

Tech hubs Overview

Barcelona, European capital of tech hubs

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MWCapital hosts MWC in Barcelona and founded 4 Years From Now (4YFN), the startup business platform, present at MWC events around the world.



City Promotion is a Department of the Area of Economy, Resources, and Economic Promotion at **Barcelona City Council**. Its mission is to foster Barcelona's economic relations abroad and its international position among companies and talent to boost the local economy and attract economic activity, which creates prosperity and quality jobs. This study has also benefited from the collaboration of Barcelona Activa.



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Publicity

February 2023

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Executive summary

Tech hubs can be defined as specialised centres that use technological development and innovation to provide answers to business services, solutions and functions.

The attraction of these centres is considered strategic to a region, in view of their positive impact in areas such as **capturing highly specialised local and international talent, boosting the economy** and local service providers, and other intangible effects, such as **importing knowledge** associated with innovation and digitisation.

The present study analyses the hubs that have been established in Catalonia through a greenfield foreign investment strategy (i.e. direct investment in a new plant or the expansion of productive or service capacities), and that develop technology with international scope.

The information collected focuses on three dimensions of these companies: their context, the nature of the activity they carry out in their technology centres, and the profile of the digital talent that is part of their workforces.

Technological talent, the key to success in attracting hubs to Barcelona

- Catalonia has a total of **96 global technology development centres**. The impact of these investments has accelerated in recent years. **Since 2018, the number of hubs has more than doubled.**
- The **United States (23%)** is the main country of origin for investment in centres with these characteristics, although **65% of the hubs** come from companies from **European countries**.
- Almost **8 out of 10 companies** are physically established in **Barcelona City**, and of these, **46%** are located in the **22@ technology district**.
- The attractiveness offered by the city **to attract international talent and the availability of local professionals** are the main reasons when selecting Barcelona. In this process, the main competing cities are located in the **Iberian Peninsula** (Lisbon and Madrid) and in **Central Europe** (Paris, London, Berlin, Amsterdam).

Hubs contribute significantly to the local economy through the development of high value-added and global services

- The economic impact generated annually by the hub ecosystem is over **€1.4 billion** and is expected to **exceed €2 billion by 2025**. The **investment** involved in establishing a hub is on average about **€6 million** and according to 2022 figures, the **average turnover** of each centre is **around €15 million**.

- **More than 65% of** these centres belong to three sectors: **gaming (32%), industrial sector (21%) and health (13%).**
- **Mobile app creation (60%), User Experience Design (57%), Artificial Intelligence (55%) and Web Development (54%)** are the technology fields in which hubs develop services most frequently.
- **In 8 out of 10 cases,** the rollout of these technologies reaches **users around the world.** Moreover, **almost half of the hubs** have a role that goes beyond the provision of internal company services and have the **capacity to influence the multinational's strategic decisions.**
- **In 53%** of cases, companies have **other business divisions** in Barcelona besides technology services, such as **marketing and sales (67%), Human Resources (64%) and Operations (61%).**

The hubs are optimistic about the projection of a workforce that is likewise growing in diversity

- All together, technology centres employ more than **15,000 professionals**, and by 2025 there are expected to be more than **20,000 workers.** In 2022 the average hub in Barcelona had a team of around **160 people.** In fact, the size of the centres has increased in recent years; currently almost **40% of the hubs have more than 100 people** on their staff.
- Most of the professionals in the hubs are between **31 and 40 years old** and **30% of the people who work there are women.**
- The average number of foreign nationals in the tech hubs is **38%** and they primarily come **from Europe and South America.** While the average number of **nationalities is 18,** the largest hubs have professionals **from more than 60 countries.**
- Most employees work from Barcelona in hybrid (office/home) format. The number of workers who are **full remote** who live outside Catalonia is generally not significant (**less than 30%).**

Fostering the attraction of talent and strengthening relationships with universities are the most frequent requests from hubs

- In order for Barcelona to remain an attractive destination for **foreign investment** in technology centres, those responsible for the hubs agree on the need to demand improvements in the **regulatory framework and in the procedures associated with attracting international talent.** They also state that it is necessary to collaborate more closely with the local university system and align the training curricula with the skills demanded by the ICT sector.



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Introduction and methodology

Tech hubs can be defined as specialised centres that use technological development and innovation to provide answers to business services, solutions and functions ([Definition of Shared Services Center - IT Glossary | Gartner](#)). Business units thus identify their needs and, in order to achieve them, hubs are structured around teams made up of digital professionals with high added value.

The first business tech hub in Catalonia was created by Hewlett-Packard in 1985, in Sant Cugat del Vallès. Since then, about a hundred international companies have chosen Catalonia as their headquarters for centres focused on the development of services and technological solutions. Today, thanks to this positioning and to the synergies created with the region's innovative and entrepreneurial ecosystem, Catalonia and Barcelona are considered, as a whole, to be global tech hubs.

What do tech hubs bring to the region?

- 1. By attracting and encouraging digital talent, offering high-skilled job opportunities for local digital professionals,** Catalonia has increased the number of ICT graduates by 27% between 2017 and 2021.
- 2. Tech hubs are a positive draw on international talent:** given that these centres provide technology services that are global in scope, they are a pole of attraction for highly qualified international digital professionals. In 2021, 31.4% of the digital talent established in Barcelona came from abroad.
- 3. Tech hubs enhance the so-called multiplier effect:** according to the studies, for every new professional in the technology sector, five additional positions are created in the services sector. In addition, the establishment of these centres involves a significant associated investment in the form of taxes, salaries that subsequently generate expenditure in the territory, office rentals and acquisition of technological infrastructure, among others.
- 4. Tech hubs import and implement innovative cultures:** the multicultural teams at these centres bring new ways of working to the table.
- 5. Tech hubs lead to the establishment of large multinationals:** the arrival of new hubs helps create a virtuous circle for the digital economy. As more centres are established, this contributes to the generation and attraction of technological talent, which encourages other companies that want to benefit from a digital ecosystem with access to innovative ICT talent. In Catalonia, the growth of the digital economy has been exponential. In 2021, it already accounted for more than 10% of the Catalan GDP.

Study objective

The main goals are:

1. **Assess size and characterise the hubs located in Barcelona-Catalonia**
2. **Assess and quantify their impact on the region,**
3. **Identify, understand and enhance the key factors for attraction and retention of tech hubs in the region**

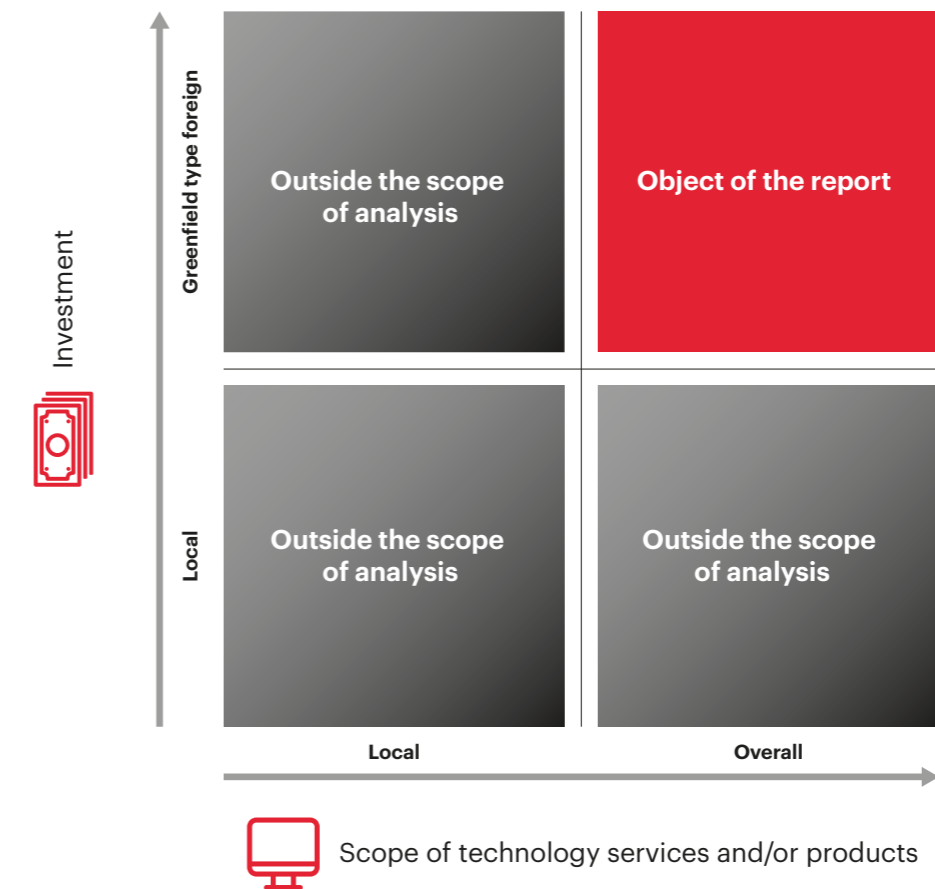
The report is thus structured into three main sections. The first section provides an overview of the context of the tech hubs established in Barcelona, **analysing aspects such as the reasons that led to the decision to invest** in their physical location. The second section analyses the nature of the activity carried out by these centres and **how they relate to other areas of the company itself and to agents of the local digital ecosystem**. Finally, workers at the digital hubs have been characterised, exploring aspects such as the weight of female talent and foreign professionals.

Scope of the report

Within the diverse range of global technology service centres established in Catalonia, this report focuses on those which meet the following conditions:

1. Creation from a **foreign direct investment strategy** based on greenfield type FDI: that is, direct investment in a new plant or expansion of productive or service capacities, which implies the entry of foreign capital into the region. Excluded from the scope of the study are global technology centres established by other mechanisms, for example as a result of the acquisition of a local company (some examples could include startups of local origin, such as Glovo, Privalia, and eDreams).
2. **Development of digital products and services that are international in scope.** These technologies can be aimed at supporting internal company operations (for example, the development of business software for logistics, supply, financial management, etc.) or it can be a digital product aimed at the end user or customer (for example, the development of a video game for mobile platforms).
3. **Location of the tech hub in Barcelona.**

Scope of the report



This study thus analyses and measures foreign investment made in Catalonia to develop global technology services. Methodologically, **the report includes analysis of the entire universe of companies** that meet these conditions, thus obtaining results significantly more accurate than studies carried out through sampling techniques.

However, for different reasons, such as the lack of a public directory of centres of these characteristics or the dynamism of the technology centre markets, there is a possibility that a small number of centres that meet the aforementioned characteristics have been left out of the analysis. In this sense, the report must be understood as a **living document that was created with the aim of being periodically updated** in order to, as accurately as possible, reflect the reality of the market of global technology centres.

However, the universe of this study is made up of **96 tech hubs of foreign companies.**

- ABB
- Acuity Trading
- Adesso Spain
- AkzoNobel
- Alexion Pharmaceuticals
- Alkimia Interactive
- Allianz
- Alstom
- Amazon
- Bandai Namco Mobile
- Bayer
- Bitpanda
- Boehringer Ingelheim
- Bumble
- Centiro Solutions
- Chartboost
- Checkpoint Systems
- Cimpres
- Cisco Systems
- Cloudblue (Ingram Micro)
- Cofidis Innolab
- Contentsquare
- Danone
- Dedalus
- Enel
- Essity
- Festo
- FreeNow
- Funplus
- Gamehouse
- Gameloft
- Giesecke + Devrient
- HCL Technologies
- HP
- IBM
- IGG
- Infor
- IO Interactive
- King
- Laboratorios Hartmann
- Larian Studios
- LIDL
- ManoMano
- MediaMarkt
- MeetDeal
- Microsoft
- MiR Robots
- Monolithicpower
- Moodle
- Mytheresa
- N26
- Nestlé
- Netease
- Nicecactus
- Nimble
- Novartis
- Nutanix
- Ocado Technologies
- Omron
- Oracle
- Outfit7
- Paradox Tinto
- PayFit
- Pepsico
- Popcore
- Porsche Digital
- Riot Games
- Roche
- Rovio
- Sage
- Salesforce
- Sandsoft
- Sanofi
- SantéVet
- Satellogic
- Schneider Electric
- Scopely
- Shape Games
- Siemens Energy
- Smilegate
- Starbreeze
- Technica Electronics
- Teladoc Health
- Thoughtworks
- Tilting point
- Triple dot
- T-Systems
- Ubi Studios
- Universal Robots
- Unmanned life
- Veriff
- Viaplay (NENT)
- Voodoo
- Ypsomed
- Zeptolab
- Zurich

Techniques used for analysis

The study uses both quantitative and qualitative analysis techniques; specifically:

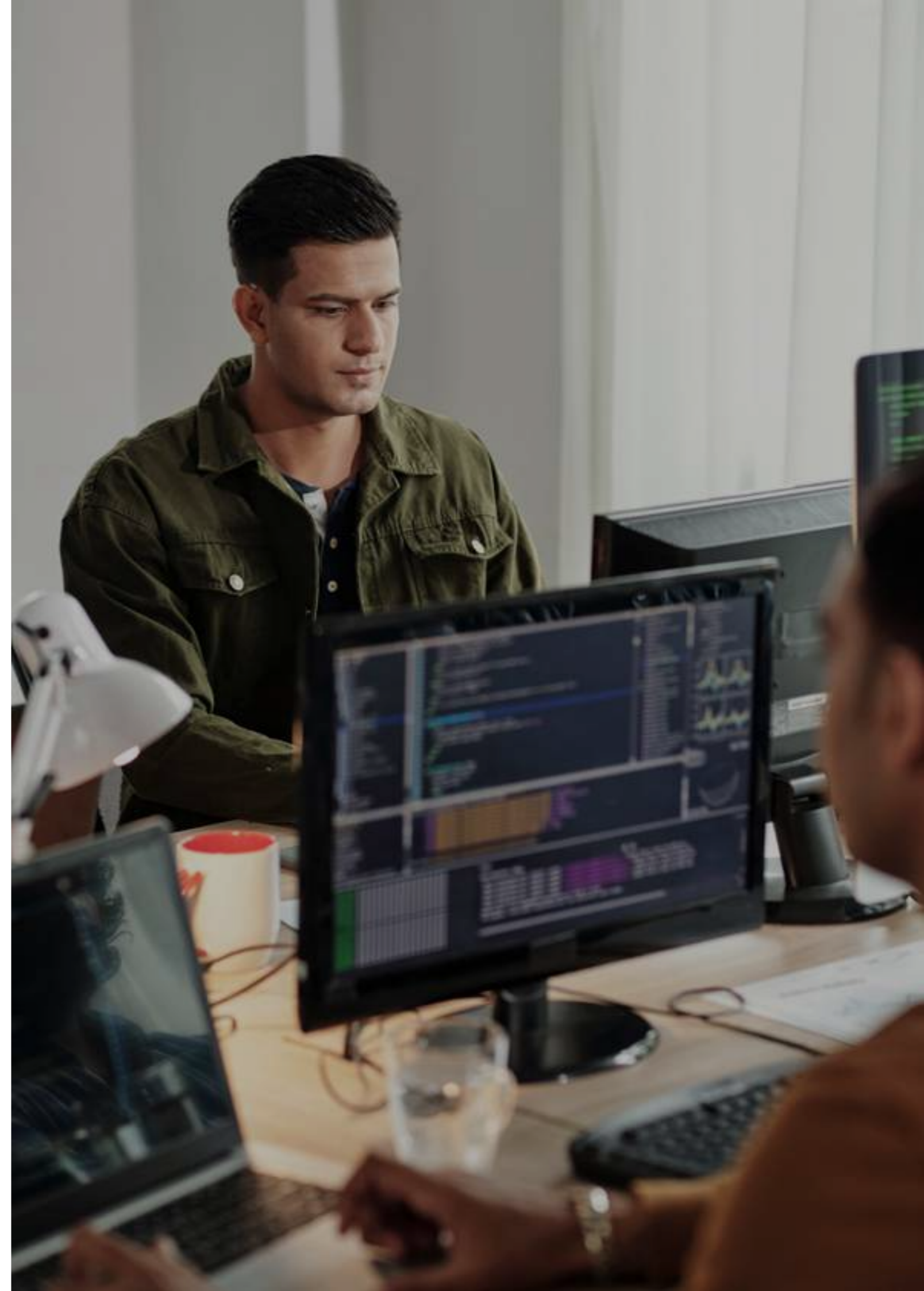
- 1.** The sending of a **survey**, with a **response rate of 70%**. Priority has been given to closed-ended questions to enable uniform data analysis.
- 2. Interviews**, with an eminently strategic focus, **in 13 of the most important hubs in the region**. Below are the details of the people interviewed:
 - **Bayer** - Marc Ferre Hausmann, Managing Director at Bayer GBS Barcelona
 - **Ocado Technology** - Guillem Vila Palau, Technology Centres Director
 - **Schneider Electric** - Laura Sancho, Iberian IT Director & Europe PMO Lead and Ainoa Irurre Pérez, Europe Talent Acquisition & Mobility Vice President
 - **Zurich** - Josep Badal Angles, Human Resources Lead and Xavier Tuduri Sainz, CEO
 - **Cloudblue** - José Luis Sanchez, Director at Ingram Micro Cloud España
 - **HP** - Ramon Pastor, Global Head and General Manager
 - **PepsiCo** - Gaston Besanson, Vice President, Global Head of Data Science
 - **Nestlé** - Susana Pastor Muñoz, Global IT Barcelona hub Manager
 - **Sanofi** - Heidi Van de Woestyne, People Director Iberia
 - **Boehringer Ingelheim** - Marieta Ramos, Head of IT
 - **Alexion Pharmaceuticals** - Eva Stefankova, Senior Manager Talent Acquisition
 - **IBM** - Oriol Viaplana, Consulting Manager
 - **ManoMano** - Stéphane Priolet, CTO & CPO
Nuria Rivaya, Senior Corporate Communications Manager
- 3. Technical forms**, intended for the 13 companies interviewed, with the aim of complementing the information provided and obtaining quantitative data.
- 4. Analysis of data sources** to contrast and complete the information captured by the means cited in the previous points, such as commercial register databases and press releases.

Methodology

One of the key sections of the report is the assessment of size and quantification of impact of tech hubs in the Catalan territory. This has been calculated from two points of view: firstly, the creation of jobs and, secondly, the economic impact. Details of the calculation are given in the corresponding section of the report.

Bear in mind, however, that this study aims to cover the entire universe of tech hubs that meet the defined criteria. Since very high participation was achieved - amounting to 70% - the remaining 30% has been calculated using the following steps:

- 1. Segmentation of tech hubs** by economic sector, with the aim of minimising margins of error and taking advantage of the patterns detected.
- 2. Calculation of the average number of workers per economic sector** (excluding outliers so as not to distort the results). This calculation has been carried out using the data obtained in the surveys, interviews and forms sent.
- 3.** Use of the aforementioned data to **estimate the current and future state of the art of the hubs that have not participated in the study** but that are part of the universe. Specifically, this has been calculated for each sector, to then obtain the aggregate data.
- 4. Sum of the estimated data** (30%), with the remaining 70%.
- 5. Compare with data from public sources**, such as the commercial register, to check the accuracy of the calculations.



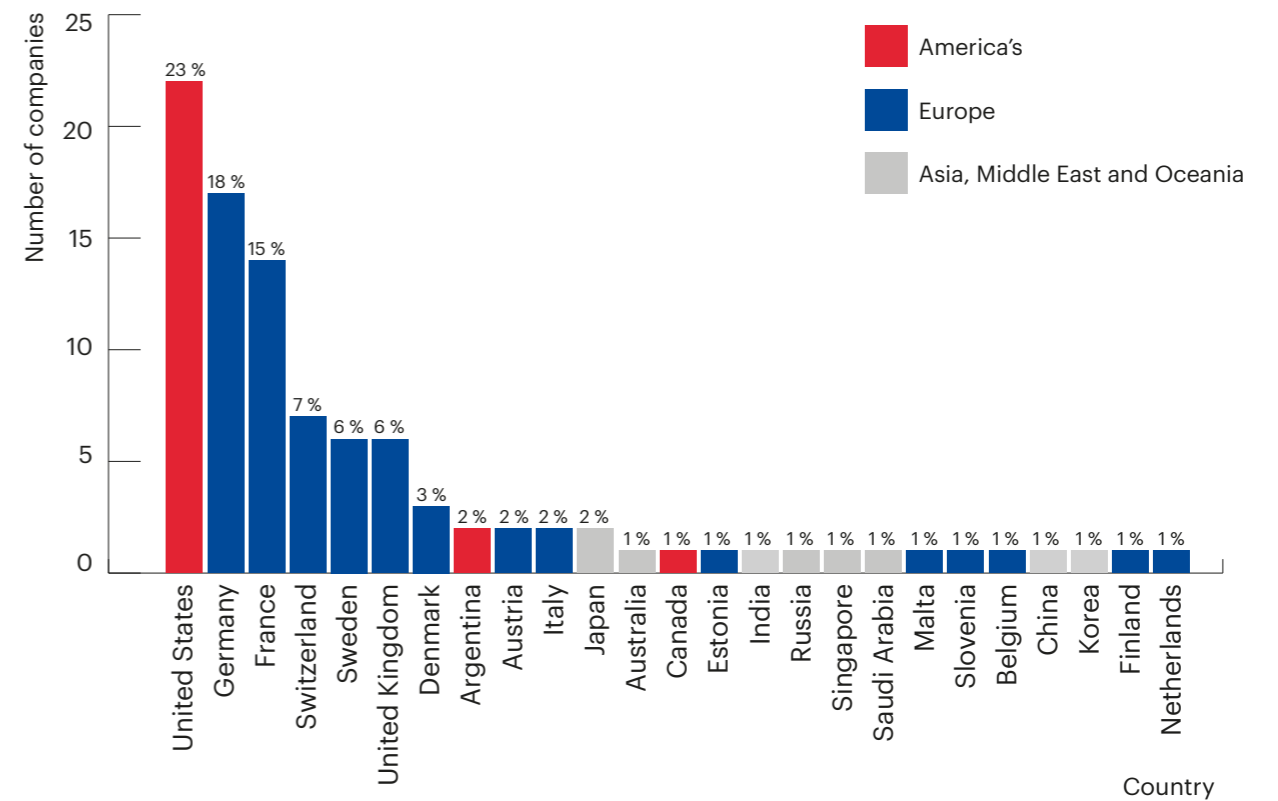
3 Context of tech hubs in Barcelona

The origin of tech hub companies

When examining the origin of companies with a tech hub, European companies (65%) and American companies (26%) stand out.

Globally, the United States is the leading investor country, with 23% of companies with a tech hub in Catalonia: this shows that the region's proximity is not the only key element in decision-making. Asia and Oceania still have little presence in Spain.

Origin of foreign investment



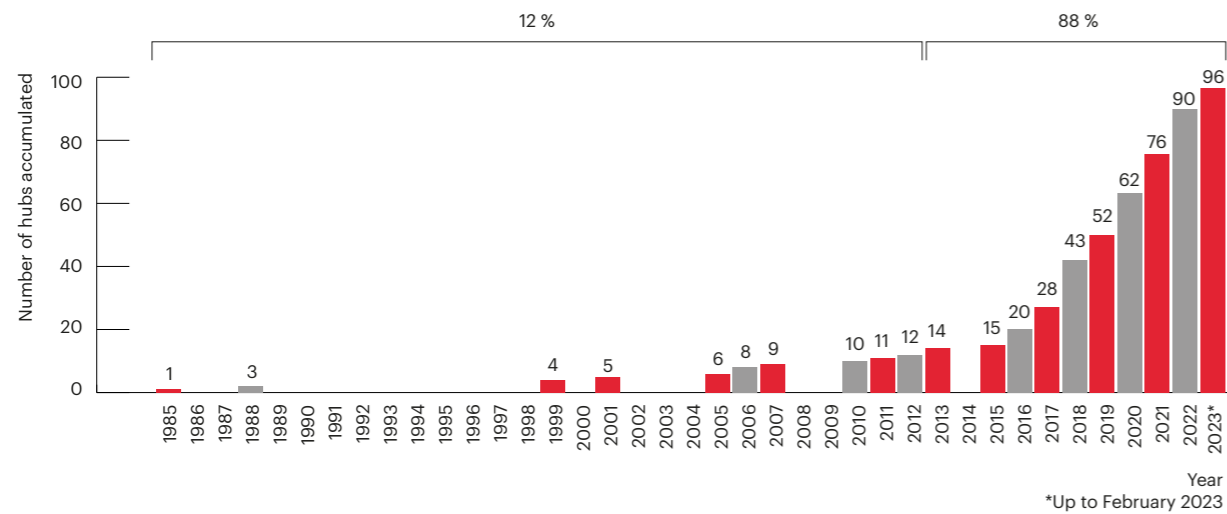
Source: Mobile World Capital

Exponential growth of tech hubs

Barcelona and Catalonia have a long tradition as the home of tech hubs of foreign companies. Exponential growth kicked off in the last decade, however, when 88% of the centres were created.

Since 2018, the creation of hubs has more than doubled, from 43 to 96, making Barcelona a benchmark location in southern Europe.

Year of creation of the hub - Accumulated

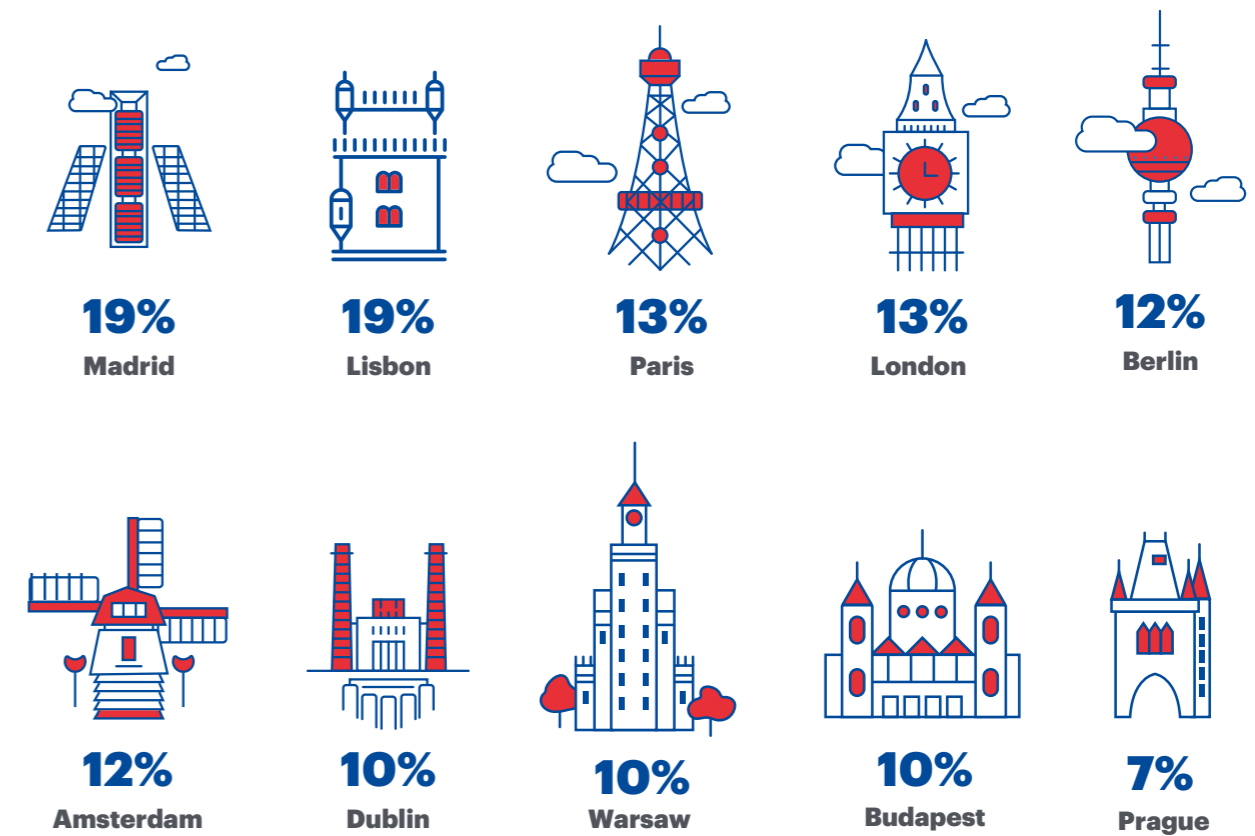


Locations in competition with Barcelona

Cities in the Iberian Peninsula and Central Europe are Barcelona's major competitors when finalising tech hub location.

European cities such as Paris, London, Berlin and Amsterdam, among others, are major competitors when deciding where to locate the hub.

What territories did Barcelona compete with for the establishment of hubs?



Basic figures

- **Sector:** pharmaceutical
- **Year of creation:** 2022
- **Location:** Les Corts / Pedralbes
- **Units served:** R&D, commercial, digital, medical, regulatory affairs
- **Scope:** global
- **Number of employees:** (December 2022) 5
- **Percentage of foreign employees:** (December 2022) 50%
Global turnover: (2021): \$6.26 Billion

Technologies developed

- Frontend Web Development
- API/Backend
- App Development
- Systems Architecture
- UX/UI
- CRM/ERP
- Cloud
- Business Intelligence
- Digital Marketing
- Big Data
- Artificial Intelligence

Why Barcelona

- First, the **availability and attraction of talent** in the region.
- Second, **the relationship between high qualifications and competitiveness** of employees in Barcelona.
- Third, **the existing business and innovation ecosystem** in the region.

Hub description

- The main objective of the Alexion hub, created in 2022, is **research and development**. As part of the global IT team, its purpose is also to expand **the company's global teams**.

Hub successes

Technology

- The latest technological developments of the hub are: Data scientists, Mulesoft, Big data, artificial intelligence and Machine Learning.

Talent

- Hub that was created very recently, in 2022, and which currently has 5 professionals; with high growth prospects, to reach up to 150 workers (300%) between 2022 and 2025.
- The hub features workers of 3 different nationalities.

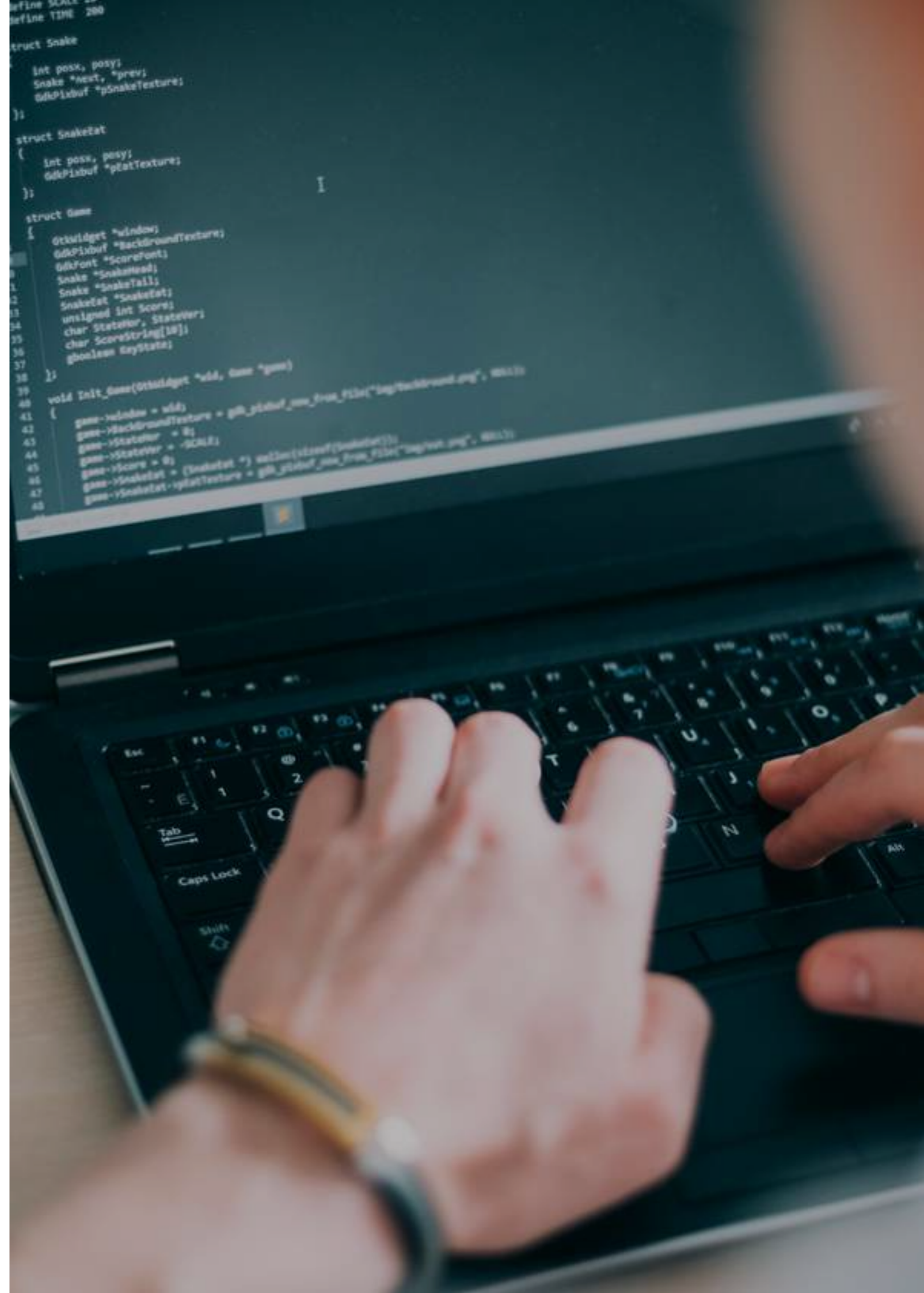
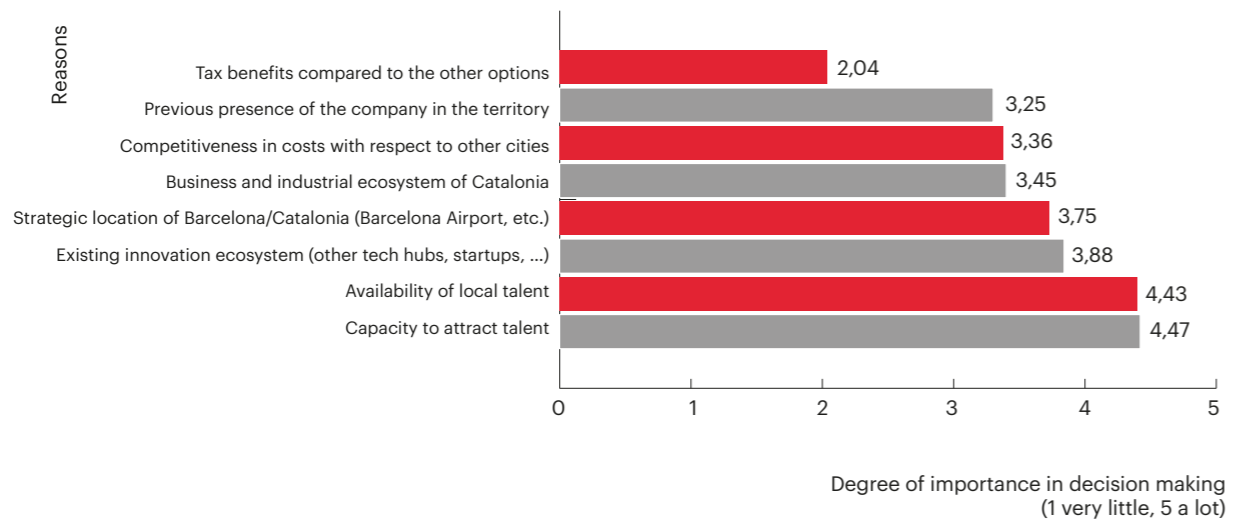


The attraction of Barcelona

The attractiveness and availability of talent, together with the existing innovation ecosystem in the region, were key factors in choosing Barcelona as the location of the hub.

Barcelona's strategic location and international connectivity is also a key decision-making factor, followed by a rich and diverse business and industrial ecosystem. Cost competitiveness and the available tax benefits were not decisive aspects when making the decision and opting for Barcelona.

Why did you choose Barcelona?





Basic figures

- **Sector:** pharmacy, consumer health and crop sciences
- **Year of creation:** 2001
- **Location:** Sant Joan Despí
- **Units served:** finance, purchasing, supply chain and IT
- **Scope:** Europe (60%) and global (40%)
- **Number of employees:** (December 2022) 747 professionals, most are digital profiles
- **Percentage of foreign employees:** (December 2022) 36%
Turnover: (2021): €44.11 billion worldwide and in Spain 697MC.

Technologies developed

- App Development
- CRM/ERP
- Systems Architecture
- Cloud
- Business Intelligence
- Big Data
- API/Backend
- Computer Vision

Why Barcelona

- Firstly, **because they already had a site** in Catalonia, a fact that allowed them to be close to the business and facilitated deployment;
- Second, due to **access to local talent and ease of attracting foreign talent**, and
- Third, due to **the high qualifications and competitiveness** of employees in Barcelona.

Hub description

- The hub, which **was born with a clear focus on technological improvement in the areas of accounting and finance**, has evolved over time, **expanding the portfolio of services** to include technological developments and improvements with **an impact on the core of the business**. It is currently entrusted with the overall responsibility for optimising and improving the Supply Chain and Purchasing;
- above all, through the use of **artificial intelligence and advanced analytics** for, among other things, the creation of demand anticipation models.
- It is an **innovative hub, close to and in constant contact with the business**, that functions on a projects basis and where multidisciplinary teams coexist, combining technological and business profiles.

Hub successes

Technology

- **Estimation of demand and planning of manufacturing plants worldwide** to carry out better management of the logistics and inventory system.
- **Study and optimization of purchases, contract negotiations and supplier quality** through data analytics, to ensure that the quality of products and suppliers aligns with Bayer's requirements.
- **Automation and simplification of the analysis of the purchases and sales of companies** and its impact on the main financial statements: balance sheet and income statement.

Talent

- Current staff of 747 workers, in a hub that was created with only 15 professionals in 2001, and with positive growth forecasts for the coming years.
- In the last four years, the hub has undergone a significant transformation, with a net growth of 60%, and the positions with the highest added value have grown three times more. One out of every two positions did not exist in 2018.
- The hub features workers of more than 45 different nationalities.

Resilience and relevance

- Incorporation of new work verticals within the hub, positioning it as a hub with a high impact on Bayer's global decision making. It has gone from being a hub focused on corporate services to having a direct impact on the value chain.

“The success of the Bayer hub is explained by the possibility of creating synergies between the business units and the new innovation and technological development teams, which interact on a regular basis.

Through the digitisation of business units and their processes, not only have resources been optimised - we have also been able to meet the company's strategic goals, highlighting sustainability, and the establishment of innovation as a priority and reality.”

Marc Ferré Hausmann

Managing Director at Bayer GBS Barcelona



Basic figures

- **Sector:** pharmaceutical
- **Year of creation:** 2013
- **Location:** Vallés Occidental
- **Units served:** the entire company
- **Scope:** global
- **Number of employees:** (December 2022) 300 Percentage of foreign employees: (December 2022) 40% Global turnover of the company: (2021): \$20.6 Billion

Technologies developed

- Frontend Web Development
- API/Backend
- App Development
- UX/UI
- CRM/ERP
- Cloud
- Business Intelligence
- Cybersecurity
- Artificial Intelligence
- IoT

Why Barcelona

- First, for **the access and attractiveness of the local and international digital talent** in the region.
- Second, because **of the company's existing presence in the region.**
- Third, due to **the high qualifications and competitiveness** of employees in Barcelona.

Hub description

- The tech hub provides a service globally and in all areas of the company. It thus has many different digital profiles; at the volume level, the IT infrastructure and Enterprise Data Platform teams stand out. Since the creation of the hub, services of greater added value for the company have increasingly been incorporated.
- Globally, the company has 3 tech hubs (Argentina, Barcelona and the Philippines). The Barcelona hub (Sant Cugat) is the largest of the 3, since it is home to 52% of the total digital talent.

Hub successes

Technology

- The **cybersecurity and security operations** centre is responsible for identifying vulnerabilities and possible cyberattacks in order to prepare and protect the company against these types of incidents. This strategic centre provides **evidence-based knowledge** about the threats against assets of the different Boehringer Ingelheim headquarters. This knowledge includes context information, description of mechanisms, risk indicators and recommendations for action in regard to existing threats.
- NetWork Operation Center: Sant Cugat monitors the functioning of the company's networks and provides support in case of an incident.
- Smart Factory: has a team dedicated to discovering optimisation solutions for manufacturing plants based on LOT and process efficiency.

Talent

- Sixfold increase in the workforce, going from 50 to 300 workers between 2013, the year of creation and 2022; with the expectation of continued growth of approximately 20% in the coming years.
- The hub features workers of more than 20 different nationalities.
- Investment in training and development plans, flexibility of working hours and balance between office and remote work.

Internal Positioning

- The hub has increased leadership positions with high responsibility and currently has more than 30 management-level profiles.

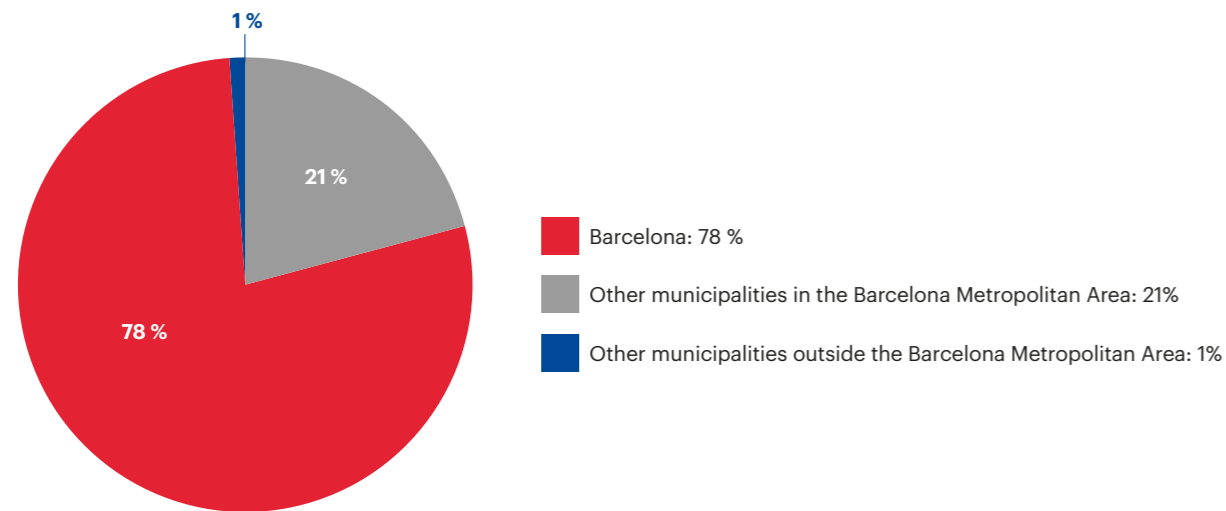


Tech hubs based in the city of Barcelona

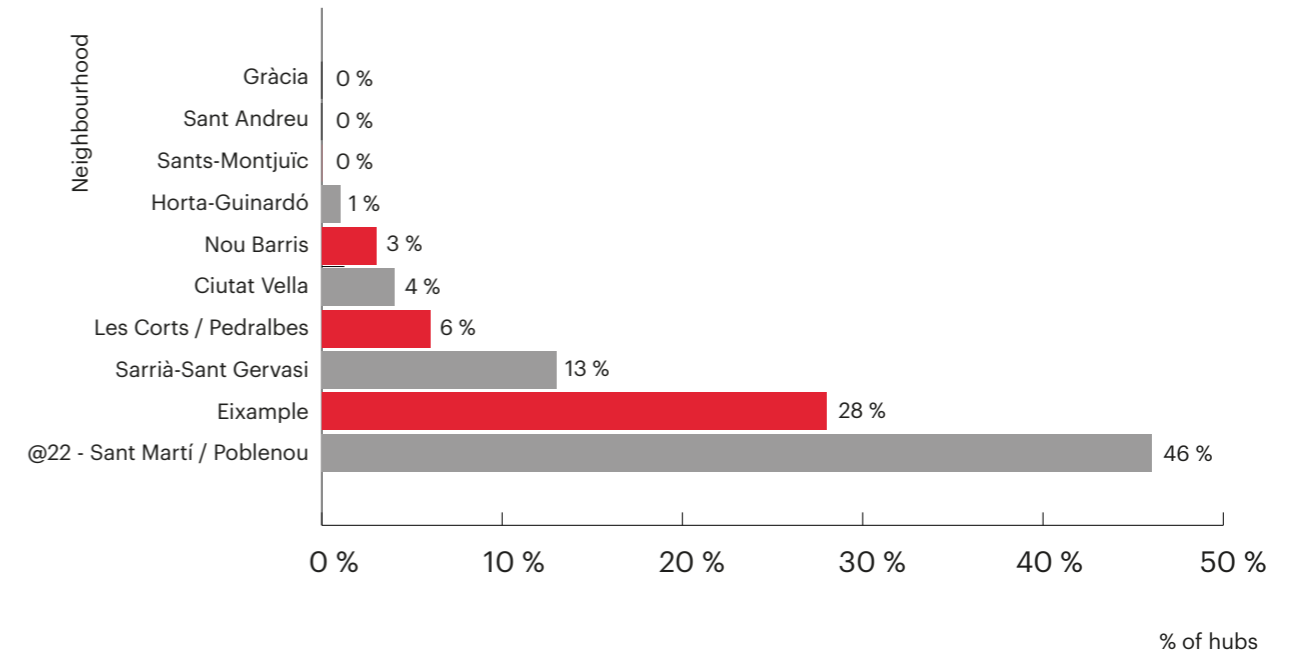
Barcelona and its metropolitan area are a magnet for tech hubs, thus creating a consolidated and constantly evolving innovative ecosystem.

A total of 78% of the tech hubs are located in Barcelona city. At a neighbourhood level, the highest number are found in 22@ - Sant Martí and Poblenou with 46%, followed by the Eixample with 28% of the hubs. Within the Metropolitan Area, the Vallès Occidental stands out, with companies such as HP, and Baix Llobregat, with Nestlé, Bayer and Schneider Electric, among others.

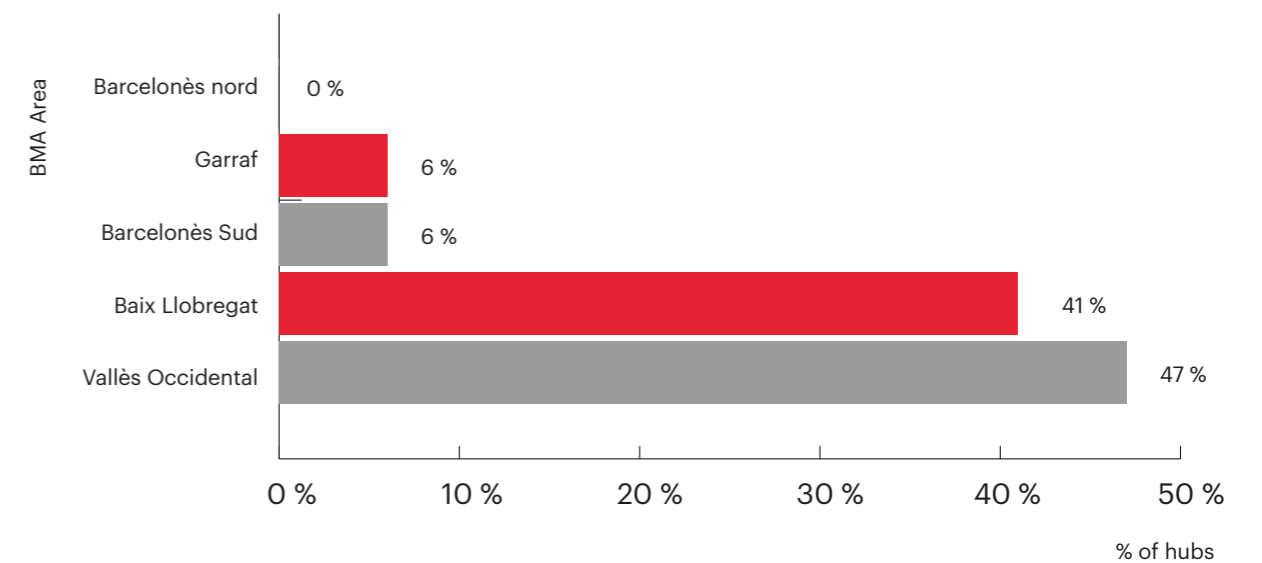
Finding a location



Detail Barcelona



Detail Barcelona Metropolitan Area (BMA)



Basic figures

- **Sector:** XAAS
- **Year of creation:** 2020
- **Location:** 22@
- **Service:** market-oriented product development and support in the development of technological solutions for business units
- **Scope:** global
- **Number of employees:** (December 2022) 260
- **Percentage of foreign employees:** (December 2022) 35%
- **Turnover:** (2021): \$49.1 billion or €41.515 billion *

Technologies developed

- Frontend Web Development
- UX/UI
- CRM/ERP
- Systems Architecture
- Digital marketing
- Cloud
- Business Intelligence
- Big Data
- API/Backend
- Artificial Intelligence

Why Barcelona

- Firstly, the **ability to attract talent.**
- Second, for the **innovative ecosystem of the city.** It has a very important critical mass in the technology sector, as well as being at the **forefront in Europe in the creation and development of start-ups.**

Hub description

- The Cloudblue hub is a key element for the company, thanks to the success and the volume of turnover that the sale of the solutions it designs represents on a global level. Since its creation in 2020, it has experienced sharp growth due to its position as the main **player in the development of strategic products that are sold overseas: the Commerce and Connect platforms.**
- It is an e-commerce platform that aids and facilitates the launch of marketplaces to companies. On the other hand, Connect is a catalogue and channel management platform that enhances the concept of the Anything as a Service (XaaS) business.
- In addition, the hub also **covers the cloud technology services and requirements of the rest of the organisation,** that is, internally. In this, it coordinates with other specialized Cloud hubs, including Sofia (Bulgaria), Tornot (Canada), and India.

Hub successes

Technology

- Evolution of development responsibilities in the two platforms (Commerce and Connect) - despite having started out as a supportive entity, it has now managed to absorb them almost entirely.

Talent

- Tenfold increase in the workforce in the first 6 months of life, going from 10 to 100 workers. The second year (2021) has seen growth of 160%, from 100 to 260 employees.
- The hub features workers of more than 45 different nationalities.

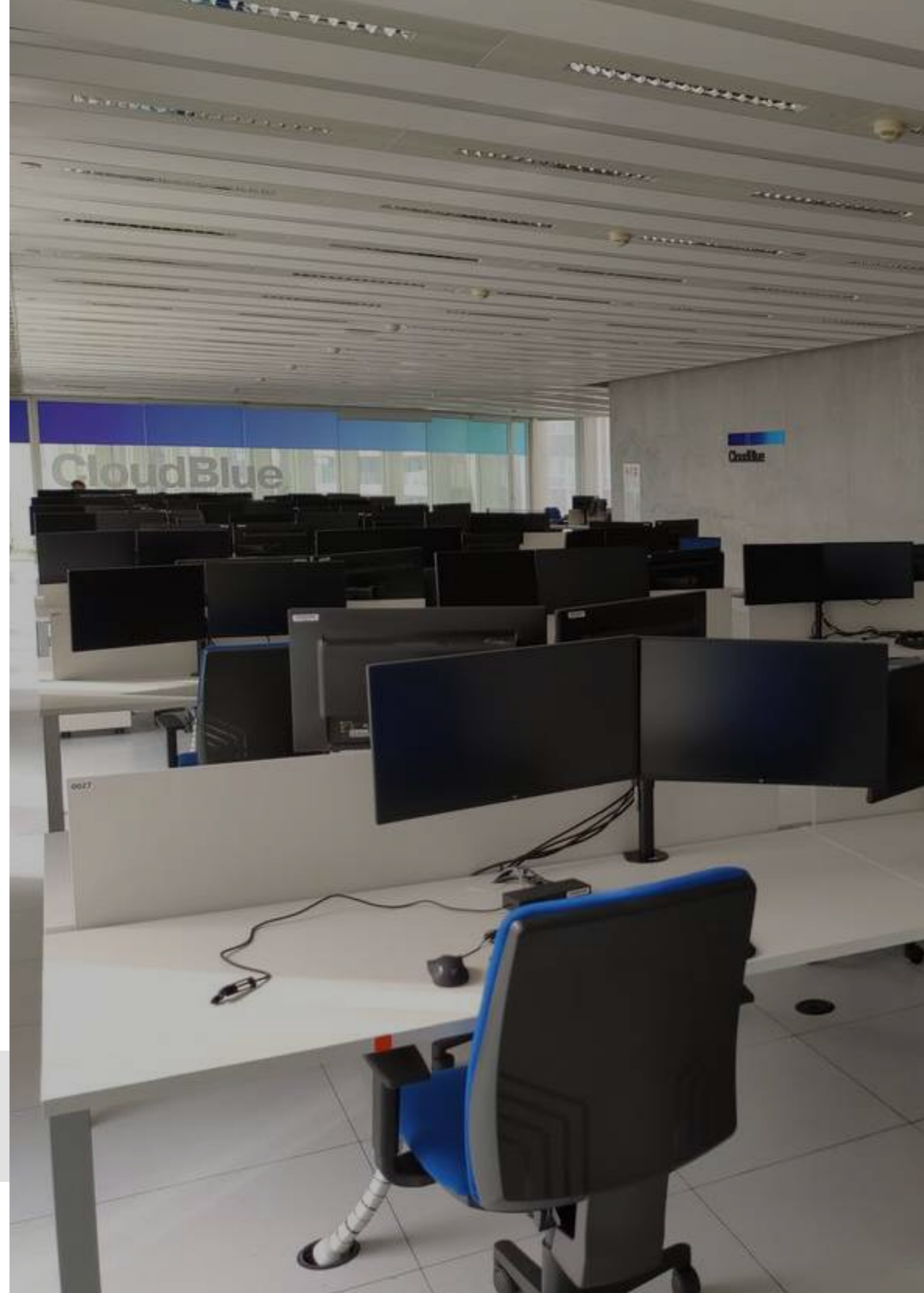
Attraction of Managers

- A pole of attraction for company managers thanks to the ability to successfully generate innovative solutions that are marketed globally.

“Cloudblue's hub in Barcelona has been successful in meeting its technological needs, consolidating an outstanding work team in terms of volume and results in a very short time and attracting the presence of management personnel of high added value for the company”.

José Luis Sanchez
Director at Ingram Micro Cloud Spain

* 2021 average conversion rate





Basic figures

- **Sector:** consumer electronics and ICT solutions
- **Year of creation:** 1985
- **Location:** Sant Cugat del Vallès
- **Units served:** the entire company
- **Scope:** global
- **Number of employees:** (December 2022) 2,500
- **Percentage of foreign employees:** (December 2022) 29%
- **Turnover: (2021):** \$49.1 billion or €41.515 billion *

Technologies developed

- | | | | |
|--------------------------|-------------------------|-----------------------|-------------|
| Frontend Web Development | Systems Architecture | Business Intelligence | IoT |
| App Development | Digital marketing | Big Data | 3D printing |
| UX/UI | Cloud | API/Backend | Blockchain |
| Cybersecurity | Artificial Intelligence | | |

Why Barcelona

- First, for the **ease of attracting talent to the region thanks to the ecosystem of high-quality universities.**
- Second, because **of the existence of a first-rate technological ecosystem.**
- Third, for the **involvement, support and guidance received from the public institutions** in the region.

Hub description

- The HP hub in Sant Cugat is very close to the business and has hybrid teams that combine **business profiles and technological profiles.** It thus manages to develop, test and implement new solutions from a single point. All this with the aim of using innovation to grow existing businesses and create new ones, creating a virtuous circle that increases investments in R&D.
- The key to the success of the hub lies in the freedom and decision-making power that HP executives have in the verticals for which they are responsible. They are allowed to comprehensively manage the income statement and the business plan and modify the entire product design and production process, while maintaining the expected results.
- The current responsibilities of the hub encompass the vision and **end-to-end developments of some of the company's businesses,** such as Large Format Printing, 3D Printing and the experience design of the company's applications. In addition, **it covers all HP services and businesses on the European continent.**
- All in all, it has **consolidated the Sant Cugat brand** as one of HP's most important headquarters outside the United States, with **almost four decades of experience and a workforce of more than 2,500 professionals.**

Hub successes

Technology

- Development of 3D printing technology that arose through investment in R&D in the large format printing segment.
- Conversion of an industrial infrastructure to a campus of excellence in R&D and patent generation.

Talent

- Exponential growth of the workforce, starting its trajectory with 30 professionals and reaching, today, more than 2,500.
- The hub features workers of more than 60 different nationalities.

Leadership

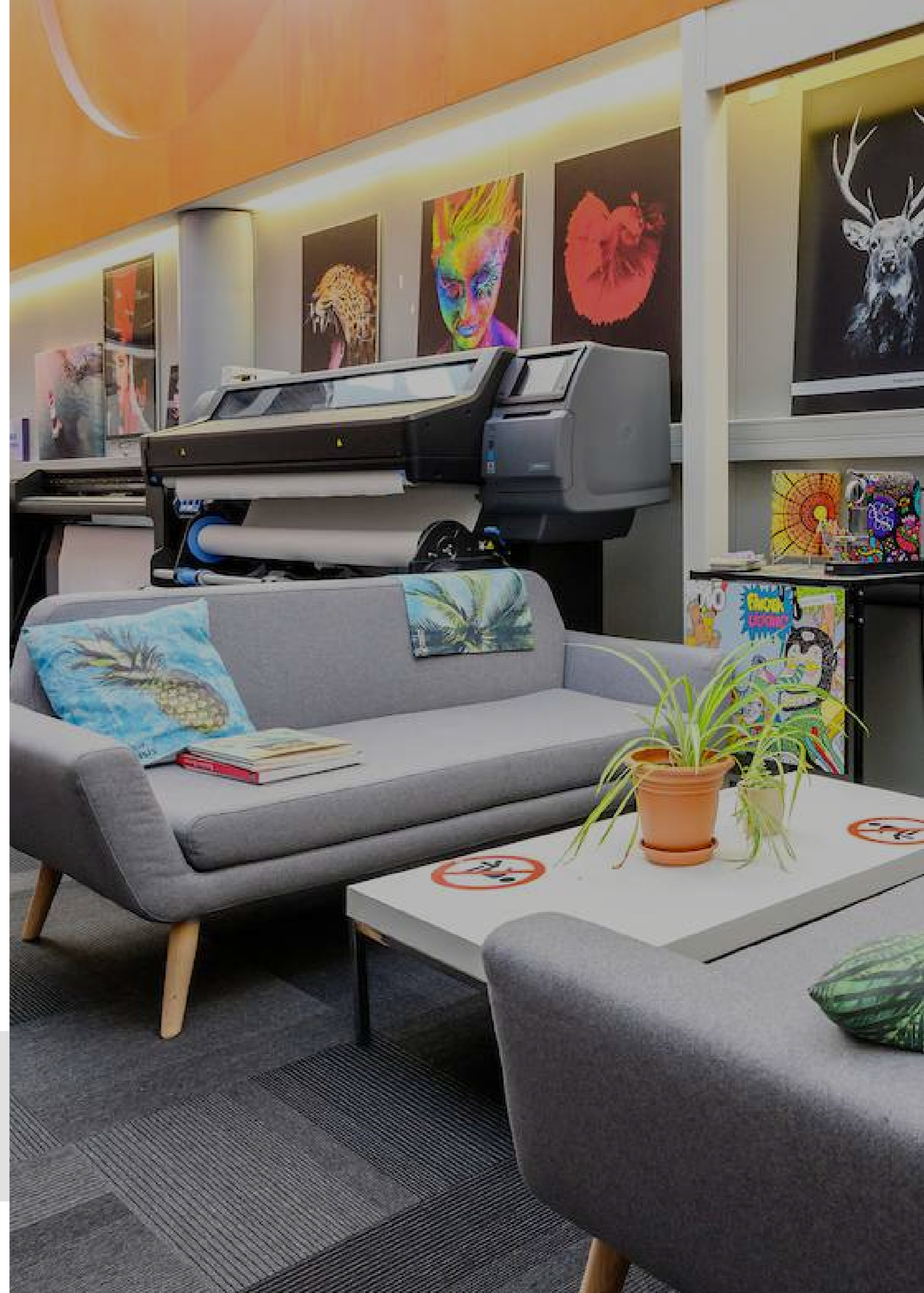
- The hub is responsible worldwide for some of the company's flagship businesses, managing the entire value chain and achieving dominant market shares in key business sectors.
- The hub has come to achieve total decision-making power over the verticals for which it is responsible, enhancing, above all, organic growth.

"The hubs, while being executors and focusing on developing technology solutions, are interesting but not fascinating. The magic of hubs occurs when there is a global responsibility on the part of the business and a strategic decision-making power is assumed. In this sense, the HP hub in Sant Cugat has a significant impact on the company because it has the 360° vision of some of HP's businesses and is therefore responsible for deciding the strategy, the technological roadmap, go to market, customer intimacy and the identification of sector trends."

Ramon Pastor

Global Head and General Manager at Hewlett-Packard a HP.

*2021 average conversion rate





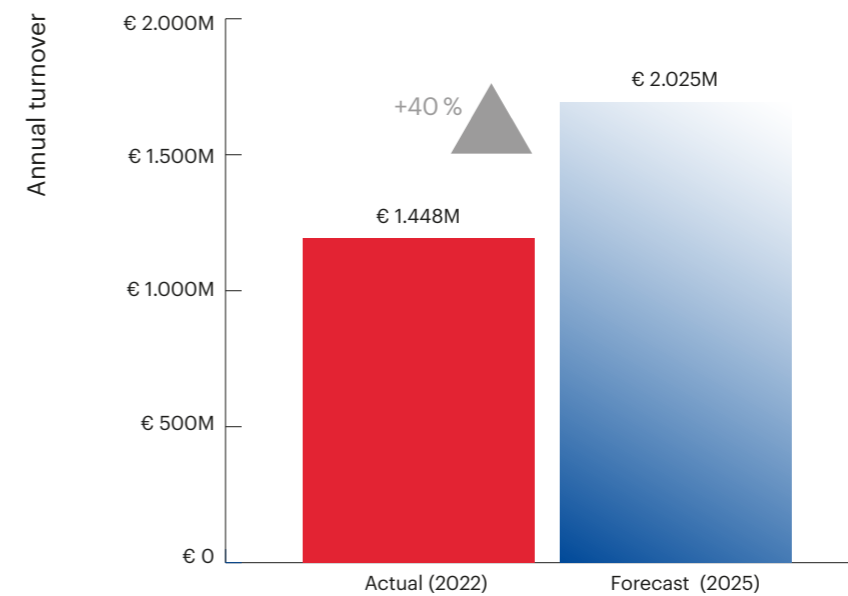
4 Activity of tech hubs

Barcelona's hubs have a significant economic impact

The tech hubs generate wealth for the territory with an economic impact of about €1.45 billion in 2022.

Expectations for the growth of the tech hubs are promising over the next 2-3 years, with an increase in economic impact of 40%, and with the figure of €2 billion forecast to be exceeded.

Expected evolution of hubs' turnover in Barcelona



Note: The estimation of the current economic impact of the hubs has been carried out using the OPEX and an additional one corresponding to the margin.

1. Specifically, the main expense refers to salaries and wages, representing 80% of the total cost. For its calculation, an average annual salary for a senior professional in the technology sector in Barcelona has been taken as a basis, amounting to 56,300€. This amount has been extracted from data from different portals (LinkedIn, Indeed, Angelist, Glassdor and similar), from the last 12 months. The resulting figure has been added to the social security contribution by the company, taking into account the maximum and minimum contribution bases for 2022 and the contribution percentage. In this sense and, taking into account the average salary of 56,300€, the share of 29.9% (common contingencies, unemployment, FOGASA and vocational training) has been applied to the maximum base of €4,139.4 (the potential contribution base for a salary of 56,300€ corresponds to 4,691€ and, therefore, the maximum base is applied)
2. Then an additional 20% has been added corresponding to other general expenses such as space rental, Utilities, marketing and suppliers.
3. Finally, a margin was added. Thus, for hubs that provide services to other units of the company, a margin of 3% has been added; for those that develop products and services for the market, a margin of 15% has been added, and finally, for those hubs that do both, an average margin of 9% has been added.

The estimation of the future economic impact has been carried out in the same way, increasing the maximum contribution base to 4,495.5, as it is the last one approved in January 2023. However, the average wage has increased by 1.2% per year, in line with the historical inflation in the Eurozone and Spain in the last 10 years.

Source: Mobile World Capital



Basic figures

- **Sector:** technology and consulting
- **Year of creation:** 2016
- **Location:** Les Corts / Pedralbes
- **Units served:** the entire company
- **Scope:** global
- **Turnover:** (2021): €48,550M

Technologies developed

- | | | | |
|--------------------------|----------------------|-----------------------|-------------------------|
| Frontend Web Development | Systems Architecture | Cybersecurity | Artificial Intelligence |
| API/Backend | UX/UI | Business Intelligence | IoT |
| App Development | CRM/ERP | Digital Marketing | Blockchain |
| | Cloud | Big Data | |

Why Barcelona

- First, because of the **availability and attraction of talent** in the region.
- Second, because **of the existing entrepreneurial and innovative ecosystem**.
- Third, because of the **existing presence** of the company in the region.
- Fourth, because of the **strategic location of Barcelona** and its connectivity with other cities.

Hub description

- IBM brings together all the necessary **technology, talent and services**, regardless of the origin of the solutions, to assist its customers in responding to their challenges, accompanying them in the transformation of their organizations and business processes. For IBM, ecosystems, technologies, innovation and open cultures are the key to **creating opportunities and finding the way forward for organizations**.

Hub successes

Technology

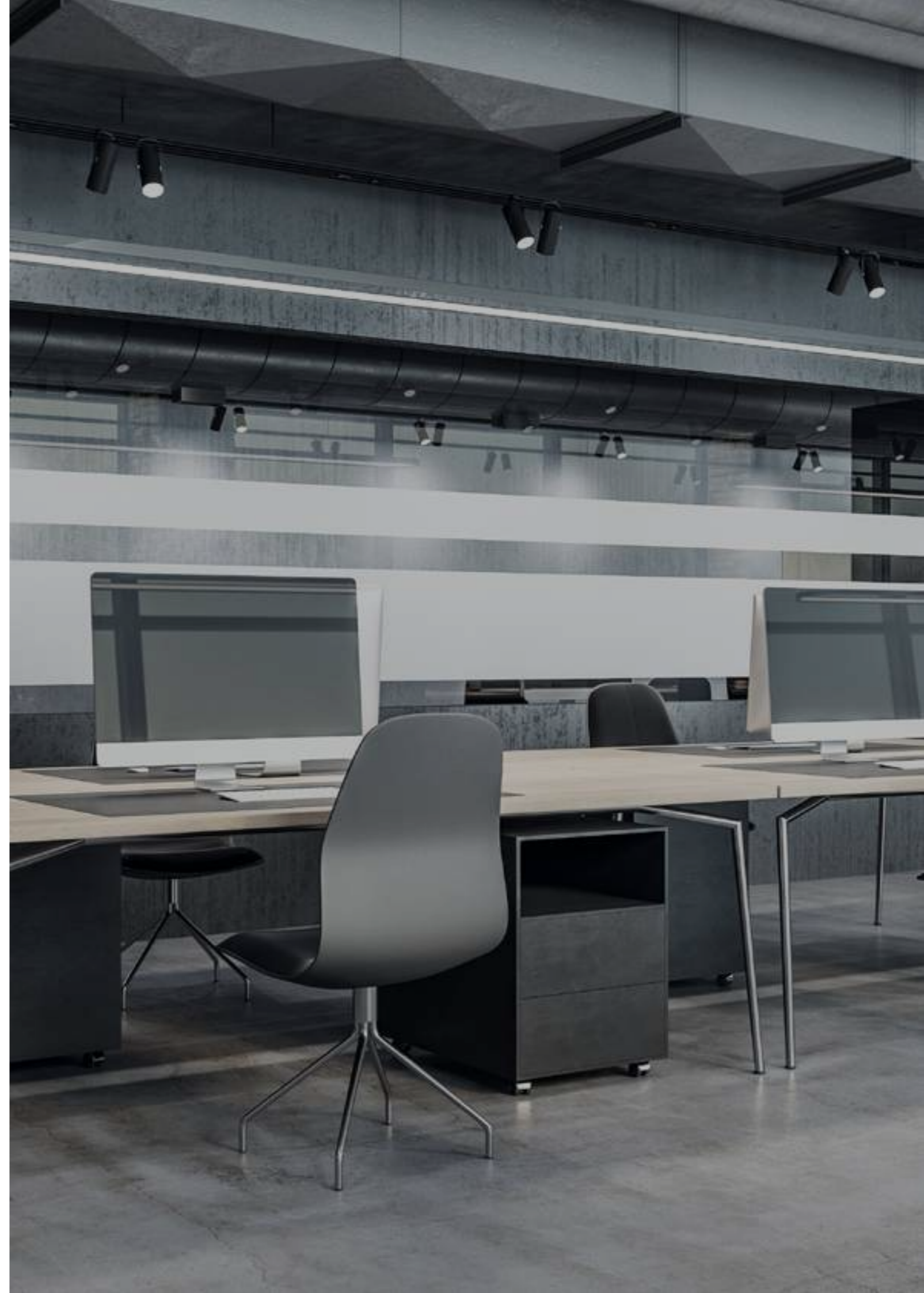
- Development and deployment of **the application for the management of COVID-19 vaccination in Catalonia**. This was an example of collaboration and teamwork between the Public Administration and IBM to respond in an agile, flexible and robust way to critical needs; in a context of a pandemic such as the one experienced.

Talent

- Recruitment and development of digital talent, from a diverse framework and aligned with new forms of **hybrid work**.

Internal Positioning

- IBM's hub is dedicated to the **digital transformation of organisations** using the cloud, artificial intelligence and design as levers for this transformation.

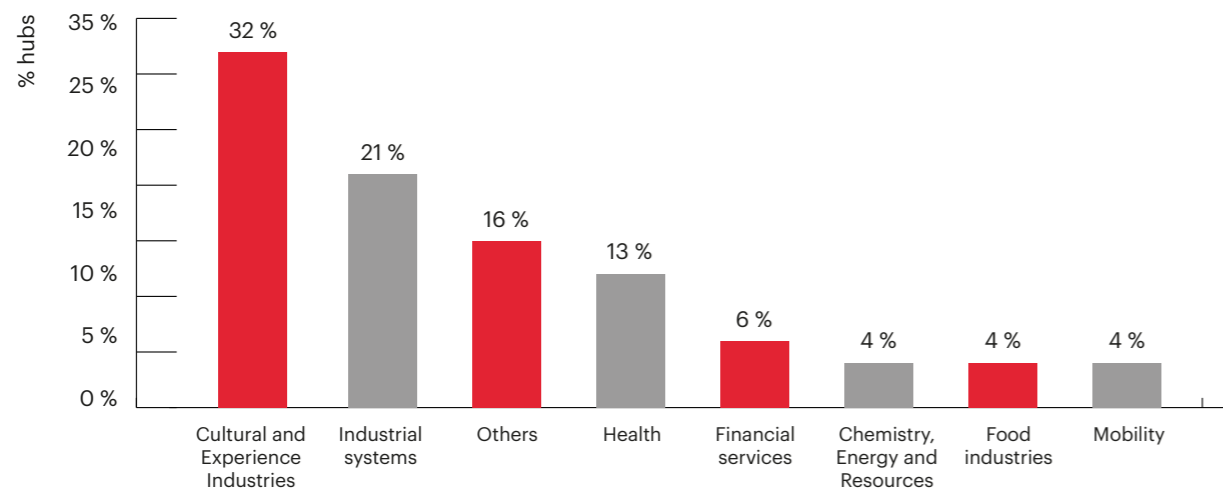


The sectors of tech hub companies

Catalonia is an attractive territory for the video game sector, bringing together 32% of companies with a tech hub.

The industrial, infrastructure and health sectors are also important areas in the Catalan territory.

Which sector does the company belong to?



• Cultural and Experience Industries

Education, tourism and leisure, sports, audiovisual, video games, culture...

• Industrial systems

ICT and digitisation of industry, machinery and equipment, packaging, electronics, transformation of packaging and other materials...

• Others

Public administration, infrastructure and construction, consulting and business services, R&D, other services...

• Health

Pharmaceutical industry, health and other sanitary services, cosmetics, biotech, animal health...

• Financial services

Finances, insurers...

• Chemistry, Energy and Resources

Raw materials, water, waste...

• Food industries

Agriculture, food, beverages

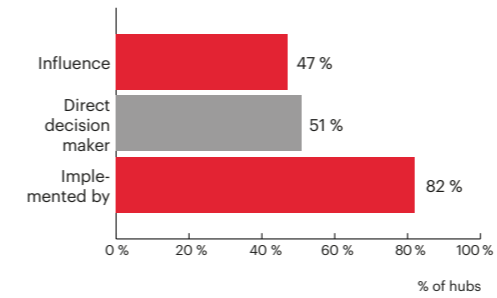
• Mobility

automotive, freight logistics, mobility services...

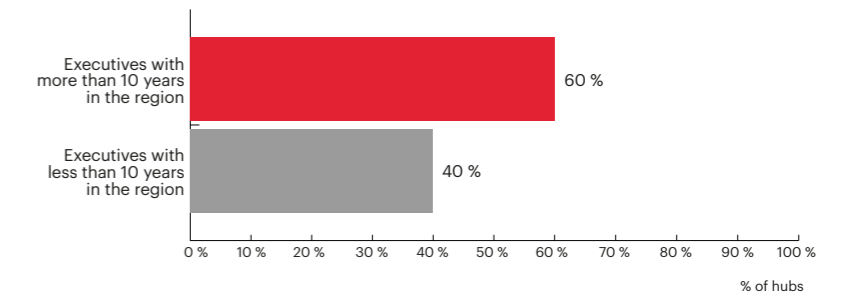
The role of tech hubs and the capacity for influence within the company

A total of 82% of hubs are born with an executive role, developing technology on demand from other business units. Over the years, most evolve and acquire new responsibilities, thus gaining decision-making power and influence in making the company's most strategic decisions.

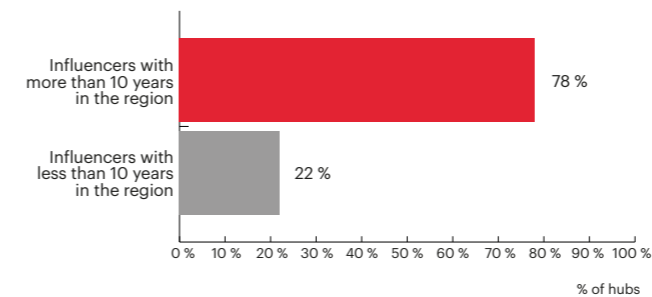
Role within the company



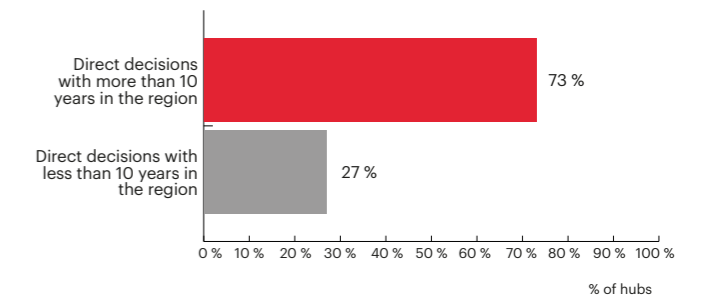
Role of executives



Role of indirect decision-makers



Role of direct decision-makers

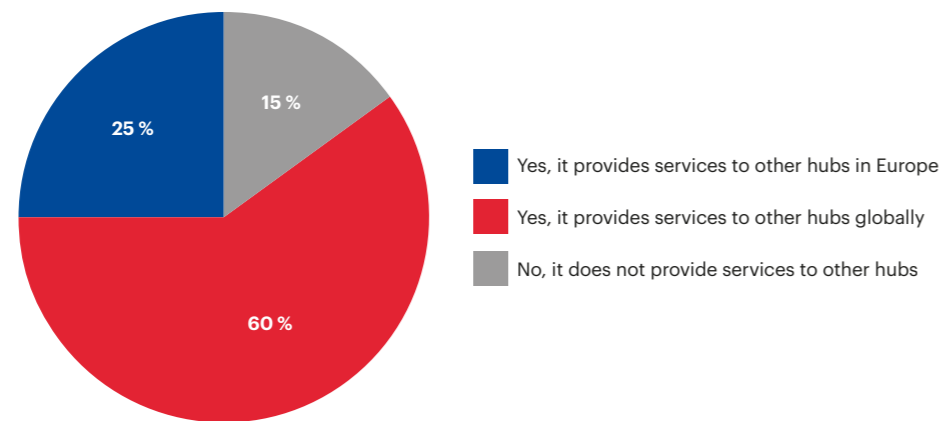


The relationship between the company's tech hubs

Fully 60% of the tech hubs in Barcelona collaborate internationally with other company hubs.

Collaborate with other tech hubs of the company to transmit the culture and good practices generated in Catalonia to other territories, ensuring that these centres, in some cases, become a success story to be replicated in other areas of the company.

Does the hub relate to or provide services to other company hubs?

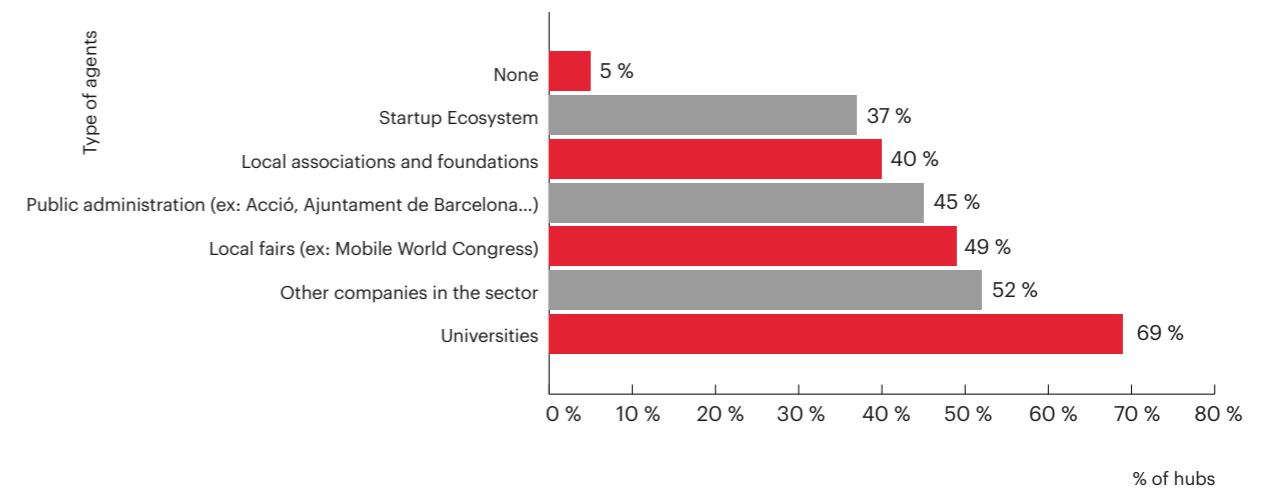


Relationship between tech hubs and ecosystem agents

The tech hubs interact actively with the different innovative agents in the Barcelona ecosystem, highlighting the contact with other companies in the sector, universities and different public bodies.

The relationship with universities is a priority of the tech hubs and one of the aspects that they want to continue enhancing; the availability of high value-added talent is one of the most critical aspects for continued growth at expected rates.

With which agents does the hub interact?



Basic figures

- **Sector:** e-commerce
- **Year of creation:** 2018
- **Location:** 22@, Sant Martí / Poblenou
- **Units Served:** mainly, tech, human resources and business
- **Scope:** global
- **Number of employees:** (December 2022) 200. Has a team made up of 80% of technology specialists. However, they have profiles in charge of commercial development (ie. Operations, Human Resources, Growth and Marketing)
- **Percentage of foreign employees:** (December 2022) 30%

Technologies developed

- Frontend Web Development
- App Development
- Systems Architecture
- API/Backend
- UX/UI
- Cybersecurity

Why Barcelona

- First, for **the innovation ecosystem and for the technological and business positioning** of the city, which are internationally recognized.
- Second, for **the access and attractiveness of the local and international digital talent** of the region.
- Third, because of the **strategic location** of Barcelona.

Hub description

- The Barcelona office was the first to open outside of France (2018), and one of the great milestones achieved by the company. The choice of Barcelona was based, above all, on the ambition of wanting to be located within a cutting-edge technological ecosystem that meant access to quality and top-level talent.
- All the professionals at the hub work in regular collaboration with the other ManoMano teams located in Paris, Bordeaux and remotely. However, more than 80% are technological profiles, with an emphasis on front-end developers, PM, UX and mobile application developers, as well as cybersecurity experts.
- Finally, and regarding technologies, the developments of JAVA, Go, node JS and React stand out.

Hub successes

Technology

- Development of the ManoMano and ManoManoPro mobile applications, which are available on its 5 local platforms and currently consist of more than 4 million downloads. More than 30 professionals work here, continuously improving the platforms and services provided.

Talent

- A 300% increase in the workforce, going from 50 to 200 workers between 2018 and 2022; with growth of more than 50% forecast for 2023 to reach more than 300 workers.
- The hub features workers of more than 25 different nationalities.
- Implementation, in 2021, of the Work Atom policy, which promotes a hybrid, collaborative and efficient work model, where professionals can choose the location from which to work remotely within their contract country, and the number of days in person.

“The opening of the hub is one of the company’s major successes, as it is the first office to open outside of France. With an innovative and cutting-edge ecosystem, Barcelona is a space full of challenges and stimuli for any digital talent; an aspect that aligns perfectly with the values of ManoMano: ingenuity, audacity and responsibility.”

Nuria Rivaya

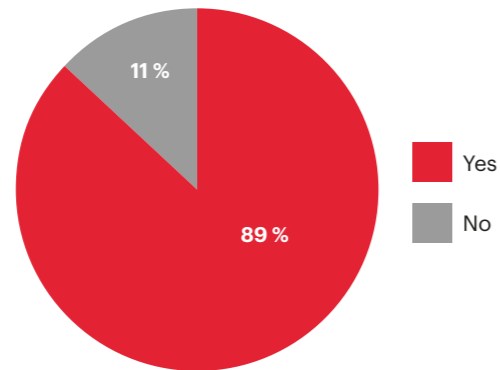
Senior Corporate communications manager



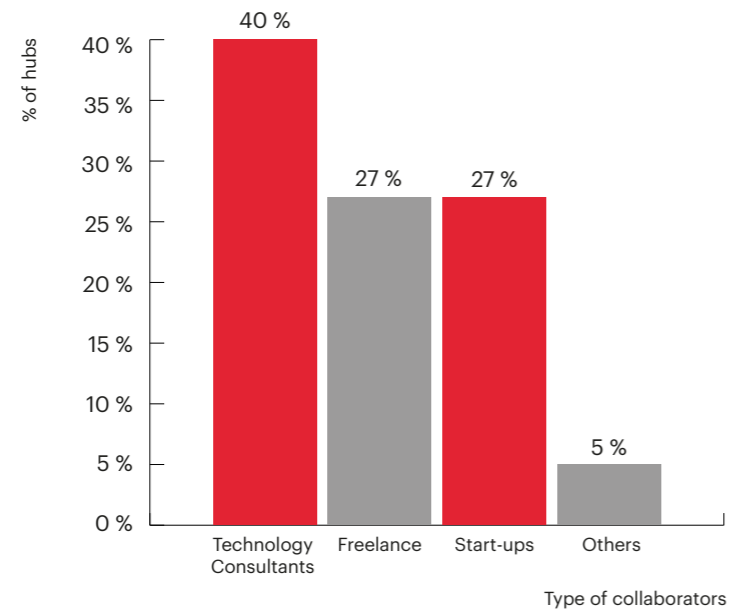
Development through other regional stakeholders

A total of **89%** of the tech hubs collaborate actively with other key companies in the innovative and technological ecosystem of Catalonia for their technological developments, thus causing a favourable traction and a multiplier effect for the Catalan economy.

Does the hub collaborate with other agents in the territory to carry out tasks?



With which external collaborators does the hub collaborate?

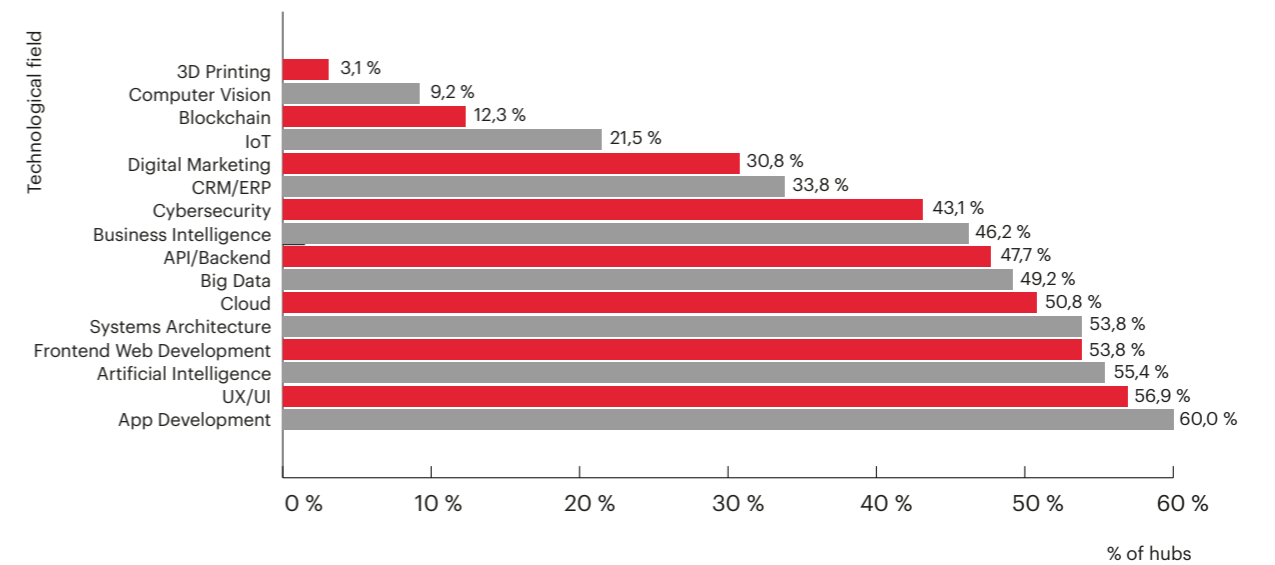


Technologies being developed by tech hubs

The technologies developed in the Catalan territory are diverse, with no clear specialisation. Increasingly, however, cutting-edge technologies such as **Big Data** and **Artificial Intelligence** are being developed.

The most important technologies are in the areas of App Development, UX/UI, Artificial Intelligence, Web Development and Systems Architecture. However, the cross-cutting nature of the hubs is reflected in the fact that more emerging technologies such as Blockchain, 3D Printing or Computer Vision are also represented.

In what technological areas does the hub provide a service?





Basic figures

- **Sector:** large consumption and food
- **Year of creation:** 2016
- **Location:** Esplugues de Llobregat
- **Units served:** the entire company

- **Scope:** global
- **Number of employees:** (December 2022) 630 Percentage of foreign employees: (December 2022) 60%
- **Turnover:** (2021): 87,100 mCHF or €80,566 m*

Technologies developed

- | | | | |
|--------------------------|----------------------|-----------------------|-------------------------|
| Frontend Web Development | CRM/ERP | Cybersecurity | API/Backend |
| App Development | Systems Architecture | Business Intelligence | Artificial Intelligence |
| UX/UI | Digital marketing | Big Data | IoT |
| | Cloud | | |

Why Barcelona

- First, because of **the previous existence of the central offices** in Esplugues and the possibility of using existing infrastructures.
- Secondly, because of **Barcelona's ability to attract top-notch and very diverse digital talent**.
- Thirdly, because of the **direct contact with leading universities** at the European level.
- Fourth, due to **Barcelona's technological and startup ecosystem, considered a leader throughout Europe**.

Hub description

- Nestlé's tech hub is of **great importance** to the company thanks to **the high value of the digital solutions** it creates, and **for what it represents in terms of the company's own internal success story**.
- The hub **was born with the aim of promoting and accelerating the company's technological transformation**.
- **At first it was more focused on responding to the needs of the marketing and eBusiness areas**, but it has evolved to provide services **to all Nestlé business units, brands and markets**. This strategy has resulted in being able to provide more speed, agility, efficiency, but above all in **being able to deploy technology at scale throughout the group**.

Hub successes

Technology

- At the Barcelona Tech Hub, the technological solutions for all Nestlé brands and businesses and markets throughout the world are developed, configured and distributed; both the technology used by consumers and the technology used by the employees themselves. Some examples would be the cybersecurity centre, the ecommerce team, IoT, artificial intelligence and Data Analytics.

Talent

- Twelfold increase in the workforce (1,200%) between 2016 and 2022, going from 50 to 630 workers; with prospects of continued growth during the coming year.
- The hub features workers of more than 50 different nationalities.

Evolution

- The success and significance of the hub have led to new Nestlé business units being pulled towards the Catalan territory, creating a close environment and a powerful ecosystem.

Management

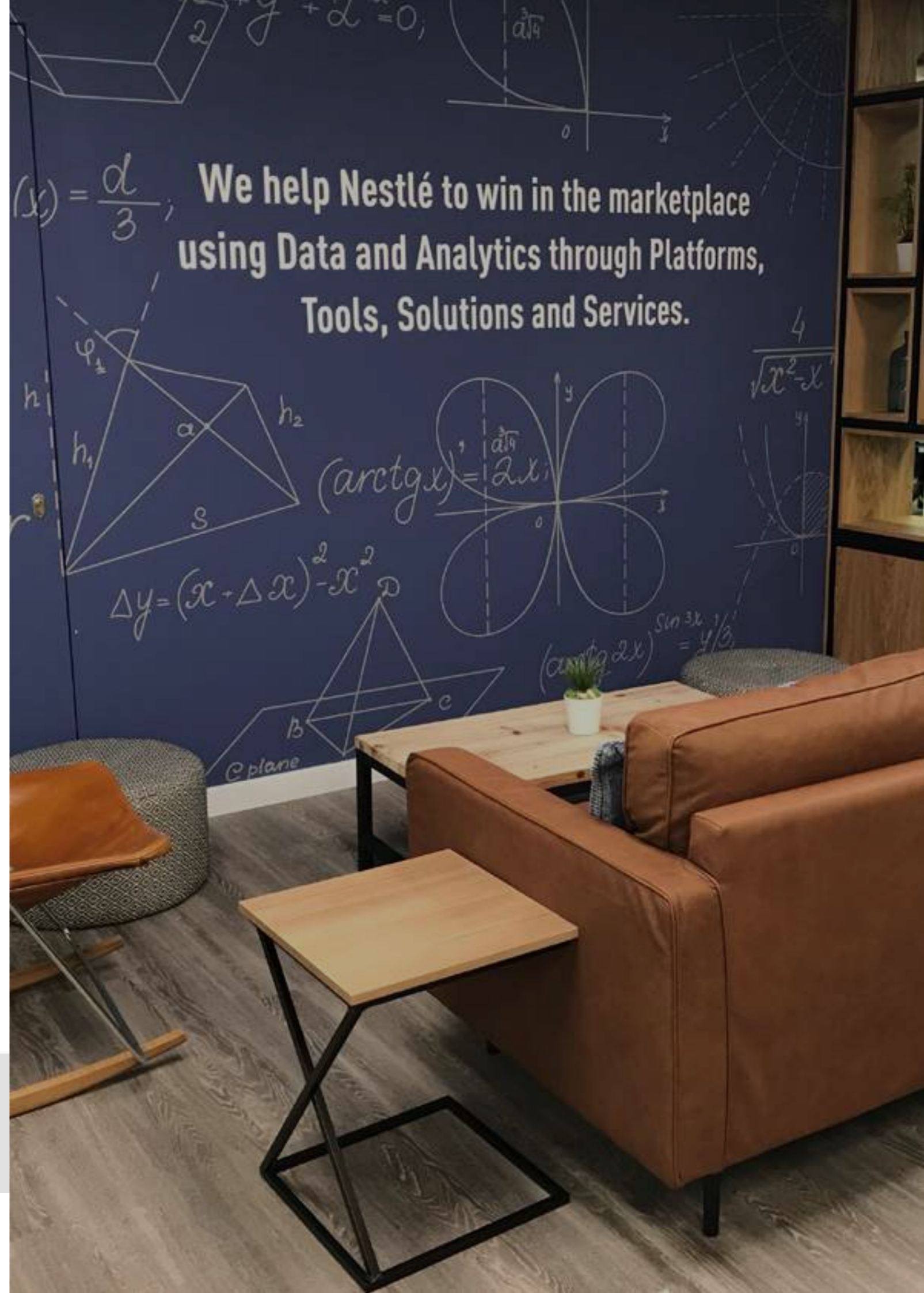
- Nestlé's IT hub has been the first success story in the strategy of centralising resources and knowledge. Today, it represents a model to be replicated by other areas of the company.

"Although Nestlé's IT hub was born with the aim of driving and accelerating the company's digital transformation, the ability to bring more speed, agility and efficiency when deploying technology have led to the evolution of its scope. Currently, it provides technological solutions to support the needs of the group's functions, brands and markets on an international scale."

Susana Pastor Muñoz

Global IT Barcelona hub Manager at Nestlé

* 2021 average conversion rate

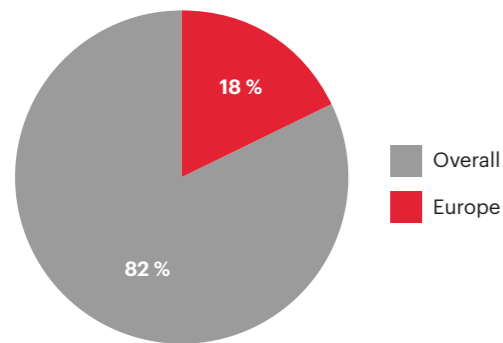


Scope of the technology developed by tech hubs

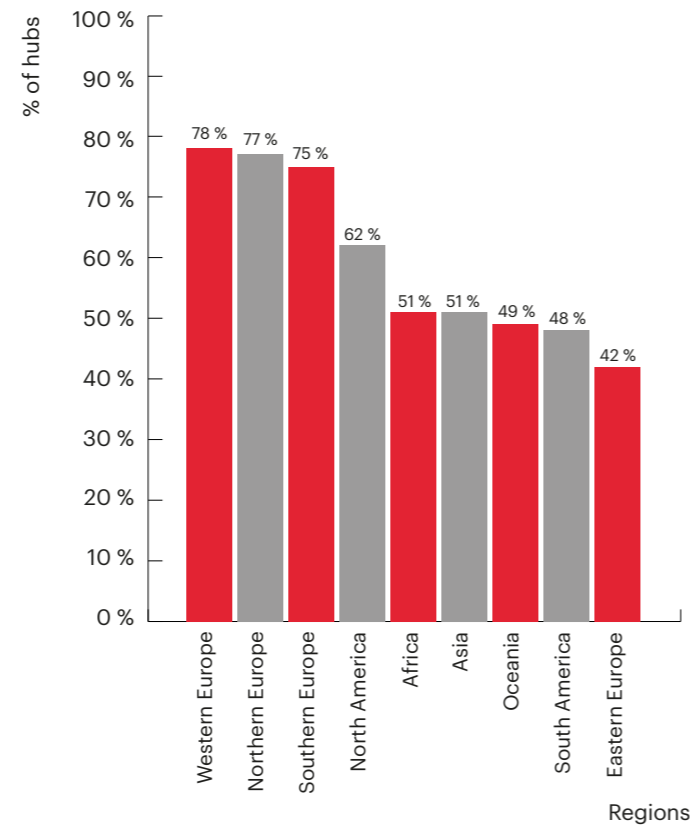
A total of 82% of the tech hubs located in Catalonia centralise technological developments that they export globally, thus making them a key player in the company of which they are a part.

Most technology exports take place in Europe and North America.

Does the hub export at European or global level?



Regions a les que exporta el hub

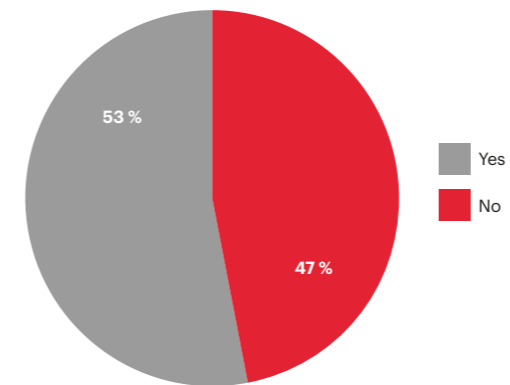


Positioning of companies in the region

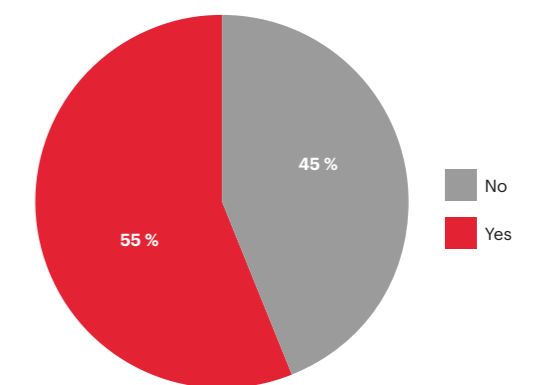
55% of companies locate other services or business areas beyond the hub in Catalonia, which indicates strong roots in the territory.

Both corporate and cross-cutting services are located in Catalonia, where the areas of marketing and sales, HR and the company's main operations stand out.

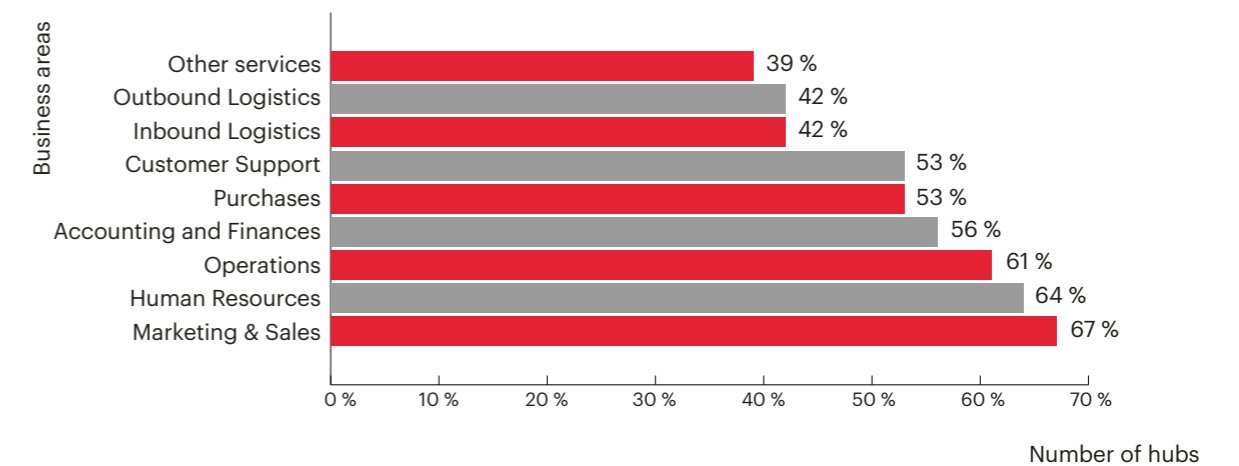
Are there people from other hubs who report to or depend on the Barcelona hub?



Apart from the hub, does the company have other services or business areas located in Catalonia?



Other services or business areas of the company located in Catalonia



Basic figures

- **Sector:** ICT services
- **Year of creation of the (tech development) centre in Barcelona:** 2016
- **Location:** 22@
- **Units served:** e-commerce and engineering productivity
- **Scope:** global
- **Number of employees:** (December 2022) 190
- **Percentage of foreign employees:** (December 2022) 51%
- **Ocado Group Turnover:** (2021): £2,499m or €2,906m *

Technologies developed

- Frontend Web Development
- App Development
- UX/UI
- Systems Architecture
- Cloud
- Cybersecurity
- Big Data
- API/Backend
- Artificial Intelligence

Why Barcelona

- For the **access to specialised talent** offered by the city. Specifically, at the time of opening, Mobile and Java profiles were sought, and the presence of the **Mobile World Congress placed Barcelona as a unique city at a global level.**

Hub description

- Focused on providing services to the e-commerce and engineering productivity units. The first, focused on **improving the user experience**, securely storing their information, managing communications (push, email, SMS), developing mobile applications on iOS and Android, and platforms to integrate payment providers. The second, dedicated to the **development of solutions that monitor, in an aggregated way, all the Ocado platforms** implemented around the world. It is a multidisciplinary and dynamic hub, where, in addition to the aforementioned services, **projects are executed at the request of other units.**
- It is in **regular contact with other of the company's hubs**, since responsibilities are shared and decentralised.

Hub successes

Technology

- Development of cutting-edge technology applied to online sales, where systems such as Smart Shop stand out. This allows each customer to fill their shopping cart with 50 or more products in seconds, with a single click.
- It is based on Machine Learning technology, and it learns each person's preferences and habits to hyper-personalise the purchase and the user experience.

Talent

- Growth of 210% between 2017 and 2022, going from 60 to 190 professionals, with high growth forecasts to reach the target of 230.
- The hub features workers of more than 35 different nationalities.

Leadership

- **Evolution of the hub's responsibilities and its position within the company.** So, what was initially a centre focused, above all, on the execution of IT decisions and developments, is today a centre that influences and is involved in more strategic decision making. Managerial profiles are now being incorporated with the ability to generate a global impact.
- Exporting the hub's innovation culture to other locations, turning the hub into a reference point and pioneer within the organization itself.

"The most important resources that hubs have are people, and it is the people that make a hub evolve. The growth that Ocado has experienced in Barcelona has allowed it to transform itself and incorporate more global profiles with global decision-making power within the company."

Guillem Vila Palau

Technology Centres Director at Ocado Technology

*2021 average conversion rate





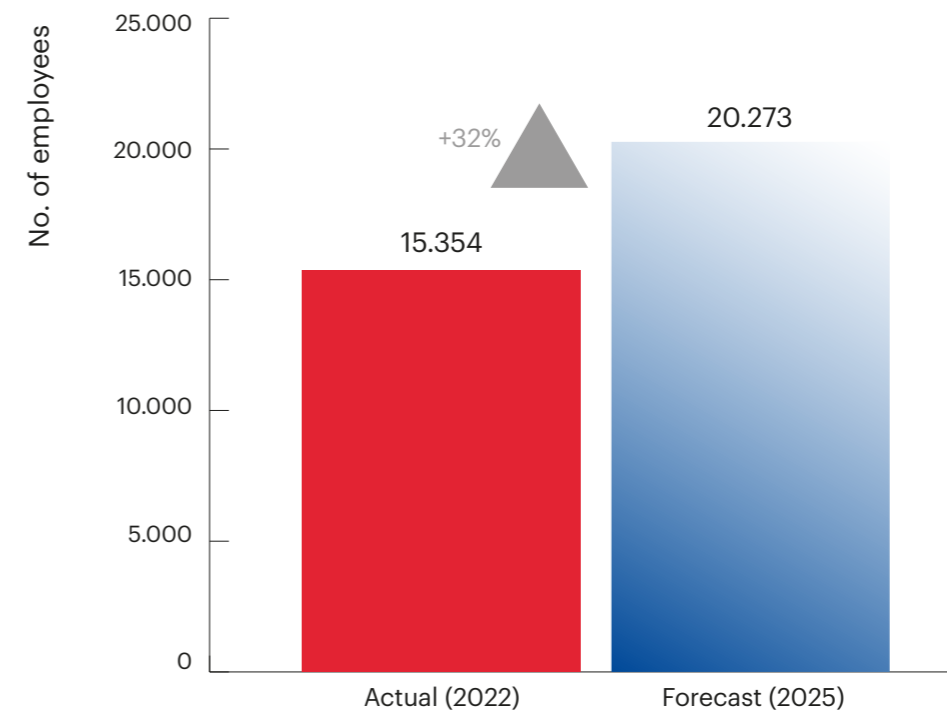
5 Talent in tech hubs

Barcelona's tech hubs as generators of employment

The hubs as a pole of attraction for new investments. Currently, they create more than 15,000 top-tier skilled jobs. The growth expectations are very positive and high. Aggregate growth for the current hubs is expected to reach 32% in the coming years.

39% of the hubs have more than 100 highly specialized digital professionals. As they grow and evolve, the hubs have consolidated and increased their workforce. Increasingly, they require profiles with greater specialisation and seniority to be able to assume the responsibilities acquired within the company. Attraction of an increasingly qualified group of talent is thus also a positive aspect.

Expected evolution of the number of hub workers in Barcelona



Basic figures

- **Sector:** large consumption and food
- **Year of creation:** 2021
- **Location:** Cornellà de Llobregat
- **Units Served:** all business units
- **Scope:** global
- **Number of employees:** (June 2022): 140
- **Percentage of foreign employees:** (December 2022) 21%
- **PepsiCo's global turnover: (2021):** \$79,474m or €67,197m *

Technologies developed

- | | | |
|--------------------------|-----------------------|-------------------------|
| Frontend Web Development | Systems Architecture | Big Data |
| App Development | Cloud | API/Backend |
| UX/UI | Cybersecurity | Artificial Intelligence |
| CRM/ERP | Business Intelligence | Computer Vision |

Why Barcelona

- First, **the city's innovative ecosystem.** It has a very important critical mass in the technology sector, with successful hubs of other companies, as well as being at the forefront in Europe in the creation and development of start-ups.
- Secondly, the **network of internationally recognised and renowned universities.**
- Third, because of the great **availability of qualified top-level talent.**
- Fourth, the **standard and quality of life of the city,** which are important elements in attracting international talent.
- Fifth, **PepsiCo has a business unit in Spain with all the categories** that are developed in all channels; therefore, it is a good pilot market for testing the solutions that are developed at the hub.

Hub description

- PepsiCo's hub is focused on **developing cross-cutting digital and technology solutions for all of the company's business units around the world.** An example of these solutions is the creation of a tool to forecast the demand for products based on data analytics, which has been successfully piloted in Spain for the first time.
- **On the one hand,** they create, implement and execute solutions on demand in order to optimise the company's operations; **on the other hand, they are proactive and co-create new solutions and improvements together with the different business units. So, proximity to the business is important:** the habitual nature of its dynamics and sessions to carry out diagnoses of the current situation and brainstorming of potential optimizations is highlighted.
- As upcoming challenges, with a time horizon of 3 years, the PepsiCo hub **aims** to enhance collaboration **with the startup ecosystem in the region.**

Hub successes

Technology

- Development of its own planning tool to facilitate decision making and the creation of business plans for the company's products, Integrated Business Planning (IBP).
- Re-definition and optimisation of the company's product portfolios.
- Optimisation of retailers' promotional calendars.

Talent

- Growth of 130% in the first year of life (2021), going from 35 to 80 workers; with high growth forecasts to reach the target of 400 workers by 2024.
- The hub features workers of more than 30 different nationalities.

Culture

- Promotion of internal team-building activities, leading to the joining of hub workers with the teams of the business units.

"The PepsiCo hub is not only an entity that responds to needs that are detected in business verticals; it is also a promoter that works together with other units to devise and create innovative solutions for the company."

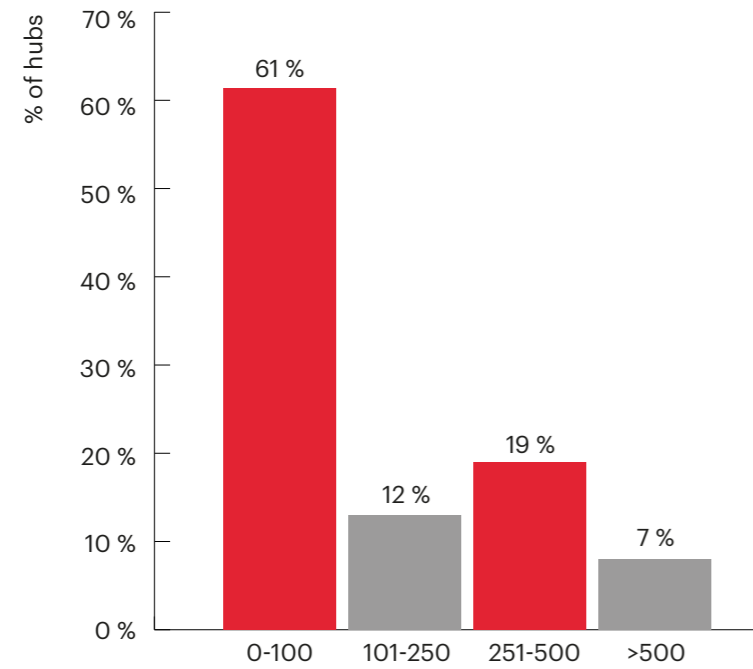
Gaston Besanson

Vice President, Global Head of Data Science at PepsiCo

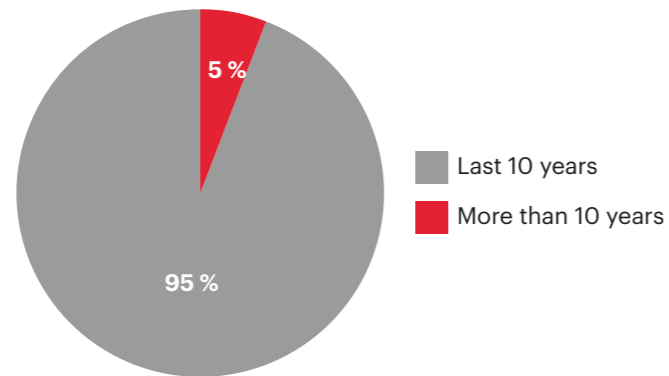
* 2021 average conversion rate



Current number of people on staff



Detail of companies that have between 0 and 100 employees according to year of creation

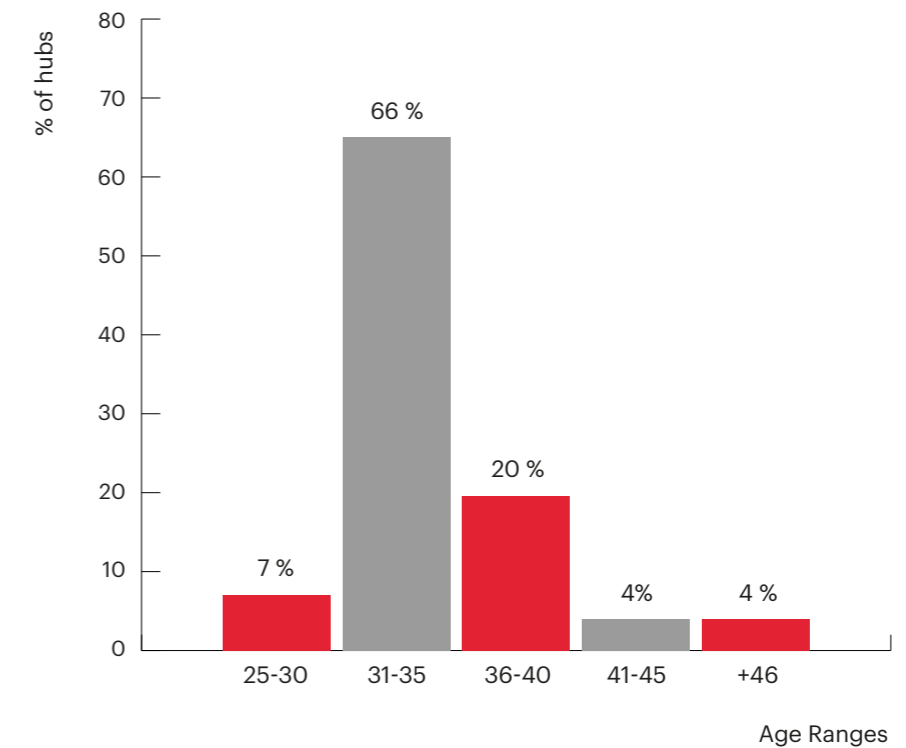


The age profile of tech hub workers

73% of the workforce of the tech hubs located in the region is between 25 and 35 years old, which indicates that it is among young people where the impact of the hubs is more positive.

The work teams of the tech hubs combine junior profiles, with work experience, and senior profiles that contribute to leadership and decision-making roles in the companies.

Average age of hub workers



Basic figures

- **Sector:** pharmaceutical
- **Year of creation:** 2016
- **Location:** Sant Andreu
- **Units Served:** company-wide
- **Scope:** global
- **Number of employees:** (December 2022) 410, with a predominance of digital profiles
- **Percentage of foreign workforce:** (December 2022) 57%
- **Turnover:** (2021): €37,761m

Technologies developed

- App Development
- UX/UI
- CRM/ERP
- Systems Architecture
- Cloud
- Business Intelligence
- Big Data
- Artificial Intelligence
- IoT

Why Barcelona

- First, **for the ecosystem and technological positioning** of the city, which is internationally recognized.
- Second, **for the access to and the capacity to attract local and international digital talent** in the region.

Hub description

- Sanofi embarked on its strategy in Barcelona **to carry out a unique management model for the company's finance area (ERP)**. Thanks to its success and the ability to attract talent from Barcelona, **the company decided to evolve its presence with the creation of the hub, which also took on the task of optimising the company's Supply Chain**. With the consolidation of two global transformation programmes and encouraging results, the hub has been growing with respect to the initial investment.
- The hub **has continued to evolve and is now responsible for the digital developments of most of the company's verticals**. Its main developments are based on the analysis and **processing of data with artificial intelligence and machine learning**.

Hub successes

Technology

- Development of the OneERP programme for the finance area of the entire company, avoiding the application of decentralised and unsynchronised ERPs between the different Sanofi departments.
- Implementation of the Kinaxis program, a supply chain service tool that works through a cloud-based integrated planning platform that avoids the infrastructure and overstocking of the company.

Talent

- Elevenfold increase in the workforce (1,100%) from 30 to 410 workers between 2016 and 2022; with growth of more than 25% forecast for 2023 to reach more than 500 workers.
- The hub features workers of more than 40 different nationalities.

Internal Positioning

- The hub has established itself as a benchmark centre for excellence and innovation for the entire company, and it has managed to bring most of the company's verticals under one roof.
- It has centres of excellence in Barcelona that provide worldwide service in different areas (supply chain, customer care, logistics, ERP and analytics).

“The hub was created with the aim of harmonising the company's processes on a global level. In this sense, for Sanofi, Barcelona has a very important role in the culture of change and innovation and in attracting talent, not only to respond to the current needs of the hub, but also to comply with Sanofi's future global positioning strategy.”

Heidi Van de Woestyne
People Director Iberia at Sanofi

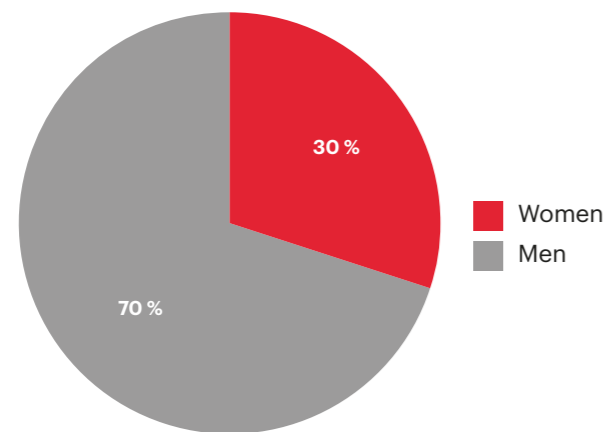


The female presence in tech hubs

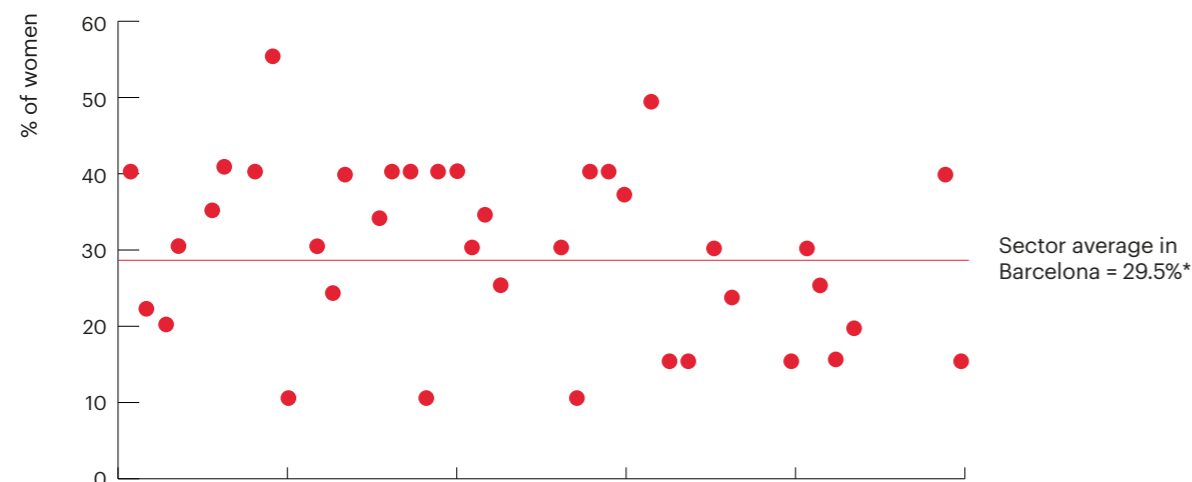
In 2022, Barcelona's tech hubs had an average of 30% women, slightly above the average of the digital sector in Barcelona (29%) and well above the European average (19%)*.

There are a large number of hubs that are significantly above the sector average, with quotas of up to 60% of women in the workforce. There are even paradigmatic cases like Nestlé, where despite being about average for the sector in terms of technical profiles, in managerial positions the percentage of women increases to 40%.

Percentage of women in the workforce



Distribution of the percentage of women in the workforce by company



*Source: Digital Talent Overview 2022

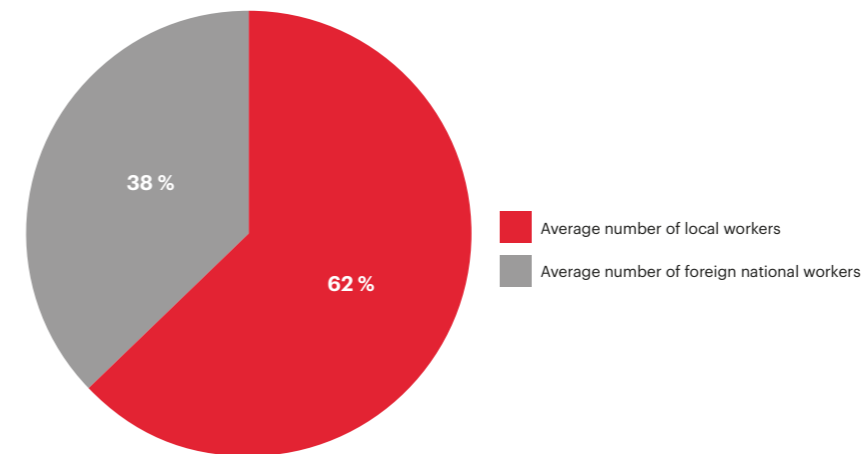
The presence of foreign nationals in tech hubs

The tech hubs are a pole of attraction for qualified international talent. At present, approximately 38% of workers at these centres are of foreign origin and, on average, of about 18 different nationalities; with some reaching up to 40.

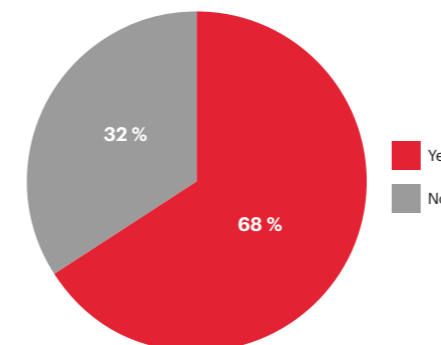
Most hubs (95%) have professionals who come from other countries in Europe. South America is the second largest export region for talent. 45% of the hubs have talent from this continent. Catalonia and Barcelona have a key factor when it comes to attracting this foreign talent: many of these professionals are already within the Catalan territory (47%). All in all, we must continue to enhance and strengthen the region's digital talent ecosystem.

As the hubs grow and consolidate, they attract even more foreign professionals.

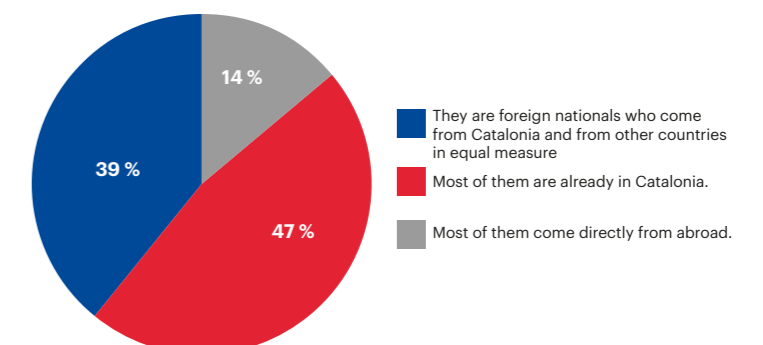
Number of foreign national workers as a percentage of total hub workforce



Over time, are more foreign profiles captured?

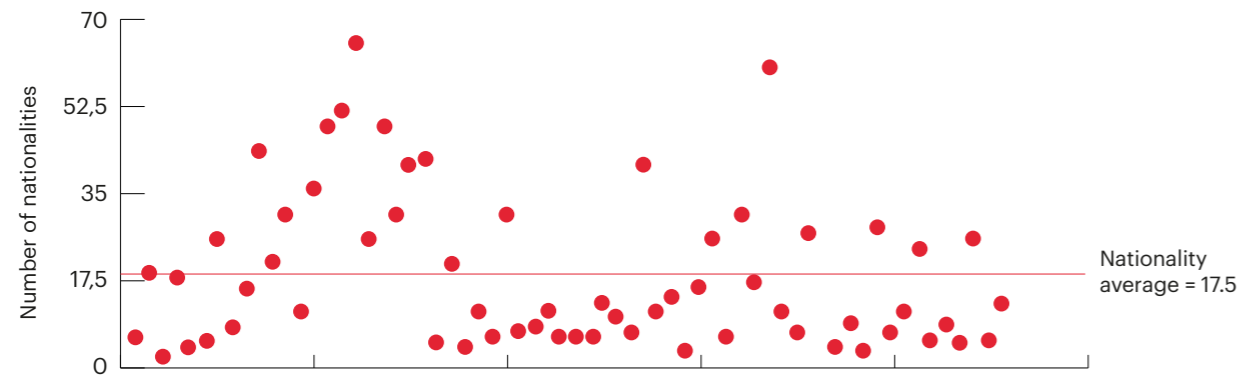


Where do foreign profiles come from?

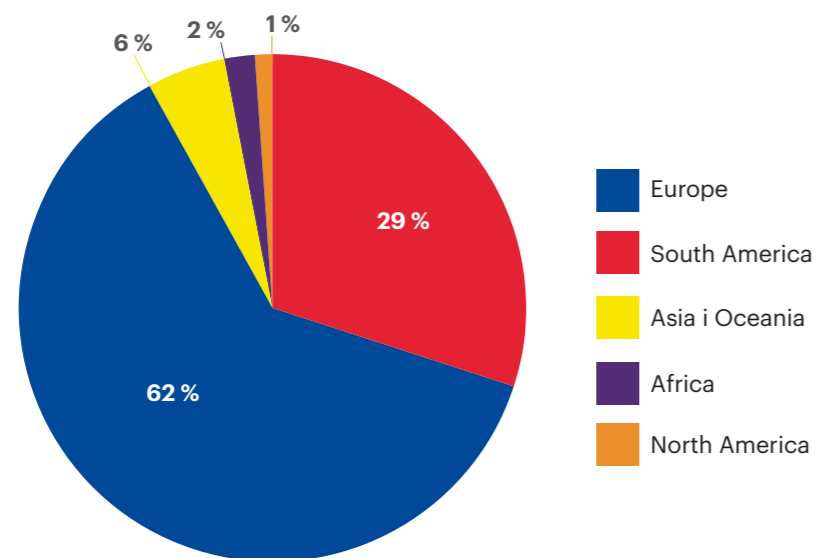


Source: Mobile World Capital

Number of nationalities in the hubs



Continents where foreign profiles come from

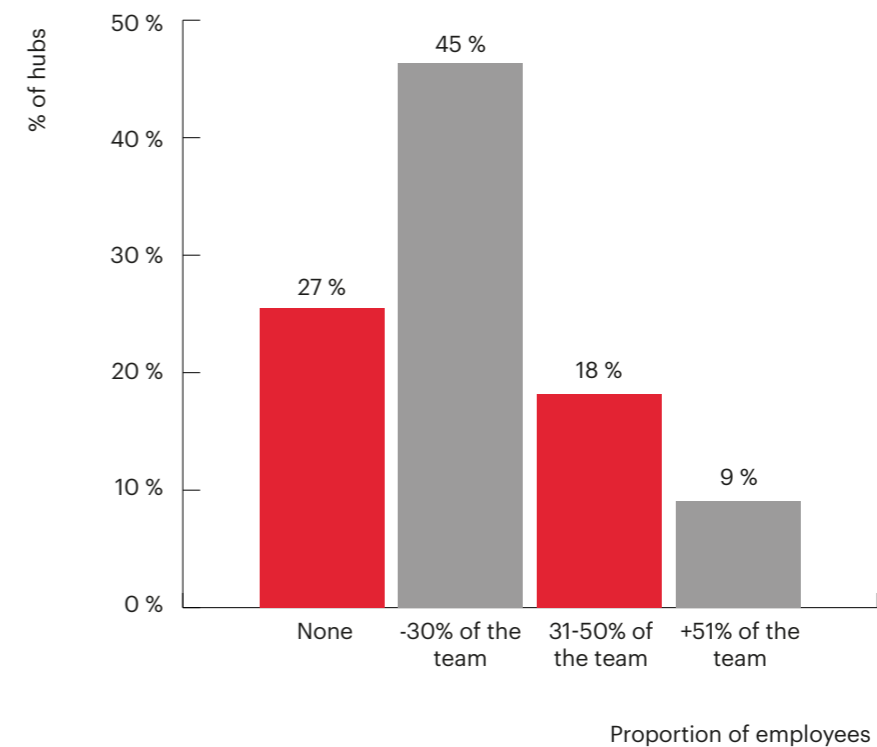


Remote workers in tech hubs

The hubs enhance the talent located in Catalonia and generate wealth in the same territory, since most professionals are located here.

Over time, and especially in the wake of COVID-19, hub work models have become more flexible to adapt to the needs of talent; establishing, for the most part, hybrid work models.

How many hub workers, as an approximate %, work remotely from other locations outside of Catalonia?



Basic figures

- **Sector:** energy and industrial automation
- **Year of creation:** 2018
- **Location:** 22@
- **Units Served:** company-wide
- **Scope:** global
- **Number of employees:** (December 2022) 386
- **Percentage of foreign workforce:** (December 2022) 20%
- **Turnover: (2021):** €28,905m

Technologies developed

- Frontend Web Development
- App Development
- UX/UI
- Systems Architecture
- Cloud
- Cybersecurity
- Big Data
- API/Backend
- Artificial Intelligence

Why Barcelona

- First, for the ease of access to talent and the strategic positioning of the city.
- Secondly, due to prior presence in the territory, which represented an important critical mass with key expert teams, particularly the logistics centre.

Hub description

- Schneider Electric has a **structure of interconnected hubs located around the world**, responding to the notion of **24/7: continuous and uninterrupted service** to the entire company. Thus, the Barcelona hub serves all business areas and has a global reach.
- In addition, the access and predisposition of the staff and the results that have been achieved in the hub have allowed it to become a **reference unit for all Schneider Elèctric headquarters**.
- Finally, the hub **has also incorporated new working models that drive and take advantage of** the business ecosystem of the territory, **such as the hiring of freelancers or other companies** in the area with specific and advanced technological knowledge, thus enhancing the strengthening of the ecosystem and the creation of synergies.

Hub successes

Technology

- Leadership in the transformation and creation of a single ERP for the entire company, implementing SAP S/4HANA globally.
- First industrial installation of a Microgrid that served as a pilot and reference to be replicated in other locations.
- Company reference team on matters of Data, Cybersecurity, Cloud Computing, among others.

Talent

- Growth of the workforce by around 130% between 2017 and 2022, going from 150 to 360 workers. Growth forecast of around 30% in 2023, aiming to exceed 450 employees.
- With more than 25 different nationalities, the hub has a staff turnover rate of 2% in December 2022, with the aim of keeping it below 5% in 2023.

Influence and leadership

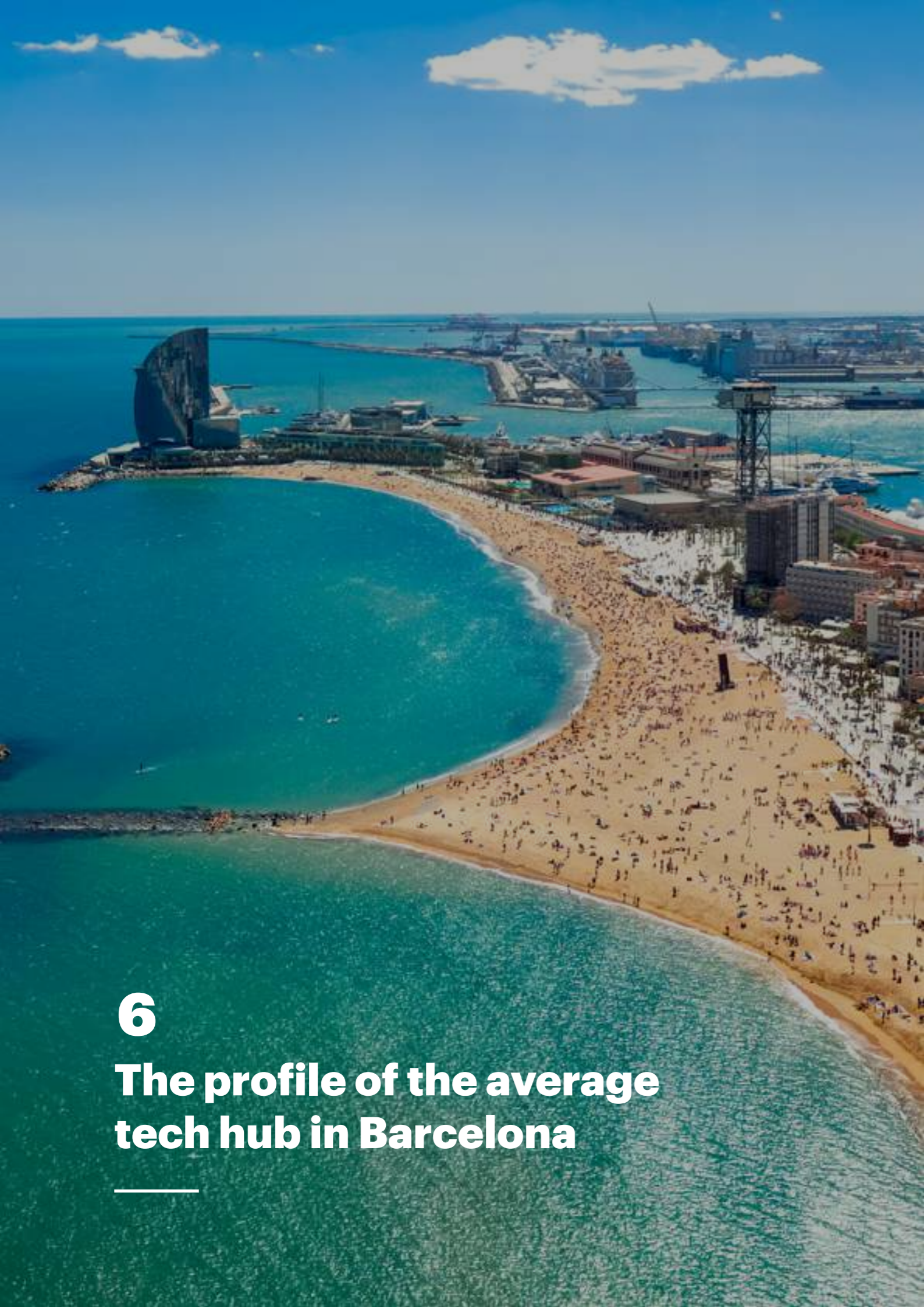
- Hub employees have played an active role in promoting and communicating the success stories of the hub, as well as explaining the opportunity that adopting new technologies in the company's business units represents. However, thanks to the hub's internal sponsors and the results obtained in recent years, it has become a benchmark entity for Schneider Electric, taking on an influential role in the decision-making of the company's business units.

“The success of the Barcelona hub lies in the influence that its people have had within the company, which are its differentiating factor. Commitment to promoting internal talent, and with a benchmark culture. Within Schneider, the Digital hub has positioned itself as a differentiating actor that the company listens to and values when making decisions”.

Laura Sancho

Iberian IT Director & Europe PMO Lead at Schneider Electric





6

The profile of the average tech hub in Barcelona

Annual and initial investment



€15,08 M

Annual turnover of the average hub in Barcelona



€6,27 M

Each hub has generated more than €6.27M of initial investment

Talent

Average number of employees



160

The Barcelona hubs have, on average, 160 employees

Average age



31-35 years

66% of workers in Barcelona's hubs are between 31 and 35 years old

Average percentage of women



30%

The average percentage of women in the workforce of Barcelona hubs is 30%

Average percentage of foreign national workers



38%

The average percentage of foreign national workers in Barcelona's hubs is 38%

Basic figures

- **Sector:** insurance
- **Year of creation:** 2006
- **Location:** 22@, Sant Martí District
- **Units Served:** The Zurich Technology Delivery Centre offers services to the entire Zurich Insurance company worldwide
- **Scope:** global
- **Number of employees:** (December 2022): 600
- **Percentage of foreign workforce:** (December 2022) 35%
- **Turnover: (2021):** \$5,202 M or €4,550M (Zurich Insurance Group Annual Report 2021 | Zurich Insurance) ([Zurich Insurance Group Annual Report 2021 | Zurich Insurance](#))

Technologies developed

- Frontend Web Development
- App Development
- UX/UI
- CRM/ERP
- Systems Architecture
- Cybersecurity
- Cloud
- Business Intelligence
- Big Data
- API/Backend
- Artificial Intelligence
- IoT

Why Barcelona

- First, **access to talent.**
- Second, the **logistics and strategic location of the city**, above all, for the connectivity of the Barcelona airport that facilitates agile communication with the company's headquarters.
- Third, the **standard and quality of life** of the city.
- Fourth, because of the **quality-cost ratio.**

Hub description

- The Zurich Technology Delivery Center (known as TDC) is the tech hub of the Zurich Insurance Group. The mission of the centre is to provide technological services and innovative solutions to the business units and divisions of the Zurich Group in order to meet their needs.
- The TDC was established in 2006 in 22@, the technological district of Barcelona. The values of the centre are: Data Driven, Startup Mindset and Customer Focus. We love Tech!
- The centre is strongly committed to the new working model based on high flexibility, innovation and sustainability.

Hub successes

Technology

- Implementation of big data technology and data analytics and development of state-of-the-art digital products that optimize the group's business units worldwide.

Talent

- Workforce that doubled in size between 2020 and 2022, going from 300 to 600 workers in the midst of the Covid-19 crisis. Forecast to continue strengthening the technology centre in the near future.
- The hub features workers of more than 40 different nationalities.

Benchmark within the organisation

- Positioning the group as a space for value creation and development of new opportunities, becoming a benchmark for innovation in the technological field and in new working models.

“The work ecosystem and culture that has been cultivated in Barcelona, with an international and multicultural team, allows the hub to position itself as a benchmark for innovation in the technological field and new working models.”

Xavier Tuduri
CEO at ServiZurich Technology Delivery Center





Companies with a tech hub in Barcelona identify different challenges at the territorial level to remain competitive at the international level

- **Positioning of Barcelona and Catalonia in the technological landscape**

Reflect on how to position Barcelona and Catalonia in the technological ecosystem to continue attracting top-level talent and hubs of foreign companies. Above all, it is necessary to assess whether the Catalan territory remains a space of diverse technology, or chooses to specialize in certain areas or promote new technologies.

- **Talent attraction and availability**

Continue to attract top-quality talent to meet the needs of today's hubs, with high growth prospects, while meeting the talent needs of future hubs. In this context, it must be borne in mind that, as the hubs consolidate, they require, on the one hand, more specialized profiles, and on the other, greater influence and decision-making power within the company.

- **Relationship hub-universities and training centres**

Strengthen the links between universities and tech hubs to not only bring the academic world closer to the world of work and attract talent directly, but also to provide the education system with sufficient speed when adapting to new needs; a key aspect in a dynamic and flexible environment. In this regard, it would be desirable to:

1. promote a strategy and joint action among tech hubs to forge links with the education system
2. continue working on attracting and creating female talent, with an emphasis on new generations
3. find a balance between university education and vocational training

- **Bureaucracy and regulations**

Improve tax legislation related to innovation and technology, while simplifying the hiring of foreign profiles to continue helping to ensure that Barcelona remains a pole of attraction for international talent.

7

Challenges of the territory



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