

# Artificial Intelligence Industry in Israel Landscape Overview 2021

Teaser

December 2021



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## Introduction

Developed by Deep Knowledge Analytics, **Artificial Intelligence Industry in Israel Landscape Overview 2021** report contains:

- A broad overview of the AI sector;
- Providing a general landscape of the industry as distribution of AI companies in Israel;
- AI companies by categories and number of AI companies by region;
- Top Israeli companies' funding by categories;
- Leading AI startups;
- Major AI and high-tech hubs operating in Israel.

The study is based on the analysis of aspects of the interaction and involvement of the Israeli government in Artificial Intelligence, the digital solutions implemented in the fight against the consequences of COVID-19, the usage and influence of AI in various business sectors.

Since the high-tech sector does not have any border, this study investigates general trends and predictions in the global AI sphere. The report will touch on the position of the major global tech companies in AI developments and which type of AI algorithms are applied in business.

# AI Industry in Israel Landscape Overview 2021

**Business Intelligence  
& Analytics**

**Companies - 630  
Investors - 510  
R&D Centers, Labs,  
Non-Profits - 80+**

**Security & Safety**

**Retail Solutions**

**AgTech Solutions**

**Virtual Assistant &  
Chatbots**

**GovTech & LegalTech**

**Entertainment**

**FinTech & InvestTech**

**Logistics & Transportation**

**Sales, Marketing & Advertisement**

**Others**

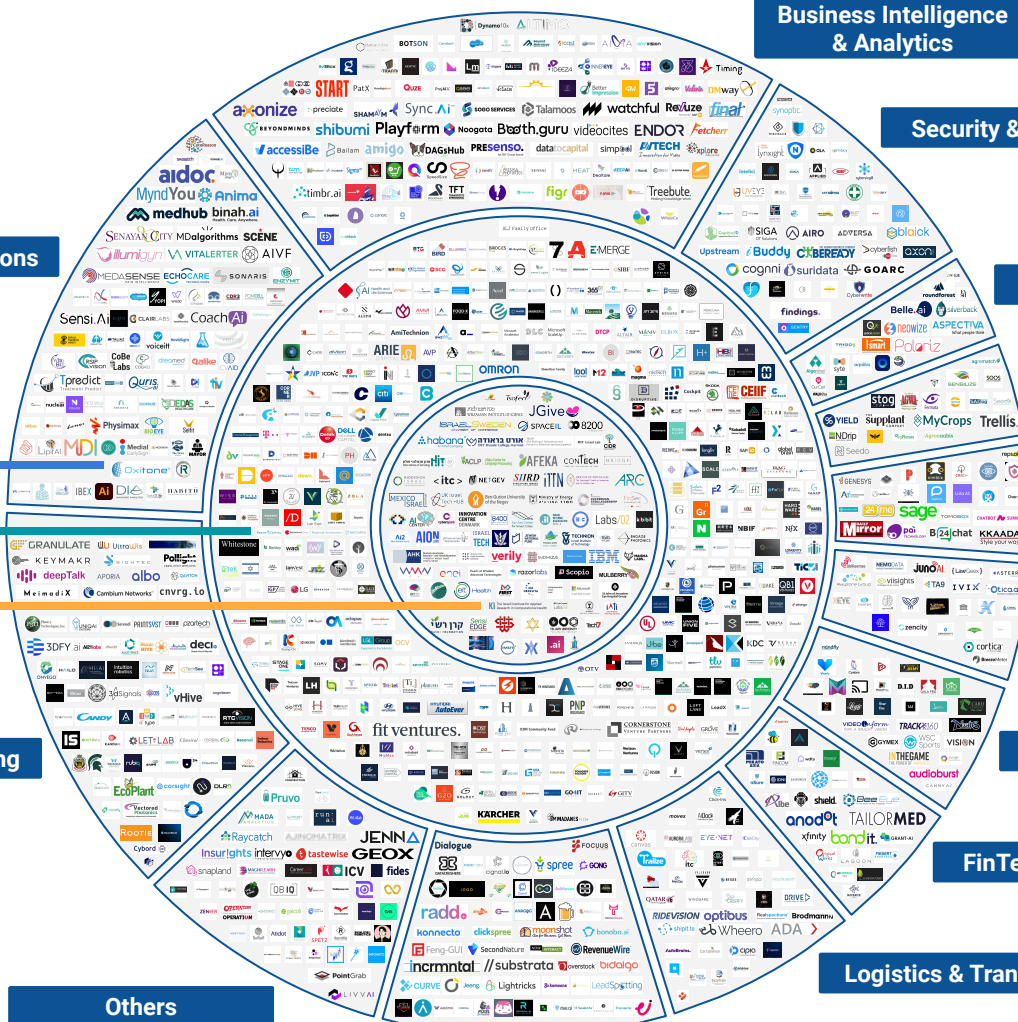
**Science & Engineering**

**R&D Centers,  
Labs, Non-Profits**

**Companies**

**Investors**

**Healthcare Solutions**



# Executive Summary

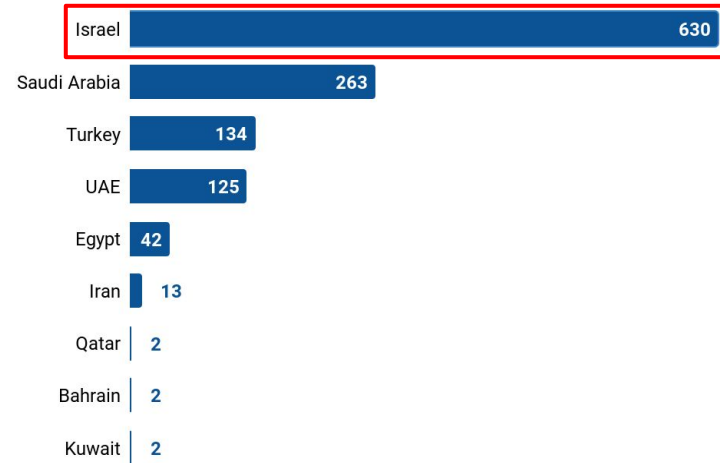
## Methodology

In the study, AI companies, investors and non-profit organisations, R&D centres and hubs were analysed. Such categories ranged AI companies as AgTech, Sales, Marketing & Advertisement, Business Intelligence & Analytics, FinTech & InvestTech, Healthcare & Life Sciences, Logistic & Transportation, Retail Solutions, Science & Engineering, Security & CyberSecurity, Virtual Assistant & Chatbots, GovTech and LegalTech and others. The latter include EdTech, Renewable Energy, Real Estate, Travel and Tourism, Recruiting and Human Resources.

Analysing AI companies such technologies were highlighted: Chatbot & AI Assistants, Computer Vision, Intelligent Data Analysis, Internet of Things, Machine Learning, Predictive Analytics, Recommendation Systems, Robotics, Search Engines & Language Processing, Cyber Security, and others.

The report represents a deep analysis to highlight the importance of Artificial Intelligence nowadays. It shows how elaborated and diversified is its application and emphasises the real-life examples, stating particular facts and figures. Moreover, it reveals the AI potential and the obstacles met by this industry, which are restraining its full aptitude.

## AI Companies in Middle East



## Key Findings

**6th place**  
The Global AI Index

**15th place**  
Global Innovation Index (WIPO)

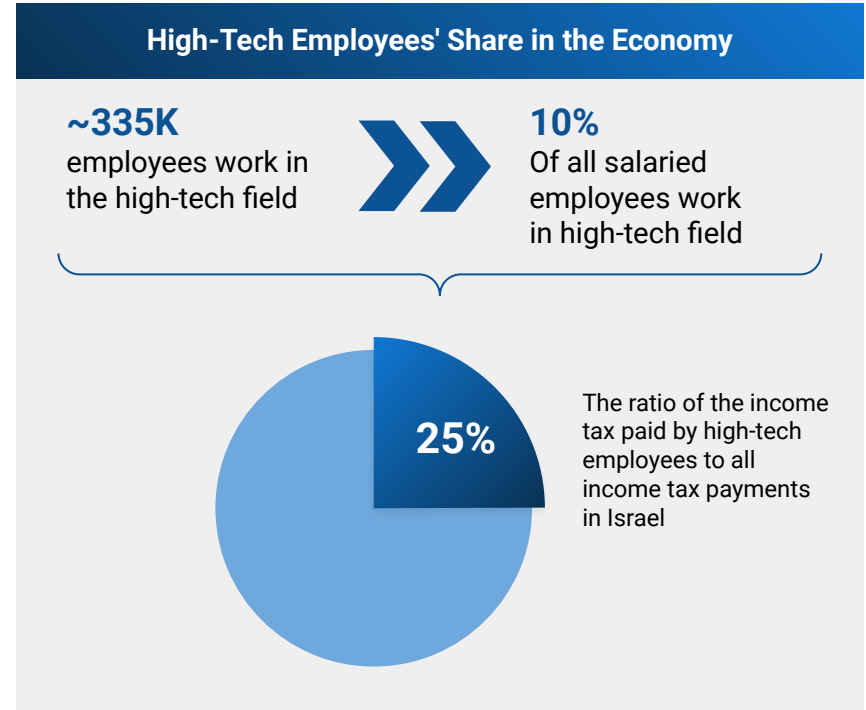
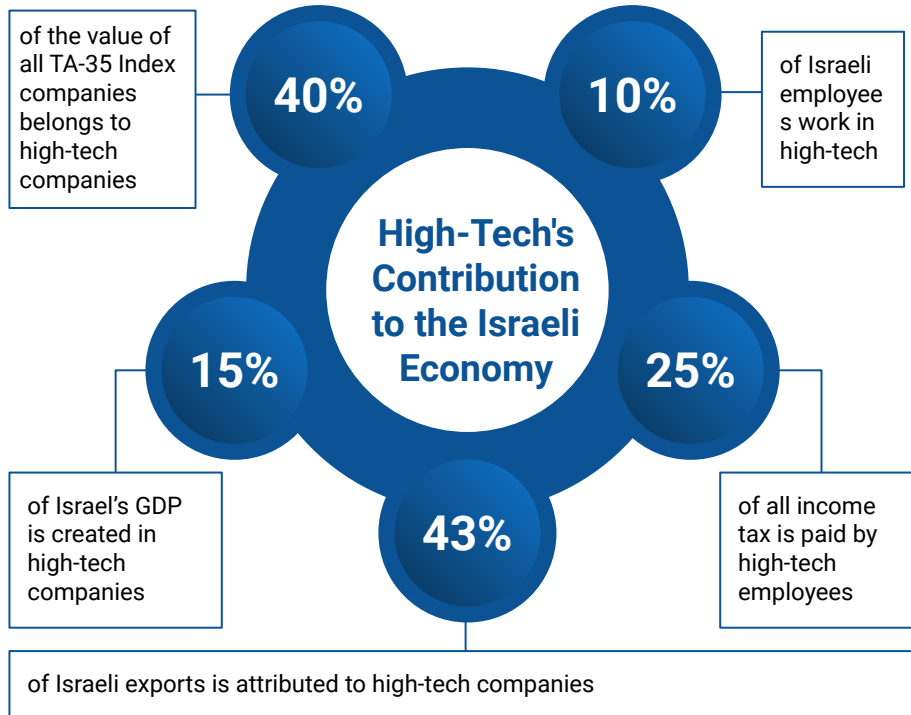
**630**  
AI Companies

**Tel Aviv**  
Is the main district by number of AI companies (326)



# High-Tech Industry in Israel

In many ways, there has never been a better period for Israeli high technology. The industry appears to be growing steadily, with Israeli startups attracting ever-larger investments and achieving significant commercial success. High-tech workers remain a strong group and benefit from excellent working conditions compared to their peers in other industries.



# AI in Israel Landscape

Artificial Intelligence is a field that is extremely important to Israel as the state is one of the countries leading in its development. AI helps Israel to deal with the challenges it faces, as its economy relies heavily on the high-tech industry.



Israel is called the “startup nation,” because of its large number of startup companies in comparison to the size of its population. Israel is an international technological leader.

Israel ranks first out of 25 in the fields of technology and entrepreneurship, particularly due to its military strength. Israel is a global leader in cybersecurity and cyber warfare.



Startups and international companies have established development centers in Israel. Taking into consideration Israel’s strength in areas as big data and hardware, it is a huge advantage.



Israel’s goal is to become a world leader in medical implementation of AI. Companies are developing algorithms that use patient data and lifestyle information to accelerate and inform diagnoses.



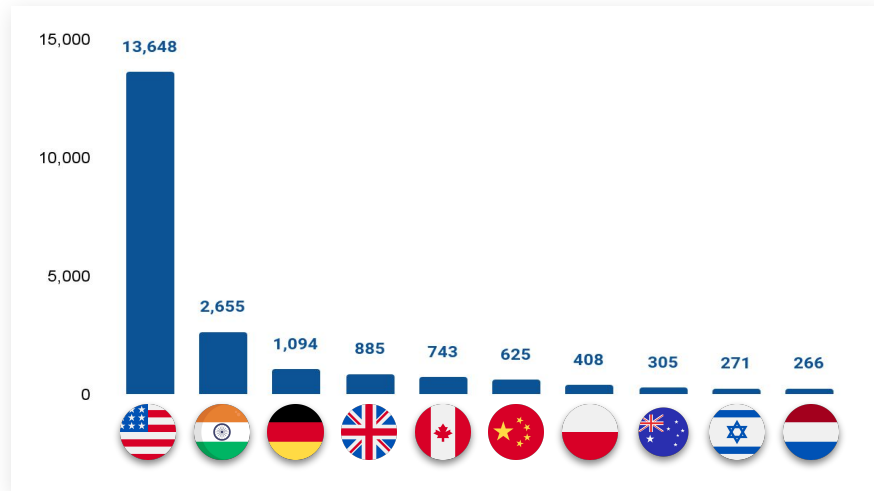
The Israeli government has developed a national strategy to make the country a leader in AI. On December 23rd, 2020 Israel has launched the program to promote AI and data science at a total cost of 1.63 billion U.S. dollars.

# State of AI Technology in Israel

## AI Developments in Israel

- Israel has announced to launch a national **AI strategy** in 2020.
- Israel aims to be among the world's five leading countries in AI.
- The government heavily funds high tech industry, especially the development of AI in the Defense sector. The government approved around \$1,6B (NIS 5B) for AI program over 5 years in 2020.

## AI-Hirings by Countries in September 2021

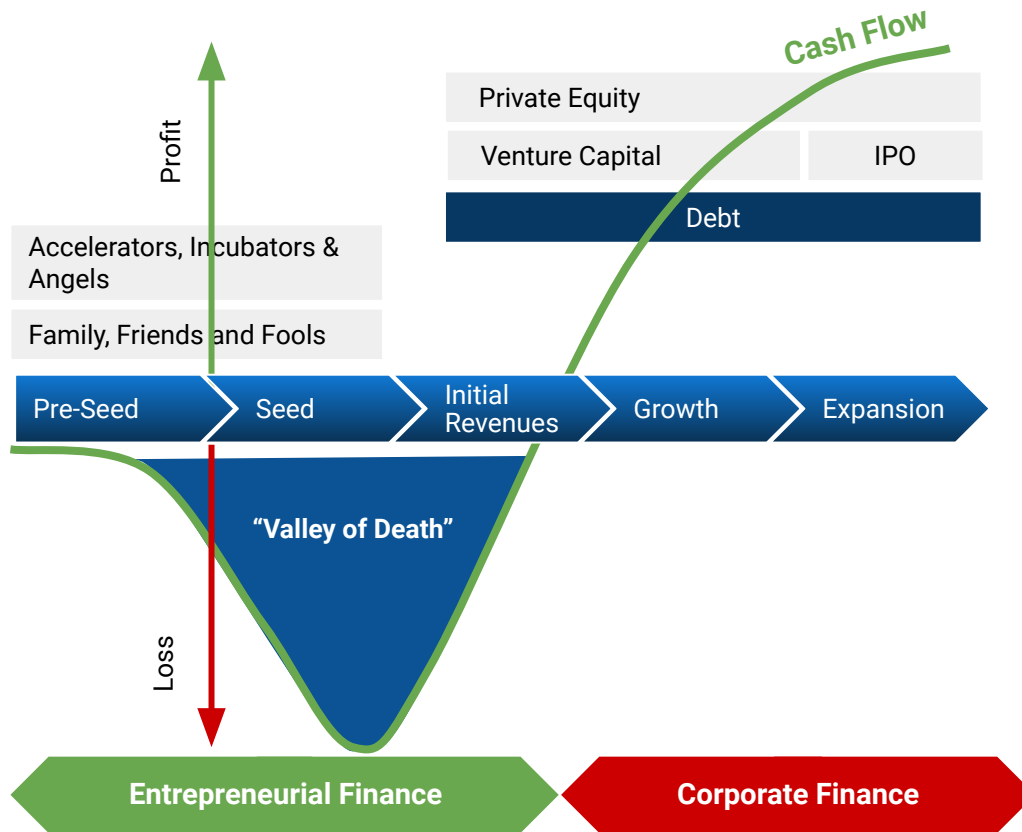


## Top AI Research Institutions in Israel



- According to the most recent data, Israel ranks among the top ten countries for AI hiring. In September 2021, there will be 271 job openings in AI sector in Israel. The USA is the top AI hiring country with 13,684 opened vacancies.
- Many high-tech companies open their offices in Israel (an area similar to Silicon Valley, called "Silicon Wadi"). This factor boosts the development of AI and human capital in Israel.

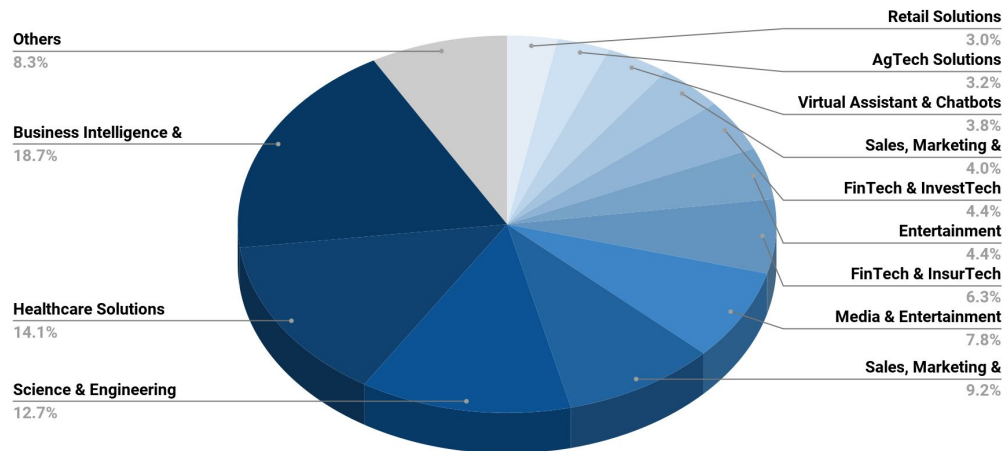
# Types of Financing in a High-Tech Company's Life-Cycle



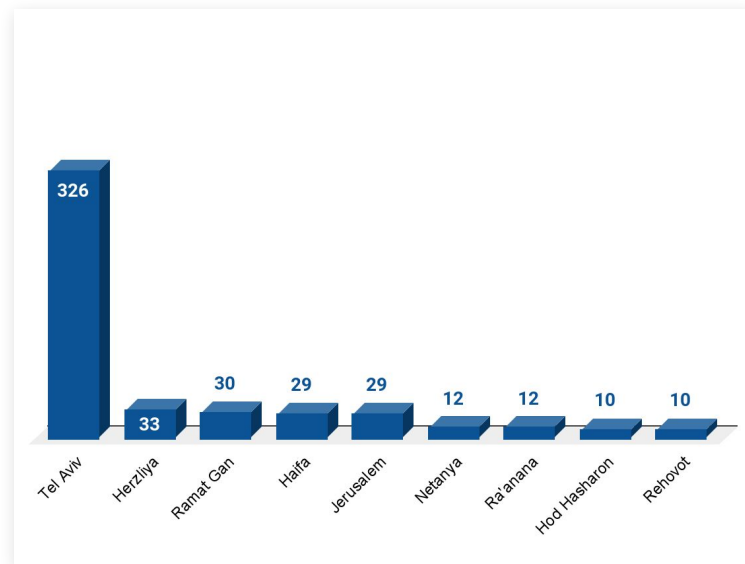
High-tech companies in growth stages require **significant capital to fund their growth mechanisms** such as marketing existing products, business development, sales growth, geographic expansion, technical support, manufacturing, and synergy acquisitions that facilitate their expansion to other geographic regions, markets and sectors. The **scheme depicts the appropriate type of financing at various stages** in the life of a high-tech company. Changes in financial instruments over the life of a company reflect a decrease in the level of investment risk in line with the company's maturity and the cost of capital, respectively. This shows that debt financing is essential for the growth stage and is often used early in the income generation stage.

# AI Companies by Categories and Region

## AI Companies by Categories\*



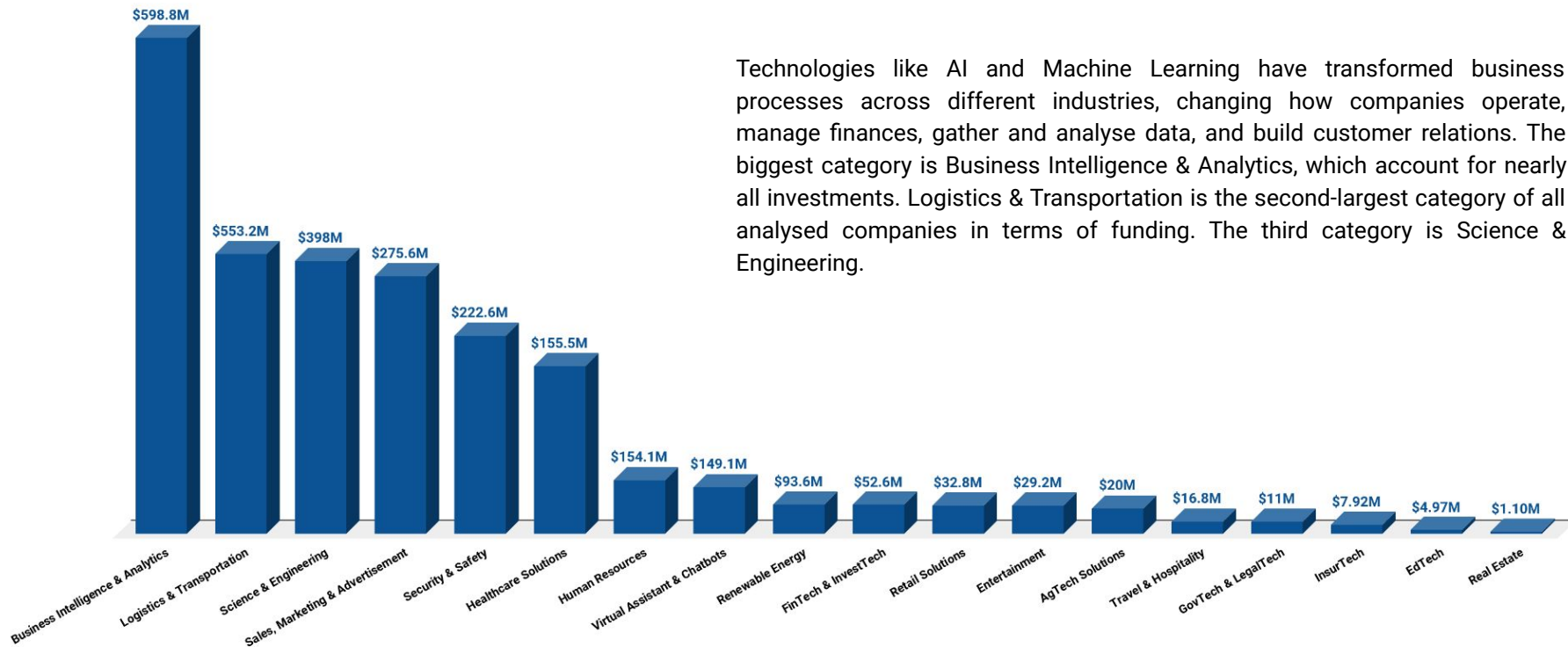
## AI Companies by Region



The AI companies in Israel are involved in three categories: Business Intelligence & Analytics (18.7%), Healthcare Solutions (14.1%), Science & Engineering (12.7%). Tel Aviv is the city that comprises the most AI companies in Israel. Also, Tel Aviv is ranked 45th in an Innovation in a Business index published by business-to-business financial services company FINOM.

\*Category "Others" includes Human Resources (1.90%), Travel & Hospitality (1.90%), Real Estate (1.74%), Renewable Energy (0.95%), InsurTech (0.95%) and EdTech (0.79%) categories.

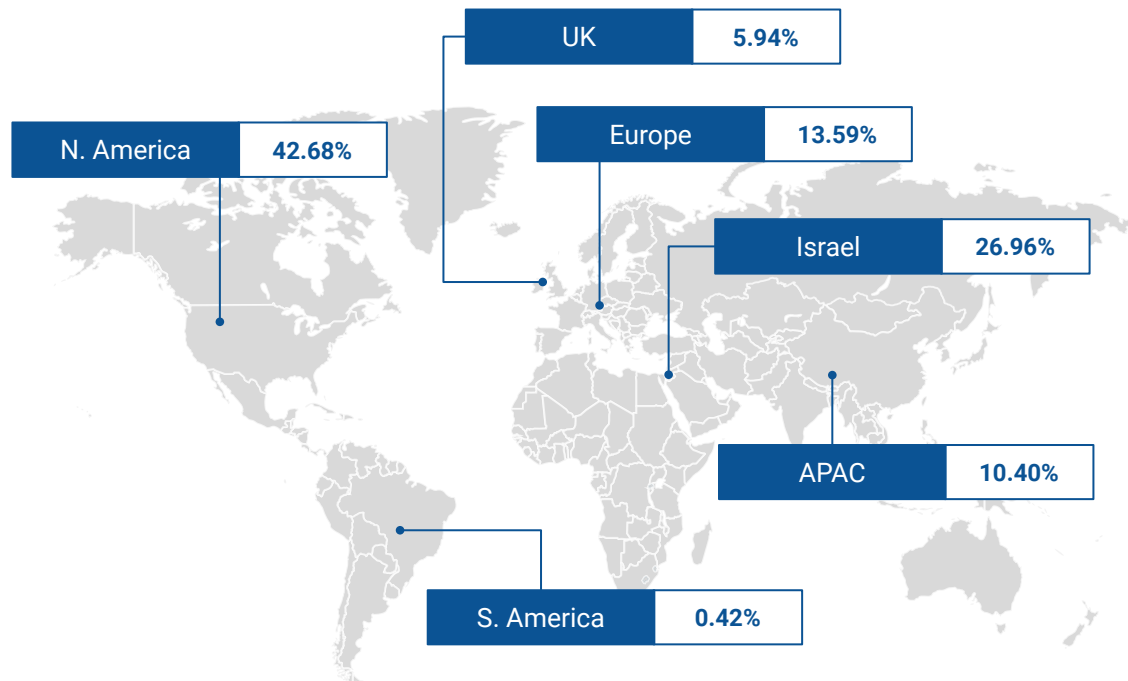
# Top Israeli Companies' Funding by Categories, 2020-2021



Technologies like AI and Machine Learning have transformed business processes across different industries, changing how companies operate, manage finances, gather and analyse data, and build customer relations. The biggest category is Business Intelligence & Analytics, which account for nearly all investments. Logistics & Transportation is the second-largest category of all analysed companies in terms of funding. The third category is Science & Engineering.

# AI Investors in Israel

## Investors: Regional Proportion



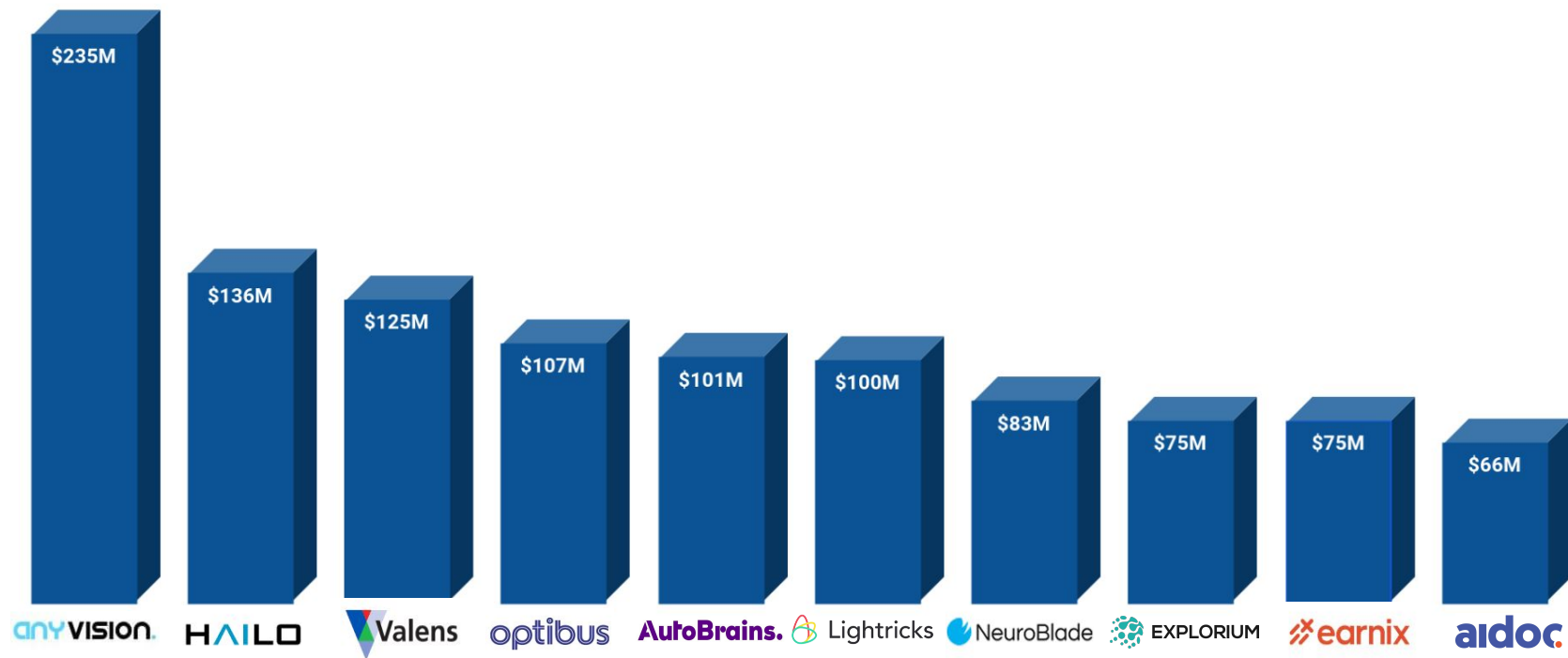
Israel sets out to become the next major **Artificial Intelligence player**. In eight million, often referred to as a “start-up nation”, reality has kept pace with rhetoric. Israel’s tech and innovation ecosystem have had a monumental year so far in 2021, **breaking** funding **records** and **yielding 10 new unicorns – private companies valued at \$1B or more** – just in the first three months of the year, more than any country in Europe. Israeli high-tech activity on public markets also increased significantly this year, a trend reflected in the number of IPOs, SPAC (special-purpose acquisition company) transactions, and follow-on offerings. Such a rise attracts investors from all around the world in the proportion that is shown on the graph.



# Leading AI Companies in terms of Investments

2021 is a record-breaking year for the Israeli high-tech ecosystem. In the first three quarters of the year, the investments in Israeli tech reached \$17.78B, an increase of 71% on the amount raised throughout all of 2020. AI companies are not an exception.

## Top 10 AI Companies by Investments in 2021



# AI Startups and Hubs in Israel

## AI Startups



Percepto uses robotics to perform autonomous inspections of vital infrastructure and assets.



Deci enables deep learning to live up to its true potential by using AI to build better AI.



Run:AI has built the world's first compute - management platform for orchestrating and accelerating AI.



Verbit is using smart AI technology to disrupt transcription and captioning with automation and speed.



Razor Labs builds tailor-made neural networks and helps mining and manufacturing companies "reap the benefits arising out of the AI revolution."

## AI & Tech Hubs



StartupHub.ai is the authority of data for Israel's ecosystem of startups, investors, governments, corporations and engineers building and investing in AI technologies.



ARC is a global ecosystem that prioritizes Innovations in digital health. It includes about 100 hospitals, industry partners academic partners and start-ups.



Sheba Medical Center's Big Data and Artificial Intelligence (AI) Hub is the largest health innovation center in Israel. The purpose of this hub is to provide a unified source of medical data and analytics.



The UK Israel Tech Hub is a not-for-profit venture. The Hub helps British companies to partner with cutting edge technology from Israel.

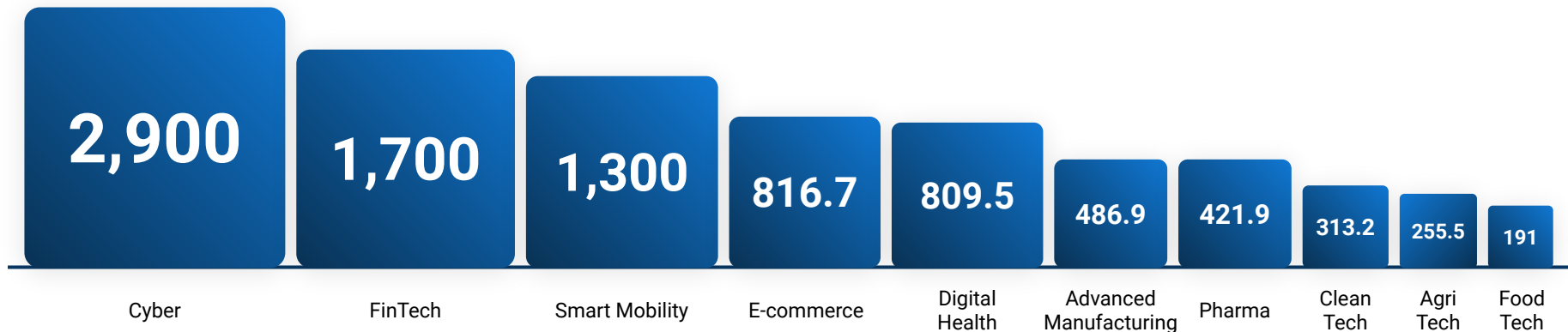


AION Labs is an alliance of global pharma and technology leaders and investors. It aims to create and adopt gateway AI and computational technologies that will transform the process of drug discovery.

# Investments in Israeli Technology Companies

New opportunities have also opened up for Israeli technology companies to develop and export solutions in high-demand areas and build technology infrastructure for digital transformation. Changes in global demand have naturally also benefited Israeli tech companies that are developing solutions for high-demand areas. One such example of the past year was the more apparent need for and, as a result, the removal of barriers associated with the introduction of digital health technologies, including technologies that provide remote health services (telemedicine).

## Investments in Israeli Technology Companies in 2020, USD millions



# AI and Israeli Government

The Israeli government is developing a national strategy to make the country a leader in artificial intelligence (AI). Organisation for Economic Co-operation and Development reports about five governmental policies.

	Policy Initiatives for Israel:	Description	Responsible body
1	AI COVID-19 Response	Launch of the digital platform, which generates a personalised, AI-based risk profile for COVID-19. <b>Start date: 2020</b>	Maccabi Healthcare Services; Israeli Ministry of Health
2	AI R&D framework and activities of the Israeli innovation authority	The initiative to create the framework that leverages the creation of AI-knowledge facilities and infrastructure. <b>Start date: 2019</b>	Israel Innovation Authority
3	AI strategy governmental team	A cross-governmental team was set up to devise recommendations for a policy plan to promote AI R&I activities in Israel. <b>Start date: 2020</b>	Prime Ministers office; Ministry of Defense; Israel Innovation Authority; National Cyber Directorate Council for Higher Education
4	C4IR Network	Israel is the member of WEF C4IR Network which pursues smart regulation of emerging technologies such as AI. <b>Start date: 2019</b>	Israel Innovation Authority; Prime Ministers office; Ministry of Economy
5	Data Science Initiative	Governmental program to support data science research within Israeli academic institutions. <b>Start date: 2018</b>	Council for Higher Education

# AI usage in Israel During COVID-19

## AI and Diagnostics

Tel Aviv University researchers have developed a new **machine learning-based COVID-19 model** that predicts a positive diagnosis from symptoms.

## AI and Covid-related initiatives

Israel Data Science Initiative, along with international partners, arranges **the International virtual COVID Data Challenge**, which was focused on medical imaging in the context of a pandemic.

## AI and Community

Rafael Advanced Defence Systems, a state-owned Israeli technology company, has converted its **AI-based cyber-security defence system** to predict the location of the coronavirus outbreak.

## AI and Mental Health

Israeli start-up Rubato developed the **AI technology** that matches music to the listener's physiological and psychological state by using **machine-learned data** based on biometrics and musical attributes.

## AI and Medical Treatment

Israeli company [CLEW Medical](#) created **AI-powered, machine-learning models** that enable intensive care unit (ICU) workers to manage disease severity and workload proactively.

## AI and Healthcare

The Israeli Ministry of Health recently launched a nationwide scheme that monitors coronavirus-related symptoms of the population by using **an AI-based** risk assessment and monitoring platform for COVID-19.

## Case Study: AI usage in Israel during Covid-19

COVID-19 diagnostic tests are done using the qPCR technique. qPCR is a method to identify pathogens (bacteria, viruses, fungi) and other diseases by looking for known DNA (or RNA) sequences in samples.

Israeli company **diagnostics.ai** developed pcr.ai that automatically uses artificial intelligence and machine learning analysis qPCR data, removing the need for specialists and ensuring standardization, accuracy and quality control. diagnostics.ai focuses on using innovative artificial intelligence (AI) and machine learning to improve diagnostic accuracy and cut costs to improve patient safety worldwide. The company develops solutions for the analysis of the complex data produced during the qPCR process.



Israel-based **Touchless.ai** has started deploying a voice solution that can transform any digital kiosk into a touch-free device. The answer was explicitly designed to help prevent touching public or commercial devices that could spread the coronavirus (Covid-19).

The technology considers public spaces and has been optimized for noisy conditions, helping businesses implement it into their existing interactive systems. Touchless.ai shows numbers on a screen that correlate to options, allowing people to make selections without touching public interfaces and risking their physical health. Touchless.AI has started trials in the U.S. and some European countries and supports English, Japanese, and Hebrew.



# Trends for AI in Israel

Due to the fast development of technology the humankind is on the edge of a new industrial revolution. The fourth revolution is expected to create new jobs, improve effectiveness in industry, increase supply and lower prices as previously happened.

AI will considerably reduce the R&D expenses as it is developed to build computational models of diseases, which can help produce software that will reveal the effects of a particular disease in the human body.



AI will help increase the global economy; to find cures for illnesses faster, improve health systems, facilitate the safety of transportation; stimulate use the of natural resources wiser to save the environment.

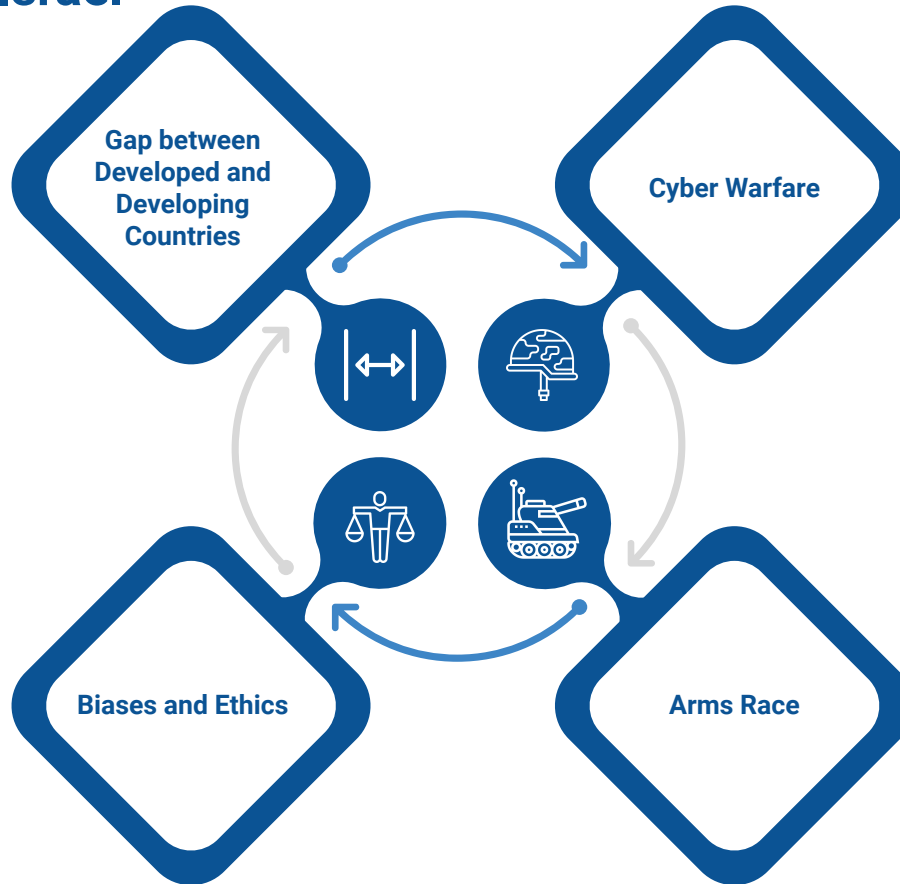
Human resources in AI are necessary for the country to prosper; therefore, the Israeli Government should find various tools to train employees and attract people for in-demand AI professions.



# Obstacles for AI in Israel

AI will enlarge the gap between developed countries and developing ones. AI may limit the developing countries in the international arena and possibly even struggle to keep their sovereignty.

It is said that “an AI system is only as good as the data it accepts.” When the data used to train the machine is not sufficiently diverse, biases may appear. The systems may express prejudice and discrimination toward specific groups in society.

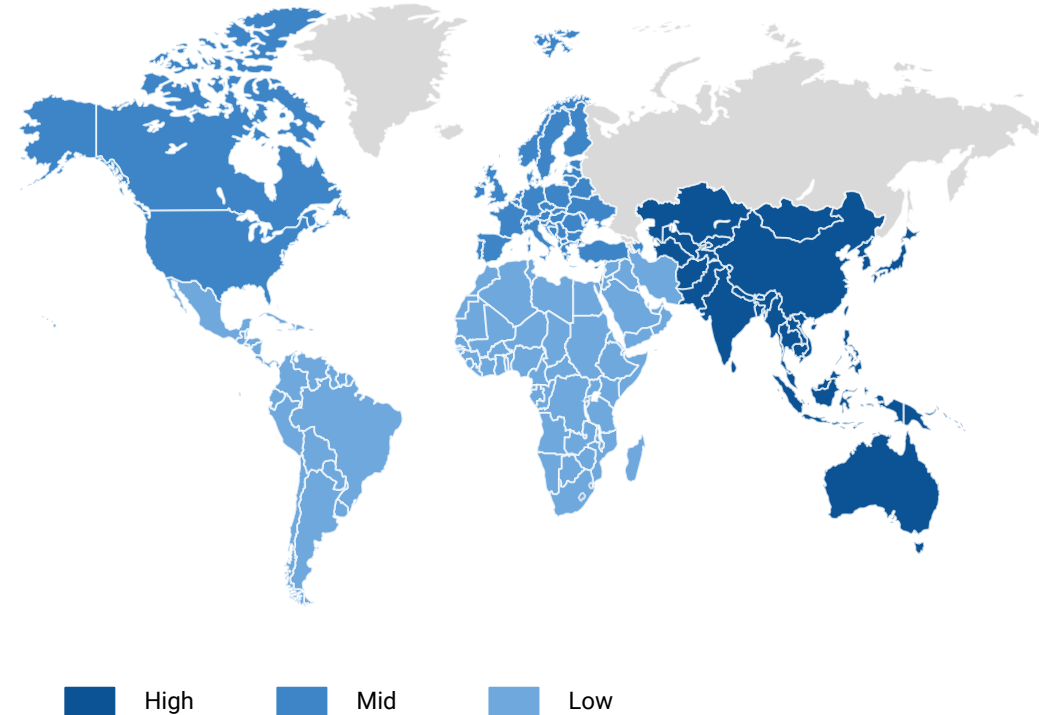


AI systems are vulnerable to cyber-attacks. AI technology increases the possibility to get hacked. Also, “stealing” AI systems is easy because they are based on the software used immediately after the theft.

Israel's military power has impressed the world. The arms race in the development of AI is prominent, while Israel is the leading player in the Middle East. The race may threaten the world order and change the existing balance of power.

# Predictions of the Global AI Market Development

## AI Market-Growth Rate by Region, 2021-2026



## Key Takeaways

The market is witnessing lucrative opportunities attributed to **natural language processing**, which is being implemented in chatbots, and contract intelligence. **Deep learning** offers profitable investment opportunities as it helps in overcoming the challenges of high data volumes.

The growing **data security** concerns globally and the rising number of data breach incidents related to the cloud have acted as significant restraints to the growth of the market studied through late 2020 and early 2021.

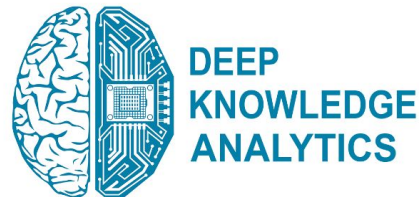
**The Top 5 key players that dominated the global AI market in 2020 include Microsoft; Amazon.com, Inc.; and Alphabet Inc., Intel and IBM.** These major players are taking several strategic initiatives, such as mergers and acquisitions, partnerships, and collaborations with other major companies.

**The Artificial Intelligence market comprises global players focusing on gaining a difference** in a competitive market space. Overall, the competitive rivalry within the industry is expected to be high during the forecast period. The number of firms is increasing rapidly.

# About Deep Knowledge Analytics and HI4AI

[Deep Knowledge Analytics](#) is a DeepTech focused agency producing advanced analytics on DeepTech and frontier-technology industries using sophisticated multi-dimensional frameworks and algorithmic methods that combine hundreds of specially-designed and specifically-weighted metrics and parameters to deliver sophisticated market intelligence, pragmatic forecasting and actual sector benchmarking.

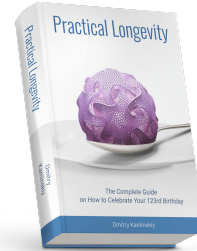
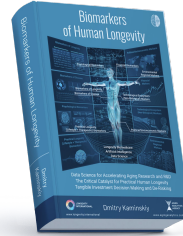
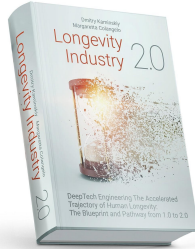
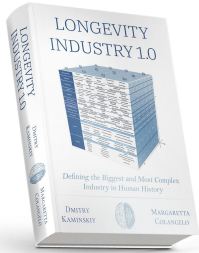
It is an analytical subsidiary of [\*\*Deep Knowledge Group\*\*](#), an international consortium of commercial and non-profit organizations focused on the synergetic convergence of DeepTech and Frontier Technologies (AI, Longevity, MedTech, FinTech, GovTech), applying progressive data-driven Invest-Tech solutions with a long-term strategic focus on AI in Healthcare, Longevity and Precision Health, and aiming to achieve positive impact through the support of advanced technologies for the benefit of humanity via scientific research, investment, entrepreneurship, analytics and philanthropy.



[HI4AI](#), headquartered in Tel Aviv, is one of the leading AI companies delivering support to AI-based companies worldwide to tag and map their data, annotate images and videos, and organize the data in large scale of activities. The company uses sophisticated computational methods such as Machine Learning, Convolutional Neural Networks, Computer Vision and Deep Learning.

Combining multiple variants of unstructured data such as sensor, image, video, text, and audio data and AI technologies, HI4AI offers practical applications that help companies by imitating human biological eyesight and visual understanding to execute and automate inspection tasks, identification tasks, controlling processes, detecting events, modelling objects and environments, autonomous navigation and organizing information.

# Deep Knowledge Group: Books

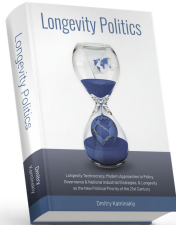


**Longevity Industry 1.0**  
2010-2020: Evolution of the Longevity Industry from Zero to 1.0

**Longevity Industry 2.0**  
2020-2025: DeepTech Engineering The Accelerated Trajectory of Human Longevity – The Blueprint and Pathway from 1.0 to 2.0

**Biomarkers of Human Longevity**  
The Critical Catalyst for Practical Human Longevity, Tangible Investment De-Risking, and Accelerated Ageing Research and Longevity R&D

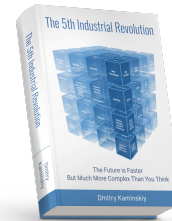
**Practical Longevity**  
Practical, Market-Ready Tools, Approaches and Frameworks for Optimizing Personal, Practical, Healthy Human Longevity



**Longevity Politics**  
2021-2030: The Rise of Longevity Politics, and the Solidification of Longevity as the New Political Priority of the 21st Century



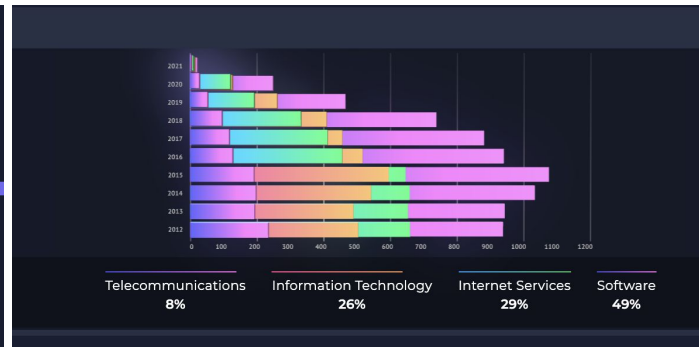
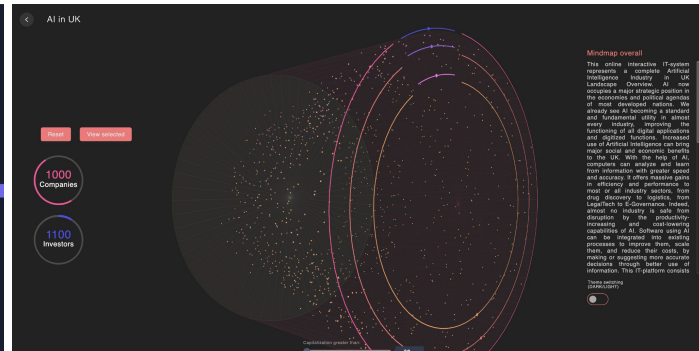
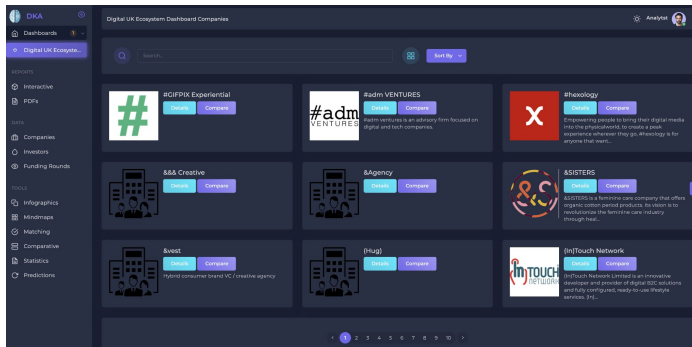
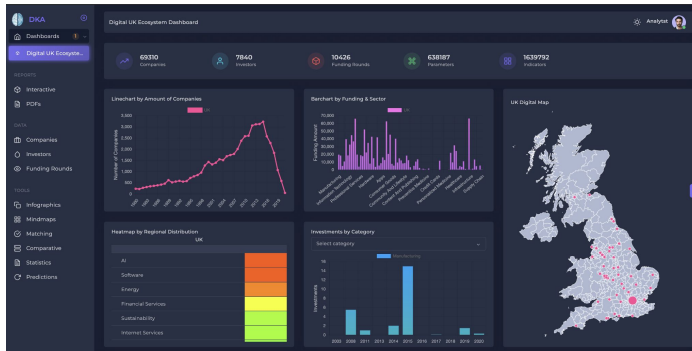
**Longevity Financial Industry**  
Health as New Wealth, Engineered Solutions to Bridge the Longevity Liquidity Gap, and the Rise of Longevity Investment Banks, Stock Exchanges and Financial Instruments



**The 5th Industrial Revolution**  
2030-2035: Defining, Forecasting, Optimizing and De-Risking the Accelerated Trajectory of Progress Toward the 5th Industrial Revolution

# DKA Digital Platform Concept

The Digital platform provides an opportunity to monitor digital industry growth in dynamics. In addition, the platform presents geographical data analytics visualisations, advanced 3D MindMaps and charts. Overall, it maintains a unique method in market research and forecasting, as well as trend visualisation.



# Longevity Governance Big Data Analytics Dashboard

**Market Intelligence**

Longevity Governance Market Intelligence

- Full Analysis
- Interactive Mindmaps
- SWOT Analysis
- Dynamic Charts

Full Big Data Analysis

View More

Dashboard Parameters

DATA POINTS	PARAMETERS	REGIONS
11984	240	50
LAYERS OF FRAMEWORK	DYNAMIC CHARTS	SWOT ANALYSIS PROFILES
6	100	50

SWOT Analysis

View More

Longevity Governance Market Intelligence

- Pre-Subscribe for Beta
- COVID-19 Dashboard
- 3D Visualization

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**Search Engine**

Longevity Governance Search Engine

- Benchmarking Charts
- Major Trends
- Practical Recommendations
- Big Data Framework

National Healthy Longevity Interactive MindMaps

View More

Longevity Progressiveness 3D Visualization

Longevity Progressiveness Benchmarking Charts

View More

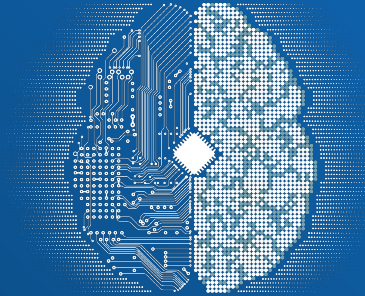
Longevity Governance Search Engine

- Health-Adjusted Life Expectancy (HALE) Gap and Life Expectancy
- Health-Adjusted Life Expectancy (HALE) Benchmarking

Deep Knowledge Analytics

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Link to the Report: [www.dka.global/ai-in-israel-2021](http://www.dka.global/ai-in-israel-2021)

E-mail: [info@dka.global](mailto:info@dka.global)

Website: [www.dka.global](http://www.dka.global)

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