EUROPEAN CLUSTER
COLLABORATION PLATFORM

Country factsheet

Israel

An initiative of the European Union

Content

Introduction

This document presents an overview of the cluster policy in Israel. Given the 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 OECD Economic Survey: Israel 2020. The Economic Surveys present the major challenges faced by the country, evaluates the short-term outlook, and makes specific policy recommendations.

The world-leading high-tech ecosystem and clusters in Tel Aviv experienced significant growth in recent years. Investments in Tel Aviv tech companies soared to a record $25 billion in 2021, 136% higher than in 2020, nearly double the global average growth of 71%. Nevertheless, the COVID-19 pandemic triggered an employment crisis in the high-tech sector, emergency programmes were launched to soften the blow. For example, the Innovation Authority, in conjunction with the Ministry of Finance, and the Ministry of Economy and Industry, initiated an emergency program to finance the immediate large-scale training and placement of workers in a variety of high-tech professions leading to accelerate their R&D and expedite their Covid-19-related solutions' time to market.[1] While the global pandemic affected every sector and business around the world. Tel Aviv's tech sector remained a resilient sector during the global pandemic, by continuing to raise capital, and have a number of companies successfully exit.[2]

In addition to the COVID-19 pandemic, the ongoing Russian military aggression against Ukraine has also taken a toll on Israeli companies and industrial ecosystems, highlighting the significance of policy efforts in supporting SMEs and clusters. While the war threatened supply of critical resources and food as well as to skilled and cheap programmers, it also provides new export opportunities for Israel's sophisticated defence and ICT industries in areas like anti-missile defence and cybersecurity. Both cases highlight the importance of well-orchestrated support for clusters and industrial ecosystems to stay resilient and react flexibly.[3]

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

1) an overview of the national cluster policy in Israel,
2) an assessment of the state of play of the national cluster policy.

[1] See https://startupnationcentral.org/news/start-up-nation-central-summarizes-2021-a-record-breaking-year-for-israeli-tech-25-billion-raised-and-an-unprecedented-number/ (last access 22.12.2022).
[2] Tel-Aviv Global & Tourism 2021.
[3] See https://www.al-monitor.com/originals/2022/03/israels-trade-ukraine-russia-be-affected-conflict and https://jiss.org.il/en/lerman-the-war-in-ukraine-and-its-impact-on-israel-an-interim-assessment/ (last access 03.01.2023).

01

National cluster policy, programmes and initiatives

1. National cluster policy, programmes and initiatives

In this section we provide an overview of the existing Israeli cluster policies.

The breakdown is presented in the form of a table, with the first column showing information on the aspects which constitute the policy (beginning with 'Policy Objectives', following with 'Policy Focus', etc.) and the second column representing the case of the Israeli innovation policy which includes support for cluster development.

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 cluster policy in Israel.

Policy type:	Broad policy
Policy name:	Israeli innovation policy
POLICY OBJECTIVES	**Strengthening cooperation between companies or industry and RTDI actors** **Increasing competitiveness and boosting scale up of SMEs** **Supporting internationalisation activities** **Fostering R&D activities, technology development and implementation** **Fostering innovation and strengthening innovation ecosystems** **Promoting entrepreneurship, start-ups and spin-offs** **Promoting resilience and sustainable economy and other solidarity-based initiatives** **Promoting employment and upgrading skills and competences** **Enhancing territorial cohesion (through RIS3)** **Increase supply chain resilience**
	The objective of the policy is to continue to foster a thriving innovation ecosystem. It aims to encourage R&D activity across all industries and types of enterprises – from start-up to industrial conglomerate –, to support regional innovation systems in peripheral regions, and to attract new skilled workers and entrepreneurs from underrepresented groups of the population.
POLICY FOCUS	**No specific focus**
	The Israeli innovation policy does not target any specific sector. The IIA also runs sector-specific programmes but its main programme – the R&D Fund – is open to all sectors. The Ministry of Science and Technology periodically determines priority areas for the Israeli innovation policy.[4]

[4] See Ministry of Science and Technology (2022) for the latest iteration which prioritises the areas bio-convergence, food-tech, renewable energies and energy storage, civilian space industry, and blue-tech.

Policy type:	Broad policy
Policy name:	Israeli innovation policy
RESPONSIBLE AUTHORITIES 	**In charge of implementation** **Provides funding** **Oversees the implementation** The Israel Innovation Authority (IIA) is an independent publicly funded agency created to assist and encourage, directly or indirectly, technological innovation in industry in Israel through a range of tracks, tools and actions. It is structured in six divisions, each of them offering a toolbox of tailored incentive programmes to their target clients. The divisions serve as launching pad for innovative projects, providing entrepreneurs and companies with the most relevant plan to materialise their ideas, develop their products and mobilise private investment., The IIA continuously monitors development in the Israeli innovation ecosystem by conducting research, planning, evaluation and budgetary control activities, and updates its policy and industry support tools accordingly. Taking into consideration the inputs of the IIA the policy is drafted by the Government which also oversees its implementation.
BENEFICIARIES 	**SMEs** **Research organisations** **Academic institutions** **Start-ups** **Large firms** **NGOs** **Technology centres** The beneficiaries of the innovation policy include new entrepreneurs, mature companies developing new products or processes, academics who wish to market their ideas, global corporations looking to collaborate with Israeli technology, Israeli companies seeking new markets and traditional factories seeking to incorporate innovative and advanced manufacturing into their businesses. The general population profits from skill development and entrepreneurship programmes.

Policy type:		Broad policy
Policy name:		Israeli innovation policy
INSTRUMENTS 	**Financial**	**Funding collaboration initiatives** **Support to R&D projects, SMEs becoming cluster members, etc.** **Subsidies to hire personnel** **Financing networking events** **Supporting market entry (e.g. testing, proof-of concept, prototyping, demonstration projects)** **Financing start-ups** **Innovation: voucher, support to hire PhDs, cooperation with R&I actors**
	Technical assistance	**Infrastructure: coworking spaces, offices, incubation and accelerator spaces, research centres, technology parks etc.** **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)** **Marketing activities: advertising, communication, events, fairs, and so on**
	Explanation	The innovation policy is mainly implemented through the numerous programmes managed by the IIA. Focusing on promoting innovation and entrepreneurship, they offer a broad range of support in financial and technical assistance. Financial assistance includes funding for, consortia of industrial companies and research institutions for R&D projects, subsidised salaries for hiring graduates, collaboration between companies and researchers in academia, prototyping, commercialisation, entrepreneurship, exhibition expenses, and many more. Technical assistance is provided in the form of infrastructures including technological infrastructures and physical space, hard skill assistance for intellectual property protection, business development, networking with investors, suppliers, and customers, as well as networking with national and international partners and marketing assistance. Furthermore, the IIA offers a range of mentoring and skill development programmes.

Policy type:		Broad policy
Policy name:		Israeli innovation policy
HISTORY	**Period**	**Unlimited period**
	Ending year *(for policies with limited period)*	No ending year is indicated.
	Starting year	1984
	Explanation	Israel's innovation policy is based on the Encouragement of Research and Development in the Industry Law from 1984 and implemented by the Office of the Chief Scientist (OCS) established in 1965. The 7th amendment from July 29, 2015, provides the current legal basis for the innovation policy enacted by the Israel Innovation Authority (IIA) which replaced the OCS as of January 1, 2016. The current programme period is running from 2018-2022.
BUDGET	**Overall**	Not available
	Annual	2019: ILS 1.9 billion (~ EUR 440 million)[5]
	Source of funding	The funding for the IIA's programmes is provided by the government.

[5] Latest available total IIA budget found, comprising the grants budget of ILS 1.731 billion and the operational budget of ILS 172 million. Euro numbers calculated according to the Inforeuro exchange rate for 01/2019.The 2018 grants budget was at ILS 1.718 billion.

Policy type:		Broad policy
Policy name:		Israeli innovation policy
POLICY EVALUATION	**Availability**	**No policy evaluation**
	Results	No recent official evaluation of the Israeli innovation policy has been found. There is, however, a comprehensive evaluation commissioned by the OCS and dating from 2008. The authors analysed the effect of the funding for R&D support from 1995-2005 on R&D output and GDP growth. They found government funding to produce 2-3 times of its value in new R&D spending and additional GDP growth depending on firm size and type (e.g., a multiplier of 4.7 for the high-tech sector or 5-6 for medium-large firms).[6] In addition, the IIA publishes annual reports.
POLICY ALIGNMENT WITH THE EU PRIORITIES		**Green economy** **Digitalisation** **Resilience**

[6] Lach et al. 2008.

02

State of play of cluster policy

2. State of play of cluster policy

This section presents an overview of the state of play of Israeli 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 1, 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 a detailed overview of the categories and the scoring system.

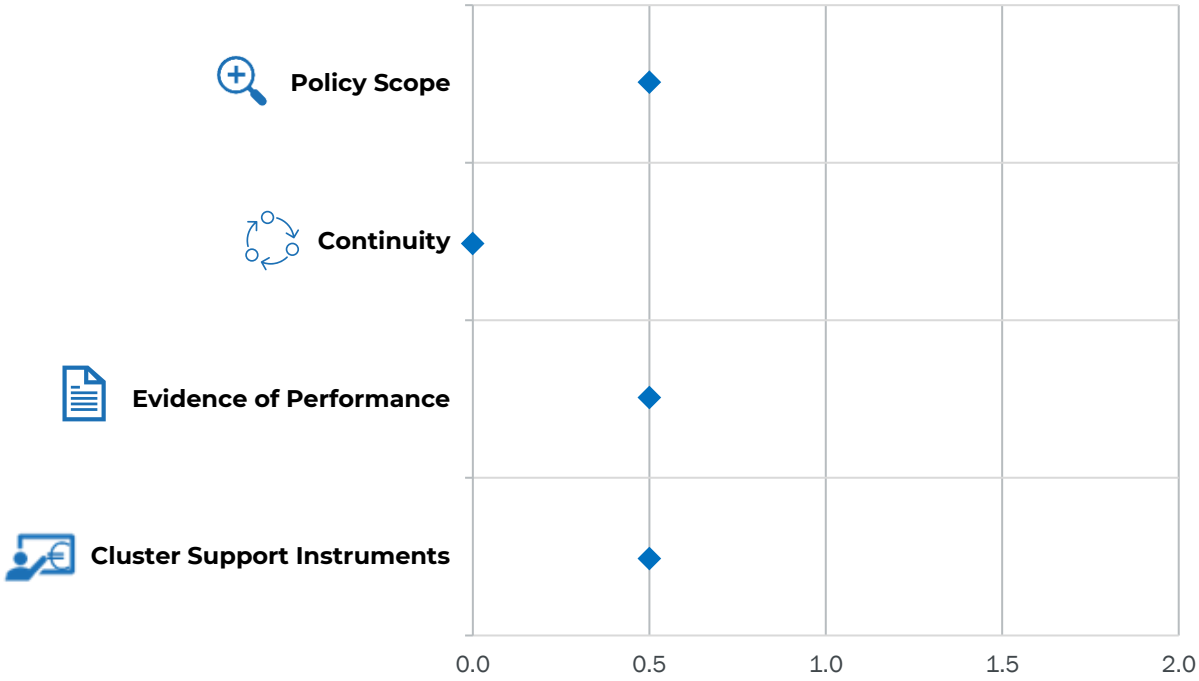
The table below presents an overview of the **maturity assessment for Israel** for 2022. The total score of Israel is 1,5 points out of 8.

ISRAEL	MATURITY ASSESSMENT	Max score	Actual score
POLICY SCOPE	Absence of cluster policy	0	
	Broad policy	0,5	**0,5**
	Sectoral policy	1	
	National and/or regional cluster policy	2	
CONTINUITY	No cluster-specific policy available	0	**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	
EVIDENCE OF PERFORMANCE	No evaluation and / or monitoring available	0	
	Existence of evaluations of past policies	0,5	**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	**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	
TOTAL (8)			**1,5**

Source: ECCP (2022)

Drawing from the table above that showcases the scored points in Israel´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 - Israel



Source: ECCP (2022)

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

Policy scope

Israel does not have any policy targeting cluster creation and/or development. Clusters emerged around the ICT and defence sectors, which in turn support high-technology areas of special relevance for the country such as medical and pharmaceutical (including medical devices) sectors, agriculture and biotechnology, and natural resources and energy, especially renewables and water technology. The innovation policy has been developed building on the previous successes and the new goals and challenges, reflecting the political strategy of Israel over time. These hub-structures given in Israel have similarities to cluster organisations but are not categorized as such. Considering its territorial concentration, the whole country essentially works like one integrated cluster system.

Continuity

Israel's innovation policy is based on the Encouragement of Research and Development in the Industry Law from 1984 and implemented by the Office of the Chief Scientist (OCS) established in 1965. The 7th amendment from July 29, 2015, provides the current legal basis for the innovation policy enacted by the Israel Innovation Authority (IIA) which replaced the OCS as of January 1, 2016. At its roots it has always been a highly institutionalised policy relying on these powerful independent agencies. Key to their success was their high autonomy and ability to provide funding for private

sector innovation that had tight conditionalities attached and could be withdrawn at any point if compliance was weakening.[7]

Through this unique institutional set-up, the emergence of clusters in Israel resulted from a combination of different policies focused on the creation of a strong innovation ecosystem, which would harness the strengths and advantages of the country in ICT and defence, respectively. The national investment in R&D, the availability of venture capital (VC) – not least thanks to massive public investment through the government-backed Yozma VC funds[8] –, a migration policy for the absorption and integration of high skilled professionals in science, and the efficient infrastructures at national and international level were some of the central factors fostering the formation of clusters. These continue to be strengthened through a consistent innovation policy to meet the evolving needs of the ecosystem.

Evidence of Performance

No recent evaluation of the Israeli innovation policy has been found.

There is, however, a comprehensive evaluation commissioned by the OCS and dating from 2008. The authors analysed the effect of the funding for R&D support from 1995-2005 on R&D output and GDP growth. They found government funding to produce 2-3 times of its value in new R&D spending and additional GDP growth depending on firm size and type (e.g., a multiplier of 4.7 for the high-tech sector or 5-6 for medium-large firms).[9]

Furthermore, various studies and sources point to the success of the policy, having achieved positive results over the years and placing Israel as one of the most innovative countries worldwide. Its "Silicon Wadi" high-tech cluster has often been showcased as an example of success. Studies highlight the proximity of the R&D centres, the industry sites and the urban areas, together with its prime infrastructure as important factors. Similarly, the availability of venture capital, the drive of the defense sector, the influx of a high skilled workforce and the outstanding role of the OCS steering the innovation ecosystem are claimed as some of the main reasons explaining Israel's success. In the last years however, the productivity growth has stalled. The technology-driven growth has not been sufficiently inclusive, and the service and manufacturing sectors have been neglected despite their importance for the overall economic performance.[10]

Cluster Support Instruments

The Israeli innovation policy has different financial and technical support instruments on a national level that assist cluster development.

Financial assistance includes funding for, consortia of industrial companies and research institutions for R&D projects, subsidised salaries for hiring graduates, collaboration between companies and researchers in academia, prototyping, commercialisation, entrepreneurship, exhibition expenses, and many more.

Technical assistance is provided in the form of infrastructures including technological infrastructures and physical space, hard skill assistance for intellectual property protection, business development, networking with investors, suppliers, and customers, as well as networking with national and international partners and marketing assistance. Furthermore, the IIA offers a range of mentoring and skill development programmes.

[7] Breznitz et al. 2013; Maggor 2021.

[8] https://www.yozma.com/overview (last accessed 03.01.2023).

[9] Lach et al. 2008.

[10] See, e.g., Uno et al. 2022; Dyduch et al. 2018; Getz et al. 2016; Breznitz et al. 2013; Avnimelech et al. 2008; de Fontenay et al. 2002.

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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)