

New York - Israel

ECONOMIC IMPACT REPORT

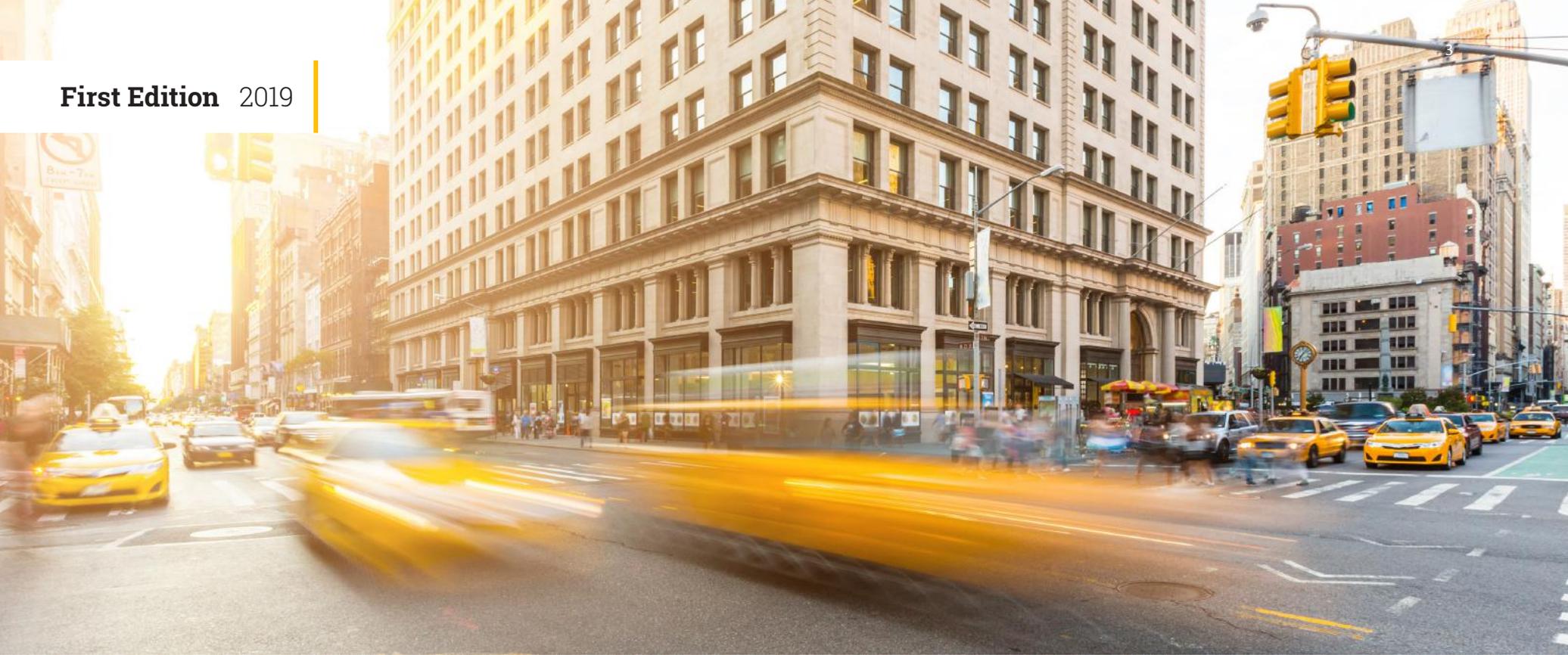
Executive Summary



New York - Israel Business Alliance

The mission of the New York – Israel Business Alliance is to create economic opportunities between New York State and Israel. Guided by data, NYIBA monitors economic development activity and trends in the public and private sectors to identify bilateral business growth potential. The Alliance hosts information seminars, organizes trade missions, and provides its members with funding notifications and investment opportunities. nyisrael.org





Israel's reputation as an entrepreneurial powerhouse is arguably most evident in New York City, where it's nearly impossible to walk a block without encountering its influence. Israelis are impacting retail, city skylines, and shared working spaces. They're spicing up Greenwich Village kitchens, teaching courses at the Jacobs Technion-Cornell Institute, and engineering the algorithms that guide on-demand ride-sharing vans around the city.

Israeli chutzpah is leaving its mark on the Big Apple.

Still, anecdotes and impressions don't tell the complete story. That's why the New York – Israel Business Alliance set out to measure and quantify the impact that Israeli-founded companies are having on New York—and not just on New York City but all of New York State.

The New York – Israel Economic Impact Report's findings tell an incredible story about economic growth, job creation, and collaboration between two daringly innovative societies. In addition to surveying data from 2018, the Impact Report closely examines economic development activity from 2016 to 2018, in order to capture recent growth trends and understand the effects of policy initiatives. The study also identifies sectors that are ripe for economic development and growth between New York and Israel.

Why Israel?

Israel is a country that is short on natural resources, has a small domestic market, and lives among traditionally unsupportive neighbors. These limiting factors have impelled Israeli entrepreneurs to seek creative technological solutions and steadfastly explore global markets to grow their companies. The resource shortage that beset Israel in the years leading up to and following its establishment urgently challenged the young nation to pioneer technologies that are paying dividends today. Indeed, the country that made the desert bloom is now sprouting green technology that irrigates farms in Uganda,¹ harnesses solar energy to power California communities,² and replaces fuel with batteries to charge busses in China.³

Necessity has transfigured Israel into an innovation dynamo that today is nicknamed “Start-Up Nation,” a reputation primarily earned as a result of the leadership, teamwork, and technological skills that its young men and women hone during their mandatory military service. Combat soldiers

carry thermal optics, GPS navigation systems, and encrypted communication devices to the battlefield, where they make split-second, pressure-packed decisions. Those serving in the I.D.F.’s renowned cybersecurity battalions obtain operational know-how and build mission-critical technology that, in addition to protecting the country and saving lives, has derivatively made these elite units into the most effective incubators in the world. By the time Israelis enroll in universities, many have already worked their way up a chain of command, mastered complex technologies, and worked with a team to navigate through a stressful situation.

Alumni of the I.D.F.’s cyber and combat units often go on to establish companies that draw equally upon their technical skills as their plucky personalities. Once these founders decide to expand their companies’ global footprints, they most often look to the United States. With robust natural and financial resources, a need for cutting-edge technology across sectors, and states offering competitive

tax incentives to draw new business, the United States synergizes with the Israel innovation export market.

Israel’s entrepreneurial success has also been driven by the diverse composition of its population. Today, nine out of 10 Jewish Israelis are immigrants or first or second generation descendants of immigrants.⁴ In addition to bringing eclectic perspectives and cultural attitudes to the boardroom, “[i]mmigrants are not averse to start from scratch,” according to Start-Up Nation, a best-selling book by Saul Singer and Dan Senor. “They are by definition risk-takers.”



95% of Israel's wastewater is recycled, the highest percentage of any country in the world.⁵

The first **Free Trade Agreement the United States** implemented was with Israel in 1985.⁷

In 1972, Armonk-based IBM became the first multinational company to open an R&D center in Israel. Today, **more than 300 multinationals have centers in Israel.**⁸

At **1 start-up for every 1,400 people**, Israel boasts the most start-ups per capita.⁶

Why New York?

No state meets Israeli interests quite like New York. Culturally, New York City—a melting pot of its own—is home to the largest Jewish community outside of Israel.⁹ Socially, the City That Never Sleeps pairs well with the Non-Stop City of Tel Aviv. Strategically, New York is an expansive gateway leading to other markets across America and the globe. Logistically, the New York metropolitan area has more direct flights to Tel Aviv than all of the other American cities combined,¹⁰ and the Eastern Time Zone presents the most favorable business day overlap in the country.

In recent years, New York City has taken major strides to develop its tech ecosystem, today rivaling Silicon Valley as the center for high-tech and innovation.¹¹ On a statewide level, START-UP NY and other tax-based incentives help drive innovation upstate and bring higher education into the economic development initiatives.¹²

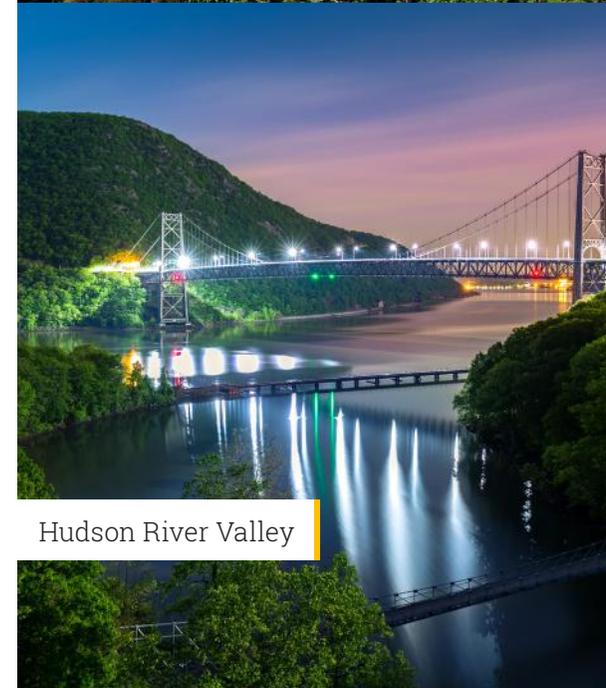
For Israeli companies looking to hire local engineers, New York is home to the most tier-one universities, supplying a rich talent pool of

STEM graduates.¹³ New York is also home to the most Fortune 500 headquarters of any city in the world,¹⁴ as well as the global financial center. The corporate ecosystem that emerges from Wall Street requires cybersecurity, artificial intelligence, big data, mobile apps, marketing, and banking – areas where Israel excels.

Although New York and Israel share a long synergic history, the tremendous impact Israelis are having on New York today appears to be directly linked to the bold post-recession economy. From 2009 to 2018, 436 Israeli companies have opened and maintained offices in New York.¹⁵ It's clear that Israeli entrepreneurs' abilities to apply cutting-edge military technology to disrupt industry status quo has drawn eager New York investors and American clients.



Niagara Falls



Hudson River Valley



In 1897, Morris Harris created the **design for the Israeli flag** in his family's shop, the Harlem Upholsterer, on 116th St., between Lenox and 5th Ave.¹⁶

In 1915, **David Ben-Gurion** came to New York for two years to build American support for Labor Zionism and study democracy at the New York Public Library, where he met his wife Paula.¹⁷

Israeli-American Architect Michael Arad beat out 5,201 entrants to win the open competition for designing the **National September 11 Memorial**.¹⁸

New York City

New York - Israel Economic Impact

According to an independent study, Israeli-founded businesses contribute significantly to the New York State economy and have helped New York establish itself as a global innovation leader. The study, conducted by Stax Inc., a global strategic consulting firm, finds that Israeli enterprises generate substantial revenue, draw capital investment, and create jobs throughout the state. Specifically, the Impact Report reveals that:

Israeli-founded companies accounted for more than
20% of the total capital raised
in New York State in 2016.¹⁹



5 Israeli-founded unicorns

call New York home. These are startups valued at \$1 billion and above and include: Compass, Lemonade, Payoneer, Taboola, and WeWork.²⁰



\$18.6 billion revenue

generated by Israeli-founded companies in 2018, almost doubling to \$33.8 billion in benefits to New York when including the multiplier effect on their contributions to the local economy.²¹

Overall impact of Israeli-founded corporations accounts for

2.02% of the state's GDP.²²



24,850 New York jobs

created by Israeli businesses directly, plus 27,502 indirect jobs based on the additional support required to service their companies.²⁴



Top 10%

of Israeli-founded businesses are responsible for creating 80.8% of Israeli-founded businesses' jobs and 78.8% of their total revenue.²³



506 Israeli-founded businesses

call New York home.²⁵



Big Data



Real Estate



Marketing & Advertising



Banking & Credit Intermediation



Fashion



App Development

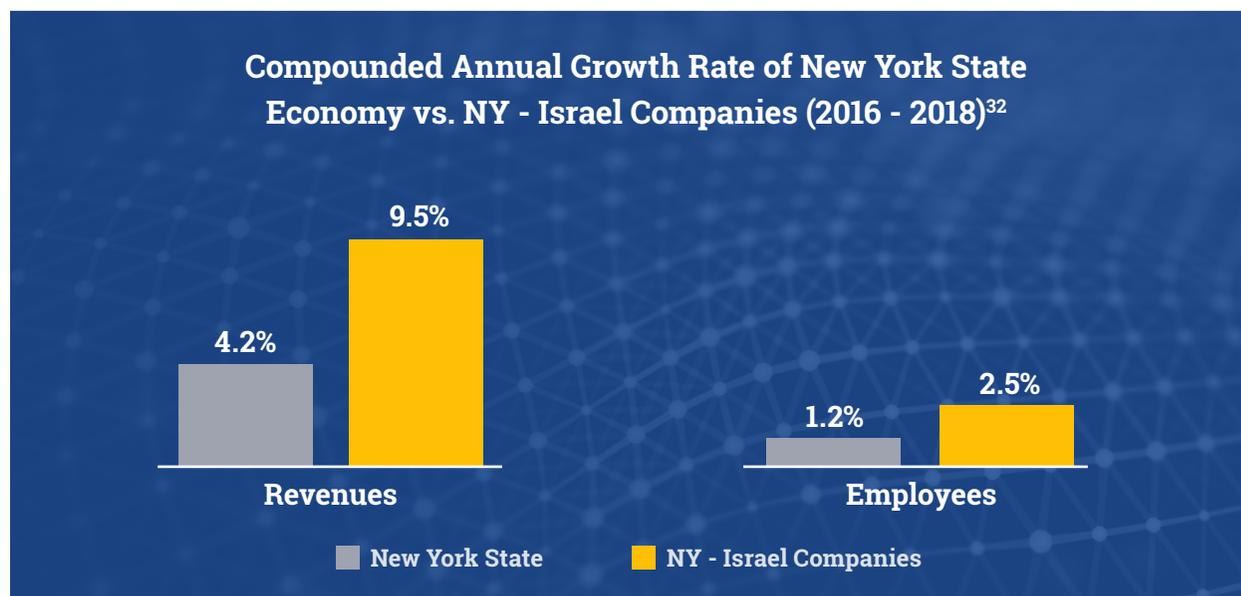
**Industries of strength for Israeli
companies in New York²⁶**

Accelerated Growth: 2016 to 2018

Since 2016, the Israeli economic development activity in New York State has continued to burgeon. In 2018, WeWork doubled its revenue²⁷ and surpassed JP Morgan as the largest tenant of Manhattan office space.²⁸ Taboola, an advertising firm, doubled its annual revenues over the same period, reaching roughly \$1 billion.²⁹ And last year, Lemonade Insurance Company became the fifth member to join the Israeli-founded unicorn club in New York.³⁰

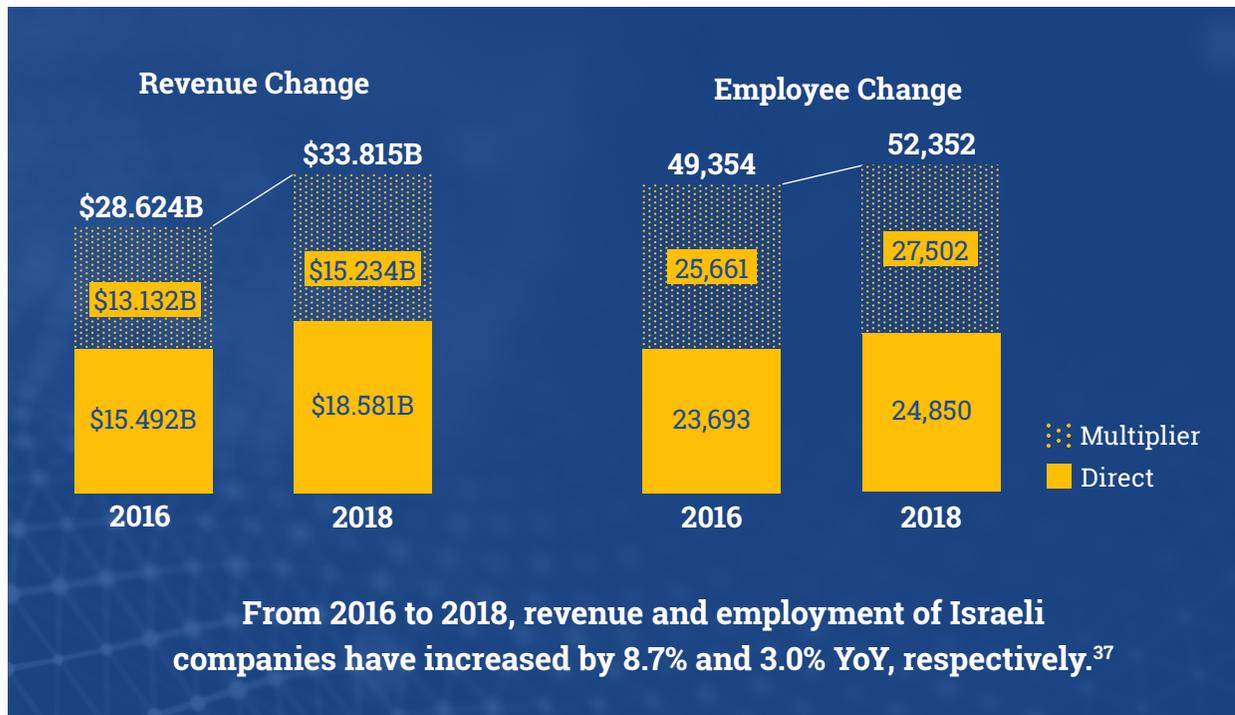
In October of 2018, New York City's economic development agency tapped two Israeli companies—SOSA and Jerusalem Venture Partners—to drive its efforts to transform Manhattan into a leader in cybersecurity innovation.³¹ SOSA will operate the 15,000 square foot Global Cyber Center co-working space, and JVP will manage HUB. NYC, a 50,000 square foot operation to grow cybersecurity start-ups.

On the state level, I Love NY, the Israel Ministry of Tourism, and El Al Airlines, in 2017, announced the Global Path Through



History Initiative to promote tourism between New York State and Israel. The following year, the New York State Energy Research and Development Authority signed a Memorandum of Understanding with the Israel Innovation Authority to support bilateral collaboration on clean energy projects.³³ In addition, the New York Power Authority has been working with Petah Tikvah-based mPrest to integrate its mission-critical technology for

the Iron Dome anti-missile system into the New York power grid.³⁴ There are plans to deploy this technology to some 50 transformers around the state.³⁵ NYPA has also joined with Purchase College and Tel Aviv-based Brenmiller Energy to conduct research and development of thermal energy storage, which will contribute to low electricity prices around the state and help reduce greenhouse gas emissions.³⁶



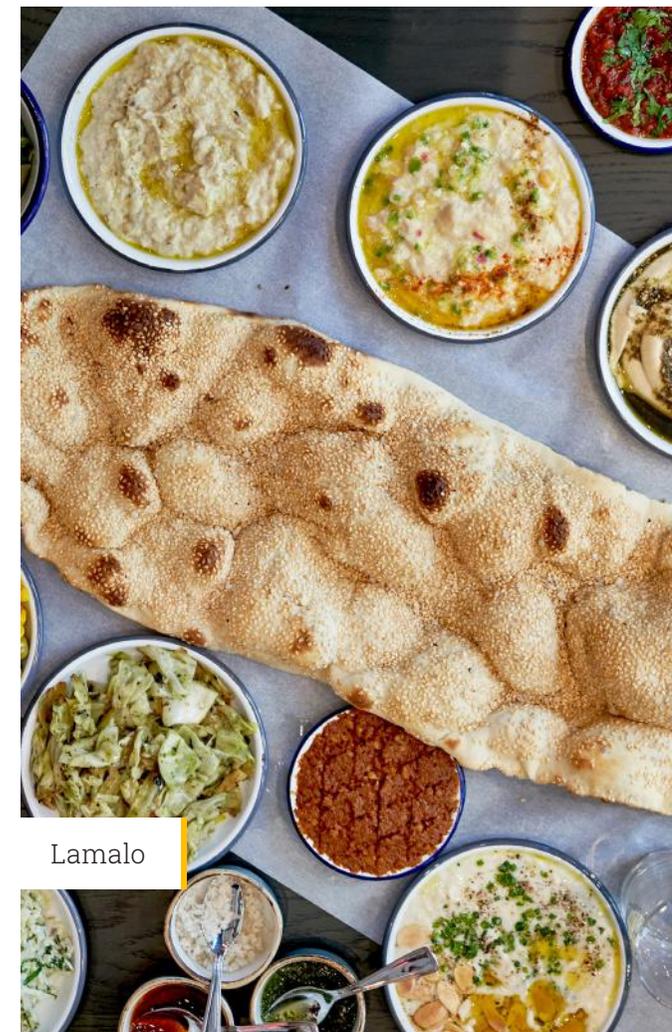
New York has also experienced tremendous economic growth in recent years from Israel's culinary contributions. In 2017, Meir Adoni opened Nur, in New York City's Flatiron District, which draws on the varied Middle East cuisines. The visionaries behind Breads Bakery in Union Square brought its crowd-pleasing babka uptown to Lincoln Center and, in June of 2019, introduced Israel's dipping culture to NoMad patrons at Lamalo.³⁸ In Chelsea Market and on West 72nd Street, Miznon chefs drizzle olive oil on roasted cauliflower crowns and stuff lamb kebabs and tomatoes into thick pitas.³⁹ Miznon's Israeli-led ownership group opened Chelsea Music

Hall, a performance venue that offers a menu curated by chef Eyal Shani, who brought his Tel Aviv flagship HaSalon restaurant to Hell's Kitchen.⁴⁰ In 2018, Tel Aviv-born Einat Admony added Kish-Kash to her growing empire of Manhattan restaurants,⁴¹ and Elior Balbul Opened Alenbi Kitchen to much fanfare in Crown Heights.⁴²

Culturally, The Band's Visit, winner of 10 Tony Awards in 2018, including Best Musical, recouped its \$8.75 million capitalization less than a year after its Broadway premiere.⁴³ Also on Broadway, in 2019, Tal Yarden was nominated for a Tony for his lighting design

for Network.⁴⁴ In June of 2018, the Consulate General of Israel in New York announced an Israel Artists Residency Program in partnership with LUMBERYARD, a Hudson Valley-based performing arts center and production soundstage. The partnership launched in December and featured Israeli cellist Maya Beiser and continued with the critically acclaimed ZviDance group⁴⁵ and Ephrat Asherie Dance in 2019.⁴⁶

Photo: Francesco Sapienza



Lamalo

Priority Growth Sectors

Israeli companies have long been active in established New York industries, including real estate, financial services, fashion, and marketing. The New York – Israel Economic Impact Report affirmed the impact within these sectors and also surveyed New York resources and Israeli aptitude to identify industries ripe for growth.



Artificial Intelligence

Israel's Strengths

Much of the Israeli high-tech scene in recent years has focused on artificial intelligence. From 2014 to 2018, the number of Israeli AI companies grew from 512 to 1,150. In 2018, Intel announced it would invest \$11 billion in a new chip plant and would also establish a Center for Artificial Intelligence in partnership with the Technion - Israel Institute of Technology.

New York's Assets

In February of 2019, IBM, SUNY, and Empire State Development announced a public-private partnership to invest in artificial intelligence, including the establishment of the AI Hardware Center at SUNY Poly. IBM announced it would provide \$30 million in cash and in-kind contributions for artificial intelligence research across the SUNY system, SUNY agreed to match up to \$25 million, and Empire State Development committed a \$300 million capital grant over five years.



Drones

Since 1985, Israel has been responsible for more than 60% of the world's drone export market, supplying both defense and commercial industries. Israel's main areas of strength in this sector are software and components, anti-drone and cyber, and autonomous platforms.

Central New York is further developing a 50-mile drone air corridor, a first-in-the-nation initiative where unmanned aerial vehicles can fly beyond the line of sight for testing and development. The corridor is overseen by the Northeast UAS Airspace Integration Research Alliance, a consortium of more than 100 companies leading the development of Central New York and Mohawk Valley as a drone technology hub that includes defense and cybersecurity companies, higher education institutions, and NASA. In Syracuse, GENIUS NY is the world's largest business accelerator for unmanned systems.



Cybersecurity

Israel's Strengths

Israel is a world-renown hotbed for cybersecurity innovation. The total amount of funding raised by Israeli cybersecurity companies in 2018 surpassed \$1 billion, representing a 22% growth from the previous year. In southern Israel, CyberSpark - the Israeli Cyber Innovation Arena attracts collaboration from the private sector, the National Cyber Bureau, the military, and the Be'er Sheva Municipality.

New York's Assets

In 2018, NYC announced a \$100 million public-private investment to grow its cybersecurity ecosystem. Outside of NYC, the Cyber Research Institute in Rome and the College of Emergency Preparedness, Homeland Security and Cybersecurity in Albany conduct cutting-edge research and pursue public-private training and testing initiatives.



Life Sciences

There are some 1,400 life sciences companies in Israel and nearly one in three Israeli scientists specializes in this field. Israel spends 4.3% of its GDP on medical research, which, according to some estimates, has led to 25% of the world's biotech solutions.

New York State ranks second nationally in funding biotech and life sciences R&D. The New York metropolitan area has the largest bioscience workforce in the country and the largest concentration of academic medical institutions in the world. On Long Island, the Center for Biotechnology is a 245-acre research park that includes four incubators. The State offers a Life Sciences Tax Credit Program that supports new companies and inventions, production, and commercialization.



Renewables

Israel is home to more than 270 companies operating in smart or renewable energy. With efforts spanning the entire country, solar fields dot the Negev and wind farms power the Golan Heights. After discovering natural gas off its coast, Israeli renewable energy companies are looking for more growth opportunities abroad.

New York's Clean Energy Standard, introduced in 2016, has a long-term objective requiring 50% of the state's electricity to be generated from renewable energy sources by 2030. Gov. Cuomo has also pledged to make New York's electricity 100% carbon-neutral by 2040. New York State offers robust incentives to promote renewable energy R&D, and 54,556 square miles of land with varying terrains and energy needs.



Agriculture

Israel is a leader in irrigation and water management, attracting farming and governmental delegations from around the world. They come to learn about Israel's adoption of "smart farming" that incorporates technology to yield better production results, especially with regard to fostering a more efficient dairy industry and recycling of wastewater.

New York State is home to more than 36,000 family farms that help comprise roughly 20% of the state's land area, making it one of the leading agricultural states in the U.S. New York ranks in the top 10 in the production of 30 commodities, including second in apples and third in dairy and grapes.

Optics, Photonics and Imaging (OPI) in the Rochester Regional Photonics Cluster (RRPC)

Anchors:

- 100+ photonics companies with ~17k employees
- \$3B+ annual revenues
- 60%+ of U.S. OPI PhDs graduate from RRPC
- Local companies with heavy focus on optics include Bausch & Lomb, Corning, Kodak, and Xerox
- Academic institutions with a strong focus on photonics include University of Rochester's Institute of Optics, Rochester Institute of Technology, the Laboratory for Laser Energetics, and the Infotonics Technology Center

Israel's strengths:

- 500+ Israeli OPI companies with 10k+ employees
- Annual revenues amount to \$4B and ~5% of Israel's total exports are OPI
- Nearly a quarter of all M&A activity in Israel in the last 15 years is linked to photonics Companies include Mobileye, Lumus, Innoviz Technologies, Corephotonics, and Deep Optics

Unmanned Aerial Systems (UAS) in Mohawk Valley

Anchors:

- FAA test site at Griffiss International Airport
- Many companies with UAS tech including Harris, Lockheed Martin, AIS, Saab, Gryphon Sensors, and SRC
- Genius NY, located in Syracuse, is the largest UAS accelerator in the world

Israel's strengths:

- World's largest military drone exporter led by companies such as Israel Aerospace Industries, Elbit Systems, Rafael, and Aeronautics
- As of 2016, ~40 operational Israeli commercial drone start-ups and total of \$80M in capital raised

Nanotechnology in the Tech Valley

Anchors:

- The Tech Valley includes the Capital District and Hudson Valley and is a global center for the hightech industry, digital electronics and microchip manufacturing, and nanotechnology
- College of Nanoscale Science and Engineering (CNSE) with its \$4.5B research facilities is the first academic institution in the world wholly dedicated to nanotechnology research and development
- Major corporate R&D such as IBM's Watson Research Center

Israel's strengths:

- Third-largest concentration of nanotech startups with 80+ companies in the sector overall as of 2016
- 1,600+ Israeli nanotechnology patents filed and 12,500+ scholarly articles published in the last 9 yrs
- Over 1,600 active nanotech research programs involving Israeli academic institutions and local and international companies

Life Sciences Center in the Southern Tier

Anchors:

- Gov. Cuomo's \$650M Life Sciences Cluster initiative which would provide R&D tax credits, new lab space and equipment funding, advisory panels for start-ups, and programs to attract talent.
- NY has the largest number of STEM graduates in the Northeast
- ~300K sq. ft. of available lab space and 116 acres of land around Binghamton, Broome, and Cornell

Israel's strengths:

- ~1,350 Life Sciences companies active in Israel with 1,200+ of them established since 2007
- \$8B+ in annual Life Sciences exports with Medical Devices, Healthcare IT and Digital Health, and Biotech & Pharma generating the majority of revenue



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