

October 2024. Technology snapshot

# Analysis of the deep tech startup ecosystem in Catalonia, 2024

## Technology snapshot: Deep tech in Catalonia, 2024

ACCIÓ  
Government of Catalonia



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Carried out by

Strategy and Competitive Intelligence Unit of ACCIÓ

Barcelona, October 2024

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Deep tech in Catalonia

# Executive summary



# Executive summary: deep tech in Catalonia (I)

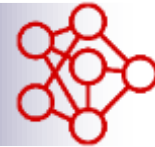
Deep tech companies have a **solid technological and scientific base, generate impact and seek to make the world a better place.**

## Features of deep tech companies

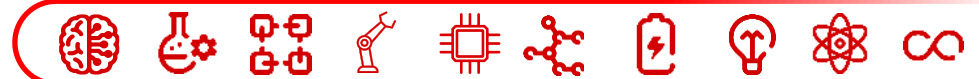


- They have roots in science, technology and engineering.
- They provide transformative solutions for global challenges.
- They exploit new scientific and technological knowledge and they have knowledge protection mechanisms.
- They tend to be physical products (rather than services) that change established paradigms and generate new business models.
- They have slow scalability and they need long-term funding.
- A large number of the founders emerge from the university and research systems.
- They need business talent and people from the STEM and R&D disciplines.

## Technologies regarded as deep tech\*



- Artificial intelligence
- Sustainable and frontier materials
- Biotechnology
- Batteries and clean energy
- DLT/blockchain
- Photonics
- Robotics
- Quantum
- Semiconductors
- Supercomputing



## World market

Generative AI and technologies that have the purpose of combating climate change are acquiring a great deal of prominence.

**86.2%** of companies consider that new and frontier technologies will become the main transformational trend.



## European market

**16,800 million dollars** were invested in deep tech startups in Europe in 2023.

\*For the purposes of this report

## Executive summary: deep tech in Catalonia (II)

Catalonia has **340 deep tech startups**, **6.3% more than in 2023**, and they account for **16.2% of the Catalan entrepreneurial ecosystem**.

### 340 deep tech startups



This represents an increase of **6.3%** compared to 2023.

The increase is **17%** compared to 2022, higher than the figure of **10.5%** for the growth in the total number of startups.

They account for **16.2%** of the total number of startups in the Barcelona & Catalonia Startup Hub.

They bill **€166 M (+3%** compared to 2023) and employ **2,735 workers (+17%)**.

The main technologies are biotechnology (**37.4%**), artificial intelligence (**27.9%**), and sustainable and frontier materials (**11.2%**).

**52%** of the deep tech startups have a patent or a system to protect their knowledge.

### Funding raised



2022 was the year with the largest volume of investment raised by Catalan deep tech startups (**€165 M**). They have raised **€112 M** by October 2024.

Barcelona is the **6th largest hub in the EU** in terms of volume of funding raised by deep tech startups in venture capital (2019-2024), with a total of **€544 M**.

**77.6%** of Catalan deep tech startups have obtained venture capital funding.

**15** deep tech startups have received funding from the EIC Accelerator in the last three years (**45%** of the total in Spain and **3.2%** of the total in Europe).

**172** deep tech startups in Catalonia have received support from Startup Capital (**€14.4 M**), and **10** have obtained support from the **Startup Capital Coinversió (€1.5 M)**.

### Support initiatives



#### National pacts:

- National Pact for Industry
- National Pact for the Knowledge Society

#### Public funding sources:

- Startup Capital
- *Línia Startup Capital Coinversió*
- *Fons d'Inversió en Tecnologia Avançada*

#### Different ICF, Avançsa and AGAUR instruments

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Centers and institutions that generate deep tech spin-offs

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### Ecosystem agents

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Clusters

Deep tech in Catalonia

# 1. Definition of deep tech



## Definition of deep tech



Deep tech companies have a **solid technological and scientific base, generate impact and seek to make the world a better place.**

- They are rooted in cutting-edge science, technology and engineering, and they combine advances in the physical, biological and digital spheres.
- They have the potential to offer transformative solutions to global challenges and they help achieve the UN SDGs.
- They exploit new scientific and technological knowledge based on the highest standards of ethics and integrity.
- They frequently result in physical products rather than pure software services and therefore tend to cooperate more closely with the industry.
- They require a strong supply of science, technology, engineering and mathematics (STEM) and business knowledge, as well as the capabilities associated with research and development principles.



**Deep technology as such does not exist; rather, it is the application and the business model built around or through the technologies that are deep.**



## Features of deep tech companies

**Deep tech companies** are based on scientific knowledge and major technological breakthroughs. They include innovations on the frontiers of knowledge in basic disciplines such as biology, chemistry, physics, mathematics and engineering (STEM).

They develop pioneering knowledge and technology or provide a clearly identifiable and impact-generating improvement.

They seek to provide solutions for social problems and global challenges, with a particular focus on the Sustainable Development Goals.

They have mechanisms to protect intellectual property, patents, etc.

They tend to be projects with a high technological and market risk. As a result, they have significant financial needs before they reach the market.

The time to market, from their conception until their availability on the market, is usually longer than that of conventional companies.

Their founders have usually acquired their knowledge and training within the university system or have emerged from the research system.

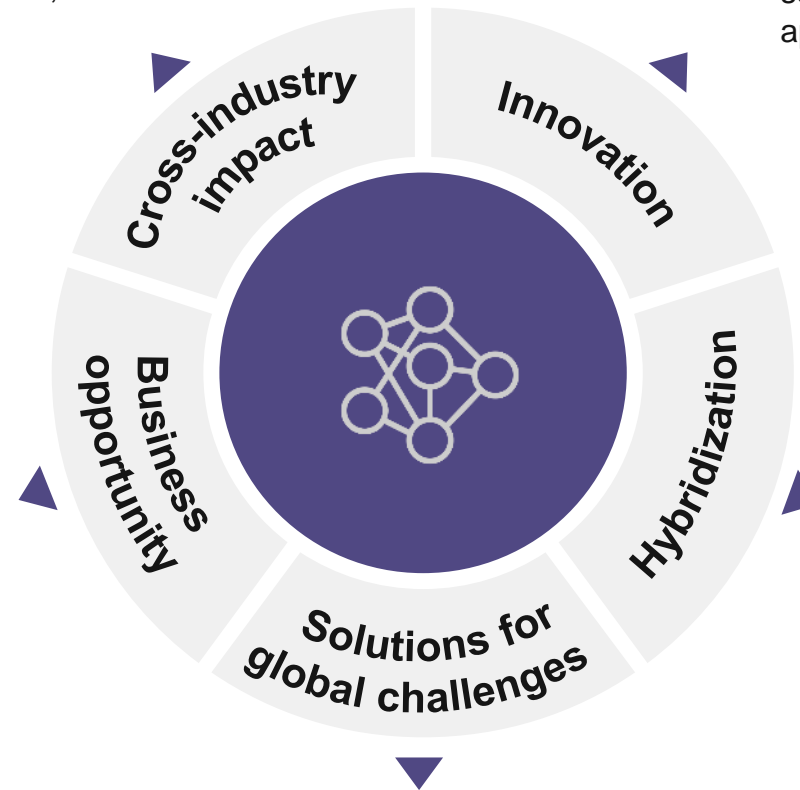
Deep tech companies tend to have a multi-disciplinary approach, with hybridization of technologies and knowledge.

The goods and services offered by many deep tech companies can be made tangible in some way or they can have an impact on society.

## Importance of deep techs

Deep tech companies can have an impact in many areas, such as health and life sciences, food, energy, materials and production processes.

Deep techs stem from research and they are a source of innovation for other emerging applications.



New business models may appear based on the applications of pioneering technical and emerging scientific solutions.

The challenges are becoming increasingly complex and the solutions cannot be addressed via a single field of knowledge, which entails a hybridization of technologies and the concurrence of knowledge to identify innovative and sustainable solutions.

Deep techs have a clear focus on providing solutions for global challenges such as climate change, health, resource scarcity, demographic changes, etc.

Deep tech in Catalonia











## 2. Deep tech technologies

## 10 deep tech technologies

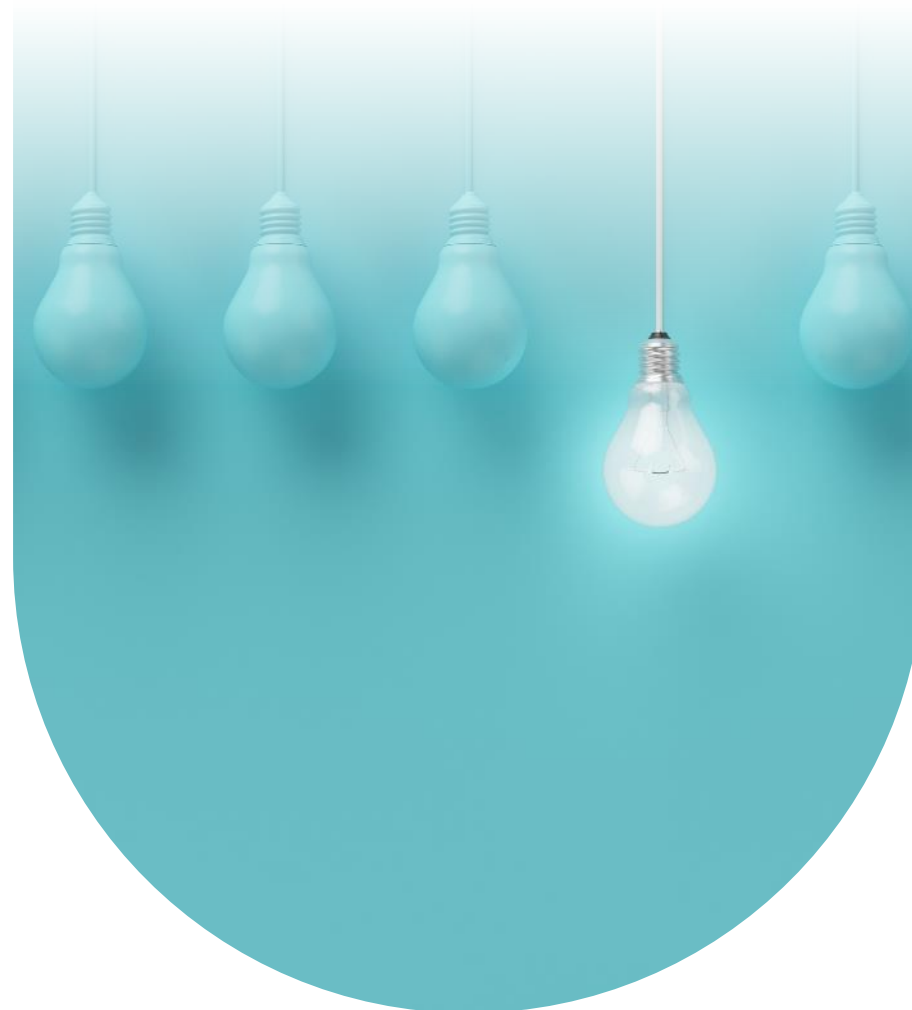
It is difficult to make a selection of technologies, as deep techs are characterized by their **approach** and **strategy**. For this reason, any technology within a given context may be regarded as deep tech.

In addition, the emergence of new technologies and the hybridization of knowledge are leading to a wide range of new opportunities.

However, the technologies that have been regarded as deep tech for the purposes of this report are the following:

- |                                                                                                           |                                                                                                                      |
|-----------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|
|  Artificial intelligence |  Sustainable and frontier materials |
|  Biotechnology           |  Batteries and clean energy         |
|  DLT/Blockchain          |  Photonics                          |
|  Robotics               |  Quantum                           |
|  Semiconductors        |  Supercomputing                   |

Note: the startup universe has been analyzed for the purposes of this report.



# Growth of the deep tech technology market

**Biotechnology**  
 Essential for addressing climate and health challenges  
 3,200 billion dollars  
 +11.8% annually

**Artificial intelligence**  
 Excellent growth potential in the short and medium term  
 1,848 thousand million dollars  
 +35.5% annually

**Photonics**  
 Photons for technological growth and innovation  
 1,200 thousand million dollars  
 +6.2% annually

**Semiconductors**  
 Essential for technological disruption  
 736.4 thousand million dollars  
 +6.3% annually

**Blockchain**  
 Increased demand and opportunities for data decentralization  
 674.4 thousand million dollars  
 +85.7% annually

**Batteries and clean energy**  
 Keys to the sustainable energy transition  
 423.9 thousand million dollars  
 +13.1% annually

**Quantum**  
 Enhanced capabilities and calculations thanks to QTs  
 173 thousand million dollars  
 +25.75% annually

**Robotics**  
 Greater automation and efficiency in production  
 65.6 thousand million dollars  
 +11.25% annually

**Frontier materials**  
 New materials with transformational properties  
 44.3 thousand million dollars  
 +17.9% annually

**Supercomputing**  
 Surpassing conventional computers in terms of power and capabilities  
 20 thousand million dollars  
 +11% annually

Note: the data corresponds to the expected long-term market value (4-6 years) and the expected annual growth over the 2023-2030 period (2040 in the case of quantum). They are ranked from the highest to the lowest market value achieved by each technology in the period in question.

Deep tech in Catalonia

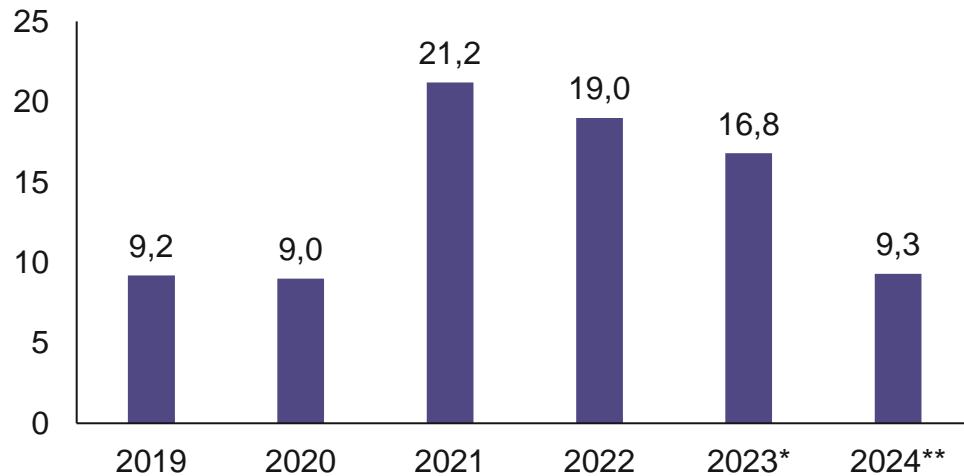
## 3. Deep tech around the world



## Venture capital in deep tech in Europe

**\$16,800 M** were invested in deep tech startups in Europe in 2023, a year-on-year decrease of 11.5%, lower than the 38.3% fall in venture capital. During the first half of 2024, investment increased by 43.1% compared to the same period in 2023.

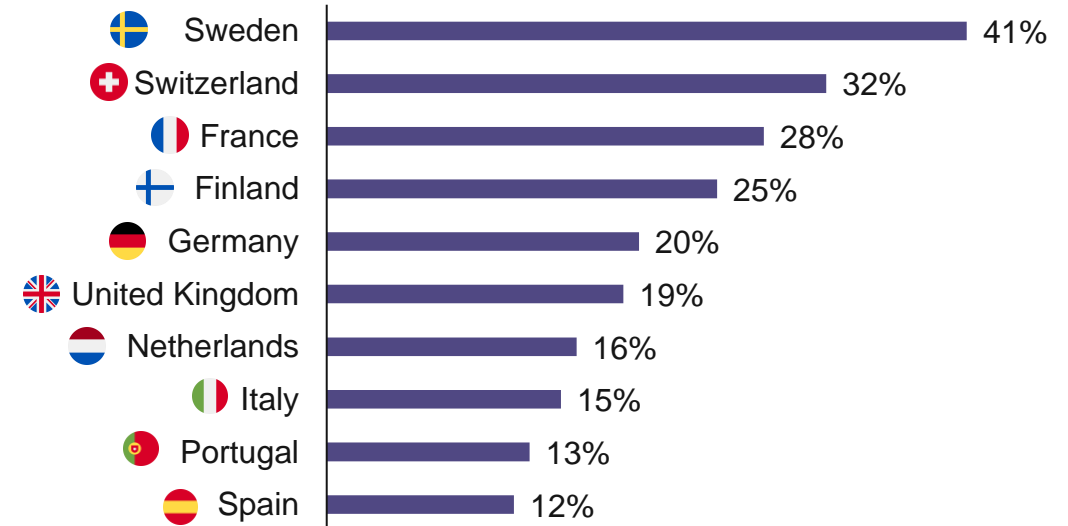
**Venture capital in deep tech startups in Europe** (billions of dollars). **2019-2024 (first semester)**



\* Provisional data

\*\* First semester (provisional data)

**Investment of venture capital in deep tech compared to the total** (main European countries). **2018-2023**



The funding raised by startups is falling due to the macroeconomic situation. Despite so, **the commitment to deep tech is rising**; the emergence of generative AI is transforming the innovation ecosystem, while technologies aimed at combating climate change are gaining ground.

## New European Innovation Agenda



The New European Innovation Agenda includes 25 key actions grouped into 5 areas set to enhance competitiveness, growth, and strategic autonomy in Europe.

## European Innovation Council



The EIC is Europe's flagship innovation program for identifying, developing and expanding disruptive innovations and technologies.

## EIT Digital Challenge



The EIT Digital Challenge is the leading pan-European competition for scaleups, aimed at recognizing Europe's top deep tech initiatives and supporting them with funding and networking.

## European Investment Fund



The EIF is a specialist provider of funding to benefit SMEs in Europe and a key player in most of the funds of European deep techs.

## Deep Tech Talent Initiative



The Deep Tech Talent Initiative will train one million Europeans and provide them with the skills required in deep tech fields such as AI, quantum computing and semiconductors.

## Joint European Disruptive Initiative



The JEDI, known as the European DARPA, is the initiative for disruptive innovation designed to position Europe as a leader in innovative technologies



# Cross-cutting policies to promote deep tech deployment in the EU

## Next Generation



Post-pandemic recovery package that allocates 37% of its budget to renewable energies and clean technologies, and 20% of it to digital technologies.

## Horizon Europe



Research and innovation framework program for the 2021-2027 period with three pillars, the second of which seeks to enhance European industrial technological capabilities.

## Strategic Technologies for Europe Platform



Platform that supports European industry and drives investment in three priority areas: digital technologies and innovation in deep tech, clean technologies and biotechnology.

## Important Projects of Common European Interest (IPCEI)



Cross-border innovation projects and cutting-edge infrastructures designed to overcome the market's shortcomings in strategic value chains, such as semiconductors, batteries and hydrogen.

## European Chips Act



Initiative set out to mobilize over 43,000 million euros of public and private investment to guarantee European participation in the semiconductor value chain.

## European Critical Raw Materials Act



Law to ensure the acquisition, processing and recycling of critical raw materials in Europe that are essential for the technologies of the future.



## Deep tech-related initiatives in Spain

The Spanish government is working on the first **Spanish Deep Tech Strategy**. For the time being, it is driving deep tech in a cross-disciplinary way with different policies.

### PRTR - Next Generation EU

#### Impact of the National Recovery, Transformation and Resilience Plan (RTRP) on innovation policy:

- Increased digitization of tractor sectors
- Modernization of production chains
- Promotion of science
- Training in digital skills

### ECIT 2021-2027

#### The main goals of the Science, Technology and Innovation Strategy (CTIS) for 2021-2027 are to:

- Reinforce public-private collaboration
- Promote knowledge transfer
- Improve the situation of research staff
- Improve talent attraction and retention

### INNVIERTE Technology Transfer Program

The CDTI, within the framework of the INNVIERTE venture capital fund, is allocating **€120 M** and channeling them into **three private venture capital funds specialized in technology transfer.**

### Startup law

**The aim of the law is to create an innovative entrepreneurial ecosystem in Europe. The expected benefits include the following:**

- Enhanced ability to attract international talent
- Promotion of partnerships between companies
- Beneficial tax measures (corporate tax and non-residents' income tax)
- Expansion of the maximum investment deduction base

Deep tech in Catalonia

## 4. Deep techs and the SDGs

# Contribution of deep tech technologies to the SDGs

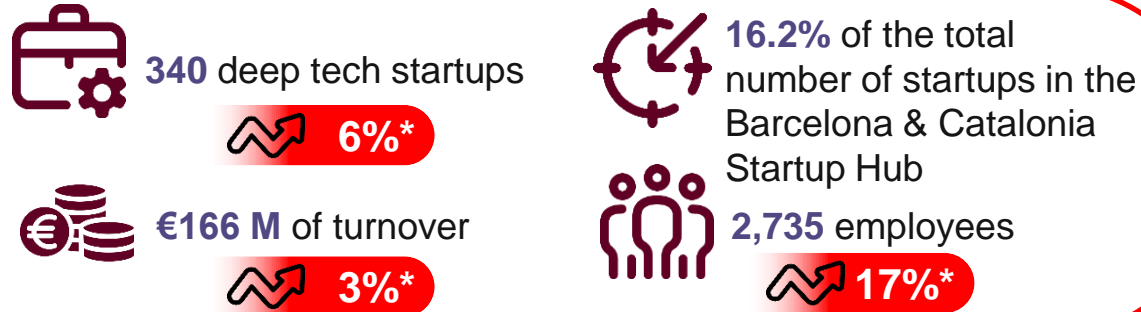




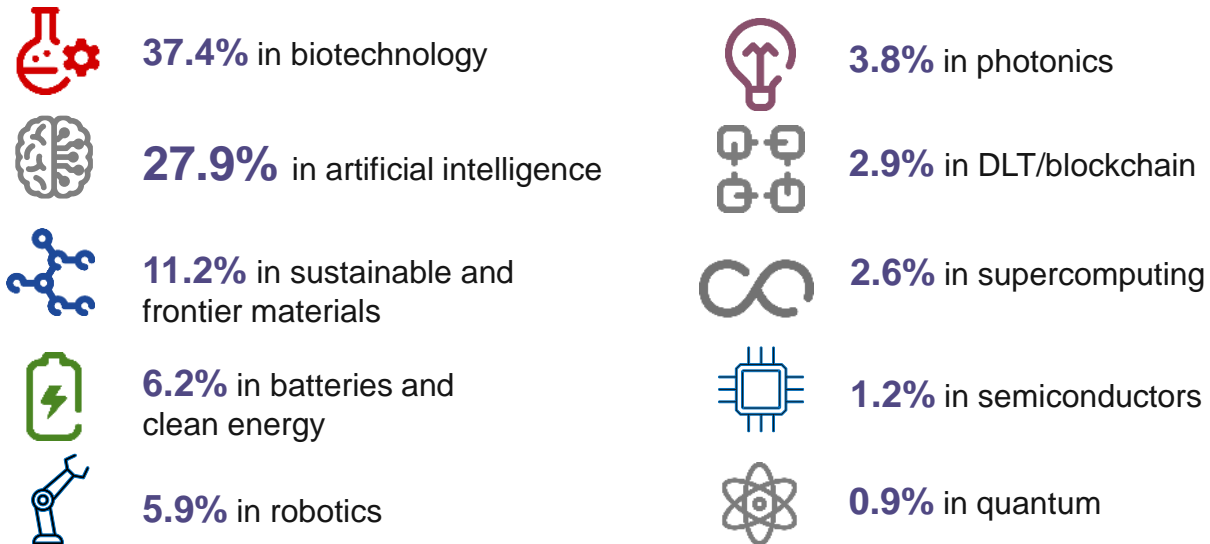
Deep tech in Catalonia

## 5. Deep tech in Catalonia

# Mapping of the deep tech startup ecosystem in Catalonia

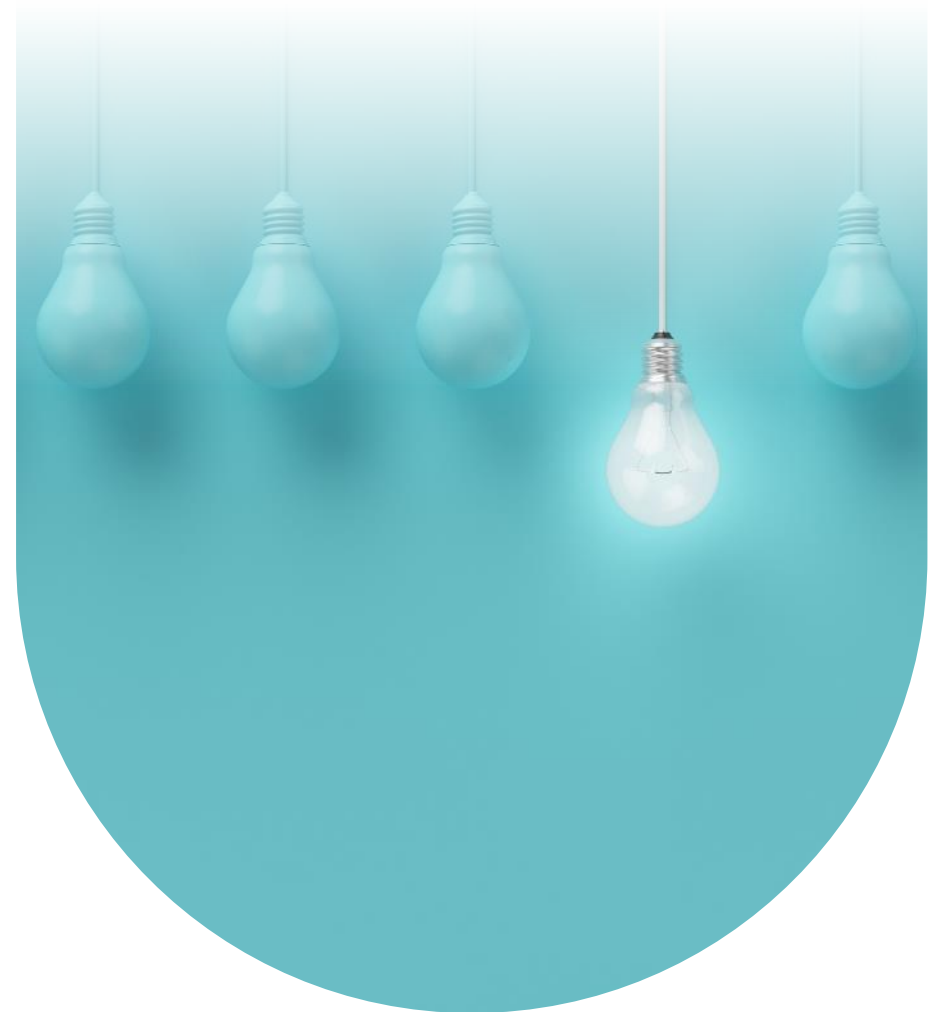


By technologies, the deep tech startups in Catalonia are distributed as follows:



\*Growth compared to the data of 2023.

Note: for the purposes of this mapping, the main technology used by each startup is selected. The Barcelona & Catalonia Startup Hub is made up of 2,102 startups (2023).

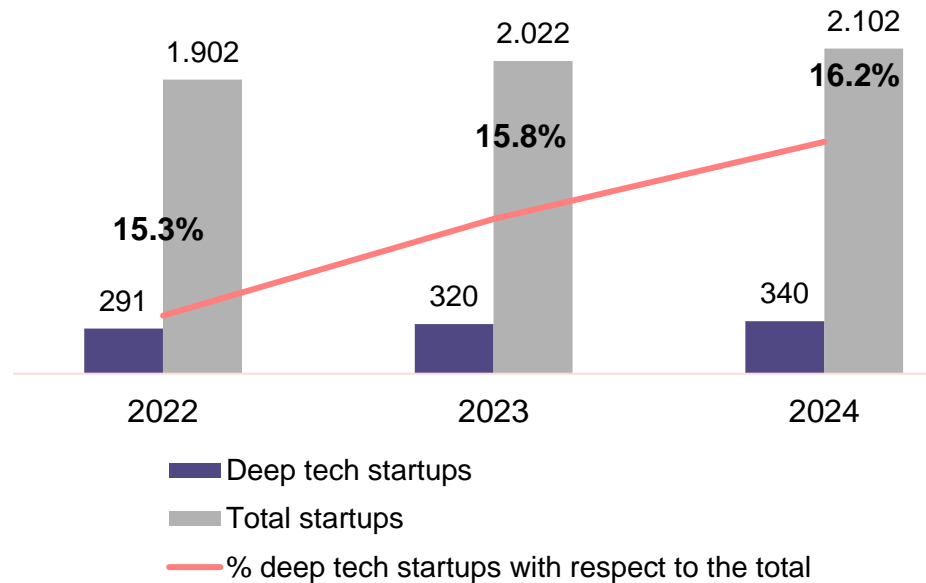


## Evolution of the deep tech ecosystem in Catalonia (I)

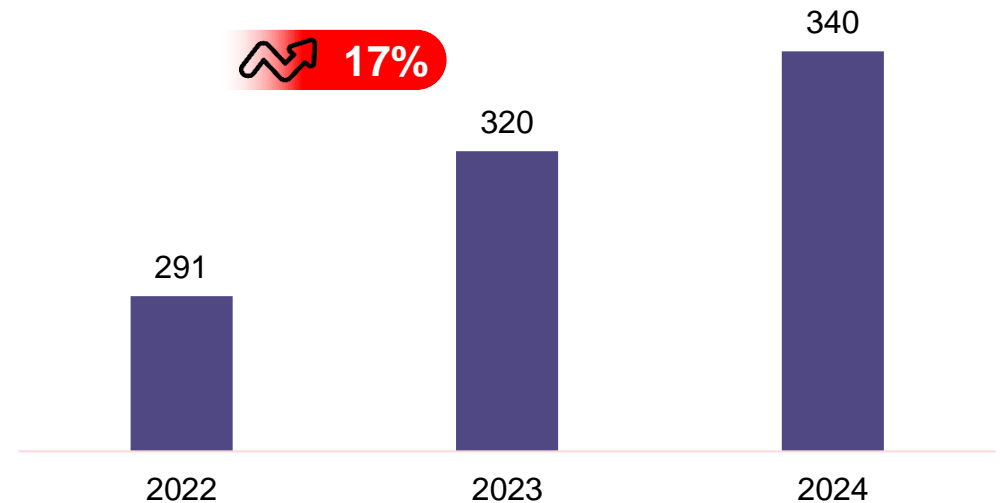
Over the last three years, the number of deep tech startups has risen by **17%**, an increase higher than the growth in the total number of startups in Catalonia (**10.5%**).

The proportion of Catalan deep tech startups compared to the total number of Catalan startups has risen from **15.3%** in 2022 to **16.2%** in 2024.

### Evolution of the total number of startups and deep tech startups



### Evolution of the number of deep tech startups

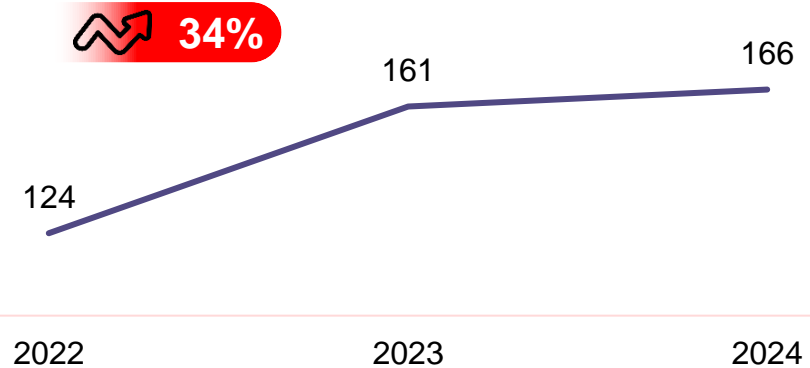


Source: Barcelona & Catalonia Startup Hub, ACCIÓ

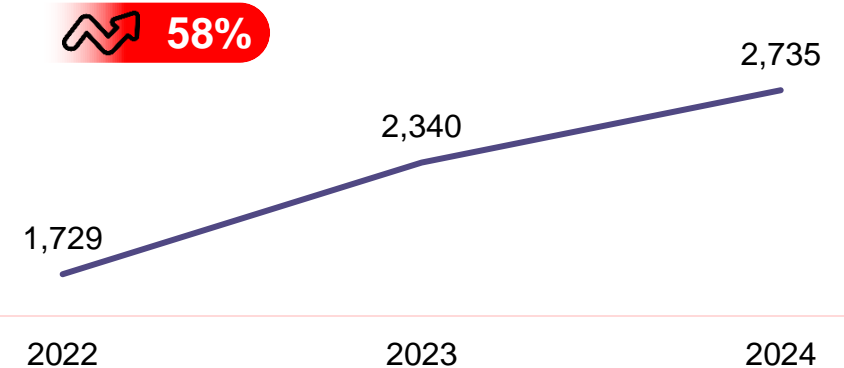
## Evolution of the deep tech ecosystem in Catalonia (II)

Over the last three years, the turnover of deep tech startups has risen by **34%** and the number of workers has increased by **58%**.

### Evolution of the turnover of deep tech startups (€M)

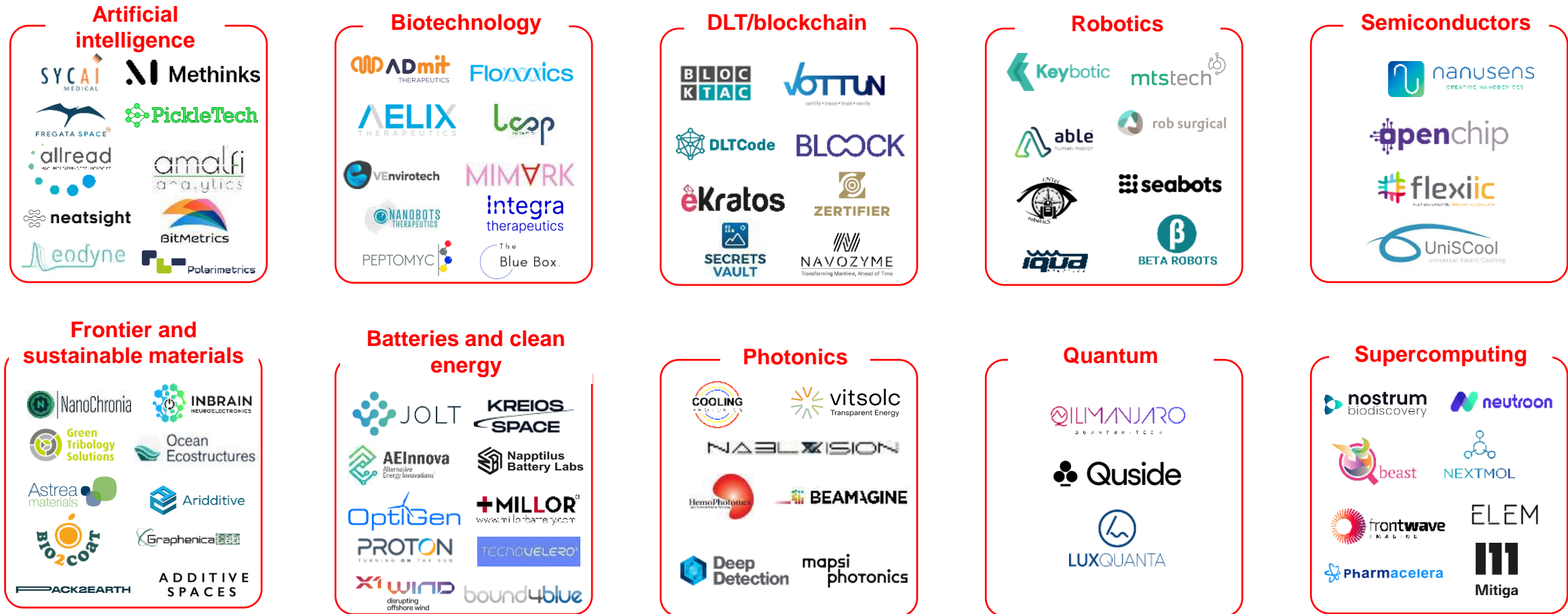


### Evolution of the number of workers in deep tech startups



Source: Barcelona & Catalonia Startup Hub, ACCIÓ

# Mapping of deep tech startups in Catalonia



Note: partial illustrative image. For the purposes of this mapping, the main technology used by each startup is selected.

Source: Barcelona & Catalonia Startup Hub, ACCIÓ

# Agents in the deep tech ecosystem in Catalonia

## Centers and institutions generating deep tech spin-offs



## Incubators and accelerators



## Venture capital funds and investors



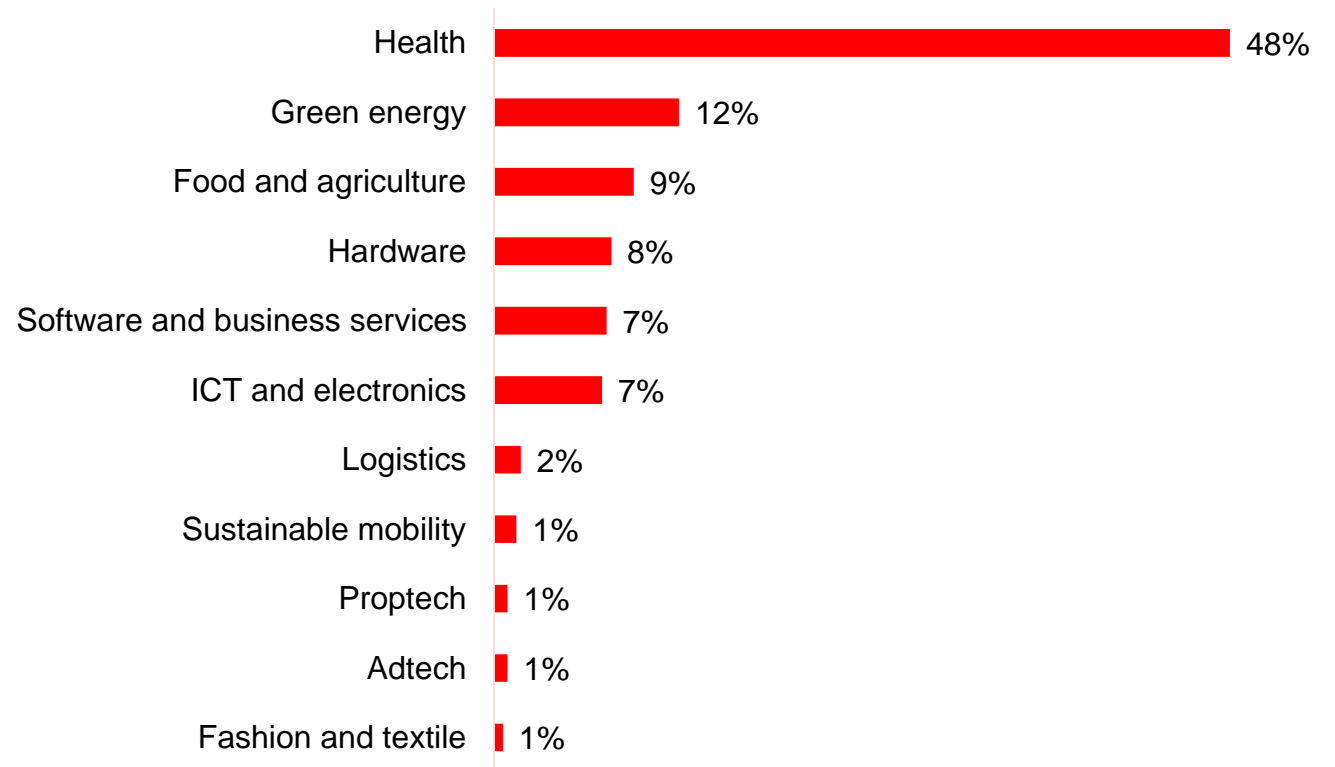
## Institutions and public administration





The health and green energy sectors account for **60% of deep tech startups**

## Sectoral application of deep tech startups

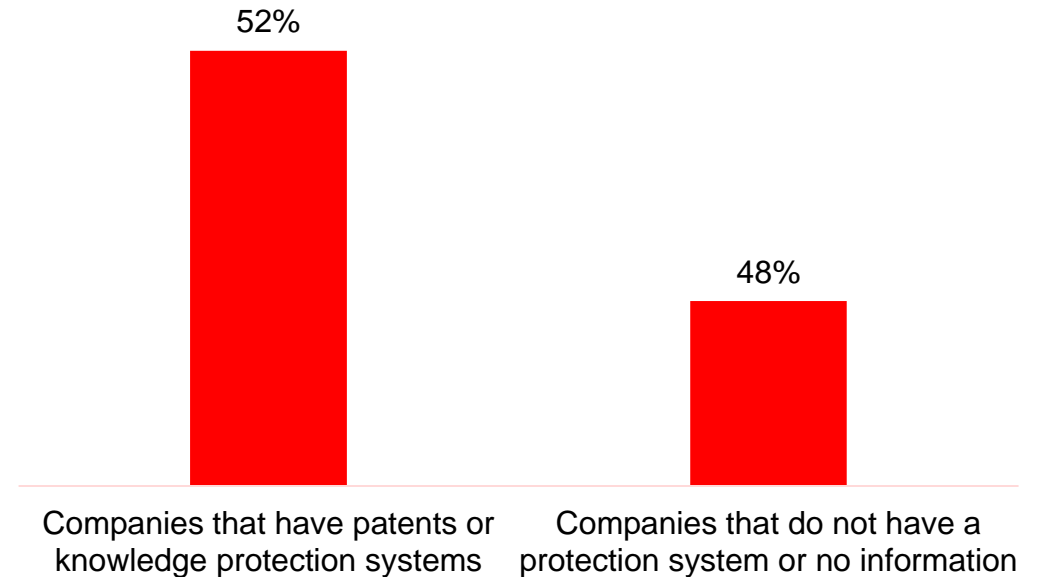


Note: this chart has been drawn up using the data of the 340 startups in the directory that possessed this information. The analysis has been conducted with the main sector of each company.

Source: Barcelona & Catalonia Startup Hub, ACCIÓ

**52% of deep tech startups** have some form of patent or knowledge protection system.

## Deep tech startups with patents or knowledge protection systems



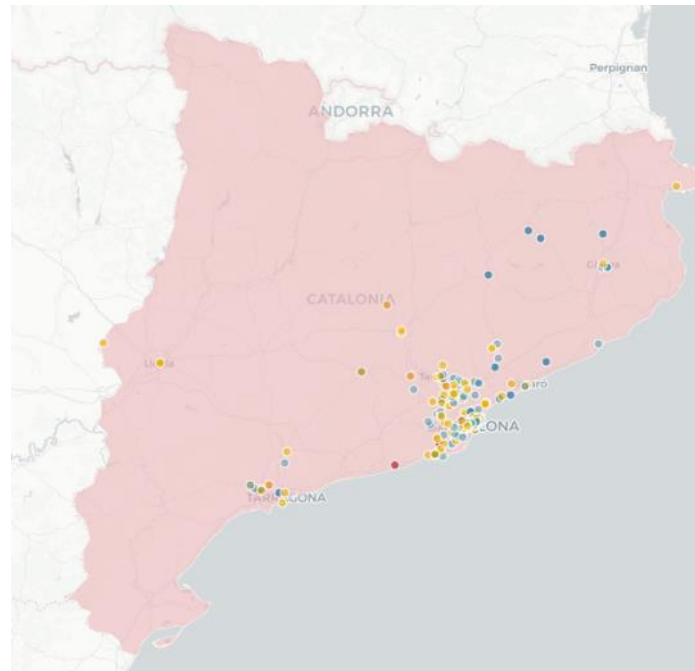
Note: these data was taken from companies that answered this question in the 2023 survey or information that was found in the Orbis Intellectual Property database in 2024.

Sources: Barcelona & Catalonia Startup Hub, ACCIÓ, and Orbis

# Analysis of the deep tech ecosystem in Catalonia: location of startups by municipality

**58%** of deep tech startups are located in Barcelona, followed by Cerdanyola (4%) and Terrassa (3%).

**86.7%** of startups are located in the Metropolitan Area of Barcelona (AMB).

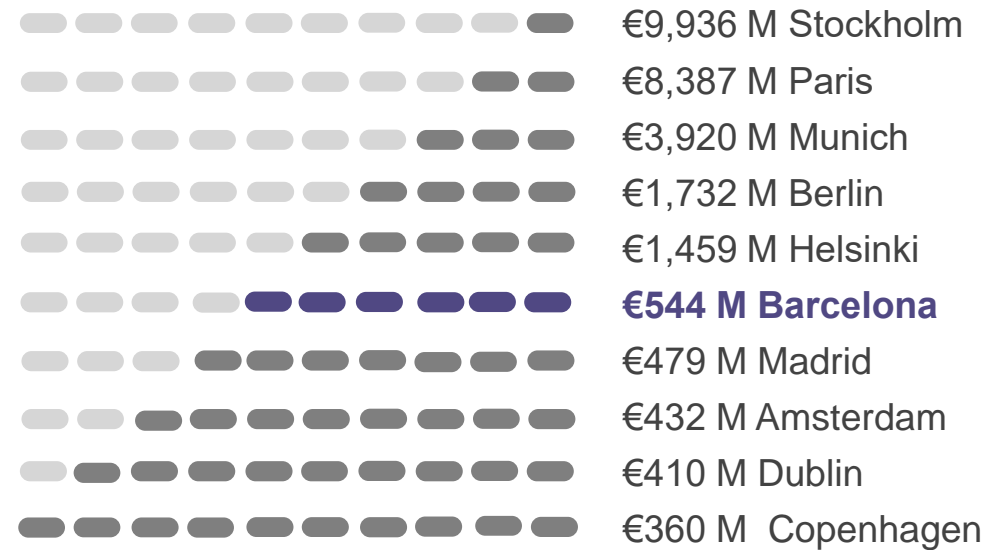


Top 20 municipalities	Number of companies	%
Barcelona	196	58%
Cerdanyola del Vallès	12	4%
Terrassa	10	3%
Castelldefels	8	2%
L'Hospitalet de Llobregat	8	2%
Badalona	7	2%
Sant Cugat del Vallès	7	2%
Tarragona	6	2%
Esplugues de Llobregat	5	1%
Gavà	5	1%
Girona	4	1%
Lleida	4	1%
Mataró	4	1%
Reus	4	1%
Cornellà de Llobregat	3	1%
Sabadell	3	1%
Cànoves i Samalús	2	1%
Igualada	2	1%
Molins de Rei	2	1%

# Funding raised by deep tech startups: ranking of cities in the EU

Barcelona is the **6th largest hub in the EU** in terms of volume of venture capital funding raised by deep tech startups in the period 2019-2024.

Main EU cities by volume of investments in deep tech startups. 2019-2024\*



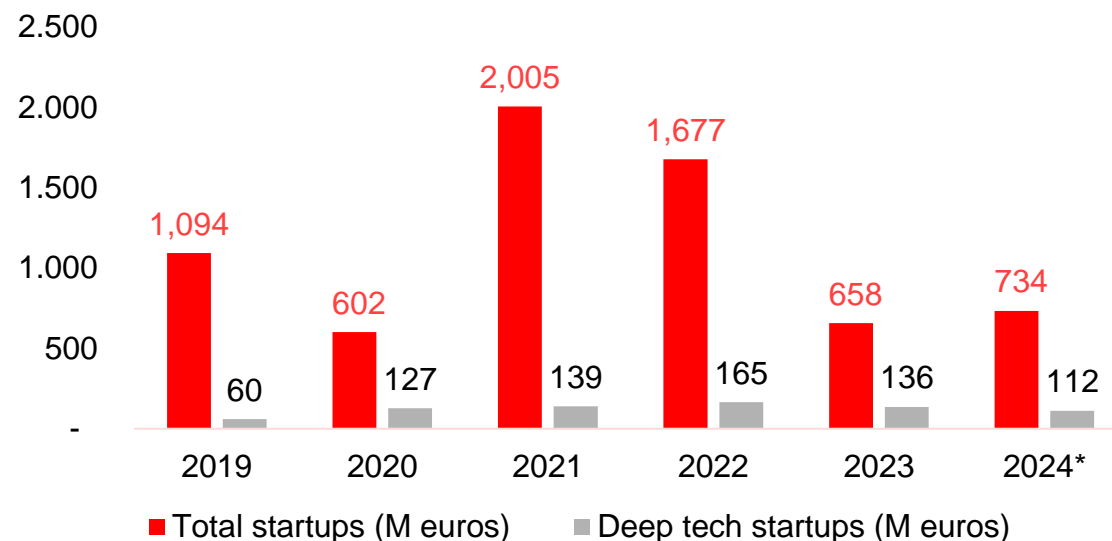
Note: consultation in Dealroom on 14/10/2024. Exchange rate \$1.097/€. Provisional data for 2023 and 2024.

## Funding raised by deep tech startups: volume invested in Catalonia

**21%** of the venture capital invested in Catalan startups in 2023 was assigned to deep tech, compared to 7% in 2021 and 10% in 2022.

This is a higher percentage than the state average (**12%**).

Volume of investment in startups in Catalonia (€M) 2019-2024\*



Years	2019	2020	2021	2022	2023	2024*
Total startups (M euros)	1,094	602	2,005	1,677	658	734
Deep tech startups (M euros)	60	127	139	165	136	112
% deep tech/total	5%	21%	7%	10%	21%	15%

(\* The data for 2024 is updated to 09/10 and is provisional.

Note: Consultation in Dealroom taking Catalonia as the founding location or operational headquarters of the startup (consultation date: 09/10/2024).



Exchange rate \$1.097/€

Source: Dealroom

# Funding raised by deep tech startups: leading investments in 2023-2024

## 10 main foreign investments in deep tech startups in Catalonia (2023-2024)

Leading deep tech investments in 2023-2024

				
<b>€50 M</b> 2024	<b>€40 M</b> 2023	<b>€36.4 M</b> 2023	<b>€30 M</b> 2024	<b>€17.4 M</b> 2024
				
<b>€13 M</b> 2023	<b>€10 M</b> 2023	<b>€10 M</b> 2023	<b>€6.3 M</b> 2024	<b>€5 M</b> 2024

Note: consultation in Dealroom (08/10/2023), taking Catalonia as Catalonia as the founding location or HQs of the startup



# Ecosystem of consolidated deep tech companies in Catalonia

Although this study has analyzed the deep tech startup ecosystem in Catalonia, our territory is the cradle of science and technology. One good example of that is the fact that **Catalonia has well-established and renowned companies that also base their activity on deep techs**, enabling this ecosystem to grow and evolve.

<p><b>Artificial intelligence</b></p>	<p><b>Biotechnology</b></p>	<p><b>DLT/blockchain</b></p>	<p><b>Robotics</b></p>	<p><b>Semiconductors and microelectronics</b></p>
<p><b>Sustainable and frontier materials</b></p>	<p><b>Batteries and clean energy</b></p>	<p><b>Photonics</b></p>	<p><b>Quantum</b></p>	<p><b>Supercomputing</b></p>

Note: partial illustrative image

Deep tech in Catalonia

## 6. Initiatives to support deep techs in Catalonia

National pacts



**National Pact for Industry**  
(2022)



**National Pact for the Knowledge Society** (2020)

Funding

**Startup Capital**

**€2M** each year

**Línia Startup Capital Coinversió**

**€2.5M**

**Fons d'Inversió en  
Tecnologia Avançada (FITA)**

**€55 M** in endowment

+ Instruments from



## ACCIÓ supports deep techs: Startup Capital

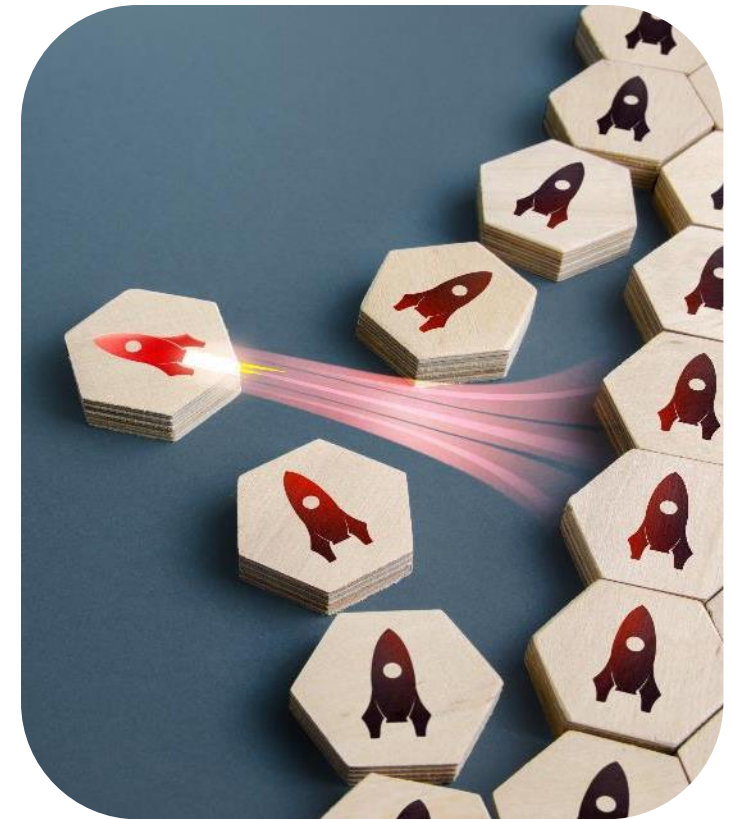
Between 2017 and 2024, **172 deep tech startups** have received support from the **Startup Capital** aid, with a total amount of **14.4 million euros**.

- ACCIÓ allocates **2 million euros** every year to support technology-based startups seeking to overcome major global challenges.
- The program offers direct grants totaling up to **100,000 euros** and provides startups with **mentoring**, a training **bootcamp** and **networking** opportunities.

### Deep tech startups benefiting from Startup Capital in 2024



Further information: 

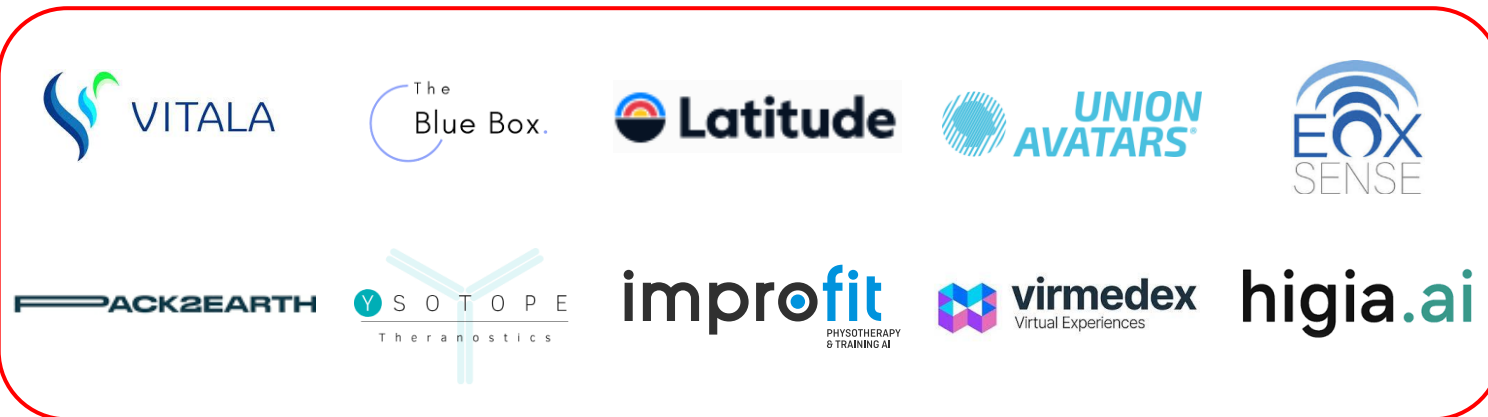


## ACCIÓ supports deep techs: Startup Capital Coinversió

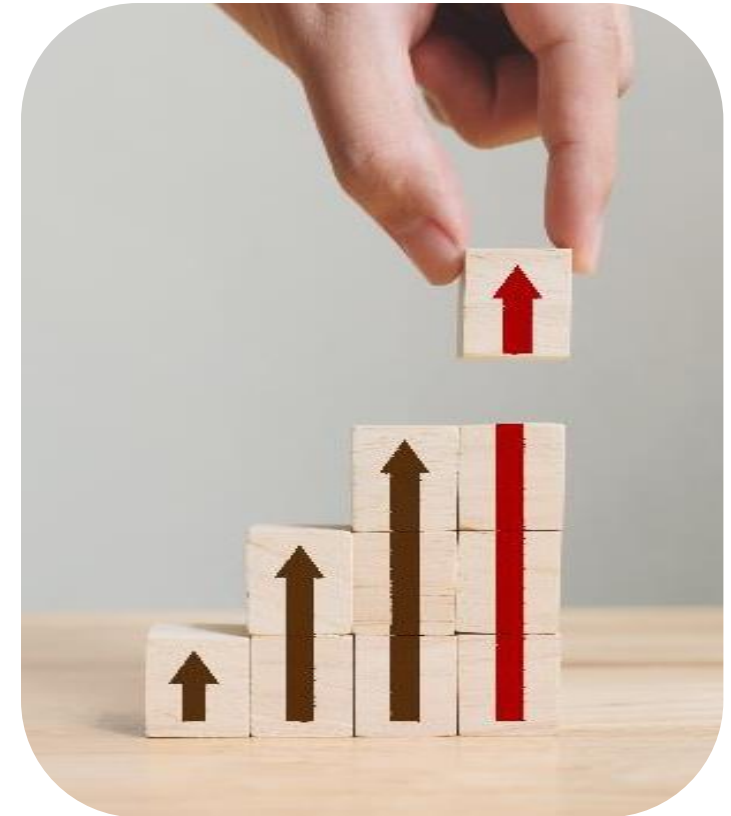
2023 saw the launch of **Startup Capital Coinversió**, which has already mobilized around **1.5 million euros** for **10 Catalan deep tech startups**.

- ACCIÓ offers grants between **75,000 and 250,000 euros** linked to investments formalized by angel investors or venture capital funds over the past six months.
- This provides an opportunity to expand the investment received through a **10-year loan** and a **non-refundable grant of 20%**.

### Deep tech startups benefiting from the Línia Startup Capital Coinversió



Further information: 



# The Government of Catalonia boosts deep tech

The Government of Catalonia will allocate **110 million euros** from the ERDF funds to eight new strategic projects in the fields of **biotechnology**, **decarbonization** and **deep technologies**.

- The European Commission has agreed to modify the Programme Catalonia ERDF to incorporate new investment priorities within the framework of the STEP Platform.
- The EU will provide 100% of the investments and will facilitate an advance of 30% of the total cost.



## The 8 selected projects:

### Protein.cat

To develop and implement biotechnological processes aimed at producing non-animal-based proteins.

### PhotonChip

To implement integrated photonic chip technologies in devices ready for transfer and industrial scalability.

### Congenital pathologies

To develop technologies in the field of digital twins that integrate AI to predict the progression of complex congenital pathologies.

### Lithographic scanner

To have a high-performance lithography equipment, unique in Spain, aimed at the manufacturing of semiconductor devices.

### Quantum

To transform data and communication security by moving from an asymmetric algorithm system to one based on quantum cryptography (QKD).

### PRIMA Platform

To build six pilot plants for testing and demonstrating technologies that contribute to the energy transition.

### Test-beds

To deploy facilities to conduct trials and pilot tests of new technologies with an impact on the water sector.

### Industrial decarbonization

To design and deploy experimental and testing facilities and plants for the use and capture of CO<sub>2</sub> that enable the scalability of technologies.



## Catalonia, at the forefront of the EU's Regional Innovation Valleys with the PRECISEU project

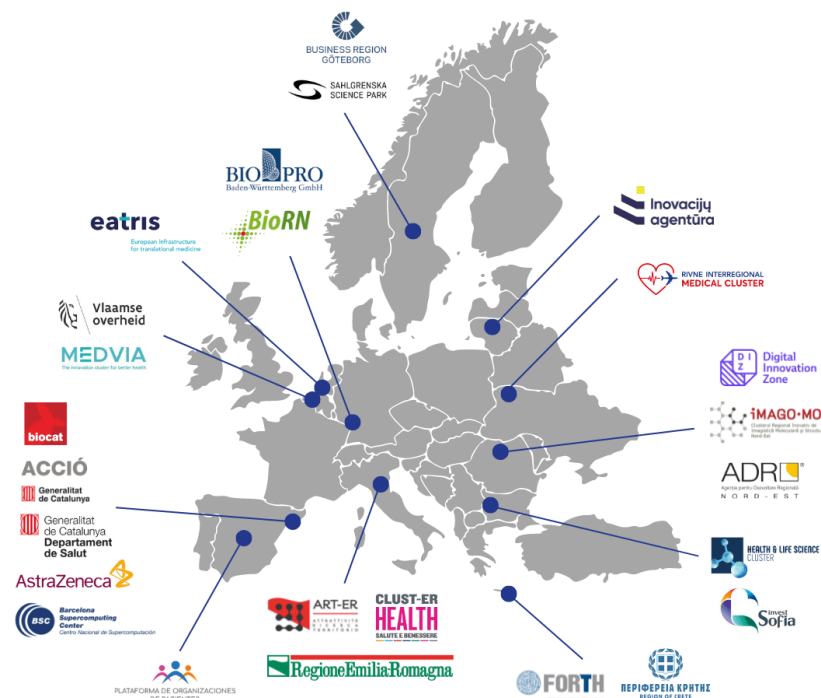
Catalonia is leading **PRECISEU**, a European-wide macro-project to promote personalized medicine and advanced therapies.

PRECISEU, which began on 1 July 2024 and is set to last until 30 June 2029, is one of the five projects selected by the demanding **European Innovation Ecosystems (EIE)** program as part of the **Regional Innovation Valleys (RIVs)** initiative of the New European Innovation Agenda (NEIA).

With a budget totaling **€23 M**, it will accelerate the adoption of **personalized medicine** in Europe, facilitate the **digital and sustainable transformation** of health systems, and allocate financial support (around €12 M) to four inter-regional projects for the development of highly innovative products based on **advanced therapies** and **health data**.

Catalonia is the region with the most partners participating in this project, coordinated by **Biocat** with the support of the **Ministry of Health, ACCIÓ**, the **Barcelona Supercomputing Center** and **AstraZeneca**. A total of 25 partners from 12 European regions of 10 EU member States and Ukraine are participating.

### Participating partners of PRECISEU



**Catalonia is one of the main European regions in the field of personalized medicine and advanced therapies**

Sources: Biocat, Ministry of Foreign Affairs and the European Union

# Catalonia, a benchmark in the EIC Accelerator

Between 2022 and the first quarter of 2024, **15 Catalan deep tech startups** received funding from the EIC Accelerator. The 15 startups account for **45%** of the total number of beneficiaries in Spain and **3.2%** of startups throughout Europe.



- The EIC Accelerator is the EU's main funding program which awards up to €2.5 M in grants and up to €15 M in capital investments, in addition to coaching, mentoring and networking.

## Deep tech startups benefiting from the EIC Accelerator

### 2022



### 2023



### 2024 (1st quarter)



Source: EIC Accelerator  
**CataloniaConnects**



# Barcelona Deep Tech Summit

The **Barcelona Deep Tech Summit** is an event that turns the city into the epicenter of exponential technology. It's an opportunity for all the players in the deep tech ecosystem to connect, collaborate and create together. Its main goals are:

- To become the meeting point for the entire deep tech ecosystem in Barcelona and Catalonia.
- To popularize entrepreneurial culture based on science and technology.
- To promote the growth and visibility of research centers and deep tech startups.
- To encourage entrepreneurial activity in the scientific and research sector.



[barcelonadeeptechsummit.com](https://barcelonadeeptechsummit.com)



## Four verticals

1. Energy transition
2. Connectivity
3. Industrial technology
4. Health technology

## Barcelona Deep Tech Fund

In 2022, in order to support the deep tech ecosystem, Barcelona City Council created an investment fund by contributing 10 million euros.

# Opportunities to drive deep techs in Catalonia

Deep tech refers to technology and innovation with great potential for disruption and the ability to transform the world with a profound impact on society.



## European framework

European deep tech support framework, including the European Innovation Agenda, the Green Pact and the Next Generation funds.



## Social valuation

Improved appreciation of science and technology by society.



## SDGs

Key role of science and technology in contributing to achieving the Sustainable Development Goals.



## Changes in equity fund preferences

Availability of equity funds that are abandoning large investments in unicorns with promises of rapid returns and advocating longer-term investments with a positive impact.



## Policy deployment

Policies that have already been deployed to encourage deep tech: national agreements, public funding and the Catalan Science Law.



## Ecosystem

Ecosystem of startups and environmental agents active in the promotion of deep techs.



## Good positioning of Catalonia

Good positioning of Catalonia compared to other European regions and Spain. In 2023 Catalonia became a Strong Innovator at the European Commission's Regional Innovation Scoreboard.



## International collaboration

Promotion of open science to encourage cooperation and transfer between ecosystems, which are key to the development of deep techs.

# Challenges faced when promoting deep techs in Catalonia

The momentum of deep techs is not without its challenges, including long-term funding, technical complexity and the need for specialized talent.



## Talent

Need for experts with specialized knowledge. Foster and improve conditions for local talent and attract talent from other ecosystems



## Industrial Doctorates

Greater promotion of industrial doctorates.



## Instruments

Provide more instruments and streamline bureaucratic hurdles to facilitate the transfer of knowledge from universities and/or technological and research centers to the business world.



## Creation of companies

Facilitate the creation of scientific and technological companies.



## Legal and regulatory framework

Legal and regulatory framework. Many deep techs are targeting highly regulated sectors such as energy, health, etc. that require good knowledge of legal frameworks, requirements and approval processes.



## Intellectual Property

Promote the protection of proprietary inventions through patents or other legal mechanisms.



## Long-term funding

Increase the budget and the duration of financial instruments to invest in deep tech companies, taking into account their long development cycles and the risk they entail.



## Private capital

The private investment ecosystem specializing in deep tech is still in its early stages.



## Communication

Communication, finding the balance between generating excitement about technology, communicating in a precise and verifiable way and ensuring it can be shared beyond the scientific community.

Deep tech in Catalonia

## 7. Success stories in Catalonia

## Success stories on Catalonia



**Integra**  
therapeutics

**INTEGRA THERAPEUTICS** develops gene therapies to fight liver diseases, cancers and rare illnesses.



**POLARIMETRICS** uses artificial intelligence to identify strokes and speed up diagnoses to prevent more serious consequences of the disease.



**SUBMER** is developing a data center cooling system by immersion while saving water and electricity costs.



**MAGNETIKA** is developing a wireless electric charging system using magnetic resonance.



**GPA SEABOTS** is developing hybrid aquatic robots for numerous tasks at sea, ranging from data collection to maritime rescue.



**VITSOLC** develops transparent solar panels using organic materials that transmit visible light and convert infrared light into electricity.



**NAVOZYME** has introduced innovative certification systems based on blockchain for port management.



**PHARMACELERA** is improving productivity in R&D through drug discovery based on advanced computational technologies.



**FLEXIIC** is developing organic and flexible electronic circuits with innovative manufacturing methods, such as additive manufacturing and circuit printing.



**QUSIDE** manufactures quantum components for the cybersecurity, communication and high-performance computing sectors.

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# Thank you

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