

Global FoodTech Landscape Overview 2021 Q4

Teaser

October, 2021



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AgTech

Food Science

Companies - 400+
Investors - 800+
Accelerators, Hubs and
R&Ds - 15

GreenTech

Food Marketing

Delivery

Retail

Others

Food Service

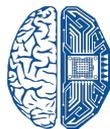
Food Processing

Companies

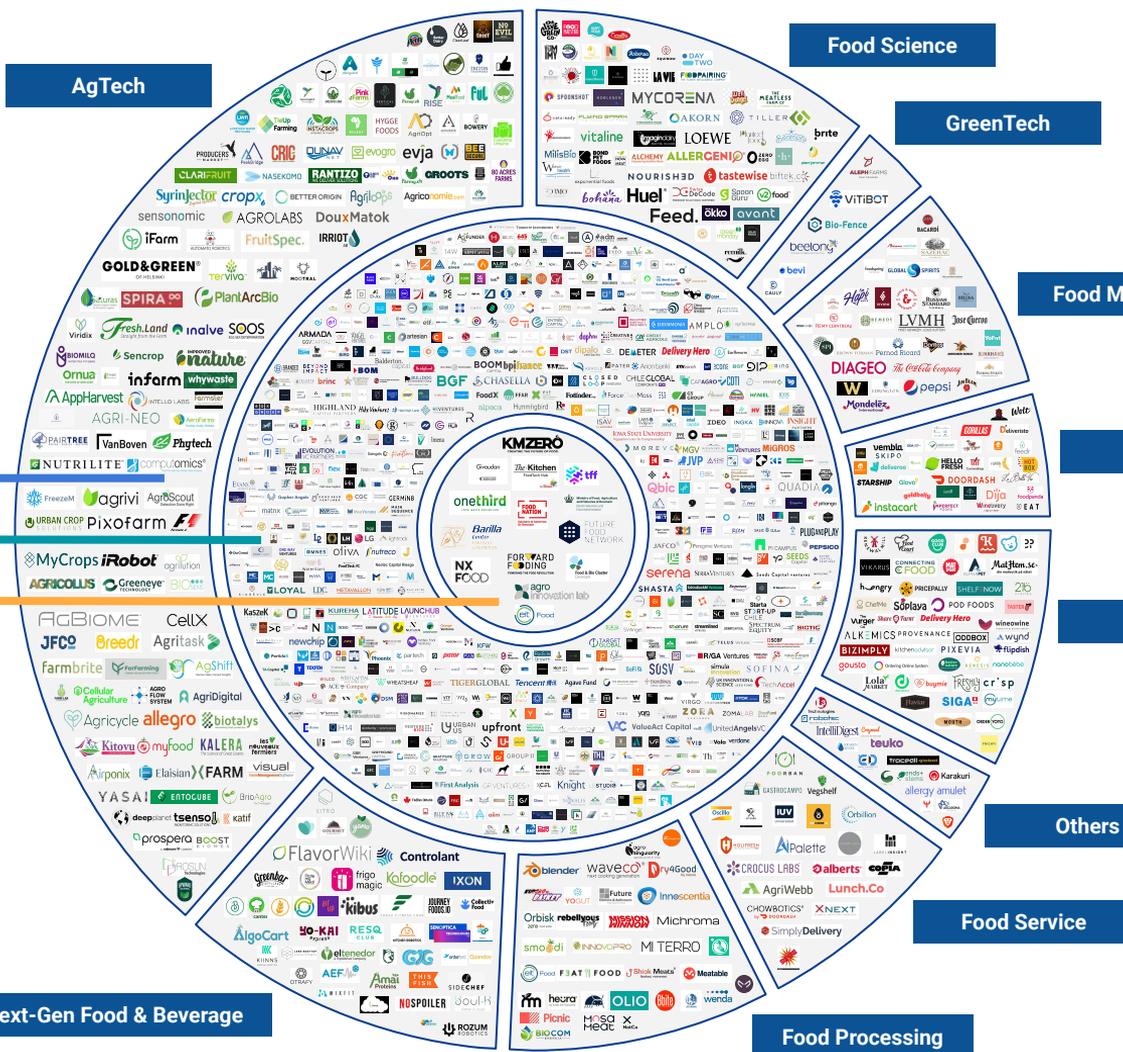
Investors

Accelerators,
Hubs and R&Ds

Next-Gen Food & Beverage

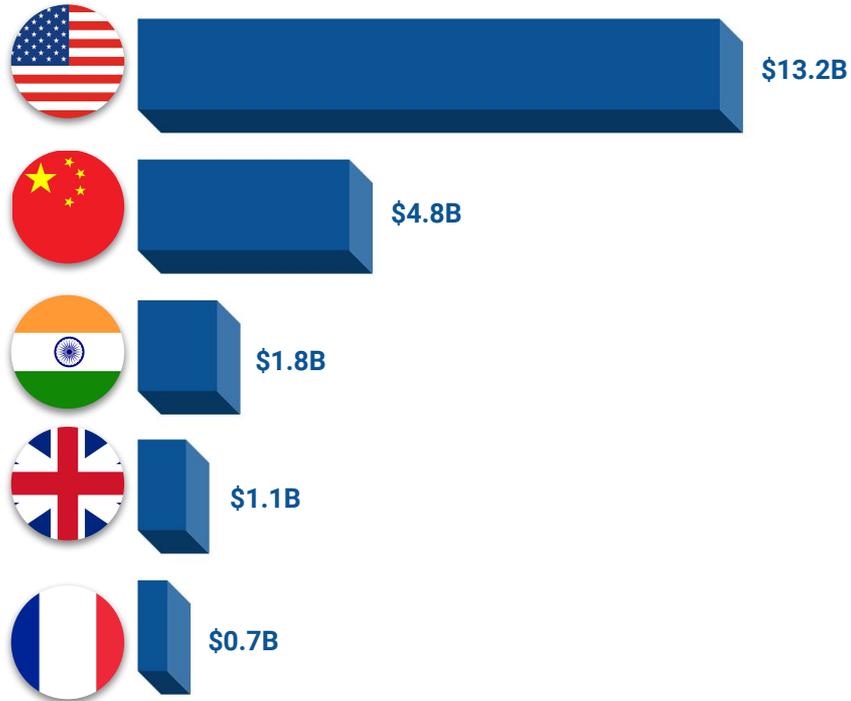


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Key Findings

Top 5 Countries by Investments in 2020



~\$80B	investments in AgriFoodTech companies since 2010*
\$20B+	investments in AgriFoodTech companies in 2020*
800+	Analysed Investors
400+	Analysed Companies
15	Technologies
10	Categories
AgTech	has the largest number of companies
USA	is the leading country in the number of FoodTech companies
North America	is the leading region in the number of FoodTech investors
Sustainability & Waste Management	are the trendiest companies' goals

FoodTech Industry Landscape Ecosystem

FoodTech (or ArgiFoodTech) is an ecosystem made of all the food entrepreneurs and startups (from production to distribution) innovating on the products, distribution, marketing or business model. With the global population growing and demands increasing each year, **food manufacturers will adopt more technology** to streamline operations and boost output. Among the most popular technologies used by FoodTech companies are Artificial Intelligence, Blockchain, the Internet of Things, Machine Learning, Robotics, etc.

Global FoodTech Market Size



New technologies have changed the world and the rules of the game in many industries. However, the food industry is still wondering how to apply innovations such as Big Data or the Internet of Things to its business.

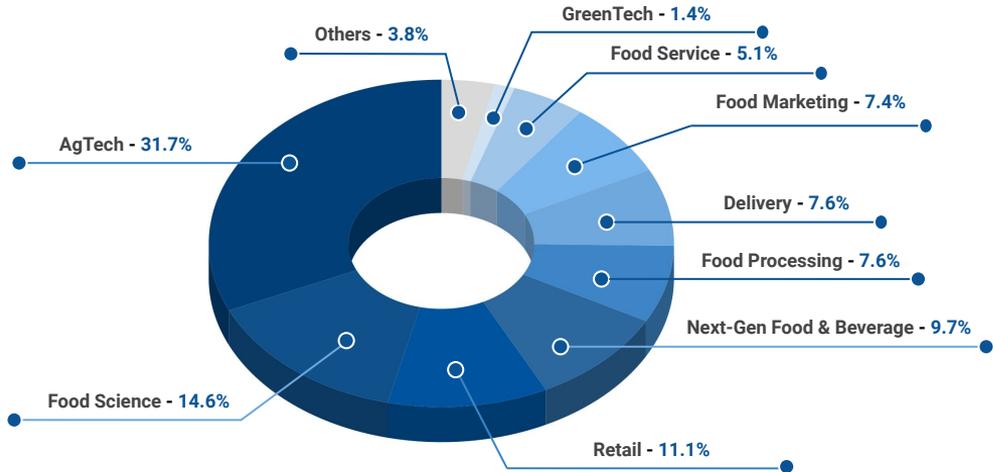
The Global FoodTech Market Size was nearly **\$220B** in 2019. With advancing technologies within the food industry and a demand for healthier, cheaper, and safer food products, the FoodTech market could reach a total turnover of more than **\$342B** by 2027.

Main Categories

-  AgTech
-  Delivery
-  Food Marketing
-  Food Processing
-  Food Science
-  Food Service
-  GreenTech
-  Next-Gen Food & Beverage
-  Retail

Global FoodTech Market Overview (1/2)

Companies by Category



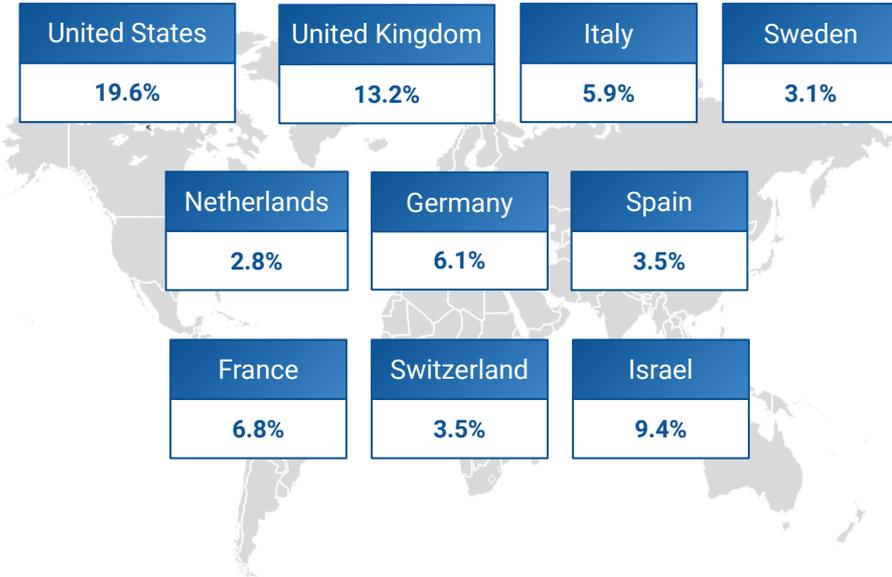
Technologies and Solutions Used in FoodTech

Advanced Analytics	Artificial Intelligence	Automation
Big Data	Blockchain	E-Commerce
Intelligent Data Analysis	Internet of Things	Machine Learning
Robotics	Smart Waste Disposal and Recycling	Software and Platform
Supply Chain Management	Sustainability Solutions	Others

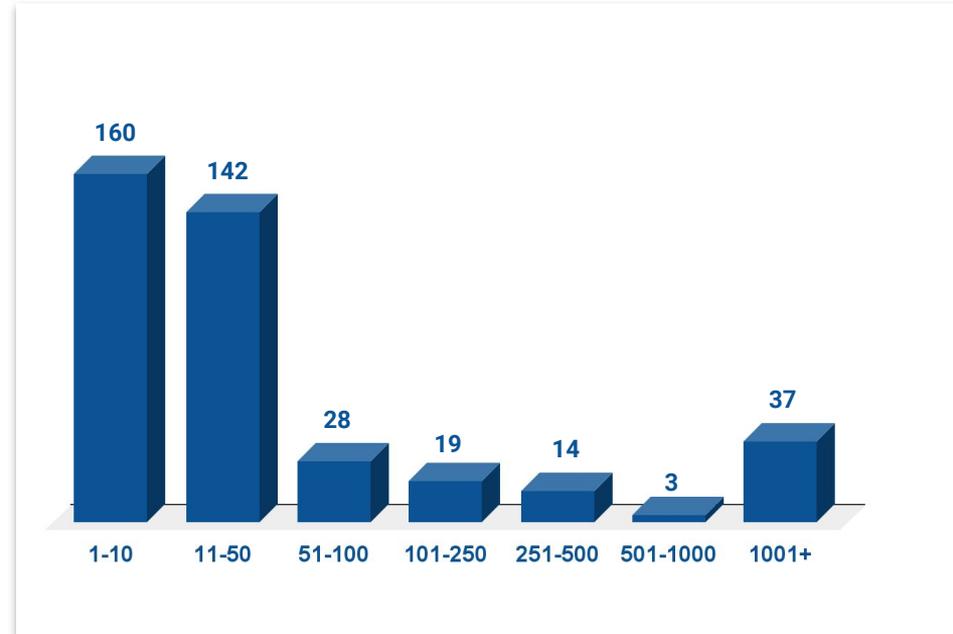
AgTech appears to be the top category among FoodTech companies and accounts for nearly half of all companies. AgTech is the utilization of technology to improve services and products that aim at increasing farming efficiency and sustainability. Sustainability has become a trendy topic nowadays, and companies are focused on implementing sustainable solutions, smart waste disposal and recycling to protect nature. Moreover, companies are implementing different advanced technologies to improve operations and enhance customers' lives.

Global FoodTech Market Overview (2/2)

Top-10 Countries by the Number of FoodTech Companies



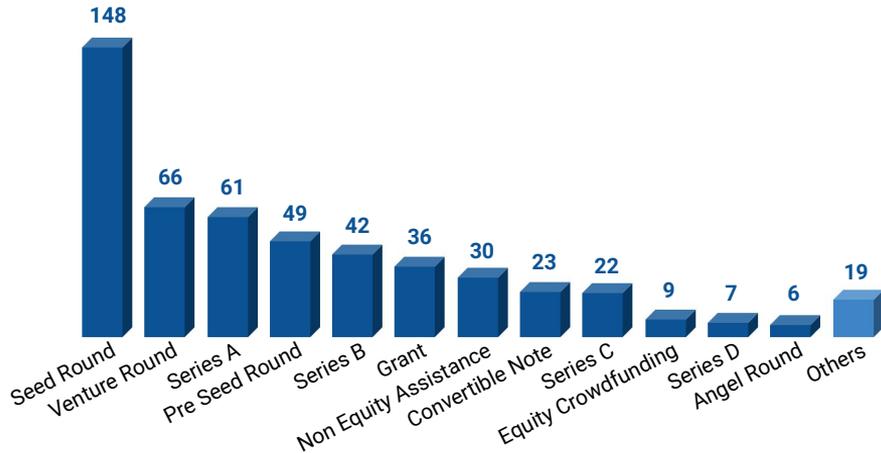
FoodTech Companies by Number of Employees



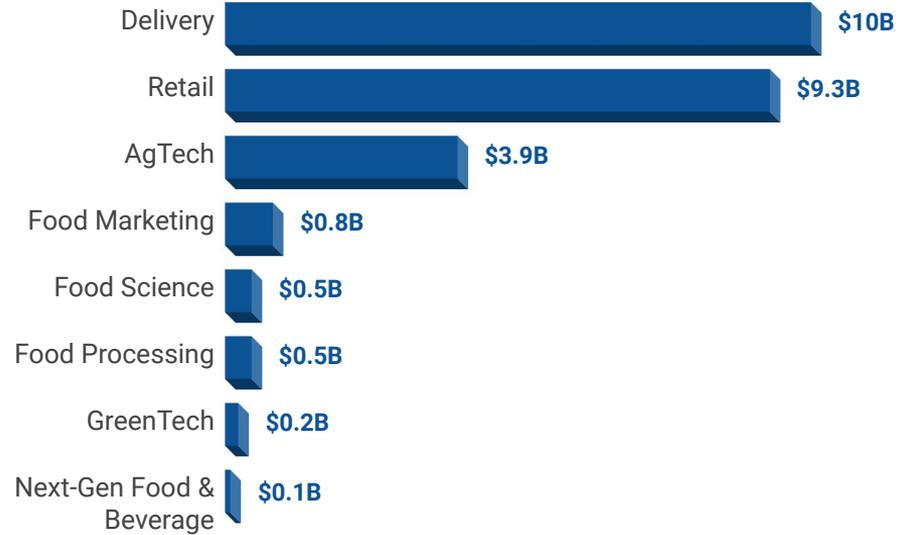
The United States holds the largest number of FoodTech companies. The food industry in the US is developing fast, with the number of startups in the country rapidly increasing. The United Kingdom and Israel follow the United States, accounting for 13.2% and 9.4% of analyzed companies, respectively. In terms of the number of employees, small companies (less than 10 workers) are the main category, as startups are contributing to the booming of the FoodTech industry.

FoodTech Companies by Funding

Number of Funding Deals Summarized, 2015-2020



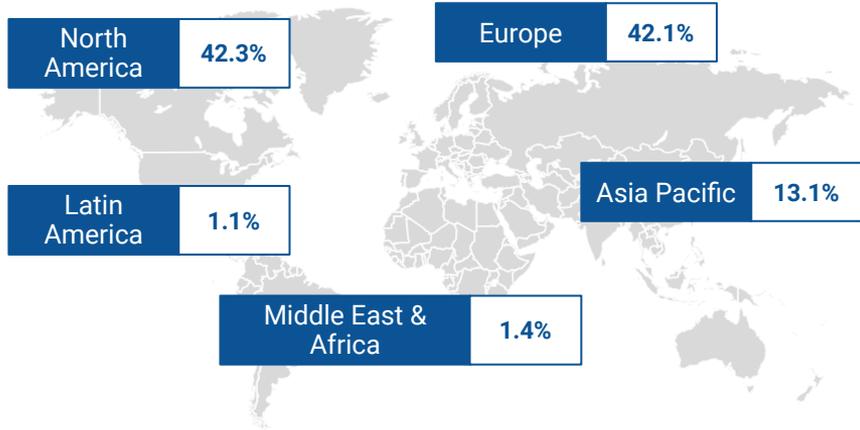
Top-50 Companies' Total Funding by Category



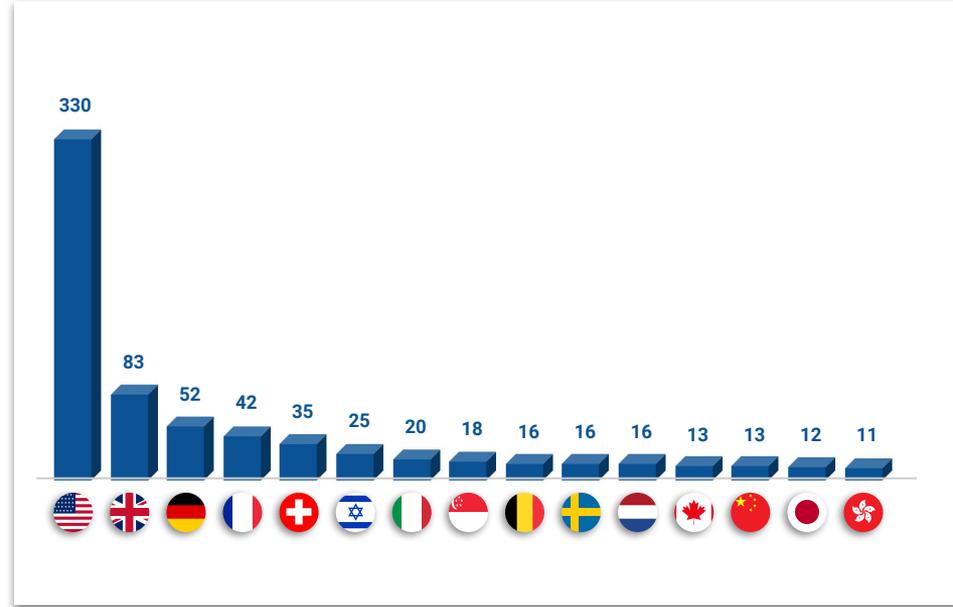
Most deals in FoodTech were made during Seed Round, Series A, and Pre Seed Round. Delivery companies raised more than \$10B, following by Retail and AgTech companies.

FoodTech Investors' Regional Distribution

Investors: Regional Proportion



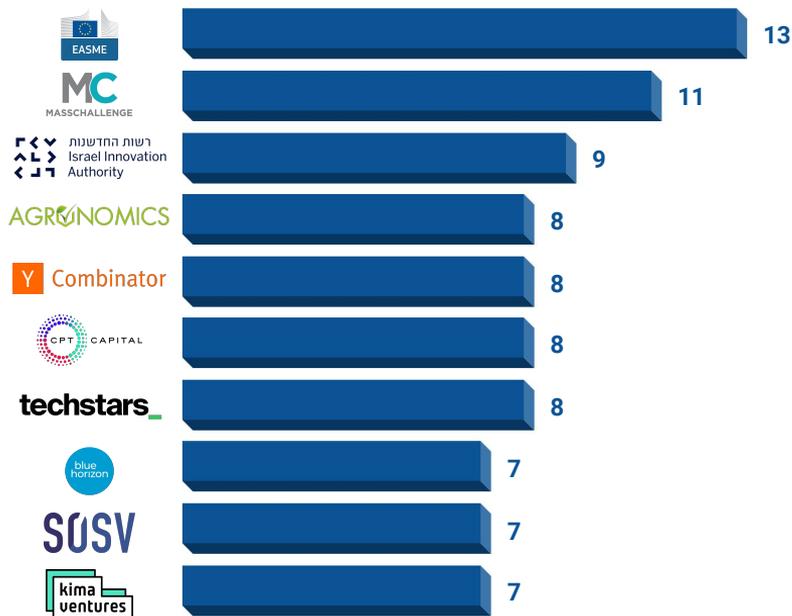
Top-15 Countries by Number of Investors



Almost half of investors are located in North America. The second biggest region by investors' location is Europe with a more than 42% share. The Top-3 countries by the number of investors are the United States (39.5%), the United Kingdom (9.9%), and Germany (6.2%).

Top Investors and Investment Deals

Top-10 Investors by Number of Deals in FoodTech Companies



United Kingdom



Agronomics

Douglas, United Kingdom



CPT Capital

London, United Kingdom



United States



MassChallenge

Boston, Massachusetts, US



Techstars

Boulder, Colorado, US



Y Combinator

Mountain View, California, US



SOSV

Princeton, New Jersey, US



Belgium



EASME

Brussels, Belgium



Switzerland



Blue Horizon

Zürich, Switzerland



France



Kima Ventures

Paris, France

Israel

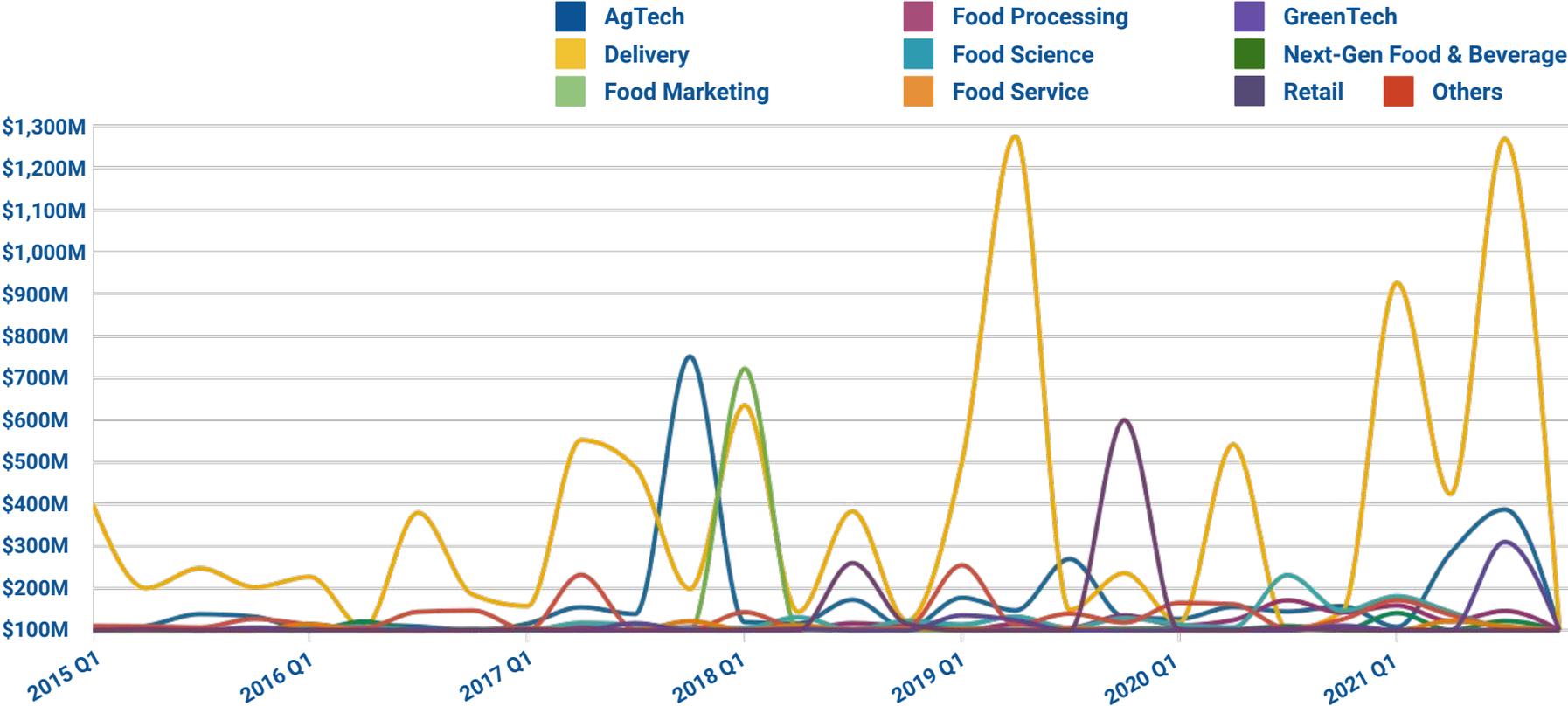


Israel Innovation Authority

Jerusalem, Israel

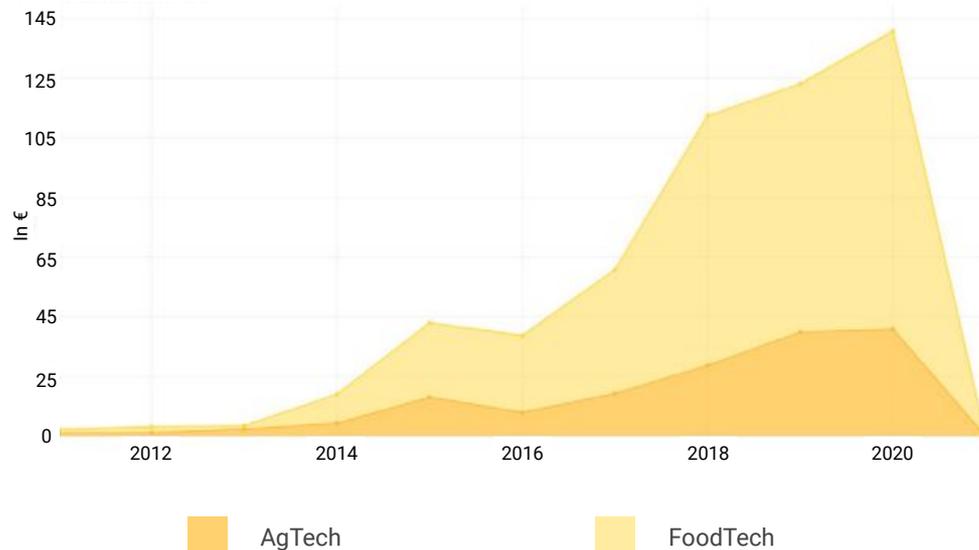


Dynamic of Investments by Category



Raised Capital Evolution

Evolution of Raised Capital: How Much Capital Has Been Raised Over Time?



The AgriFoodTech sector's investment level started to rise significantly in 2016 and has kept growing at a 42% CAGR since then. Geographically, while the US has been leading this increase, both by number of startups (1,300+) and levels of investment, Europe and, most recently, Asia are quickly catching up.

Silicon Valley, London and Israel, with more than 1,000 startups focusing on AgriFoodTech, are attracting more than 30% of global investments. More recently, developed hubs like Singapore, Paris, or Berlin are starting to emerge.

FoodTech is becoming a more prominent component of the overall agrifood technology space. As of the end of Q4 2020, agrifood tech startups will raise \$11.6B in funding, and FoodTech companies made up 72% of those investments. The space has benefited from the COVID-19 pandemic, with consumers spending more on home cooking than eating out for the first time since 1994.

Trends for FoodTech



Trends

Digital Food Management

Big data analytics, AI, real-time monitoring enable companies to develop food management solutions to optimise manufacturing processes and supply chain operations. Customer and market intelligence allows brands to optimise their marketing strategies and effectively reach the relevant audience, boosting sales.

Personalised Nutrition

Consumers desire to understand how dietary habits affect it. 3D printing and the adoption of robotics in food assembly lines allow food companies to provide nutrition personalisation at scale. In addition, various tracking devices allow users to track their diet and health conditions to streamline their diet.

Productivity Growth

For the last few decades, agriculture has been focused entirely on increasing yields to meet the global goal of zero hunger. The progress achieved was significant. The market demand pushed farms to professionalize, become more prominent and focus on producing highly productive crops in their area.

L.A.T.T.E Consumer Trends

Consumers have the highest power in the value chain. Their preferences are switching to healthy food, and they prefer L.A.T.T.E (local, authentic, transparent, traceable, ethical) grown food. Farmers must prove that the food they produce is fully grown in line with sustainable agricultural practices.

Traceability and Transparency

Consumers' desire for transparency in the food chain is at the heart of the growing demand for natural, traceable ingredients products. Blockchain and real-time food monitoring using the Internet of Things (IoT) devices enable us to offer both traceability and transparency to customers.

Low-Carbon Technologies

Producers are focusing on technologies with fewer greenhouse gasses emissions. The continued release of greenhouse gases can cause further warming and long-lasting changes in the climate system. The food system accounts for approximately 26% (13.6 B tons) of global greenhouse gas emissions.

Nutraceuticals

Consumers are focusing more on eating healthy, making nutraceuticals a top emerging trend in the food industry. These include nutritional supplements, functional foods, medicinal food, and gut microbiomes enhancement foods such as prebiotics, probiotics, and postbiotics.

Land Surface Efficiency

Additional novel solutions must be sought in new concepts of food production like vertical indoor farms that produce much more output per surface, lab-grown meat that is grown in an entirely ethical, transparent and traceable way, insects as a significant source of protein and others.

Obstacles for FoodTech



Obstacles

Health-Consciousness

The increasing incidences of food-related disorders have prompted consumers to bring about vital changes in their diet and lifestyle, making them more health-conscious than ever. The need to eliminate artificial constituents from products is one of the major challenges faced by food and beverage managers.

Traceability

Traceability is one of the pivotal challenges in food and beverage industry. Consumers have been taking increasing interest in formulations of food, that has led 'ingredient labelling' forming a major part of the packaging process. Furthermore, deploying advanced technology, such as IoT, AI, and the blockchain is complex and cost task.

Sustainability

An eco-friendly product has more of a consumer connection and is likely to make lucrative sales than a product that harms the environment. FoodTech companies are now competing toward making the food manufacturing process highly environment friendly through the adoption of numerous recycling practices.

Regulatory Landscape

While most companies are known to perfunctorily adhere to the norms, the periodic changes subject to waste disposal, food quality, raw material, surplus production, documentation, etc., have cropped up to be one of the crucial challenges faced by FoodTech companies.

Low-Carbon Agritech

There is a need for the implementation of low-carbon technologies in agriculture and food industries due to climate change. The most significant barrier is a lack of technologies or side effects, such as animals gaining weight after usage of methane-inhibiting additives.

Safety Standards

Ensuring that safety standards are upheld in the industry is crucial to maintaining the high level of trust that consumers have in food manufacturers presently. This includes making sure that both the food is safe and that the people are looked after too. Food producers need to control safety according to new regulations.

Veganism

With the increasing number of vegan, the demand for meat has witnessed a decline. FoodTech companies need to maintain their reputation with regards to ethical treatment of animal concern. As a result, companies have come up with meat-free alternatives to keep the retail and supply chains running.

Online Visibility

Unlike e-commerce companies, food and beverage companies are still lagging when it comes to analysing their online presence. With the emergence of the newer market, changing nature of consumer spending, and advancing technology, it is high time for companies to focus on marketing products online.

Impact of COVID-19 on Food Industry



Automating Food Production and Distribution

Process improvements are aimed at reducing production costs and conserving water, fuel, and fertiliser. Given the impact of COVID-19 on borders and worker flows, many firms invest in emerging technologies, further reducing the need for human labour.



Applications for Social Distancing

A range of new tech start-ups has emerged in response to the changes in the consuming experience in restaurants and supermarkets. All features, such as 3D menus, call for assistance, contactless payments and facial recognition for verification, are designed to limit contact with others.



Bioactive Compounds in Food and Beverages

Using bioactive ingredients, which are proven to be effective against COVID-19 in food and beverage formulations, can positively impact the safety of consumers and the marketing position of producers.



Robots in Restaurants

Automating technologies could be poised to change the food preparation and dining experience fundamentally. Industrial robots work in concert with AI, thermal scanners, and lasers to chop vegetables, grill food or perform similar tasks.



Antiviral Packaging

Using some bioactive compounds present in plant extract can prevent coronavirus entry into the host body by the destruction of the viral structure. Its persistence on regular plastic is 72 hours.



Policy Concerns

Policymakers may consider incentivizing technology expansion in the food industry as it continues to hold the promise of making production and supply processes safer, more resource-efficient, and more productive.

Food Industry Opportunities

SARS-COV-2, a respiratory virus, completely changed the scenario of food industries, whether in production, processing or packaging. Various research has been done on antimicrobial food packaging, but there is still a shortage in antiviral food packaging development. There is a great need to explore the antiviral food packaging incorporated with natural antiviral bioactive compounds to ensure food safety and sustainability, which will help prevent food systems in these challenging times of pandemics in the future.



+140%

the average increase in consumer interest in online grocery delivery in 2020 (vs 2019) across Europe.



+53%

the average share price increase of the biggest food aggregator services in Europe in 2020.



+87%

of Europeans are willing to pay less with cash in the near future.

Digital Logistics

Providing an omnichannel approach for the consumer journey - from discovery to delivery - will be essential. More efficiency for businesses will mean improving digital logistics on the backend of supply chains. Data throughout the supply and delivery chain can close the loop within the B2B2C pipeline.

Unique Dining Experience

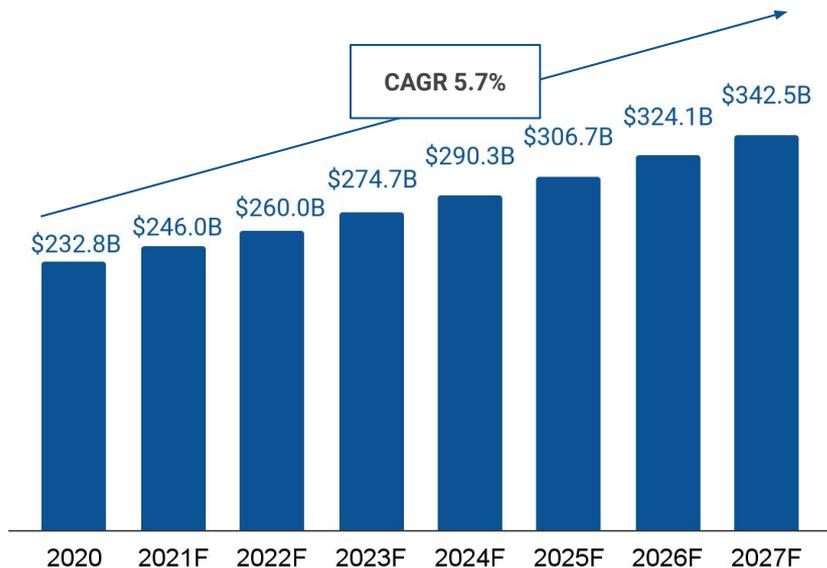
Food industry companies that have more control over end-to-end consumer experiences through data strategy create opportunities for hyper-personalisation. This tailors to custom-made preferences, which contributes to additional revenue streams and consumer loyalty.

Tech Solutions

Food industry companies that embrace tech-enabled efficiencies and cost-saving management tools are developing product and service innovation. Learning demand patterns and consumer preferences gives a forward-looking perspective on ways for brands to grow in the future.

Predictions of the FoodTech Industry Development

Development of the Global FoodTech Market



The global FoodTech market is expected to grow with a CAGR of 5.7% and reach a value of **\$342.5B** by 2027. This high growth can be attributed to the increasing penetration of the Internet and smartphones in developing economies.

Key Takeaways

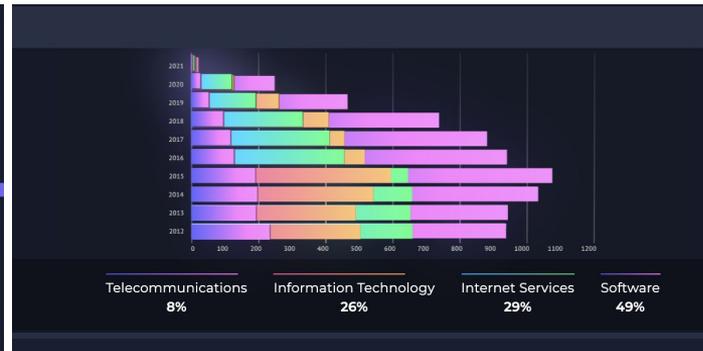
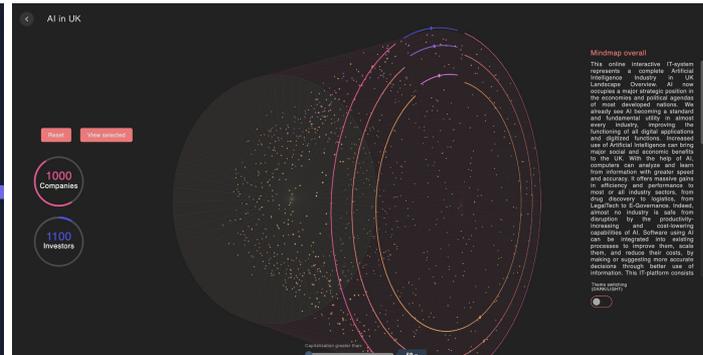
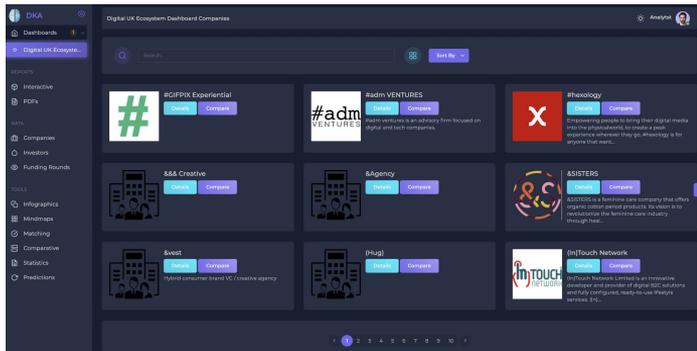
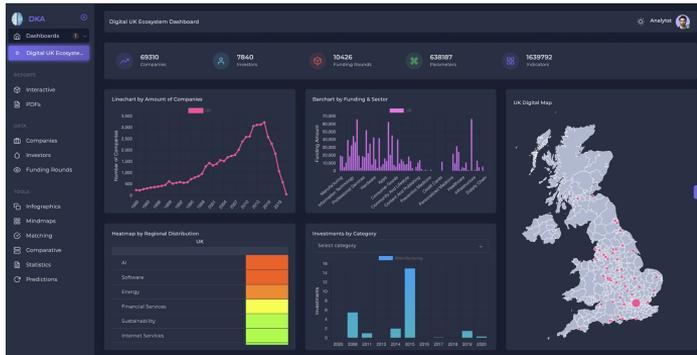
Increasing **utilisation of advanced technologies in food processing techniques, innovations in robotics, and data technology** are creating new growth opportunities in the FoodTech market.

Rising awareness among the health-conscious population is strengthening the demand for healthier foods. Factors such as **demand for more and higher quality products**, reduced availability of staff and higher wage costs, and the reducing price of technology are expected to stimulate the advancements of the FoodTech market in the future.

In 2021, about 67% of consumers will seek more in-depth information about products to help drive their purchasing decisions. As a result, **FoodTech companies need to demonstrate the efforts generated into sustainability credentials to consumers. North America is estimated to contribute more than 38%** to the market's growth. The countries in the region are concentrating on developing their chemical infrastructure. The concentration of leading markets combined with the growing demand for oil and chemical products will boost the need for FoodTech in the region.

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 visualizations, advanced 3D MindMaps and charts. Overall, it maintains a unique method in market research and forecasting, as well as trend visualization.



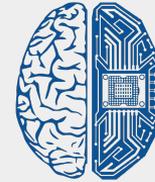
About Deep Knowledge Analytics

[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 tangible industry benchmarking.

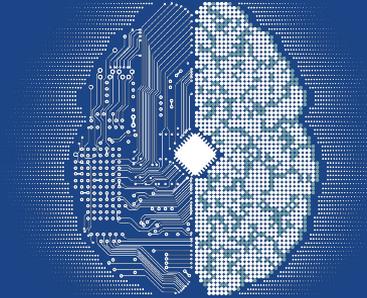
It is an analytical subsidiary of [Deep Knowledge Group](#), an international consortium of commercial and non-profit organizations focused on the synergetic convergence of DeepTech and Frontier Technologies (AI, Longevity, MedTech, FinTech, GovTech), applying progressive data-driven Invest-Tech solutions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

Deep Knowledge Analytics specializes in conducting special case studies and producing advanced industry analytical reports on Artificial Intelligence, GovTech, Blockchain, FinTech and Invest-Tech. It has made many comprehensive analytical reports in coordination with the [UK All-Parties Parliamentary Groups on AI](#) and [Blockchain](#), including its AI in UK Landscape Overview 2018 and Blockchain in UK Landscape Overview 2018, unprecedented in their scope and length and collectively more than 3,000 pages. The company has also recently deployed advanced interactive online IT platforms that feature dynamic mindmaps and filterable, customizable databases updated with new industry developments in real-time.

Deep Knowledge Analytics will continue to expand the scope, depth and topics covered by its analytical reports on frontier technology-driven industries, to develop the subsequent iterations of their analytical frameworks with a broader breadth and depth of metrics and overall analytics, to apply efficient methods to cross-sector analysis between different industries, and to apply both existing and new analytical frameworks to the design of the new Invest-Tech solutions (novel investment technologies and strategies relevant for the third decade of the twenty-first century), which is the only suitable way to implement the long-term strategic vision of Deep Knowledge Ventures.



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Link to the Report:

www.dka.global/global-foodtech-landscape-overview-2021-q4

E-mail: info@dka.global

Website: www.dka.global

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