Israeli National Council
for Civilian R&D
המועצה הלאומית למחקר ופיתוח אזרחי

The National Council for Civilian Research and Development (NCRD)

Research and Development (R&D) in Israel
Annual Report
2023

The National Council for Civilian Research and Development annual report is intended to present a snapshot of civil R&D in Israel for 2023, from a broad perspective as an evaluation of all the sectors that engage in R&D in Israel, with the exception of the defense sector. The Council's activity—the establishment and oversight of a national R&D policy—requires long-term assessments by the State. This activity is carried out through the collection and analysis of data that the Council requests from leading research bodies in Israel, including the Central Bureau of Statistics, and objective, professional research institutions capable of producing comprehensive and scientific reports and analysis on a regular basis. Additionally, the NCRD follows up and monitors the changes in R&D in Israel, via international comparisons through OECD databases.

These analyses enable the NCRD to provide professional and scientific advice to the government regarding civilian R&D in Israel. The Council was established by law[1], and is a central body within the Ministry of Innovation, Science and Technology. The NCRD serves as the strategic body of the Ministry, with a mandate to examine and evaluate the existing R&D infrastructure in Israel, to map the needs as well as strengths and weaknesses of Israel's R&D. R&D is the basis for the strength of Israel's economy, and constitutes a major factor in the development of the high-tech industry.

In addition, the Council conducts surveys and produces reports regarding science and research in Israel as a step toward achieving national goals. It offers recommendations to the government, through the Ministerial Committee on Science and Technology.

[1] The National Council for Civilian Research and Development Law 5763-2002

The Council, chaired by prof Peretz Lavie, is comprised of 15 professionals from academia and industry, and policy makers. Under its jurisdiction are several professional subcommittees.
The Council works with external advisors in various fields, some of whom collate the work of the national committees, and some of whom are engaged in developing work plans, budgets, surveys, research, and ongoing work vis-à-vis the Ministry of Science, the Knesset Science Committee, the Ministerial Committee on Science and Technology, and other bodies such as the OECD, the Israel Central Bureau of Statistics, and more.

Driven by a commitment to Israel's technological development and preserving the country's scientific excellence, the NCRD in its 2023 annual report relies on research, reports, and surveys that were conducted for the NCRD as part of the collaboration with the Central Bureau of Statistics, the Samuel Neaman Institute, and the OECD. These reports examine Israel's civil R&D institutions, including academia (mainly research universities), scientific personnel, government research institutes, industry, multinational companies, R&D centers, and more**.**

R&D in Israel

R&D funding in Israel is obtained from a number of sources: the Ministry of Innovation, Science and Technology; the Planning and Budgeting Committee; the National Infrastructure Forum for Research and Development; the Innovation Authority; chief scientists and government ministries; multinational companies; and investors such as "angel" venture capital funds and private investors.

R&D spending is an investment that aims to generate new knowledge, new products or new processes. To that end, analysis and understanding of these expenditures are important for policymaking by decision-makers in all sectors. When quantifying national R&D spending, there is a distinction between the operating sectors and the financing sectors. The sources of funding and execution are divided into four sectors: government sector, business, higher education, and non-profit organizations. R&D investment within the government sector is mainly aimed at the production of new knowledge or dedicated R&D for social needs such as health, agriculture, environmental quality, and is not business-oriented. Meanwhile, R&D investment in the business sector is typically aimed at new processes and products that are expected to increase output or return of the investment, and thus, the report focuses mainly on government activity.

Israel's economic data over the past decade indicate that Israel's dependence on the high-tech industry has intensified. The high-tech industry is a key component of the country's GDP, economic growth, and exports. While in 2012 high-tech exports stood

at 37.2%, in 2023 they exceeded 50%. The main basis for Israel's thriving high-tech industry is its R&D infrastructure that encourages innovation, entrepreneurship, and the pursuit of science.

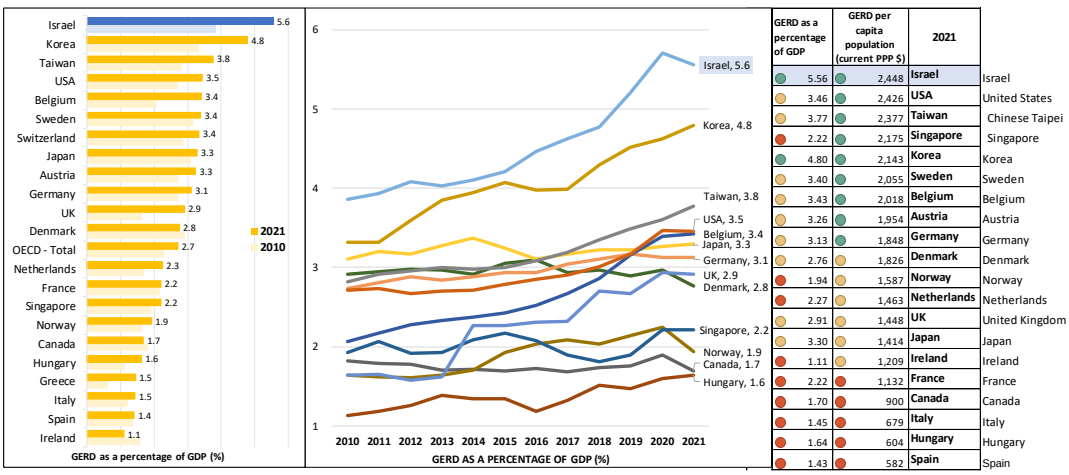
This infrastructure is based on advanced and developed educational systems, outstanding institutions of higher education which encourage independent and sophisticated scientific thinking, as well as in-depth research that yields high-quality products based on excellent human resources.

Approximately 60% of high school graduates in Israel (those who took matriculation exams in Israel) meet the qualification requirements for admission to universities. Of these, 21% take mathematics matriculation exams of 5 units, and can potentially integrate into Israel's high-tech industry. However, the employment rate in the high-tech sector stands at only 10%. The total scope of the Israeli high-tech industry in terms of human resources (full-time employees) for 2023 is approximately 400,000 hired-employee positions within the high-tech sector, and an additional 100,000 employees in tech positions outside the sector in other companies. The NCRD sees a national mission to expand this industry in Israel and increase the human resources devoted to it.

Israel's expenditure for civilian R&D in Israel in comparison to international R&D expenditures

Israel's national expenditure on civilian R&D as a percentage of the GDP and per person in 2010-2021 in Israel is considered high relative to the reference countries. However, most of the R&D funding (more than 90%) comes from the private sector, and of that private funding, 50% is from foreign investors (multi-national companies, venture capital investors, etc.).

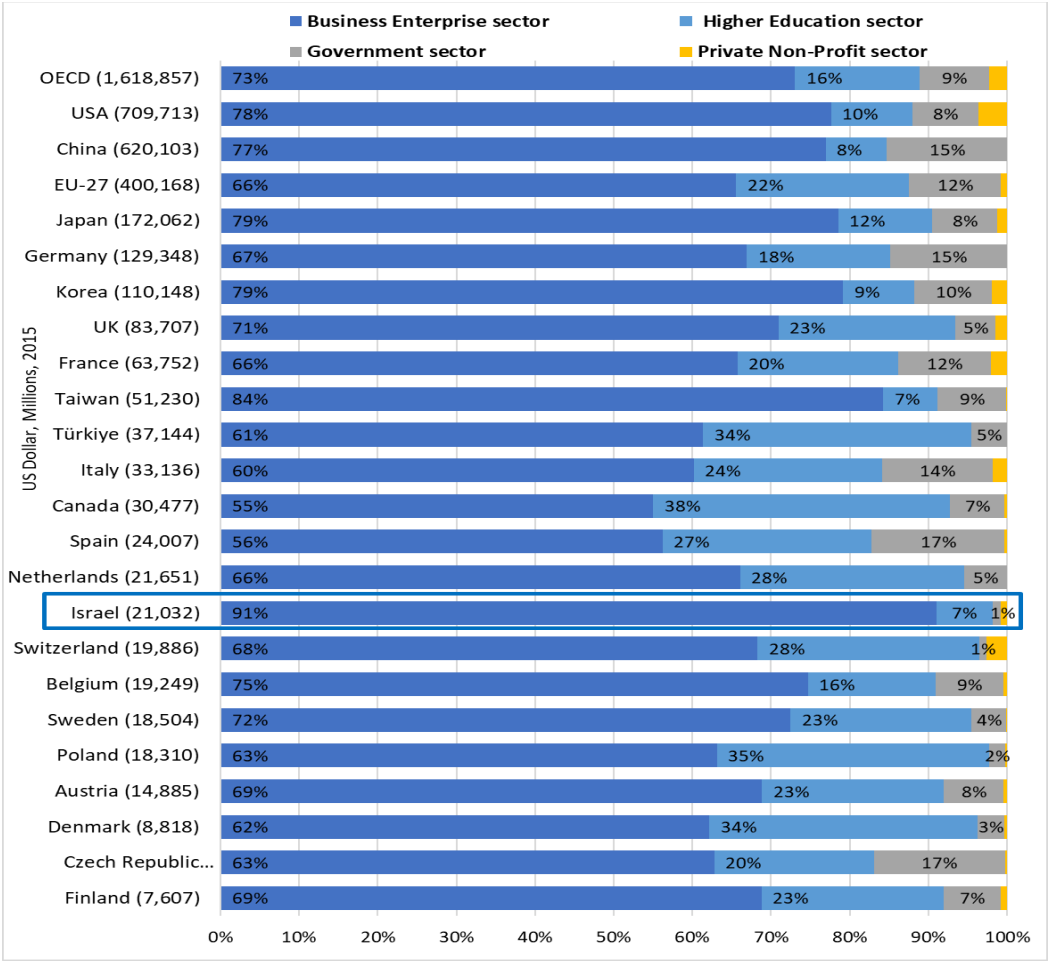
National expenditure on civilian R&D as a percentage of GDP and per capita, 2010-2021



GERD as a percentage of GDP	GERD per capita population (current PPP $)	2021	
5.56	2,448	Israel	Israel
3.46	2,426	USA	United States
3.77	2,377	Taiwan	Chinese Taipei
2.22	2,175	Singapore	Singapore
4.80	2,143	Korea	Korea
3.40	2,055	Sweden	Sweden
3.43	2,018	Belgium	Belgium
3.26	1,954	Austria	Austria
3.13	1,848	Germany	Germany
2.76	1,826	Denmark	Denmark
1.94	1,587	Norway	Norway
2.27	1,463	Netherlands	Netherlands
2.91	1,448	UK	United Kingdom
3.30	1,414	Japan	Japan
1.11	1,209	Ireland	Ireland
2.22	1,132	France	France
1.70	900	Canada	Canada
1.45	679	Italy	Italy
1.64	604	Hungary	Hungary
1.43	582	Spain	Spain

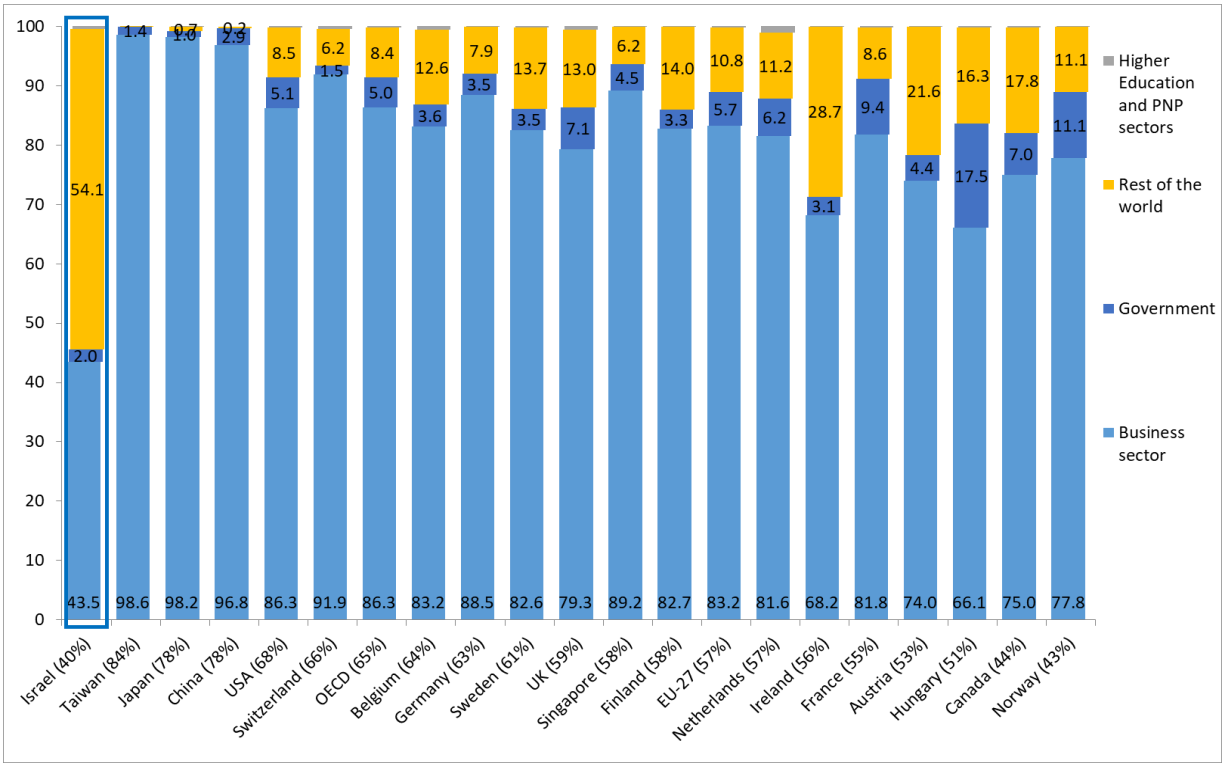
Examining the rate of national expenditure on civilian R&D in Israel by operating sector according to an international comparison, Israel stands out with its high rate of spending by the business sector (91%) compared to the reference countries; the OECD average is 73%. The remaining sectors in Israel—government, higher education, and non-profit organizations—have a lower rate of national expenditure for civilian R&D compared to other countries. Also, the rate of performance in the government sector is very low, at only 1%, as compared to the reference countries including Belgium (10%), Sweden (5%) and the Netherlands (6%), as shown in Figure 1.

National expenditure on civilian R&D by operating sector, international comparison (2021)

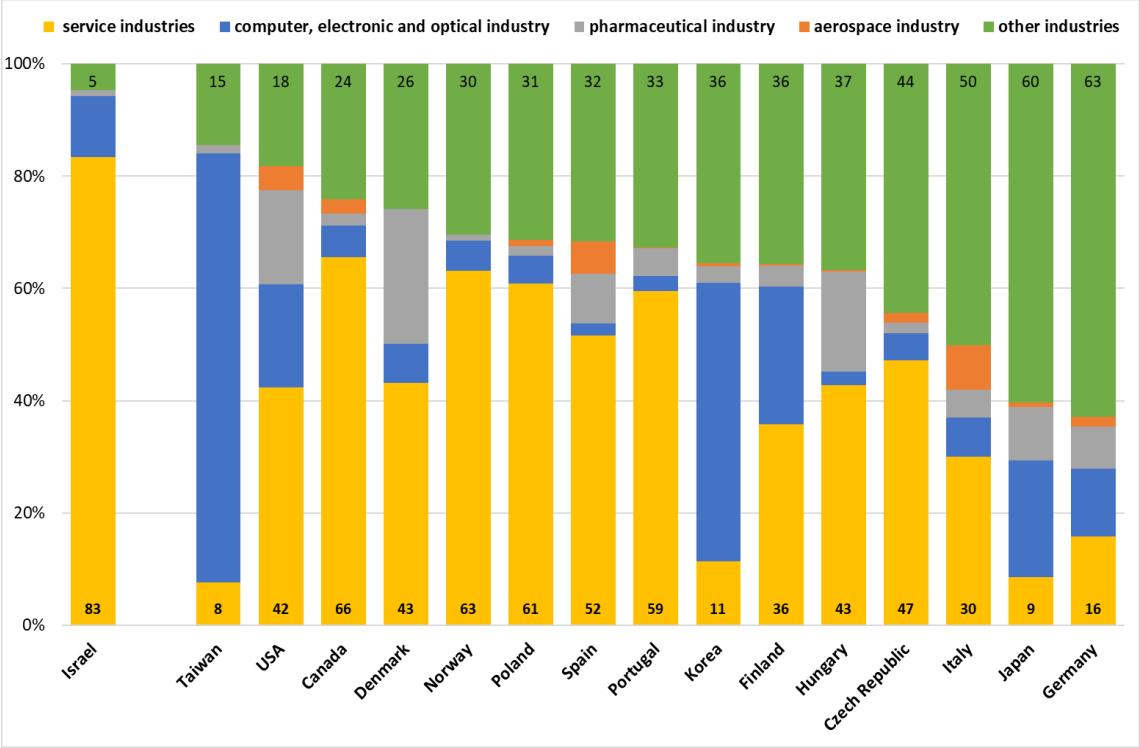


As for the sources of funding, in Israel the business sector is the main source of R&D funding. With regard to the rate of R&D financing in Israel by the foreign sector, Israel is unusual compared to the reference countries. In 2021, this rate was 54% and is the highest within the OECD countries. Following are Ireland with 28.7% of total financing; Austria with 21.6%' and Canada with 17.8%.

Distribution of funding sources for the national R&D expenditure in the business sector, international comparison (2021)



Business sector expenditures according to industry, international comparison, 2020



***Israel's unique feature in national R&D expenditure in the business sector is its R&D service sector, specifically in the software domain.**

Investments and fundraising by start-up companies in Israel in 2023: the state of the high-tech industry: While Israel has thrived in the high-tech domain for a decade and has been a global leader across various innovation indices, there was a shift in 2023. The year began with fears of a global crisis that could also affect Israel. The beginning of the year was marked by a decrease in the volume of investments in Israeli high-tech and capital-raising for start-up companies. In the last quarter, after the Hamas terror attack on October 7, there was an additional decline in fundraising for start-ups, as well in the creation of new companies and the number of venture capital funds active in Israel.

The number of people employed in R&D – In 2023 there were 400,000 high-tech positions in Israel, constituting 10% of employed workers in the Israeli economy. After normalizing the data for the population size for 1,000 employees, in this index Israel is rated as a top performer compared to the OECD countries and the EU-28 countries: 42 employees in Israel compared to 12 in the OECD and EU-28.

Start-up companies' fundraising and initial transactions – These companies experienced a decrease of approximately 60% in fundraising compared to 2022. On average, Israeli start-up companies raised approximately $7.1 billion. By international

comparison, this is equivalent to a 30% drop in fundraising in the US and a 44% drop in fundraising in Europe.

Higher education: In 2021, Israel's R&D expenses in the higher education sector stood at $1.503 billion and constituted 0.4% of its GDP. In Israel, this rate is stable, however with a downward trend over the past decade.

In the 2021 school year, 71% of high school students were eligible for a matriculation certificate and 59% met the universities' threshold requirements.

The 2022 Programme for International Student Assessment (PISA) test, which examined the literacy level of 15-year-olds in 81 countries in three domains: reading, mathematics, and science. Israel was ranked 30th in reading, 38th in mathematics, and 37th in science.

In 2022/23 academic year, Israel's 58 institutions of higher education enrolled 345,300 students in academic degree programs.

In 2021/22, a total of 19,591 students began their studies in institutions of higher education in the sciences and engineering, constituting approximately one-third of the total number of students in the first year of undergraduate studies.

The number of academic positions in the school (2022/23) was approximately 20,051 in universities and 9,233 in colleges.

The number of PhD holders who constitute a reservoir for higher education teaching personnel and representing the core personnel who are engaged in conducting academic research has remained unchanged over the past decade.

In Israel, this index has been on a downward trend over the past two decades. Also in absolute term, this index is relatively low comparable to countries such as Sweden, the Netherlands, and Belgium. On the NCRD's part, the higher education sector in which most of the basic research is conducted may be adversely affected in the mid- to long term, due to reducing budgets or keeping them unchanged.

Scientific publications - About 80% of the research articles published by Israeli researchers are performed within academia. Over the past two decades, while the number of publications in Israel and the OECD has doubled, the rate of Israeli publications out of all these publications (published in the OECD countries) remained almost unchanged (1.27in 2000 and 1.25% in 2022). Comparing Israeli publications to all publications in the Middle East, where the decrease has been dramatic, Israeli

publications have decreased from 40.23% in 2000 to 16.87% in 2020 and 8.54% in 2022.

The NCRD sees a changing trend that may affect the future of Israel economy. The decline in R&D investments, combined with R&D funding coming mainly from the business sector, as more than 50% of it coming from foreign investors may delay and affect the growth of the Israeli R&D, especially in a situation in which foreign investors are leaving Israel. Moreover, the decline in the higher education and education indices, starting from high school through PhD graduates; the decline in scientific publications; and the budget cuts in higher education may affect the entire Israeli high-tech industry in the medium- and long-term, as well as its capability and reputation as a start-up nation.

The status of R&D in Israel's major cities: Tel Aviv, Haifa, Jerusalem, and Beer-Sheva: Significant disparities exist in the geographical distribution of technology-intensive industries and services across Israel. This report examined the power relations, the specific domains of strength in each city, and incentives given to R&D in Israel's four major cities: Tel Aviv, Haifa, Jerusalem, and Beer Sheva, from a series of aspects related to science, technology, and innovation.

In terms of education, two main phenomena arise from the data: Haifa is a leader in technological education, both at the high school level as well as at the academic level. In Jerusalem, the percentage of individuals eligible for a high school matriculation diploma is far below the national average at barely over 50%, as measured over the past decade. Start-up companies and companies that provide high-tech services are located mainly in the Tel Aviv area, and the status of Beer Sheva as a high-tech hub has not improved, and has even eroded. The NCRD determined that Beer Sheva has the greatest need for external assistance compared to the other cities.

The impact of October 7 War on Israeli science

Following the October 7, 2023, attacks on Israel, the NCRD joined the effort to push back against the wave of anti-Semitism and anti-Israel sentiment that immediately began to intensify around the world, in large part because research and development are rooted in international collaborations. Brainstorming among a large diversity of scientists is considered critical for creative thinking and innovative solutions, and as such Israel sees international networks as critical for advancing its science. Since the establishment of the State of Israel, Israeli academia and science have made extraordinary achievements that are outgrowths of international collaborations, among other things. Israeli science is driven by and it an outgrowth of democratic values, which rely on the foundations of academic freedom and the liberty to explore and innovate in new direction. Therefore, impairment of scientific collaborations that is based in racial or national bias undermines Israel's prowess in science and

technology, and thus its economy, and is therefore something that Israel must counteract and mitigate.

On December 6, 2023, the NCRD held an emergency session[2] during which arose the concern of increasing anti-Semitism and anti-Israel sentiment and the fact that they constitute a real threat to ongoing and future collaborations. Consequently, the NCRD presented its recommendations to the Ministry of Innovation, Science and Technology and to the Knesset Science Committee for strengthening R&D in Israel and promoting international research relations. The recommendations included the following parameters:

- To refrain from cutting the research budgets of the Ministry of Innovation, Science and Technology, and the Planning and Budgeting Committee.
- To strengthen the bi-national foundations that support joint projects with international researchers.
- To make a concerted effort to recruit Israelis who have academic positions at universities abroad to return to Israel, and to strengthen support for their integration among leading researchers at elite universities in Israel.
- To encourage international scientific conferences in Israel; to allocate resources through the Planning and Budgeting Committee or the National Research Foundation; to finance foreign scientists for short periods in Israel
- Allocate resources for visits of Israeli researchers to laboratories abroad.

The NCRD Committees

The NCRD Law empowers the NCRD to set an R&D policy and recommend to the government, through the Minister of Science and Technology, a comprehensive national policy for the development and promotion of scientific research in Israel. This policy is formulated by the committees that are set by the NCRD chairman, in accordance with the state of the R&D and the state's needs. After determining the committees' key topics and the individuals who will lead them, these leaders examine their respective topics through surveys and studies, and establish policy recommendations. The committee members, most of whom are veteran scientists, work on a voluntary basis. Recommendations are then presented to the NCRD plenum, which will approve or reject them. After approval, the recommendations are submitted to the government through the Ministerial Committee on Science and Technology.

[2] (70) Emergency meeting at the NCCRD: The impact of anti-Semitism in academic institutes worldwide on the Israeli academia following October 7th – YouTube

The committees' activities involving formulating a detailed national R&D policy require long-term assessments including collecting and analyzing data conducted by the Central Bureau of Statistics and by objective, professional research institutes capable of producing comprehensive reports that examine the status of R&D. Thus, the committees operate in accordance with the NCRD's work plan across a multi-year time span, given that the process of data collection, research, analysis, drawing conclusions, and formulating policy recommendations takes time. In 2023, five NCRD committees performed this work.

The NCRD committees, 2023

The NCRD Committees	Committee head	The Committee work groups
Education Committee	Dr. Brigadier General (Ret.), Ariel Heimann	- Combining formal and informal learning, emphasizing pedagogy, knowledge, and skills - Developing and improving the quality of teaching and teachers - Teaching science in elementary schools - The economics of science education and the importance of science education for Israel's economic resilience
Academy-Economy Committee	Prof. Arnon Bentur	- Transfer and sharing of knowledge between academia and industry - The activity of the chief scientists of the government ministries - Development of human capital in academia for the needs of the economy
Infrastructure Committee	Prof. Yeshayahu (Ishi) Talmon	- Israel's scientific infrastructure facilities and the manner in which they are used
Environment Committee	Prof. Tamar Dayan	- Environmental health forum - Preserving biodiversity in Israel
The Scientific Excellence Committee	Prof. Mina Teicher	- Scientific excellence in academia. The committee did not formulate its recommendations and therefore its conclusions are not included in the report.

Activities and recommendations for 2023, by committee

Scientific Education Committee

The Scientific Education Committee set goals that require holistic thinking on education in Israel, as follows: To examine a broad national strategic policy in formal and informal scientific-technological education for all ages; to identify the means and domains required to strengthen Israel's scientific-technological education; to reexamine the priorities in science-technology education; to examine the readiness of Israel's education system to meet future challenges as per global trends; to examine the human and physical infrastructure in science and technology education (learners and teachers) in Israel and the skills required for providing a solution for the country's future R&D requirements.

The committee consisted of four work groups on the following topics:

1. Combining formal and informal learning, and emphasizing pedagogy, knowledge and skills, led by Prof. Ami Moyal.

Recommendations:

- Establish a national initiative for formulating a vision for synergistic education
- Design an integrated policy for STEM education
- Establish a national council for STEM education
- Formulate and implement incentive policies to encourage integrated education at the national and local levels.
- Measure the effectiveness of integrated education efforts for STEM

2. - Cultivation and improvement of the quality of teaching and teachers led by Dr. Liat Ben-David

Recommendations:

- Determine a national emergency plan for science education that advocates for a strategic shift to make the profession prestigious and attractive.
- Construct and implement a plan for the retention and professional development of teachers involving expanding and improving certification programs for science teaching by experts from various scientific fields.

3. Teaching science in elementary schools, led by Prof. Tali Tal.

Recommendations:

- Increase the number of teachers qualified to teach science at an adequate level.
- Set minimum requirements for the level of training, both in terms of knowledge of scientific content as well as pedagogy.
- Financially reward elementary school science teachers differentially.
- Operate in-service training programs for teaching science for teachers in the educational system, and to reward teachers who join such training programs.

- Operate mechanisms and incentives for encouraging specialization in science at teacher training colleges (as double-major programs or otherwise).
- Reward individuals who make career changes to teach science in elementary schools and support them in a manner that will ensure they stay in the system.
- Set a minimum number of hours for science classroom studies.
- Upgrade science facilities and equip them according to the recommendations of the Supervisor of the Sciences, and allocate time for science teachers to prepare experiments and demonstrations, given the absence of lab technician positions in elementary schools.

4. The economics of scientific education and the importance of scientific education for Israel's national resilience and the economy, led by Prof. Haim Teitelbaum. The group's interim recommendations:

- Establish a national council for STEM education.
- Lead a five-year strategic plan to promote the quality of science teachers (status, prestige, criteria, training, employment conditions).

The conclusions of the Scientific Education Committee are critical for the State of Israel overall, and especially given its leading role as a "startup nation" with a thriving high-tech ecosystem. The Committee recommends that the Ministry of Education change its budget-cutting approach and instead increase budgets, as they have direct implications for the future of Israel, especially in light of the current crisis.

Academy-Economy Committee

The Academy-Economy Committee promotes policies and develops mechanisms for knowledge transfer and sharing between academia and economic market as a whole, emphasizing the foundational areas of physical infrastructure, social infrastructure, education, environment, public health and lifelong learning models (LLL). The Committee included three work groups, establishing a framework for synergy between them:

1. Transfer and sharing of academic-economic knowledge, led by Prof. Dan Peled, which focused on strengthening academic-economic relations in the fields of data-based public policy; evidence-based policies; intellectual property policy in data and models for transferring knowledge from academia to the market; and development of mechanisms for encouraging the knowledge sharing with researchers from academia in formulating a national policy, including in areas where commercialization of research knowledge isn't possible or relevant.

2. The activity of the chief scientists at the government ministries, led by the Chief Scientist of the Ministry of Innovation, Science and Technology, Prof. Avi Domb, focused on establishing support and advisory mechanisms within academia to

promote policymaking and decision-making at the national level; serving as a focal point of support during times of crisis. A comprehensive assessment of the operational methods of chief scientists in government ministries aimed at finding a balance between their role in long-term planning and also executing specific tasks related to the Ministry's needs.

3. Development of human capital in academia for the market's needs, led by Prof. Arnon Bentur, which focused on developing a national strategy to promote lifelong learning (LLL)[3] policies, understanding that the half-life of professional knowledge is less than 10 years. In order to preserve the quality of human capital, the goal is to place an emphasis on the importance of academic training over a multi-decade career.

Recommendations:

There is a need for new models of ongoing learning throughout the career trajectory, which should be based on collaborations between academia and the broader economy. This issue has become increasingly important globally in recent years. Therefore, the Academy-Economy Committee has concluded that Israel must develop a mechanism for preserving the quality of its human capital as well as ensuring it remains strong through knowledge sharing, which is rapidly evolving as society evolves. Advanced countries worldwide, such as Singapore, France, and Canada, view this as a high-priority national goal, a mission that is led by the respective government ministries, typically in collaboration between the ministries overseeing education and the economy/employment.

The Committee concluded that there is a need to develop models for work experience in industry while undertaking academic studies, which would enable collaborations between academia and the marketplace, and also would provide the graduates of academic institutions with essential workplace skills. The Committee's activities were based on discussions with leaders and stakeholders from academia, the business sector, and the public sector, as well as with international experts, aimed at learning new and innovative methods for promoted in leading countries that Israel wishes to resemble. In addition, the Committee collected data and conducted surveys to establish the discussions and recommendations based on facts, in the spirit of evidence-based policy.

The Committee also recommended the establishment of four platforms designed to establish synergy as well as ensure the quality of existing activities and encourage new ones, but without the need to manage the activities or investing significant resources in their promotion. These include accreditation and quality assurance, mapping and developing databases, integrating academia into lifelong learning, and the promotion of techno-pedagogical platforms for lifelong studies.

[3] https://www.neaman.org.il/Files/Life%20Long%20Learning_20200629133235.057.pdf

The National Infrastructure Committee and infrastructure facilities in the Security System

Israel's security and safety is based on capabilities and systems developed and supplied by the Israeli defense industry. As a policy, Israel acquires security platforms primarily through foreign aid funds. However, the system's qualitative advantage is achieved through its domestic defense industry's weapons systems, elevating these maritime, submarine, and aerial platforms to superior levels. Systems such as drones, air defense systems, space and intelligence systems, control, and monitoring technology, armored combat vehicles, missiles, and rockets are all developed by Israel's defense industry. These capabilities are based on unique knowledge and infrastructure that were developed and built by the defense system over years by knowledge and infrastructure centers designed to provide the State of Israel with the qualitative advantage. The Ministry of Defense, through MAFAT (the Directorate of Defense, Research and Development), decided to maintain a mechanism whereby the knowledge centers and national security infrastructure facilities that are critical to the security of the state will be kept. This mechanism is known as TELMI (National Infrastructures and Knowledge Centers).

Recommendations:

The Committee concluded that in the current R&D ecosystem, scientific needs and social challenges rely on an array of infrastructure facilities and involving tremendous investments. Much of the national infrastructure is under the control and supervision of the Ministry of Defense since some infrastructure elements have strategic security value but no independent business need. It is therefore worthwhile to examine whether duplications exist in the existing facilities, including in academia and industry. If so, that incurs unnecessary expenses including construction, maintenance, and upgrades.

It is thus necessary to leverage the unique knowledge and infrastructure capabilities created by the security system which offer Israel a qualitative advantage and make them accessible, in a controlled manner, to academic research collaboration in order to advance national interests while also preventing duplication, saving money, and increasing synergy between the stakeholders.

Environment Committee

The Environment Committee determined that environmental solutions require utilization of innovative technologies such as artificial intelligence, big-data processing, robotics, nanotechnology, and more. For example, waste recycling, renewable energy, and smart environmental infrastructure for the public require R&D, since without government investment, it is doubtful they will reach the public domain.

At the same time, there is a need for research supporting the preservation of the state's natural resources. Many countries have understood that there is a need for government intervention and prioritization of environmental research. Compared to the rest of the world, Israel invests very little in these areas, and government participation in environmental R&D is considered low worldwide as it is. The rate of participation in environmental R&D in 2022 was less than 1%.

Recommendations:

In the field of environmental health, the Committee recommends the establishment of an environmental health forum that will serve as a comprehensive body that assesses the field at a strategic level, integrates scientific and applied knowledge, designs policy and is responsible for its implementation. It also would develop practical infrastructure and tools for research, applied knowledge, and promote human resources. It would close the Health and Environment Fund and establish a body that will bring together the scientific and professional community in the areas that are lacking.

The Committee presented a national plan for the preservation of biodiversity, with the following objectives: improving biodiversity by direct protection of ecosystems; reducing direct and indirect pressures on biodiversity (for example, through subsidies); increasing the contribution of biodiversity to national resilience – including for improving the quality of life, health, food security, and minimizing the impact of the climate change; and advancing biodiversity and promoting its benefits for humanity; and expanding the scientific knowledge base in the field.

In conclusion, the NCRD's activities are essential for tracking and monitoring R&D, which underlies Israel's economic stability. Maintaining and promoting the excellence of Israeli R&D is required especially during critical periods of geopolitical instability. Throughout its history, Israel has successfully confronted its security and political challenges, in large part because of its outstanding human capital. NCRD's activity relies on outstanding human capital (most of whom serve on a volunteer basis).

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The NCRD team

The NCCRD Chairman - Prof. Peretz Lavie

Members of the NCRD plenum

Prof. Avi Zadok, Prof. Avi Schroeder, Aharon Aharon , Dr. Itay Gabrieli , Eitan Eshel, Prof. Arnon Bentur, Arik Kleinstein, Prof. Dan Peled, Prof. Danny Steinberg, Prof. Yeshayahu (Ishi) Talmon, Prof. Yossi Kost, Prof. Liat Ayalon, Dr. Michal Tzur, Prof. Mina Teicher, Adi Sofer Teeny, Imad Younes, Prof. Karen Avraham

NCRD Committees heads

Dr. Brigadier General (Ret.) Ariel Heimann **– Education Committee**
Prof. Arnon Bentur **– Academy-Economy Committee**
Prof. Yeshayahu (Ishi) Talmon **– R&D Infrastructure Committee**
Prof. Mina Teicher **– Scientific Excellence Committee**
Prof. Tamar Dayan **– Environment Committee**
NCRD consultants - Dr. Gury Zilkha, Dov Russo, Debbie Kaufman, Dr. Neil Namir, Ran Binyamin
Referent - Racheli Rahamim