The ICT industry in Catalonia: Sector Snapshot

ACCIÓ
Government of Catalonia

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Barcelona, February 2019
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1. The ICT industry
The ICT sector definition

For manufacturing industries, an ICT product must fulfil the function of information processing and communication, including transmission and display; and they must use electronic processing to detect, measure and/or record physical phenomena or control a physical process.

For services industries, ICT products must enable information processing and communication by electronic means.

Source: OECD (Organisation for Economic Cooperation and Development).
The global ICT industry

Global ICT industry turnover, by regions (2017)

- North America: 35%
- Asia-Pacific: 29%
- Europe: 22%
- Latin America: 8%
- Middle East and Africa: 6%
- Middle East and Africa: 6%

The ICT industry in the world (2017)

- Telecommunications services represent the main ICT segment, with 37% of the total global turnover.
- North America ranks first in turnover, representing 35% of global turnover.

The ICT industry in Europe

- The ICT industry represents 3.9% of the European economy. It generates 15.7% of total business expenditure in R&D, and investments in ICT account for 50% of all European productivity growth.
- Spain is among the most advanced digital economies in the European Union, located among the Top 10 countries and ahead of countries like Germany or France.

2. The ICT industry in Catalonia
ICT in Catalonia: key figures

15,757 COMPANIES (2018)

- The number of ICT companies has grown constantly in Catalonia: 4.5% in 2018 and showing a 27% growth rate since 2013.

- 96.8% of ICT companies are services-oriented, while the rest are industrial-oriented.

- 91.8% of companies have less than 10 employees.

- Catalonia holds a leading position within Spain (22.3%).

106,400 EMPLOYEES (4th quarter, 2018)

- The number of ICT jobs represents 3.1% of total workers in Catalonia, higher than the Spanish average (2.7%).

€16,667 M TURNOVER (2016)

- The ICT sector turnover has grown 14% over the last two years.

Source: Secretariat of Telecommunications, Cybersecurity and Digital Society
Catalonia’s industrial, tech based and digital economy, makes it the world’s newest tech hub

As one of Europe’s leading ICT hubs, **Catalonia offers everything the modern ICT firm could possibly need.**

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Catalonia’s perfect mix: a growing economy, an industrial ecosystem and a world-class ICT hub

Growing economy (2017)
- Catalonia’s 2018 growth rate was higher than the average in Spain (2.5%) and in the EU (1.9%).

Industrial ecosystem (2017)
- Industry represents 21.4% of Catalan GDP.
- Manufacturing and industry related services represent 50% of the GDP.

Catalan industry’s top 6 sectors (2016)
- Food
- Chemicals
- Auto
- Energy
- Metallurgy
- Pharma

A world-class ICT hub
Global ICT players and companies with ICT centres in Catalonia
The use of these trademarks is for informative purposes only. Trademarks mentioned in this document are the registered trademarks of the companies to which they belong and are not owned by ACCIO. This is a partial and illustrative representation of companies that form part of the ICT ecosystem in Catalonia; however, there may exist other companies that have not been included in this study.

Source: EIC (DGI – ACCIO)
European scientific and technological powerhouse

World-class scientific infrastructures

**ALBA synchrotron**
The largest particle accelerator of Southern Europe.

**Barcelona Supercomputing centre**
One of Europe’s most powerful Supercomputers.

Scientific facilities & technological centres specialised in ICT technologies

Some of the world’s most cutting edge companies have chosen Catalonia for R&D investment

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Source: EIC (DGI – ACCIÓ) based on INE, European Patent Office, Web of Science, Eurostat, TECNIO, Technological centres websites
Barcelona, the driving force of Catalonia’s entrepreneurial engine

1st startup hub in Southern Europe
EU-Startups, 2017

3rd preferred hub by startups founders
Startup Heatmap Europe, 2018

4th European city in the volume of investment received by startups
Atomico, 2017

Over 1,300 startups in Catalonia.

13,820 jobs related to Catalan startups.

26% of these workers are from abroad.

3 out of every 4 Catalan startups have obtained financial backing.

Industry 4.0 technology startups are the most numerous followed by Life sciences and by Mobile & Software startups.

13% of startups are Deep Tech.

Startups with most investment* (2017-2018)

- Pleigo
- Glovo
- Traveltech & Leisure
- Fintech & Insurtech
- Foodtech & Drinks
- Productivity Tech

- Minorux
- Fintech & Insurtech
- Human Tech & Jobs
- Healthtech
- Security & Cybersecurity
- Social network

Pier01 is a Barcelona Tech City’s project devoted to match innovation and collaboration. It is a huge facility that provides a locus for the daily activities of approximately 1,000 employees working for over 100 companies and start-ups.

*In order of capital investment.
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Source: startupshub.catalonia.com (Barcelona & Catalonia Startup Hub)
An ecosystem supporting the ICT industry

Barcelona, the world’s 1st city in hosting international conferences and congresses in 2017 (ICCA, 2018)

Thanks to the Mobile World Congress Barcelona is the meeting point for the global digital revolution, where the latest products and services are showcased and new tendencies are discussed.

A strategic alliance to position Barcelona as neutral laboratory in which any agent can design, develop and test services or applications implemented using 5G technologies.

ICT related Fairs & Congresses

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Source: EIC (DGI – ACCIÓ)
On the global radar for ICT investment

Between 2014 and 2018, Catalonia was the main ICT FDI destination in Spain

167 FDI projects
952 capex (M€)
9,055 jobs created

42% of the FDI projects into Spain
23.4% of the capex into Spain
44.7% of the jobs created into Spain

Evolution of ICT FDI

- Compared to the previous five-year period (2009-2013), Catalonia almost doubles the volume of FDI projects received, from 85 to 167.
- Catalan FDI also increases in terms of job creation, from 5,649 to 9,055; and in terms of capital investment, from €848.3 M to €952 M.
- Catalan preponderance within the sector in Spain rises in terms of projects received, jobs created and capital investment, consolidating Catalan leadership in ICT Spanish industry.

Note: Sectors included are Software and IT Services, Communications and Business machines and equipment.
A pole of attraction for tech investment


Source: “Investment projects, mergers and acquisitions, and strategic alliances announced into Catalonia, 2018”, by EIC (OGI - ACCIO)

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Best pool of local and international talent

- Catalonia, one of the world’s top spots to live and work.
- Barcelona, a magnet for professionals and a key city in the availability of scientists and engineers.

Barcelona, **4th** preferred city in the world to work.
Boston Consulting Group, 2018

Barcelona, **3rd** best city in Europe.
Resonance Consulting, 2018

The Catalan University System ranks **3rd** in Europe.
The Times

Barcelona is the **2nd** European City in number of ICT graduates.
Cultural and Creatives Cities Monitor 2017

IESE & ESADE: Top 10 European Business Schools.
Financial Times, 2017

Huge number of ICT and mobile-related studies in top universities like UPC

The Universitat Politècnica de Catalunya –BarcelonaTech is a public institution of Higher Education and Research, specialised in the areas of Architecture, Engineering, Science and Technology.

UPC - Expertise

5G, Big data and data analytics, Cybersecurity, Internet of things, Quantum sciences

Other Institutions offering ICT studies

IESE & ESADE: Top 10 European Business Schools.
Financial Times, 2017

Quality of life

Barcelona is the world’s 6th city in terms of livability
Combining coast, mountain, landscapes, gastronomy and a cultural, artistic and architectural heritage unique in the world.

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Source: EIC (DGI – ACCIÓ) based on UPC – BarcelonaTech and Secretaria d’Universitats – Catalan University Department
3. Opportunities in the ICT industry
INDUSTRY 4.0
Catalonia has the perfect mix: industrial ecosystem (21% of GVA) + Technology + Industry Labs.

3D printing
Catalonia, the HP 3D Printing World Headquarters.

Robotics
Top robotics producers and research centres are located in Catalonia making the place a global benchmark.

Big data & Data Analytics
Talent, internationally recognized R&D centres and an innovative ecosystem full of startups and first class companies.

SMART MOBILITY & SMART CITIES

Connected vehicle & Autonomous Driving
Massive Industrial & Engineering Ecosystem in the Automotive Industry. Blooming IT ecosystem. Optimal infrastructure and legal framework for vehicle testing, including automated driving tests in real environment.

Drones
Catalonia hosts 1 of the only 10 drone airports in the world and an accelerator specialized in drone startups. We are becoming a worldwide reference in the field.

E-commerce
Connectivity, efficient logistics and talent have made Catalonia a magnet for international companies targeting the South of Europe.

Smart Cities
Barcelona, 2nd Smart City in the world, after Singapore. (Juniper Research, 2016)

STRATEGIC TECHNOLOGICAL OPPORTUNITIES

Artificial Intelligence & Machine Learning
Leading AI companies have productive sites and research centres in Catalonia.

Blockchain
Thanks to our universities and engineers, Catalonia is becoming a landing spot for Blockchain Tech.

Videogames
Important startups acquisitions, specialized videogames engineers, graphic designers and a creative environment.

Smart Materials & Breakthrough Technologies
Catalonia hosts an advanced material cluster with more than 30 members, and 700 nanotechnology and materials researchers making our economy rank highly in terms of pioneering thinking.

Quantum sciences
ICFO, a world reference for quantum, is working on many quantum technologies fields.

5G
5G Barcelona is turning Barcelona and Catalonia into a 5G European hub.

Source: EIC (DGI – ACCIÓ)
International opportunities for Catalan companies

**ARGENTINA**
Argentina promotes the use of technology with a view to modernising the State. Digital Services at all levels of state, connectivity for all councils, open government and management of the civil service’s results are initiatives that represent an opportunity for Catalan companies.

**CHILE**
Chile needs to take a leap forward in digitalising its economy in order to make it more competitive and position itself in the region. Catalan companies that develop these types of digital solutions could test them there.

**UNITED KINGDOM**
There is a growing trend and increasing demand for smart housing in the UK. Residential construction is witnessing a gradual introduction of innovative technologies and smart systems in building and renovation, with the assistance of the Internet of Things.

**UNITED STATES**
There are interesting opportunities in the USA for Catalan technology companies, particularly in the fast-growing sectors of finance, cybersecurity, big data and the Internet of Things. Key locations include Florida and Massachusetts.

**FRANCE**
The French government’s plan to promote digitalisation is encouraging investment in fintech, paytech and insurtech companies. The 2024 Olympic Games will also generate opportunities in the telecommunications sector. Enormous growth in the augmented and virtual reality sector is also expected.

**CROATIA**
ICTs are experiencing considerable growth in Croatia. Consumers and companies have the capacity to absorb new technologies very quickly, which makes it a test market that is ideal for development and the application of new technologies.

**CANADA**
In the coming years, the Canadian government plans to invest $2,100M Canadian in R&D. Investments will be allocated to implementing 5G in cities, to applications for smart cities, to IoT and quantum analysis.

**SWITZERLAND**
Software and digital platform integration solutions are of interest on a small-volume, mature market and also present the advantage of many autonomous purchasing units (municipalities, cantons and federation).

**HONG KONG**
The Hong Kong Government is implementing different initiatives to attract startups and innovative companies. There are significant tax incentives programmes and public projects in areas such as fintech, smart cities, robotics and health.

**SINGAPORE**
The Government of Singapore aims to turn the city-state into the digital capital of Asia. The government is a major purchaser, with an expenditure of over $2,400 M in ICT infrastructure awards, data services and digital services. There is currently special interest in data analytics, cybersecurity and digital city systems.

**ISRAEL**
The fintech sector is growing quickly as global financial institutions have established their R&D centres in Israel. Catalan companies have the chance to acquire fintech solutions, to cooperate with Israeli companies and to find distribution channels on the Israeli markets and benefit from its links with the USA.

**KENYA**
Kenya’s capital, Nairobi, is well-known for its advances in digital finance, business nurseries and applications. There are ICT opportunities in applications and added-value digital services, cybersecurity and efficient anti-fraud systems, in the design, customisation and distribution of products, in e-learning, and in the mobile & gaming sectors.

**AFRICA**
There are growing ICTs and software as a service and innovative sectors, with companies.

**ARGENTINA**
There are growing ICTs and software as a service and innovative sectors, with companies.

**CHINA**
China is developing technologies with a view to covering its large rural areas quickly and economically. It is also seeking technologies associated with the Internet of Things, cloud computing, big data applications, e-commerce, and Internet security. The ever-growing robotics sector is also significant.

Source: Global trade mapping, 2018 by EIC (DGI – ACCIÓ)
Take a look at the full report:

Further information about the sector and opportunities:
http://catalonia.com/trade-with-catalonia/ict-mobile.jsp