting market entry (e.g. testing, proof-of concept, prototyping, demonstration projects)	Funding collaboration initiatives Support to R&D projects, SMEs becoming cluster members, etc. Financing start-ups
	Technical assistance	Support for hard skill development: knowledge transfer, intellectual property , entrepreneurship, export advice, market intelligence Support for soft skills development: coaching, management training, upskilling/reskilling Support for networking and partnership building (at national and/or international level)	Support for hard skill development: knowledge transfer, intellectual property, entrepreneurship, export advice, market intelligence Support for soft skills development: coaching, management training, upskilling/reskilling Support for networking and partnership building (at national and/or international level)
	Explanation	<p>The four objectives of the ITMs are achieved through tailored policies and programmes dependent on the responsible government agency. 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. This further consists of a list of training programmes for skills upgrading and mastery which targets 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&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>



Policy type:		National cluster policy	National cluster policy
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		With the ITM 2025 plan building on the former 2016 initiative, the aforementioned guiding objectives are put into action through technical as well as financial assistance. This for example involves e-commerce and market access initiatives to help internationalisation and enabling the partnering with global brands.	
HISTORY 	Period	Unlimited	Limited period
	Ending year (<i>for policies with limited period</i>)	-	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.
BUDGET 	Overall	EUR 2.8 billion (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	Data unavailable	Data unavailable
	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.



Policy type:		National cluster policy	National cluster policy
Policy name:		Singapore Retail Industry Transformation Map (ITM) 2025	Research Innovation Enterprise 2025 Plan
POLICY  EVALUATION	Availability	no policy evaluation	no policy evaluation
	Results	No publicly available policy evaluation has been identified.	No publicly available policy evaluation has been identified.
POLICY ALIGNMENT WITH THE EU PRIORITIES 		Green economy Digitalisation Resilience	Green economy Digitalisation Resilience

02

State of play of cluster policy



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2. State of play of cluster policy

This section presents an overview on the state of play of Singaporean cluster policy in the form of a quantitative and qualitative assessment. The data below illustrates how the country ranks in terms of **maturity of cluster policy at the national level**. The maturity assessment is based on a combination of factors presented in Chapter 2, which receive a score based on the existence or absence of a given element in the cluster policy.

Note: the maturity assessment does not reflect the performance of a country, but only the degree of development of their national cluster policy at the moment of data collection (Q3 2022). The assessment illustrates how the country scores for each of the four criteria (policy scope, continuity of cluster policies, evidence of performance, cluster support instruments) compared to the maximum score that they can reach. Please refer to the Annex for the detailed overview of the categories and the scoring system.

The table below presents an overview of the **maturity assessment for Singapore** for 2022. The total score of Singapore is 6 points out of 8.

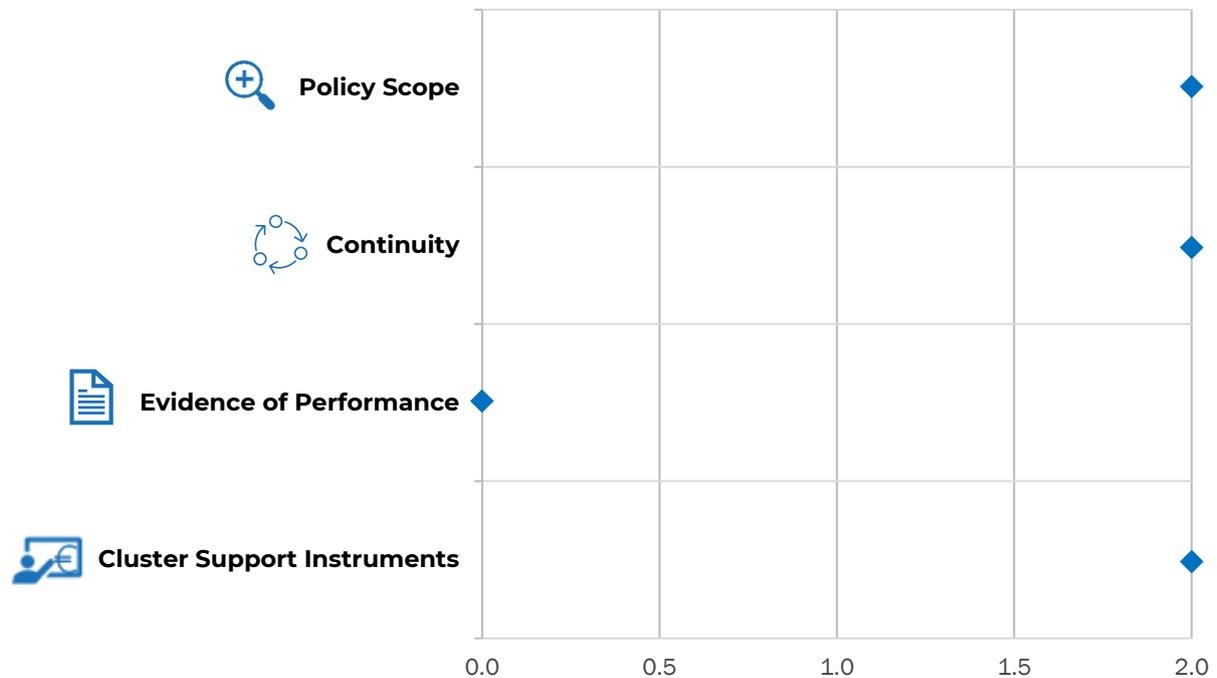
Singapore	MATURITY ASSESSMENT	Max score	Actual score
POLICY SCOPE	Absence of cluster policy	0	
	Broad policy	0,5	
	Sectoral policy	1	
	National and/or regional cluster policy	2	2
CONTINUITY	No cluster policy available	0	
	Cluster policy established recently	0,5	
	Cluster policy established between over 2 and 10 years	1	
	Cluster policy established over 10 years ago	2	2
EVIDENCE OF PERFORMANCE	No evaluation and / or monitoring available	0	0
	Existence of evaluations of past policies	0,5	
	Existence of monitoring or an ongoing / interim evaluation	1	
	Existence of monitoring and ex-ante or ongoing / interim evaluation	2	
CLUSTER SUPPORT INSTRUMENTS	No instruments for cluster development	0	
	Financial support for cluster development in the broader and / or sectoral policy	0,5	
	Financial or technical support for cluster development in dedicated cluster policy	1	
	Financial and technical support for cluster development in dedicated cluster policy	2	2
TOTAL (8)			6

Source: ECCP (2022)



Drawing from the table above that showcases the scored points in Singapore's cluster policy, the Figure below portrays the **degree of maturity** across four categories related to the national level cluster policy.

Figure 1: Maturity of cluster policy - Singapore



Source: ECCP (2022)

The text below provides a **qualitative description** of the state of play of the cluster policy in Singapore, which is complementary to the maturity assessment presented above.

Policy scope

Singapore's RIE2025 cluster programme extends on the former RIE plans of 2020, to national-level need, whilst enriching the creation and utilisation of science-based policy. Hereby, the broad approach on a sectoral level is one where science and technology across sectors are improved to help in coping with future challenges as well as disruptions in the global economy. In terms of specific sectors, the four strategic domains underline the policy's focus in:

1. Manufacturing, Trade and Connectivity (MTC)
2. Human Health and Potential (HHP)
3. Urban Solutions and Sustainability (USS)
4. Smart Nation and Digital Economy (SNDE)

On a final note, the RIE2025 directs its attention to the internationalisation of projects, by promoting and facilitating open innovation partnerships across international ecosystems.

Continuity

According to the 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 its first Strategic Economic Plan which set out to establish competitive and industry-leading clusters within the areas of chemicals, biomedical science, and engineering. Biotechnology was included as a priority as well in 1999. 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&D to establish knowledge hubs.

Singapore has thereby a longer history of promoting and supporting private-public-collaborations. However, the establishment of the ITMs are a fairly new approach where, as mentioned, the FEC has grouped different industries into six economic clusters.

Since 1995 on a regular five-year basis, the government of Singapore has implemented a new national strategy and with an increasing budget. The different strategies have had a consistent focus on supporting the ties between technology, research, and innovation. The current phase of Singapore's 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, RIE2015, the approach was to strengthen collaborations between private industries and public researchers. For instance, the Industry Alignment Fund was established under RIE2015 and financed R&D consortia, partnerships with the private sector, and cross-sectoral research programmes. This initiative has been folded under the current RIE2020's I&E Cluster Fund which has a more explicit and clear focus on cluster support.

Evidence of Performance

The national policy has gone through many phases (RIE2015; 2020; 2025) yet has not undergone any openly available official evaluations. Nevertheless, in the RIE2025 Handbook, key achievements have been enlisted across the outstanding strategic domains.

Cluster Support Instruments

The RIE2025 budget is directed at a diversified portfolio of foundational and applied R&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.

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Annex

Criterion of maturity assessment	Description	Scoring (points between 0 and 2)
Policy scope	assessment whether the country has a dedicated cluster policy, or cluster creation and/or development is targeted through broader policies, e.g. foreign trade policies, labour and social policies or specific sectoral policies, e.g. industrial policy tourism policies, agriculture policies	absence of cluster policy = 0 existence of broader policies = 0,5 existence of specific sectoral policies = 1 existence of targeted cluster policies = 2
Continuity of cluster policies	assessment of the duration and experience of the country in carrying out cluster policies. This criterion assesses only existence of targeted cluster policies and not broader policies or sectoral policies	absence of policies supporting cluster development = 0 cluster policy established recently (within the last 2 years) = 0,5 cluster policy established between over 2 and 10 years = 1 cluster policy established over 10 years ago = 2
Evidence of performance	assessment whether there are evaluations of past and ongoing policies and a monitoring system in place. The existence of monitoring and evaluation mechanisms determines the degree of policy development in the country	no evaluation and / or monitoring available = 0 existence of evaluations of past policies, e.g. ex-ante = 0,5 existence of monitoring or an ongoing / interim evaluation =1 existence of monitoring and ex-ante or ongoing / interim evaluation =2
Cluster Support Instruments	assessment whether the policies provide any instruments to support the policy implementation, being these financial and/or technical support	no instruments for cluster development =0 financial support for cluster development in the broader and / or sectoral policy = 0,5 financial or technical support for cluster development in dedicated cluster policy = 1 financial and technical support for cluster development in dedicated cluster policy = 2

Source: ECCP (2022)