AI in BioMed Industry in the United Kingdom

Teaser

AI Industry Analytics

Global AI Ecosystem

www.ai-ecosystem.org/uk-biomed

AI Industry Framework

Finance

- FinTech / Digital Banking
- WealthTech / Asset Management
- InsurTech
- Quant Finance
- Institutional Brokerage
- Consumer Finance
- Capital Markets: Exchanges
- Mortgage Finance

BioTech & HealthTech

- MedTech
- Industrial BioTech
- HealthTech
- Medical BioTech
- PharmaTech
- Longevity & Wellness
- Medical IoT
- Healthcare InsurTech
- BioTech & Healthcare Administration

AI Technological Infrastructure

- Cloud Computing Infrastructure
- AI Computing Hardware
- AI Optimization & AI Development Software
- Semiconductors
- NanoTech Electronic Components

Real Estate

- Real Estate Owners & Developers
- Real Estate Services
- REITs

Energy

- Energy Equipment & Services
- Oil & Gas
- Renewable Energy

Communication

- e-Commerce
- Cable & Satellite Content Providers
- Entertainment Content
- Publishing & Broadcasting
- Internet Media & Services
- Telecommunications Services

Industrials

- Manufacturing
- Robotics
- Logistics
- Mining
- Transportation Equipment
- AgriTech
- CleanTech
- Industrial Management
- Aerospace & Defense
- Construction & Engineering

Source: *www.frameworks.technology/ai-industry*

AI in BioTech Framework

The AI in BioTech Framework represents a comprehensive and dynamic ecosystem that harnesses the power of artificial intelligence (AI) to revolutionize various facets of biotechnology. With applications spanning **Automatic Labs**, **Drug Discovery**, **FoodTech**, **Oncology**, **Space Biology**, **Environmental BioTech**, **Longevity**, **Modern Research**, **Industrial BioTech**, **Pets**, **Regenerative Medicine**, and **Cancer Vaccines**, this framework serves as a bridge between cutting-edge technology and the life sciences, offering innovative solutions to some of humanity's most pressing challenges.

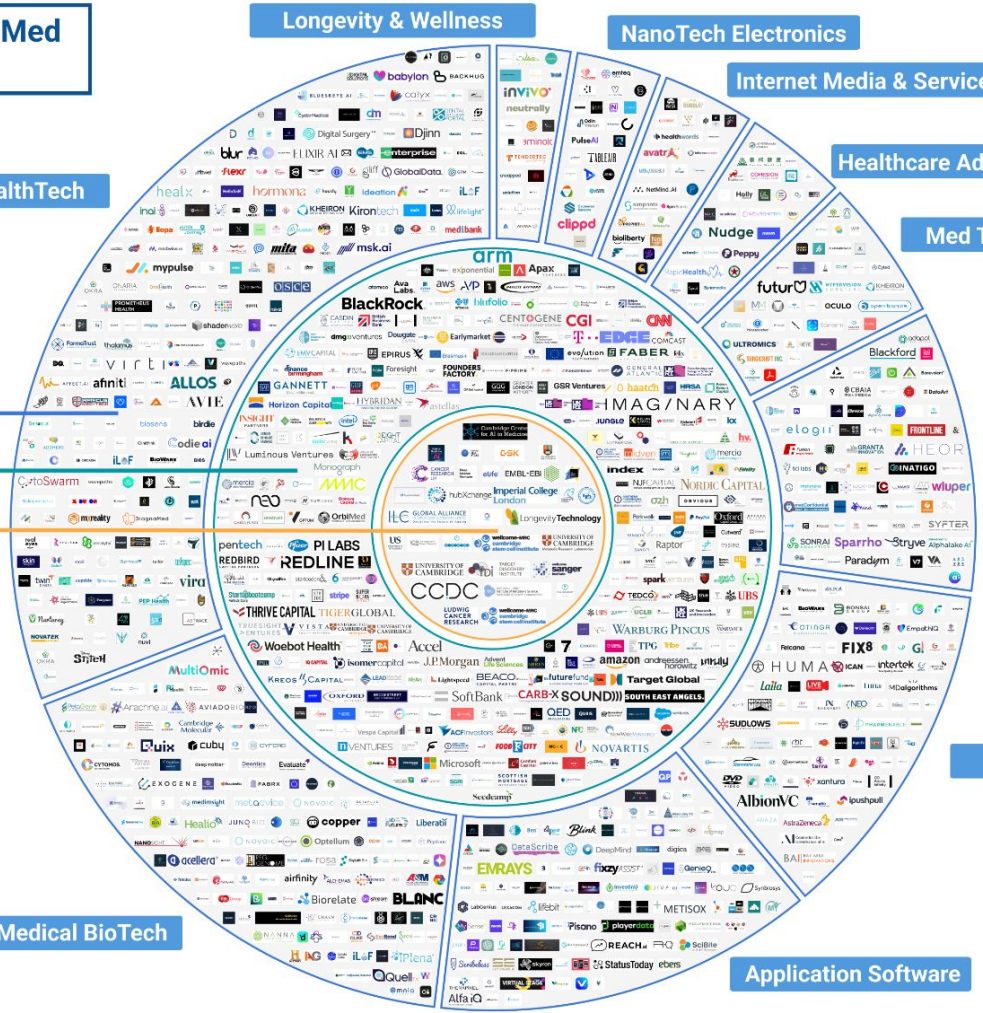
The integration of artificial intelligence in drug discovery within the AI in BioTech Framework represents a transformative leap forward in pharmaceutical research. By accelerating target identification, lead compound selection, and clinical trial optimization, AI-driven drug discovery not only reduces costs but also expedites the development of life-saving therapies. This innovative approach holds the promise of bringing safer and more effective drugs to market faster, ultimately benefiting patients and healthcare systems worldwide.

AI in HealthTech Framework

The **AI in HealthTech Framework** is a comprehensive framework designed to harness the potential of artificial intelligence (AI) in revolutionizing healthcare across various domains. This framework encompasses a wide range of categories, including **FemTech**, **Personalized Medicine**, **MedTech**, **Early Diagnostics**, **Biomarkers**, **Mental Health**, **Diabetes**, **NeuroTech**, and **TeleHealth**. By integrating AI technologies into these areas, the framework aims to enhance patient outcomes, streamline healthcare delivery, and advance medical research.

The AI in HealthTech Framework represents a transformative approach to healthcare, where AI technologies empower healthcare professionals, improve patient care, and drive innovation in medicine. By strategically implementing AI across the aforementioned categories, the framework aims to create a healthier and more efficient healthcare ecosystem for all stakeholders involved.

Artificial Intelligence in BioMed Industry in the UK



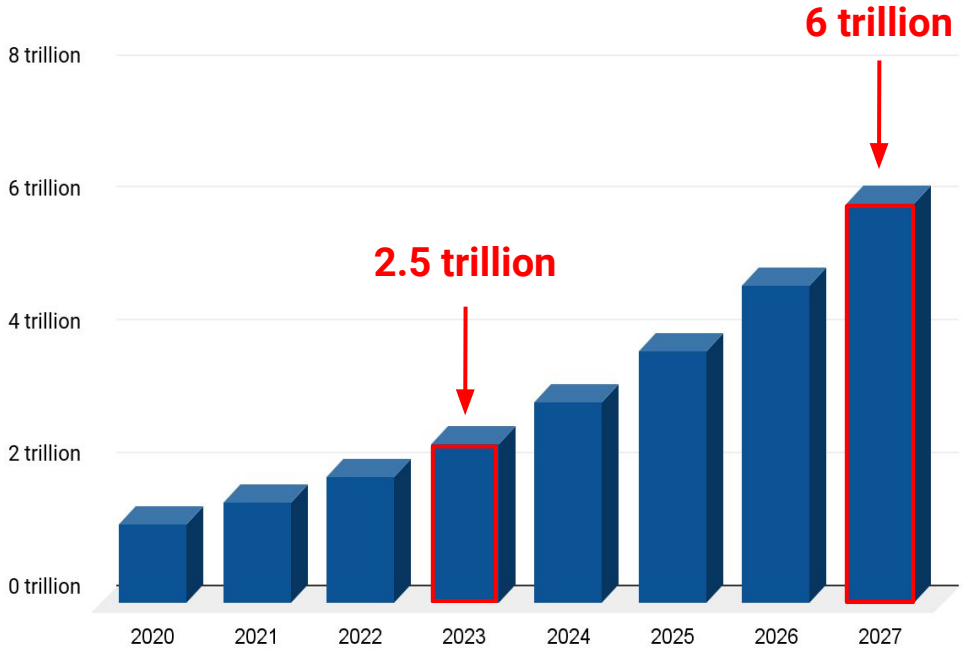
AI Companies – 825
Investors – 390
Hubs – 40

AI Industry Analytics

Global AI Ecosystem

View more:
www.ai-ecosystem.org/uk-biomed

Global AI in BioTech & HealthTech Industry Size Projections (USD)



Source: ***www.aiia.tech/economy***

$2.5 Trillion AI in BioTech Industry Size

7,000 AI in BioMed Companies

230,000 Specialists

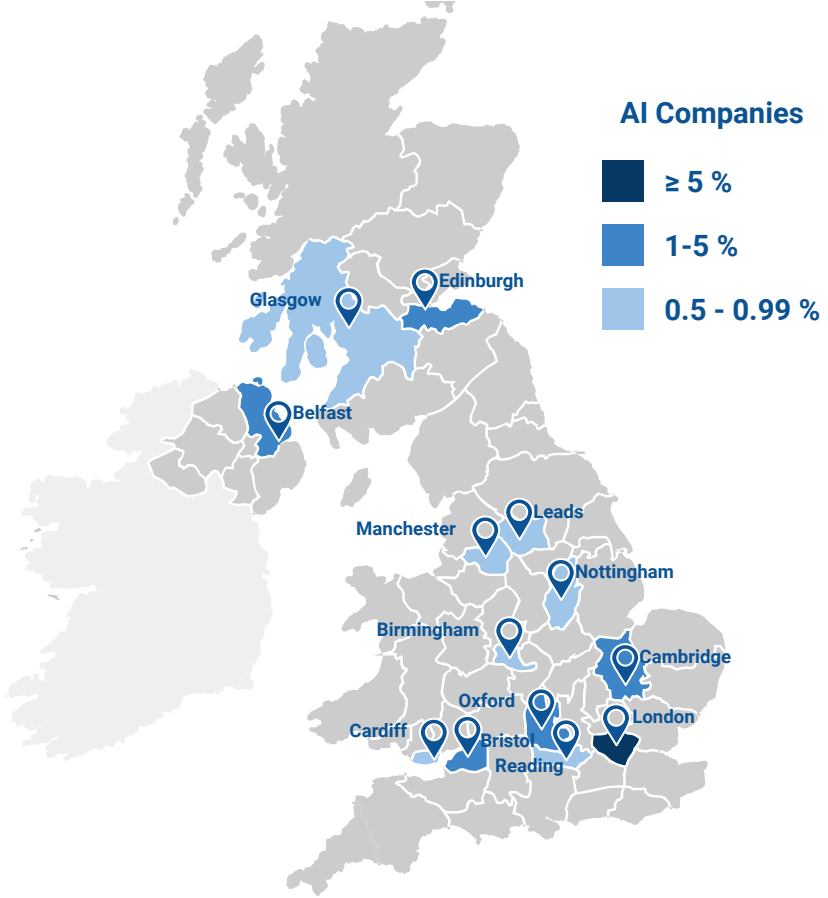
The global AI in BioTech & Healthcare Industry size is estimated at **USD 2.5T** in 2023 and is projected to reach around **USD 6T** by the year 2027.

The AI in BioTech & Healthcare Industry consists of **9 Industry Sectors** including Longevity & Wellness, MedTech, Medical Internet of Things, PharmaTech, HealthTech, Healthcare InsurTech, BioTech & Healthcare Administration, Medical BioTech and Industrial BioTech.

The growth of the **BioTech & Healthcare Industry** has been driven by recovery from the downward trend in the market, which is also reinforced by the greater integration of artificial intelligence technologies in the biotech industry.

Cementing its position at the forefront of innovation, the BioTech & Healthcare Industry has generated a substantial **5,585 patents,** notably in key AI applications such as diagnostic tools, genomic analysis, personalized medicine, drug discovery and advanced medical technology.

AI Companies in BioMed: The United Kingdom



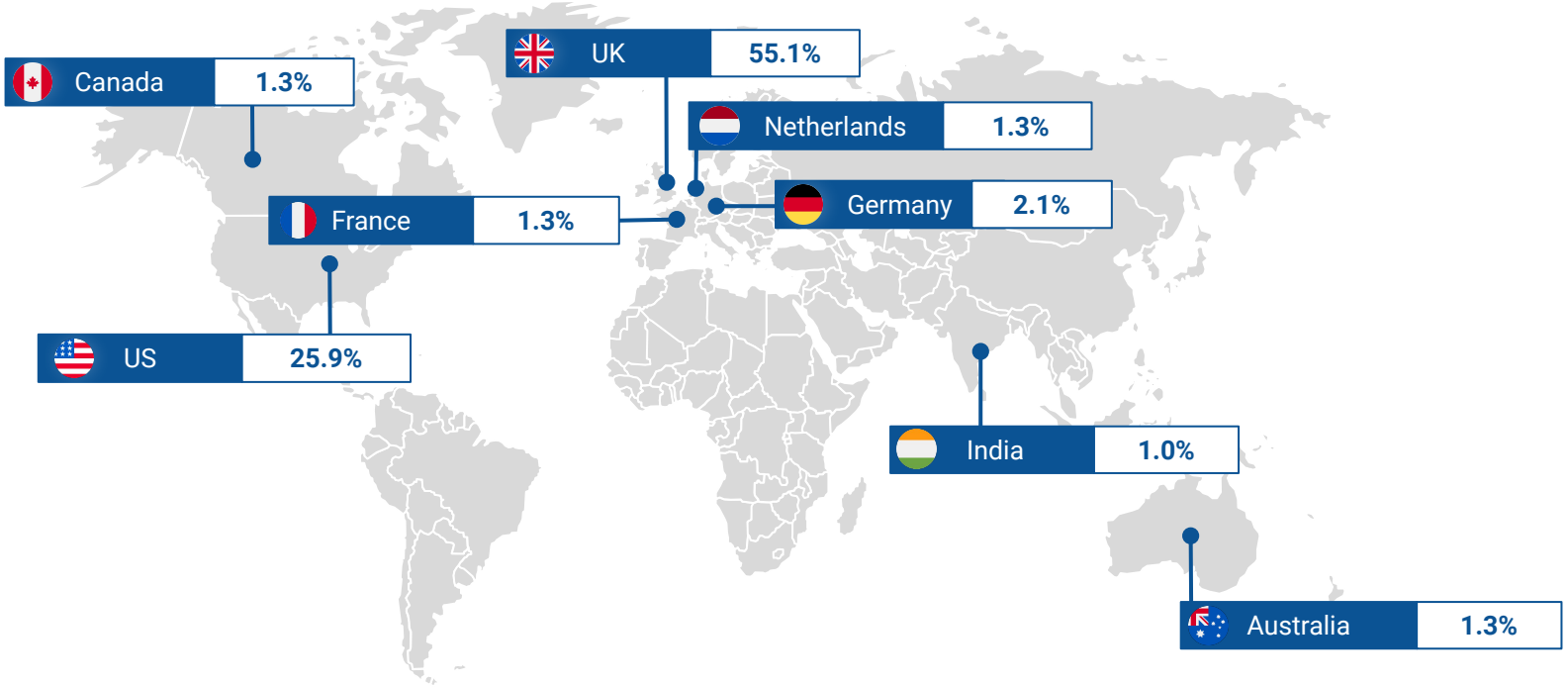
The **United Kingdom** currently maintains a notable presence in the global landscape of BioMed companies, accounting for approximately **11.6%** of such entities worldwide. Within the UK, **London** emerges as a significant hub, hosting more than half of the nation's BioMed companies, specifically constituting **52.8%** of the total. This concentration in the capital city underscores the advanced technological development within Great Britain's capital.

Cambridge, while significant in its own right, holds the second position in terms of the number of AI companies operating in the BioMed sector within the UK. It claims a share of **4.2%**, which is notably smaller, being more than 12 times less than the share of companies present in London.

Subsequent rankings in this domain are occupied by cities such as **Oxford, Edinburgh, Belfast, and Bristol**, each contributing **1.9%, 1.5%, 1.3%, and 1.3%** of the AI BioMed companies, respectively.

It is worth noting that other cities in the United Kingdom exhibit limited representation of such companies, indicating an **uneven distribution** with a pronounced concentration in the southern regions of the country.

Investors in BioMed AI Companies in the UK: Top Countries



In the United Kingdom's AI in BioMed sector, a majority of investors, comprising **55.1%, are domestic**. Meanwhile, **25.9%** of investors originate from the **United States**. This stands in contrast to the global AI in BioMed industry, where the U.S. investors occupy the top position, constituting approximately half of all investors, while those from the UK account for only around 6%. The United States is followed by **Germany**, representing **2.1%** of investors, securing its position as the third-leading country in this regard. **France, India, Australia, and Canada** each contribute approximately **1.3%**, with all other countries having **less than 1%** of investors.

Collaborations in AI in BioMed in the UK 2023

NVIDIA partners with **NHS** trusts to deploy AI platform in the UK hospitals

Nov 2022

Roche UK and **Nye Health** partner to use AI to enhance patients' lives

May 2023

Eisai launches Gates-backed research collab to develop digital tools for dementia diagnosis and treatment

Jun 2023

Merck announced two new strategic drug discovery collaborations aimed at harnessing powerful AI-driven with **BenevolentAI** and **Exscientia**

Sep 2023

Intelligent OMICS launched a collaboration with **Janssen** to use AI to discover drug targets for the treatment of blood cancer

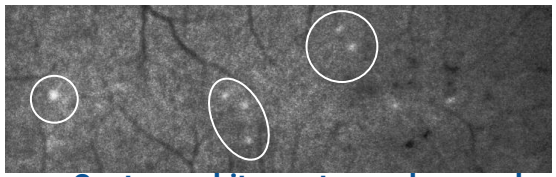
Sep 2023

A collaborative study between the **UK academia**, **NHS hospitals** and **Qure.ai** was created to speed up lung cancer diagnosis by AI

Oct 2023

Latest Advancements in AI-Powered Biomedical Softwares

Novai, a biotechnology start-up headquartered in the United Kingdom, specializes in the utilization of **AI-driven retinal biomarkers** for conducting clinical trials related to **glaucoma and age-related macular degeneration (AMD)**. Established in 2018 by Aman Khan and Francesca Cordeiro, the company has successfully secured £3.6 million in funding to advance its **DARC Technology**. DARC, an **innovative retinal biomarker**, incorporates patented biologics and advanced AI algorithms. This groundbreaking approach enables the identification of disease activity at the cellular level using conventional imaging equipment, representing a pioneering achievement in the realm of human medicine.

1. **DARC Injection 2 hours before image capture**
2. 
   Image Capture: white spots are damaged cells
3. **AI Algorithm quantifies white spots**

Technology Behind the DARC

DARC (Detection of Apoptosis in Retinal Cells) employs a genetically modified **Annexin**, a naturally occurring cellular protein, in conjunction with a **fluorescent dye**. This dye exhibits an inherent affinity for binding with **phosphatidylserine**, typically located on the inner side of the cell membrane. However, during times of stress, illness, or apoptosis, phosphatidylserine relocates to the outer membrane of mammalian cells. **DARC** serves as the **biomarker** that specifically binds to exposed phosphatidylserine, facilitating the identification of cells experiencing illness, stress, or apoptosis. Sick, stressed, and apoptosing cells appear as **white spots** in the image. Patented **AI Algorithm** quantifies these spots, aiding clinicians in identifying patients with active glaucoma or AMD and assessing their risk of progression.

About AI Industry Analytics

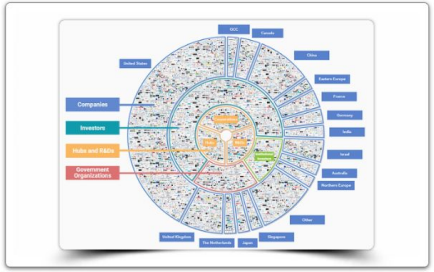
AI Industry Analytics (AIIA) is an analytical agency that has created the world's first, definitive analysis on the global AI ecosystem of companies, investors, and hubs. By combining the power of market analytics and investment data with advanced algorithms and machine learning techniques, AIIA provides unparalleled insights and solutions in real time.

In addition to providing comprehensive solutions for businesses aiming to make better investment decisions and financial institutions seeking to optimize their portfolios, AIIA also monitors the development of AI companies and investors. By doing so, AIIA is able to provide valuable information to its clients on the latest trends and developments in the AI industry.

AI Industry Analytics IT Platform Components

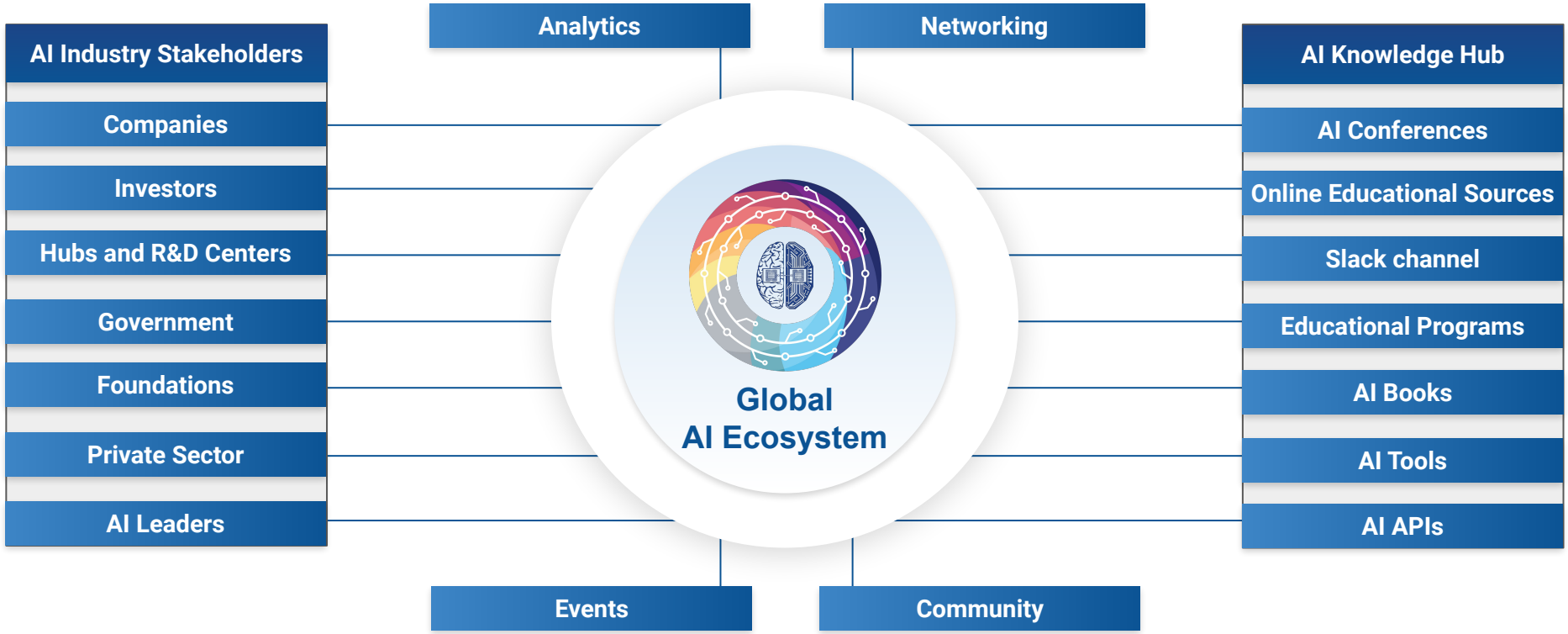
AI Industry Big Data Analytics Dashboard

Solutions



Global AI Ecosystem

About Global AI Open Sources Platform



Big Data Analytics System and Dashboards

We provide deep investment and data science insights on the private and public markets via customized IT platforms we call **Dashboards**. In essence, Dashboard is a Big Data Analytical System that consists of separate Dashboards:

Five dashboards for the Longevity & BioTech Industry

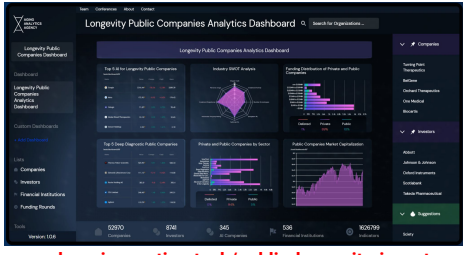
Seven dashboards for the DeepTech Industry

917,000	Companies
101,000	Investors
87 million	Data Points
170	Parameters of Automated SWOT Analysis

Longevity Investment Dashboard

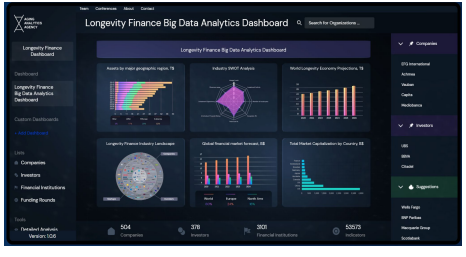
www.deep-innovation.tech/longevity-investment

Longevity Public Companies Dashboard



www.deep-innovation.tech/public-longevity-investment-dashboard

Longevity Finance Dashboard



www.deep-innovation.tech/longevity-finance-dashboard

Longevity Governance Dashboard

www.deep-innovation.tech/longevity-governance

Market Intelligence Focus

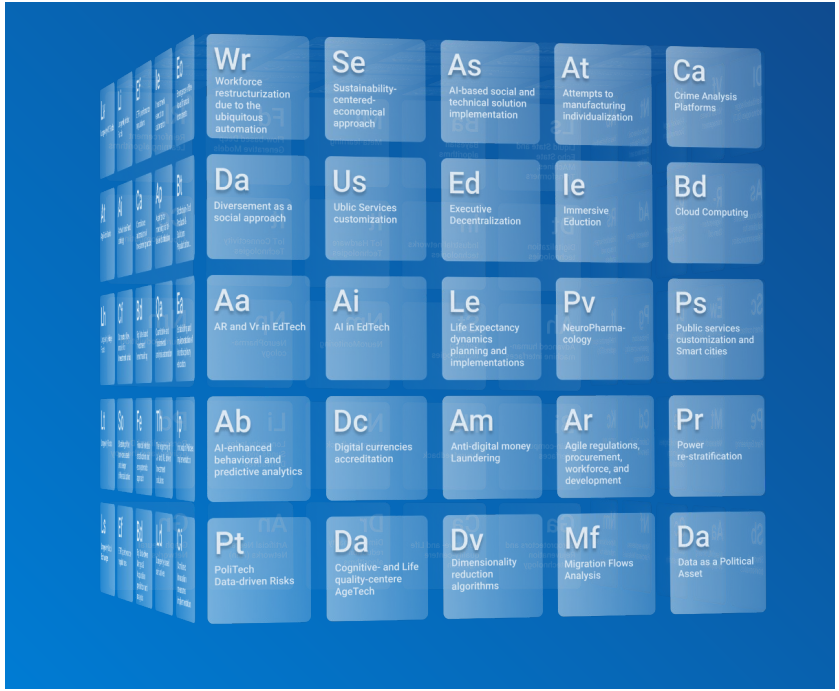
HealthTech	DeepTech	BioTech
Longevity	GovTech	Philanthropy

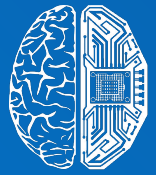
About The 5th Industrial Revolution Institute

Through pioneering continuous work across diverse industries, **Deep Knowledge Group** and its analytical subsidiaries are building sophisticated analytical frameworks capable of analyzing, defining, and forecasting DeepTech industries of unprecedented breadth, depth, and complexity. In 2021, these frameworks were synthesized into an integrated whole: a kind of Mega-Analytical Framework capable of defining 5IR for the first time and of forecasting the most realistic methods of accelerating, optimizing, and harmonizing the trajectory of its ongoing evolution and the safe, de-risked, and socially-responsible delivery of its benefits for global humanity.

Despite the accelerated pace of technological progress that characterizes the 21st century, in reality, technology's practical implementation and overall impact on humanity faces many challenges. For this purpose, Deep Knowledge Group intends to set up **the 5th Industrial Revolution Institute**, a non-profit foundation aimed at accelerating the R&D efforts across the DeepTech sectors and joining the experts for the subsequent exchange of knowledge in innovative industry fields.

5th Industrial Revolution Framework





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Global AI
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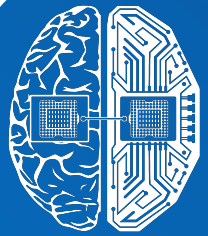

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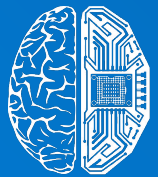

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