רשות החדשנות
Israel Innovation
Authority

Strengthening the Global Leadership of Israeli High-Tech in the Age of AI: Where Excellence Outweighs Scale

Vision, Targets, and Operational Steps

April 2026 | Draft for Industry Comments

Executive Summary

A Strategic Opportunity

Artificial intelligence is the most significant technological revolution since the internet. For the Israeli high-tech industry, it represents both a major opportunity and a strategic risk: an opportunity to sustain and even strengthen Israel's global leadership, and a risk that its position will erode unless a strategy suited to the new era is implemented.

This document addresses one central question: How can Israel ensure that its high-tech sector strengthens its position as part of the small group of countries leading the AI revolution? The answer begins with a basic premise: Israeli high-tech can achieve global AI leadership in domains where excellence outweighs scale.

A central lesson from previous technological revolutions, especially in their early stages, is that market forces alone are insufficient. Proactive government action is required – in infrastructure, human capital, and regulation – to enable the ecosystem to realize its potential.

Starting Point: Strength Alongside Challenges

The Israeli high-tech industry is the main growth engine of the Israeli economy: it accounts for roughly 17% of GDP, more than 50% of exports, and about 11% of employment. It is also one of the world's leading innovation ecosystems, with the highest level of civilian R&D expenditure as a share of GDP and exceptional human-capital quality.

Even in recent years, despite crises and instability, this industry has demonstrated impressive resilience: venture capital investment reached $15.6 billion in 2025; M&A activity totaled $82 billion, including Google's $32 billion acquisition of Wiz; and more than 400 multinational R&D centers continue to develop world-class innovation in Israel.

Israel is also well positioned in AI, with the world's highest concentration of AI talent per capita, and among the highest levels of AI startup formation and venture capital investment globally. At the same time, Israeli high-tech faces two central challenges:

1. **Scale-based global competition –** primarily from the United States and China, which enjoy enormous advantages in capital, data, and infrastructure.
2. **Disruption of core Israeli high-tech sectors by large language models and AI agents,** especially the business models of SaaS companies in enterprise software, alongside structural changes in the way software is written.

Yet this revolution has now entered a new phase – one that opens a unique window of opportunity aligned with the strengths of the Israeli high-tech industry, and that can enable Israel to preserve and even strengthen its global leadership.

Four Converging Trends: A Window of Opportunity

The strategy identifies four global trends that together create a unique window of opportunity.

A. The maturation of foundation models and movement up the value chain

Large language models are stabilizing, performance gaps between leading models are narrowing, and the costs of training and inference are falling dramatically. As a result, significant economic value is shifting from model training to applications and systems.

This creates an opportunity for Israel to **leverage its strengths in commercialization, vertical expertise, and rapid product development.**

B. The growth of the AI infrastructure industry

Massive investments are being made in the infrastructure that enables and accelerates AI: chips, data centers, communications networks, energy, cybersecurity, and related technologies.

For Israel, this is an opportunity to establish an advantage in the fast-growing industry of companies that enable the AI revolution – **a field in which Israel has significant technological depth, long-standing experience, and active startups.**

C. New technological frontiers

Alongside the race toward AGI, another technological frontier is emerging around Physical AI – AI systems that understand and act in the physical world. This is a frontier in which no clear dominance has yet been established, and where **Israel has assets that could enable it, with focused government investment, to compete for leadership.**

D. The reshaping of supply chains through geopolitical alliances

Access to advanced AI resources is increasingly determined through geopolitical alliances such as Pax Silica. Geopolitical positioning and participation in these alliances are becoming strategic economic and technological assets.

As one of the first countries to join this alliance, **Israel has the ability to secure the resources and global networks its high-tech sector needs in AI in order to sustain its leadership.**

The Vision

Israeli high-tech will achieve global AI leadership in domains where excellence outweighs scale:

- in companies developing high-value AI applications;
- in companies developing AI-enabling and AI-accelerating infrastructure;
- in technological breakthroughs at the next frontiers of AI, with an emphasis on Physical AI;
- and as a critical node in strategic global AI alliances.

This will be achieved by leveraging the unique advantages of Israeli high-tech, above all its human capital, entrepreneurship, and deep connection to global markets.

At the heart of this vision lies a central strategic insight: **the State of Israel must provide the Israeli high-tech industry with the tools to become an AI-first industry –** an industry in which AI is the foundational technology around which the vast majority of companies are built.

The Israeli high-tech industry has the human capital, entrepreneurial culture, and expertise needed to make this transition. But doing so requires intentional change both in innovation policy and within the industry itself: in how companies are built, how talent is trained, and how public infrastructure supports innovation.

The Strategic Logic

The strategy is based on one key principle: Israel cannot, and should not, compete with great powers by imitating them or by chasing leadership in a technological race it cannot win. The United States will continue to lead in developing large-scale models and infrastructure. China will lead in industrial deployment. Israeli high-tech, however, can and should lead in domains where **innovation, specialization, and speed matter more than size.**

The Four Strategic Pillars

The four strategic pillars form a mutually reinforcing system. Commercial successes demonstrate Israel's value to global alliances. Infrastructure capabilities turn Israel from an alliance member into a critical supplier. Technological breakthroughs position Israel as a first-tier R&D partner. And the geopolitical pillar provides access to markets and resources.

The table below sets out, for each pillar, the goal and ambitious five-year targets that represent a desired future state for the Israeli ecosystem.

Pillar	Goal	Five-Year Targets
1. **Applications**	Leadership in companies developing AI applications in sectors where Israel has a proven competitive advantage, while shifting from SaaS to AI-native models.	› 10+ AI-native unicorns; › One of the world's top five ecosystems for AI applications; › Among the top five countries in AI venture capital investment.
2. **AI Enablers**	Leading companies that serve as critical suppliers of technologies enabling the AI industry: chips, networks, edge computing, cybersecurity for data centers, operational software for foundation models, and more.	› 10 new startups in AI chip design; › 15 AI-enabling companies with annual revenues of $50 million; › 5 MNCs expanding their AI infrastructure R&D activity in Israel.
3. **Technology**	Technological leadership at the frontier of Physical AI.	› **Stage A – Research excellence:** Among the top ten globally in citation impact. › **Stage B – Adoption by global platforms:** One Israeli company among the top three global leaders in Physical AI; 10 Israeli companies serving as core components in flagship products of technology giants. › **Stage C – Global leadership:** 5 unicorns and the crossing of a significant international regulatory threshold.
4. **Geopolitics**	A critical node in Pax Silica and global AI alliances: securing access to chips, advanced models, infrastructure, and R&D collaborations.	› Active cooperation with the United States and positioning as Tier 1 under the U.S. Bureau of Industry and Security (BIS) Framework; › Technological partnerships with 3+ Pax Silica countries; › Israeli technological contributions embedded among alliance partners; › Active participation in developing AI governance standards.

Core Policy Measures

The Applications Pillar

- **Seeding AI-native companies –** adapting and strengthening existing instruments to support the creation and growth of outstanding AI-native companies.
- **Opening access to data assets –** establishing and making accessible sectoral data repositories.
- **Turning Israel into a global validation hub for AI applications –** through three complementary tools: sectoral regulatory sandboxes; dedicated AI-focused transformative initiatives (similar to the national drone initiative) and serial testbeds.
- **Human capital –** with an emphasis on reskilling programs for STEM graduates and experienced software engineers, and on recruiting international experts.
- **Compute and infrastructure –** ensuring affordable and available access to compute infrastructure for model training, while securing local inference infrastructure.
- **AI transformation for established companies –** removing barriers and, where necessary, examining dedicated financing tools.
- **Multinational companies operating in Israel –** creating incentives to expand existing activity into the AI applications frontier.

The AI Enablers Pillar

- **Collaboration with global companies –** leveraging existing multinational activity to influence the ecosystem and attract leading AI companies.
- **Serial testbeds and transformative initiatives.**
- **Seeding infrastructure companies, and where necessary, removing barriers for specialized investors.**
- **Human capital –** recruiting international experts.

The Technology Pillar

- **Academia-industry collaboration –** emphasizing applied R&D and cooperation between academia and industry. In particular, establishing an applied research institute for Physical AI and focusing the Innovation Authority's existing tools on relevant domains.
- **Industry and market development –** testbeds for Physical AI and robotics; focusing existing tools on AI frontiers; and examining the need to establish private financing channels for advanced technologies.
- **Regulation and standards –** developing dedicated certification pathways for the safety of autonomous systems and increasing Israeli presence in international standard-setting bodies.
- **Research and human capital –** recruiting experts and increasing the number of AI researchers and doctoral students in universities.

The Geopolitical Pillar

- **Compute and infrastructure –** working with the U.S. administration to secure preferred access to advanced AI infrastructure of various kinds.
- **Joint research –** academic programs with Pax Silica partners.
- **International agreements –** expanding bilateral agreements and focusing existing funds on AI cooperation.
- **Compute and regulation –** positioning Israel within the alliance and increasing regulatory coordination.

Conclusion

This document presents a strategic framework designed to ensure that the Israeli high-tech industry uses the current window of opportunity to establish global leadership in the age of AI.

Timing is critical. The architecture of global alliances is still being built. The AI value chain is opening to more players. New technological frontiers are being defined now.

Successful implementation of this strategy – while leveraging the opportunity created by the establishment of the AI Directorate in the Prime Minister's Office, and in close cooperation with it and with the entire ecosystem – will help the high-tech industry not only to preserve its leading position but also to **reinvent itself for the next technological era.**

Background

Artificial intelligence is a general-purpose technology whose effects will be felt across almost every sector of the economy and every dimension of society. The breadth of its applications, the depth of disruption it brings to existing industries, and the speed and uncertainty of its development make it a technological revolution unlike any seen since the internet – and perhaps even beyond it.

The implications for a technology-driven economy such as Israel's are profound. Artificial intelligence will reshape the sectors in which the Israeli high-tech industry currently leads, create entirely new fields, transform business models and R&D processes, and redefine the rules of global competition.

This document addresses one central question: **How to ensure that the Israeli high-tech industry has all the conditions required to remain part of the small group of nations leading this revolution, and to continue serving as the growth engine of the Israeli economy?**

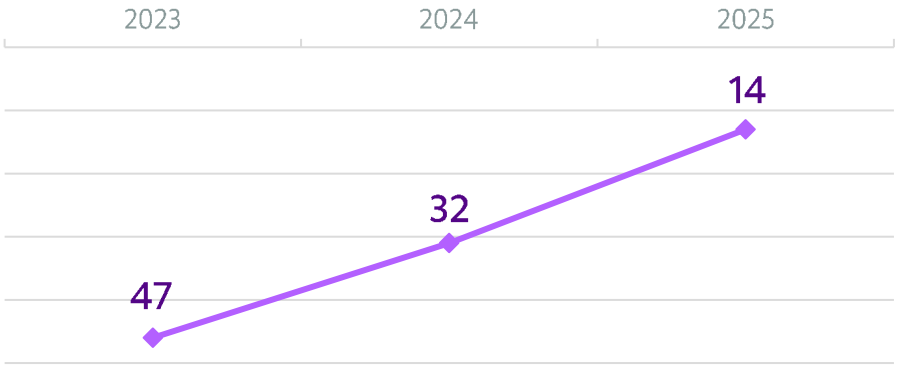
Technological revolutions of this scale do not develop through market forces alone. The history of transformative general-purpose technologies – from electricity to the internet – shows that, especially in the early stages of a technological wave, determined and ambitious government action is essential. Infrastructure must be built before the market can fully price its value. Human-capital training channels must change. Regulatory frameworks must be shaped before outdated rules become barriers.

In the age of AI, these needs are amplified. Countries are competing with one another not merely as collections of private companies, but as integrated ecosystems, in which compute infrastructure, data regulation, research institutions, and international partnerships together create a whole greater than the sum of its parts. The countries that have climbed global AI rankings in recent years – South Korea, France, the United Kingdom, Singapore, and Canada – have done so by developing ambitious government strategies alongside private-sector excellence.

To date, the Government of Israel, through the TELEM Forum, has led an initiative designed to create a step change in Israel's AI research and development infrastructure. As part of this initiative, the state invested approximately NIS 1 billion in research, compute infrastructure, direct investments by the Israel Innovation Authority in AI companies, human-capital training, access to data repositories, and enabling regulation. This effort strengthened the ecosystem as competition over global AI leadership intensified. The full set of activities is detailed in the appendix.

In parallel, the Israel Innovation Authority has invested hundreds of millions of dollars in companies developing AI products. Another layer of government AI policy was recently established with the creation of the AI Directorate in the Prime Minister's Office and the Government of Israel's commitment to significantly increase its AI investments and strengthen strategic coordination across all government activity in this field. These measures helped raise Israel's ranking in the government strategy component of the Tortoise Global AI Index – now the Observer Global AI Index – from 47th in the world in 2023 to 14th in 2025 (Figure 1).

Figure 1: Israel's Ranking in the Government Strategy Pillar of the Tortoise Global AI Index

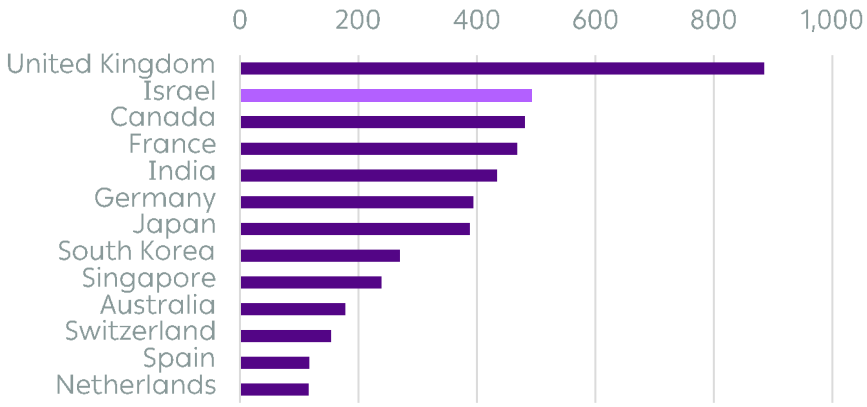


At the same time, despite a period of domestic instability, the Israeli high-tech industry has continued to establish itself as a global leader in AI. In absolute terms, Israel ranks among the world's top five countries in the creation of AI companies and in investment in such companies (Figure 2). When these figures are measured relative to population or GDP, Israel ranks first.

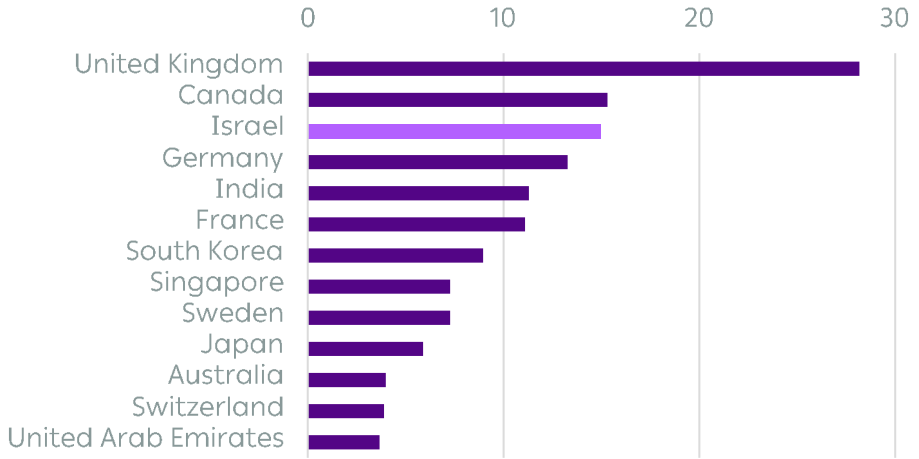
Figure 2: Founding and Investment in AI Companies (Excluding US and China) For 2013-2024

Source: Stanford HAI, The AI Index 2025 Annual Report

2A. Number of Startups Founded



2B. Private Investment in AI, Selected Countries ($B)



Yet current achievements are only the starting point for the next stage of the long race for leadership in the technological era ahead. The convergence of several global trends, detailed in the next chapter, signals that the nature of competition is changing and that a strategic window of opportunity has opened: a moment in which the direction of technological development, the structure of global cooperation, and the strengths of the Israeli ecosystem are unusually aligned. The strategy presented here is designed to ensure that the Israeli high-tech industry uses this window of opportunity to establish and strengthen its position as a global AI leader.

The document begins by reviewing recent developments in AI that explain why an updated strategy is needed. It then presents a vision for the leadership of the Israeli high-tech industry in the age of AI. Finally, it sets out four strategic pillars, each with defined targets and concrete policy measures.

The High-Tech Engine of Israel's Economy: From Resilience to Growth

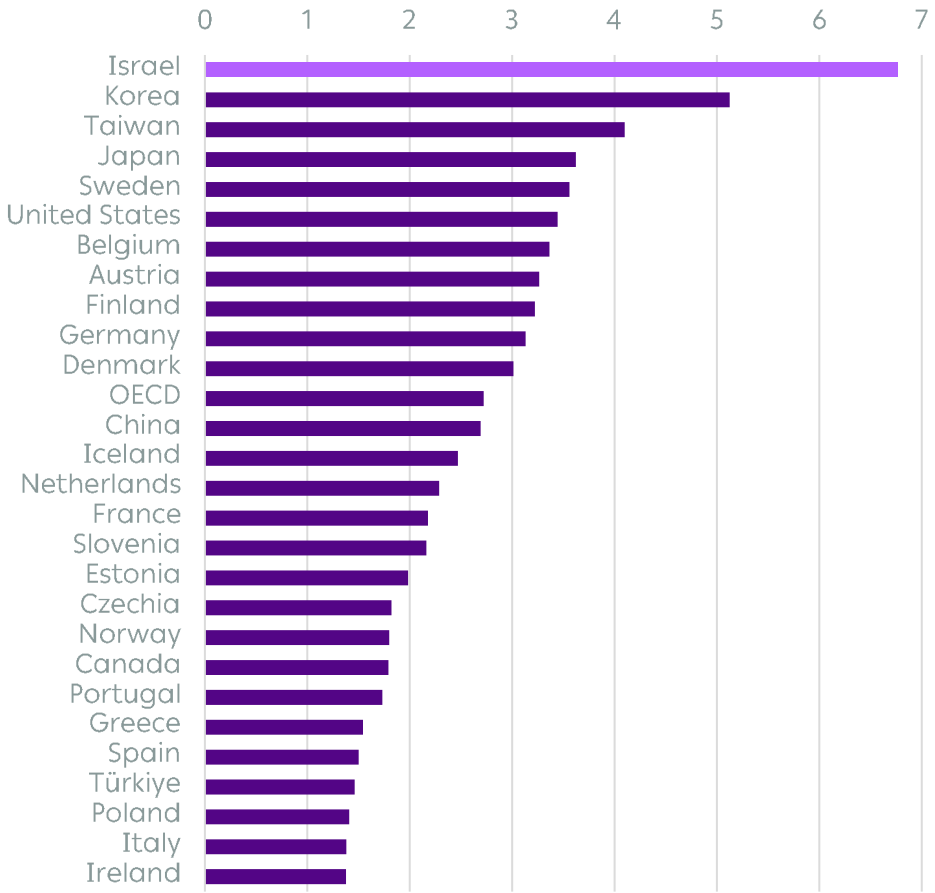
For three decades, the Israeli high-tech sector has strengthened its position as the main growth engine of the Israeli economy. Today, it accounts for roughly 17% of GDP, more than half of Israel's exports, and about 11.5% of the workforce.[1] By international comparison, Israeli innovation is an exceptional success story – both in the quantity of R&D, with civilian R&D expenditure exceeding 6% of GDP, the highest level in the OECD (Figure 3), and in its quality, with dozens of companies that lead the markets in which they operate.

Yet in recent years the industry has faced severe challenges. A global pandemic, political instability, a worldwide slowdown in venture-capital investment, and, since October 2023, a prolonged multi-front war have combined to create an environment that has made normal business activity extremely difficult.

The resilience of the ecosystem in the face of these challenges has been impressive. Investment in startups recovered to approximately $15.6 billion in 2025 – a 24% increase compared with 2024 and a 68% increase compared with 2023. M&A activity reached historic highs, with transactions totaling approximately $82 billion, including Google's $32 billion acquisition of Wiz – the largest transaction in the history of the Israeli high-tech industry. Seven Israeli companies completed IPOs in 2025, at a combined valuation of $14.6 billion. International investors accounted for 60% of all investors, reflecting continued global confidence.[2]

Figure 3: Investment in Civilian R&D (2024 or latest available year) % of GDP

Source :OECD



[1] Data based on Israel Innovation Authority's Annual Reports
[2] Data based on Startup Nation Central's 2025 Annual Report.

More than 400 multinational R&D centers have also continued their extensive activity in Israel, built on world-class human capital and the inexhaustible source of Israeli innovation and entrepreneurship. A further illustration of the strength of the Israeli high-tech sector in the age of AI came with NVIDIA's announcement – the company that serves as the main computational engine of the AI world – that it would establish a campus in Israel covering 180,000 square meters, with plans to double its local workforce to approximately 10,000 employees.

Yet the global AI race poses a new challenge for the Israeli high-tech industry. The first stage of this race was dominated by scale. The United States and China, with enormous compute resources, vast data repositories, and trillion-dollar companies, clearly dominated the development of large language models. At this stage, even Israel's exceptional per-capita advantages – first in the world in the concentration of AI talent, in AI patents per capita, and in research impact as measured by scientific citations at 6.2 times the global average[3] – could not fully compensate for the limitations of a small economy competing with the world's largest powers.

Accordingly, Israel's position in the Tortoise Global AI Index, the most widely cited ranking of national AI capabilities, fell from fifth place in 2021 to ninth place in 2024, before rising back to seventh place in the 2025 ranking.

The implications of the AI revolution itself – and not only the competition for leadership within it – are part of the challenge facing the Israeli high-tech industry. Two of the sector's strongest domains face direct disruption. Enterprise software companies, which have been a central pillar of the Israeli high-tech industry's success over the past decade, now face a challenge from large language models and AI agents that undermine both their technological moats and their business models. Programming professions, another area in which Israel has an exceptional competitive advantage, are also undergoing transformation, as AI-based development tools threaten either to significantly reduce demand for programmers or to change the nature of that demand.

Yet the same revolution also opens extraordinary opportunities. The AI frontier is moving from the training of large models toward AI applications, and new technological frontiers are emerging. These developments reopen the competition to smaller countries capable of moving quickly, building deep vertical expertise, and translating technological breakthroughs into global products.

These are precisely the capabilities the Israeli high-tech industry has cultivated over the past several decades. With the right strategy, determined execution, and precise public-sector involvement that creates the optimal conditions for breakthrough, this is the moment in which the Israeli high-tech industry can develop new growth engines and establish itself as a global leader in the new and exciting era being shaped by the AI revolution.

[3] Stanford HAI 2025 AI Index Report

Four Converging Trends: A Window of Opportunity

Four trends – commercial, infrastructural, technological, and geopolitical – are converging to create this strategic window of opportunity. Each of them is significant on its own. Together, they create a rare opportunity to strengthen the competitive advantages of the Israeli high-tech industry in the age of AI.

For each trend, we describe the global development and the specific opportunity it creates for the Israeli high-tech industry.

Stabilization of Foundation Models and Movement Up the Value Chain

The first stage of the GenAI revolution, dominated by the race to build ever-larger language models, is reaching maturity. This does not mean that progress has stopped, but rather that the nature of progress is changing.

Performance gaps between leading models have narrowed dramatically. The gap between the first- and tenth-ranked models in Chatbot Arena, one of the most widely used benchmarks for comparing models, declined from 11.9% to 5.4% in just one year.4 Inference costs have also fallen sharply: the cost of running a model at GPT-3.5-level performance declined by a factor of 280 between the end of 2022 and the end of 2024.

The smallest model capable of achieving strong benchmark performance declined from 540 billion parameters in 2022 to just 3.8 billion in 2024 – a 142-fold decrease. Open-weight models have also nearly closed the gap with large commercial models, with the performance gap narrowing from 8% to 1.7% in a single year.

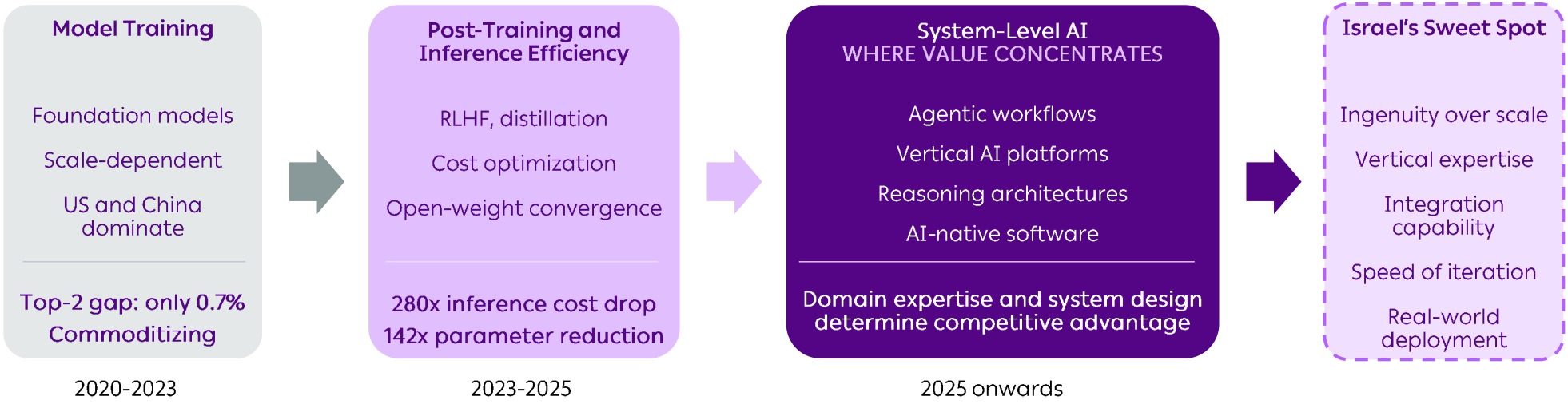
In particular, as shown in the following figure, the AI value chain is moving upward. In the first years of the GenAI revolution, most of the value was created in the training of foundation models – an activity that required massive capital investment in compute and data, and that was concentrated in the hands of a small number of American and Chinese companies.

In the second stage, from 2023 to 2025, value shifted to the post-training layer, as techniques such as reinforcement learning and inference optimization became sources of differentiation and enabled smaller, open models to achieve performance close to that of large models at a fraction of the cost.

Now, as foundation models become a standardized and increasingly affordable infrastructure layer, value is moving upward again – to the application layer: the integration of models into products, the architecture of AI agents, and vertical solutions that connect AI to domain expertise and proprietary data.

[4] Stanford HAI AI Index 2025

The AI Value Chain Migration



Competitive frontier shifts from capital intensity to domain expertise and system design

Source: Stanford HAI AI Index 2025; IIA analysis

At this stage of the value chain, there are more opportunities for application-level solutions. The current moment therefore creates an opportunity for leadership based not only on massive investment in model training, but on creativity, commercialization speed, understanding of market needs, interdisciplinarity, and deep vertical expertise – all of which are notable strengths of the Israeli high-tech industry.

Yet unlike previous technological waves, the transition to the AI era requires enabling conditions that market forces alone do not provide: access to compute infrastructure at prices and availability levels that are viable for startups; human-capital training, which takes years and which academia is still not supplying at sufficient scale; the opening of data repositories currently locked within public bodies; a regulatory environment that provides certainty; and geopolitical positioning that secures access to chips and models.

AI Infrastructure as a New Industry in Its Own Right

Alongside the maturation of models, the world is undergoing an infrastructure buildout of unprecedented scale. The five largest American technology companies – Microsoft, Alphabet, Amazon, Meta, and Oracle – are expected to invest $660–690 billion in capital expenditure in 2026 alone, almost twice the level of investment in 2025.[5]

These sums are not being directed only toward model development. They are being invested in the hardware and software layers on which these models run: AI-optimized semiconductors, high-speed communication networks connecting GPU clusters, cooling and energy-management systems for data centers, platforms for managing training and inference, edge-computing hardware, cybersecurity systems for protecting model activity and data centers, and more.

The clearest illustration of the strength of this trend is NVIDIA's meteoric rise. The company, which produces the chips and infrastructure on which the AI industry is built, became the world's most valuable company, and in 2025 became the first company in history to cross a market capitalization of $4 trillion. The fact that an infrastructure provider became the most valuable company in the world illustrates where markets see the greatest value in the AI chain. And when NVIDIA CEO Jensen Huang said in 2025 that the world would need hundreds of thousands of electricians and plumbers to build enormous data centers, he captured the rapid growth of this emerging industry.[6]

This trend is creating a new industrial category that barely existed a few years ago. Companies in this emerging category are not AI companies in the standard sense of training models; rather, they create the supply chain of the AI revolution. As in other major technological revolutions – railroads, telecommunications, cloud computing – the companies that provide the infrastructure often capture more value than the companies that use it.

Here too, the Israeli high-tech industry has a relative advantage. Since the early 1970s, Israel has developed deep core capabilities in computing and communications infrastructure.

[5] Futurum Group, "AI Capex 2026: The $690B Infrastructure Sprint", Bloomberg.
[6] https://finance.yahoo.com/news/nvidia-ceo-jensen-huang-says-145838012.html

The Beginning of the Race Toward the Next AI Frontiers

Two technological paths are currently competing over the future of the AI revolution. The first path is the continued growth of large language models and a breakthrough toward Artificial General Intelligence, and perhaps even Artificial Superintelligence – the creation of systems capable of reasoning, planning, and acting autonomously at or beyond human level. The large AI companies are betting on this path and investing tens of billions of dollars on the assumption that breakthroughs will emerge from the current paradigm.

The second paradigm argues that language-based scaling alone has reached diminishing returns, and that the next major technological breakthrough will come in Physical AI – systems that understand and make decisions in the physical world. These two paths are not necessarily contradictory. The next paradigm may combine elements of both. But the distinction between them is critical for any country competing for global AI leadership.

Two of the most prominent AI researchers advocate the second paradigm and have founded new ventures aimed at achieving breakthroughs in Physical AI.

- French AI researcher Yann LeCun left Meta after 12 years to establish AMI LABS, with the following vision:

  "Enabling the next AI revolution, by building a new breed of AI systems that (1) understand the real world, (2) have persistent memory, (3) can reason and plan, (4) are controllable and safe."

  The company has already raised more than $1 billion in a seed round – the largest seed round in European history – at a valuation of $3.5 billion.[7]

- American researcher Fei-Fei Li, known as the "godmother of AI," founded World Labs, which raised $1.2 billion, including investments from AMD, NVIDIA, and Autodesk, to develop and commercialize models:

  "that can perceive, generate, reason, and interact with the 3D world."

The world of Physical AI is broad and includes fields such as world models and edge computing – domains in which technological competition is intensifying, but where no companies have yet established clear dominance.

Israel has the potential to become one of the leading countries in these technologies, which require deep systems integration – sensors, hardware, software, and algorithms – rather than compute power at enormous scale. This is precisely an Israeli strength, as detailed in the next chapter.

[7] https://techcrunch.com/2026/03/09/yann-lecuns-ami-labs-raises-1-03-billion-to-build-world-models/

Access to AI Resources as a Function of Geopolitical Alliances

In a world where competition among great powers is no longer focused only on military strength, but first and foremost on technological leadership in AI, the boundaries between geopolitics, technology, and economics are becoming blurred.

This was reflected in recent months as the United States began reshaping the global AI supply chain around geopolitical alliances. This process matured in December 2025 into the Pax Silica agreement, in which Israel was one of seven founding signatories.

Led by the United States, the alliance seeks to ensure secure and resilient supply chains across the entire value chain: from critical minerals and energy to semiconductors, AI infrastructure, and logistics. The initiative represents the most significant effort to date to organize like-minded countries around the understanding that national security and economic development in the age of AI require a coordinated approach to the technologies and resources on which AI depends.

For the Israeli high-tech industry, the significance of Pax Silica goes far beyond symbolism. The framework creates new pathways for access to compute infrastructure, bilateral R&D partnerships with leading technology countries, and participation in shaping standards and regulation.

Israel's deep capabilities in security, cybersecurity, edge computing, and semiconductors make Israeli companies valuable and potentially essential partners in the alliance. As a result, they are well positioned to benefit from access to markets, shared infrastructure, and joint initiatives that the framework is designed to enable and leverage in support of technological leadership.

An additional bridge – the Abraham Accords – could lead to a special form of cooperation with the UAE, which is also a partner in Pax Silica.

Alliance architectures, coordination frameworks, and bilateral agreements are currently under active negotiation. The countries and institutions that position themselves early and most effectively within these networks will have the greatest influence over the terms of participation – and the broadest access to the opportunities this framework creates.

The Foundation Already Built

The Israeli high-tech industry reaches this window of opportunity with important foundations already in place – both because of deliberate government action and because of the momentum of the private market.

The National AI Program, launched in November 2021 with a budget of approximately NIS 1 billion, established critical infrastructure:[8]

- A national supercomputer was established, including approximately 4,000 B200 accelerators operated by Nebius, with total investment exceeding half a billion shekels. Its compute resources are made accessible to industry and academia through an innovative compute-voucher model allocated on the basis of excellence.
- Scholarships were awarded to hundreds of advanced research students.
- Data repositories were made accessible for model training.
- Measures were implemented to expand Israel's specialized AI human capital, including the reskilling of local experts and the recruitment of experts from abroad.
- Enabling regulatory frameworks were established, including a first-of-its-kind regulatory sandbox in the education system.
- The Israel Innovation Authority invested more than $250 million directly in companies developing deep and breakthrough technologies.
- In parallel, despite several years of instability, the private market has produced leading Israeli AI startups, which together raised more than $15 billion over the past decade (Figure 2).

The infrastructure exists, and the window of opportunity is open. The establishment of the AI Directorate in the Prime Minister's Office creates a unique opportunity to mobilize all relevant government ministries and to position AI strategically in a way that enables the full realization of the vision.

The question this document addresses is how to ensure that this readiness is translated into long-term leadership.

[8] A full status of the program can be found in the appendix.

The Vision: Global Leadership Where Excellence Outweighs Scale

The Israeli high-tech industry will become a global AI leader in domains where excellence outweighs scale:

- in companies developing high-value AI applications;
- in companies developing AI-enabling and AI-accelerating infrastructure;[9]
- in technological breakthroughs at the next frontiers of AI, with an emphasis on Physical AI;
- and as a critical node in strategic global AI alliances.

This will be achieved by leveraging the unique advantages of the Israeli high-tech industry – above all, its human capital, entrepreneurship, and deep connection to global markets.

At the heart of this vision lies a central strategic insight: **the Government of Israel must provide the Israeli high-tech industry with the tools to become, first and foremost, an AI-first industry** – an industry in which AI is the foundational technology around which the vast majority of companies are built.

The Israeli high-tech industry has the human capital, entrepreneurial culture, and expertise required to make this transition. But doing so requires intentional change both in innovation policy and within the industry itself: in the way companies are built, in the way talent is trained, and in the way public infrastructure supports innovation.

Such a shift, combined with smart competition in domains where Israel can lead, will produce the desired outcome. Not every country will occupy the same position in the emerging AI value chain. The United States is expected to continue dominating the development of leading models and large parts of the global commercial ecosystem. China's advantage lies in scale, industrial deployment, manufacturing depth, and state-backed ecosystem coordination.

Israel's innovation strategy must be different. Its goal is not to become a smaller version of the United States or China, but to lead where excellence, specialization, and speed of execution matter more than the scale of investment. This means focusing national effort on the parts of AI where the Israeli high-tech industry can establish a meaningful and sustainable competitive advantage.

[9] To avoid any misunderstanding, this pillar does not focus on supercomputing infrastructure itself, but on companies developing products and solutions that enable and accelerate AI infrastructure – primarily for data centers and AI models.

The Four Strategic Pillars

1. The Applications Pillar: High-Value AI Applications

Goal

Israel will become a global leader in developing AI applications, especially in sectors where it has a proven competitive advantage, such as cybersecurity, fintech, digital health, enterprise software, and defense.

Established Israeli companies will successfully transition from traditional SaaS architectures – in which the product is fixed software operated by the user – to AI-native architectures, in which the core of the product is an AI model that learns, adapts, and acts autonomously on behalf of the user (discussed further in Box 1). This transition will leverage the commercialization speed, vertical expertise, and entrepreneurial culture of the Israeli high-tech industry.

Box 1: What Is an AI-Native Company?

An AI-native company is a company whose product core, architecture, and operating model are built around AI systems.

In the traditional SaaS model, software is deterministic: developers define fixed logic, the user operates the system, and value is created through predefined workflows.

By contrast, an AI-native architecture is generally characterized by several features:

- **The model is the core of the product –** not a feature, but the central engine of value creation.
- **The system improves over time –** through learning, feedback, and continuous adaptation, rather than only through software releases.
- **The interface shifts from tools to outcomes –** the user defines a goal, and the system performs actions to achieve it, sometimes autonomously.
- **Software becomes dynamic and probabilistic –** its behavior is not fully predefined, but emerges from the combination of models, data, and context.
- **The human role moves up the value chain –** from directly operating software to supervising, guiding, and controlling AI systems.
- **Data becomes a cumulative competitive moat –** every user interaction improves the model and deepens the advantage through a data flywheel. Companies that accumulate data earlier build an advantage that is difficult to replicate, making speed to market critical.
- **The business model changes fundamentally –** shifting from subscription models based on the number of users or seats to pricing based on outcomes and actions.

In its most advanced form, an AI-native company operates through agentic systems: systems capable of planning, acting, learning, and integrating into complex workflows with minimal human intervention.

Rationale

As described in the review of global trends, the AI value chain is moving from the training of models to AI systems at the product level. This pillar addresses the question of how Israel can take advantage of this shift.

For three decades, the Israeli ecosystem has excelled at translating general-purpose technologies into competitive products for global markets. This was the case in cybersecurity, fintech, and enterprise software, all of which leveraged the rise of the internet. In each of these fields, Israel did not invent the underlying technology, but became a global leader in its application.

Israel will face competition in this pillar from many countries. Yet the Israeli high-tech industry has a distinctive combination of deep vertical expertise, development speed, commercialization capabilities, and the ability to integrate solutions from multiple disciplines.

At the same time, this stage – and the growing capabilities of AI agents – also poses a direct challenge to several of the Israeli high-tech sector's strongest domains. In particular, enterprise software, a field in which Israel is among the world leaders, faces disruption from agentic AI systems. These systems can provide similar functionality at near-zero marginal cost, thereby undermining the business models of established companies.

Such companies have significant assets, above all user data and customer bases. But to remain competitive, they will need to rebuild their products as AI-native companies, not as SaaS companies with an AI component. The same innovative and entrepreneurial culture that produced leading SaaS companies can also drive this transformation.

Five-Year Targets

The five-year targets for this pillar are ambitious, but grounded in the proven capabilities of the ecosystem:

1. At least 10 new Israeli AI-native companies will reach unicorn status or annual recurring revenue of $100 million.
2. Israel will be among the world's top five countries in the creation of AI-native companies.
3. Israel will be among the world's top five countries in venture capital investment in AI-native companies.

2. The AI Enablers Pillar: Companies Developing AI-Enabling and AI-Accelerating Infrastructure

Goal

Israel will become a critical supplier of the technologies on which the global AI industry is built – from semiconductor design for data centers and edge AI, through workload management and communications networks in compute centers, to the software infrastructure and cybersecurity required for AI (see Box 2).

Israeli companies will capture a significant share of the value created by the global AI infrastructure buildout, building on decades of excellence in chip design, communications, cybersecurity, and systems engineering.

Rationale

Building data centers is not a new industrial activity, but as described in the review of global trends, the wave of investment in AI infrastructure is fundamentally changing the scale, architecture, and supply chain of the industry.

The shift from CPUs to GPU clusters, the rise in electricity and cooling requirements, and the need for ultra-fast networking are creating demand for technologies and components that were not previously required at this scale.

The Israeli high-tech industry has the capabilities needed to capture a significant share of the value in this rapidly growing industry. The clearest illustration is NVIDIA's presence and expansion plans in Israel. The world's most valuable company operates its largest development center outside the United States in Israel, with 5,000 employees across seven sites and plans to double its workforce to 10,000 through a new campus in Kiryat Tivon. NVIDIA CEO Jensen Huang has even referred to Israel as the company's "second home" – a clear signal of the high potential of this industry in Israel.

Box 2: The Main Technologies in the AI Enablers Pillar

This pillar focuses on the layer of technologies and infrastructure on which the global AI industry "runs." It does not focus on AI applications themselves, but on the components and systems without which those applications cannot operate at scale and with economic efficiency.

The following framework illustrates the range of technologies that build and enable AI infrastructure: from physical infrastructure, through semiconductors and interconnect technologies, to software for efficient AI operations and cybersecurity for critical infrastructure components.

In addition to technologies related to data centers, this pillar also includes companies developing AI chips, including edge-computing technologies, as well as companies developing foundation models.

Main Data Centers Technologies

Physical Infrastructure

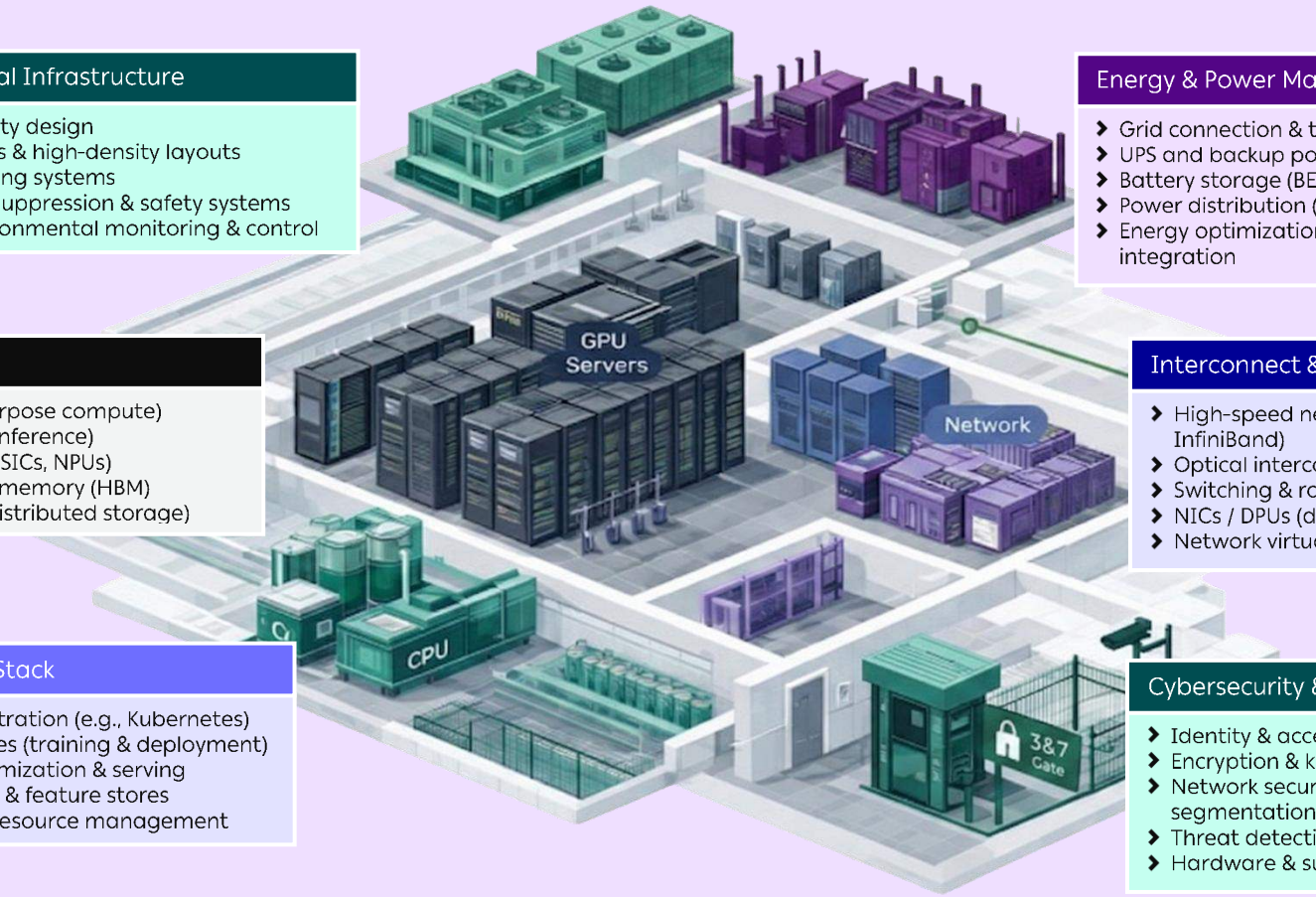
- Facility design
- Racks & high-density layouts
- Cooling systems
- Fire suppression & safety systems
- Environmental monitoring & control

Energy & Power Management

- Grid connection & transformers
- UPS and backup power (generators)
- Battery storage (BESS)
- Power distribution (PDUs, busways)
- Energy optimization & renewable integration

Compute & Chips

- CPUs (general-purpose compute)
- GPUs (training & inference)
- AI accelerators (ASICs, NPUs)
- High-bandwidth memory (HBM)
- Storage (NVMe, distributed storage)



Interconnect & Networking

- High-speed networking (Ethernet / InfiniBand)
- Optical interconnects (fiber, photonics)
- Switching & routing infrastructure
- NICs / DPUs (data processing units)
- Network virtualization (SDN)

Software & AI Stack

- Cluster orchestration (e.g., Kubernetes)
- MLOps pipelines (training & deployment)
- Inference optimization & serving
- Data pipelines & feature stores
- Monitoring & resource management

Cybersecurity & Protection

- Identity & access management (IAM)
- Encryption & key management
- Network security (firewalls, segmentation)
- Threat detection (IDS/monitoring)
- Hardware & supply chain security

This industry represents a major opportunity for the Israeli high-tech sector, since Israel already has extensive experience and activity in this space. It includes multinational companies operating in Israel, unicorns, and startups.

Mellanox, acquired by NVIDIA for $6.9 billion, developed the high-speed InfiniBand technologies that connect GPU clusters in data centers around the world. VAST Data, one of Israel's most highly valued private companies, provides the data operating system for AI databases and helps prevent bottlenecks in data access. Tower Semiconductor manufactures specialized chips on which AI systems rely. Metrology companies provide the systems that ensure quality in semiconductor manufacturing. ZutaCore cools data centers using innovative direct-to-chip technology. NextSilicon is developing AI processors based on a novel architecture that competes directly with NVIDIA in high-performance computing. Hailo's processors provide edge-computing solutions that are critical for inference.

A recent mapping also identified more than 70 active Israeli startups in data-center infrastructure, including energy, cooling, storage, and related fields, which together have raised more than $4 billion.[10]

Beyond these established companies, there is an opportunity for a new generation of Israeli startups to build the tools, platforms, and services that AI infrastructure operators need. These developments represent a significant and technologically deep market, in which Israel's excellence and interdisciplinarity in systems engineering, networking, semiconductors, and operational software give it a clear competitive advantage.

Five-Year Targets

1. **Strengthening leadership in chip design:** Israel will reinforce its position as one of the world's top five centers for semiconductor design. At least 10 new startups will be founded in AI chip design.
2. **AI-enabling infrastructure companies:** At least 15 Israeli companies will reach annual revenues of $50 million or more from products serving AI infrastructure operators in data centers.
3. **Hardware R&D by multinational companies:** At least 5 multinational companies in semiconductors and AI hardware will establish or expand R&D activity in chip design or AI data-center infrastructure in their Israeli development centers, beyond their current activity.

[10] Israel AI Infrastructure Report, 2026

3. The Technology Pillar: Technological Breakthroughs at the Next AI Frontiers, with an Emphasis on Physical AI

Goal

The Israeli innovation ecosystem will position itself at the frontier of the technological paradigms that may define the next decade of AI – and especially paradigms in which AI interacts with the physical world - Physical AI (see Box 3).

Israel will leverage its excellence in applied research, the strong connection between academia and industry, the AI capabilities developing within the defense establishment, and the capabilities of the Israeli high-tech industry in order to build long-term global leadership.

Box 3: What Is Physical AI?

Physical AI is an umbrella term for artificial intelligence systems that perceive, understand, and act in the physical world – as opposed to AI systems that operate only in the digital domain, such as language models and chatbots.

The central distinction is that Physical AI has "eyes" – sensors; a "brain" – algorithms that understand three-dimensional space; and, in some cases, a "body" – the ability to act physically.

The field includes a wide range of technologies and applications, including:

- **Autonomous systems –** vehicles, drones, submarines, and other platforms that operate without a human operator.
- **Robotics –** physical manipulation, including industrial, agricultural, medical, and humanoid robots.
- **Computer vision and sensing –** systems that interpret information from sensors such as cameras, LiDAR, and radar, and build an understanding of the three-dimensional environment.
- **World models –** AI systems that learn to simulate the laws of physics and predict what will happen in the real world as a result of a given action.
- **Edge AI –** the infrastructure layer that enables AI to run on the device itself, rather than in the cloud. This is essential for many Physical AI applications because of the need for immediate response times, reliability, and operation without connectivity. However, edge computing also has uses that are not part of Physical AI.

It is important to distinguish robotics from Physical AI. Robotics is a subset of Physical AI in which the AI system has a physical body. But an active defense system, or a smart sensor that analyzes its surroundings, can also be considered Physical AI even without a robotic "body."

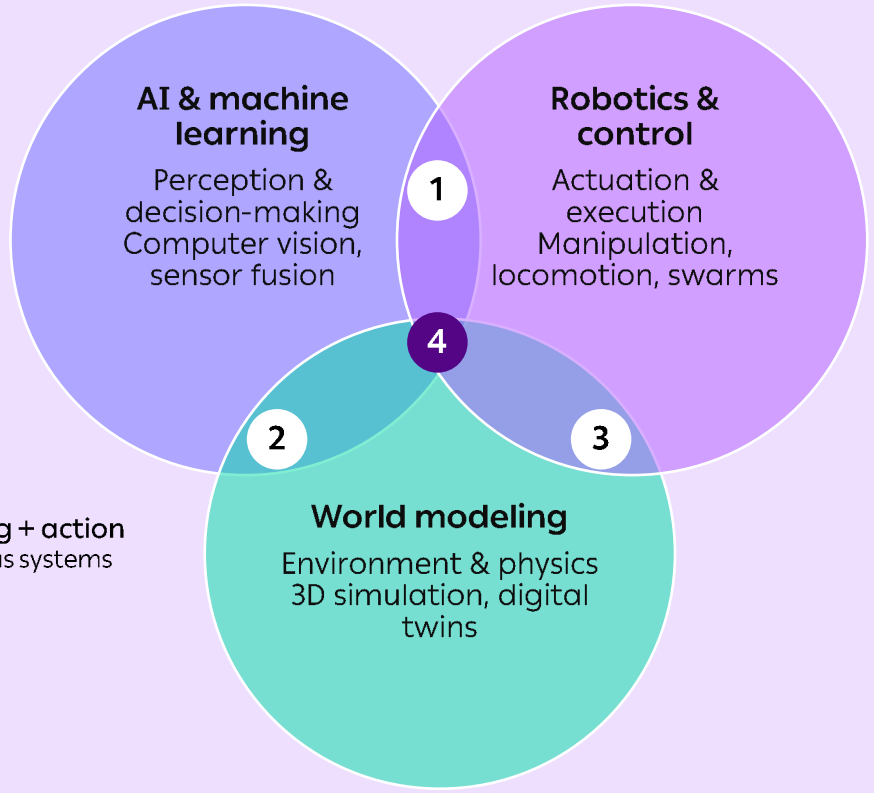
Physical AI – AI systems that perceive, understand, and act in the physical world

1
Autonomous systems

2
Spatial intelligence

3
Sim-to-real

4
Embodied intelligence
Full perception + understanding + action
Humanoid robots, fully autonomous systems



Edge AI – Compute at the point of action

Rationale

As described in the review of global trends, two technological paths are competing over the future of AI. Israel's strategic choice is clear. In the first path – which focuses on reaching AGI in the coming years – Israel does not have, and will not have, a competitive advantage. It does not have the compute resources, the capital, or the companies required to compete for a breakthrough in AGI. If such a breakthrough occurs, it will come from Silicon Valley or China. The Israeli high-tech industry should be positioned to translate that breakthrough into world-class technological products through the applications pillar.

By contrast, in the second path – AI systems that understand and act in the physical world – Israel has the potential to become one of the leading technological countries. No dominant business player has yet emerged in this domain, and breakthroughs may come from researchers in academia or industry.

In particular, we identify a potential Israeli advantage at the intersection between Edge AI and Physical AI: the ability to build intelligent physical systems that operate at the edge, under difficult conditions, and with high reliability. This is not a market in which the winner is necessarily the player with the largest compute power. Rather, it is a market in which leadership will come from the ecosystem that knows how to integrate sensors, hardware, software, and algorithms into a single working system – a classic Israeli strength, built over decades of work in the defense industry, elite technological units, and Israeli deep-tech companies.

Israel's assets in this field form a full system, from sensing to action. A mapping conducted by the Technology Research Division of the Israel Innovation Authority identified, in a conservative estimate, 123 Israeli companies operating in the Physical AI space, with total venture capital investment of more than $12 billion and thousands of registered patents. These companies operate across several leading domains.

- **Computer vision** is the most established field: computer vision and sensing systems, or perception systems, include 61 companies, approximately $4 billion in investment, and 2,347 patents. The Israeli industry in this field is one of the largest industrial concentrations in the world outside the United States and China.[11]
  Among the leading companies is Mobileye, whose technology is installed in more than 230 million vehicles, making it one of the world's largest data repositories for autonomous perception. Its acquisition of Mentee Robotics signals the convergence between autonomous driving and humanoid robotics. Companies such as Innoviz, Arbe, and Vayyar are building the sensor infrastructure – LiDAR and 4D radar – on which Physical AI systems are expected to rely.

[11] Artificial Intelligence in AI-Native Computer Vision in Israel - 2026 Market & Investment Trends - Tracxn

- **Edge computing** includes more than 50 Israeli companies operating across three layers: hardware and processors, with around 20 companies; sensors, with around 25 companies; and software, with around 10 companies. Hailo is especially notable: it developed an edge AI processor that delivers world-leading performance with power consumption of only 2.5 watts. On the software side, Deci, acquired by NVIDIA, developed optimization tools for edge models. Alongside industrial activity, Israel also has a strong academic base in in-memory computing, neuromorphic circuits, and model optimization – indicating significant technological potential.
- **Defense technologies** represent another major advantage: Israel's AI capabilities in the defense domain. By its nature, the defense establishment operates primarily in the physical world. In the coming years, it is expected to deepen its expertise in operating autonomous systems capable of identifying, understanding, and acting on the battlefield, including UAVs, autonomous submarines, and different types of robots. Accordingly, Israel's defense industries are developing operational AI systems at a scale few countries can match – and with the distinctive integration of sensing, processing, and decision-making that characterizes the Israeli ecosystem as a whole.

It is important to emphasize that the proposed strategy does not bet that Physical AI technologies will mature earlier than further breakthroughs in large language models. If a breakthrough toward AGI is indeed achieved in the coming years, demand will only increase for systems that translate cognitive capabilities into action in the physical world – vehicles, robots, medical devices, and defense systems. Even AGI will need a "body": sensors that perceive reality, chips that process information at the edge, and a software layer that translates understanding into safe action.

If, on the other hand, the first technological wave reaches diminishing returns and the path to AGI is delayed, the domains on which this pillar focuses will become even more important. In that scenario, much of the economic value of AI will be created in applications connected to the physical world, in models that understand three-dimensional space, and in computing architectures suited to resource-constrained devices – precisely the areas where Israel has a competitive advantage.

In other words, investment in advanced technological paradigms is an asymmetric bet: under any plausible technological scenario, the assets built through this investment will be highly valuable.

Five-Year Targets

The targets for this pillar are built in three layers, reflecting the different levels of technological maturity.

Stage A – Research Excellence

- Israel will rank among the world's top ten countries in citation impact in the relevant fields.
- An active applied research institute will operate with at least three promising prototypes at TRL 4–6, each with a proven industrial partner for further development.

Stage B – Adoption of Israeli Technologies by Global Platforms

- At least one Israeli company will be among the world's top three companies by market share in edge AI processors.
- At least 10 Israeli companies will serve as an integral core technological component in flagship products of global technology giants in Physical AI, consolidating their position as critical suppliers in the AI supply chain.

Stage C – Global Leadership in Selected Domains

- One Israeli company will cross a significant international regulatory threshold in Physical AI.
- Five Israeli startups in the relevant domains will reach unicorn status.

4. The Geopolitical Pillar: A Critical Player in Global AI Alliances

Goal

The Israeli high-tech industry will become a central and critical node in the emerging architecture of global AI alliances.

Israel's strategic positioning will ensure that the Israeli high-tech industry has access to the most advanced compute infrastructure in the AI supply chain – from the newest chips and memory components to the most advanced models – as well as technological cooperation with countries participating in the relevant alliances.

Rationale

As noted in the previous chapter, access to the most advanced AI components is increasingly enabled through membership in geopolitical alliances. The Pax Silica agreement represents the most significant institutional expression of this shift.

For a small economy with limited resources, this development is an opportunity to establish a competitive advantage based on access to critical resources.

But this positioning is not guaranteed. Over time, it will be measured by Israel's unique and essential contribution to the alliance. After securing membership in the alliance, the strategic question is whether Israel will be positioned at its core or on its periphery.

A national-level effort to develop and position companies and institutions as unique contributors to the alliance will enable the Israeli ecosystem as a whole to become a critical node and benefit from the advantages that follow.

The assets of the Israeli ecosystem – above all, its cybersecurity capabilities for protecting critical infrastructure across the production chain, and its technological capabilities in chips, autonomy, and defense applications – are precisely the capabilities that the Pax Silica framework is looking for.

Of course, Pax Silica is not the whole picture. Beyond it, Israel must be an active participant in international organizations and platforms that shape the rules of the AI world.

Participation in setting international AI governance standards – through frameworks such as ISO, the OECD, the WTO, and European framework programs – is an integral part of positioning Israel not as a passive partner whose rules are dictated by others, but as a leading actor in shaping them.

Five-Year Targets

1. Deep and active cooperation with the United States, translated into active research programs that produce concrete results.
2. Positioning Israel as Tier 1 equivalent in the framework that replaces the Biden administration's AI Diffusion Rule under the Bureau of Industry and Security (BIS).
   The Trump administration canceled the previous classification, under which Israel had been placed in Tier 2, but has not yet replaced it with updated rules.[12]
3. Strengthening technological ties with at least three Pax Silica member countries beyond the United States.
4. Documented and actively embedded Israeli technological contributions among alliance partners, especially in cybersecurity and Physical AI.
5. Active Israeli participation in the development of international AI governance standards through ISO, the OECD, and the United Nations.

[12] The Trump administration rescinded the previous framework, under which Israel was classified as Tier 2, but has not yet replaced it with updated rules.

How the Strategic Pillars Reinforce One Another

The four strategic pillars do not operate separately. Rather, they create a system of mutually reinforcing feedback loops.

The **applications pillar** and the **AI enablers pillar** (pillars 1 and 2) directly reinforce one another. Companies in the applications pillar serve as the first customers and integration partners for technologies developed in the infrastructure pillar. When an Israeli cybersecurity company encounters a bottleneck in inference costs or latency limitations, it creates demand for a product that an Israeli infrastructure company can build. In the opposite direction, the availability of advanced Israeli hardware and infrastructure software enables application companies to build products that would otherwise not be possible.

Technological breakthroughs and applications (pillars 3 and 1) are connected through a research-to-market cycle. Next-generation technological capabilities, such as autonomous perception, world models, and robotics, form the future product pipeline of the applications pillar. In the other direction, commercial successes by application companies generate the capital and experienced entrepreneurs needed to finance the longer-term bets of the technology pillar.

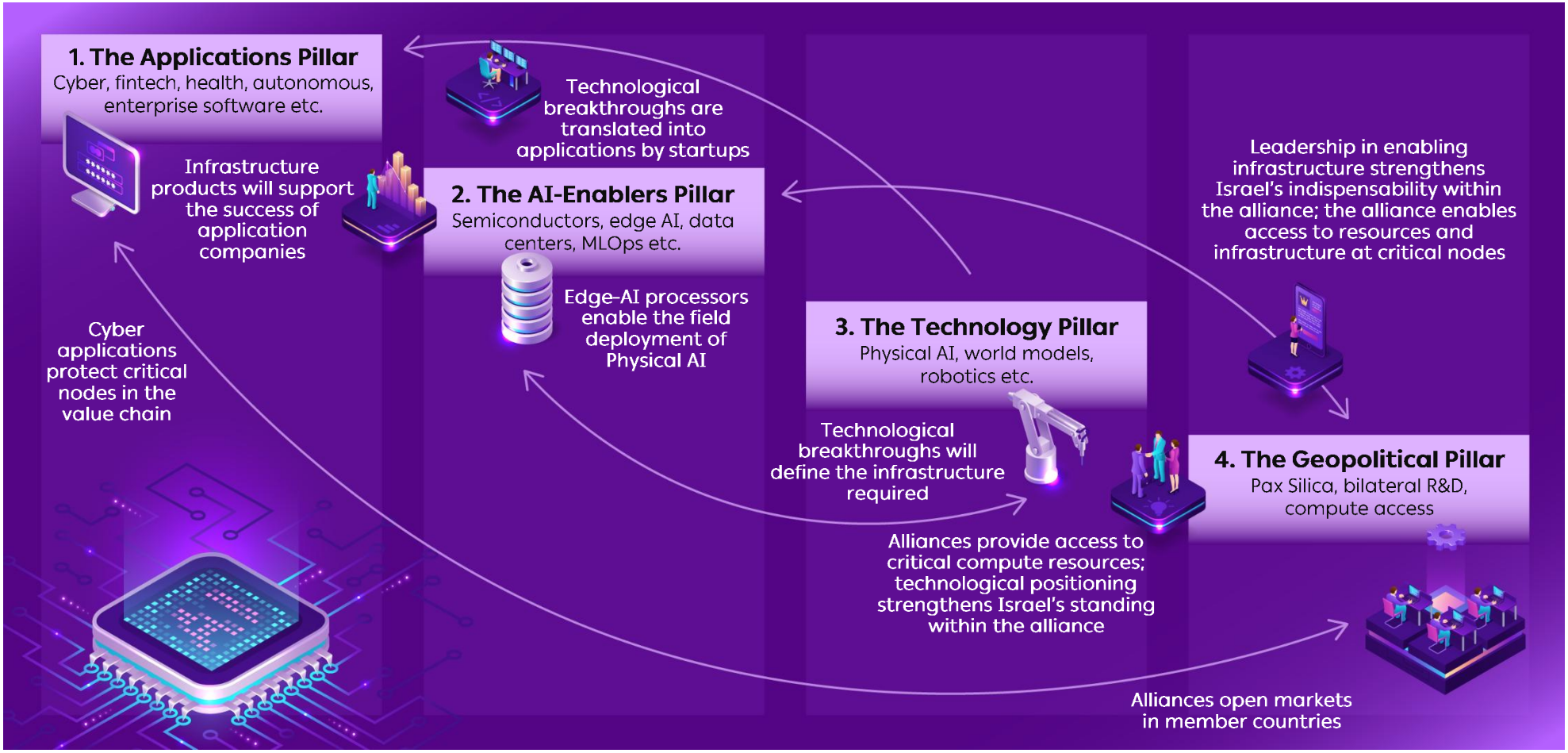
Infrastructure and technological breakthroughs (pillars 2 and 3) are also closely connected. Edge AI processors in the AI enablers pillar make it possible to deploy Physical AI systems in the field, while compute infrastructure enables the training of world models in the technology pillar. In the opposite direction, new technological paradigms will create demand for new generations of hardware that companies in the AI enablers pillar will develop.

The **geopolitical pillar** (pillar 4) strengthens all the others, and is strengthened by them. Commercial successes in the applications pillar demonstrate Israel's value to alliance partners. Infrastructure technologies integrated into the supply chains of Pax Silica countries turn Israel from an alliance member into a critical supplier. Technological breakthroughs position Israel as an important R&D partner.

At the same time, the geopolitical pillar provides the other three pillars with access – to markets, compute infrastructure, R&D partnerships, and regulatory frameworks that enable Israeli products to be sold globally.

This circularity is intentional. A strategy for a small and open economy cannot afford isolated initiatives that fail to generate cumulative effects. Each pillar is both an objective in itself and an engine that enables the others.

How The Strategic Pillars Reinforce One Another



Policy Recommendations: From Vision to Implementation

The four strategic pillars define where the Israeli high-tech industry should aim. This chapter defines how to get there.

For each pillar, we set out the core efforts and the concrete policy measures required to advance them. These measures implement the understanding that Israel should focus on the domains where the Israeli high-tech industry has a meaningful and sustainable comparative advantage, rather than compete in areas that require scale advantages.

The policy measures proposed below are also based on a fundamental principle: government innovation policy should be implemented carefully, while avoiding the crowding out of private investment or excessive market planning. The state should focus on areas where market failures justify public intervention.

The Applications Pillar

The government's role in this strategic pillar is to accelerate the transition of the Israeli high-tech industry into an AI-first industry.

This means encouraging the creation and success of AI-native startups, while also ensuring that the broad base of existing Israeli technology companies has the conditions needed to successfully integrate AI into their products and work processes.

Doing so requires a combination of tools, including investment in venture creation, connections between startups and leading companies, access to compute infrastructure and data, and defined environments for testing, piloting, and deploying products and services.

Core Efforts

Seeding AI-Native Companies

In recent years, there has been a global decline – also reflected in Israel – in the number of new startups. In 2025, Israel saw the first reversal of this trend in a decade. This trend is expected to continue changing in the coming years as language models stabilize, the costs of training and inference fall dramatically, and AI-for-code tools become increasingly capable.

To preserve its position as the Startup Nation, the Israeli high-tech industry must be among the leaders of the AI-native startup wave.

The Israel Innovation Authority will work to help the market accelerate this trend, focusing on deeper technologies and applications with greater economic value through the following measures:

- **Adapting the Technological Incubators Model –** The venture-studio model used by the technological incubators – in which an investment entity identifies a problem, assembles a team, and builds a company around the solution – is particularly well suited to vertical AI applications that require access to data, domain expertise, and a connection to the customer from day one.
  Accordingly, the recommendation is to expand this model. Today, it operates primarily in deep-tech fields that require significant infrastructure and capex. It should be extended into specific verticals through partnerships with multinational companies seeking solutions in AI applications, particularly in health tech, together with leading pharmaceutical companies, and in autonomous systems, together with the defense industry. In this model, the industrial partner provides data, validation, and a first customer.
- **Expanding the Tnufa Track in the Startup Fund –** The AI-code and agentic AI revolutions allow entrepreneurs with strong ideas to launch startups even if they do not personally possess all the relevant technical knowledge. Box 4 elaborates on this opportunity. Expanding investment in the Tnufa track, which supports the ideation stage, would make it possible to increase the annual volume of grants to outstanding AI entrepreneurs and could provide momentum for a renewed wave of AI entrepreneurship.
- **Expanding the Pre-Seed Track in the Startup Fund –** Grants under the Pre-Seed track should be expanded for AI-native companies with deep technologies, especially in sectors where private capital is less available, and particularly in sectors where the Israeli high-tech industry has significant capabilities and business potential.

Box 4: AI for the Software Development Life Cycle – Productivity Tools and a Market Opportunity

AI-based software development tools – such as GitHub Copilot, Cursor, Claude Code, and others – are already changing the way software is built. Industry estimates point to productivity increases of dozens of percentage points in routine development tasks. Adopting these tools into development workflows is becoming essential for technology companies that want to compete in the age of AI.

However, implementation at the company level is not simple. Recent studies present a complex picture: developers using AI coding tools save an average of around 3.6 hours per week and achieve roughly 60% higher development output.[13]

Yet the transition from individual productivity to organizational productivity is not automatic. It requires changes in work processes, code review, and the development and deployment chain, including CI/CD.[14] Companies that fail to make this adjustment will struggle to improve productivity and remain competitive.
Beyond internal adoption, this is also a market opportunity for Israeli startups. Base44, launched in February 2025 by a single

[13] DX, "Developer AI Adoption and Impact Report," Q4 2025 – 135K+ developers, 3.6 hours/week saved, 60% more PRs merged by daily users, 22% of merged code AI-authored. https://getdx.com/research/ai-adoption-and-impact/
[14] Faros AI, "The AI Productivity Paradox Report," June 2025 – 10K developers, 1,255 teams; individual output up 20–40% but company-level delivery gains require process changes. https://www.faros.ai/blog/ai-software-engineering

Israeli developer, enables anyone to build an application using natural-language instructions, with no coding knowledge. Within four months, without external funding, the platform reached 250,000 users and was acquired by Wix for $80 million.

The story illustrates two points. First, the vibe-coding revolution is dramatically lowering the entry barrier to technological entrepreneurship. Second, Israel has a chance to lead in the layer of AI-assisted development tools – a field that combines classic Israeli strengths: developer tools, DevOps, and developer infrastructure.

Opening Access to Data Assets

As foundation models become a standardized infrastructure layer, unique data becomes a decisive competitive advantage. A company with access to Israeli clinical health data, financial transaction data, or defense operational data can build a moat based on proprietary data. In practice, however, most of these data assets are locked inside individual organizations, without the infrastructure needed to make them accessible and without legal certainty regarding their use.

Advanced countries have identified this gap and begun to act. The United Kingdom is investing £100 million in a National Data Library and has published an AI-ready data standard for government. In the United States, the White House recommended in March 2026 that legislation require federal datasets to be made available to industry and academia in formats suitable for training AI models.[15]

In Israel, the TELEM program has implemented three tracks for opening access to data: sectoral data repositories, virtual research rooms, and privacy-enhancing technologies. The RIKMA project is also beginning to realize the inter-ministerial vision. In addition, as part of the TELEM program, the Israel Innovation Authority has made significant investments in opening access to data, with an emphasis on medical and agricultural data.

The recommendations below focus on expanding this effort in order to strengthen the opportunity for the Israeli high-tech industry:

[15] The White House, "A National Policy Framework for Artificial Intelligence: Legislative Recommendations," March 2026. https://www.whitehouse.gov/ostp/ai-policy-framework/

- **Establishing Additional Sectoral Data Assets –** Additional sectoral repositories should be established to integrate and make accessible data sources from the public sector, the business sector, and academia. These repositories should be opened to Israeli AI companies, subject to data governance and oversight.
- **Opening the RIKMA Infrastructure to Israeli AI Companies –** The National Digital Agency is currently establishing, as part of the RIKMA project – the Network for Advancing Data Science – an inter-ministerial research infrastructure that enables joint analysis of data from multiple government ministries using synthetic and fully identified data, without exposing personal information.
  This infrastructure addresses precisely the problem that virtual research rooms were designed to solve, but at an inter-ministerial scale. It is important to ensure that the RIKMA infrastructure is accessible not only to government and academic researchers, but also to Israeli AI companies, so that it can support industrial R&D as well.
  In addition, the virtual research-room model already operating in healthcare should be expanded to additional public bodies, such as the National Insurance Institute and the Ministry of Education, as a complement to RIKMA. Israel should also examine the pooling of government and private datasets that can be made available to government and industry users.
- **Dedicated Call for Proposals for Privacy-Enhancing Technologies and Synthetic Data –** The TELEM program defined R&D in this field as one of the three tracks for opening access to data, but no dedicated call for proposals has yet been launched.
  The recommendation is to issue a focused call for proposals for synthetic-data generation tools and federated-learning infrastructure in specific verticals.

Turning Israel into a Global Validation Hub for AI Applications

Many technology companies become stuck in the gap between a working product and a first customer. This gap stems from two separate barriers, each of which requires a different response: regulatory uncertainty ("Is this allowed?") and the lack of access to a real deployment environment ("Does this work in practice?").

Israel has an inherent advantage in this area: a small but technologically sophisticated market; a unified healthcare system with digital medical records; a financial sector with a small number of leading players; a compact geography that enables the testing of autonomous systems; and a security environment that creates unique testing conditions. Together, these features make Israel an ideal deployment and validation environment for Israeli and global AI companies (see Box 5 for an explanation of the regulatory spectrum).

The goal is to turn Israel into a Global Validation Hub for AI applications – an environment in which a company can work closely with the regulator to shape innovative regulation, receive regulatory approval, validate its product in a real-world environment, and emerge with a first customer and an exportable reference case.

Three existing Israel Innovation Authority tools – regulatory sandboxes, transformative initiatives, and testbeds – provide the foundation for realizing this vision. The recommendation is to focus these tools on AI applications.

Regulatory Sandboxes

The regulator examines how regulation should be adapted to the new technology, updates and adjusts it, while the company receives clarity and regulatory approval for its activity.

Transformative Initiatives

A multi-company collaboration led by a consortium of companies to create a disruptive product, together with a supportive regulatory framework.

Testbeds

Support for corporations to make a site available for the technological demonstration of companies developing advanced solutions.

Recommended Measures

- **Sectoral Regulatory Sandboxes –** Israel should establish sectoral sandboxes in cooperation with the relevant ministries for AI deployment in fields such as healthcare, finance, transportation, education, and defense. Each sandbox should have clear success criteria and a fast track for national-scale deployment.
  By way of illustration, Article 57 of the EU AI Act requires every EU member state to operate at least one regulatory sandbox by August 2026, and more than 25 are already operating.[16,17]
  The Israeli model has an inherent advantage over the European model. While the AI Act sandboxes are intended to allow companies to test compliance with existing regulation, the Israeli model – as demonstrated in the National Drone Initiative – is designed to create new regulation in fields where it does not yet exist. This is a mechanism that allows regulation to adapt to technology, rather than merely providing clarity about regulation that has already been set.
  In the United States, the White House national policy framework from March 2026 explicitly recommends establishing regulatory sandboxes for AI applications and making federal datasets accessible in AI-ready formats.[18]

- **AI-Focused Transformative Initiatives –** multi-sector collaborations among several complementary technology companies, a government body, and a regulator in order to create disruptive AI solutions in traditional markets.
  This track, which already exists under the Israel Innovation Authority's Pilot Fund, operates as a long-term consortium of companies and combines product development with a supportive regulatory framework.
  The first such initiative – the National Drone Initiative (with the Ministry of Transport and the Civil Aviation Authority) – demonstrated the model's potential. It included three calls for proposals, 11 companies in the most recent round, and a concrete regulatory output: draft regulations for licensing autonomous airspace.
  The recommendation is to launch dedicated AI-focused transformative initiatives after market validation. Examples include an AI initiative for healthcare, together with the Ministry of Health and the health funds, and an AI initiative for fintech, together with the Bank of Israel and leading banks.

- **Opening Access to Private, Public, and Government Testbeds –** Israeli AI companies at advanced development stages (TRL 6–8) need access to real-world environments in which to test and validate their products.
  The testbed track, which also operates under the Pilot Fund, incentivizes large corporations with relevant assets to serve as test sites for startups. The goal is to create serial testbeds – permanent pilot infrastructure that continues to serve the industry even after Israel Innovation Authority involvement ends.
  The recommendation is to issue calls for proposals for dedicated AI testbeds in institutions such as hospitals, for clinical AI demonstrations; ports and logistics terminals, for autonomous systems; and financial institutions, for AI applications in risk management and compliance.

[16] Article 57: AI Regulatory Sandboxes | EU Artificial Intelligence Act
[17] This distinction is important: the European model of regulatory sandboxes is designed to allow companies to test compliance with existing regulation, whereas the Israeli model is designed to create new regulation in domains where none yet exists.
[18] See footnote 15.

Box 5: AI Regulation – Clarity as a Competitive Advantage

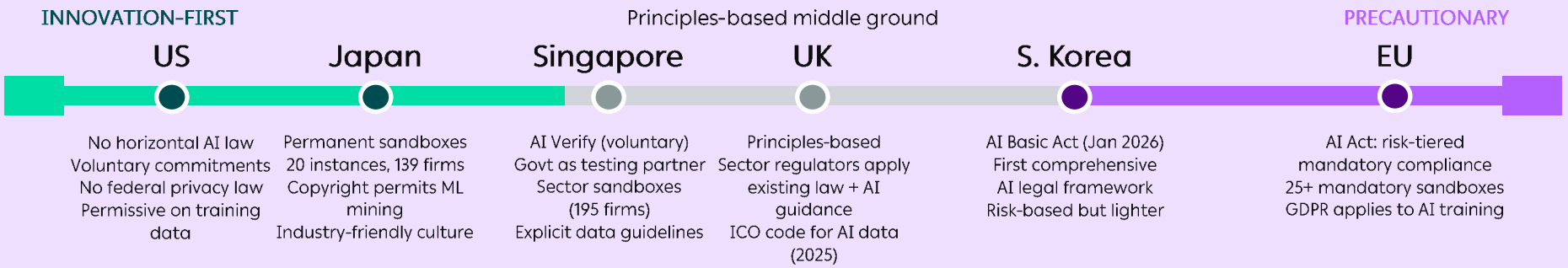
AI regulation and standard-setting create an inherent dilemma. Overly strict regulation suppresses innovation and deters companies, while the absence of regulation creates uncertainty that can be equally harmful. Investors, customers, and international partners need regulatory clarity in order to operate. The countries that succeed most in AI adoption are not necessarily those with the lightest regulation, but those with the clearest regulation.

The global regulatory spectrum has two clear poles. On one side stands the European Union, with the AI Act – the world's most comprehensive AI regulation – which imposes tiered obligations according to risk level. Yet the regulatory burden, as the EU itself has acknowledged, harms technology adoption: only 20% of companies in the European Union use AI.[19]

On the other side, the United States has deliberately adopted a permissive approach, with limited regulation based mainly on sectoral guidance and voluntary commitments. The United Kingdom has chosen a middle path: a principles-based and sector-specific approach, explicitly framed as a competitive advantage.

Figure 4 – The Regulatory Spectrum

AI Regulatory Spectrum: Innovation-First to Precautionary



Sources: EU AI Act (2024); UK AI Opportunities Action Plan (2025); S. Korea AI Basic Act (Jan 2026); Singapore NAIS 2.0; Japan METI; US Executive Orders. IIA analysis, March 2026. Positioning is illustrative and reflects regulatory posture, not quality of outcomes.

[19] "20% of EU enterprises use AI technologies," Eurostat News Article, December 11, 2025. https://ec.europa.eu/eurostat/web/products-eurostat-news/w/ddn-20251211-2

For Israel, the implication is clear. A regulatory environment that is significantly stricter than the U.S. environment will push companies to develop and test products elsewhere. Regulatory ambiguity would be equally damaging.

AI regulation must therefore serve two roles at the same time: protecting public safety and trust, while also creating an environment that enables the Israeli high-tech industry to develop, test, and export AI-based products.

Israel should position itself in the dynamic part of the spectrum – closer to the American-British approach – with an emphasis on certainty, clarity, flexibility, and continuous updating. Regulatory sandboxes should become a permanent tool, and Israeli regulation should be aligned with the standards of the markets in which Israeli companies operate, above all the United States, but also the European Union, the United Kingdom, and the Gulf states.

The distinction is important: Israel's domestic development environment should be flexible and enabling, while final products must meet the regulatory requirements of all major target markets.

Human Capital

A survey conducted by the Israel Innovation Authority in cooperation with the Samuel Neaman Institute found that Israel lacks approximately 2,400 AI experts needed to support the creation and growth of leading AI application companies.[20]

The measures below focus on the most effective responses to this need in the short and medium term.

- **Reskilling Programs in Applied AI for STEM Graduates and Experienced Software Engineers –** Because integration into AI roles in industry requires a high level of skill, the target population should be experienced engineers and STEM graduates, especially from fields such as physics and mathematics.
  These reskilling programs can be implemented either through academic mechanisms, such as post-degree programs, or through non-academic training tracks focused on the needs of industry. For STEM graduates, such programs could provide a response within a relatively short timeframe.

- **AI Visa and International Expert Recruitment Program –** Leading technology ecosystems rely heavily on attracting talent from abroad. In Silicon Valley, for example, roughly two-thirds of technology workers were born outside the United States.
  Israel – where the military has not yet become a significant AI training pipeline in the way it has in cybersecurity, and where academic training channels will require several more years before producing sufficient output – must significantly increase its ability to attract talent from abroad.[21]
  Large companies have the resources to identify and recruit talent independently. Small and medium-sized companies often do not. This gap can be addressed through economies of scale, for example by supporting companies or dedicated mechanisms that identify and place AI experts for small and medium-sized companies.
  Efforts should be incentivized to identify, place, and provide a support package for attracting leading global AI talent. The mechanism should seek to attract foreign experts, Israelis studying or working at universities abroad, and individuals eligible under the Law of Return, while tailoring the activity to each target audience. This should be done by leveraging tools such as the fast-track visa for high-tech professionals and the new tax benefits for returning residents.

[20] https://innovationisrael.org.il/wp-content/uploads/2025/09/Demand-for-AI-Human-Capital-Hebrew-Report-2025.pdf
[21] For comparison, Canada, for example, offers visa approval within two weeks; Japan offers the J-Skip Visa, which grants immediate permanent residency to high-income earners.

Compute and Infrastructure

Compute resources are a necessary condition for training models and running real-time inference. Israeli technology companies may face difficulties in accessing and financing compute resources, and in some cases may also suffer from latency that limits their ability to provide inference for real-time applications (see Box 6).

The two recommendations below focus on the dimension most directly relevant to the applications pillar: ensuring access to compute for Israeli AI companies at the development and deployment stages.

- **Opening Access to Compute –** Israel should ensure access – in both price and availability – to private compute infrastructure for technology companies, with transparent allocation criteria based on the company's stage, compute intensity, and strategic relevance.

  The goal is to guarantee low cost and high availability for Israeli startups.

- **Local and Regional Inference Infrastructure –** For applications that require the processing of sensitive data that cannot leave Israel – including security, healthcare, and government applications – Israel must ensure sufficient local inference infrastructure.

  In addition to local infrastructure, Israel should also examine agreements with neighboring countries, such as the UAE, for access to inference-stage compute for Israeli companies (The UAE, for example, is planning to establish a 5GW AI campus with 500,000 GPUs).

Box 6: Compute Infrastructure - Managed Interdependence

Compute infrastructure is the physical foundation of the artificial intelligence economy. Israel's starting point is encouraging: the private sector, supported by government policy, is already building significant infrastructure. Nebius has established a data center with approximately 4,000 B200 accelerators (about one quarter of which are subsidized by the TELEM Program for startups and academia). Together with additional private initiatives, tens of thousands more GPUs are currently at various stages of deployment.
Yet as demand grows, three structural challenges require a policy response:

Price – A mid-stage AI startup requiring approximately 3,000 GPU hours per month for training would pay around $200,000 per year.[22] Competing countries that provide subsidized compute - including Canada, France, the United Kingdom, and the European Union - therefore give their startups a direct competitive advantage: more experiments, faster iteration, and ultimately stronger products.

Availability – The global shortage of GPUs is structural. Large companies – Meta, Microsoft, Google – "lock in" supply through multiyear contracts worth billions of dollars, while startups are left in a volatile spot market with waiting times of up to six months. The European Union responded by establishing 19 AI Factories under EuroHPC, offering free access across three tiers. France expanded its national Jean Zay supercomputer, while Canada, Singapore, and South Korea are pursuing similar approaches.

[22] The estimation is based on a 60% utilization factor and a price of $3.5 per GPU-hour.

Resilience – Israel's accession to Pax Silica and its close partnership with the United States have significantly reduced the geopolitical risk that Israel will be denied access to advanced compute resources. Nevertheless, risks remain: terms-of-service restrictions by providers on defense-related applications, as occurred previously with Microsoft; the vulnerability of undersea communications cables during periods of conflict; and the possibility that future regulatory frameworks will impose new conditions. In addition, defense and sovereign applications require local inference infrastructure that does not depend on commercial providers.

In light of these challenges, Israel has chosen a model of **managed interdependence:** a hybrid model that combines a limited sovereign core for defense needs and classified workloads, subsidized access to local private infrastructure for startups and academia through compute vouchers, and integration into the compute infrastructure of strategic alliances.

This model provides resilience without duplicative investment, preserves fiscal discipline, strengthens Israel's position as a node in technological alliances, and ensures local and regional capacity for real-time applications.

AI Transformation for Established Technology Companies

The AI revolution is disrupting not only traditional industries, but also the business models of the high-tech industry itself. Hundreds of Israeli technology companies that grew during the SaaS era now face a complex business and technological reality: the products that generate their revenues today may look entirely different in the coming years, as users gain the ability to operate AI agents that can provide similar functionality.

These companies have significant assets – customer bases, data, and domain expertise. Yet the transformation required to leverage these assets is costly and complex: recruiting AI teams, rebuilding product architecture, and integrating AI infrastructure, all while the company continues to serve customers and generate revenues.

AI transformation is a challenge for most technology companies founded before the LLM era. In this context, it is important to distinguish between different types of companies. Large and public companies can usually raise capital independently and manage transformation from internal resources. At the other end of the spectrum, companies whose products have become irrelevant should not receive a government program that merely delays the inevitable.

Between these two extremes, however, there is a layer of high-quality Israeli technology companies – with products, customers, revenues, and domain expertise – that could become AI leaders in their fields, but lack the patient capital, organizational know-how, or both, needed to make the transition. These are precisely the assets the Israeli ecosystem cannot afford to lose.

- **Removing Barriers to AI Transformation for Mid-Market Technology Companies -** Another challenge facing these companies is that the Israeli capital market is not accustomed to financing such transformations. The venture-capital industry excels at financing new companies, but transformation of established companies also requires private equity – and Israel has only a small number of financial institutions of the required scale.

This is a market failure in which the Israel Innovation Authority can play a role.
The Authority should lead a process to map the needs of Israeli companies seeking to undergo AI transformation, while examining the financing tools available for such moves – especially the availability of local and foreign private equity. Where necessary, it should act to remove barriers to the activity of such investors, whether through financial tools or other measures.

- **Applied Research Fund – Expanding the Industrial Research Track -** The transition to AI-native models requires not only organizational and financial resources, but also breakthrough research. Established companies that seek to integrate AI into the core of their products must develop new capabilities: training models on customer data, building real-time inference pipelines, and developing architectures that integrate AI agents into existing products.
  The recommendation is therefore to expand the existing industrial research track and adapt its eligibility criteria so that they explicitly include breakthrough AI research projects – including fine-tuning models on domain-specific data and building dedicated inference infrastructure for the product.
  While the financing tool described in the previous recommendation is aimed at organizational and financial transformation, this recommendation funds the research itself.

Multinational Companies

More than 400 multinational R&D centers operate in Israel, and their activity is a central pillar of the Israeli innovation ecosystem. Attracting AI-application-focused R&D projects by these companies to Israel would help build knowledge, expertise, and experience in the field. Possible policy tools include grants for advanced AI projects, provided that the project creates new intellectual property and involves cooperation with an Israeli startup or academic institution; joint funding for laboratories with academia in AI infrastructure; and access to testbeds.

The AI Enablers Pillar

Israel is already positioned at the heart of the global AI infrastructure supply chain, with several leading technology companies operating in the field. The question is whether this momentum will be translated in the coming years into a broad, world-leading ecosystem.

The role of the Israel Innovation Authority is to ensure that the answer is yes: that alongside the established companies already active in Israel, a new generation of Israeli companies will emerge to serve and accelerate the fastest-growing infrastructure market in the history of technology.

Core Efforts

Cooperation with Leading Global Companies

- **AI Infrastructure Testbeds –** Some of the deployment and validation tools described under the applications pillar are also relevant here, with specific adaptation.
  AI infrastructure companies need access to real compute environments – data centers, cloud infrastructure, or sovereign compute facilities – in order to validate their products. In addition, Israel already serves as a testing environment for autonomous systems, including the National Drone Initiative, which included 11 companies in its latest call for proposals. These environments are highly relevant for validating Physical AI technologies.
  Accordingly, the recommendation is to expand the Pilot Fund's testbed program so that it also includes dedicated AI infrastructure testbeds.
- **Transformative Infrastructure Initiatives –** Israel should establish initiatives in which Israeli AI infrastructure companies from different domains jointly demonstrate a complete system in a real-world environment.
  Unlike the transformative initiatives described under the applications pillar, the emphasis here is not primarily regulatory, but integrative: proving that Israeli companies can together provide a full infrastructure solution.
- **Leveraging and Attracting AI Activity by Multinational Companies –** As noted, the world's largest technology companies already have a significant R&D presence in Israel, with tens of thousands of engineers. This activity is meaningful and well established, but it does not fully realize the potential of what could take place in Israel at the frontier of AI research: development of core models, safety research, and next-generation architectures.
  At the same time, the major AI model companies – including Anthropic, OpenAI, and others – are expanding internationally but have not yet begun operating in Israel. Beyond the policy measures detailed under the applications pillar, action is recommended in the following areas:
  - **Leveraging existing initiatives –** When multinational companies expand their presence in Israel, this creates a window of opportunity that should be actively leveraged to increase and deepen their contribution to the Israeli ecosystem. For example, NVIDIA's planned campus in Kiryat Tivon provides an opportunity to establish joint initiatives for talent training, open laboratories, and collaborations with relevant startups.

- **Attracting Frontier AI Companies**
  Companies such as OpenAI and Anthropic have not yet opened operations in Israel. However, the case of Safe Superintelligence, led by Ilya Sutskever, which is active in Israel and has reached a valuation of $32 billion, shows that a frontier technology company can operate in Israel.
  Even a small initial team from such a company would create disproportionate value – through exposure of local talent to frontier work, entrepreneurial spillovers, and international positioning.
  Israel should therefore examine a focused effort to attract such companies by identifying the barriers preventing them from opening activity in Israel, and by mapping opportunities for cooperation in general, and in unique Physical AI technologies in particular.

- **Challenges –** Establish a technological challenges program in which leading global companies in the infrastructure industry and/or major data-center providers define relevant technological problems and issue a challenge for solving them together with the Israel Innovation Authority. Israeli startups, research groups, and entrepreneurs would then compete to solve these problems.
  Each challenge would include: a specific and measurable problem definition; a grant for the winners; and a willingness by the company to conduct a pilot with the winning solution.
  The Israel Innovation Authority has recently begun operating this model through the "Tnufa Challenge", though without cooperation with global companies. Global experience, including leading examples presented in Box 7, demonstrates the potential of such initiatives.

Specialized Investors

- **Removing financing barriers –** To prevent a situation in which Israeli startups in this industry struggle to raise local capital, Israel should examine the need to remove financing barriers through measures such as expanding the deep-tech funds track under the Yozma Fund to dedicated investors in this industry.
  In particular, Israel should examine the need for, and effectiveness of, attracting corporate venture capital funds active in this field that do not yet operate in Israel.

Box 7: Technology Competitions as an Engine for Creating Industries

DARPA Grand Challenge – Between 2004 and 2007, the U.S. Department of Defense offered a prize of up to $2 million for an autonomous vehicle that could complete a 132-mile desert course. In the first competition, in 2004, no vehicle completed the course; the leading vehicle covered only 7.5 miles. One year later, five vehicles completed the course. In the third competition, in 2007, six vehicles navigated an urban environment.
The prizes were relatively small, but the competition attracted hundreds of teams from universities, companies, and independent "garage" innovators, who invested tens of millions of dollars beyond the prize itself. The founders of leading autonomous-vehicle companies – including Waymo, Cruise, and Aurora – participated in the competition. An entire industry was born from a $2 million prize.
Ansari XPRIZE – Between 1996 and 2004, a $10 million prize was offered to the first team to build a privately funded crewed aircraft capable of reaching space twice within two weeks. Twenty-six teams from seven countries invested more than $100 million combined – ten times the prize amount – in developing suborbital aircraft.
The winner, SpaceShipOne, sold its technology to Virgin Galactic. The competition became the foundation for the private space-tourism industry, which is now a multi-billion dollar industry.

Seeding Relevant Companies

In addition to the range of tools described under the applications pillar, several dedicated instruments could stimulate entrepreneurship in this pillar.

- **Technological Incubator / Venture Studio for AI Infrastructure Companies –** Israel should establish a dedicated incubator, together with one of the leading AI infrastructure companies, that would proactively create companies in the field.
  The incubator would identify gaps in the AI supply chain where Israel has technological advantages but lacks a critical mass of startups. Examples include energy management for data centers, inference optimization, testing tools for AI chips, and model supply-chain security.
  It would recruit founders from the semiconductor and infrastructure industries and provide shared infrastructure: access to design tools, manufacturing partnerships, and initial customers, with an emphasis on large multinational companies.
- **Tnufa Grants under the Startup Fund –** As with the applications pillar, expanding investment in the Tnufa track at the ideation stage would make it possible to increase the annual volume of grants to outstanding AI entrepreneurs in fields relevant to this pillar.

Human Capital

- **International Expert Recruitment Program –** As in the applications pillar, the recommendation is to establish a program for recruiting international experts.

The Technological Breakthroughs Pillar, with an Emphasis on Physical AI

To achieve technological breakthroughs at the new frontiers of AI, and especially in Physical AI, industry, academia, and government must focus jointly on ambitious technological goals. The government has a unique role in this context. It is the only patient strategic investor capable of committing to long-term investments in technologies that have not yet reached commercial maturity, and the only actor capable of coordinating academia, industry, and the defense establishment around shared technological objectives.

Core Efforts

Academia–Industry

- **Establishing an Applied Research Institute for Physical AI –** The institute will bridge the gap between academic research and commercial development, focusing on three to five research programs selected on the basis of research excellence. It will be jointly funded and managed by government, industry, and academia. Researchers at the institute will be able to combine academic work with industry work.
  Another goal of the institute will be the structured transfer of technology from the defense establishment to the civilian market, through appropriate security classifications and dual-use research programs.
  The target is to reach dozens of researchers within five years, with a mandate to produce validated prototypes.
  It should be noted that several private initiatives are currently being advanced to establish applied research institutes in AI. To maximize the potential of all these efforts, the possibility of cooperation among them should be examined.

Box 8: A National Institute for Applied AI Research

Israel has world-class AI researchers spread across universities, defense laboratories, and multinational R&D centers. Yet Israel does not have an institution that connects them around shared technological goals.

For example, the Technion, the Hebrew University, the Weizmann Institute, and Tel Aviv University produce excellent research, but each operates independently. Defense R&D generates operationally validated AI capabilities that only rarely transfer to the civilian market in a structured way. Researchers in multinational companies work on problems defined by their parent companies, not according to Israel's strategic priorities.

An applied research institute would create the institutional meeting point where, for example, a world-models researcher from the Technion could work with a Rafael engineer who has deployed autonomous systems at operational scale, and with a Mobileye alumnus who understands what is required for certification in the automotive sector.

In particular, the institute would serve as the natural home for transferring AI technologies from the defense establishment to the civilian market. The Israeli defense establishment develops autonomous systems, edge AI architectures, swarm coordination, and other AI systems at operational scale – capabilities with significant potential in civilian markets. An institute with the appropriate security classification, structured

cooperation frameworks, and dual-use research programs could accelerate this transfer systematically.

Several models of this kind operate globally:

- Canada's three national AI institutes – Mila in Montreal, Vector in Toronto, and Amii in Edmonton – anchored Canada's position as a global AI leader, helped retain and attract leading researchers, and generated hundreds of spin-off companies.[23]
- France's nine AI clusters – the 3IA Institutes, established with €500 million in funding – deliberately place academic research alongside industrial partners.
- The Alan Turing Institute in the United Kingdom, supported by a new £100 million investment, serves as a national center with an explicit mandate to collaborate with industry.

- **Competitive research environments –** Researchers in Israel should be guaranteed access to compute capacity, funding, and institutional support at a level comparable to leading international programs (in the United Kingdom, for example, each Turing Fellow is entitled to 5 million GPU hours). Ensuring such an environment should build on the recently launched initiative to subsidize compute resources for academia and industry, whose expansion was already included in the most recent Arrangements Law.

- **Expanding the Moonshot challenge-project mechanism –** The activity launched as part of the TELEM AI Program should be expanded: academia-industry research consortia focused on the most complex technological challenges. The built-in combination of academia, industry, and the defense establishment makes this an ideal tool for bridging basic research and operational prototypes. It is recommended to allocate one dedicated challenge project each year to the field of Physical AI.
- **Applied Research Fund –** Dedicated calls for proposals should be published under the academic research track of the Applied Research Fund in order to encourage applied research in areas such as computer vision for autonomous systems, optimization of models for edge devices, and neuromorphic computing.
- **Increasing Israeli Participation in the European Framework Program –** The European Framework Program offers funding for joint research projects, access to leading European consortia, and presence in the arenas where standards and policy are shaped. Active Israeli participation in projects such as PREVAIL (a platform for AI chip development), in robotics and autonomous-systems consortia, and in Digital Europe AI projects, is not merely a source of funding. It is also a channel for influencing standards, building research partnerships, and positioning Israel as a technological contributor in the European arena.

[23] ised-isde.canada.ca/site/ai-strategy

Industry and Market

- **Establishing Pilot Sites -** Here too, as in the two previous pillars, deployment and validation infrastructure ("playgrounds") has a significant role to play. These should range from physical infrastructure for testing and experimenting with Physical AI technologies to hybrid simulation environments. Such sites would serve both early-stage startups and mature companies seeking certification for civilian markets, as well as the defense establishment.
- **Applied Industrial Research Grants -** The industrial research track under the Applied Research Fund operates within the range relevant to the technologies covered by this pillar (TRL 2–5). The recommendation is to publish dedicated calls for proposals in Physical AI within the existing tracks.
- **Dedicated Physical AI R&D laboratories –** Relevant infrastructure has already been established under this track, including a neuromorphic laboratory and a bio-devices laboratory, both of which are central to Physical AI. Such infrastructure is usually beyond the reach of any single company, especially startups, but is critical for shortening the path from a laboratory prototype to a market-approved product. It is recommended to publish a dedicated call for proposals to establish additional R&D laboratories in areas critical to this pillar.
- **Seeding companies –** Increase investment in companies with relevant technologies at the Pre-Seed and Seed stages as part of the Startup Fund.
- **Establishing private financing channels –** Similar to the recommendation under the AI Enablers companies pillar, Israel should examine whether government intervention is needed to attract specialized investors for technologies relevant to this pillar.

Human Capital

Box 9 details the systemic challenges in AI human capital. The technology pillar, in particular, depends heavily on the availability of world-class researchers and experts. In fields such as Physical AI, world models, and edge computing, the gap is especially acute.

There are three central needs:

- **International experts –** The ability to attract high-level international talent is critical, especially in fields where the Israeli talent pool alone is insufficient. Countries such as the United Kingdom, through Turing Fellowships; Canada, through CIFAR AI Chairs; and Singapore, through AIAP, operate dedicated programs to attract leading AI researchers.
- **Leading AI researchers in universities –** Israel should strengthen academic faculty in the core fields of this pillar, taking into account the intense global competition for AI researchers, including multimillion-dollar compensation packages in industry. Israel has relevant foundations in the Or and Bereshit programs that can be built upon.
- **AI doctoral students –** Emphasis should be placed on fields at the frontier of applied research. In leading countries such as South Korea, doctoral tracks include dual mentorship by an academic supervisor and an industry mentor, ensuring that research is anchored in real-world problems and shortening the distance between academia and the market.[24]

[24] A useful example is South Korea's AI Graduate School Program, which established doctoral tracks of five and a half years combining academic studies, research, and industry collaboration.

Box 9: Human Capital – The Systemic Challenge

Skilled human capital in AI is a national economic and security need. All advanced countries devote a significant part of their AI strategies to training, attracting, and retaining talent in the field.

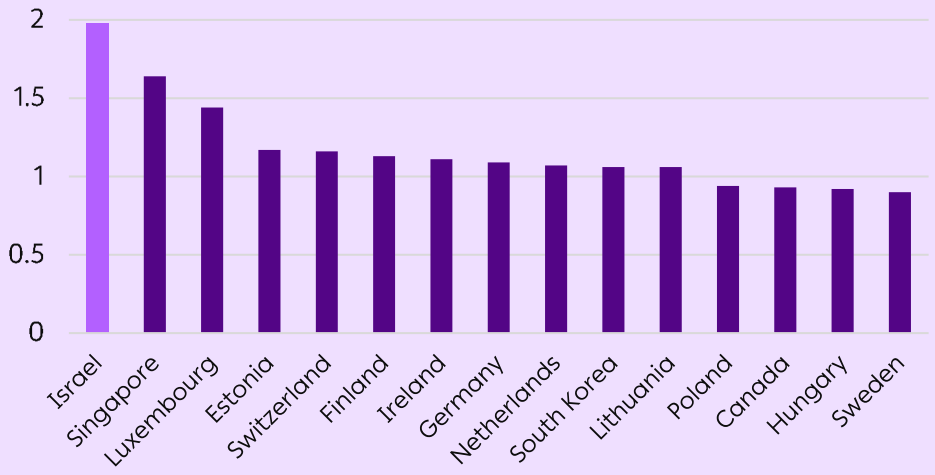
The reason is clear: unlike most areas of high-tech, where an advanced degree is at most an advantage, AI companies – especially those developing models and algorithms – need researchers and scientists with advanced degrees in machine learning, mathematics, and adjacent fields. The exceptional compensation packages offered by large technology companies to AI researchers illustrate both the critical importance of this talent and the intensity of the competition for it.

Israel ranks first in the world in the concentration of AI talent (Figure 5), but the absolute pool is small, and this advantage may erode as other countries invest significant resources in training and attracting experts.

More importantly, the structure of Israel's labor market differs fundamentally from competing ecosystems. In Silicon Valley, only about one third of high-tech workers were born in the United States, while two thirds immigrated there at some point in their lives. In Israel, where large-scale "technology immigration" has not occurred since the immigration wave from the former Soviet Union in the 1990s, the ecosystem relies almost entirely on local human capital – trained through two main channels: academia and the military.

Both channels are still adapting to the AI era and do not yet produce a sufficiently large flow of experts.

Figure 5: AI Talent Concentration, Leading Countries
(Based on LinkedIn)



Source: Stanford HAI, 2024

At the same time, programming professions are undergoing a fundamental change. Roughly three years of stagnation in net growth in the number of programmers in the Israeli high-tech industry – apparently driven largely by a correction after the rapid growth during the COVID period – combined with concern over the replacement of programmers by AI agents, have reduced demand for computer science studies, while demand for electrical engineering has increased.

The main bottleneck is in academia. A shortage of faculty in the field affects both student training and research. The recommendations under this pillar are designed to act in parallel across all three training channels in order to close this gap.

Regulation and Standards

- **Certification Pathways for the Safety of Autonomous Systems -** Israel's ambition to lead in Physical AI will be limited without regulatory pathways for certifying robots, drones, autonomous vehicles, and other autonomous systems that operate alongside human beings.
  The recommendation is to develop dedicated certification pathways in cooperation with international regulators, while leveraging the operational experience of Israel's defense establishment and cooperation with multinational companies operating in Israel.
- **Active Participation in International Standard-Setting Bodies –** Technological leadership will benefit significantly from presence in the arenas where standards are shaped. The recommendation is to ensure Israeli participation in at least three to five relevant working groups in ISO, IEEE, and ETSI.

The Geopolitical Pillar

As explained in the previous chapter, in the age of AI, geopolitics, technology, and business are intertwined in ways we have not seen before. The Israel Innovation Authority and the AI Directorate, positioned at the intersection of industry, academia, and policy, are uniquely placed to position Israel as a central partner in the alliance.

Timing is critical, because the architecture of global AI alliances is still being built. The alternative rules of the Bureau of Industry and Security (BIS) have not yet been published; bilateral agreements with most of the signatory countries are still being formulated; and the operational mechanisms of Pax Silica – from the allocation of compute resources to mutual regulatory recognition – have not yet been determined.

Pax Silica is the current institutional framework, but it is not necessarily the only one, and probably not the last. Global technology alliances will change with the balance of power, the direction of technological development, and the economic interests of the major powers.

Israel therefore needs to build the institutional capacity to integrate into future technology alliances on the basis of four criteria: geopolitical alignment, proven technological value, mutual business interest, and shared values.

The final point is not merely declarative. Israel joins these alliances not only out of economic and security interests, but as part of a camp of liberal democracies committed to free markets, the rule of law, and responsible technological development.

Core Efforts

Human Capital and Research

- **Joint Academic Programs with Pax Silica Partners –** Israel should establish joint academic programs with Pax Silica partners, including jointly funded research, doctoral-student exchanges, and joint laboratories.
- **Pax Silica Industrial Fellowships –** Israel should launch a Pax Silica Industrial Fellowships program designed to attract outstanding researchers from alliance countries to work in Israeli companies.

International Agreements

- **Expanding Bilateral Agreements with Pax Silica Partners –** Israel should expand bilateral agreements with Pax Silica partners in order to create technology partnerships through bilateral funds for joint projects.
- **Expanding Cooperation with the United States –** Cooperation with the United States should be expanded, including by extending the BIRD Foundation framework to AI.
- **From Ad Hoc Cooperation to Systematic AI Partnerships under the Abraham Accords –** Israel should move from ad hoc cooperation to systematic AI partnerships under the Abraham Accords.

Regulation and Standards

- **Mutual Recognition of Regulatory Sandbox Results** with Pax Silica Partners.
- **Israeli Technical Contributions to International Standards –** with an emphasis on AI in cybersecurity, safety, and defense-related AI.
- **Regulatory Coordination with Core Partners –** Israel should pursue regulatory coordination with core alliance partners in order to enable cross-border AI deployment without duplicative compliance processes.

Compute and Infrastructure

- **Negotiating Structured Access to Compute Infrastructure in Alliance Countries –** This should include minimum compute allocations, stable pricing, and emergency access arrangements.
- **Positioning Israel as Tier 1 under the New BIS Rules.**

Conclusion

This document presents a strategic framework designed to ensure that the Israeli high-tech industry uses the current window of opportunity to establish global leadership in the age of AI. The four strategic pillars – high-value AI applications, AI Enablers companies, technological breakthroughs at the next frontiers, and positioning Israel as a critical node in global AI alliances – are not four separate initiatives, but a single system aimed at sustained global leadership.

The strategic logic guiding all four pillars is clear: Israel will not win a race based on scale, but it can lead in domains where excellence, speed, and specialization matter more than scale. This is a deliberate strategic choice that requires focus, clear priorities, and determined investment. The recommendations detailed in this document – from seeding AI-native companies, through establishing an applied research institute for Physical AI, to regulatory sandboxes and subsidized compute – are designed so that each advances the overall strategy, not only the pillar to which it belongs.

Timing is critical. The architecture of global alliances is still being built, the AI value chain is opening to more players and countries, and the race for leadership at the new technological frontiers is already underway. These conditions create a moment of opportunity for a step change in the Israeli high-tech industry – but one that will not remain open indefinitely. The strategic framework presented in this document is designed to ensure that Israel seizes this moment and acts with the determination and speed required to establish the Israeli high-tech industry as a global leader in the age of AI.

Summary Table

	Pillar 1 – Applications	Pillar 2 – AI Enablers	Pillar 3 – Technological Breakthroughs	Pillar 4 - Geopolitics
1. **Entrepreneurship and company formation**	› Venture studios in verticals such as healthcare and autonomous systems, in cooperation with multinational companies. › Expansion of the Tnufa track for AI entrepreneur. › Pre-Seed grants for AI-native companies.	› Venture studio for AI infrastructure. › Tnufa grants for the infrastructure domain.	› Expansion of Pre-Seed and Seed grants.	
2. **Data assets and compute infrastructure**	› New sectoral data repositories. › Opening the RIKMA infrastructure to AI companies. › Call for proposals for privacy-enhancing technologies and synthetic data. › Compute subsidies for startups and academia. › Low-latency regional inference infrastructure.		› Competitive research environments: GPU subsidies for researchers.	› Structured access to compute under Pax Silica. › Positioning Israel as Tier 1 under the new BIS rules.
3. **Applied research**	› Applied Research Fund – industrial research track for AI.		› Applied research institute. › Moonshot challenge projects. › Applied Research Fund – academic and industrial tracks. › Expanded participation in the European Framework Program. › R&D laboratories.	› Joint academic programs with Pax Silica partners. › Industrial Fellowships – researchers from alliance countries.

	Pillar 1 – Applications	Pillar 2 – AI Enablers	Pillar 3 – Technological Breakthroughs	Pillar 4 - Geopolitics
4. **Human capital**	› Reskilling STEM graduates for applied AI. › Recruiting international experts – AI visa and relocation support package.	› Recruiting international experts – AI visa and relocation support package.	› Expanding academic human capital – researchers and doctoral students.	
5. **Regulation, standards, and sandboxes**	› Regulatory sandboxes in fields such as healthcare, finance, transportation, education, and defense. › AI transformative initiatives in fields such as healthcare and fintech. › Dedicated testbeds in leading companies and institutions.	› Transformative initiatives focused on AI infrastructure. › Testbeds for AI infrastructure pilots.	› Testbeds for Physical AI and robotics. › Certification pathways for the safety of autonomous systems. › Presence in standard-setting bodies: ISO, IEEE, and ETSI.	› Mutual recognition of sandboxes with alliance partners. › Contributing expertise to standards: OECD, ISO, and UN. › Regulatory coordination for cross-border AI deployment.
6. **Industry and investors**	› Building a relevant financing ecosystem for the AI transformation of established companies, following an assessment of need. › Expansion of the Applied Research Fund – industrial research track.	› Examining financing and operational barriers, including for the purpose of attracting specialized international CVCs.	› Establishing private financing channels for investment in Physical AI technologies, where needed.	
7. **Multinational companies**	› Attracting multinational R&D activity at the frontier of AI applications.	› Leveraging multinational activity, such as NVIDIA's expansion in northern Israel. › Attracting frontier AI companies to Israel. › Technology challenges with global companies. › Infrastructure-focused transformative initiative.		› Expanding the BIRD Foundation to AI. › Bilateral agreements with Pax Silica partners. › Abraham Accords: systematic AI partnerships with the UAE.

Appendix 1: Status of the TELEM Artificial Intelligence Program: From Infrastructure Building to Systemic Scale-Up

The TELEM Program for AI R&D Infrastructure, launched in November 2021, constitutes the government and national foundation on which Israel's vision for technological leadership in artificial intelligence rests. The program has a budget of approximately NIS 1 billion.

Alongside the program's activity, the local ecosystem has experienced unprecedented growth: the number of AI companies in Israel has nearly doubled, from 1,250 to 2,350, and the industry has attracted approximately $30 billion in venture capital investment.

Beyond the TELEM Program, the Israel Innovation Authority has, during this period, invested more than $255 million directly in companies with deep and breakthrough technologies at early investment stages.

The program's work focused on four main areas of action, while addressing technological and implementation challenges that shaped the follow-on strategy.

1. **Compute Infrastructure and Data Processing**

This pillar was identified as especially critical.

- **A National Supercomputer for Model Training**
  The flagship project was established by Nebius, with a total investment of more than half a billion shekels, of which NIS 150 million came from the program budget. The project includes approximately 4,000 NVIDIA B200 accelerators.
  The purpose of this infrastructure is to address the high costs and limited availability of supercomputing resources for training large models by local technology companies.
  An innovative model of discount vouchers was implemented, allocated on the basis of research and industrial excellence. Distribution of the vouchers began in early 2026.
- **Opening Access to Scientific Computing Services**
  Hi-Center was selected as the provider that will enable researchers and companies to access computing infrastructure abroad in an efficient and simple manner.
  The infrastructure will provide services such as data and research-code adaptation, execution, results analysis, and support in contracting with providers.

2. Establishing and Developing Human Capital

The understanding that talent is the central bottleneck for the industry led to an expansion of activity beyond academia alone.

Approximately 100 scholarships were awarded to advanced research students, including master's students, doctoral students, and postdoctoral researchers.

Funding was provided for the recruitment of technical staff for academic computing centers, in order to improve research productivity.

On the applications side, a strategic pilot was launched to reskill hundreds of graduates with advanced degrees in the sciences for the field of artificial intelligence. The pilot also focused on identifying, supporting, and bringing AI experts and talent from abroad. This pilot is expected to be expanded as part of the work plan for 2026 and beyond.

A program was also launched to train AI experts in the IDF during their military service. Under this framework, approximately 100 graduates of research master's programs will be trained each year and later integrated into the relevant technological units.

3. Natural Language Processing and Data Assets

The program addressed the need to reduce the technological gap in local languages, Hebrew and Arabic.

- **Foundation Models**
  A series of open-source outputs were published, including large language models in Hebrew and Arabic, transcription models, and task-specific models for common natural-language-processing tasks.
- **Trustworthiness Models – TRUST.AI**
  A consortium of companies and research groups was established to address the robustness and reliability of models.
- **Applied AI Research Calls**
  Two rounds of calls for proposals were issued for applied research in artificial intelligence, with a focus on natural-language processing.
- **National Data Assets**
  Providers were selected to establish national data assets, with an emphasis on health and agriculture.

4. International Positioning, Policy, and Regulation

- The document **"Policy and Regulation Principles in the Field of Artificial Intelligence"** was published by the Ministry of Innovation, Science and Technology together with the Ministry of Justice. It presents a regulatory approach that encourages innovation while safeguarding fundamental values and human rights, and while aligning with the emerging international regulatory environment.
- Israel also participated actively in leading multilateral forums in the field, including the OECD, the Council of Europe's CAI committee, the United Nations, the network of national AI Safety Institutes, and others. This activity culminated in Israel's signing of the first international convention in the field of artificial intelligence. This participation enables Israeli priorities to be incorporated into global policy and helps ensure regulatory compatibility between Israel and other leading countries.
- A government knowledge and coordination center was established, dealing with regulation, information and data policy, ethics, international cooperation, and implementation in the public sector.
- A regulators' forum was established to examine the need to update regulatory policy in the field of artificial intelligence.
- An external experts' forum was established to assist government bodies on regulatory issues that arise from time to time.
- A first document examining the use of artificial intelligence in the financial sector was published, in cooperation with the Ministry of Justice and the financial regulators. The document presents a flexible regulatory approach that encourages responsible innovation while safeguarding core principles.

Additional Program Coordination and Partnerships

In addition, the program directorate coordinated extensive cooperation, including the following:

- **Official Program Website**
  An official website was established and is updated regularly, reflecting activity and progress in real time. The website serves as a central source of information for the public, industry, and government bodies. This activity is important for increasing transparency and public access to the program's work, and for improving Israel's standing in various international rankings.
- **Human-Capital Research**
  Research was advanced in the field of human capital, including measuring the shortage of AI professionals and examining the impact of AI tools on software and product development.

Cooperation with Government Bodies Outside the TELEM Forum

National Digital Agency

The National Digital Agency implemented three calls for proposals for the adoption of AI solutions in the public sector and local authorities, with the aim of improving public welfare, increasing decision-making productivity, and optimizing decision-making processes.

Ministry of Education

The Ministry of Education established a first-of-its-kind experimental regulatory sandbox, enabling trials of artificial intelligence technologies in the education system, from grades 1 through 12. This includes integration into the matriculation program, as well as support for a dedicated high-school study track designed to train the AI scientists of the future.

Ministry of Justice

The Ministry of Justice served as a close partner and advisor in a wide range of publications and processes, including the writing of the program's strategy document; the preparation of the **"Policy and Regulation Principles in the Field of Artificial Intelligence"** document together with the Ministry of Innovation, Science and Technology; the preparation of the first sectoral regulatory document examining the use of AI in the financial sector; and support for work with the Council of Europe's CAI committee, the OECD, and others.

Ministry of Economy and Industry and Its Economic Attachés

The Ministry of Economy and Industry, through its economic attachés, assisted in addressing the issue of U.S. import quotas for AI chips, maintained ongoing engagement with European bodies, and partnered in a call for proposals to establish and open access to data assets for accelerating AI research in a range of fields.

Ministry of Foreign Affairs

The Ministry of Foreign Affairs assisted in addressing the issue of U.S. import quotas for AI chips, maintained ongoing engagement with European bodies, and supported additional bilateral issues.

רשות החדשנות
Israel Innovation
Authority

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Vision, Targets, and Operational Steps

April 2026 | Draft for Industry Comments