

# Jefferies

## Rising Star

ISRAEL'S ARRIVAL AS A GLOBAL TECH HUB

#TechTrek



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# ISRAEL

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# Israel's Thriving Economy at a Glance



**Fastest-growing and one of the youngest populations** in the OECD with 9.7 million people in just 75 years and projected to increase by 2% annually with 56% of the population under the age of 35.<sup>1</sup>



**GDP growth of 6.3% in 2022** compared to OECD average of 2.8%.<sup>2</sup>



**Strong labor market**, unemployment of 3.6% compared to 4.8% OECD average.<sup>2</sup>



**Highest R&D investment as a percentage of GDP** of any country.<sup>3</sup>



**Greatest density of startups per capita** in the world, with one startup per every ~1,400 people.<sup>4</sup>



**Strong credit ratings:** S&P (AA-), Moody's (A1), Fitch (A+) with all three agencies rating the outlook as stable.<sup>5</sup>



**Increasing geopolitical relevance** with the historic and transformational signing of the Abraham Accords and the massive production of the Leviathan gas field.



**World's highest mandatory pension savings rate** of any country at 18.5%.<sup>6</sup>



**More Nobel Prizes per capita** than the United States, France and Germany, and more Nobel laureates, in real numbers, than India, Spain and China.<sup>7</sup>



**Unique culture of creativity and collaboration** fostered by Israel's high-level of education and compulsory military service.

1 Israel Central Bureau of Statistics as of March 2023.

2 Israel Central Bureau of Statistics and OECD Economic Outlook as of May 2023.

3 Most recent OECD data.

4 "The Promise and Future of Startup Nation," Forbes, February 27, 2023.

5 On April 14, 2023 Moody's downgraded the outlook from positive to stable citing deterioration of governance based on proposed judicial reforms while Fitch and S&P in their most recent reports affirmed the current rating and stable outlook.

6 Directorate General of Labor – Ministry of Economy and Industry. Australia is the second highest with rate increase from 9% to 10% in July 2021 and will stop increasing at 12% in July 2025.

7 Nobelprize.org as of October 14, 2021.

“ **Naftali Bennett,**  
**Former Prime Minister of Israel**

Israel is the solution nation—looking to solve the world’s largest and most complex problems. Out of necessity we invent technologies that don’t yet exist to solve global problems like climate change, water scarcity, air defense, or pandemics. We are morphing into a nation filled with innovators and entrepreneurs who flock to address global problems as they arise.

“ **Secretary Steven T. Mnuchin,**  
**Liberty Strategic Capital**

Israel is an amazing hub for technology talent, and I saw firsthand during my time in government the increasingly important role the country is playing in the global economy.

“ **Ittai Ben Zeev,**  
**Tel Aviv Stock Exchange**

There has been significant progress in Israel’s capital markets, but the best is yet to come. We have made considerable developments in recent years, and we have not only seen a significant increase in global investors buying TASE listed shares but increased retail participation in the domestic capital markets both of which will continue to dramatically improve liquidity.

“ **Nadav Zafrir, Team8**

Looking ahead, advances in AI represent another fundamental technology inflection point. I am very excited about this future and believe Israeli companies are well poised to innovate in artificial intelligence and the emerging Generative AI, 5G, quantum computing, virtual and augmented reality, and autonomous vehicles—which will be among the technologies that will drive the world forward.

We hope this letter finds you in good health and high spirits.

**In an era defined by technology, few places have captured the world's attention quite like Israel. Its fast growing tech ecosystem has become an epicenter of disruption and advancement.**

Jefferies has a significant presence in Israel because we believe it offers some of the most compelling investment opportunities in the world. Once hailed as "Startup Nation," Israel has now matured into a global tech hub that rivals Silicon Valley.

On behalf of Jefferies, we are excited to share [Rising Star](#), which features our team's most essential insights on Israel's tech ecosystem and the untapped potential that it holds.

To create this report, we engaged with industry leaders, entrepreneurs and academia to better understand the distinctive characteristics that make the Israeli tech ecosystem so dynamic.

Any thriving tech hub requires a mix of new and experienced founders intent on building great companies, a growing investor base to fund them and a skilled workforce that can build them. Israel has it all, but it also has something special that you can't quite quantify: A collaborative spirit that fuels cross-pollination of ideas and an entrepreneurial mindset that permeates everywhere.

In these pages, you will see how government initiatives, academic institutions, venture capital firms and multinational corporations have come together to create an ecosystem that breeds innovation and attracts talent from around the globe. The results speak for themselves as Israel today boasts over 100 companies each valued at more than \$1 billion, while foreign investment in the country has grown by a factor of four in just the last six years.

Jefferies is committed to fostering global collaborations, supporting innovation, and driving growth. We firmly believe that understanding the dynamics and unique attributes of emerging tech hubs is key to unlocking investment opportunities and fostering deeply personal collaborations for decades to come, as we always have.

We hope that [Rising Star](#) will serve as a guide for investors, industry players and innovators seeking to navigate this dynamic landscape. As always, we look forward to hearing your thoughts and exploring ways to partner with you.

Sincerely,



**RICHARD B. HANDLER**  
Chief Executive Officer



**BRIAN P. FRIEDMAN**  
President

# Rising Star

Israel, a nation brimming with history and cultural significance, has become a powerhouse of technological innovation. From groundbreaking advancements in Cybersecurity and artificial intelligence to trailblazing developments in clean energy, mobility, semiconductor and financial technology, Israel has firmly established herself as a global technology leader.

To date, the Israeli tech sector has flourished under a framework that values a robust legal system, protection of intellectual property, and the ability to enforce contracts. At the time of the release of this paper, Israel is at a crossroads over recently proposed judicial reforms. The proposed reforms have raised concerns about the legal system and democratic principles in addition to sparking debate about their potential impact on the broader economy and by extension, on Israel's thriving tech ecosystem.

The State of Israel is only 75 years old. With young countries, change is inevitable. Change can, however, lead to uncertainty, thereby impacting investor confidence. Israel's tech ecosystem has attracted substantial foreign investment due, in part, to its reputation for innovation, and a stable legal framework. Therefore, attention should be paid to ensure that any reforms uphold the principles that have contributed to the success of the Israeli tech ecosystem.

Against this backdrop and throughout our work on this project, we have spoken with many Israeli technology companies in addition to dozens of local and global investors who remain enthusiastic about investing in Israeli technology companies, reaffirming confidence in their abilities to navigate these potential changes.

I am immensely proud and thankful for the expertise and collaboration of so many who brought this project to fruition. *Rising Star* gives voice to the remarkable achievements and transformative potential that lie within Israel's borders and explores the factors that have propelled Israel's success.

Join us on a journey through the vibrant and ever evolving world of Israeli technology, where creativity, entrepreneurship and audacious ambition intersect to shape the future.

*Natti*

**NATTI GINOR**

Head of Israel Investment Banking

**“ Jeff Horing, Insight Partners**

Mandatory military service and certain tech-focused units in the military also make the Israeli ecosystem unique. Time in the military at a young age gives founders real world experience that is hard to replicate for founders who have only experienced school, or even dropped out of school, and it helps prepare Israeli founders for the rigors of running a business. Folks who serve in certain units also learn extremely valuable technical skills that translate well when building deep-tech products at a startup, and they are especially applicable for Cybersecurity products.

**“ Shlomo Dovrat, Viola Group**

We're living in a perfect storm—global instability, polarization, disruption of labor market, increasing inflation and hiking of interest rates have led growing pressure on financial markets and private tech investments. However, this is the time for businesses to reinvent themselves and for investors to be selective and smart. The biggest transformative companies were created riding new innovation cycles and we are now at the early days of a new transformative innovation cycle: The era of AI-everything. The Israeli tech ecosystem, always known for its ability to adapt to new trends, is well positioned to lead the new era.

**“ Gilad Shany, Ion Crossover Partners**

It is remarkable that Israel, a country with 0.1% of the global population, has produced almost 10% of all global unicorns. Israeli companies have always innovated for foreign markets and the shift from physical to digital distribution has changed what was once Israel's weakness into its advantage.

**“ Gigi Levy-Weiss, NFX**

After Silicon Valley, Israel is the number one place in density of innovation in the world.



DRAVE



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## EXECUTIVE SUMMARY

Every century is defined by a small number of themes that drive the global economy forward. In the past, these have included industrialization, the energy revolution, and the dawn of the internet.

Our current century is dominated by digitization and Cybersecurity, which go hand in hand and are shaping and reshaping how every business operates and how each of us lives. It is estimated nearly \$2 trillion will be spent annually on both by 2026.<sup>1</sup>

**There are a very small number of hubs that drive trends forward in any generation, and an even smaller group that dominate and emerge as winners. The winners of this era will need to lead in both.**

One of the few places that is leveraging its expertise in most things tech and cyber has also experienced an inflection point of growth, maturation and expansion, and it offers one of the most fertile opportunity sets for leading tech investors in the decades ahead.

Silicon Valley has long been a leader in high-tech company formation and innovation. But Israel—with a population slightly larger than the state of New Jersey—has caught

the focus of investors globally because of the density of entrepreneurship, the pipeline of blockbuster innovation and the success rate of prior startups. These companies have created hundreds of billions of dollars of value in the past decade in value for investors and are poised to accelerate this in the coming years.

**Israel has matured beyond its Startup Nation origins and Scale-Up Nation tagline to be nothing short of a globally-dominant tech center, one that rivals Silicon Valley.**

The volume and density of innovation has made Israel a mandatory destination for all leading investors and will likely create a disproportionate number of category-defining winners across sectors in the many years to come.

**As digitization and Cybersecurity continue to embed in every sector, Israel's solution-driven companies and teams are increasingly at the center of headline making deals.**

The country's expertise in innovation has not only endured but has accelerated and its operating models have matured.

The global investor universe deploying meaningful capital into Israeli-related companies has expanded exponentially in recent years just as management teams

**“ Sebastian Mallaby, The Power Law**  
In a world of intensifying geoeconomics competition, the countries with the most creative innovation hubs are likely to be the most prosperous and ultimately the most powerful.

“ Yifat Oron, Blackstone

Israeli companies are built to be global from day one, and we're helping grow them into global enterprises more efficiently and successfully.



have matured as leaders, moving it from a country that only creates technologies that solve problems, to a country creating global enterprises that do that and much more. In recent years, Israel's tech ecosystem has grown across nearly every metric: amount of money raised, diversity of investors, duration to exit, size of exit and type of exit, among others.

Technology is defining this century, but more specifically, it is the digitization and protection of data via Cybersecurity that are at the top of all decisionmakers' priorities.

**Israel is one of a very small number of ecosystems that serves both trends.**

Because these are permeating every sector and industry, Israel has also found itself creating cutting-edge solutions in emerging sectors as

well, including: agtech, climate tech, fintech, digital health, mobility and many others.

While the nation's startup era has been well profiled, *Rising Star: Israel's Arrival as a Global Tech Hub* is the story of what happens next, and charts a potential way forward for founders, investors, policymakers and companies. We explore the tailwinds behind this exponential shift, the innovations that turned opportunities into successes and the idiosyncratic factors driving Israel forward. In short, we investigate how Israeli investments have become a "must have" in portfolios.

While there are considerable uncertainties, we anticipate Israel's tech ecosystem growth and maturation will only accelerate, creating a dominant and necessary opportunity set for investors.

# A Snapshot of the Step Change



1

## **Global Investors want to allocate more capital to the Israel market.**

For years, the largest companies hovered around \$1 billion equity value, and there were few of them. Now, nearly 100 companies have been valued at over \$1 billion. As global investors seek to write bigger checks, Israel provides increasing opportunities to do so.

2

## **The size of transactions is increasing.**

In 2016, there were only two \$100 million mega rounds in Israel. By 2021, the number peaked at 76 rounds, and 2022 produced the second highest number ever.

3

## **The volume of investments and transactions are increasing.**

2021 and 2022 combined were the most active years in Israeli tech history. There were close to 2,800 investments made, providing funding to many of the defining companies of the future.

4

## **The diversity of transactions is increasing.**

Five years ago, more than 95% of exits were strategic M&A. Increasingly, we are seeing Israeli companies going public through IPOs in New York or London, raising institutional capital through PIPEs and ATMs, acquiring other companies, engaging in Take-Privates and taking advantage of other sophisticated financings.

5

## **Companies can tap new pools of foreign capital.**

The Abraham Accords of 2020 opened the doors to build relationships and explore investment opportunities with investors across the Middle East who are new to the market. This diplomatic breakthrough also has resulted in a number of non-Middle Eastern investors seeing Israel as a “less risky” market to invest in than in the past. Foreign investment has grown by a factor of 4 in the last 6 years.



## 6 Companies can tap increasing pools of domestic capital.

Israel has the highest mandatory savings rate in the world. Policymakers have loosened rules around the \$750 billion pool of retirement capital, allowing asset managers to allocate more capital to growth and/or foreign investments. The Israeli requirement of forced savings is expected to result in well over \$1 trillion in retirement assets by 2030.

## 7 The thriving startup ecosystem of the last few decades has created a fertile network that's critical to supporting future growth.

Ecosystems don't build or sustain themselves, and Israel has reached a tipping point, benefitting from multiple generations of founders who can mentor, shape and guide current and future generations. These networks and ties prove critical to building strong new classes of entrepreneurs.

## 8 Companies are staying private longer—creating new baseline expectations.

\$10 billion is the new \$1 billion. The first class of Israeli decacorns has arrived, creating new opportunities for investors and a new baseline for what's possible for companies.

## 9 The character of the country fuels high density of success.

By necessity, innovation is a lifeblood of Israeli culture. As a result, Israel creates more startups per capita than any other country and accounts for 10% of global unicorns, despite its standing of 0.04% of the global population. In the first half of 2022, Israel minted more unicorns than China—a country with 155 times its population. Cyber talent has made Israel a must visit for any investors in Cybersecurity, and the military provides an evergreen source for well-trained tech talent that drives this density of success.

## 10 Companies are leading disruption across sectors.

Innovations from Israeli companies are driving change and adoption of new technologies across industries, including Cybersecurity, digital health, fintech, agtech, mobility and more.

## WHERE WE ARE NOW

### What Defines a Leading Tech Center in 2023

There are a number of successful technology ecosystems across the globe: Silicon Valley, New York, London, Berlin, Beijing.

What differentiates Israel now as a global leader and why does it matter? What has prompted some of the world's top investors not only to be interested in Israel, but increasingly, to dedicate resources and boots on the ground there?

**Following a fruitful period incubating and selling numerous startups, Israel has gone through a period of maturation, landing it in line with some of the world's most fertile and dominant tech ecosystems.**

Many of these dominant tech ecosystems share five pillars:

- **Founders:** Individuals with the drive and dedication to build their own enterprise
- **Capital:** A diverse, supportive and growing investor base
- **Workforce:** A highly skilled, educated and technical workforce
- **Advisory:** Mentors, advisors and generations of those who have launched and learned from mistakes
- **Networks:** Ties among these four pillars to facilitate and sharpen ideas, create connectivity and develop a flywheel effect for growth and maturation

### “ Sraya Orgad, Tel Aviv Stock Exchange

Israel will continue to be a global center of technology. Israeli startups should keep broadening their investor base beyond even the U.S., engaging with investors from Europe, Asia, Latin America and beyond.

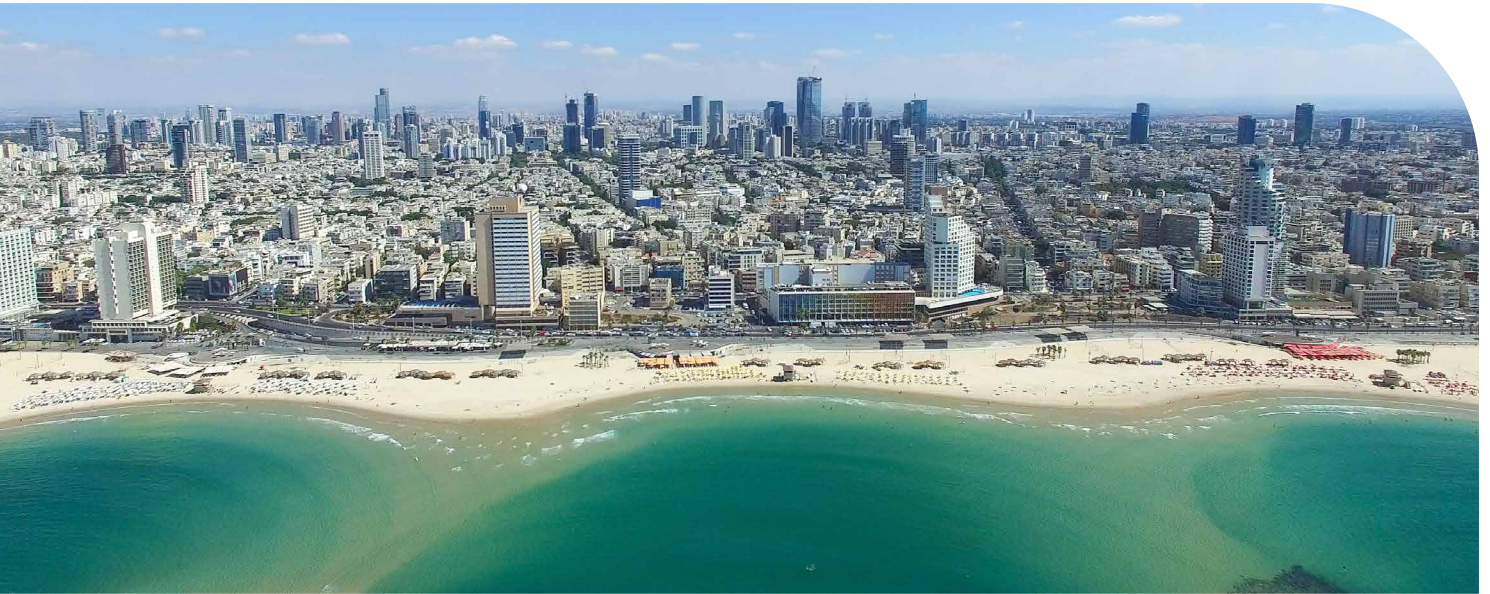
Israel now has all five of these pillars, and has expanded to offer a sixth: Magnitude, density and proximity of firms.

**After the U.S., Israel is increasingly “the most worthwhile high density stop for global tech investors.”<sup>2</sup>**

Because of the country's size, within 90 minutes from Tel Aviv and Ben Gurion International Airport, investors can connect with nearly all relevant tech companies, investors and universities. The density of players creates a tightly-knit environment that is uniquely situated for efficiently building a network and developing relationships.

### “ Tal Barnoach, Disruptive AI

There has been a real evolutionary breakthrough in the Israeli founder's perspective. The founder mentality has completely changed from quick exits to long-term growth.



## What Has Driven the Arrival of Israel as a Global Tech Hub

The tech industry globally simply is not the same place it was a decade ago—and many of the shifts have contributed to Israel’s emergence as a global tech hub. In addition to the broad digitization of nearly all facets of life and work, the first generation of digital natives is starting to come of age and

enter the workforce. Some believe we are “finishing the first age of digitization” while other economic historians note, “there is often a decades-long time lag between the development of powerful new technologies and their widespread deployment.”<sup>3</sup> In both cases, the expertise, skills and unique ability of Israel to give rise to some of tech’s most cutting-edge developments point to continued momentum and growth.

### Evolution in Israel’s Tech Ecosystem: From Startup Nation to Globally Dominant Tech Player

|                  | THEN   | NOW  |
|------------------|--|--|
| <b>Founders</b>  | 2008: 1,400 startups   | 2022: ~7,000 startups  |
| <b>Capital</b>   | 2008–2016: \$11 billion invested   | 2017–2021: \$88.5 billion invested   |
| <b>Workforce</b> | Highly skilled workforce with technical skills from military and leading universities          | Highly skilled workforce with technical skills from military and leading universities, and an increasing number of founders returning to start companies in Israel |
| <b>Advisory</b>  | First or second generation entrepreneurs, often selling technology, not companies              | Multiple generations of entrepreneurs who have started multiple firms  |
| <b>Networks</b>  | Tight connectivity among: military, universities, incubators, accelerators and local investors | Tight connectivity among: military, universities, incubators, accelerators, local and global investors   |

**This global backdrop only partially explains the driving forces behind Israel’s maturation to global tech hub. Among the relevant others:**

### **The People**

1. **Enough time has passed** that there are now numerous generations of founders and investors to mentor and advise new entrepreneurs. This local ‘muscle memory’ didn’t exist decades ago.
2. **New and experienced entrepreneurs now want to build** billion dollar companies. Experienced founders may have an exit or two under their belt, and all entrepreneurs now have multiple examples of successful billion dollar firms (call it the Waze, Mobileye, ironSource effect).
3. **Israelis are solutions-first founders** who don’t just iterate on a problem—they create step changes. Global problems require global solutions and across the country’s nearly eight-decade history, by necessity, Israelis have had to create solutions from scratch (for example: creating an irrigation system in one of the driest climates).

**“ Jon Korngold, Blackstone**  
Israel is one of the most dynamic markets in the world from a growth and innovation perspective, and it has become much more than just tech.

### **The Capabilities**

4. Ideas alone don’t bring solid execution with them—but increasingly, three drivers have converged to create next-generation operating skills:
  - a. **Organic maturation of experienced entrepreneurs** who have learned from past startups.
  - b. **Increase of global investors on the ground in Israel** or those who may be new participants in the space who bring with them world-class operating knowledge. A growing number of investors specifically target companies where they can bring their operating knowledge to bear and help them scale.
  - c. **Managers who are returning to Israel** from abroad to live and work, and bring with them global operating expertise.

### **The Capital**

5. **Global capital coming in and diversifying:** 2021 was a standout year for mega rounds in Israel, with 76 raised in the country. The following year, there were 43 mega rounds with different investors than participated in 2021’s rounds. This diversification of mega round investors is a critical point, as it exemplifies Israel’s ability to attract new investors, even amidst a global slowdown. As more Israeli tech companies garnered the attention of international VCs, the competition increased among global investors and it was no longer enough to just visit the country—instead, there became a real need to have local experts with boots on the ground to stay competitive among the peers. In recent years, numerous tier-1 global investors have chosen to open offices or have a partner focused on Israel with more to come.



“ Jon Korngold, Blackstone

Israeli growth is different than any other OECD country in its understanding of “change.” The world is always changing but some people understand this better than others and capitalize on it, instead of shrugging their shoulders and going about their day. Indeed, a fundamental part of Israeli innovation comes from expecting and anticipating change.

6. **Local capital growing:** In addition to growth and agility of domestic retirement assets, the local venture capital ecosystem itself has matured. The country’s venture capital industry was born in the mid-1980s but over the last few years has also been forced to evolve and mature as competition from global investors has grown.

#### Other Macro Tailwinds

7. **Covid:** The pandemic prompted everyone to rethink business models and how we live. Many of these new approaches have stuck, and in other cases, moves toward digitization and efficiency were accelerated. Overnight, both demand for Israeli solutions (whether cyber, AI or other forms of digitization) and the supply of them skyrocketed as sales teams could connect with customers remotely.
8. **Eastern European immigration** (for the second time): Many point to the initial influx of Russian refugees following the collapse of the Soviet Union in the 1990s as a critical point for growing the population of engineers, scientists and mathematicians. A second wave, which followed Russia’s invasion of

“ Amikam Norkin,  
Retired Commander General  
of the Israeli Air Force

Israel’s culture of an innate sense of urgency drives quicker adoption of new technology and adaptation to changing conditions.

Ukraine in 2022, is being looked at similarly—an influx of human capital with the skills in demand at leading tech companies. In 2022, over 62,000 Ukrainians, Russians, Belarusians and citizens from other former Soviet Eastern European countries became Israeli citizens, driving a 150%+ overall increase from the same period in 2021.<sup>4</sup>

9. **Regional agreements/cross-border diplomacy:** The Abraham Accords expanded regional conversations to include normalization, diplomacy and economic opportunity. This in part has helped lower regional risk fears for investment.

## ISRAEL'S GLOBAL TECH CENTER BY THE NUMBERS

### Magnitude, Density and Proximity

The maturation and evolution of Israel's tech ecosystem has been multi-dimensional, firmly placing it among the top tech centers globally.

For years, Israeli venture capital firms have invested in hundreds of successful startups, enjoying great exits and great returns.

But in the past few years, a confluence of tailwinds have converged to accelerate growth, diversify exits and establish Israel as a true global tech center. Many have anecdotally reported witnessing a shift from building technologies to scaling companies, and the numbers bear this out.

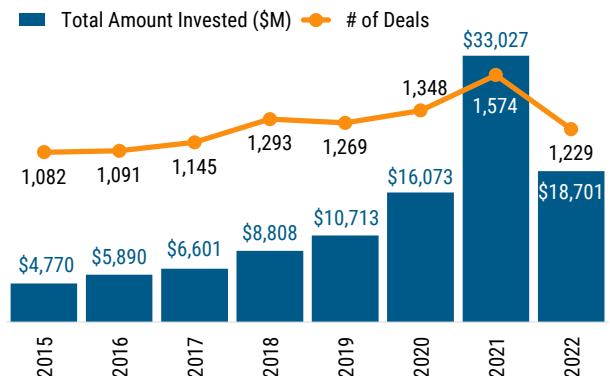
**One of the biggest factors reflecting the new heights Israel has reached is straightforward: the amount of capital it is able to attract.**

Capital is the lifeblood of innovation, and the growth in both the amount of capital invested and number of deals closed has been exponential in recent years, peaking at over

**“ Abe Finkelstein,  
Vintage Investment Partners**

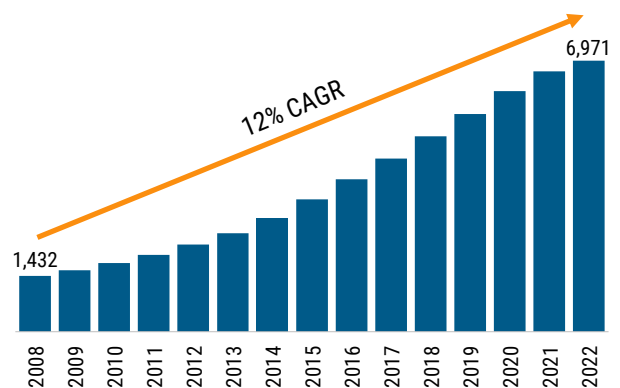
One indication of a more mature Israel tech ecosystem is increased access to growth capital. You need material pools of growth capital to scale startups.

### Israeli High-Tech Capital Raised by Amount and Deal Count



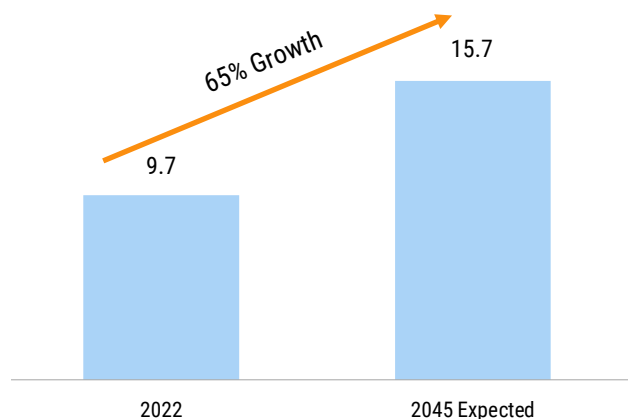
Source: IVC Data and Insights

### Number of Israeli Startups



Source: Start-Up Nation Central

### Population Size in Millions



Source: Israel Central Bureau of statistics

\$25 billion across 1,200 deals in 2021.<sup>5</sup> As seen across the globe, dealmaking slowed in 2022, and Israel witnessed about \$15.5 billion in investment across 826 deals.<sup>6</sup>

**While capital markets activity globally has slowed in 2022 and 2023, the velocity of growth in Israel since 2018 has been at a faster rate than Silicon Valley, New York, London, Berlin and Beijing.<sup>7</sup>**

This can be explained in part by the continued launch of startups, the expansion of duration to exit (which creates more mid- and late-stage options for investors), and a greater amount of capital from a more diverse pool of investors.

The number of startups has grown at about 12% annually since 2008, now supporting more than 7,000 firms.<sup>8</sup> Venture funding per capita in Israel beats that of the U.S., the U.K., Canada and China. Companies are also staying private for longer, with exponential growth to nearly \$23 billion in growth stage companies by 2021, creating new opportunities for other investments, and allowing firms to enhance go-to-market and distribution strategies.<sup>9</sup>

As a result, the historic trend of exit via M&A remains, but at a much smaller percentage of total exits. Five years ago, more than 95% of exits were strategic M&A. Now, about 35% of exits take a different path—with IPOs, SPACs, Take-Privates and other financings on the rise.

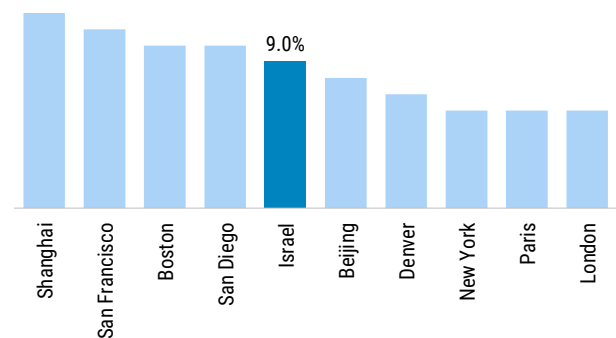
**Another indicator of Israel's evolution to a dominant tech hub are the number of mega deals.**

While 2021 was a standout year with 76 mega deals over \$100 million, the upward trend continued even in the more challenging environment of 2022, with 36 mega deals—still an 80% increase over 2020.<sup>10</sup>

“ **Eran Westman, Viola Growth**

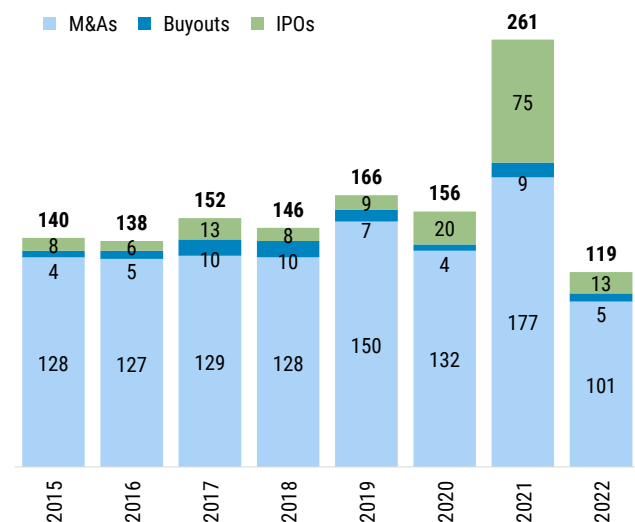
Historically, companies born in Israel aimed to exit in \$100M–\$200M deals. Five years ago, ‘mega rounds’ became a new reality in the ecosystem—and have completely changed the game.

Percentage of Funding Rounds Over \$50 Million in Select Hubs in 2022



Source: Israel Innovation Authority, 2023 Annual Report: The State of High-Tech

Robust Deal Activity Number of Exits



Source: IVC Data and Insights

**“ Yuval Cohen, Fortissimo Capital**

Israeli innovation created a paradigm shift in several industries such as digital printing, Ag-tech, enterprise software and more. Local private equity funds such as Fortissimo are investing in these technologies to help further develop them and maintain Israel's leadership position in new tech industries.

Where is the capital coming from to conduct these deals? Increasingly from outside of Israel.

**Foreign investment has grown by a factor of 8 in the last 6 years, and now accounts for nearly 80% of investment in Israeli companies.**<sup>11</sup>

This has happened as many of the world's largest investors have established offices in the country or have a dedicated senior partner focused on Israel.

In the same way that the limited size of the domestic Israeli market leads companies to create products for export from day 1, traditional U.S.- or European-based VCs have looked outside of their local saturated markets to Israel as a new avenue for investment.

At the same time, domestically, policymakers loosened the rules to allow more Israeli institutional investors to invest in growth and foreign assets, making them increasingly attractive as a source of LP and growth capital. With the highest mandatory pension savings rate of any country in the world at 18.5% (Australia, the next closest country

has a pension savings rate of 10.5%), Israeli institutional investors will need to deploy more capital as the country grows.<sup>12</sup>

Together, a new phenomenon has been created whereby domestic capital is becoming more agile while global capital is increasingly finding its way into the local ecosystem.

**One of the factors responsible for the speed in maturation has been the density of Israel's innovation and success.**

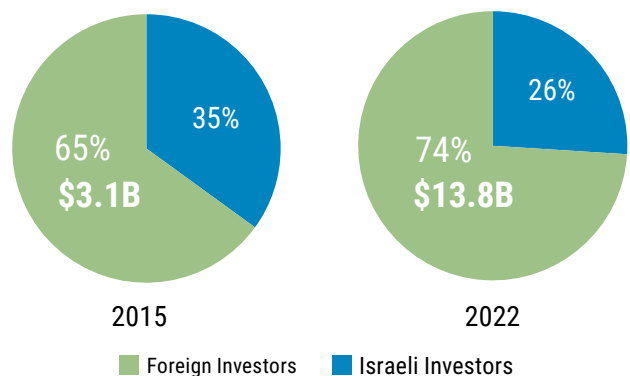
Tech ecosystems expand and evolve because of multiple factors: capital growth, maturation of founders, improvements in management teams and operating models and exogenous shocks or tailwinds.

**In 2021 and 2022, Israel had the highest number of new unicorns per capita globally.**

Success isn't just a matter of density in Israel; it is the fastest-growing country in the developed world with 9.5 million people and projections to increase by 2% annually.<sup>13</sup>

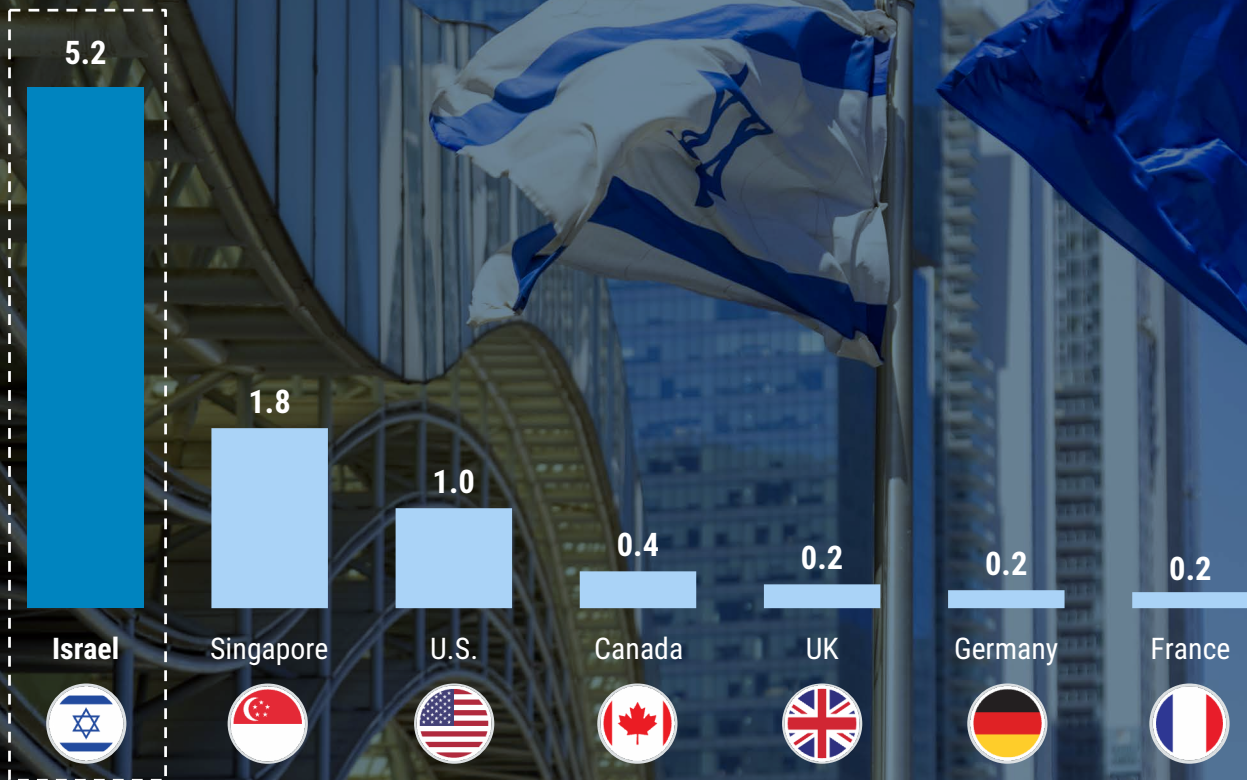
It's not just ubiquity of unicorns—Mobileye's 2017 acquisition shattered the glass ceiling on whether Israeli companies can reach a \$10 billion valuation.

**Significant and Consistent Inflow of Foreign Capital**



Source: IVC Data and Insights

Highest in Number of New Unicorns in 2021 per Capita



Source: IVC Data and Insights

“ **Jeff Horing, Insight Partners**

Ecosystems don't fuel themselves, but some of the success of the Israeli ecosystem has come from a positive feedback loop. The world has woken up to the strength of the Israeli tech ecosystem, which has led to more investment that has further strengthened it. The practicality, deep technical knowledge and other traits are obviously the foundation—you need great companies and a huge pool of talent to make any of this possible—but Israel is a good example of success breeding success. It's now more surprising for an investor not to have an Israel-focused strategy than it is to have one, and the community is only going to continue growing as long as Israeli companies keep succeeding.

# The Impact of Covid on the Acceleration of Israel as a Global Tech Center

Covid created numerous unexpected consequences for the global economy: snarled supply chains, a pause in many of the services that drive economies forward and a near overnight conversion to working remotely for many businesses.

It accelerated digital adoption globally across sectors. The world shifted digitally because it had to and many of those shifts have stuck.

**In addition to serving as the accelerant for global digitization, Covid was also responsible for the adaptation of business approaches that benefitted Israeli companies and helped accelerate the country's emergence as a global tech center.**

The ability to market and distribute products virtually helped many companies identify and connect with new customers exactly at the moment that digital and cyber needs were skyrocketing. Instead of having to get on a plane, salesforces could connect with exponentially more prospective customers, closing deals and materially reshaping their go-to-market approaches.

**Israeli entrepreneurs have long been successful at identifying and launching technologies that help change the world. The arrival of Covid bolstered their distribution strategies and execution.**

Covid also shone a light on the effectiveness of Israel's healthcare system in distributing and administering vaccines, reiterating its ability to deliver solutions across population centers and reasserting its relevance to global pharma companies. Because of Israel's ability to orchestrate resources in an efficient manner, harness data, and deliver results it has shown it's not just excellent at generating ideas, but in executing and mobilizing solutions.

**Amid all this growth, it is worth reflecting on recent history to understand if Israel's momentum as a global tech center is continuing.**

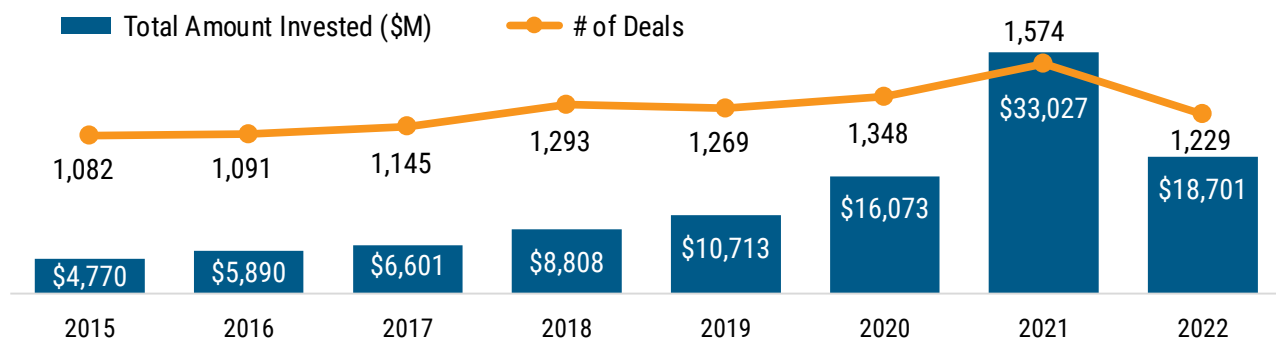
As we entered a period of global tech malaise in 2022, many wondered how Israel would weather this transition period. Despite a broader global contraction, it is clear that Israel is continuing to hold its own with its second best year ever for: total number of tech investments, number of new unicorns minted, investments across early stage, growth, and mid- and later-term stage companies.

While some of this activity is no doubt an extension of 2021's blowout year, Israel did not witness a precipitous contraction in investment. The global market may still

**“ Scott Tobin, Battery Ventures**

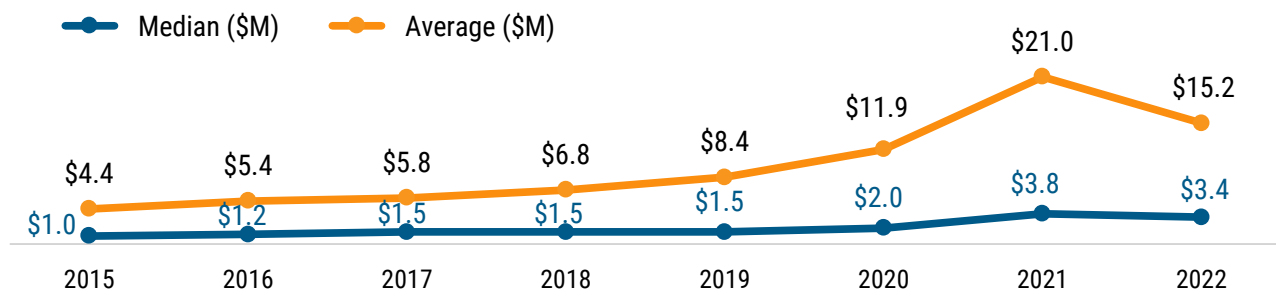
The global distribution of software has changed; a company's location is irrelevant. Israeli startups are unique in that they must be international from day one, their domestic TAM is limited compared to startups in the U.S. or Europe. Israeli Innovation is that much more remarkable because not only have they created where nothing existed prior, but they have done so for large markets far away.

**Israeli High-Tech Investments: 2015–2022**



Source: IVC Data and Insights

**Tech Investments: Average vs. Median 2015–2022**



Source: IVC Data and Insights

**“ Natalie Refuah, Viola Growth**

As the Israeli ecosystem shifted/evolved from startup nation to scale-up nation, building independent and larger companies, there was also a need for growth capital. In recent years Israel has seen a constant increase in growth and mega rounds led by both local and global funds who realized the potential of growing the next outliers out of Israel. We believe that despite the current downturn Israeli’s ecosystem will continue to create more scalable companies and growth capital will continue to fuel this trend.

continue to slow, but what is clear is that investors and entrepreneurs have not stopped their involvement in Israel’s ecosystem.

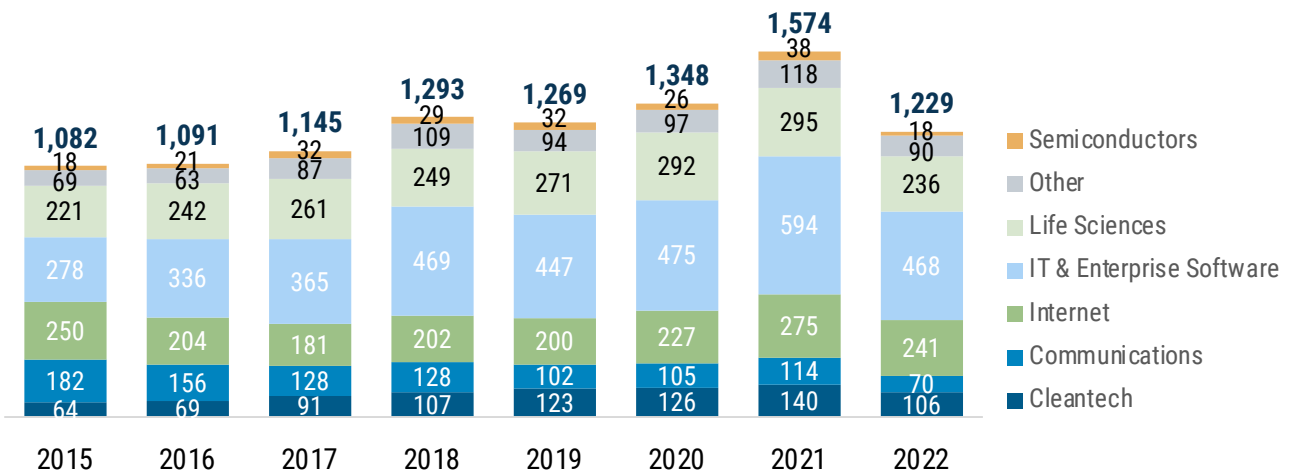
**The trajectory in recent years has been exponential growth across different dimensions, and it is clear that the appetite for investments in Israel is holding up even as the world goes through a rationalization of valuations and deal flow.**

The number of tech investments made in 2022 was still twice that of 2019. Also notable is that for the first time since 2019, the number of early-stage deals outpaced those in growth stage—and the amount invested in early stage companies is more than twice that in 2018.

**Appetite for early rounds persisted, as seed deals saw the highest number of deals and proceeds in 2022, and early rounds continued to march to all-time highs.**

It’s not just early-stage capital—appetite for mid- and later-stage rounds persisted as well.

Total Number of Deals Per Sector



Source: IVC Data and Insights

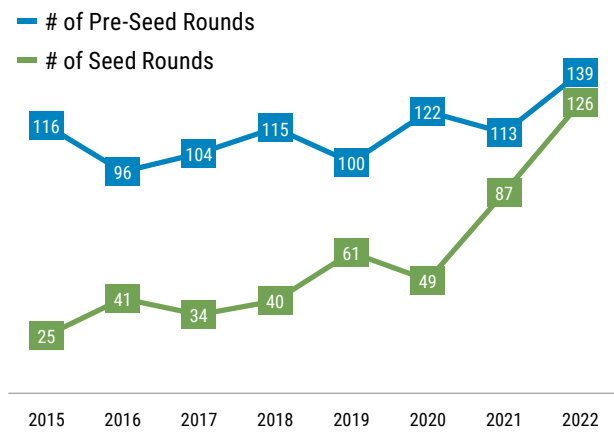


“ Daniel Aronovitz, Insight Partners

A critical piece is that Israeli companies' duration to exit has been increasing over time—adding value, creating optionality and driving the ecosystem forward.

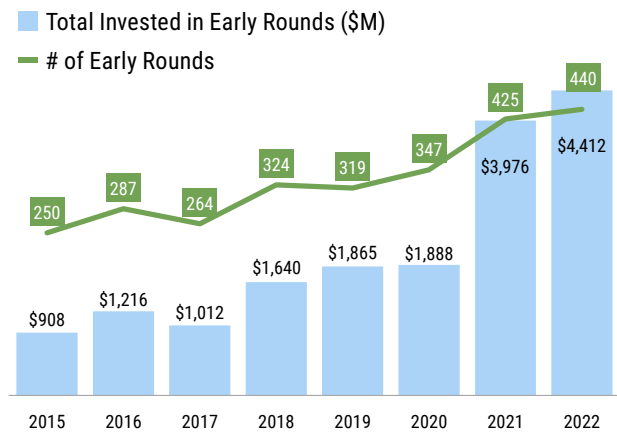


Pre-Seed & Seed Rounds 2015–2022



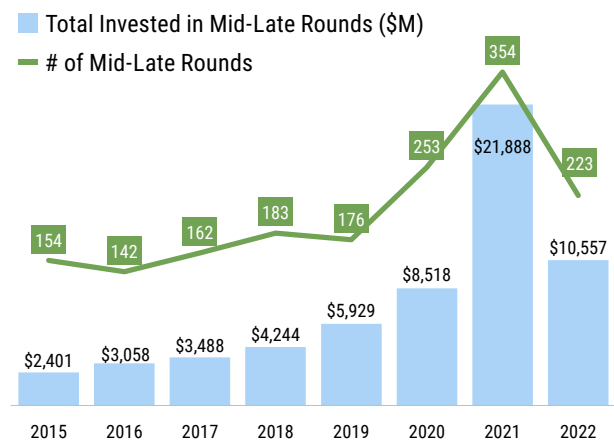
Source: IVC Data and Insights

Early Rounds 2015–2022



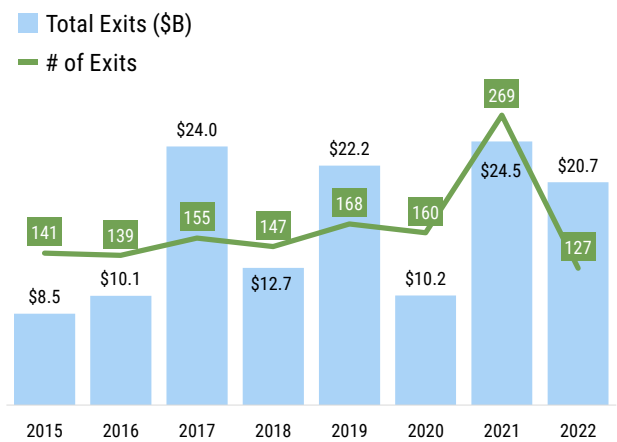
Source: IVC Data and Insights

Mid-Late Rounds 2015–2022



Source: IVC Data and Insights

Exits Per Year 2015–2022



Source: IVC Data and Insights

## Geopolitics, The Abraham Accords, and The Diplomacy of Entrepreneurship

In 2020, after years of ongoing conflict in the Middle East, The Abraham Accords ushered in a new era of normalized relations between Israel and the UAE, Bahrain, Morocco, Kosovo and Sudan.

This breakthrough helped break down some of the silos that exist in the region and open new paths to collaboration and economic activity for all parties involved. While there are undoubtedly still miles to go in terms of greater diplomacy and normalization in the region, so, too is there great opportunity. As the initial fruits of the Abraham Accords ripple across economies, citizens will be able to see potential upside firsthand.

### “ **Chemi Peres, Pitango**

Most investors see the Abraham Accords as essential to Israel's growth. We are no longer an island; we are now a ship that can sail global oceans. You will see Israeli companies that are building foundations to eventually become a Fortune 500 company.

## “ Jared Kushner, Affinity Partners

The initial focus of our Middle East policy was to ease the ongoing conflicts with the ultimate goal of creating a regionally integrated bloc of stability from Haifa to Muscat. We believed that this would enable us to bring the entire region together around shared priorities, such as security, economic opportunity, and countering extremism. Today, there's an upswell of hope and optimism—especially among the younger generation. Countries that formerly spent their resources on bullets and rockets are now building bridges, infrastructure, and technology companies. Trade, investment and people-to-people exchange are flourishing as a result.

Israel has an amazing innovation base but a very small domestic market. For its firms to reach full potential, they need to find and enter new markets. The Abraham Accords gave them new access to the economies of UAE, Bahrain, Morocco, Kosovo and Sudan, and made it less taboo for vendors to offer Israeli goods and services in existing markets. In 2022 alone, Israeli firms conducted \$3.47 billion in economic activity with the Abraham Accords countries, up from \$593 million in 2019.<sup>14</sup> Thousands of new companies have formed, and hundreds of business agreements have been signed. More importantly, people are coming together, getting to know and understand each other, and building mutually beneficially relationships.

The business community is much different from the government. In government, everyone comes to you with a big problem and tells you that it's your responsibility to solve it. In business, you meet entrepreneurs and companies with incredible ambitions and capabilities who can help advance societies. They see the problems, but they also have potential solutions—if you can help provide capital and navigation. There is a big role for the private sector to play in helping governments achieve their objectives.

## SPOTLIGHT ON CYBERSECURITY

Israeli companies in various high-tech verticals have raised mega rounds of capital, and many have more room to grow.

Selling early is no longer the main exit opportunity, and management teams are partnered with both foreign and domestic institutional investors, developing global go-to-market strategies. VC's which entered 2023 with record dry powder are keen to deploy capital into companies across verticals where Israeli founders have built economic moats—such as Cybersecurity, health-tech and fintech, among other emerging sectors.

**Israel has the opportunity to not only enhance but secure our digital worlds.**

Wherever technology goes, Cybersecurity follows. Israeli entrepreneurs and companies are focused on emerging sectors that will help further digitize everything, everywhere. From the workplace to the hospital, and from your doorbell to drones, Cybersecurity is embedded across every industry in the region.

**Cyber consistently attracts the most capital investment in Israel.**

“ **Eli Groner, Koch Disruptive Technologies**

The multi-disciplinary tendencies of Israelis manifest itself in the comfort of blending big data, AI and advanced computing capabilities in ways that will transform healthcare.

As every aspect of our lives becomes digitized, from how we communicate to the way we shop, receive healthcare and do banking, Cybersecurity is now second nature. Just as putting a seatbelt on is known as the difference between life and death, Cybersecurity is the extra layer that saves individuals and organizations.

**There are only a handful of global cyber hubs that are responsible to get us there, and Israel has emerged as one of, if not the, most dominant.**

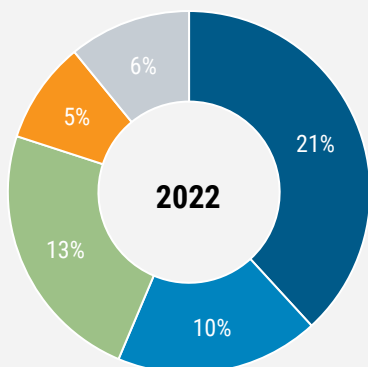
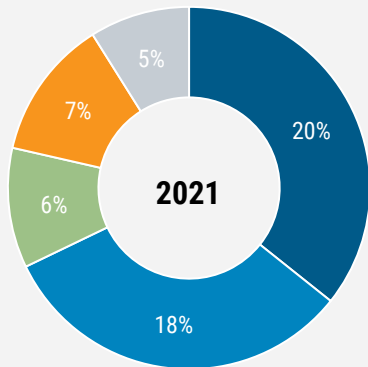
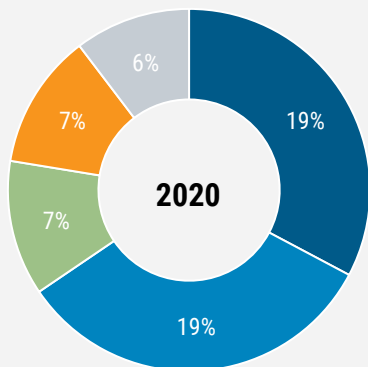
How massive is the cyber market?

- Cyberattacks cost trillions of dollars in damages each year, and global spend on Cybersecurity topped \$150 billion in 2021.<sup>15</sup>
- A single data breach alone costs companies \$4.35 million on average, and tracks even higher for companies in healthcare (\$10 million average/breach) and financial services (\$6 million average/breach).<sup>16</sup>
- Organizations worldwide are expected to spend nearly \$220 billion on their security investments in 2023 and may surpass \$300 billion by 2026.<sup>17</sup>

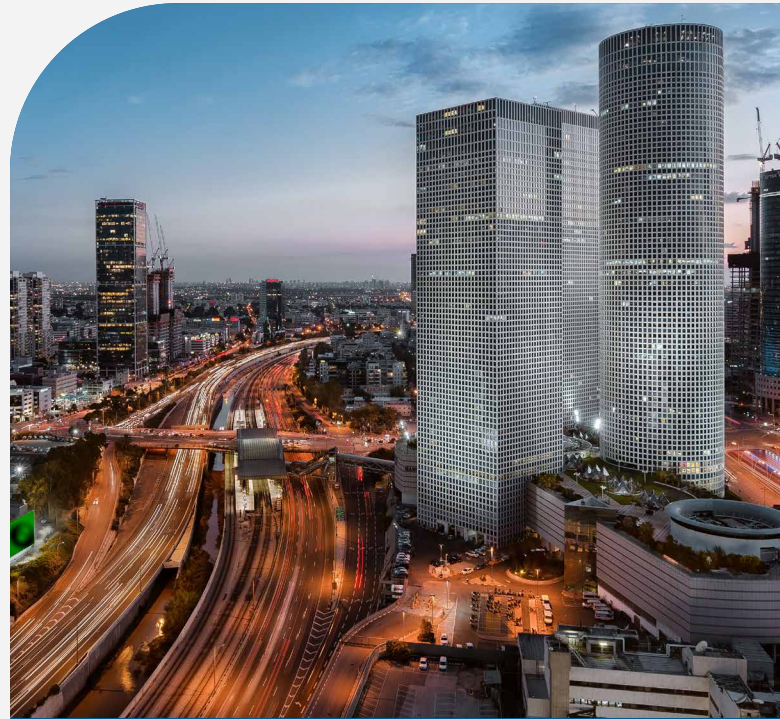
As stakes have risen for companies to enhance their Cybersecurity processes, as remote and hybrid work has increased risks and endpoints, and as malicious ransomware attacks continue to ramp up, many decision makers are turning to Israeli solutions for protection.

Percent of Total Capital Raised in Israel by Year and Category

- Cyber
- FinTech
- IT / DevOps
- Customer Engagement / Retail Tech
- Healthcare (including Medical Devices)



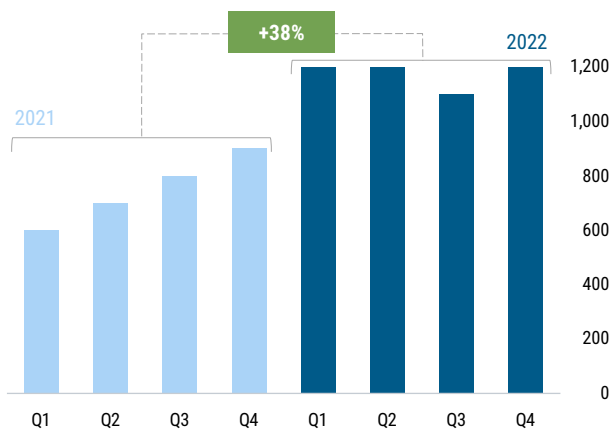
Sources: Viola Group, IVC Data and Insights



**“ Yoav Tzruya, JVP**

Data has been touted as the game changer for enterprises for more than a decade. Still, the frequent advances in data gathering, management, analysis methods and regulatory frameworks, cause organizations to under-utilize and over-spend on their data assets. Israel’s tech companies have been on the forefront of solving for enterprise digitization. From data storage, discovery, classification, management, analytics, as well as cyber solutions around it, Israel is well positioned for the future as an exporter of many new solutions.

### Average Weekly Cyber Attacks per Organization Increased by 38% in 2022 Compared to 2021



Source: Check Point Research

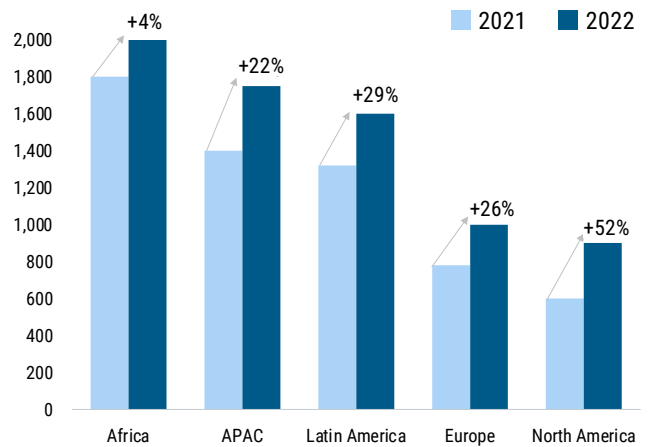
The skills and knowledge developed during many Israelis' time in the military has helped give birth to and expand Israel's cyber hub—one of the top destinations for both cyber investors and cyber customers globally.

**The good news?** A vast majority of data breaches are due to human error and can

### “ Gili Raanan, Cyberstarts

Over the last decade VCs have invested billions into hundreds of Israeli Cybersecurity startups. This has helped build Israel into one of the most dominant cyber hubs. Covid only accelerated both the importance of Cybersecurity as an issue for all companies with remote work and served as an equalizer for Israeli companies selling to global customers.

### Average Weekly Cyber Attacks per Organization by Region Shows Increase Across All Regions in 2022 Compared to 2021



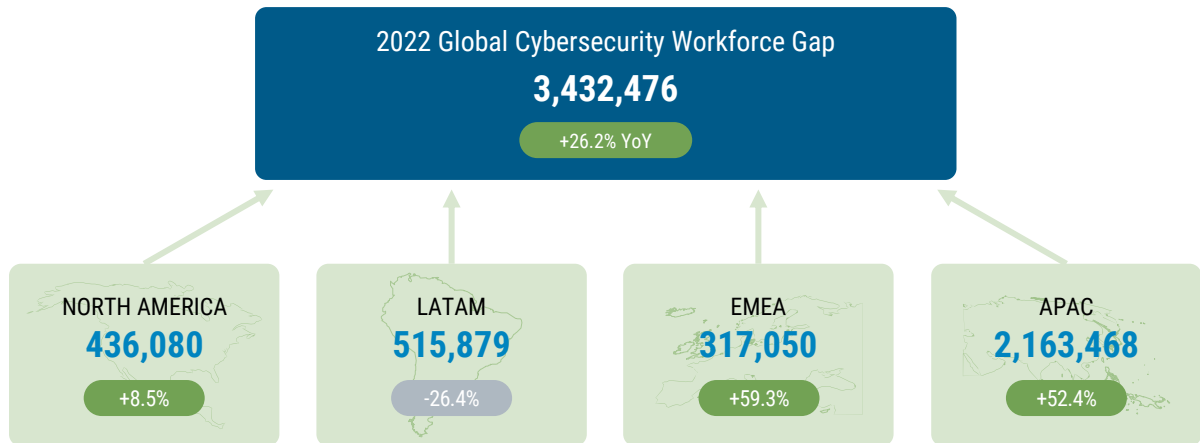
Source: Check Point Research

be prevented with the right cyber tech solutions and processes in place to stave them off.<sup>18</sup> In lieu of additional talent supply, organizations are increasingly turning to cyber tech to increase their security bandwidth. This demand has kept the tech industry humming and is creating significant revenue opportunities for global cyber hubs and companies with the network, cloud and endpoint capabilities that firms need today.

### Israel isn't just a tech center, it's a top global cyber hub.

The Israeli high-tech industry is uniquely filled with a dense population of experts who have received holistic cyber training from both the public and private sectors. Israeli cyber startup founders are nearly all alumni of military cyber defense programs, top academic institutions, mature Cybersecurity firms and/or cloud data storage companies. This network has been cultivated over the last 30+ years and has generated a flywheel effect as it pertains to talent and new entrants in the startup environment.

### Israeli Cybersecurity Solutions: Spanning the Value Chain



Source: ISC Cybersecurity Workforce Study, 2022

#### Some of the largest global organizations rely on mature Israeli cyber tech.

One in six computers around the world is protected by an Israeli anti-virus software, 40% of Cybersecurity funding went to Israeli companies in 2021, and Israel exports more than \$3 billion in Cybersecurity annually.<sup>19</sup> This does not include solutions provided by Israeli companies that were acquired by foreign companies and the Israeli R&D teams within larger foreign corporations.

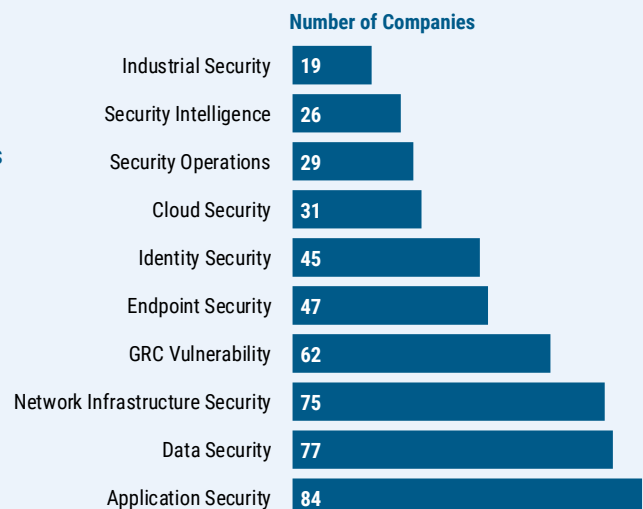
#### Many argue we've entered a golden era of Cybersecurity in Israel—management teams have figured out institutional go-to-market strategies and are pairing them with a historic prowess in this area.

The step change in the Israeli cyber industry comes at a time when security is a top priority for business leaders.

#### Israeli companies have consistently outperformed and are expected to continue growing.

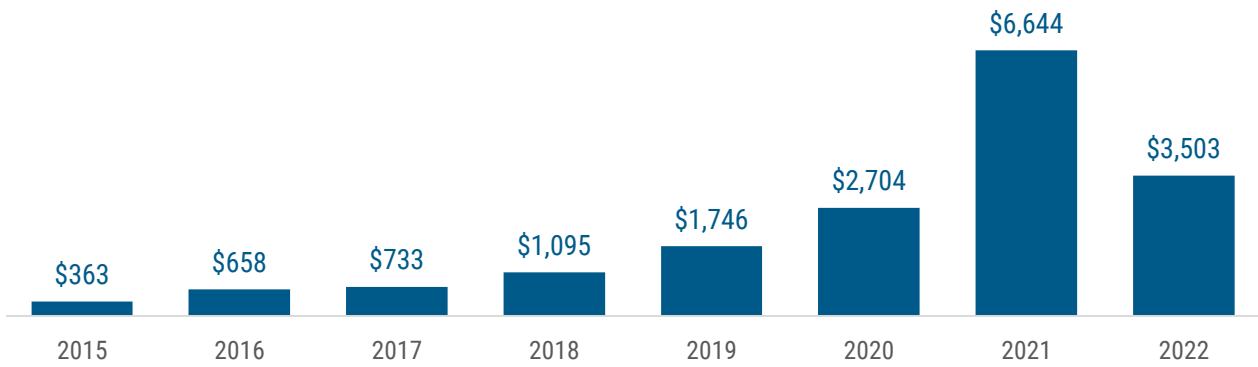
### Israeli Cybersecurity Solutions: Spanning the Value Chain

Within the Cybersecurity sector, most companies (51%) have already released products. Notably, the largest cluster within the sector consists of companies with 11–50 employees (27%), which is different from most other sectors where the largest cluster tends to have 1–10 employees. Latest estimates show the Israeli Cybersecurity network consists of 459 companies and 55 Cybersecurity hubs.



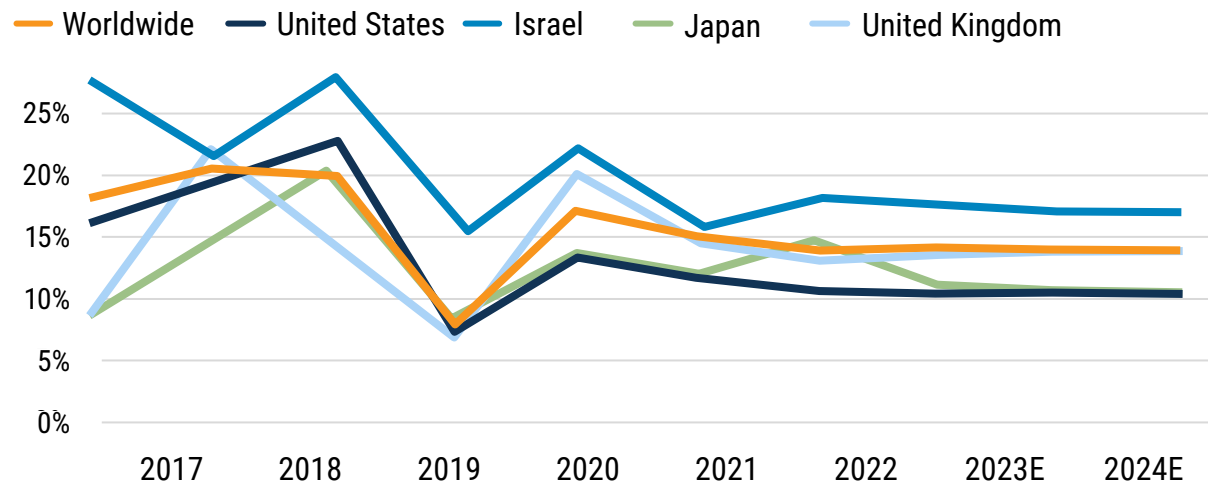
Source: Start-Up Nation Central

### Investments in Cybersecurity Companies in Israel in \$USD Millions



Source: IVC Data and Insights

### Revenue Change in Cybersecurity Market by Country



Source: Global X ETFs

**“ Jeff Horing, Insight Partners**  
 Many of the best Cybersecurity companies in the world are Israeli, and that is not a coincidence.

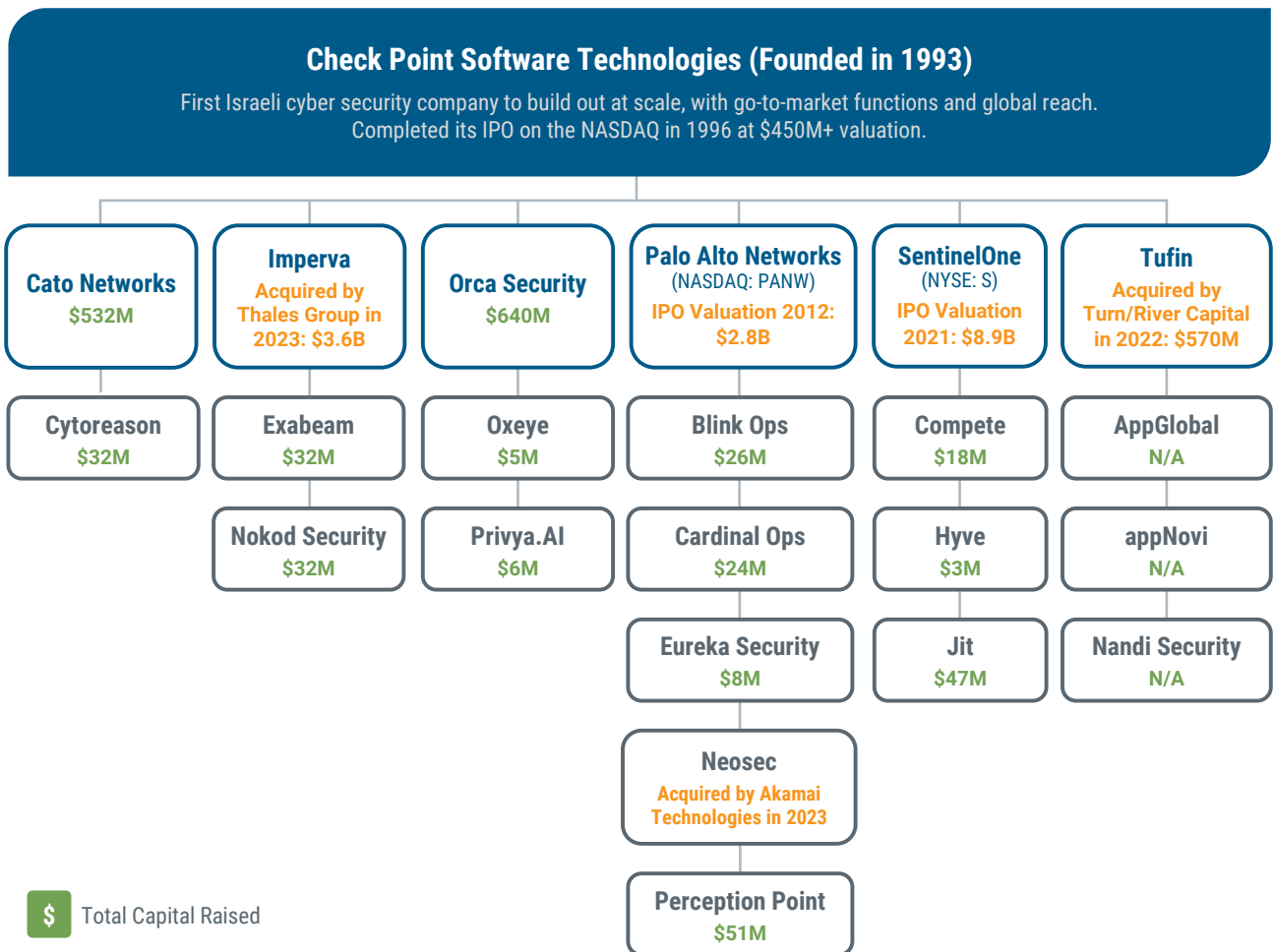




The Cybersecurity network in Israel today has been decades in the making and provides founders with not only a roadmap for success, but layers of seed and growth investors.

Israel was one of the first national defense groups to recognize the importance of Cybersecurity, stemming from national security necessity, dating back to the 20th century. The public sector's educational and financial support has led to the successful launch of hundreds of Israeli cyber companies. Many of these companies serving leading global enterprises today have spun out from original Israeli anchor cyber companies formed decades ago. As an example, the chart below shows the family tree stemming from Check Point, founded in 1993.

“ David Friedman, Liberty Strategic Capital  
 Many best-in-class technologies can be traced back to Israel. It has innovation that far exceeds the scale of the nation.



Source: Pitchbook

Cybersecurity is top of mind for countries and industries worldwide, and governments and business alike are seeking more security and protection.

Cybersecurity is top of mind for countries and industries worldwide, and governments and businesses alike are seeking more security and protection. Geopolitical risk has investors looking at Israel as the central hub to support cyber needs around the world.

### **What differentiates Israel as a cyber hub from other regions including the U.S., the U.K., Russia and others?**

While top cyber solutions and companies exist in various global regions, the Israeli cyber community is uniquely positioned. Firstly, the dense network of human capital, industry knowledge and institutional funding has propelled Israeli security companies to produce the cutting-edge solutions organizations need.<sup>20</sup>

Israel has also remained neutral in the geopolitical sphere, which increased in importance in the wake of Russia's invasion of Ukraine. Data from Microsoft leading up to

the invasion shows that Israel is among the most targeted countries by cyber-attacks."

### **Global Regulation**

Israeli companies can serve many constituents as global regulation around Cybersecurity and consumer privacy ramps up. For example, regulations like GDPR in the E.U. and CCPA in the U.S. require companies that deal with consumer data to increase their safeguards for data privacy. Companies without solutions in place may incur costly fines and potential reputational loss from regulatory action.<sup>21</sup>

The velocity of innovation, density of knowledge and expertise, and geopolitical positioning put Israel in an advantageous position to serve countries and companies' cyber needs around the world.

### **Cybersecurity as a Horizontal**

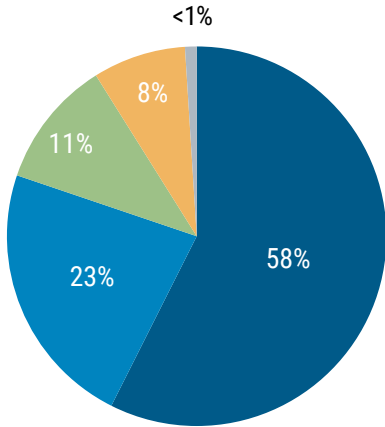
Just as technology has become a horizontal (digital health, mobility, fintech, etc.), one could argue Cybersecurity is also stretching across sectors and industries. Shipping companies need cyber, logistics companies need cyber, healthcare needs cyber, and the list goes on.

Strategic business models incorporate security processes from day one, and as best cyber practices evolve, organizations will have to think creatively and critically about how to secure their digital footprints. Israeli entrepreneurs and startups, across verticals, benefit from an embedded understanding of Cybersecurity that stems from military, industry and academic education.

## **“ Ishay Drori, Liberty Strategic Capital**

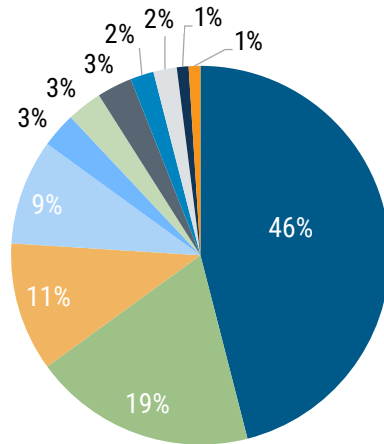
In the U.S., people tend to view the military as a career, but in Israel, it's encouraged to take experience from the IDF and leverage the skills and know-how in the private sector, in order to build world-class technology companies.

Nation State Cyber Attack Actors  
July 2020–June 2021



■ Russia ■ North Korea ■ Iran ■ China  
■ South Korea, Vietnam, and Turkey

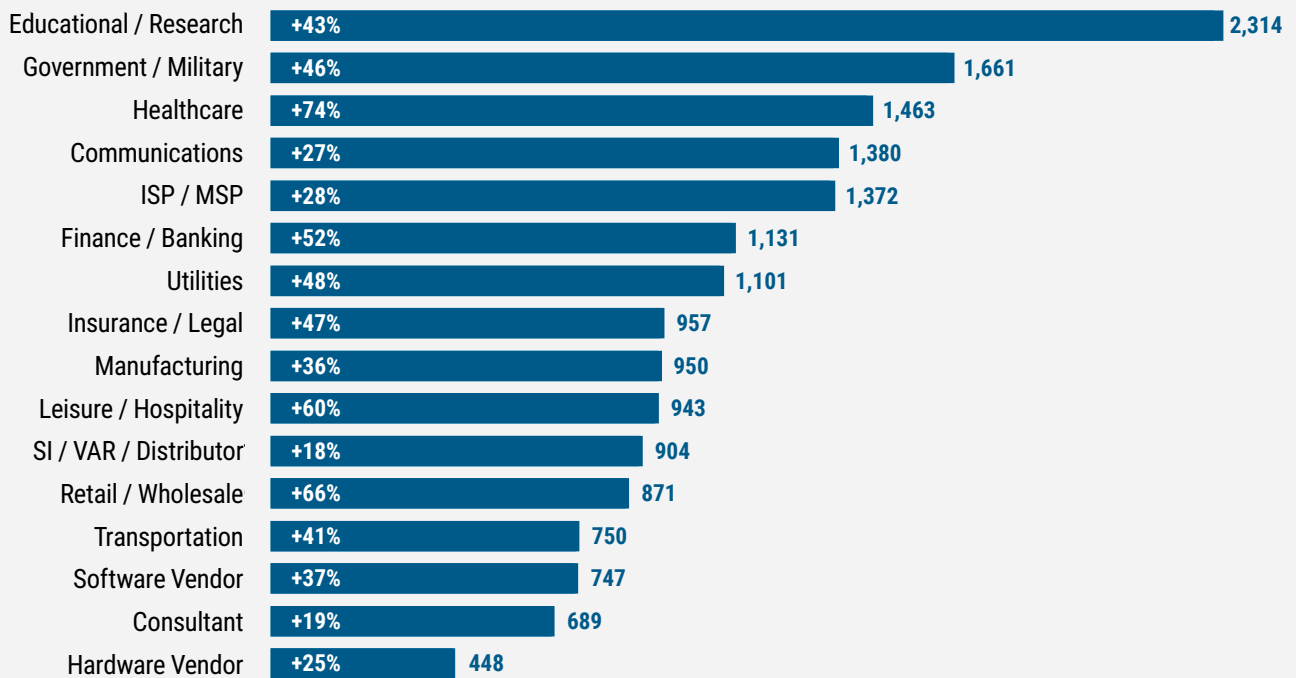
Most Targeted Countries by Cyber Attacks  
July 2020–June 2021



■ United States ■ Ukraine ■ Other ■ United Kingdom  
■ Belgium ■ Japan ■ Germany ■ Israel  
■ Moldova ■ Portugal ■ Saudi Arabia

Source: Microsoft Digital Defense Report

Average Weekly Cyber Attacks per Organization by Sector in 2022: Showing All Sectors Suffer Double Digit Increase Compared to 2021



Source: Check Point Research

## SPOTLIGHT ON SEMICONDUCTORS

Israel's historic strength in semiconductors has spilled into other verticals and facilitated additional developments in AI, IoT and Cybersecurity.

In addition to Mellanox and Mobileye, Israel is home base not only for other semiconductor startups, but for innovation centers of large multinational corporations focused on related breakthroughs. It has had a meaningfully successful focus on semis dating back to the 1970s, when Intel first opened an R&D center there. Since then, others like Apple, Texas Instruments and Tower Semiconductor have built on the ground presence there (for more information on multinationals R&D center please see Spotlight on Multinationals).

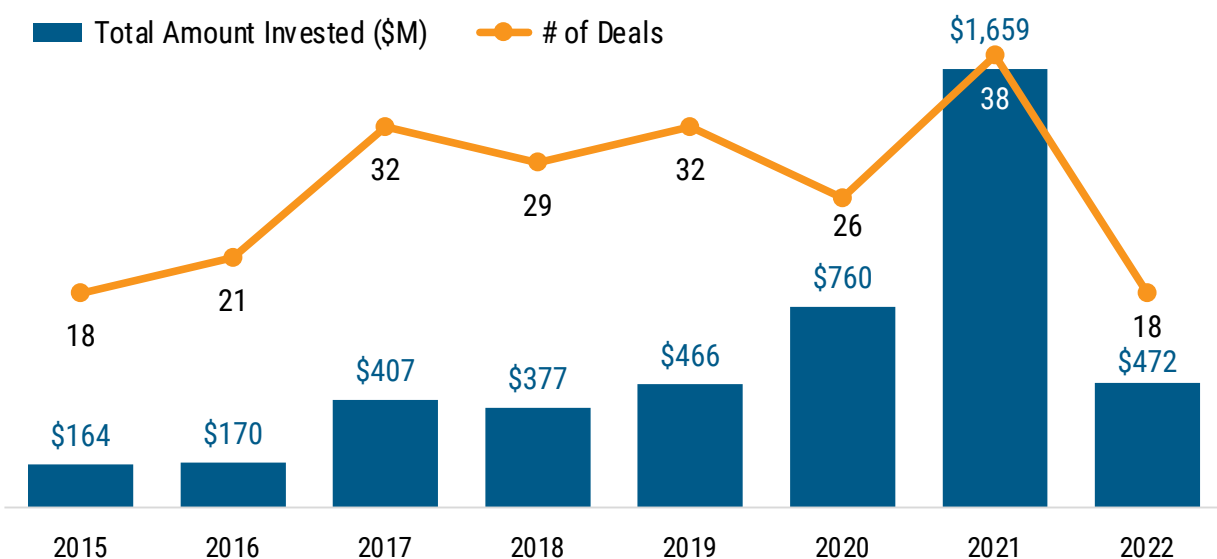
**Today, the semiconductor industry in Israel employs about 20,000 workers and earns about \$5 billion in revenues annually.<sup>22</sup>**

Much of today's success and momentum may be seen in global industry-leading companies that have established meaningful R&D centers such as: Broadcom, Freescale, Marvell, Anobit, Primesense, and Israeli companies including Galileo Technology and M-Systems, Mellanox (today part of NVIDIA) and Mobileye.

Given the critical reliance of the global economy on semiconductors and the shifting geopolitical landscape that may impact competition, Israel is well positioned to serve as a strategic and critical supplier of semiconductors in the years ahead.

The country's rich history, coupled with its strength as a center for R&D for many

Semiconductor Investments in Israel by Total Amount in \$USD Millions and Number of Deals



Source: IVC Data and Insights



“ **Yaron Samid, TechAviv**

Israeli founders built great military tech, semiconductors and Cybersecurity software out of necessity. Today, companies span dozens of B2B and B2C industries, from fintech, AI/ML and smart mobility to biotech, foodtech and climate tech.

multinational companies indicate there are numerous tailwinds that can continue to propel it forward. While semiconductors are a relatively smaller percentage of all new startups founded in Israel (less than 2%), the global reliance on semis means Israel's companies remain a critical part of the ecosystem.<sup>23</sup>

**Israeli companies have served as catalysts for growth, providing local companies with access to increased resources, expertise and market reach.**

International technology giants have recognized the value of the Israeli semiconductor talent and actively pursue acquisitions to enhance their product offerings. There are a few examples of good case studies such as: NVIDIA's acquisition of Mellanox Technologies in 2019 for \$6.9 billion.

**Mellanox**, an Israeli-based company, specialized in high-performance networking and interconnect solutions. The acquisition allowed NVIDIA to bolster its data center capabilities and further advance its position in the AI and high-performance computing sectors.

In February 2022, Intel announced its acquisition of **Tower Semiconductor** for \$5.4 billion. The acquisition accelerates Intel's path to becoming a major provider of foundry services and capacity globally, now offering one of the industry's broadest portfolios of differentiated technology. It also creates a globally diverse end-to-end foundry to help meet growing semiconductor demand and brings more value to customers across the nearly \$100 billion addressable foundry market.

Additionally, in December 2019 Intel acquired **Habana Labs**, an Israel-based developer of programmable deep learning accelerators for the data center for approximately \$2 billion. The combination strengthens Intel's artificial intelligence (AI) portfolio and accelerates its efforts in the nascent, fast-growing AI silicon market, which Intel expects to be greater than \$25 billion by 2024.<sup>24</sup>

In February 2019 KLA-Tencor completed its acquisition of **Orbotech** at an equity value of approximately \$3.4 billion. The

acquisition allowed KLA-Tencor to diversify its revenue base and add \$2.5 billion of addressable market opportunity in the high-growth printed circuit board (“PCB”), flat panel display (“FPD”), packaging, and semiconductor manufacturing areas.<sup>25</sup> In addition to helping the broader portfolio of leading products, services and solutions, as well as increased exposure to technology megatrends, will support KLA-Tencor’s long-term revenue and earnings growth targets.

**A significant subsector of the semiconductor industry is autotech which plays a critical role in the functioning and advancement of modern vehicles.**

As technology continues to evolve, automobiles are becoming more sophisticated and reliant on semiconductor components for various functionalities. These semiconductors, commonly referred to as automotive chips, are responsible not just for self-driving vehicles but also for powering and controlling a wide range of systems in all types of vehicles, including engine management,

safety features, infotainment systems and advanced driver-assistance systems (ADAS).

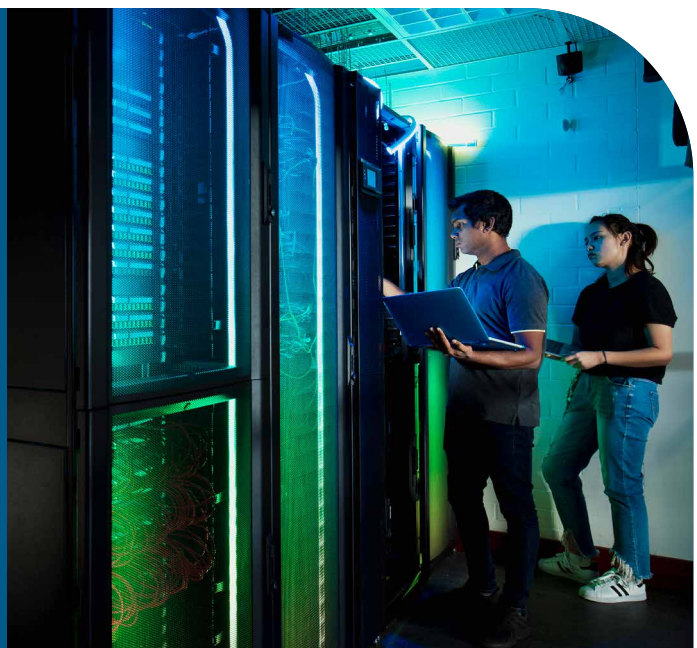
More than 8 billion people need to move on any given day. While many headlines focus solely on autonomous cars or other futuristic concepts, Israel’s more than 500 mobility startups have very diverse agendas.

**McKinsey called Israel a “hotspot for future mobility technologies,” and ranked it third (behind the U.S. and China) in terms of number of autotech companies and disclosed investments.**

This is partially grounded in Israel’s historic semiconductor success and gained momentum with Mobileye’s emergence as a global leader in autonomous driving technologies. In 2017, Intel acquired Mobileye for \$15.3 billion, in a deal that allowed Intel to tap into **Mobileye’s** expertise in computer vision and machine learning, accelerating its entry into the autonomous vehicle market and strengthening its position in the semiconductor industry. Mobileye’s success has helped

“ **Philippe Bouaziz, Sarona Partners and Deel**

Now is the time to invest in Israel—the best investments have always been conducted in times of recession. We have many Israeli early-stage startups that are building business ideas to address the future and where the world will be in 3 to 5 years.



create another ecosystem of skills and a talent pool focused on the adjacent technologies required to build autonomous vehicles.

**In 2017, the Israeli government passed Resolution 2316 to facilitate growth in smart mobility “to position Israel as a global leader in the field.”**

This has helped to yield considerable fruit for autotech and mobility. In addition to hundreds of startups focused on the field, nearly all major vehicle manufacturers globally have offices or on-the-ground research facilities in Israel.

**Currently, there are over 20 global automakers operating local innovation and R&D centers in Israel, among them Volkswagen, Skoda, Seat, Ford, Mercedes and Renault-Nissan.**

The first to do so was General Motors, which in 2008 opened a local R&D subsidiary in Israel.

In May 2023, chip designer Qualcomm announced that it would buy Israel’s **Autotalks**, which makes chips used in technology aimed at preventing vehicle crashes. Qualcomm is estimated to have paid \$350–\$400 million for the Israeli company, which provides automotive-qualified dual-model vehicle-to-everything (V2X) solutions that are designed to reduce collisions and improve mobility.

The acquisition of Autotalks by Qualcomm aligns with the growing demand for enhanced vehicular connectivity and the future of connected cars. The combination of Qualcomm’s wireless communication expertise and Autotalks’ V2X technologies provides a comprehensive solution for the automotive industry. This acquisition enables Qualcomm to strengthen its presence in the automotive sector, capitalize on the emerging market for V2X communication,

“ **Nadav Zafrir, Team8**

We are at the end of the beginning of the digital transformation era. In 2007, critical technologies appeared, such as the smartphone, 3G cellular phone capabilities, text and internet data; the cloud started to emerge; and social networks gained steam. Less than two decades later, digital transformation is now in the process of taking everything humans do and digitizing them.

and solidify its position as a key player in the intelligent transportation systems space.

The Autotalks acquisition signifies a significant milestone in the journey toward safer, more efficient, and connected transportation systems. We can expect more Israeli auto-tech companies to be acquired in the near future as competition ramps up.

“ **Oded Tal, Claridge Israel**

Having been invested in Israel for several decades, we at Claridge Israel have truly witnessed Israel evolve from “Young Nation” to “Startup Nation” to “Scale-Up Nation” and now to its legitimate status as a global tech hub.

## SPOTLIGHT ON DIGITAL HEALTH

Global issues around access to care, rising healthcare costs, and an aging population have created unprecedented opportunities for technology to revolutionize the healthcare sector.

**The convergence of these two fields has established a new industry, digital health, within which Israel has emerged as a global leader.**

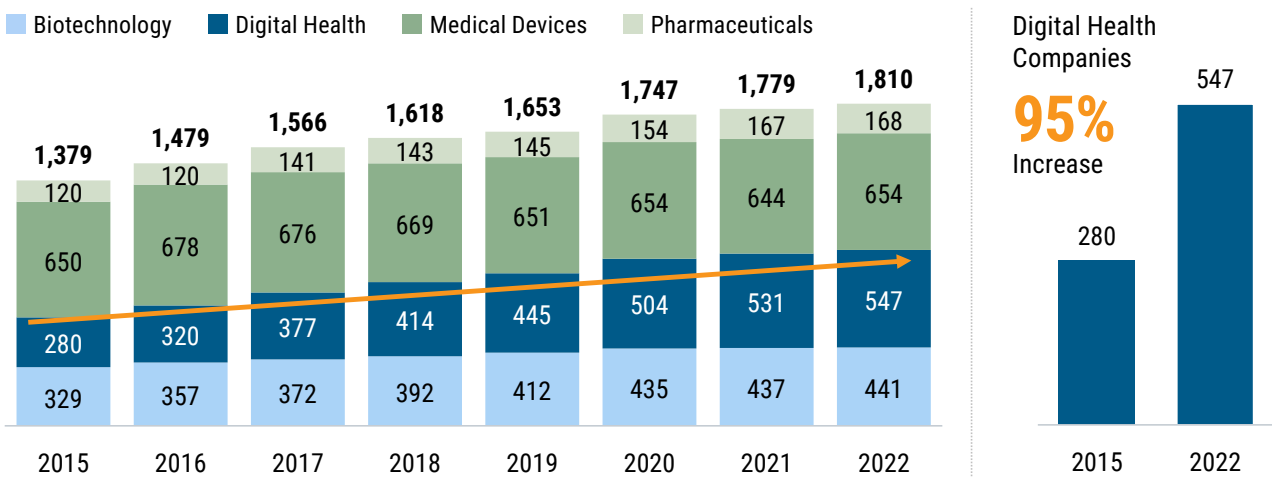
Digital health uses digital technologies to enhance the efficiency of healthcare delivery, making medicine more personalized and precise.<sup>26</sup> Healthcare spending accounts for 11% of global GDP and is only expected to increase, giving digital health companies runway to scale and transform health systems.<sup>27</sup>

**Israel's digital health programs and innovation are designed for export and aim to create an international standard for sharing medical data and building APIs that will allow health organizations to work with data.**<sup>28</sup>

Israel has operated for decades with a centralized and digitized health record system, and its high-tech ecosystem is deeply familiar with digital transformation across sectors.<sup>29</sup> Continuous backing of digital health initiatives from both public government funding and private sector investment/innovation has positioned the country as a top breeding ground to foster growth. In 2018, the Israeli Ministry of Health committed 1 billion NIS to continue improving the digitization of healthcare across various providers and hospitals, and since then a surge of new Israeli companies have entered the digital health space.<sup>30</sup>

**Israel serves as both a case study and sandbox for digital health initiatives and go-to-market strategies.**

### Growth of Israeli HealthTech (Number of Companies)



Source: IVC Data and Insights

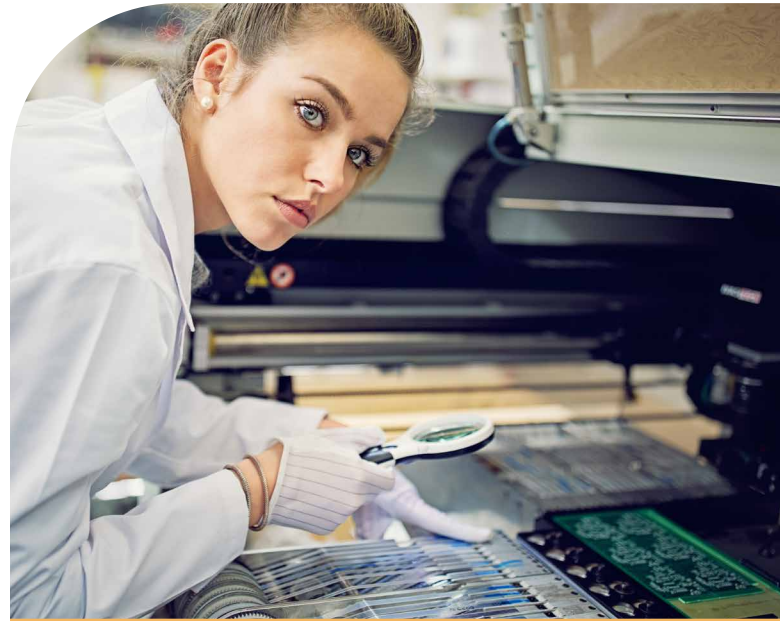


When Israeli citizens are born, they receive an electric identification number, and must join one of four independent, health maintenance organizations (HMOs).<sup>31</sup> These HMOs are incentivized to innovate and work on new solutions, as they're partially privately funded and compete for clients and revenues through unique tech innovation.<sup>32</sup>

Israeli HMOs house 25+ years of digital patient health data, secured by privacy laws and Cybersecurity tech, and have launched incubators and R&D programs to help startups and pharma companies with their research efforts.<sup>33</sup> Government support and focus on Cybersecurity are embedded in the sector, exemplified by the recent NIS 100 million national digital health program, an initiative to help HMOs, hospitals and institutions set up digital infrastructure to anonymize data and share insights with other government agencies and companies.<sup>34</sup>

**A focus on healthcare digitization and security is evident across Israel's main educational institutions, including academia and the military/public sector.**

Life sciences account for 50% of the research conducted at Israel's seven universities, ten research centers, and five schools of medicine, and 1/3 scientists are focused on the field.<sup>35</sup> The Israel Defense Forces health organization, Medical Corps, has committed to healthcare digitization through programs focused on telehealth—aiming to reduce waiting times and increase appointment availability for soldiers' care.<sup>36</sup>



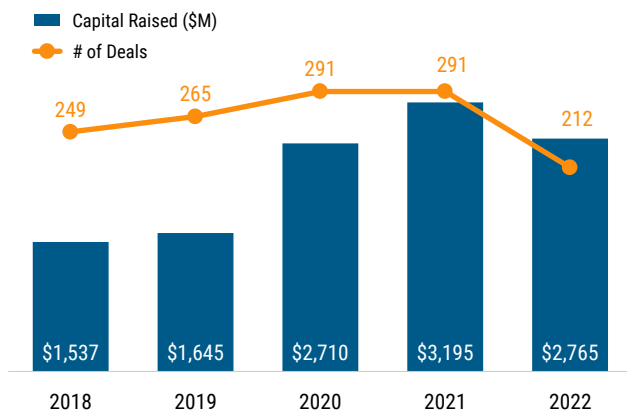
**“ Rakefet Russak-Aminoach, Team8**

Building a startup is one of the toughest challenges I've experienced. You need to be extremely resilient, determined and optimistic to make it happen. Over the years, Israeli entrepreneurs have been much less inclined to rush to an exit. They understand that they can leverage local talent to build and scale large companies with the staying power to become category leaders. There are already a number of Israeli cyber and fintech companies that have achieved this status, and this is just the beginning. I expect to see category leaders across additional verticals in these domains, as well as in Digital Health.

**“ Erez Shachar, Qumra Capital**

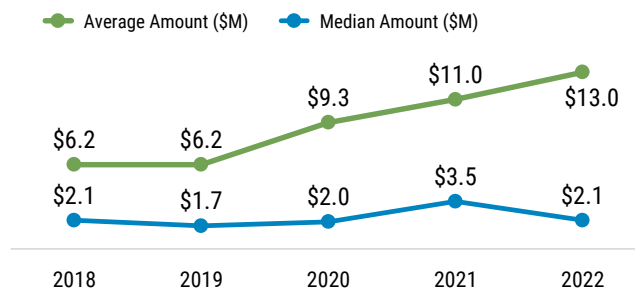
Israel is in a unique position to become a global hub for AI development. The Israeli tech ecosystem has been in the forefront of AI development for years; as such, it has great depth of knowhow in AI-related fields. Just like the development of communications technologies in the early days of the Israeli tech eco-system, with technology transfer from military to civil applications, the same is true today with the AI revolution. The concentration of technological knowhow and talent, combined with a mature and fully developed VC environment, has the potential of turning Israel into one of the most important innovation hubs for AI technologies in all levels, from foundational deep tech to innovative AI-based applications.

**Annual HealthTech Capital Raised in \$USD Millions and Total Number of Deals**



Source: IVC Data and Insights

**Average and Median HealthTech Deal Size in \$USD Millions**



Source: IVC Data and Insights

**While broad fundraising in the high-tech space tapered off in 2022 after record levels seen in 2021, HealthTech has been a defensive area.**

HealthTech has continued to see inflows despite a tougher macro environment. Israeli digital health and biotech companies alone saw over \$2 billion in funding in 2022.<sup>37</sup> Innovations raising money include diagnostics, digital therapeutics, AI-based health software, systems used by care providers to exchange information about patients and clients, and telemedicine platforms. Deal size has also been a key driver of growth, and average deal value has doubled in size from 2018 to 2022—\$6.2 million to \$13 million.<sup>38</sup>

**SPOTLIGHT ON ARTIFICIAL INTELLIGENCE**

In 2023, artificial intelligence (“AI”) broke onto the global scene as headlines attempted to capture the energy surrounding ChatGPT. But Israel has been ahead of the AI curve for decades.

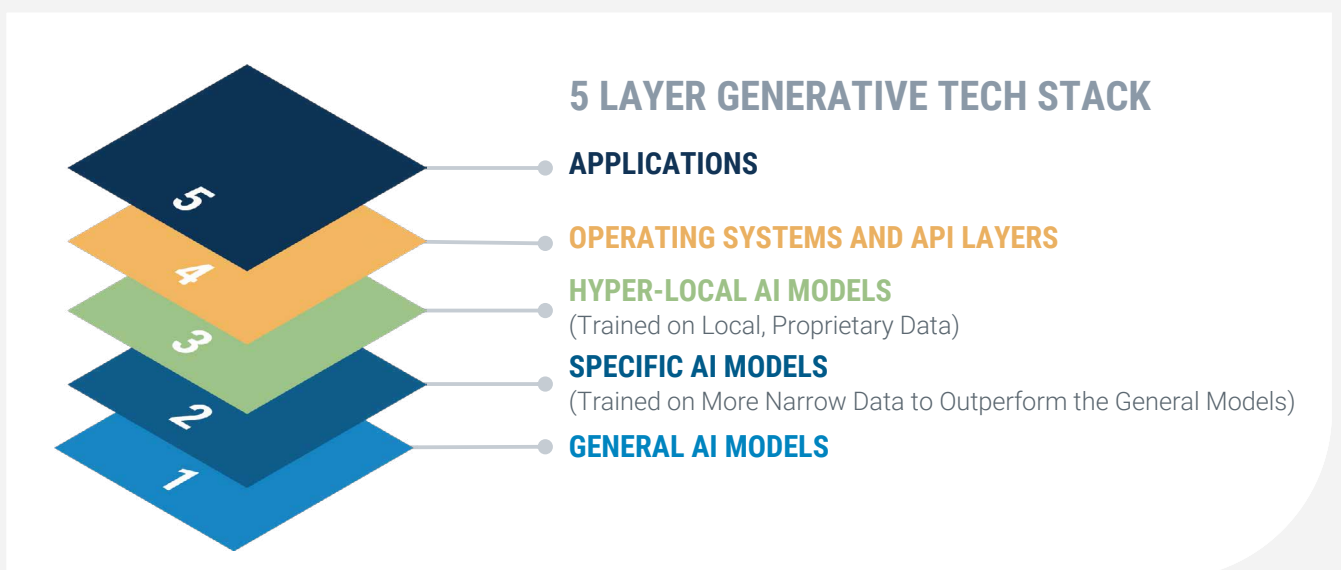
Artificial intelligence, similar to Cybersecurity, is best defined as an enabler of innovation in other verticals, as the process through which computers learn from experience, without being specifically programmed. Regardless of one’s personal views, global spending on AI is expected to surpass \$154 billion in 2023, and companies which ignore its relevance will be left behind.<sup>39</sup>

**Israel as a dominant tech center has dedicated resources across the public and private sector to conduct AI research.**

Many founders and management teams in the private sector, especially those with experience in go-to-market, have been focused on the commercialization of AI technologies.<sup>40</sup> There are now Israeli startups using AI for video, gaming, commerce, health, images and more.

**“ Tal Barnoach, Disruptive AI**  
 Israel’s environment is superior and unique to the rest as it has no choice but to innovate. Innovation will never stop here because it just can’t.

While some startups with an AI angle have sprung up recently, other established Israeli tech companies like Similarweb and Lightricks are implementing AI to enhance their existing product offerings and expand into new areas. Top advocates for embracing AI point to the cyber industry as an informative roadmap to replicate for AI, through dedicated funds, innovation hubs and international collaborations.<sup>41</sup>



Source: NFX

Rather than seeking ways to displace human capital, Israeli companies are developing the methods through which AI can accelerate growth and raise productivity, and are interested in the next generation of AI application: generative AI.<sup>42</sup>

While research on AI and natural language processing (NLP) has been going on behind the scenes for decades, the Israeli government took its first step in publishing public support of AI research in 2022, through the announcement of a dedicated national AI program. The government plans to promote AI in academia, R&D, and industry, with an emphasis on 'responsible innovation.'<sup>43</sup>

One could think of Cybersecurity and AI as the bookends of high-tech for the next decade—fortifying the industry to help it survive choppy macro conditions, while also allowing for opportunistic discovery to take place. The full potential of AI's value has yet uncovered, but the dense network of Israeli founders, investors and experienced entrepreneurs are committed to figuring it out. Like cyber, the Israeli ecosystem offers what is likely a top-two hub for artificial intelligence globally, along with Silicon Valley.

**“ Avi Zeevi, Viola Group**

Israeli entrepreneurs are very agile in leveraging their experience and knowledge in various technologies gained in more traditional sectors and adopting them to emerging market needs. This is very evident in the fintech sector where technologies from the Cybersecurity and BI sectors are used in fraud prevention or knowledge from online marketing.

**“ Dani Tsiddon, Viola FinTech**

Israel is well recognized as a global leader in fintech. While financial markets are currently volatile, we predict that the emergence of a new generation of AI has a significant impact on the financial industry and will drive a new wave of innovation. That, together with its implication for Rebundling, will generate a wave of M&A and Israel, being a leader in both AI and fintech, can maintain its leadership position.

## SPOTLIGHT ON FINTECH

With ubiquitous digitization, technology will fundamentally change how organizations operate and individuals consume.

In the years to come, every aspect of our lives will be impacted by this process. One significant sector that has and will continue to face significant disruption from digital transformation is the financial services sector.

Financial Technology (Fintech) is a massive wide-reaching industry, with a number of sub-industries, including payments, insurtech, exchanges, consumer finance, lending, trading technology and more. There are Israeli fintech companies focused on all of these segments.

**Israeli fintech differs from other ecosystems in that its technological barriers and infrastructure built from day 1 allows it to be more customized, compliant, and secured, from the ground up.**<sup>44</sup>

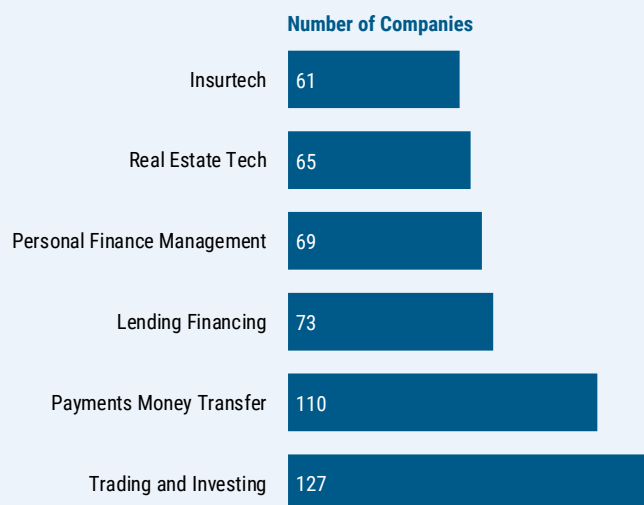
Fintech emerged as a response to the limitations and inefficiencies of the legacy financial system. Entrepreneurs sought to develop innovative solutions that could increase transaction speed, reduce barriers to entry and strengthen financial security.

These processes are being enabled by technology and have the potential to transform the way we manage our money and interact with legacy financial institutions. At the forefront of this financial revolution is Israel, which has recently emerged as a global hub for fintech startups.

**Israeli fintech startups have made significant contributions and achieved global recognition.**

### Israeli Fintech Solutions: Spanning the Value Chain (1Q 2023)

Within the Fintech sector, companies that have released products make up the majority (78%), and small companies with 1–10 employees make up a significant portion (41%). Latest estimates show the Israeli Fintech network consists of 410 companies and 49 fintech hubs. Interestingly, the size of the subsectors is not strongly associated with the level of investment they receive. Although the Trading and Investing subsector has the highest number of companies, it ranks only 5th in terms of historical levels of investment. On the other hand, the payment and money transfer subsector dominates the investment landscape.

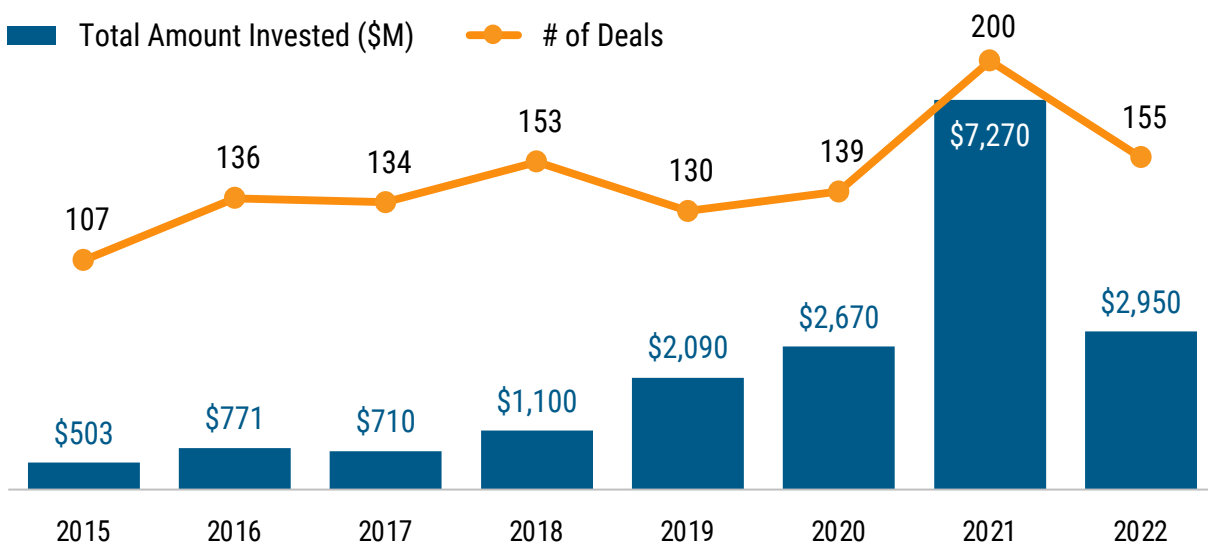


Source: Start-Up Nation Central

The success stories below highlight the diverse range of fintech startups in Israel and their ability to innovate in various sectors.

- **Payoneer** (NASDAQ: PAYO) has revolutionized cross-border payments, enabling individuals and businesses to send and receive funds worldwide efficiently.
- **Lemonade** (NYSE: LMND) has disrupted the insurance industry with its AI-driven platform that simplifies the insurance process for consumers. Lemonade’s full stack insurance carriers in the U.S. and the E.U. replace brokers and bureaucracy with bots and machine learning, aiming for zero paperwork and instant everything.
- **Tipalti’s** platform enables mid-market global companies to manage everything from PO Management, Invoice Management, Expense Management, Card Payments, Traditional Payments and FX services in one platform enabling companies to scale quickly by making payables strategic with operational, compliance, and financial controls.
- **Rapyd** has removed the back-end complexities of cross-border commerce while providing local payment expertise. Changing the game for global ecommerce companies, technology firms, marketplaces, and financial institutions, Rapyd offers them fintech-as-a-service platforms to seamlessly embed localized fintech and payment capabilities into their applications.
- **Melio** has upended the accounts payable and receivable industry with its digital dashboard providing a single integrated tool that allows small businesses to transfer and receive payments quickly and easily— offering oversight and control over cash flow, eliminating late payment costs, and saving time.
- **eToro**, a social trading platform, has democratized investment by allowing users to copy the trades of successful investors.

### Investments in Israeli Fintech Companies in \$USD Millions and Number of Deals



Source: IVC Data and Insights



“ **Dovi Frances, Group 11**

At about 5% of all fintech unicorns globally, Israel is a critical piece in the global puzzle of venture fintech investing, pushing over 45X its population weight.

**Part of the reason that Israel has produced a significant number of fintech startups is the favorable regulatory environment that encourages fintech innovation while ensuring consumer protection and financial stability.**

The government, through the Israel Innovation Authority (IIA), offers funding, grants, and support programs to fintech startups. Regulatory sandboxes provide a controlled space for startups to test their innovations under supervision. Additionally, Israel’s robust data protection regulations, such as the Protection of Privacy Law, promote trust and security in the fintech sector.

Many Israeli fintech companies have successfully raised capital through public and private markets. While 2022 brought macroeconomic and geopolitical headwinds, which hampered investment activity for fintech like other tech sectors, Israeli fintech companies still raised over \$2.72 billion across 123 deals.

Regardless of challenging forward-looking economic conditions, there are observable tailwinds for the fintech sector. Many traditional industries are starting to adopt “Vertical Fintech” integration into areas such as Healthcare, Real Estate, Auto and more, as industries seek ways to grow new revenue through integrated financial products.

**The future of Israeli fintech looks promising.**

The ecosystem is well-positioned to capitalize on emerging trends and technologies. Artificial intelligence and machine learning are expected to drive further innovation in areas like automated financial advice and risk assessment. Open banking and API economy will foster collaboration between traditional financial institutions and fintech startups. Furthermore, regulatory technology (regtech) and sustainable fintech are anticipated to gain traction. With its strong foundations and forward-looking approach, Israel is poised to maintain its position as a global fintech hub.

## SPOTLIGHT ON CONSUMER INTERNET, ADTECH AND GAMING

Israeli entrepreneurs have been at the forefront of consumer internet innovation since the dawn of the internet in the 1990s, developing technologies and products that shaped the way consumers across the globe interact with the web today.

The acquisition of **Mirabilis**, creator of the ICQ instant messenger by America Online (AOL) for \$407 million in 1998 ushered in a new era for Israeli technologists by setting a new bar for potential exits. Though the ecosystem suffered through the dot-com bubble that ensued and the financial crisis in 2008, Israeli entrepreneurs continued to innovate in the internet space, driven by new opportunities created by the mobile revolution that came with the smartphone.

Israeli consumer internet innovation was once again brought into the global spotlight a decade ago when two prominent Israeli companies completed monumental exits: **Waze**, a crowdsourced-based navigation app which was acquired by Google for a record-breaking \$1 billion in June 2013, and **Wix**, a website development platform which went public on the NASDAQ at a \$750 million valuation in

November 2013, the largest-ever IPO for an Israeli company at that time. In recent years, we've seen market leaders like **Fiverr**, an online marketplace for freelancers, and **MyHeritage**, an online genealogy platform, making headlines with exits at scale.

**Israeli startups now touch all internet verticals, from online marketplaces and travel to education and social media, and account for nearly 15% of total annual capital raised by Israeli startups.**

They are also at the forefront of adjacent verticals, including AdTech, which goes hand in hand with consumer internet. As digital advertising continues to evolve, agencies, brands and publishers often turn to Israeli tech as they seek tools to target and deliver innovative campaigns and measure engagement.

The opportunity set for Israel's AdTech sector grew as the industry shifted to be more focused on data and algorithms, and early successes like Perion, which completed its IPO on the NASDAQ in 2006, attracted entrepreneurs to dive into the space. Today, Israeli AdTech firms offer solutions across the board, with companies like **Taboola** and **Outbrain** offering content discovery and native advertising solutions and mobile marketing tools offered by market leaders **AppsFlyer** and **ironSource** (which merged with Unity Software in November 2022). These technologies ultimately affect how consumers interact with

“ **Adam Fisher, Bessemer Venture Partners**

All industries are driven by trends in digitization and the use of technology to enhance or transform their business model. It's a reality that's been decades in the making but is here now.



all things digital, whether they be on desktops or smartphones, and their importance to the overall tech ecosystem cannot be understated.

**It is estimated that nearly 40% of today's Israeli startups are consumer-facing and more than 20% of Israel's unicorns are B2C companies.**<sup>45</sup>

The gaming sector within this B2C bucket has been an undeniable leader for over a decade, and the contributions of Israeli tech to the global gaming industry span game development, publishing, analytics and more. There are nearly 200 gaming companies in Israel that employ ~14,000 people, compared to only 4,000 employees in 2017.

The Israeli gaming industry reached over \$8 billion in revenue in 2021, an eightfold increase over five years.<sup>46</sup> The Israeli gaming industry has roots from the late 1990s online casino segment, with Israeli-led companies like **888 Holdings** and **Playtech** pioneering online gambling technologies in the dot com era.

Over time, Israel became a powerhouse in non-betting video gaming segments as well and some of the world's most popular mobile games were developed by Israeli studios, including Coin Master, the third top grossing game in the U.S. in 2022, which was developed by **Moon Active**, Slotomania, a top-10 casino game developed by **Playtika**, and RAID: Shadow Legends, a mid-core mobile game developed by **Plarium**, has grossed well over \$1 billion in consumer spend since it launched in 2019.

Successful gaming studios also act as incubators, with former employees from the likes of Playtika, Plarium and Moon Active going on to develop their own games.

“ **Rotem Eldar, 10D Venture Capital**  
 Israeli companies are increasingly shifting their focus from developing specific components to building end-to-end solutions that address the end customer. This shift has led to the emergence of a growing number of billion-dollar companies in Israel.

Examples include: **SuperPlay, Candivore, Papaya Gaming** and many others that have already reached meaningful global success.

The exponential growth of the sector has been supported by game training programs, which serve as incubators for independent game developers. There are 12 such programs in the country, six of which are run by universities or colleges.

Companies such as **Overwolf**, who provide tools for PC and Console game developers to create game modifications, have proven that Israeli innovation is relevant for hardcore PC/Console game genres as well, and not just in the Mobile category. The sector is expected to continue flourishing and thriving as entrepreneurs, with the training and support from established gaming hubs and studios, create their own games in what has proven to be a successful environment for innovation.

## SPOTLIGHT ON MULTINATIONAL R&D CENTERS

Multinational R&D centers play a crucial role in driving innovation, fostering collaboration between global companies and leveraging Israel's technological expertise.

These centers serve as a bridge between Israeli startups, academia and multinational corporations, facilitating knowledge transfer, talent acquisition and technological advancements. They contribute to the growth of Israel's economy, create high-skilled jobs and promote the development of cutting-edge technologies.

Additionally, Multinational R&D centers in Israel actively collaborate with local startups and academic institutions. These collaborations provide access to innovative technologies and talent, fostering a mutually beneficial relationship. They also collaborate with leading Israeli universities, such as the Technion-Israel Institute of Technology and the Hebrew University of Jerusalem, through research projects, talent recruitment and knowledge exchange programs.

“ **Dan Amiram, Tel Aviv University**

The triple helix for business success in the Israeli technology ecosystem is academia, government and the business community.

**The Israeli government provides various support mechanisms and incentives to encourage multinational corporations to establish R&D centers in the country.**

These include grants, tax benefits, funding for joint research projects and assistance in navigating regulatory processes. The government's proactive approach toward fostering innovation and technology has contributed significantly to Israel's attractiveness as a destination for multinational R&D centers.

Currently there are over 530 multinationals from 35 countries innovating in Israel such as Amazon, Apple, Cisco, Dell, GM, Google, IBM, JPMorgan Chase, Samsung, TD Bank and many more.<sup>47</sup>

Historically one of the first tech Multinationals to open an R&D Center in Israel was Intel in 1974. Today, Intel Israel is the company's largest operation outside the U.S. Intel's most strategic processors are developed in Israel, and Israeli plants are responsible for over a billion chips.

**Microsoft** opened its first R&D center in Israel in 1989 and today Israel has the highest number of Microsoft workers per capita, and the Israeli center is the company's first R&D center outside of the U.S. **Microsoft ATL** (advanced technology labs), located in Israel, generate innovative ideas and develop breakthrough technologies, from signal processing to new products that push the envelope of Microsoft's products and services forward. Some of Microsoft core technologies

## “ Michael Eisenberg, Aleph

When considering the factors that led to the next phase of the Israeli tech ecosystem, the number one driver was the visionaries who created large companies like Wix. These companies reached valuations that became a motivating factor for entrepreneurs and let them believe that they too could build large companies in Israel.

The second driver is how critical certain technology sectors are in Israel, most notably Cybersecurity. Developments in artificial intelligence, furthermore, are cutting across professional services and generating cross-sector interdisciplinary gains.

The final driver has been globalization. The use of the internet to drive online sales and marketing campaigns, for example, has massively expanded the TAM and cultural compatibility for Israeli startups.

such as Kinect, Gateway VPN Technology and Security Essentials Anti-Virus were developed in Israel.

In 2016, **Motorola Solutions** launched its R&D center in Israel which fosters collaboration and cross-pollination of ideas, driving breakthroughs in areas such as 5G, artificial intelligence, Internet of Things (IoT), and Cybersecurity. By nurturing a culture of experimentation and risk-taking, the center serves as a catalyst for transformative ideas and plays a vital role in shaping the future of Motorola's products and services.

**Multinationals have been known to acquire Israeli startups and transform them fairly quickly into an Israeli R&D center for the global company.**

This is how Apple, Facebook and HP started their R&D centers in Israel and have since grown into large R&D centers contributing immensely to the company's tech innovation. Multinational R&D centers in Israel have become an integral part of the country's innovation ecosystem. They bring together the best of Israeli technological expertise and global corporate resources, driving innovation forward.

## SPOTLIGHT ON EMERGING AND NEXT-GEN SECTORS

The Israeli ecosystem began with creating technologies, grew to focus on product expertise, expanded its marketing to the target business or consumer and is now operating and growing global businesses.

Increasingly, scalable businesses are starting in many emerging sectors—ones that will be household names within the decade.

The advent of the internet and the increasing digitization of every sector and industry has not only given rise to Cybersecurity as a critically important solution, but has also prompted an evolution of more traditional sectors.

**Human capital management, agtech and climate tech are all growing pockets of strength for Israeli entrepreneurs.**

“ **Yoav Koren, Team8**

New realities in the digital era are constantly emerging. To maximize our success as company builders, we’re always thinking about the biggest pain points and opportunities, and how innovation should be steered to accommodate the needs of customers. We aim to solve problems before they become too pervasive.

But to date, the wave of innovation and digitization that swept across mobile and consumer industries post-2007 has been unevenly deployed.

Currently other industries, such as construction and automotive, are still in early stages of digitization and adoption of Cybersecurity. They have the opportunity to be massively disrupted and may witness upsides in the coming decades, similar to what social media, retail and streaming platforms experienced during the last decade.

Many of these solutions fall into an ESG bucket—and while some investors are getting pushback on these types of strategies—what is clear is that sustainability, and people’s ability to secure clean water healthier or more organic agricultural solutions, or solar energy is in more demand than ever.

**As in the past, Israel will be at the forefront of delivering winners to this space.**

### **Human Capital Management (HCM)**

The Covid pandemic changed the workplace forever, and HCM software consequently became an undeniable necessity for global enterprises. The Israeli HCM space has witnessed notable growth, with investments reaching \$12.5 billion in 2021 and accelerating to \$7.5 billion in the first half of 2022.<sup>48</sup>

“ Alex Crisses, General Atlantic

We are energized by the innovative climate and sustainability solutions emerging from Israel. Management teams are increasingly committed to building bigger global enterprises, enhancing the innovation flywheel and strengthening the entire Israeli ecosystem.

Key players such as **Deel**, **Papaya Global**, and **HiBob** specialize in providing comprehensive HR solutions that help businesses manage their global workforce and navigate complex employment regulations in various countries.

- Deel offers a platform that simplifies international payroll, benefits, and compliance, enabling companies to hire and pay remote workers seamlessly.
- Papaya Global is a SaaS fintech company providing global payroll and payments technology to global enterprises.
- HiBob offers a cloud-based HR platform that streamlines employee management, onboarding, benefits and engagement.

These Israeli companies, and others like them, have leveraged their technological expertise to create innovative software solutions that enable companies to expand their operations globally and manage their distributed workforce efficiently. As remote work and international employment become increasingly common, the Israeli HCM software space is poised for continued growth and global impact.

### AgTech

For a country that has grown up with water scarcity as yet another problem requiring a solution, it is perhaps not surprising that it is a growing provider of products for customers looking for agriculture or food adjacent products.

In a country scarce of natural resources Israel has always been at the forefront of AgTech and Climate-tech going back to drip irrigation. In the 1950s, Israeli engineer Simcha Blass noticed that trees growing near a leaky water pipe were thriving despite the arid conditions. He realized

“ Yoram Tietz, General Atlantic

The ESG possibilities are huge. By leveraging Israel's developments in Foodtech and AgTech, we will have: more food, more productivity and less pollution not just in Israel but in the world.

## “ Erel Margalit, JVP

The Israeli and international high-tech industries are coming up with new intersections, such as:

- Fintech and Climate, for the trading and offsetting of CO<sub>2</sub> for companies, countries and individuals.
- Insuretech and Climate will monetize AI solutions and use new models to predict weather changes and their effects on the different elements of insurance, such as homes and car accidents.
- Foodtech, AgTech and Climate because reinventing food and changing agriculture will have a bigger effect on Climate than most initiatives.
- Cyber and Climate, because in addition to protecting the grid, water sources, buildings and network, you can monitor and regulate the level of energy and air in these facilities, with a cyber-like holistic approach.

that by perforating a plastic pipe, water could be delivered directly to the roots of plants, reducing waste and increasing crop yields.

Today, drip irrigation is used in many parts of the world and has helped to increase food production while conserving water resources. Today, the Israeli AgTech ecosystem fosters more than 200 firms dedicated to the space.<sup>49</sup>

Perhaps the best current example of this is around water technology. Despite being a highly arid country, Israeli irrigation companies now export more than \$3 billion in products annually—with micro irrigation systems anticipating an 18% growth through 2026.<sup>50</sup>

They have solved their own hydration problem domestically, and are now commercializing expertise to go global and help other countries. Irrigation is a leading example of the type of AgTech sitting at the nexus of sustainability and investment that will define the coming decade.

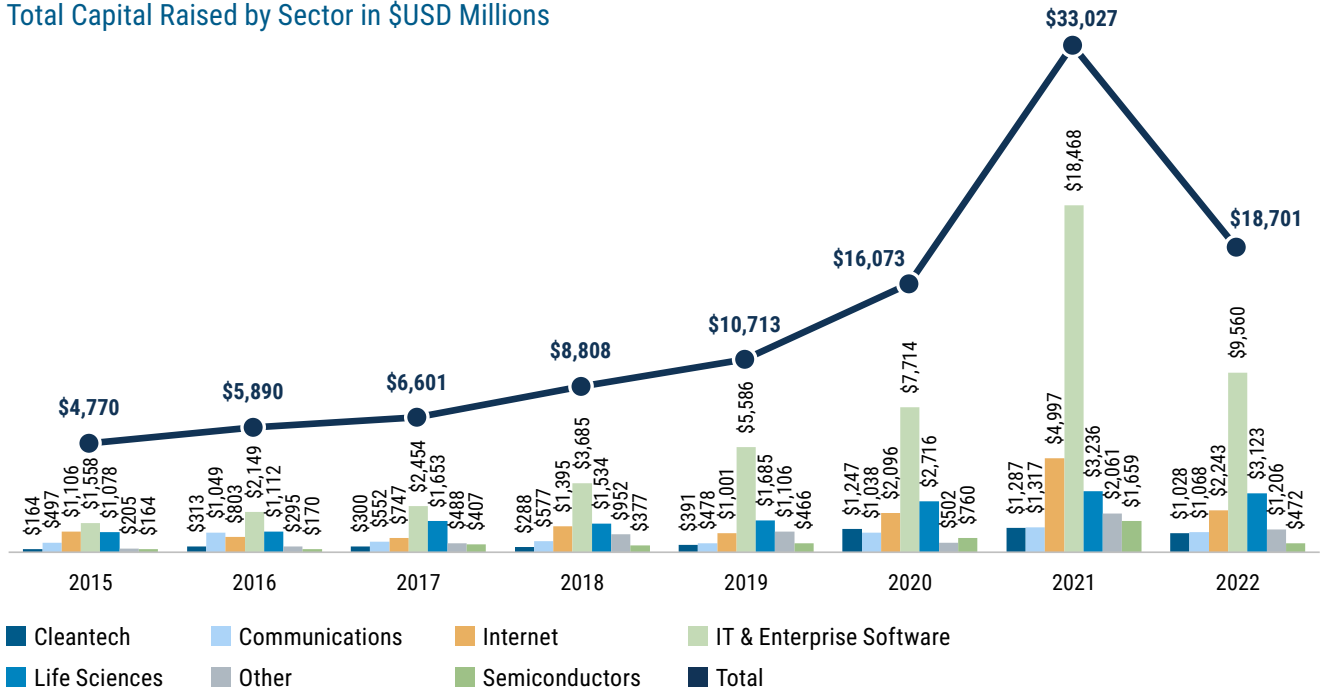
### Climate Tech

One of the most consequential challenges to humanity is solving for climate change, and Israeli entrepreneurs are at the forefront of working toward these solutions.

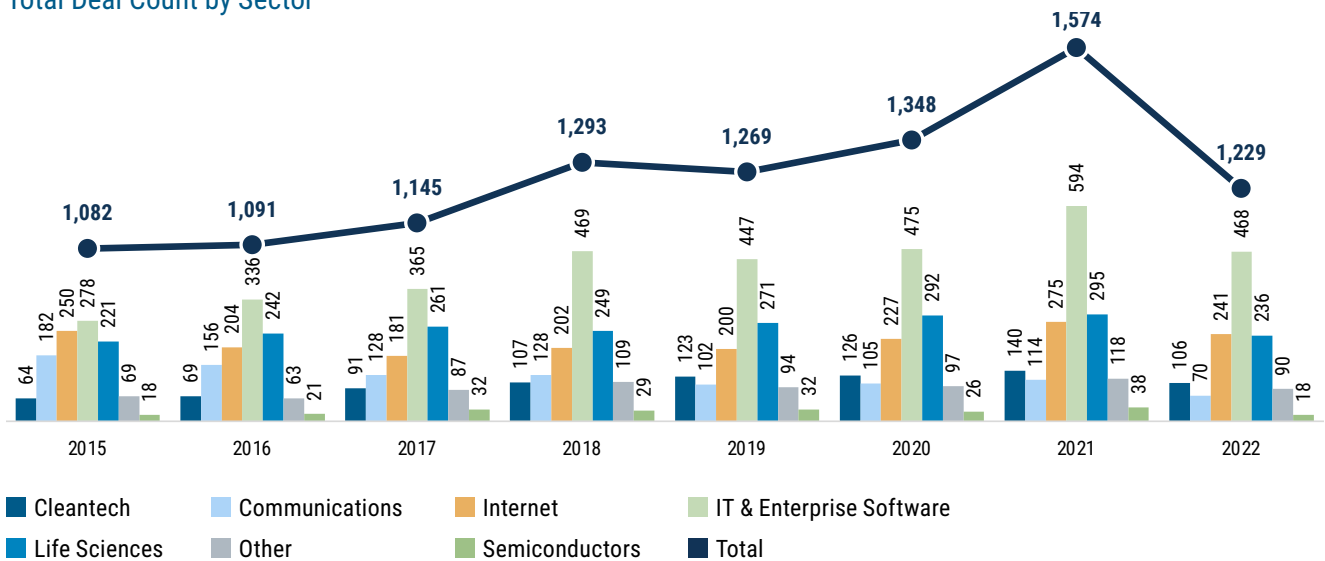
To date, Israel has already witnessed more than 760 firms launch to offer climate tech solutions. Their solutions are diverse, as some are focused on clean energy, others on water infrastructure and yet others green construction and building.

Climate tech—like many other competencies Israeli entrepreneurs own and subsequently export—is being redefined. It is becoming a horizontal—much like cyber and AI, with solutions fit for many industries, not one silo.

Total Capital Raised by Sector in \$USD Millions



Total Deal Count by Sector



Source: IVC Data and Insights

Many expect climate tech to grow from its current focus on renewable energy to healthcare and climate, food and AgTech and climate, to smart cities and climate. The possibilities are growing and with many countries' material

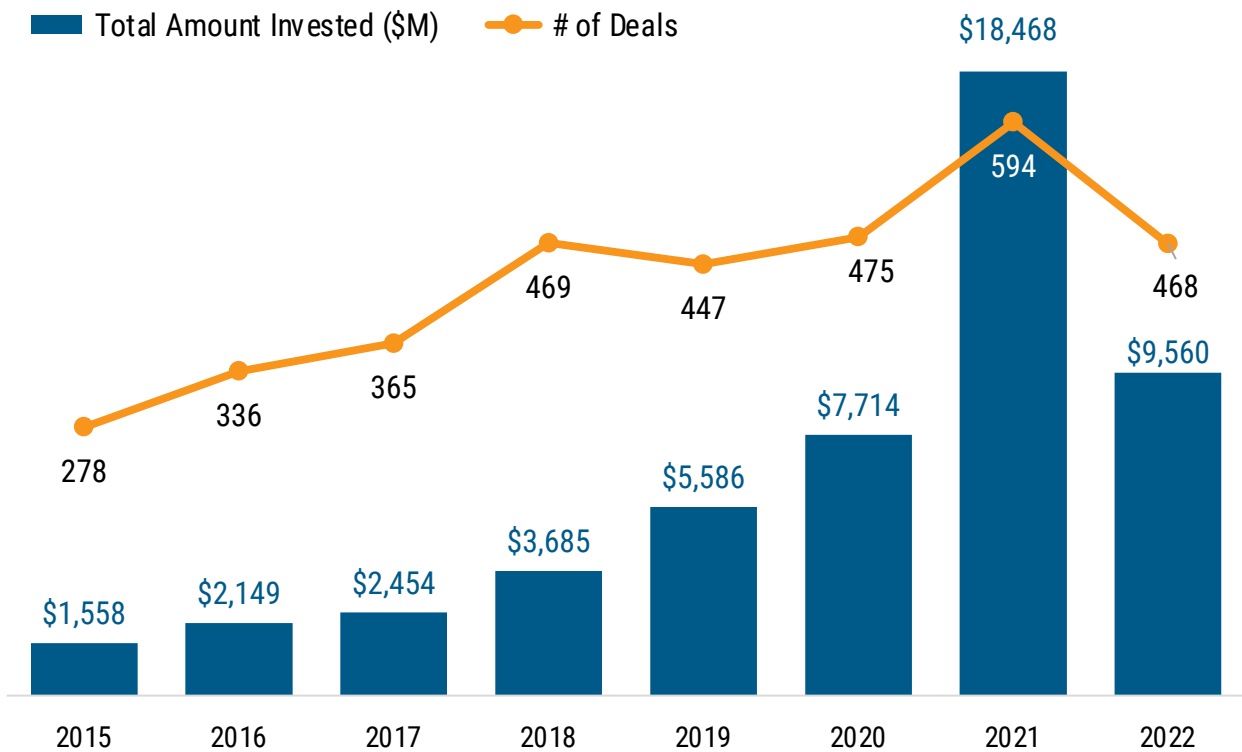
focus on climate in investing and portfolios, Israeli entrepreneurs will continue to find many investors that serve as solid partners for growing their next generation businesses.

## Enterprise Software-as-a-Service

Israeli Enterprise Software-as-a-Service companies have made a significant impact on the global market with their innovative solutions and advanced technologies. These companies have emerged as leaders in the software-as-a-service (SaaS) space, providing enterprise-level software solutions to customers around the world. These Israeli companies excel in various domains, including project management, collaboration tools, customer relationship management (CRM), human resources, marketing and more. They leverage cutting-edge technologies such as artificial intelligence, machine learning, data analytics and cloud computing to offer scalable and intuitive software solutions that cater to the evolving needs of businesses across industries.

One of the key strengths of Israeli Enterprise SaaS companies lies in their ability to address complex challenges faced by organizations. By leveraging their technical expertise and deep domain knowledge, these companies develop software platforms that empower businesses to enhance productivity, improve customer engagement and drive growth. Israeli Enterprise SaaS companies also place a strong emphasis on user experience and usability. They understand that in today's fast-paced business environment, software solutions need to be intuitive, user-friendly, and easily adaptable. By prioritizing user-centric design and employing agile development methodologies, these companies create products that resonate with customers and provide a competitive advantage.

## Enterprise Software & IT Investments in Israel by Total Amount in \$USD Millions and Number of Deals

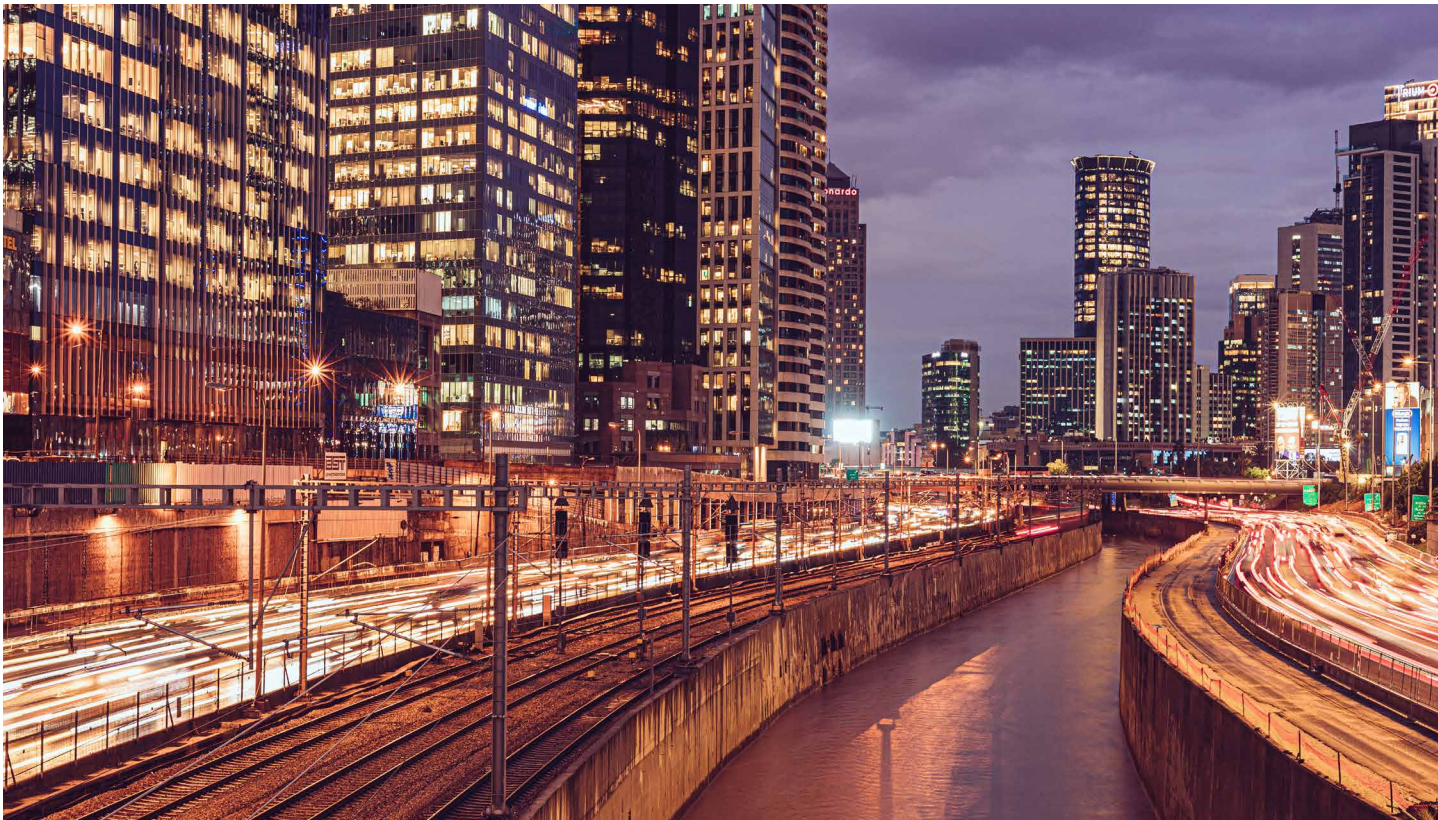


Source: IVC Data and Insights



Furthermore, Israeli Enterprise SaaS companies have a global outlook from the outset. Recognizing the limitations of their domestic market, they focus on expanding their reach and establishing a presence in international markets. This global mindset allows them to tap into diverse customer bases, understand different business cultures, and adapt their offerings to suit global demands.

According to McKinsey, the global SaaS market is currently worth about \$3 trillion, and estimates indicate it could surge to \$10 trillion by 2030.<sup>51</sup> As the demand for SaaS solutions continues to grow globally, Israeli Enterprise SaaS companies are poised to play a significant role in shaping the future of enterprise software.



“ **Yaniv Stern, Red Dot Capital Partners**

Israel’s strategic geographic location gives local tech companies a competitive edge, providing convenient access to global markets. With the recent Abraham Accords, the door has opened not only to the Middle East but also further east to the thriving markets of Asia, creating new opportunities for Israeli tech companies to expand their reach and impact.

## THE LONG-TERM DRIVERS OF ISRAEL'S RAPID SUCCESS

**In fewer than 75 years, Israel has blossomed into a globally dominant technology ecosystem.**

The historical development of the technology ecosystem in Israel is a testament to the country's unwavering commitment to innovation and entrepreneurship. Many of these pursuits, and a considerable percentage of the skills and solutions that have emerged, have been borne out of necessity.

With few natural resources, Israel was required to devise creative solutions and think outside of the box. Located in a traditionally "hostile neighborhood," and with too small a domestic market for many of its products to considerably scale, Israeli startups must think globally from day one.

The Israeli government has played a critical role in supporting the growth of the technology industry, from investing in STEM education,

endorsing research and development and creating tax incentives for innovation centers, to subsidizing the private market, providing seed funding and promoting incubators.

Some of the critical early drivers of this long-term success include:

### Education

During the 1970s, the Israeli government catalyzed the education sector by promoting and funding a network of leading research institutions and universities. **The Weizmann Institute, Technion, the Hebrew University of Jerusalem** and others received substantial funding from the government. These institutions and programs have played a pivotal role in the development of the nation's technological output. Serving a country with the population of a medium-sized American state—Israel supports three leading global universities.

“ **Yanai Oron, Vertex Ventures**

Israel's persistent geopolitical challenges have sharpened our adaptability and perseverance. This, combined with a risk-taking culture that fosters boldness, boundary-pushing, and ambitious pursuits, has created a unique environment for creating global technology enterprises.





“ **Moshe Zviran, Tel Aviv University**

Israel has three of the most dominant technology and engineering universities globally, which is unique for a country of our size.

### Office of the Chief Scientist

In the late 1960s, the Israeli government established the Office of the Chief Scientist (OCS) to provide funding for research and development activities. At the time, the OCS played a critical role in supporting early-stage startups, providing expertise, advisory and other resources to help them sprout. One early member of the OCS explained that the purpose of this bureau was, “to maximize investment, encourage the pursuit of technology-intensive markets, and create a paradigmatic change.”

### Multinational Corporations

Israel has attracted hundreds of multinational corporations who have committed boots on the ground to build and develop local R&D sites. In fact, there are now more than 400 of the Fortune 500 firms with local offices or research sites in Israel. Intel was the first in 1974, when the country was only 26 years old, and their decision to establish a major R&D center in Israel helped place the country on the map as a hub for tech innovation. More global companies followed and helped build the flywheel in effect today.

“ **Eugene Kandel, Start-up Nation Policy Institute**

Israel’s current ecosystem is 50 years of incubation. You don’t see the roots, but when you look from a historical perspective, the roots were planted in the 1970s.



## ROOTS BEGIN TO SPREAD: THE INTERNET ERA 1990 – 2010

Throughout the 1990s, the Israeli tech sector continued to expand, driven in part by the proliferation of the internet.

Israeli companies such as **Check Point Software Technologies**, which pioneered the development of firewall technology, became global leaders in their respective fields. The Israeli government continued to play a critical role in supporting the sector, with a particular focus on R&D activities and startup funding. Officials continued to implement policies to encourage innovation and the growth of the technology ecosystem. This period was defined by the establishment of startup incubators and government-backed venture funding.

In the 1990s, nearly 1 million trained engineers, scientists and professors from the former Soviet Union emigrated to Israel and bolstered the emerging tech industry with crucial expertise. The mass immigration significantly increased the number of students and teaching staff, resulting in a campus expansion program and the construction of the new home of the Henry and Marilyn Taub Faculty of Computer Science at the Technion, among other capital projects. This flow of immigration was a primary factor in the expansion of the local ecosystem.

**“ Omry Ben David, Viola Ventures**  
We have witnessed an unbelievable transformation in the Israeli ecosystem. In the early 2000s, Israeli startups would sell at lower valuations due to unlevelled global playing field as well as lack of a funding runway for growth. Change began in the late 2000s as certain platforms—cloud computing, mobile and social—helped level the playing field. Combined with local teams maturing and a vibrant growth funding ecosystem, this has positioned Israeli startups as global category leaders.

### Incubators

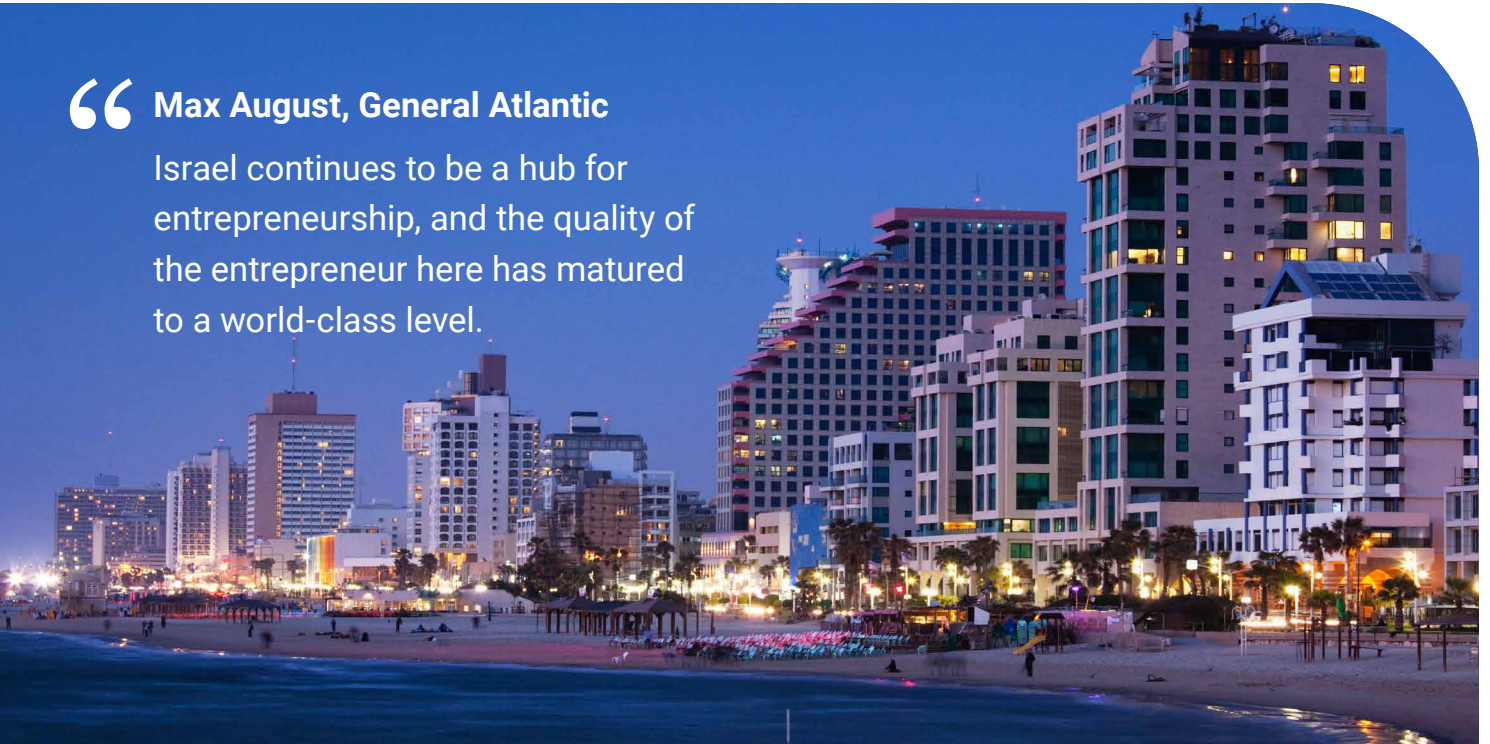
The Israeli government established a network of technology incubators aimed at supporting and funding early-stage startups. These incubators offered founders with valuable resources such as mentoring, networking opportunities and access to funding. Additionally, the government instituted several grant programs that incentivize entrepreneurship across industries and verticals.

### Grants

One of the grant programs that the government established was the R&D tax credit. This crucial credit provides significant financial support to companies investing in research and development. Another grant offered by the Israeli government was the Magnet Program, which specifies a focus on projects in water technology, advanced manufacturing and energy. This program promotes collaboration between academia and industry and the development of innovative technological solutions.

“ **Max August, General Atlantic**

Israel continues to be a hub for entrepreneurship, and the quality of the entrepreneur here has matured to a world-class level.



**Public-Private Partnership**

The Israeli government worked closely with the private markets to stimulate innovation. It also provided funding and support for joint ventures between academia and industry, with the mission of promoting knowledge-sharing and collaboration. In fact, some incubators are strategically located within universities—such as Haifa University and the Technion.

**Government-Backed Venture**

At the initiative of Foreign Minister Shimon Peres, the government took an active role in attracting foreign investors for Israeli entrepreneurs. This was the Yozma program, a local venture fund for rising Israeli startups. The program offered significant tax incentives to and partially matched the investment commitments of foreign investors. Yozma targeted high-growth companies in the sectors of Communications, Information Technologies

and Life Sciences. The premise of this program was that the government would carry the risk of the investment, while investors reaped the rewards. In practice, Yozma offered significant tax incentives and matching investment commitments to foreign VC investors.

“ **Toot Shani, Sarona Partners**

Talent has always been in the heart of Israel’s startup miracle. The challenge has been growing large companies, which has shifted. And Israeli founders now strive for IPOs and building billion-dollar businesses. This mindset shift is irreversible.

## THE HUMAN CAPITAL COMPONENT: CURRENT TRENDS WHICH WILL DRIVE FUTURE INNOVATION

### Demographic Profile

Israel is a young society relative to its OECD peers. In fact, 36% of the Israeli population is within the prime age of 19-46. With a robust base of young individuals, this provides the country with significant economic growth opportunity, fresh idea generation, and early adoption of new technology. It also is accompanied by robust growth, meaning the density of startups and innovation can continue to grow in the years ahead.

- Israel's annual population growth rate stood at 2.2% in 2022, faster than the OECD average of around 0.3%.
- Israel has the highest fertility rate in the OECD, averaging 2.9 births per woman as of 2023. The OECD average is 1.7.

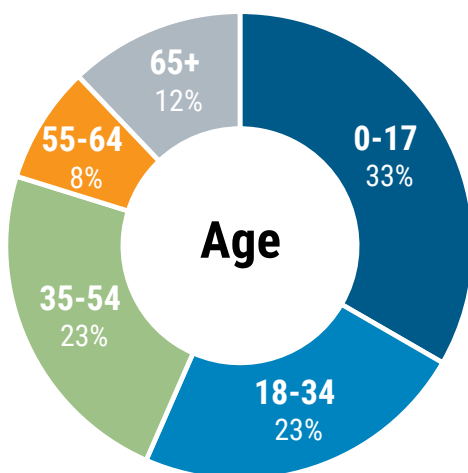
### Education

Since the nation's inception, the government has prioritized the education of its constituents. As advancements in computing proliferated and global priorities shifted, Israel made a concerted effort to promote the development of young individuals. Officials had an acute focus on fostering experience in programming, engineering and technology. As a result:

- Israel has the highest percentage of scientists and PhDs in the world, at 135 per 10,000.
- Israel produces more scientific papers per capita than any other nation by a large margin at 109 per 10,000.

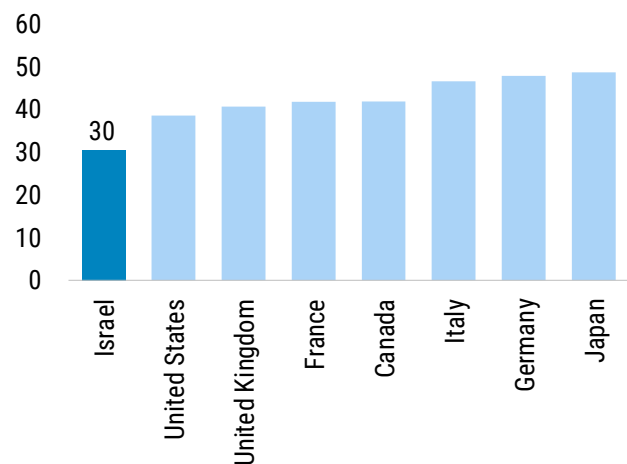
The broad benefits of a highly educated populace have materially impacted the economic growth of the nation. As a country

### Young and Growing Population



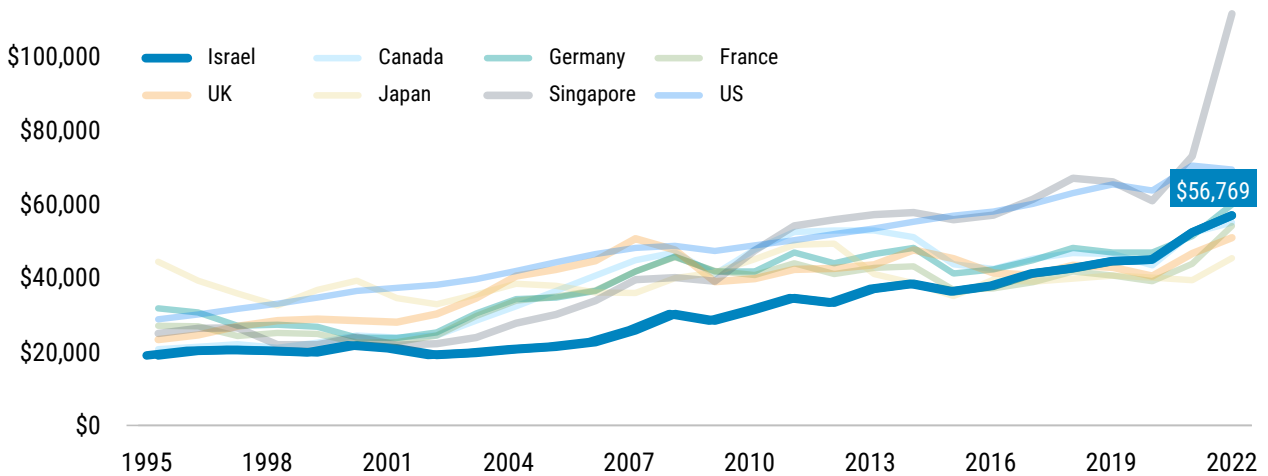
Source: OECD

### Median Age of G7 Countries and Israel



Source: OECD

## GDP Per Capita



Source: World Bank, World Economics

that is highly reliant on exports as a portion of its economic output, the flourishing of the startup ecosystem has driven significant gains in per capita production.

Prior to the turn of the century, Israel's GDP per capita lagged the U.S., U.K., Germany, Singapore and other OECD nations.

Compared to selected OECD peers, Israel lagged the entire group in 1995, yet by 2022, Israel is third in GDP per capita and is outpacing Germany, France and others. In 2010, MSCI changed Israel's classification to a developed market. This acceleration in growth cannot be understated.

As the government remained steadfast in its investments for research and development and funding of the high-tech sector, tailwinds from internet adoption also took hold. Relative to developed nations Israel currently boasts the highest R&D expenditure as a percentage of GDP.

Global leadership in R&D spend should not go unnoticed. In fact, the government's efforts have ushered significant achievement amongst Israeli companies across the maturity spectrum. For fast-growing startups, Israel currently boasts 11 unicorns per capita, outpacing Singapore, the U.S. and other developed nations.

The R&D expenses that have spanned decades have also served to benefit the pioneers of the Israeli technology ecosystem. Behind Canada and China, Israel placed third amongst countries with publicly traded companies listed on the NASDAQ.

**“ Jon Korngold, Blackstone**

We are excited to bring a set of operational capabilities that can support Israeli companies' global growth ambitions in ways that might not have been possible in that market 10 years ago.

# The Israeli Innovation Authority's 2023 Annual Report

The growth in high-tech output is especially marked when compared to the growth in outputs of other sectors in the Israeli economy over the past decade.

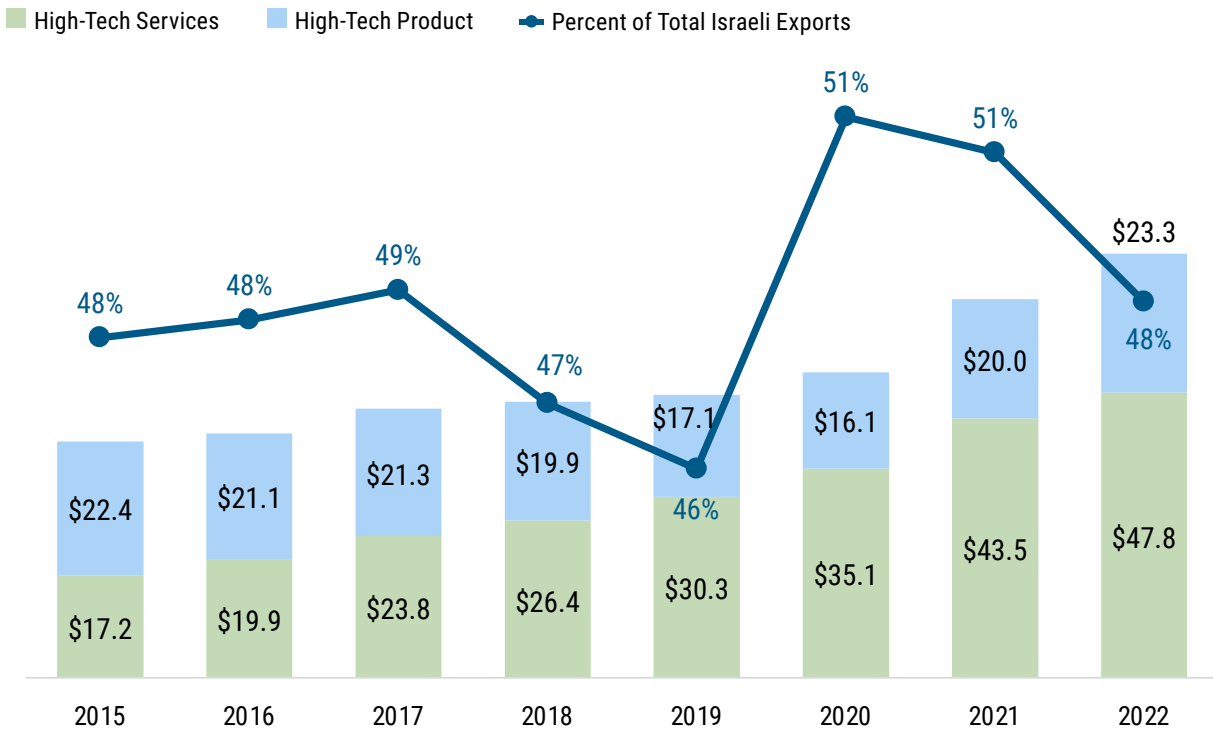
For example, the output of the high-tech sector in 2012 was 50% higher than that of the trade and retail sector—the next sector in size after high-tech. A decade later in 2022, the gap between the two sectors stood at more than 90%, i.e., high-tech output is becoming increasingly dominant in comparison to the other sectors in the private market. Of the economy's main sectors, high-tech output is the only one to have doubled, or more, over the past decade.

The Israeli high-tech sector was responsible for 48.3% of all Israeli exports in 2022, totaling \$71 billion, more than doubling over the last decade and growing by 107%. This growth stemmed almost entirely from the increase in exports of high-tech services that include, among others, software services. This export more than tripled from the 2012 level of \$14.6 billion to \$47.8 billion in 2022. During the same period, exports of high-tech commodities that include the microchips sector, grew by only 18%. Between 2016–2020, exports of high-tech commodities declined but increased again over the last two years. After the ratio of high-tech exports out of total Israeli exports crossed the 50% threshold during the Covid crisis, its relative share declined in 2022 due to the general recovery of the economy and the increase in other sectors, such as tourism, that were negatively impacted during the pandemic.

Output of the high-tech sector has doubled nominally within a decade. In 2012, high-tech output stood at 126 billion shekels, a figure that increased to 290 billion shekels in 2022. If this trend of growth continues at the rate typical of recent years, in just a few short years, high-tech will account for a fifth of the State of Israel's GDP.<sup>52</sup>

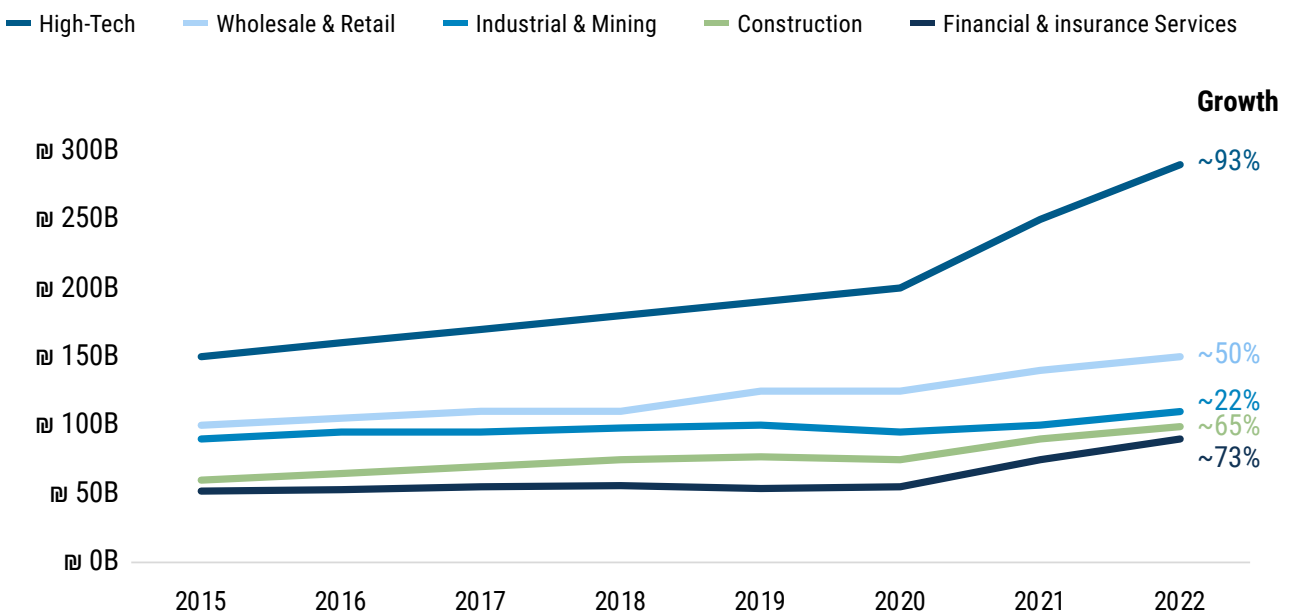


### High-Tech Exports by Sector, in \$USD Billions, and its Share of Total Israeli Exports



Source: Israel Innovation Authority, 2023 Annual Report: The State of High-Tech

### High-Tech Output Grew More than Any Other Sector Over the Past Decade Output of Select Sectors in NIS Billions



Source: Israel Innovation Authority, 2023 Annual Report: The State of High-Tech

**Presently, Israel is truly one of three venture ecosystems in the world.**

These three are the United States, China and Israel. Returning to education, the education system in Israel is both formal and informal. The informal component of education is the military.

**Military and the Israel Defense Forces (IDF)**

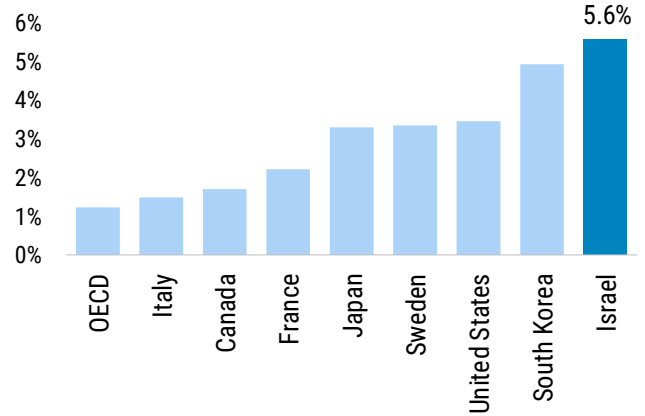
To understand Israel’s innovative successes, look no further than the IDF and the country’s mandatory policy of service for young adults.

The IDF is one of the most advanced militaries in the world and it has played a vital role in shaping Israel’s high-tech industry and startup ecosystem. Israel’s military breeds independent thinking and risk taking by young individuals. It requires them to collaborate in a high-pressure environment, seeking pivotal solutions. In a similar manner, the high-tech startup ecosystem requires that of founders.

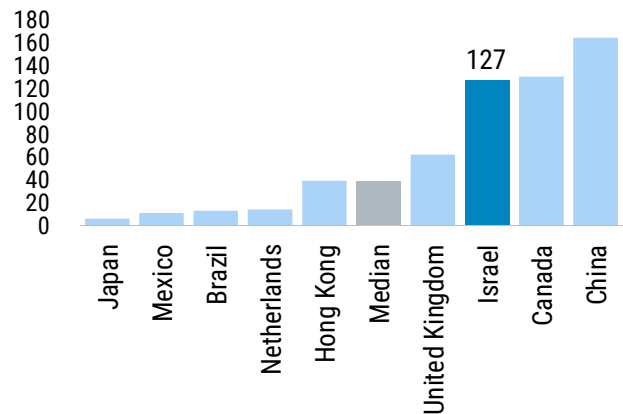
Over many decades, the IDF has consistently benefited the tech ecosystem through its research and development of new technologies. The military has invested heavily in areas like Cybersecurity and artificial intelligence. Many of these technologies, which have found their origins through experimentation in the defense sector, also have commercial applications and have been adapted for public use. Ultimately, the IDF exists as a playground for these technological solutions, prior to their continued experimentation with founders.

Benefits beyond technology broadly accrue as a result of this mandatory service. Innovation permeates units across the military, with citizens at a young age required to act responsibly, take leadership and ownership,

Gross R&D Expenditure as a Percent of GDP 2021

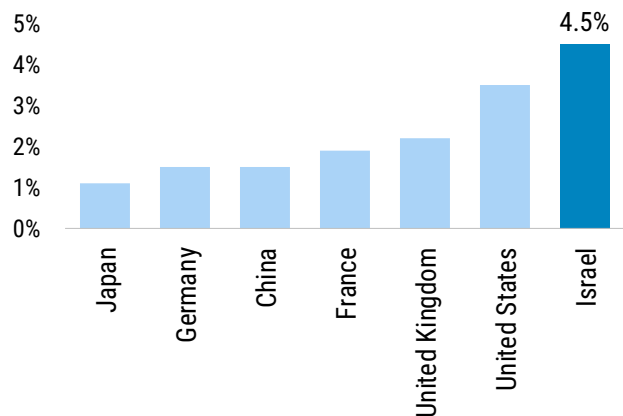


Number of Companies Listed on NASDAQ in 2022 by Country



Source: Nasdaq

Military Expenditure as a Percent of GDP 2022



Source: CIA

“ **Steve Leightell, Georgian**

I believe that the speed and quality of innovation in Israel is unique, and it is an honor to work with such talented entrepreneurs.



innovate and improvise. Many of the skills that build future leaders at a young age are taught during military service and help to drive the outsized entrepreneurship in the country.

**Unit 8200**

Within the IDF, the military boasts of one of, if not the, foremost technical intelligence agency in the world, Unit 8200. Recruiters for the unit pursue the brightest students with analytical and technical skills, assess their ability, and provide rigorous training in areas such as Cybersecurity, data mining, and software development. Equipped with knowledge and experience that is fit for the world's digital transformation, 8200 creates a pool of highly skilled young adults that go on to contribute to the tech ecosystem. Their fingerprints can be seen in technologies and innovation across sectors—not just Cybersecurity or defense.

Internally, Unit 8200 operates like a high-tech startup. The group teaches well-trained young adults about scenario analysis and forces quick, impactful decisions as a team. Many note it would be difficult to find another place in the world where young people are given as much responsibility at a similar age. Given its similarities, this special unit in the IDF is credited as an

integral component of Israel's tech ecosystem, directly contributing to the country having the highest concentration of startups per capita.

The Israeli military, particularly through Unit 8200, has played a crucial role in driving the growth and success of the country's high-tech industry. The government's investments in research and development, evident by its significant portion of GDP that funds the military, has been a key growth driver for a robust and innovative tech ecosystem. The boldness and courage embedded within the military culture, drives young entrepreneurs to believe that they can do what others haven't in the past.

“ **Liad Agmon, Insight Partners**

The Israeli tech ecosystem can be summarized by three characteristics: knowledge, access to talent and innovation.

## THE ROAD AHEAD

Israel's arrival as a global tech hub, a critical destination for global investors, is stunning. It is a country only 75 years old, with the population of a mid-size U.S. state, that exists in what has repeatedly been called "a rough neighborhood."

The nation's success is the culmination of the chutzpah of thousands of its citizens. They look at questions and problems and know that not only can they solve them, but they can also commercialize, scale and sell these solutions to a global marketplace.

Additionally, when potent tailwinds converged during the global pandemic, this only served to elevate and escalate Israel's offerings. As the world adapted and changed—many of the innovations it turned to came from Israel's dominant Cybersecurity industry as well as its strong and emerging digital health, semiconductors, fintech, agtech and climate tech sectors.

As global investors continue to travel to Israel, they are building on-the-ground presences and deepening relationships with entrepreneurs, academia, the government and local investors. This virtuous ecosystem will continue to strengthen and give rise to the next decade of highly successful startups and globally dominant businesses.

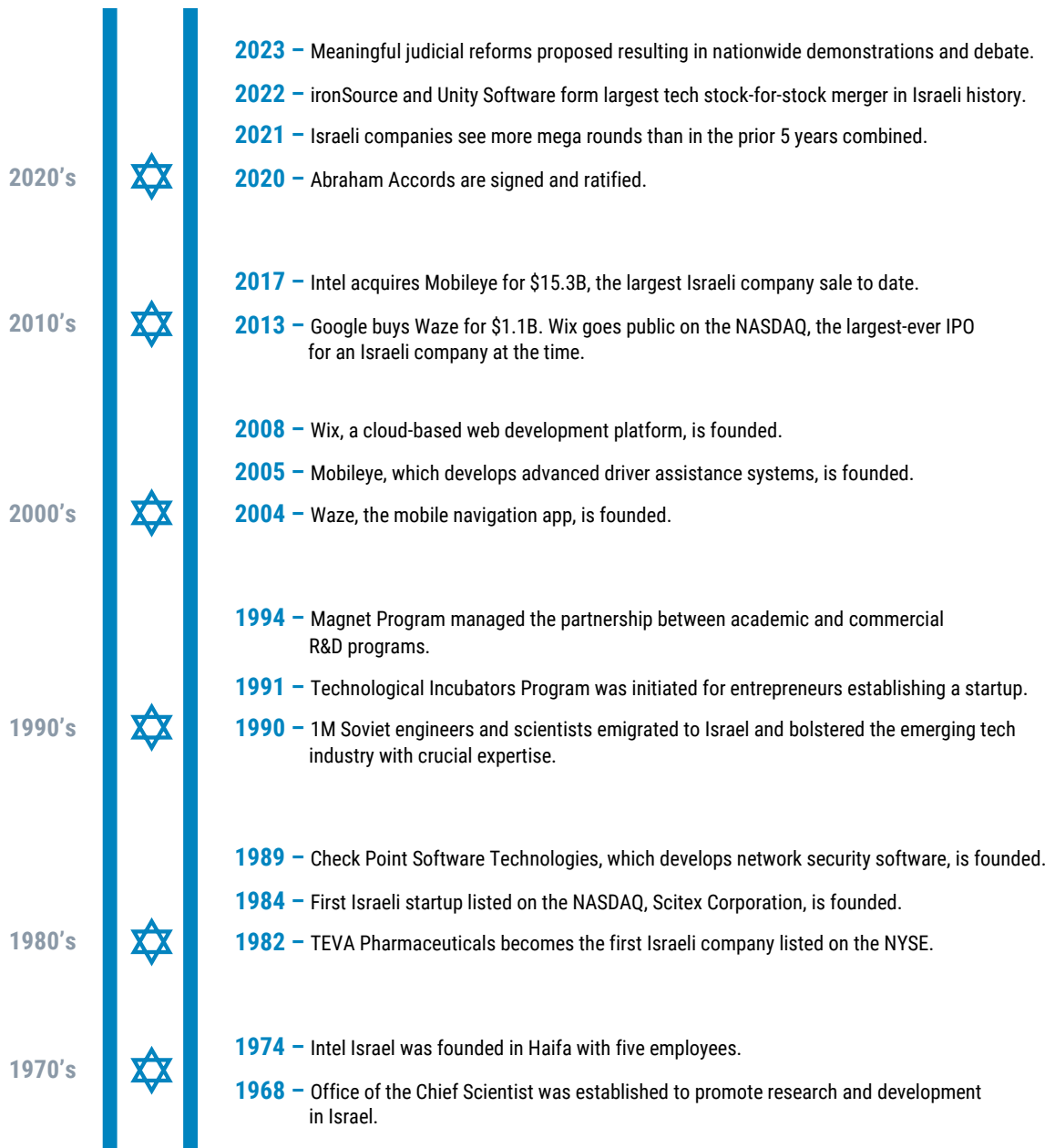
As it does, we at Jefferies look forward to partnering with you and being the bridge between the world's most sophisticated capital and Israel's most promising investments.

### “Yahal Zilka, 10D Venture Capital

Israel has matured with new and global investors who can write large checks to spur growth. The ecosystem now has access to the most sophisticated players in the capital markets globally, something we didn't have a few years ago. What was missing before was access to growth capital, which we certainly have now. We've always had innovation, but in the past four years, Israeli tech companies have demonstrated the ability to scale up and become category leaders.

“ **Eli Miller, Liberty Strategic Capital**

We look for innovative technologies, a management team with strong capabilities and technology that can reach globally, and Israel has it all.





## HELPFUL LINKS

- **IVC Data and Insights** <https://www.ivc-online.com/>
- **IVC, The Israeli Tech Ecosystem** [https://ivc-online.storydoc.com/f35a8daa3aa849d3c5080adc779ff66a/d5c4ddd0-ab6b-4ea6-9b16-a7d617928e5f/62960abf80ed5c000aa508fd?utm\\_source=storydoc&utm\\_medium=hp&utm\\_campaign=31May2022&utm\\_content=00u4nuta2yJBqMeHN5d7](https://ivc-online.storydoc.com/f35a8daa3aa849d3c5080adc779ff66a/d5c4ddd0-ab6b-4ea6-9b16-a7d617928e5f/62960abf80ed5c000aa508fd?utm_source=storydoc&utm_medium=hp&utm_campaign=31May2022&utm_content=00u4nuta2yJBqMeHN5d7)
- **Startup Nation Central** <https://startupnationcentral.org/>
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- **Climate Tech Map (March 2023)** <https://startupnationcentral.org/wp-content/uploads/2023/03/Start-Up-Nation-Central-Climate-Tech-Landscape-Map-2023.pdf>
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- **Greenfield Partners, The Modern CFO Stack (January 2023)** [https://uploads-ssl.webflow.com/5fec652174e94d7f707cd737/63cd23ce179f6e1887bd69a0\\_CFO%20Stack%20Market%20Map%20vUpdated-Release.jpg](https://uploads-ssl.webflow.com/5fec652174e94d7f707cd737/63cd23ce179f6e1887bd69a0_CFO%20Stack%20Market%20Map%20vUpdated-Release.jpg)
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- **Bank of Israel Annual Report 2022** <https://www.boi.org.il/en/communication-and-publications/regular-publications/bank-of-israel-annual-report/bank-of-israel-annual-report-2022/>
- **Annual Innovation Report: Israeli High-Tech 2022 Situation Report** <https://innovationisrael.org.il/en/reportchapter/part-israeli-high-tech-2022-situation-report>
- **IATI Israel's Life Science Annual Industry Report 2022** <https://www.iati.co.il/files/files/80.pdf>
- **Invest In Israel—Brochure** <https://investinIsrael.gov.il/HowWeHelp/downloads/SHINE.pdf>
- **The Economic Impact of Foreign Investments in Israel Current State of Affairs and Analysis of New Data, (March 2019)** <https://investinIsrael.gov.il/HowWeHelp/downloads/The%20economic%20impact%20of%20Foreign%20Investments%20in%20Israel.pdf>

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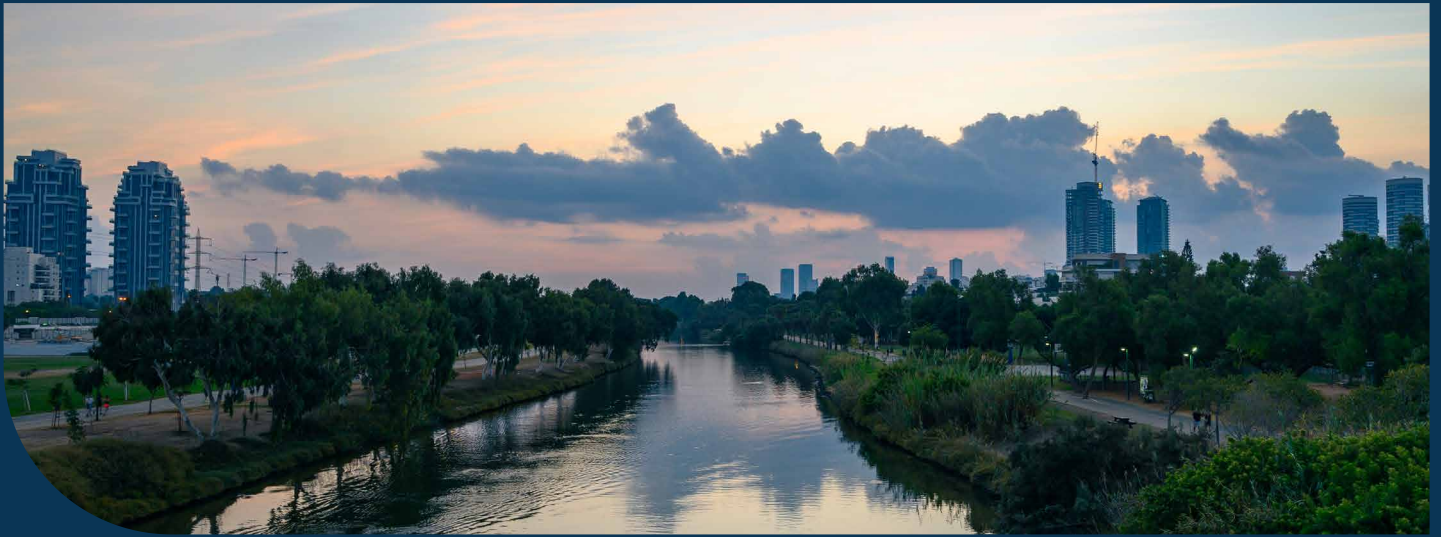
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