May 2025. Technology snapshot

# Digital health in Catalonia



### Digital health in Catalonia. Technology snapshot

ACCIÓ Government of Catalonia



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#### Carried out by

Strategy and Competitive Intelligence Unit of ACCIÓ

#### Collaboration

Barcelona Health Hub Biocat Agència de Qualitat i Avaluació Sanitàries de Catalunya Fundació TIC Salut i Social



#### Barcelona, May 2025



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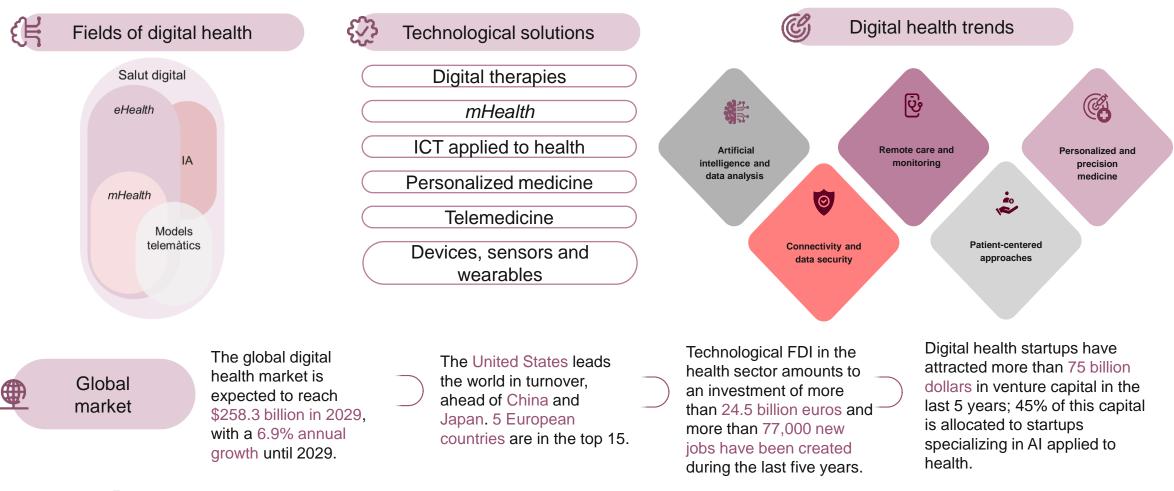
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## Executive summary of digital health worldwide

Digital health is the field of knowledge and practice associated with the development and use of digital technologies to improve health.



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## Executive summary of digital health in Catalonia

### 386 companies in the digital health ecosystem

16.6% more companies compared with 2024 and 44.6% with respect to 2022.

Turnover of €633 M (+6.9%) and 5,302 jobs (+10.2%).

92.5% are SMEs and 55.7% are startups.

Prominent among them are companies that develop clinical tools (17.9%) and digital therapies (13.0%).



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160 companies (41.5%) develop Al tools

23 companies (6.0%) develop immersive technologies

12 companies (3.1%) develop medical robotics

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27 research centers and hospital research institutes

14 universities and education and training establishments

- 10 acceleration programs
- 15 associations, networks, and clusters
- 10 institutions and the Public Administration
- 11 key public initiatives

24 companies specialize in femtech

25 companies specialize in agetech

31 companies specializing in pediatech

# Attractive for international companies

2nd-ranked region in the world for attracting foreign technological investment projects in digital health over the last five years.

16 technological hubs of companies such as AstraZeneca, Bayer, Novartis, Roche and Sanofi.



Entrepreneurial ecosystem

The health technology sector:

- ranks second in terms of the number of startups, with 369 startups accounting for 16.1% of the total.
- attracts €177.7 million in venture capital investment, 43% more than in 2023, and ranks among the first with 14.9%.

Barcelona is the 5th-ranked European city in closed venture capital rounds for digital health startups.

# 1. Definition, importance and applications of digital health





# Digital health: plurality of definitions



The World Health Organization defines digital health as:

"The field of knowledge and practice associated with the development and use of digital technologies to improve health"



According to the European Commission, digital health is:

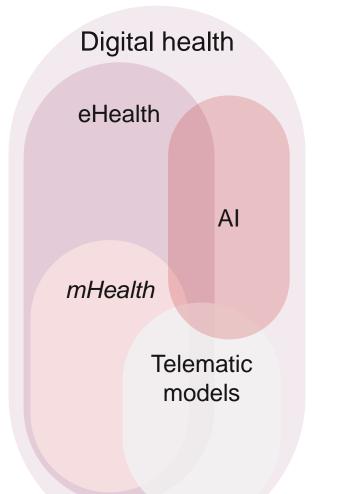
"The tools and services that use ICT to improve the prevention, diagnosis, treatment, monitoring and management of diseases and health conditions and monitor and manage lifestyle habits with an impact on people's health"



Sources: European Commission, World Health Organization



### Digital health concepts



*eHealth* is the use of information and communication technologies to provide healthcare services and use health data for prevention, diagnosis and therapeutic treatment.

*mHealth* is the use of mobile devices such as smartphones, smartwatches, monitoring devices, voice assistants, apps, platforms, chatbots, etc. to support medical and public health practice.

Telematics models are the set of practices and services that enable telematic healthcare for patients, the completion of bureaucratic healthcare procedures, the exchange of information between healthcare professionals and between healthcare professionals and patients, and the exchange of experiences and the exploitation of data for research.

The applications of artificial intelligence in the health sector encompass very diverse areas, from the automated interpretation of imaging tests, to the monitoring and interpretation of patient records, identification of drug interactions, epidemiological surveillance, etc. Al has great potential to improve people's health.

Sources: Ministry of Health, Generalitat of Catalonia and Agency for Healthcare Quality and Evaluation of Catalonia



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# Technological solutions

Technology can help health in many different ways



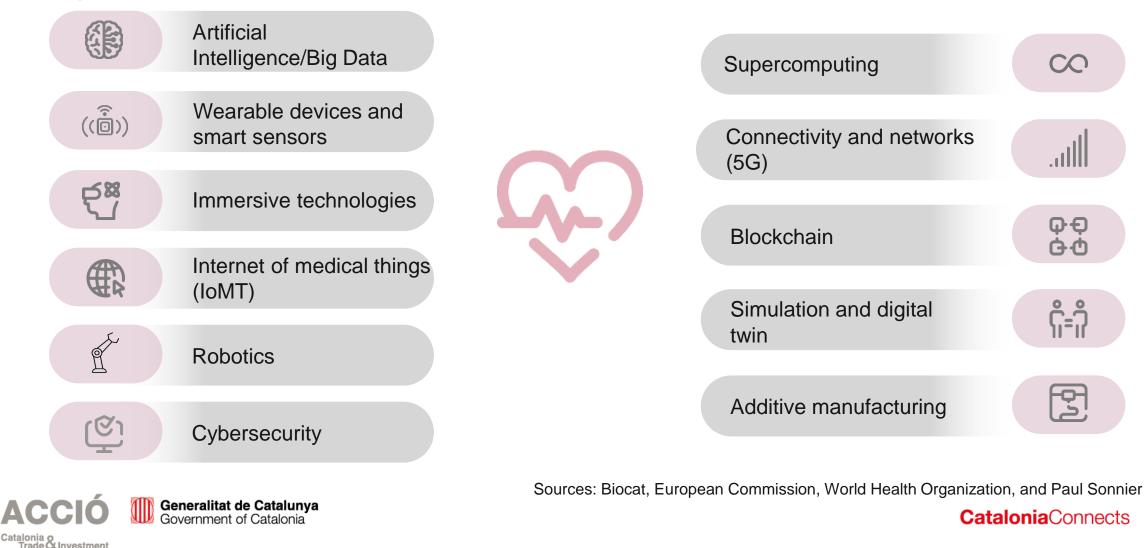
| (A)      |                               | Digital thera                | pies            | 9                                   |
|----------|-------------------------------|------------------------------|-----------------|-------------------------------------|
| <b>A</b> | Diabetes apps that reduce ris |                              |                 | solutions that reduce<br>depression |
|          |                               | mHealth                      | ו               |                                     |
|          | Nutrition and diet apps       | Medication<br>adherence apps | Acc             | ess to health information           |
|          |                               | ICT applied to               | health          |                                     |
|          | IT apps                       | Electronic health histories  | Ele             | ctronic prescriptions               |
|          |                               | Personalized m               | nedicine        |                                     |
|          | High-precision tests          |                              | Clinical decisi | on support                          |
|          |                               | Devices, sensors an          | d wearables     |                                     |
|          | Biometric sensors             | Diagnostic products          |                 |                                     |
|          |                               | Telemedic                    | ine             |                                     |
|          | Telematic visits              | Patient monitorin            | g               | Remote health programs              |

Sources: Techtarget, European Commission and Digital Therapeutics Alliance



## Convergence with other technologies

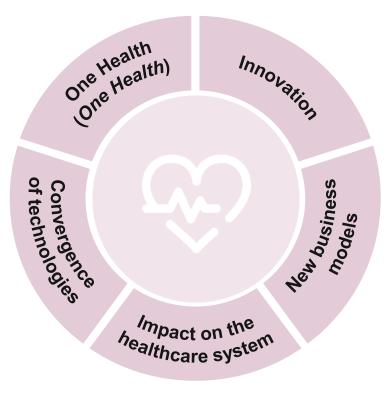
The transformation of the health sector is due to the constant incorporation of disruptive innovations and hybridization with new technologies



### Importance of digital health

The use of technologies in health can lead to a practical approach to the One Health concept, based on the idea that human, animal and planetary health are interdependent. The nature of digital health can help promote a practice under this concept in a multisectoral, cross-disciplinary and, above all, digitally inter-connected manner.

Digital health in itself takes a comprehensive and hybrid approach that brings together a wide range of different key technologies, such as the use of big data, robotics, genomics, cybersecurity and wearables, which can lead to high added value and reduced healthcare costs in terms of prediction, forecasting and quality improvement.



Digital applications and technologies in the field of health are experiencing healthy growth in view of the rise in new and serious social-health and biological threats and those linked to climate change. Healthcare supported by ICT can offer new pioneering methodologies and uses in order to establish a comprehensive approach to health (always based on previous research work).

The use of digital technologies in health gives rise to new businesses and business models that can ultimately attract new market sectors. A major challenge is to secure new economically sustainable strategies, health platforms and ecosystems, the role of insurance and new public-private partnerships.

Digital health can shorten and alleviate the response capacity of healthcare systems while promoting optimal care with speed and efficiency. With the aim of preventing work overloads, the use of digital technologies in health also proposes a human-centered approach that seeks improvements in terms of quality.

> Sources: ACCIÓ, ISGlobal and Bit CataloniaConnects



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Digital health in Catalonia

# 2. World digital health market

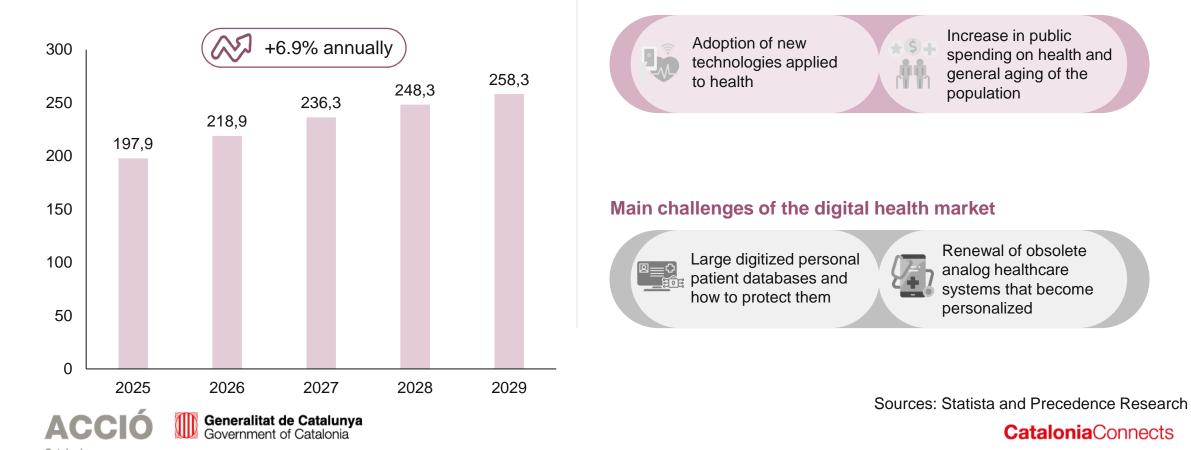


## Size of the global digital health market

The global digital health market surpassed \$171.8 billion in 2024 and is expected to reach around \$258.3 billion in 2029, with a 6.9% annual growth between 2025 and 2029.

Key factors driving the growth of the digital health market

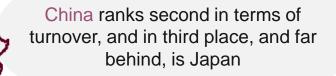
#### **World digital health turnover** (2025-2029, in billions of dollars)



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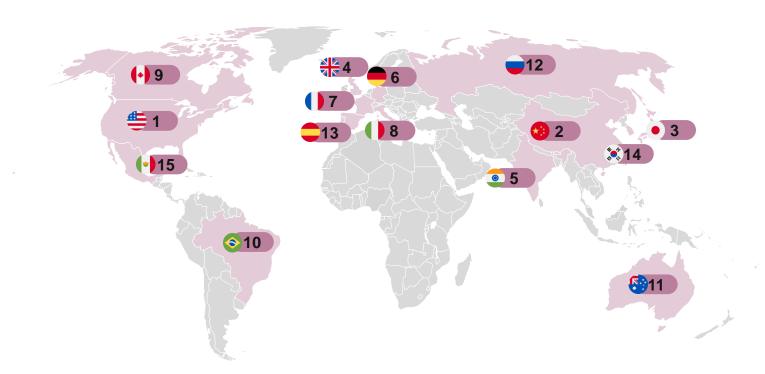
## World digital health market, by countries

The United States leads the world in digital health turnover





Five European countries stand out in the top 15: the United Kingdom, Germany, France, Italy and Spain



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|    | Countries      | Turnover<br>(M\$,<br>2024) | % growth year<br>on year (2024-<br>2029) |
|----|----------------|----------------------------|--|
| 1  | United States  | 47,120                     | 8.2%                                     |
| 2  | China          | 38,200                     | 7.2%                                     |
| 3  | Japan          | 8,285                      | 8.8%                                     |
| 4  | United Kingdom | 5,545                      | 9.1%                                     |
| 5  | India          | 5,337                      | 13.1%                                    |
| 6  | Germany        | 4,858                      | 8.1%                                     |
| 7  | France         | 4,085                      | 8.1%                                     |
| 8  | Italy          | 4,021                      | 10.0%                                    |
| 9  | Canada         | 3,514                      | 8.0%                                     |
| 10 | Brazil         | 3,171                      | 9.3%                                     |
| 11 | Australia      | 2,670                      | 8.4%                                     |
| 12 | Russia         | 2,603                      | 9.4%                                     |
| 13 | Spain          | 2,515                      | 10.1%                                    |
| 14 | South Korea    | 2,460                      | 3.5%                                     |
| 15 | Mexico         | 2,412                      | 8.9%                                     |

### Source: Statista CataloniaConnects

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# Global leading companies in digital health investment

| AstraZeneca 😒 🏶        | Advanced MD          | 🎐 athenahealth | 😂 AT&T  👙  |
|------------------------|----------------------|----------------|--|
| BAYER<br>R             | •   👙<br>CISCO       |                | <b>eClinicalWorks</b><br>"Improving Healthcare Together" |
| <b>FUJITSU</b>         | e GE HealthCare      | Honeywell 🚔    | iHealth 🚔  |
| 🛢<br>Johnson Johnson 틒 | Medtronic            | MSKESSON       | ORACLE   |
| • PHILIPS •            | SIEMENS Healthineers | FEALTH         | 🔯 veradigm. 틒  |

e With presence in Catalonia



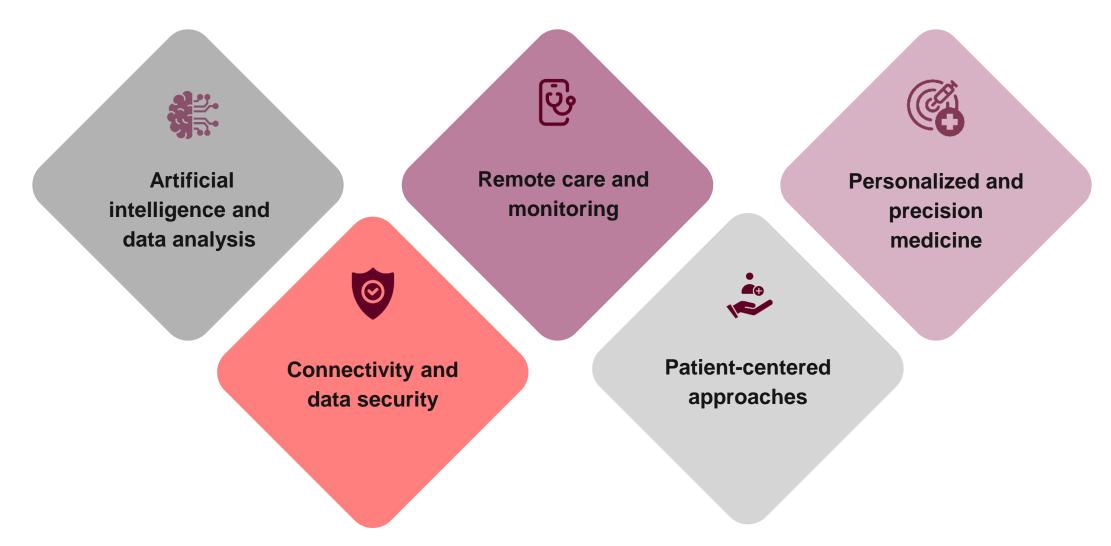
Sources: Precedence Research, Technology Magazine and Statista

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# 3. Trends, opportunities and challenges of digital health

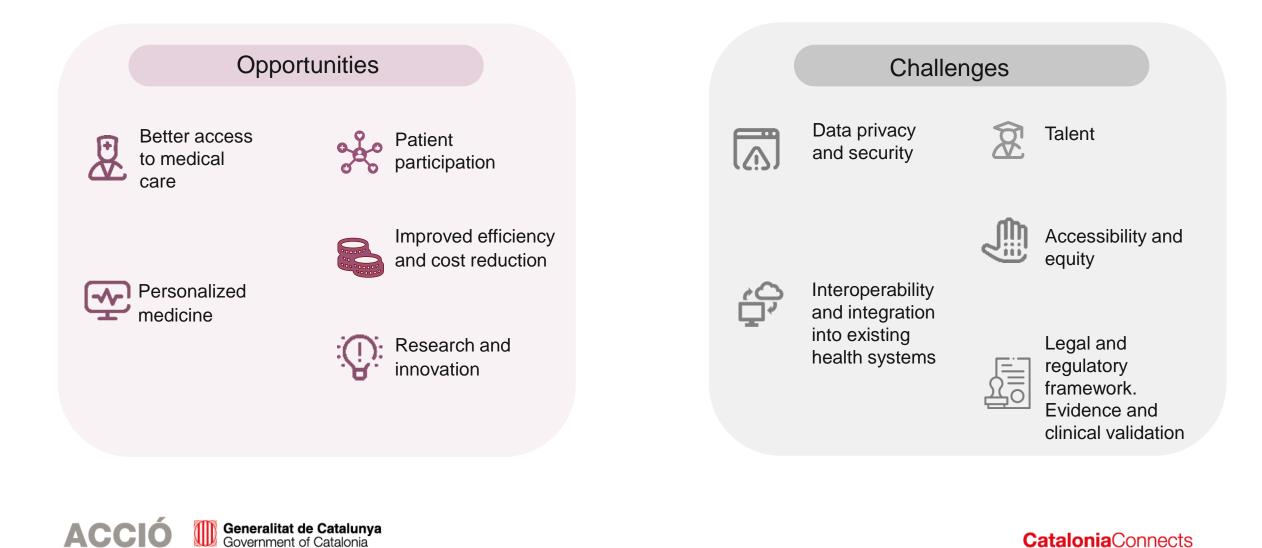


# Digital health trends



ACCIÓ Generalitat de Catalunya Government of Catalonia Sources: Forbes, BCG, PHILIPS, F&S, Health Technologies, Medical Economics, WHO and ACCIÓ

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# 4. Initiatives related to digital health



### International initiatives

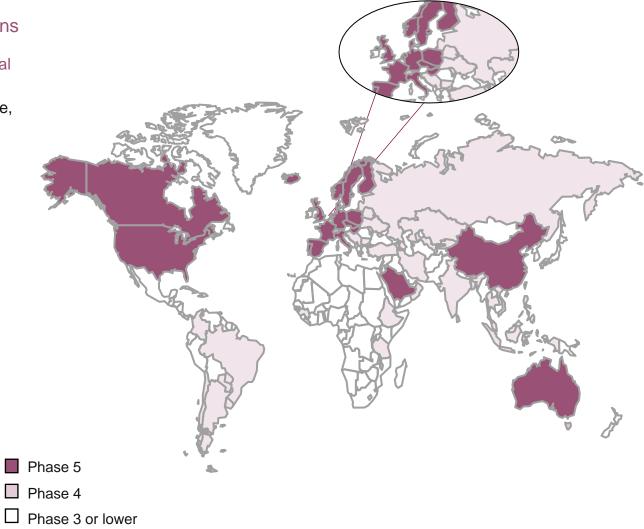
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#### Digital health is on the agenda of the main medical organizations

Europe, and North America continue to be the global regions with a global digital health index (GDHI) highest taking into account its indicators: governance, strategy and investment, policies and compliance, workforce, interoperability, infrastructure and services and applications.

- Europe and North America continue to lead innovation in digital health. Finland has established itself as the epicenter of digital health in Europe.
- In the Pacific, in Australia, the Government has recently announced a major investment in digital mental health projects.
- Meanwhile, in Africa, Nigeria is working on improving health infrastructure with increased investment in the private sector.
- According to the World Health Organization, optimal implementation of digital health interventions on a global scale could save more than 2.1 million additional lives until 2033, along with a gain of 4.9 million years of life for the world population over a 10-year horizon.

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Sources: Digital Health Index, OMS, Healthcare in Europe CataloniaConnects The digitalization of health systems is a key point for the digital transition of the economy and society in the EU.

The Communication of the Commission on enabling the digital transformation of health and care in the digital single **market (April 2018)** set the theoretical precedent for technologically responding to the challenges of an aging population, chronic illnesses, unequal access to healthcare and the education and training of health professionals. In it, the following goals are set:

Secure access to and exchanges of health data

Personalized medicine through a European data infrastructure for research

### Training for citizens in digital tools and data for person-centered healthcare

### European Health Union

The current project of the European Health Union is included in the goal of **improving protection**, **prevention**, **preparation and the response to threats to human health in the EU**. A **digital health barometer** was published in 2022 in order to monitor the development and appeal of the sector, within the **EU global health strategy** published by the Commission. This will guide the EU's action in the field of global health until 2030 and establishes clear action priorities, guiding principles and operational action lines. It will also create a new monitoring framework to assess the effectiveness and impact of the EU's policies and funding. The use of technologies is envisaged in **current initiatives** such as the following:



European Health Emergency Preparedness and Response Authority (HERA). Medical counter-measures for health crises.



**European plan for the fight against cancer.** Prevention, detection and patients' quality of life.

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**Pharmaceutical strategy.** Access to medicines and medical needs which are not covered.



Global mental health approach. To put mental health on a par with physical health.



**Critical Medicines Act.** Improve the availability, supply and production of critical medicines in the EU.

Source: European Commission CataloniaConnects



European Commission

# Spain's National Digital Health Strategy

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The **Spanish Digital Health Strategy 2021-2026** is part of the Spanish Government's roadmap "Digital Spain 2026" and proposes the digital transformation of the National Health System (SNS) services in three main areas of action: the development of **digital smart services**, the **interoperability** of health information and the promotion of **data analytics**.



#### **3** Strategic goals **1.** Strengthening of the **2.** Digitization and modernization Collaboration between National Health System centers of industrial capacity scientific and business fabrics • Action plans currently being driven\* €893 M -SNS digital Digital transformation, Sustainability, efficiency Personalized SiGenEs Health Data services plan and equitable access in primary and digital service Genomics Space (SEDIA) the Spanish NHS community care €170 M €220 M €230 M €146 M €27 M €100 M December December 2025 June 2026 June 2026 June 2026 December 2025 2025 (extended) -@ 197 projects 182 projects 0 160 projects -@ 71 projects 18 projects 2 use cases

Source: Digital Health Strategy, Ministry of Health (2024)

**Catalonia**Connects

Catalonia o Trade & Investment Digital health in Catalonia

# 5. Digital health in Catalonia

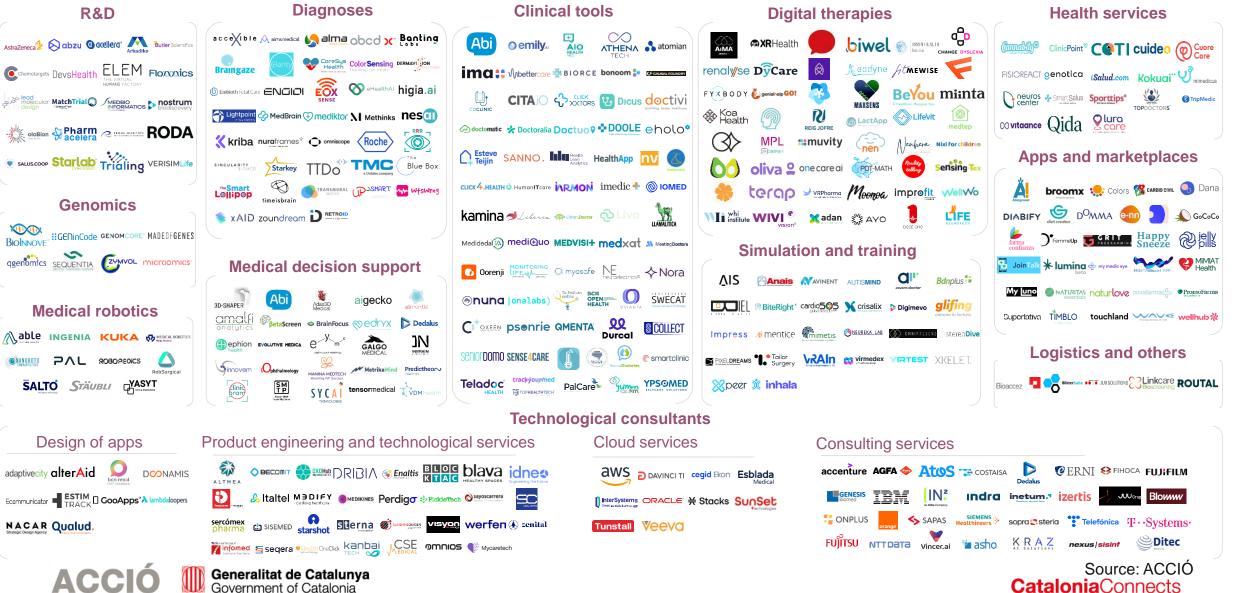


# Corporate mapping of digital health in Catalonia (I)

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| 386 companies   | 633 million euros             |   | <b>5,302</b> jobs          |
|---|-------------------------------|---|----------------------------|
| <b>+16.6%</b> <sup>1</sup>  | <b>+6.9%</b> <sup>1</sup>     |   | <b>+10.2%</b> <sup>1</sup> |
| <u>In</u> 92.5% are SMEs.   | Key figures by business seg   | ment:   |                            |
| 26.9% have a turnover of more than one million                              | Clinical tools                | 17.9%   |                            |
| euros and 3.1% more than 10 million euros.                                  | Digital therapies             | 13.0%   |                            |
| 63.0% have existed for less than 10 years.                                  | Diagnoses                     | 9.8%  |                            |
| 55.7% are startups.   | Diagnoooo                     |   |                            |
| 15.5% are exporters.  | 100                           |   |                            |
| 13.0% are subsidiaries of foreign firms.                                    |                               | ies (41.5%) develop a<br>e solutions applied to |                            |
| <sup>1</sup> growth in comparison to mapping data drawn up in 2024.         |                               |   |                            |
| Note: the data refer to 2025; the turnover and number of employees data, to | o 2023 (or latest available). |   | Source: ACCI               |
| ACCIÓ Generalitat de Catalunya<br>Government of Catalonia                   |                               |   | <b>Catalonia</b> Connects  |

# Corporate mapping of digital health in Catalonia (II)



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### Location of Catalan digital health companies

81.1% of digital health companies in Catalonia are located in the Metropolitan Area of Barcelona (AMB, in its initials in Catalan).

By cities, the following stand out: Barcelona (255), Sant Cugat del Vallès (18), Girona (7), and Badalona, Cornellà de Llobregat, Esplugues de Llobregat, Mataró, Sabadell and Terrassa (5).

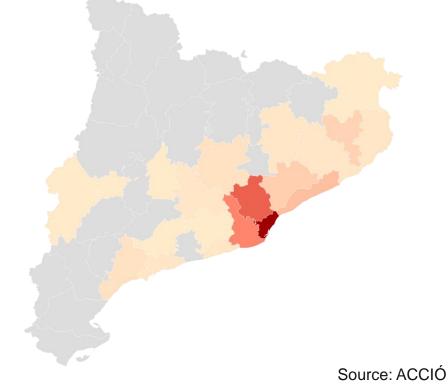
| County            | No. of companies | % of the total |
|-------------------|------------------|----------------|
| Barcelonès        | 263              | 68.1%          |
| Vallès Occidental | 38               | 9.8%           |
| Baix Llobregat    | 26               | 6.7%           |
| Maresme           | 14               | 3.6%           |
| Vallès Oriental   | 9                | 2.3%           |
| Gironès           | 8                | 2.1%           |
| Others            | 28               | 7.3%           |
| Total             | 386              | 100%           |

Note: the Metropolitan Area of Barcelona includes 36 municipalities in the counties of El Barcelonès, El Baix Llobregat, El Vallès Occidental and El Maresme.



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### Distribution of digital health companies by counties



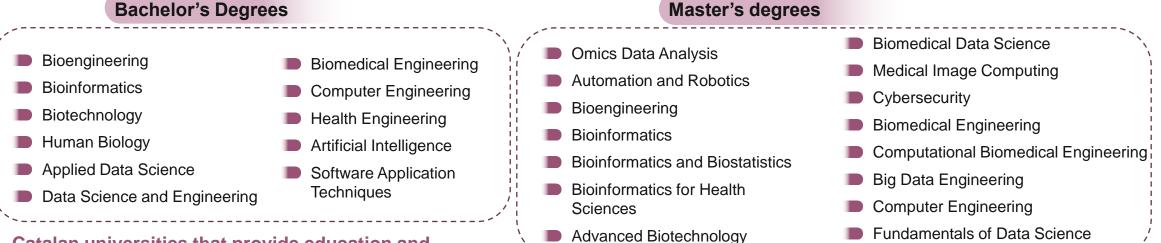
# Agents of the digital health ecosystem in Catalonia



# **Talent in Catalonia**

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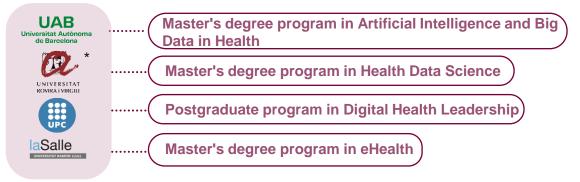
Catalonia has universities that teach bachelor's, master's and postgraduate degree programs that offer knowledge applicable to digital health



Catalan universities that provide education and training in digital health



### Specialized courses of study in digital health



\* inter-university master's degree program led by the URV

Source: the authors CataloniaConnects

### Digital health initiatives in Catalonia

SISCAT Information Systems Master Plan

This identifies, approves and executes the opportunities to improve care by means of the application of ICT

### My Health

A personal digital health space that makes it easier for users to view their medical history

### Health service integrator iS3

An interoperability technological platform for the management of care processes

# Access to innovation program in the Catalan health system (PASS)

Initiative to transform the way innovations and technologies reach the Catalan healthcare system

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### Shared clinical history

A tool that groups together documents containing data and information on a person's status throughout their care process

#### Health/AI program

A person-centered program for the promotion and development of AI in the Health System

# Center for clinical validation of digital solutions

It supports the co-design, testing and validation of innovative healthcare technologies in hospital settings

# Comprehensive cybersecurity model for the healthcare sector

Tool to promote cybersecurity and reduce exposure to current cyberthreats in the healthcare environment

#### **Electronic prescriptions**

A tool that enables the integrated management of pharmaceutical services

### Public procurement of innovation

A public procurement instrument that promotes innovation as a key instrument

#### Capture and integration of clinical images

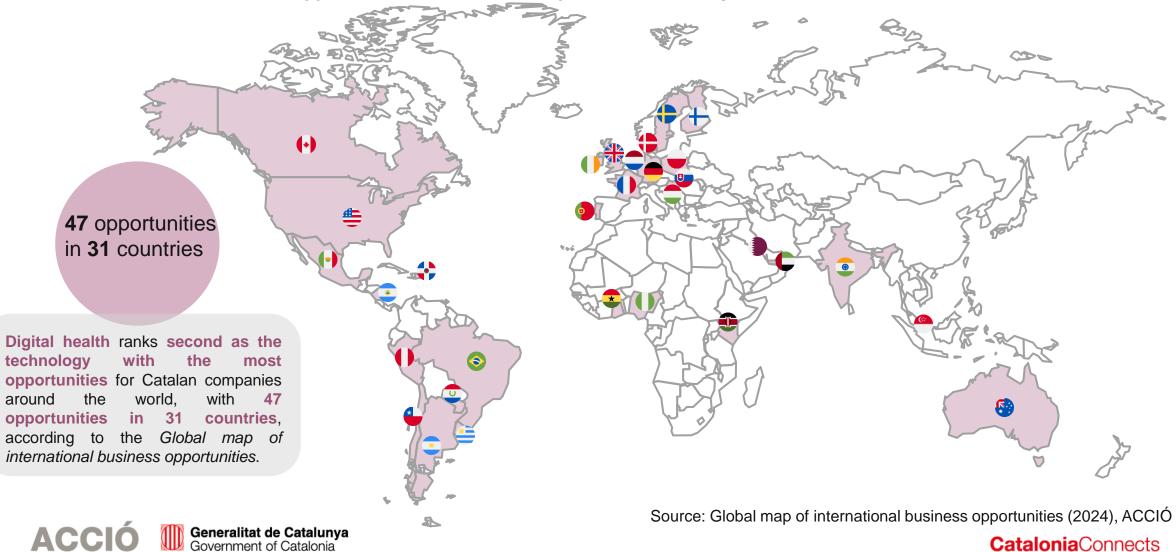
A service aimed at healthcare professionals that enables them to add clinical photographs to their patients' clinical histories



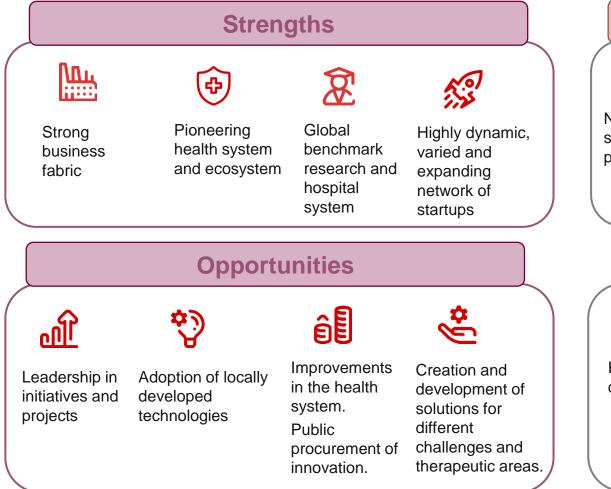
### International business opportunities in digital health

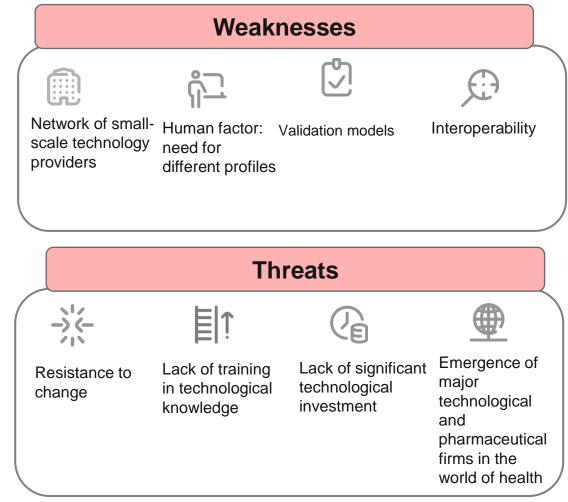
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Main markets with business opportunities for Catalan companies identified by ACCIÓ:



# SWOT of digital health in Catalonia





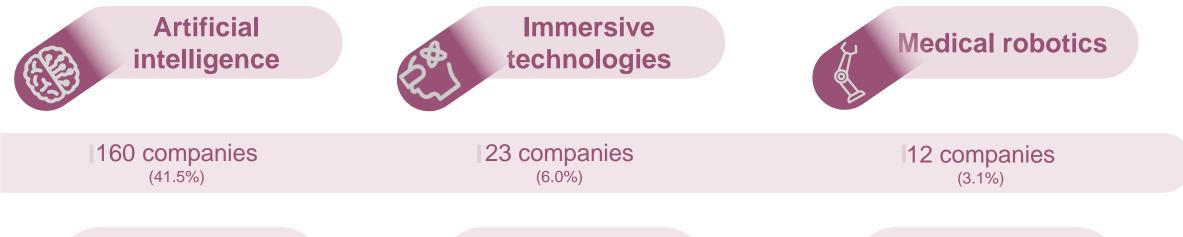
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Digital health in Catalonia

6. Digital health technological ecosystem in Catalonia



## Catalan companies use the latest technological innovations











# Catalan companies incorporate the latest technological innovations: artificial intelligence



# **160** companies, **41.5%** of all digital health companies

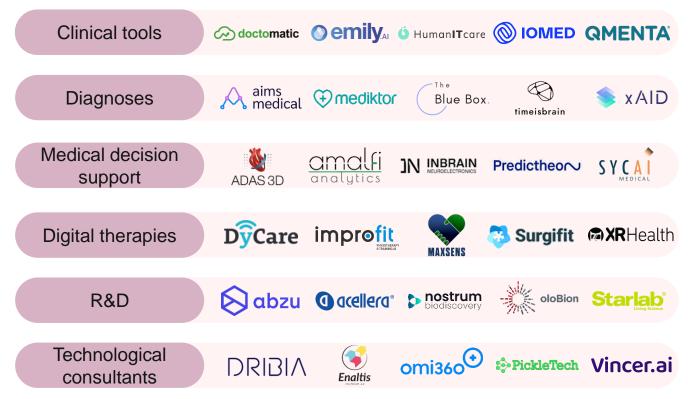


Note: partial illustrative image.



Generalitat de Catalunya Government of Catalonia Artificial intelligence is transforming health, turning data into accurate diagnoses, algorithms into personalized treatments and technology into more agile processes, with Catalan companies leading this revolution.

### Main applications:



# Catalan companies use the latest technological innovations: immersive technologies



Immersive technologies such as virtual reality and augmented reality improve treatments, rehabilitation andeducation and training. In Catalonia, innovative companies are promoting pioneering solutions that are transforming medical care.

### Main applications:



**23** companies, **6.0%** of all digital health companies



Note: partial illustrative image.



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# Catalan companies use the latest technological innovations: medical robotics



Medical robotics is revolutionizing surgeries and patient care, with high-precision surgical robots, care robots and exoskeletons, with Catalan companies developing cutting-edge solutions.

**12** companies, **3.1%** of all digital health companies







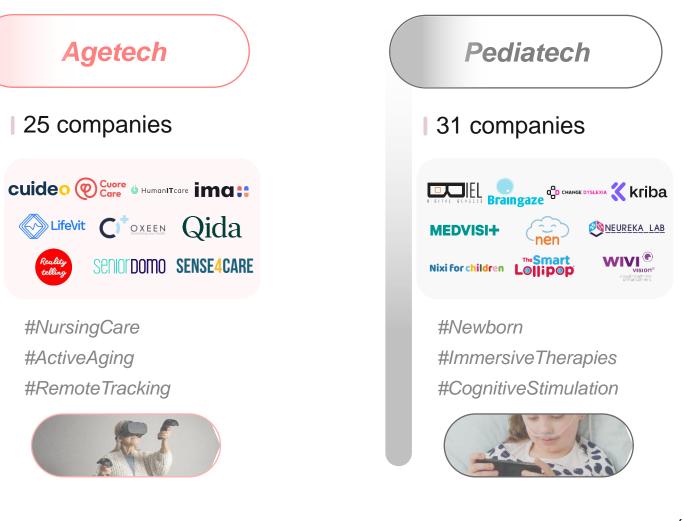
### Catalan companies respond to the needs of different population profiles



Note: partial illustrative image.



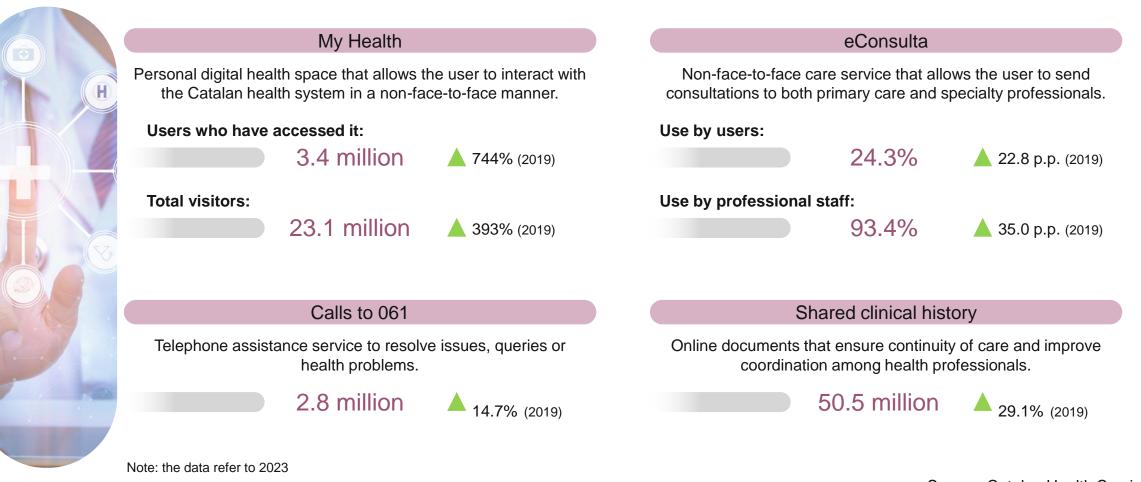
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Source: ACCIÓ CataloniaConnects

### Digitalization of health services in Catalonia

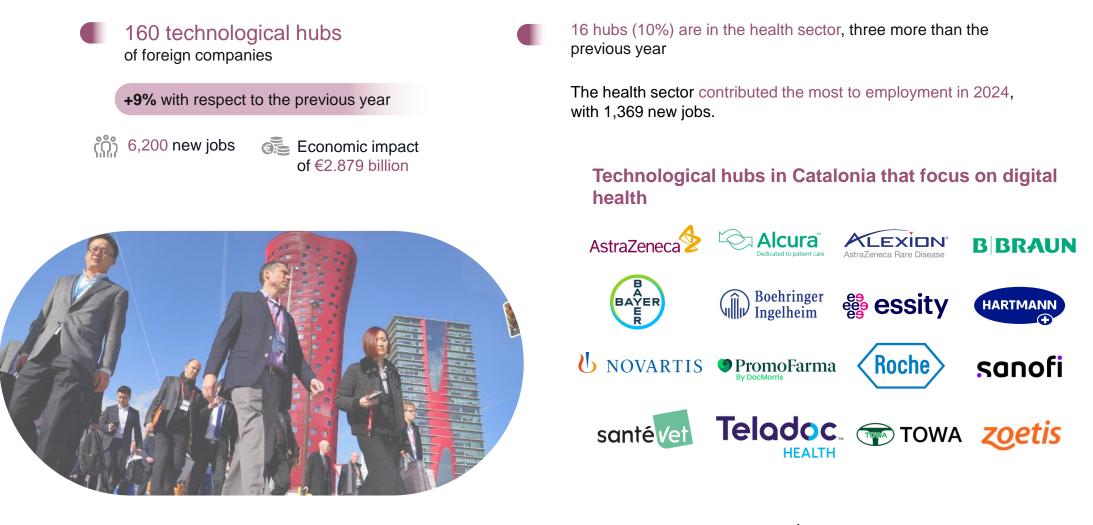
The digitalization of public health services in Catalonia is becoming consolidated after the boom which resulted from the COVID-19 pandemic



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Generalitat de Catalunya Government of Catalonia Source: Catalan Health Service

### Multinational health companies with technology innovation centers in Catalonia



Source: Mobile World Capital Barcelona, ACCIÓ, Barcelona City Council: "Tech hubs overview"



### Foreign investment in the health sector in Catalonia

Catalonia has been the second-ranked region in the world in attracting foreign investment projects in digital health in the last five years.



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Catalonia is the leader in Spain as a whole, with 55% of total projects, 69% in invested capital and 69% in new jobs created.



Prominent companies investing in Catalonia (2020-2024)

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Siegfried

Ranking of technological RDI in the health sector by world regions and by autonomous communities of Spain (2020-2024)

| By invested capital worldwide | By number of<br>projects<br>worldwide | By Autonomous<br>Communities in<br>Spain |
|-------------------------------|---------------------------------------|--|
| 1. Massachusetts              | 1. Massachusetts                      | 1. Catalonia                             |
| 2. Catalonia                  | 2. Ireland                            | 2. Andalusia                             |
| 3. Telangana                  | 3. Telangana                          | 3. Madrid                                |
| 4. California                 | 4. California                         | 4. Basque Country                        |
| 5. Ontario                    | 5. Catalonia                          | 5. Castilla-La Mancha                    |
|                               |                                       | $\cap$                                   |
|                               | ACCIÓ Barcalitat<br>de Catalunya      | U.                                       |

AstraZeneca

AstraZeneca plans to expand its development and research center in Barcelona and increase its initial investment to €1.3 billion by 2027. It plans to create 1,500 new jobs in 2025. This investment has received the support of ACCIÓ.

Source: the authors, based on fDi Markets



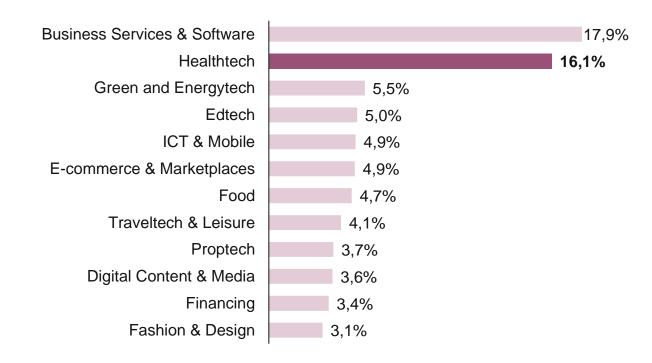
7. Digital health entrepreneurial ecosystem in Catalonia



### Catalan startups that focus on health technologies

The health technology sector brings together the largest number of startups in Catalonia, with 369 startups accounting for 16.1% of the total

### Sectoral distribution of startups (%)



Note: this chart has been drawn up using the data of the 2,285 startups in the directory that possessed this information. The analysis has been conducted with the main sector of each company. \* Sector introduced in 2024



| Sector                       | Number of startups |
|------------------------------|--------------------|
| Business Services & Software | 408                |
| Healthtech                   | 369                |
| Green and Energytech         | 125                |
| Edtech                       | 115                |
| ICT & Mobile                 | 113                |
| E-commerce & Marketplaces    | 112                |
| Food                         | 108                |
| Traveltech & Leisure         | 94                 |
| Proptech                     | 84                 |
| Digital Content & Media      | 83                 |
| Financing                    | 78                 |
| Fashion & Design             | 70                 |
| Hardware                     | 66                 |
| Sustainable Mobility         | 65                 |
| Gaming                       | 58                 |
| Community & Social Network   | 55                 |
| Sports                       | 55                 |
| Logistic Tech                | 54                 |
| Agriculture                  | 46                 |
| Adtech                       | 44                 |
| Beauty & Personal Care       | 44                 |
| Legaltech                    | 30                 |
| Musictech                    | 6                  |
| Govtech (*)                  | 3                  |
| Total                        | 2,285              |

Source: Barcelona & Catalonia Startup Hub, 2024, ACCIÓ

### Venture capital investment attracted by Catalan startups in 2024

The health technologies sector attracted 43% more investment than in 2023 (from 24.1 to 177.7 million euros) and stays among the main ones with 14.9%.

The two mega rounds in 2024 greatly increased the investment attracted by the *fintech* sector (20.7% of the total) and *traveltech* sector (16.7%).

| Fintech             | SEQURA         |                |                 | 20,7% (€246.9 M) |
|---------------------|----------------|----------------|-----------------|------------------|
| Travel              | TRAVELPERK     |                | 16,7% <b>(€</b> | E198.5 M)        |
| Healthtech          |                | 14,            | ,9% (€177       | Υ.7 M)           |
| Energy              |                | 9,6% (€114.8 M | l)              |                  |
| Sports              | 5,5% (*        | €66.0 M)       |                 |                  |
| Transportation      | 4,0% (€47      | .8 M)          |                 |                  |
| Telecom             | 3,8% (€45.2    | 2 M)           |                 |                  |
| Food                | 3,4% (€40.1    | M)             |                 |                  |
| Real Estate         | 3,0% (€35.9N   | /)             |                 |                  |
| Gaming              | 2,7% (€32.2 N  | /1)            |                 |                  |
| Home Living         | 1,8% (€21.7 M) |                |                 |                  |
| Marketing           | 1,4% (€16.8 M) |                |                 |                  |
| Security            | 0,7% (€7.9 M)  |                |                 |                  |
| Education           | 0,7% (€7.9 M)  |                |                 |                  |
| Enterprise Software | 0,6% (€7.9 M)  |                |                 |                  |

Venture capital investment attracted by sectors (2024, % and investment volume in millions of €)

Note: the chart has been drawn up in accordance with Dealroom's sectoral category

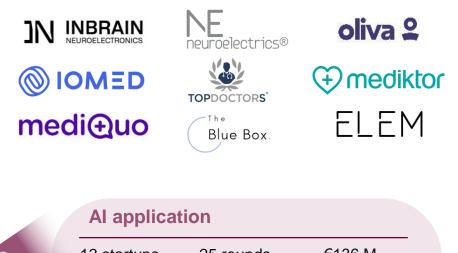
ACCIÓ

Generalitat de Catalunya Government of Catalonia Source: Dealroom

### Barcelona, 5th-ranked European city in venture capital rounds closed by digital health startups

- Barcelona is the 5th-ranked European city in venture capital rounds closed by digital health startups and ranks 10th in terms of worth of rounds between 2020 and 2024.
- Specifically, 27 startups have raised 176 million dollars in 50 rounds of funding.

### Main startups in Barcelona



|   | Al application |           |        |  |
|---|----------------|-----------|--------|--|
|   | 13 startups    | 25 rounds | €136 M |  |
| 3 | 48%            | 50%       | 77%    |  |



Top 10 European cities by completed funding rounds in artificial intelligence startups (2020-2024)



| 1  | London    |
|----|-----------|
| 2  | Berlin    |
| 3  | Paris     |
| 4  | Stockholm |
| 5  | Barcelona |
| 6  | Munich    |
| 7  | Amsterdam |
| 3  | Vienna    |
| 9  | Cambridge |
| 10 | Madrid    |
|    |           |

Source: the authors, based on Crunchbase

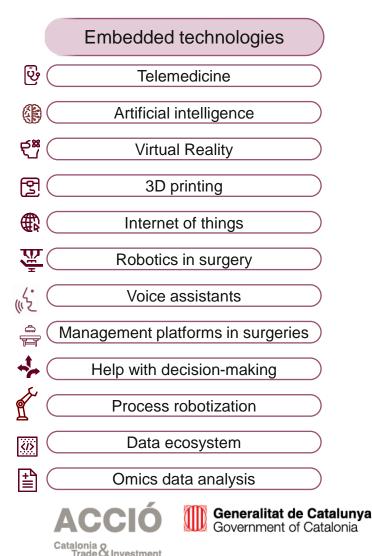
Digital health in Catalonia

# 8. Digital health in Catalan hospitals



### Digital health in hospitals in Catalonia

Catalan hospitals have incorporated digital health solutions in recent years. According to a questionnaire answered by five Catalan hospitals, these are the main conclusions:



### Opportunities

- Process optimization and system efficiency
- Personalized and predictive medicine
- Patient empowerment
- Transformation of healthcare models
- Improving coordination between healthcare levels
- Healthcare system sustainability

### Barriers

- Budgetary limitations
- Interoperability and technical difficulties
- Cultural barriers and resistance to change
- Strict regulations
- Ethical and safety risks
- Difficulty in moving on from pilot testing to actual implementation

### Acceptance of professionals and patients

- 1. Positive acceptance based on the value provided
- 2. Participation of patients and professionals in development
- 3. Scalability and large-scale adoption challenges
- 4. Need for training for professionals and patients
- 5. Difficulties in adoption within the public healthcare system
- 6. High patient satisfaction when technology works well



Source: questionnaire carried out in hospitals

Digital health in Catalonia

## 9. Success stories



### Success stories in Catalonia in digital health (I)



**REIG JOFRE - DYCARE** are teaming up to offer a personalized digital rehabilitation platform for remote exercises that uses artificial intelligence.

**DOCTORALIA** offers a new Al-based virtual Doctoralia assistant designed to optimize administrative management in medical consultations.



**STARLAB** has created a device that enables early detection of Alzheimer's, through a helmet that uses neurotechnology and artificial intelligence.



FUNDACIÓ CASA D'EMPAR

**EUDAIMONIA** is a development and innovation project in robotics and artificial intelligence in the field of residential care for the elderly.

NIXI FOR CHILDREN uses virtual reality to help children Nixi for children and their families cope with medical treatments with less fear.



VRAIN MEDICAL has created software that allows doctors to visualize MRIs or CT scans in immersive and manipulable 3D with the help of mixed reality glasses.



BARCELONA CITY COUNCIL has issued a tender for the purchase of 600 social robots (ARI) to improve home care within the framework of a telecare pilot project.



EURECAT has developed with the SAINT JOHN OF eureca GOD HOSPITAL the social care robot Jana, a robot that connects with people to facilitate communication in SJD Sant Joan de Déu Fundació de Recerco clinical environments.



### Success stories in Catalonia in digital health (II)

MINDSYST is an innovative data platform in mental MindSyst Custer health, aging and neuroscience that facilitates Albased analysis and personalized solutions.



PAI-HF CARDIOVASCULAR ECHO DATA is a platform with an OpenEHR structure that will enable the interoperability of databases of patients with heart disease.



**HOSPITAL DEL MAR** offers digital tools and solutions for remote patient monitoring (telemonitoring), for example in the fields of congestive heart failure and rehabilitation in musculoskeletal processes.



**HOSPITAL LIQUID**, is Saint John of God's Hospital project for the digitalization of healthcare thanks to a range of digital tools and solutions.

KALA HEALTH, is an app developed by Qualud and Kala Health Menopause to support women throughout Qualud. perimenopause, menopause and post-menopause.



DANA is an app designed to help women during Dono motherhood, pregnancy and postpartum, providing support for mental health and comprehensive well-being.



**MEDIKTOR** has acquired **SENSELY**, a leading provider of digital health services and pioneer in the development of an empathy-based conversation platform to support hospitals and insurers.



RUTISAFENET is the innovative digital tool developed by
 HUGTiP, IGTP and QUALUD to monitor patients with
 acute mental disorders.



### Catalonia, a dynamic digital health ecosystem

369 startups in health technologies, 16.1% of the total, which have attracted €178 million of investment in venture capital, that is, 14.9%.

Barcelona ranks as the **5th European** city in closed venture capital rounds for digital health startups.

| INBRAIN<br>NEUROELECTRONICS | NE<br>neuroelectrics® | oliva 😫  |  |
|-----------------------------|-----------------------|----------|--|
|                             | TOPDOCTORS            | mediktor |  |
| medi⊕uo                     | Blue Box.             | ELEM     |  |

A highly entrepreneurial ecosystem

No. 2 region in the world in invested capital in foreign technological investment projects in the health sector (2020-2024).

16 technological hubs of foreign companies.

Generalitat de Catalunya

Government of Catalonia

Roche sanofi **U** NOVARTIS AstraZeneca

Catalonia o Trade & Investment

Attractive for international companies



ecosystem

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**Application of** 

technological

innovations

Local

business

ecosystem

Technology centers, hospital research centers, universities, incubators, associations, networks, clusters, public institutions, etc.

#### BARCELONA HEALTH HUB Salut / TIC Generalitat atelonia o bioca Generalitat de Catalunva **Catalonia**Connects

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eHealth

Center

Universitat Oberta de Catalunyu SJD Sant Joan de Déu Institut de Recerca B R XTS XARTEC



Hospital del Mar Research Institute

Q

UNIVERSITAT ROVIRA į VIRGILI

MIND

Cluster

Parc Taulí 🦻

HEALTHCARE LIVING LAB CATALONIA

160 companies (41.5%) develop AI tools, 23 companies (6.0%) immersive technologies and 12 (3.1%) medical robotics companies.

24 companies specializing in femtech, 25 in agetech and 31 in pediatech

**386 companies** engaged in digital health, a growth of **16.6%** with respect to 2024 and 44.6% more than 2022.

Turnover of €633 million (+6,9%) and 5,302 jobs (+10.2%).

50

### Interviews with institutions and companies

We would like to express our gratitude for the availability, provision of data and information for drawing up this technology report on digital health in Catalonia





# Thank you!

### More information about the sector and related news:

https://catalonia.com/key-industries-technologies/technologies/digitalhealth-in-catalonia



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