May 2025. Technology snapshot

Digital health in Catalonia

Digital health in Catalonia. Technology snapshot

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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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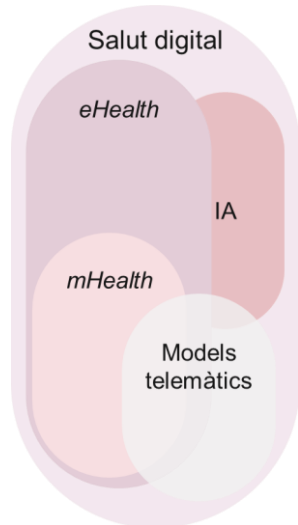
9. Success stories

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.

Fields of digital health

Salut digital

eHealth

IA

mHealth

Models telemàtics

Technological solutions

Digital therapies

mHealth

ICT applied to health

Personalized medicine

Telemedicine

Devices, sensors and wearables

Digital health trends

Artificial intelligence and data analysis

Remote care and monitoring

Personalized and precision medicine

Connectivity and data security

Patient-centered approaches
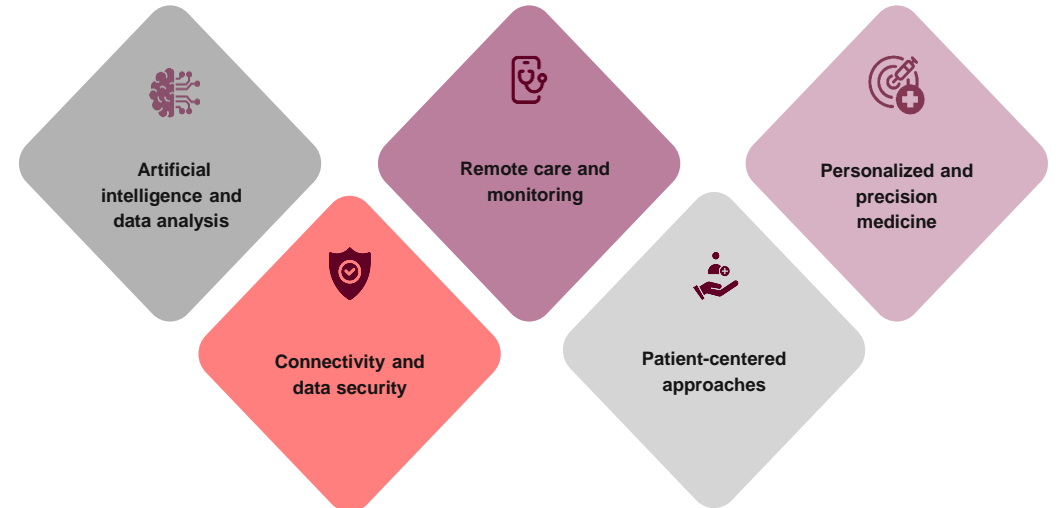
Global market

The global digital health market is expected to reach $258.3 billion in 2029, with a 6.9% annual growth until 2029.

The United States leads the world in turnover, ahead of China and Japan. 5 European countries are in the top 15.

Technological FDI in the health sector amounts to an investment of more than 24.5 billion euros and more than 77,000 new jobs have been created during the last five years.

Digital health startups have attracted more than 75 billion dollars in venture capital in the last 5 years; 45% of this capital is allocated to startups specializing in AI applied to health.

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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%).

160 companies (41.5%) develop AI tools

23 companies (6.0%) develop immersive technologies

12 companies (3.1%) develop medical robotics

Leading agents and initiatives

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.

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Digital health in Catalonia

1. Definition, importance and applications of digital health

Digital health: plurality of definitions

World Health Organization

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"

European Commission

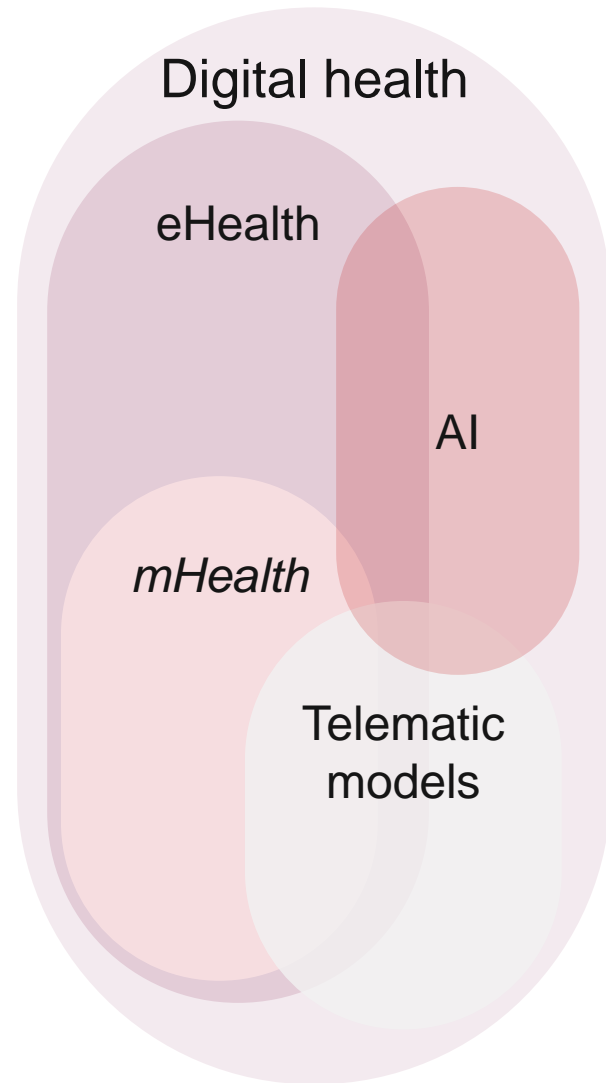According to the European Commission, digital health is:

> "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"

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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. AI has great potential to improve people's health.

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

Technological solutions

Technology can help health in many different ways

Digital therapies

Diabetes apps that reduce risk events

Mental health solutions that reduce symptoms of depression

mHealth

Nutrition and diet apps

Medication adherence apps

Access to health information

ICT applied to health

IT apps

Electronic health histories

Electronic prescriptions

Personalized medicine

High-precision tests

Clinical decision support

Devices, sensors and wearables

Biometric sensors

Diagnostic products

Telemedicine

Telematic visits

Patient monitoring

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

- Artificial Intelligence/Big Data
- Wearable devices and smart sensors
- Immersive technologies
- Internet of medical things (IoMT)
- Robotics
- Cybersecurity

- Supercomputing
- Connectivity and networks (5G)
- Blockchain
- Simulation and digital twin
- Additive manufacturing

Sources: Biocat, European Commission, World Health Organization, and Paul Sonnier

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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 inter-dependent. 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.
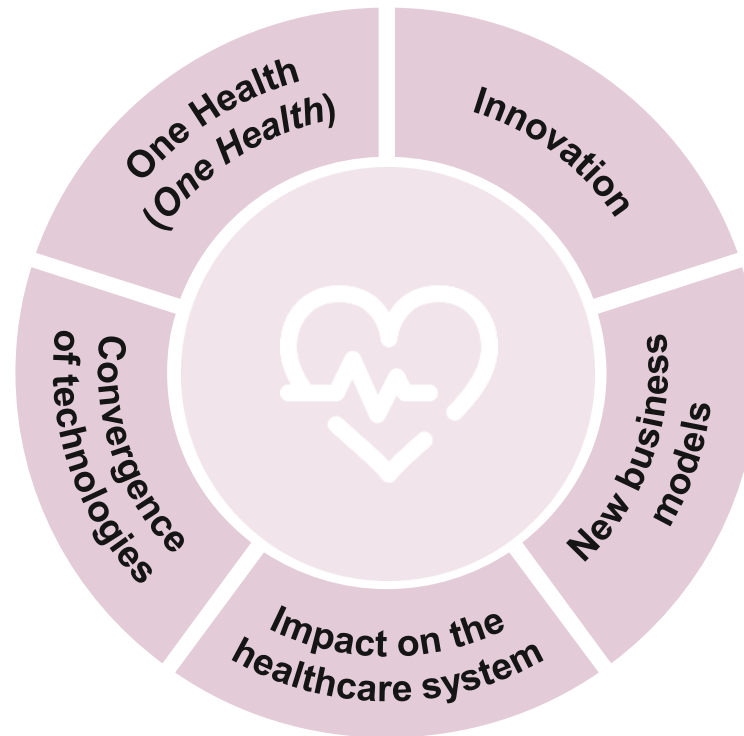
Digital applications and technologies in the field of health are experiencing healthy growth in view of the rise in new and serious social-health and biological threats and those linked to climate change. Healthcare supported by ICT can offer new pioneering methodologies and uses in order to establish 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.

One Health (One Health)

Innovation

New business models

Impact on the healthcare system

Convergence of technologies

Sources: ACCIÓ, ISGlobal and Bit

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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.

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

+6.9% annually

Year	Value
2025	197,9
2026	218,9
2027	236,3
2028	248,3
2029	258,3
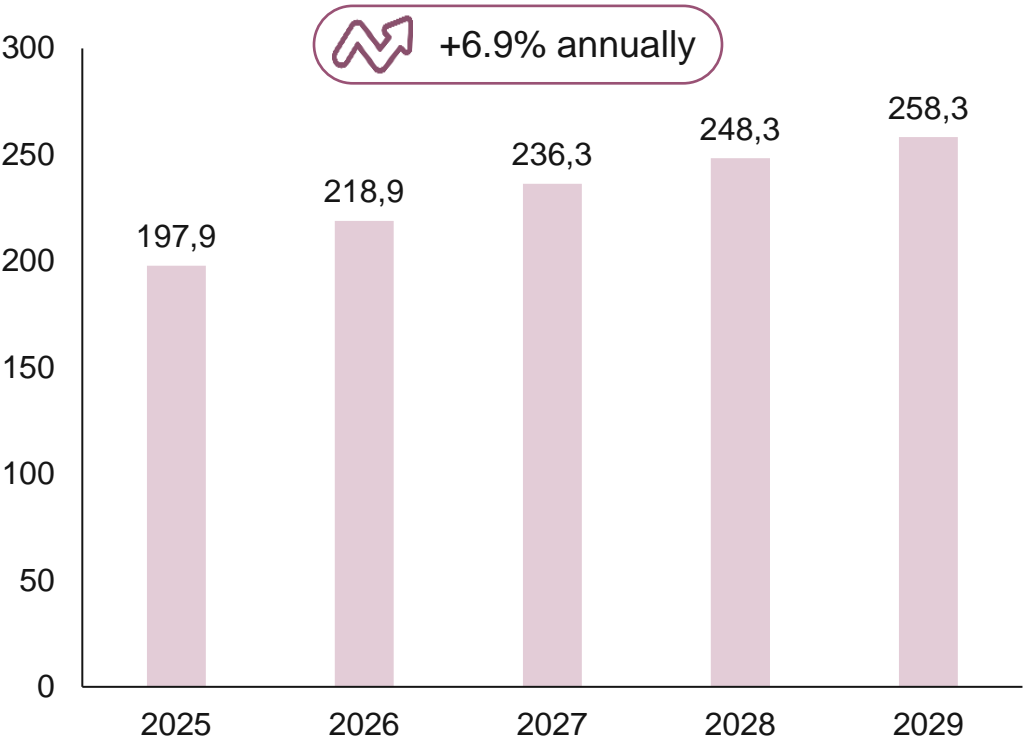
Key factors driving the growth of the digital health market

Adoption of new technologies applied to health

Increase in public spending on health and general aging of the population

Main challenges of the digital health market

Large digitized personal patient databases and how to protect them

Renewal of obsolete analog healthcare systems that become personalized

Sources: Statista and Precedence Research

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World digital health market, by countries

The United States leads the world in digital health turnover

China ranks second in terms of turnover, and in third place, and far behind, is Japan

Five European countries stand out in the top 15: the United Kingdom, Germany, France, Italy and Spain
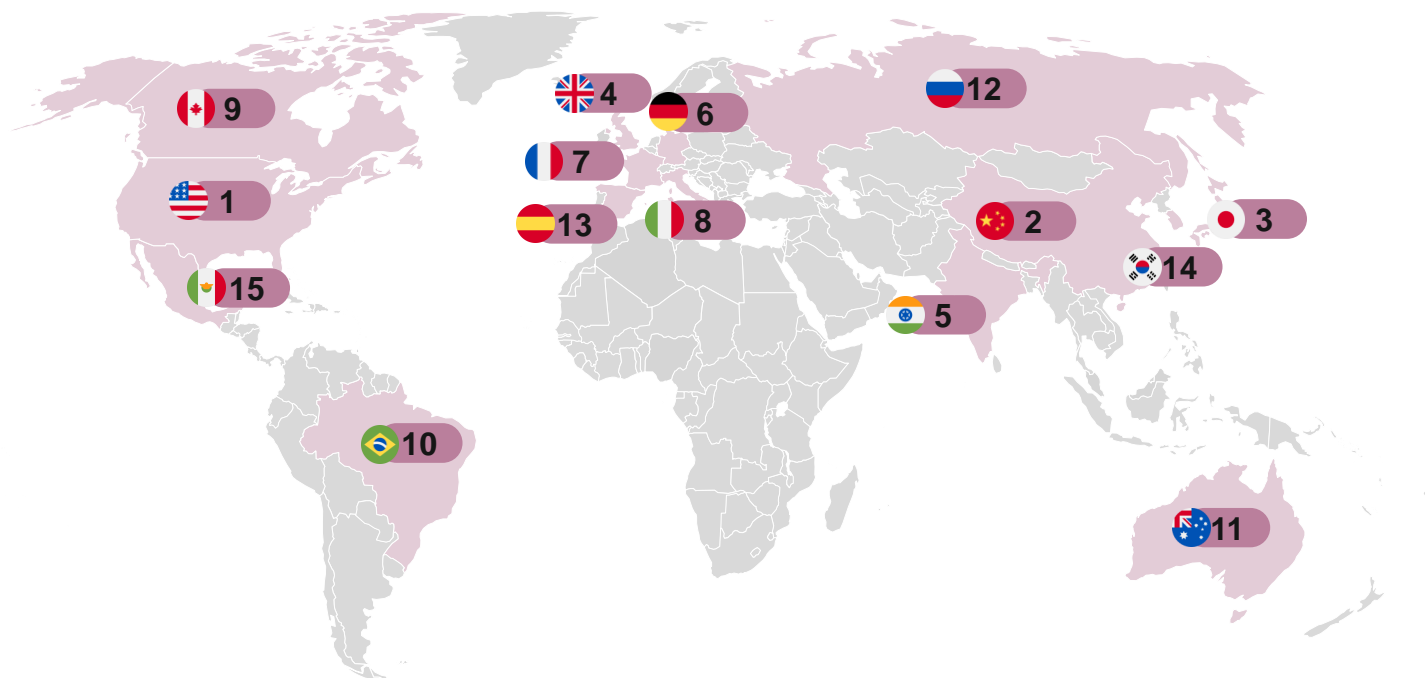
	Countries	Turnover (M$, 2024)	% growth year on year (2024-2029)
1	United States	47,120	8.2%
2	China	38,200	7.2%
3	Japan	8,285	8.8%
4	United Kingdom	5,545	9.1%
5	India	5,337	13.1%
6	Germany	4,858	8.1%
7	France	4,085	8.1%
8	Italy	4,021	10.0%
9	Canada	3,514	8.0%
10	Brazil	3,171	9.3%
11	Australia	2,670	8.4%
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

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Global leading companies in digital health investment

AstraZeneca 🇬🇧

AdvancedMD 🇺🇸

athenahealth 🇺🇸

AT&T 🇺🇸

BAYER 🇩🇪

CISCO 🇺🇸

DXC TECHNOLOGY 🇦🇺

eClinicalWorks "Improving Healthcare Together" 🇺🇸

FUJITSU 🇯🇵

GE HealthCare 🇺🇸

Honeywell 🇺🇸

iHealth 🇺🇸

Johnson & Johnson 🇺🇸

Medtronic 🇮🇪

McKESSON 🇺🇸

ORACLE 🇺🇸

PHILIPS 🇳🇱

SIEMENS Healthineers 🇩🇪

Teladoc HEALTH 🇺🇸

veradigm 🇺🇸

🟠 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

Artificial intelligence and data analysis

Connectivity and data security

Remote care and monitoring

Patient-centered approaches

Personalized and precision medicine

Sources: Forbes, BCG, PHILIPS, F&S, Health Technologies, Medical Economics, WHO and ACCIÓ

Opportunities and challenges stemming from digital health
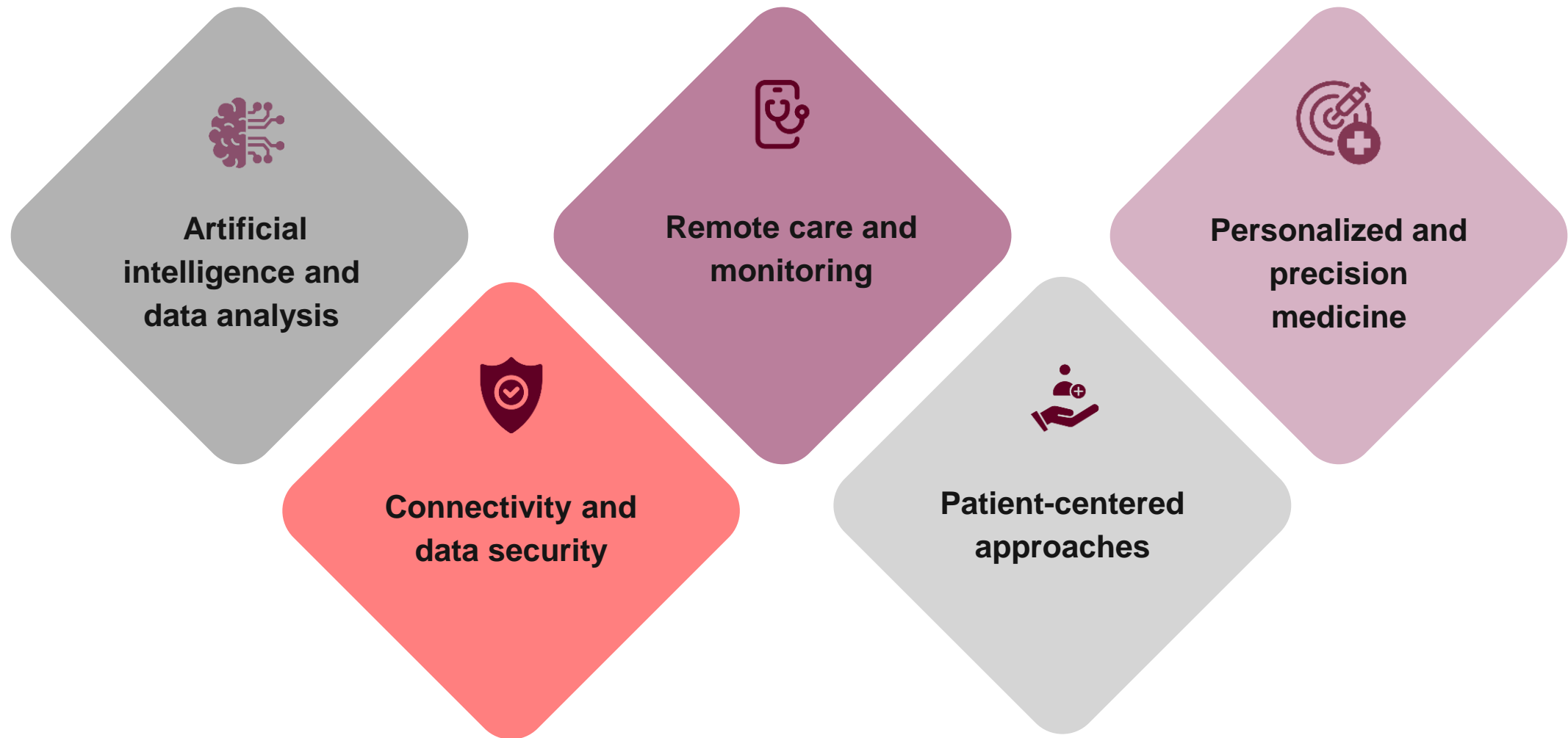
Opportunities

- Better access to medical care
- Patient participation
- Improved efficiency and cost reduction
- Personalized medicine
- Research and innovation

Challenges

- Data privacy and security
- Talent
- Accessibility and equity
- Interoperability and integration into existing health systems
- Legal and regulatory framework. Evidence and clinical validation

Digital health in Catalonia

4. Initiatives related to digital health

International initiatives

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.
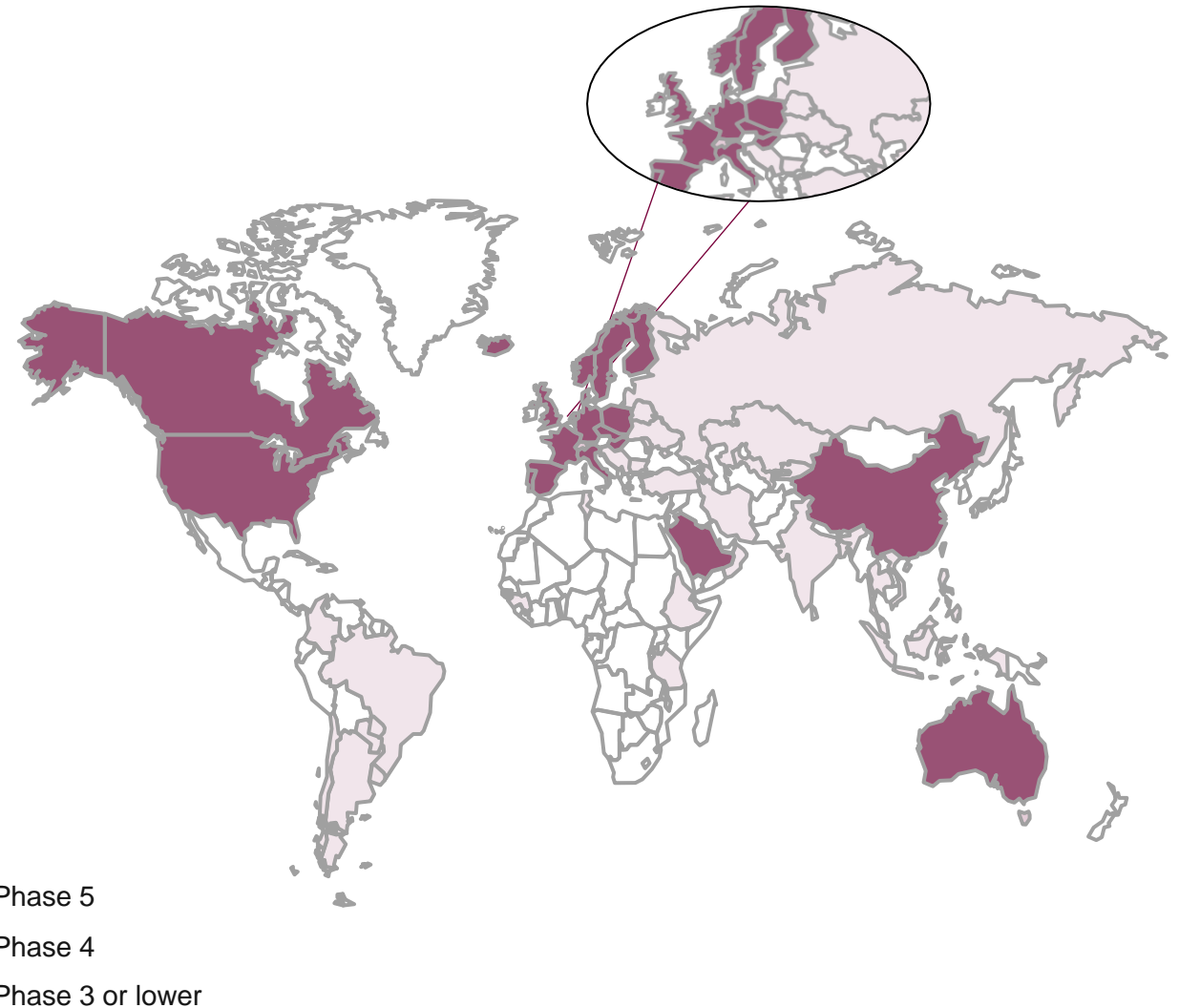
- Europe and North America continue to lead innovation in digital health. Finland has established itself as the epicenter of digital health in Europe.

- 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.

■ Phase 5
■ Phase 4
□ Phase 3 or lower

Sources: Digital Health Index, OMS, Healthcare in Europe

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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.

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

Spain's National Digital Health Strategy

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**.

(+)+Estrategia de Salud Digital

GOBIERNO DE ESPAÑA | MINISTERIO DE SANIDAD | Plan de Recuperación, Transformación y Resiliencia

3 Strategic goals

1. Strengthening of the National Health System centers

2. Digitization and modernization of industrial capacity

3. Collaboration between scientific and business fabrics

6 Action plans currently being driven*   €893 M

SNS digital services plan	Sustainability, efficiency and equitable access in the Spanish NHS	Digital transformation, primary and community care	Personalized digital service	SiGenEs Genomics	Health Data Space (SEDIA)
€170 M	€220 M	€230 M	€146 M	€27 M	€100 M
December 2025	December 2025 (extended)	June 2026	June 2026	June 2026	December 2025
197 projects	182 projects	160 projects	71 projects	18 projects	2 use cases

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5. Digital health in Catalonia

Corporate mapping of digital health in Catalonia (I)

386 companies

+16.6%[1]

633 million euros

+6.9%[1]

5,302 jobs

+10.2%[1]
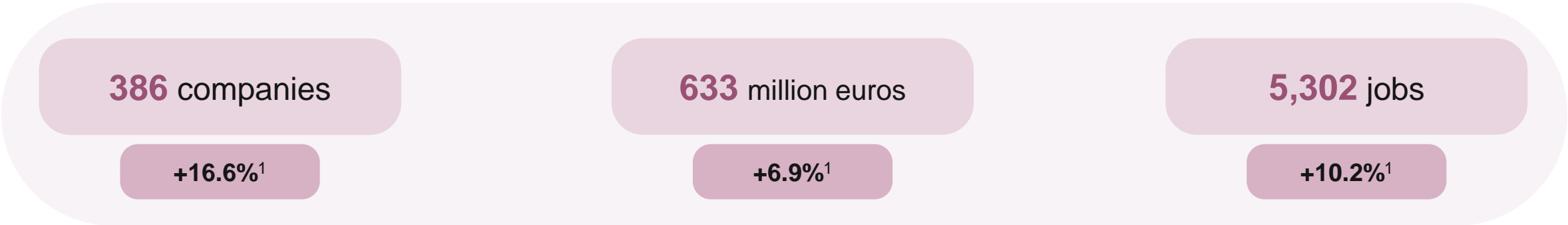
92.5% are SMEs.

26.9% have a turnover of more than one million euros and 3.1% more than 10 million euros.

63.0% have existed for less than 10 years.

55.7% are startups.

15.5% are exporters.

13.0% are subsidiaries of foreign firms.

Key figures by business segment:

Clinical tools	**17.9%**
Digital therapies	**13.0%**
Diagnoses	**9.8%**

160 companies (41.5%) develop **artificial intelligence** solutions applied to health

[1] growth in comparison to mapping data drawn up in 2024.

Note: the data refer to 2025; the turnover and number of employees data, to 2023 (or latest available).

Source: ACCIÓ

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Corporate mapping of digital health in Catalonia (II)

This page is a presentation slide consisting of a large visual directory of company logos organized into categories. The categories and their headings are:

R&D
Genomics
Medical robotics
Diagnoses
Medical decision support
Clinical tools
Digital therapies
Simulation and training
Health services
Apps and marketplaces
Logistics and others
Technological consultants
Design of apps
Product engineering and technological services
Cloud services
Consulting services
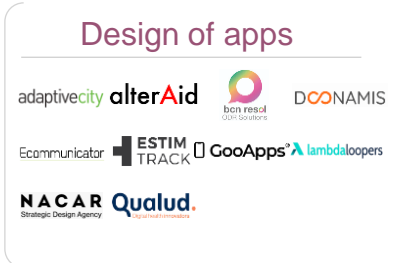
Source: ACCIÓ

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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).

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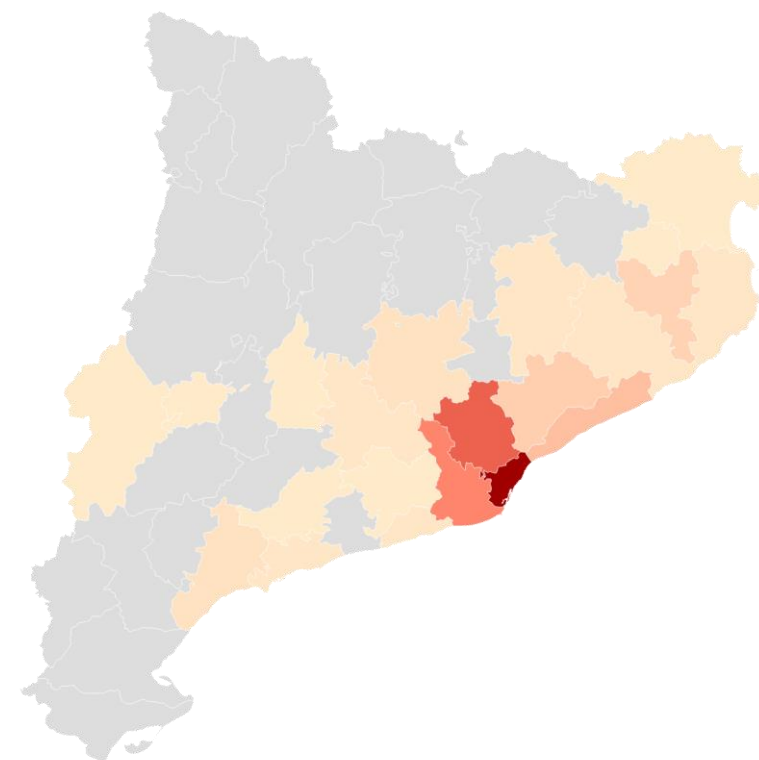
County	No. of companies	% of the total
Barcelonès	263	68.1%
Vallès Occidental	38	9.8%
Baix Llobregat	26	6.7%
Maresme	14	3.6%
Vallès Oriental	9	2.3%
Gironès	8	2.1%
Others	28	7.3%
Total	**386**	**100%**

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

Source: ACCIÓ

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Agents of the digital health ecosystem in Catalonia

Research and technological centers and hospital research institutes

Universities and training centers

Acceleration programs and incubators

Associations, networks and clusters

Institutions and Public administration

Source: ACCIÓ

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

Bachelor's Degrees

- Bioengineering
- Bioinformatics
- Biotechnology
- Human Biology
- Applied Data Science
- Data Science and Engineering
- Biomedical Engineering
- Computer Engineering
- Health Engineering
- Artificial Intelligence
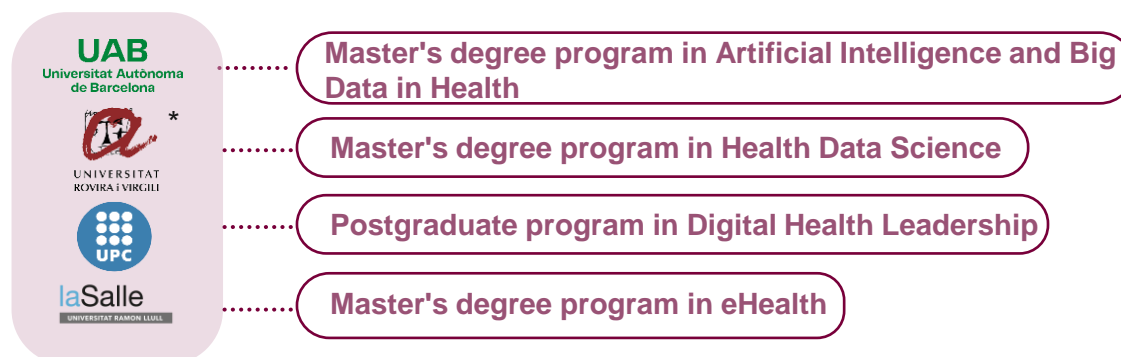- Software Application Techniques

Master's degrees

- Omics Data Analysis
- Automation and Robotics
- Bioengineering
- Bioinformatics
- Bioinformatics and Biostatistics
- Bioinformatics for Health Sciences
- Advanced Biotechnology
- Biomedical Data Science
- Medical Image Computing
- Cybersecurity
- Biomedical Engineering
- Computational Biomedical Engineering
- Big Data Engineering
- Computer Engineering
- Fundamentals of Data Science

Catalan universities that provide education and training in digital health

UAB Universitat Autònoma de Barcelona
UNIVERSITAT DE BARCELONA
Universitat de Girona
ULC barcelona
Universitat de Lleida
UOC Universitat Oberta de Catalunya
UPC
upf. Universitat Pompeu Fabra Barcelona
UNIVERSITAT RAMON LLULL
laSalle UNIVERSIDAD RAMON LLULL
UNIVERSITAT ROVIRA i VIRGILI
UVIC UNIVERSITAT DE VIC UNIVERSITAT CENTRAL DE CATALUNYA

Specialized courses of study in digital health

UAB Universitat Autònoma de Barcelona
UNIVERSITAT ROVIRA i VIRGILI *
UPC
laSalle UNIVERSITAT RAMON LLULL

- **Master's degree program in Artificial Intelligence and Big Data in Health**
- **Master's degree program in Health Data Science**
- **Postgraduate program in Digital Health Leadership**
- **Master's degree program in eHealth**

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

Source: the authors

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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

Shared clinical history

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

Electronic prescriptions

A tool that enables the integrated management of pharmaceutical services

My Health

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

Health/AI program

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

Public procurement of innovation

A public procurement instrument that promotes innovation as a key instrument

Health service integrator iS3

An interoperability technological platform for the management of care processes

Center for clinical validation of digital solutions

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

Capture and integration of clinical images

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

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

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

Comprehensive cybersecurity model for the healthcare sector

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

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International business opportunities in digital health

Main markets with business opportunities for Catalan companies identified by ACCIÓ:
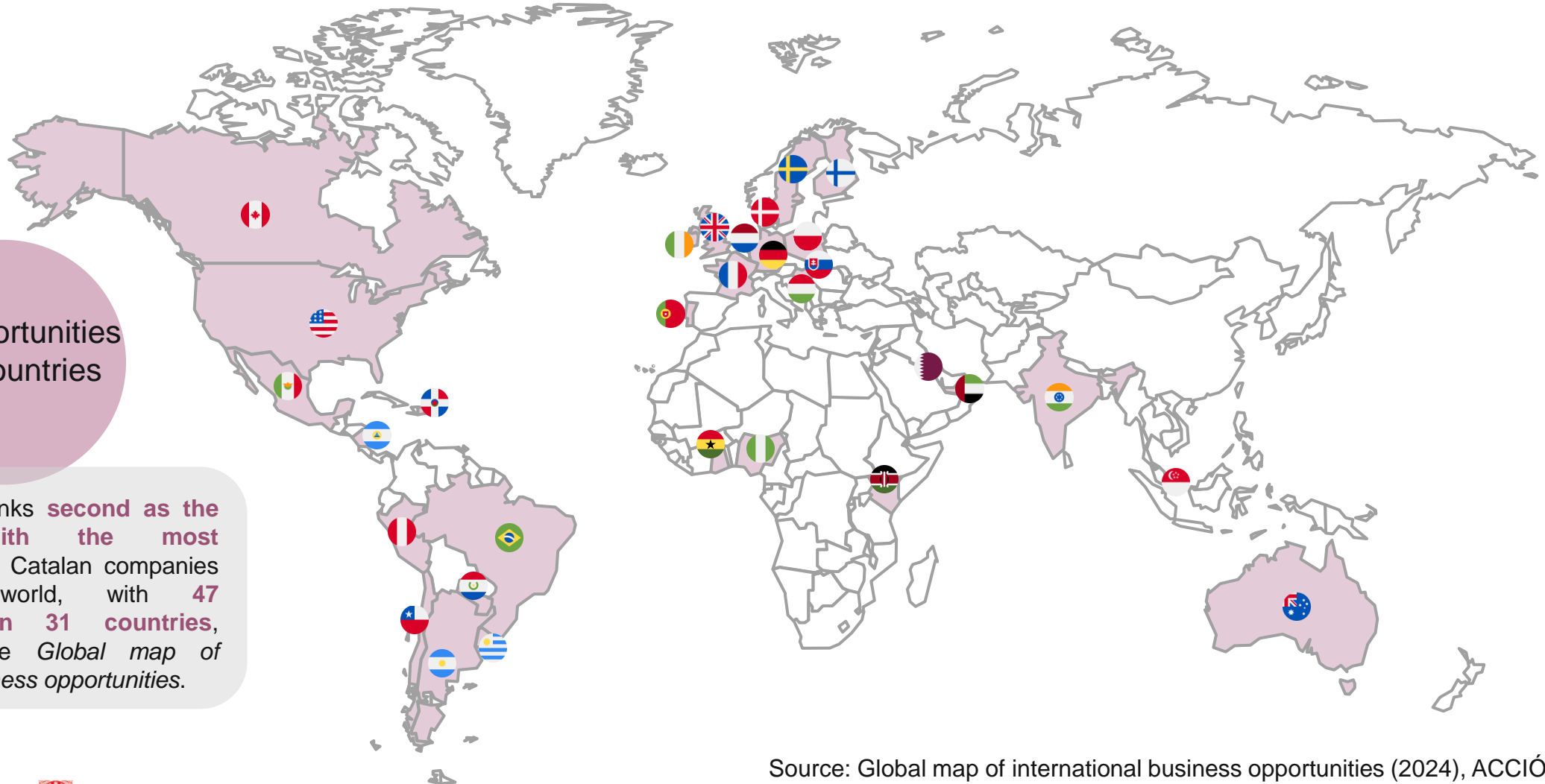
47 opportunities in **31** countries

Digital health ranks **second as the technology with the most opportunities** for Catalan companies around the world, with **47 opportunities in 31 countries**, according to the *Global map of international business opportunities*.

Source: Global map of international business opportunities (2024), ACCIÓ

SWOT of digital health in Catalonia

Strengths

Strong business fabric

Pioneering health system and ecosystem

Global benchmark research and hospital system

Highly dynamic, varied and expanding network of startups

Weaknesses

Network of small-scale technology providers

Human factor: need for different profiles

Validation models

Interoperability

Opportunities

Leadership in initiatives and projects

Adoption of locally developed technologies

Improvements in the health system.
Public procurement of innovation.

Creation and development of solutions for different challenges and therapeutic areas.

Threats

Resistance to change

Lack of training in technological knowledge

Lack of significant technological investment

Emergence of major technological and pharmaceutical firms in the world of health

Source: ACCIÓ

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6. Digital health technological ecosystem in Catalonia

Catalan companies use the latest technological innovations

Artificial intelligence

Immersive technologies
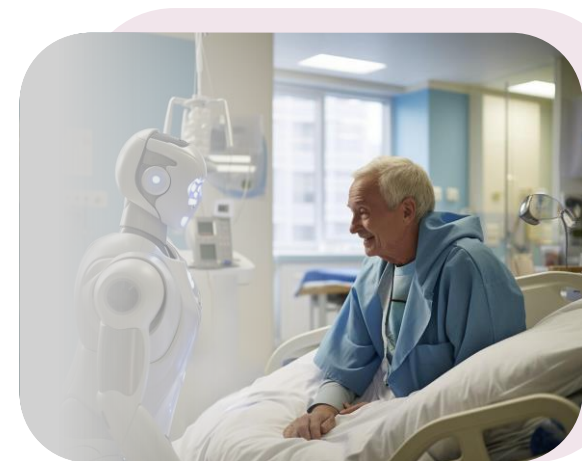
Medical robotics

160 companies
(41.5%)

23 companies
(6.0%)

12 companies
(3.1%)

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Source: ACCIÓ

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Artificial intelligence

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

Note: partial illustrative image.

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:

Clinical tools	doctomatic · emily.AI · HumanITcare · IOMED · QMENTA
Diagnoses	aims medical · mediktor · The Blue Box. · timeisbrain · xAID
Medical decision support	ADAS 3D · amalfi analytics · INBRAIN NEUROELECTRONICS · Predictheo · SYCAI MEDICAL
Digital therapies	DyCare · improfit · MAXSENS · Surgifit · XRHealth
R&D	abzu · acellera · nostrum biodiscovery · oloBion · Starlab Living Science
Technological consultants	DRIBIA · Enaltis · omi360 · PickleTech · Vincer.ai

Source: ACCIÓ

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Immersive technologies

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

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

Main applications:

Digital therapies

eodyne   Nixi for children   Reality telling   VRPharma Virtual Reality for Patient Care   XRHealth

Simulation and training

IEL DIGITAL GLASSES   mentice   stereoDive   virmedex Virtual Experiences   vRAIn Bringing bioimages to life

Note: partial illustrative image.

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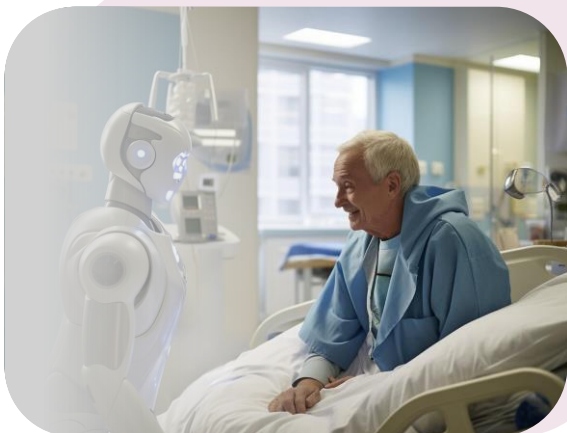Government of Catalonia

Source: ACCIÓ

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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

able human motion · INGENIA · KUKA · MEDICAL ROBOTICS Grup Alomar · NANOBOTS THERAPEUTICS · PAL

ROBOPEDICS · RobSurgical · GROUP SALTO Intelligent Technology · STÄUBLI · YASYT TECH & KNOWLEDGE · SIEMENS Healthineers

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Catalan companies respond to the needs of different population profiles

Femtech

24 companies

#ReproductiveHealth

#PelvicFloor

#BreastCancer

Agetech

25 companies

#NursingCare

#ActiveAging

#RemoteTracking

Pediatech

31 companies

#Newborn

#ImmersiveTherapies

#CognitiveStimulation

Note: partial illustrative image.

Source: ACCIÓ

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

My Health

Personal digital health space that allows the user to interact with the Catalan health system in a non-face-to-face manner.

Users who have accessed it:

3.4 million ▲ 744% (2019)

Total visitors:

23.1 million ▲ 393% (2019)

eConsulta

Non-face-to-face care service that allows the user to send consultations to both primary care and specialty professionals.

Use by users:

24.3% ▲ 22.8 p.p. (2019)

Use by professional staff:

93.4% ▲ 35.0 p.p. (2019)

Calls to 061

Telephone assistance service to resolve issues, queries or health problems.

2.8 million ▲ 14.7% (2019)

Shared clinical history

Online documents that ensure continuity of care and improve coordination among health professionals.

50.5 million ▲ 29.1% (2019)

Note: the data refer to 2023

Source: Catalan Health Service

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160 technological hubs
of foreign companies

+9% with respect to the previous year

6,200 new jobs

Economic impact of €2.879 billion

16 hubs (10%) are in the health sector, three more than the previous year

The health sector contributed the most to employment in 2024, with 1,369 new jobs.

Technological hubs in Catalonia that focus on digital health

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

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

20 projects

€1.582 billion

3,574 new jobs

Prominent companies investing in Catalonia (2020-2024)

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 projects worldwide	By Autonomous Communities in 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

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.

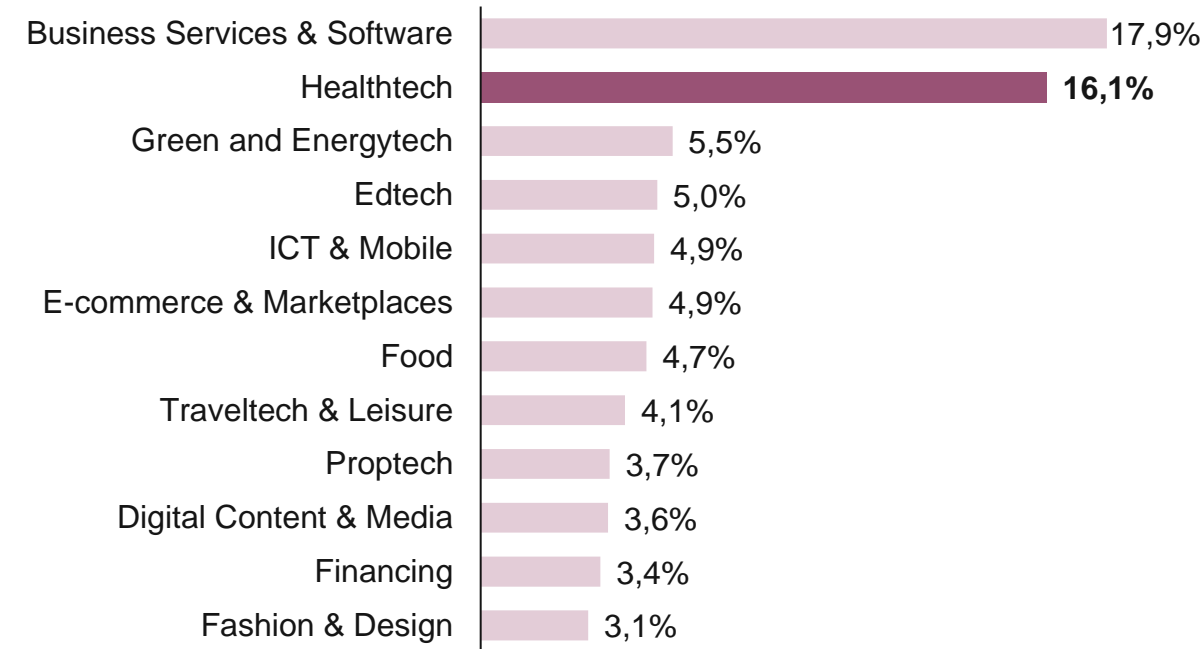Source: the authors, based on fDi Markets

Digital health in Catalonia

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 (%)

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**

Chart: Sectoral distribution of startups (%)
- Business Services & Software: 17,9%
- Healthtech: 16,1%
- Green and Energytech: 5,5%
- Edtech: 5,0%
- ICT & Mobile: 4,9%
- E-commerce & Marketplaces: 4,9%
- Food: 4,7%
- Traveltech & Leisure: 4,1%
- Proptech: 3,7%
- Digital Content & Media: 3,6%
- Financing: 3,4%
- Fashion & Design: 3,1%

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.
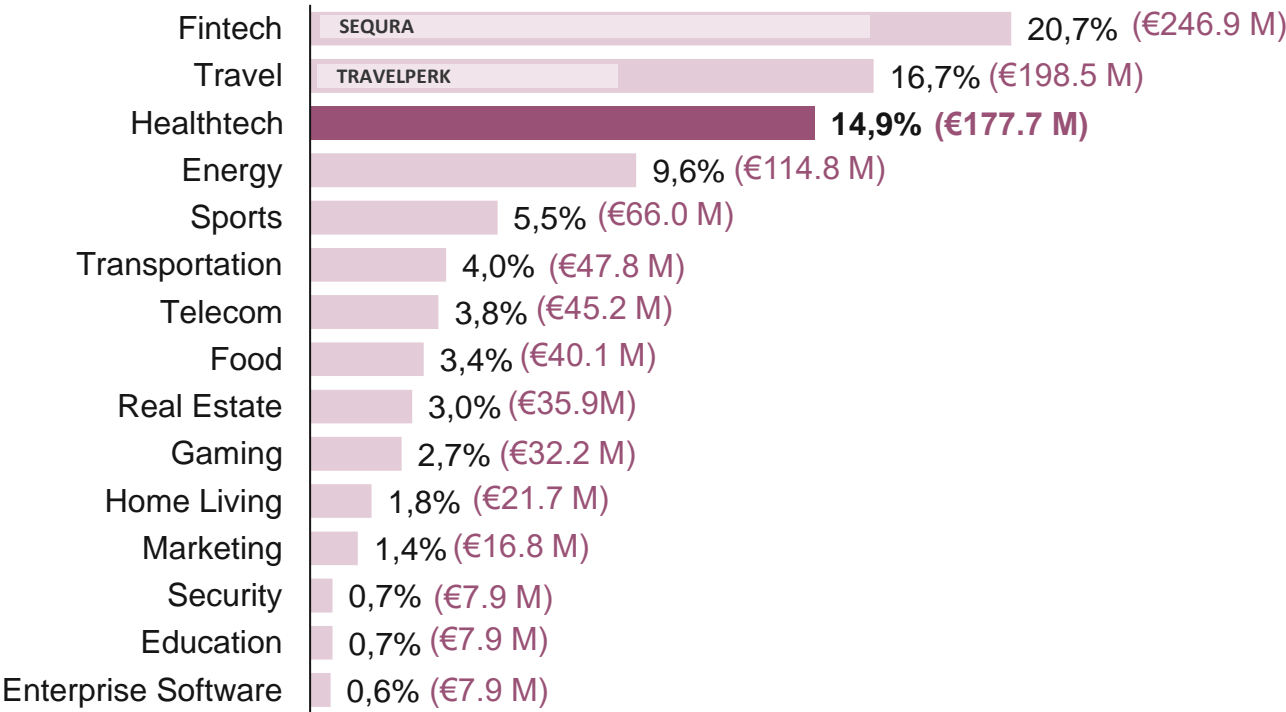* Sector introduced in 2024

Source: Barcelona & Catalonia Startup Hub, 2024, ACCIÓ

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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%.

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

Sector	%	Volume
Fintech	SEQURA	20,7% (€246.9 M)
Travel	TRAVELPERK	16,7% (€198.5 M)
Healthtech		**14,9% (€177.7 M)**
Energy		9,6% (€114.8 M)
Sports		5,5% (€66.0 M)
Transportation		4,0% (€47.8 M)
Telecom		3,8% (€45.2 M)
Food		3,4% (€40.1 M)
Real Estate		3,0% (€35.9M)
Gaming		2,7% (€32.2 M)
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)

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%).

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

Source: Dealroom

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● 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.

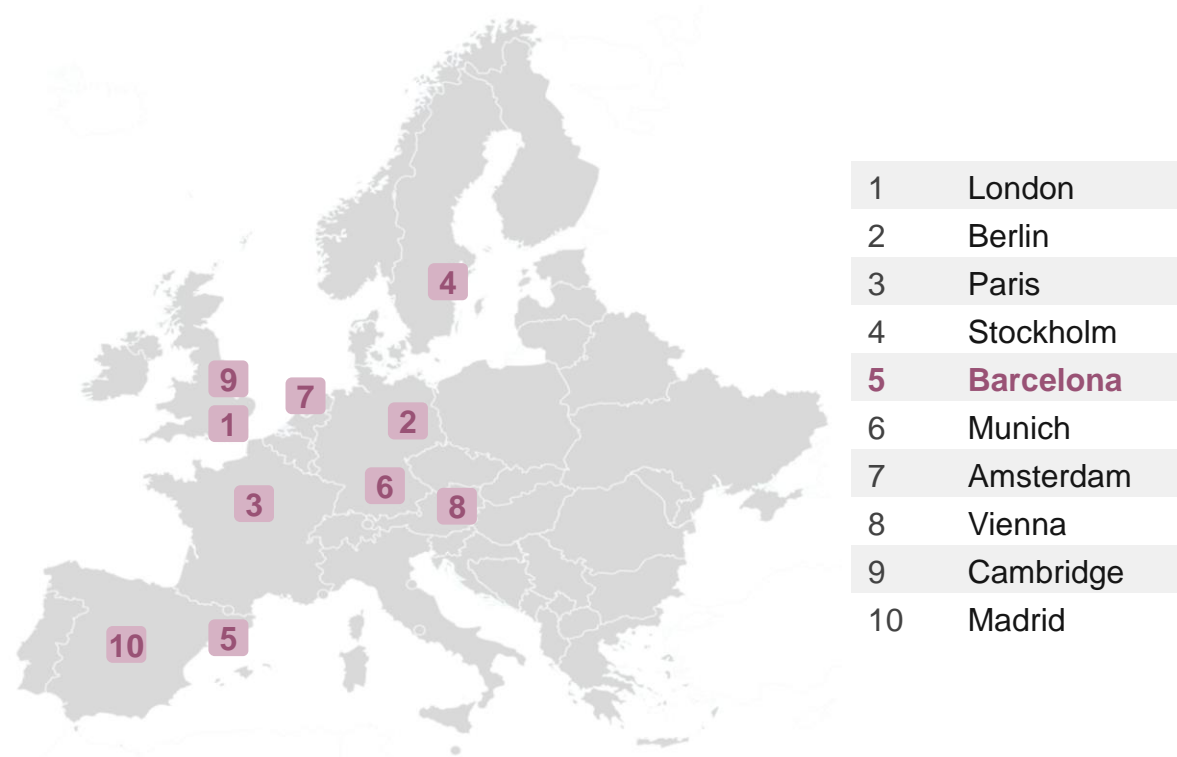● Specifically, 27 startups have raised 176 million dollars in 50 rounds of funding.

Main startups in Barcelona

JN INBRAIN NEUROELECTRICS

NE neuroelectrics®

oliva

IOMED

TOPDOCTORS

mediktor

mediQuo

The Blue Box.

ELEM

AI application

13 startups	25 rounds	€136 M
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
8	Vienna
9	Cambridge
10	Madrid

Source: the authors, based on Crunchbase

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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:

Embedded technologies

- Telemedicine
- Artificial intelligence
- Virtual Reality
- 3D printing
- Internet of things
- Robotics in surgery
- Voice assistants
- Management platforms in surgeries
- Help with decision-making
- Process robotization
- Data ecosystem
- Omics data analysis

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

Corporació de Salut del Maresme i la Selva

Consorci Sanitari Alt Penedès-Garraf

Hospital del Mar Barcelona

SJD Sant Joan de Déu Barcelona · Hospital

Catalonia.health Science. Innovation. Business

Source: questionnaire carried out in hospitals

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9. Success stories

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

DOCTORALIA offers a new AI-based virtual 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.

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 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 GOD HOSPITAL** the social care robot Jana, a robot that connects with people to facilitate communication in clinical environments.

MINDSYST is an innovative data platform in mental health, aging and neuroscience that facilitates AI-based 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 perimenopause, menopause and post-menopause.

DANA is an app designed to help women during 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.

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Catalonia, a dynamic digital health ecosystem

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%).

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.

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*

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.

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

Local business ecosystem

Application of technological innovations

A highly entrepreneurial ecosystem

Broad support ecosystem

Attractive for international companies

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AstraZeneca · BAYER · NOVARTIS · Roche · sanofi

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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!

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