June 2024. Sector snapshot

The Edtech industry in Catalonia

ACCIÓ Catalonia Trade & Investment

Generalitat de Catalunya
Government of Catalonia

CataloniaConnects

The Edtech industry in Catalonia

ACCIÓ
Government of Catalonia

Carried out by
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Edtech Cluster
RocaSalvatella

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1. The edtech industry

Definition of the Edtech industry

The Edtech industry encompasses all the companies and players that offer technological methods, tools and solutions with the purpose of transforming and improving teaching and learning and the management of any related processes.

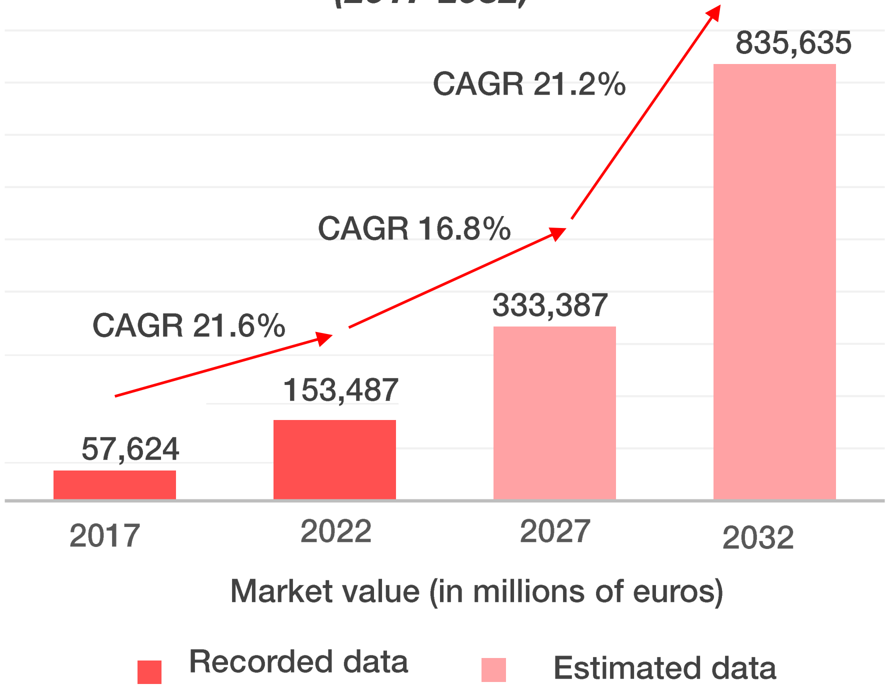
The scope of this industry is broad, ranging from the development of new theories and learning methods to the application of innovative technological tools and solutions in educational environments.

Business volume and forecasts for the industry

The global edtech market has undergone significant growth, rising from **€57,635 M** in **2017** to **€153,487 M** in **2022**, with one **forecast** predicting **€835,715 M** by **2032.**

- The growth of the industry in recent years has been driven by the **increase in the demand for digital products in education**, triggering the emergence and consolidation of new learning methodologies and technologies.
- Moreover, there has been **robust growth in the emerging markets**, in which the rapid development and adoption of these technologies is expanding the industry's global reach and influence.
- Further intensification of the growth factors witnessed until now is expected in the future, along with an **increase in the support of governments and the investment markets** in anticipation of sustained growth in the industry.

Global growth forecasts for the Edtech market (2017-2032)

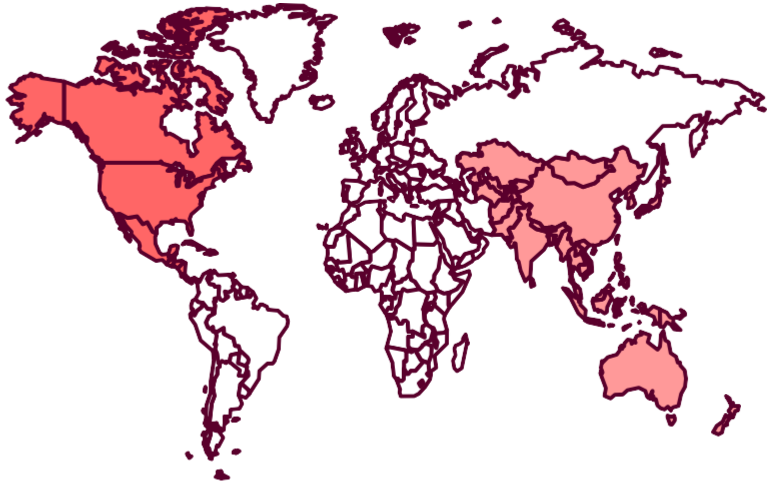


Source: *Research and Markets*

Global market volume and main geographical poles of reference

The edtech industry was valued at **153,459 million euros** in 2022 (*Research and Markets)*. It's an industry that's undergoing constant global growth due to the new emerging markets. In international terms, we should highlight regions such as **North America and Asia-Pacific** as the main areas of reference in the industry.

- In 2022, the region of **North America** consolidated its dominance of the global edtech market, with the United States as the leading player.
- **Asia-Pacific** is also emerging as a key region, not only due to its significant participation, but also because it harbors the highest growth expectations in the industry, with China and India as the main markets.
- The region of **Europe** is gaining ground in the industry, with countries establishing themselves as important emerging edtech markets.



Market with the highest share

Market with the greatest growth potential

***Source**: Research and Markets, Grand View Research*

Emerging geographical hubs: Catalonia and Spain

- A process involving the digitization of education is taking place in the State, characterized by a growing trend towards **cooperation between Edtech companies, educational institutions and governments.**
- The ***LOMLOE*** has led to a change towards the digitization of education in Spain, focusing on **improving skills and encouraging the use of digital technologies**. The ***Código escuela 4.0*** program has also been launched to **adapt students to a technologically advanced future**. At the same time, through the ***INTEF***, the Ministry of Education and Vocational Training has promoted **training in digital skills for teachers** by running specialized courses.
- The ***2020-2023 Digital Education Plan*** has been promoted in **Catalonia** for training and improving infrastructures and digital educational resources. It is proving to be a **leading region in terms of adoption and innovation processes** in the industry. The ***Edtech Cluster***, an initiative that brings together several state Edtech companies, has been created with the aim of promoting **collaboration, innovation and development within the industry**.

***Source**: LOMLOE, Código escuela 4.0, “NTEF, 2020-2023 digital education plan, Edutech Cluster, Simo education*

2. The edtech industry in Catalonia

Definition of the industry's value chain

Knowledge and research

- Universities and educational centers
- Digital schools and e-learning providers
- Research centers

Public institutions | **Cultural institutions and clusters** | **Fairs, congresses and communities** | **Financial and entrepreneurial support**

Learning contents and resources

Curricular content

Infant, primary, secondary and higher education

Extracurricular content

- Digital and STEAM skills
- Global culture and languages
- Corporate training
- Other online courses and contents

Development of educational tools and software

New technologies

- Artificial intelligence
- AR/VR
- Big Data
- IoT
- Robotics
- Cloud/2.0 tools

New learning methodologies

- Personalized learning
- Gamification and video games
- Simulation
- Interactive platforms
- STEAM

Management platforms

Integrated educational center management

- Academic, communicative and administrative management
- Economic, financial and HR management
- Transformation of educational centers and technological support

Digital learning management

- Monitoring of online learning
- Platform development (LMS)
- Consulting services, personalization, management and maintenance of virtual spaces

Infrastructures and equipment

The ICT industry in education: manufacturing of computers and software, peripheral equipment, advanced computing devices and integrated IT services (connectivity, cyber security and cloud solutions)

Customers

- Educational centers
- Universities
- Training centers
- Companies

Users

- Teachers
- Students
- Families
- Employees

Source: ACCIÓ

Key data of the Edtech industry

1,484
Companies
(2023)
↑141%
(2019)

€3,120 M
Turnover
(2022)
↑35%
(2019)
Equivalent to 1.1% of Catalonia's total GDP

38,872
Jobs
(2022)
↑213%
(2019)

***Note** 1: The mapping has been performed using ACCIÓ's reports and directories, the CNAE linked to the industry and other key sources, including: Edtech Cluster, Simo Education, Edtech Congress Barcelona, Kid's Cluster, European Edtech Alliance, Crunchbase, DealRoom and other online surveys. **Note** 2: The economic data correspond to the last available year, mostly 2022. **Source**: ACCIO based on ORBIS*

Value chain of the Edtech industry in Catalonia

Knowledge and research

UOC Universitat Oberta de Catalunya · Universitat de Barcelona · Universitat Politècnica de Catalunya BarcelonaTech · upf. Universitat Pompeu Fabra Barcelona · UAB Universitat Autònoma de Barcelona · Kids&Us · esade · nuclio digital school

Public institutions

Cultural institutions and Clusters

Fairs, congresses and communities

Financial and entrepreneurial support

Learning contents and resources

Curricular content

Extracurricular content

edebé · Vicens Vives · Barcanova · ProDigi · edpuzzle · JUMP Math · Happy Code · Didacta · Matheutikos · minicoders · Anaya · aulaPlaneta · Altamar · Fiction Express · tekman · Pycto · Legiland · McGraw Hill · difusión · minimúsica · Science Bits · Santillana · glifing · innovamat · Iddink · cruïlla · coding giants · Oxford University Press · text · Star Learn · Supertics

Development of tools and educational software

New technologies

New learning methodologies

wiris · Eureka Simulations · Mathew · Happy Code · Company Game · Snackson · Robot Media · Expacia · Neureka Lab · Seeds · JUMP Math · inrvelon · Orbita · go4clic · virmedex · TOPworksheets · levelab · Fiction Express · Science Bits · Star Learn · MQL · DigaliX · innovamat · glifing · ProDigi · aulaPlaneta · Vicens Vives Digital · edebé On · Didacta

Management platforms

Integrated educational center management

Educaria · clickedu · esemtia · iEduca · Classlife · Additio App · Dinantia

Digital learning management

Google for Education · moodle · Instructure · Microsoft Education · tresipunt · Innstinct · SEIDOR · Make & Learn · techclass · Acceleralia · Duna educació · innovamat · Advanced Education · Science Bits · edebé On · IThink · Vicens Vives Digital · like.education · Edunexis · Escuela21 · tekman · Matheutikos · JUMP Math · Fiction Express · edpuzzle

Customers

- Educational centers
- Universities
- Training centers
- Companies
- Teachers
- Students
- Families
- Employees

SEK · SJD Sant Joan de Déu Campus Docent · Generalitat de Catalunya Departament d'Educació

Infrastructures and equipment

Epson · semic · Microsoft Education · Bechtle · Qualiteasy · TICNOVA · penwinEDU · Robotix Hands-on Learning · hp · SEIDOR · Atlantic Devices · iiyama · brother · acer for education · Promethean · Robótica · Air-Fi · Dell · neotica solutions

Note: partial representation with the aim of illustrating the suppliers of the value chain of sector in Catalonia, although there may be other companies that have not been included in the study. ***Source:*** *ACCIÓ*

Key data of the total volume of the Edtech industry

	Number of companies 2023	Turnover 2022 (M€)	Jobs 2022
Pure players	**319**	**896.1**	**4,535**
Traditional content providers: publishers.	63	517.4	1,586
Providers of content, tools and digital platforms: the challengers.	60	47	722
Providers of software and digital support tools.	80	72.6	827
Educational center integrated management platforms.	16	19.5	358
Learning management platforms.	6	7.7	52
Infrastructure and equipment providers (with education vertical).	43	179.3	474
Digital solution implementation consultancies (with education vertical).	51	52.6	515
Environmental players	**1,165**	**2,224.4**	**34,338**
Digital schools and e-learning providers.	594	1,385.4	27,755
Digital solution implementation consultancies (with capacity to provide education).	393	477.9	4,581
Infrastructure and equipment providers (with capacity to provide education).	5	10.1	88
Venturing and support for entrepreneurship	173	350.9	1,913
TOTAL	**1,484**	**3,120.4**	**38,872**

Note 1: *The mapping has been performed using ACCIÓ's reports and directories, the CNAE linked to the industry and other key sources, including: Edtech Cluster, Simo Education, Edtech Congress Barcelona, Kid's Cluster, European Edtech Alliance, Crunchbase, DealRoom and other online surveys.* ***Note 2:*** *The economic data correspond to the last available year, mostly 2022.* ***Source:*** *ACCIÓ based on ORBIS*

Profile of the Edtech industry

1,432 companies

- **97.6%** of the companies are small or medium-sized enterprises (turnover less than €50 M).
- **58.2%** of the companies were established more than 10 years ago. **9.0%** of the companies are startups.
- **23.3%** of the companies are exporters and **10.6%** are regular exporters.
- **8.4%** of the companies are foreign affiliates.

Territorial distribution

- **89.4%** of the companies are located in the province of Barcelona.
- **90%** of the total turnover and the total number of people employed in the industry come from companies in the province of Barcelona.
- **El Barcelonès, el Vallès Occidental, el Baix Llobregat and el Maresme** are the counties with the most companies related to the Edtech industry.

Revenue: €3,004 M

- The turnover is equivalent to **1.1%** of the total GDP of Catalonia.
- Large companies (**2.4%** of the total number) bill **60.3%** of the industry's overall turnover.

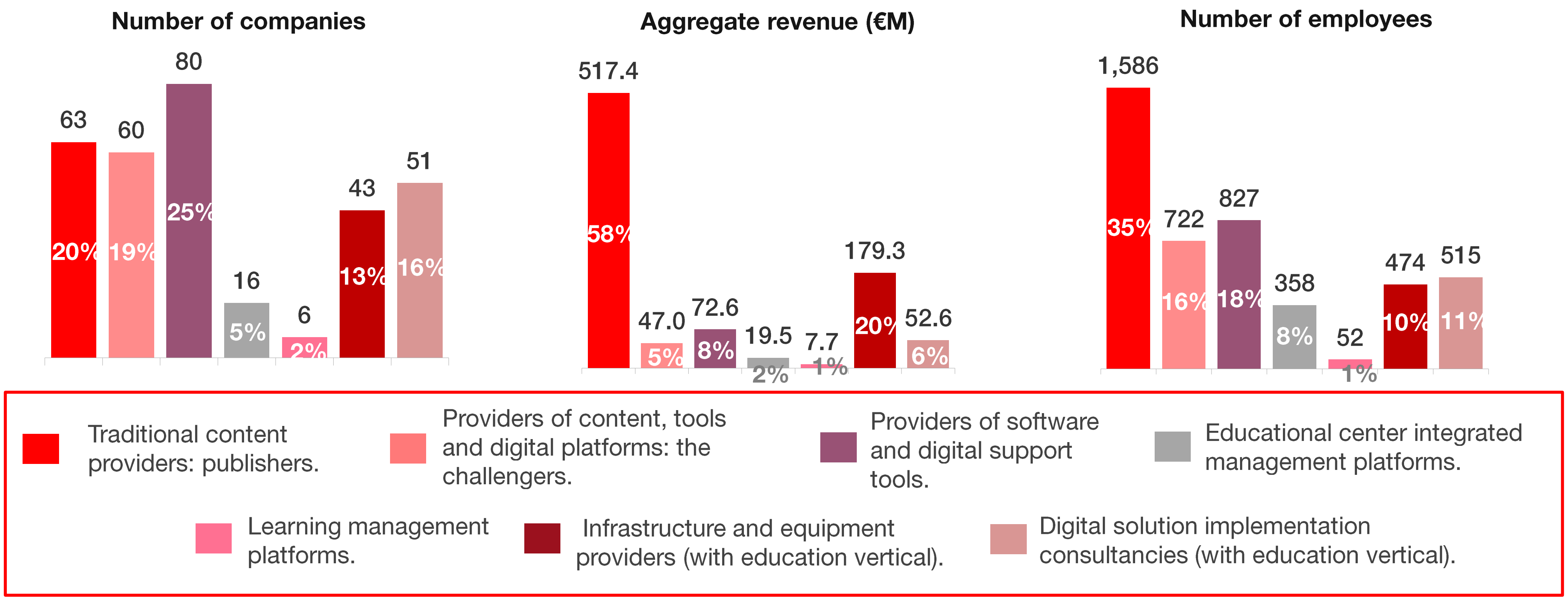
37,915 employees

- **63%** work in consolidated companies (10 years or more).
- **71%** work for large firms (more than 50 employees).

Source: *ACCIÓ*

Quantification of the pure players of the Edtech industry in Catalonia

Among the pure players, the **“Traditional content providers: publishers”** lead in terms of turnover and number of employees. Moreover, there are high numbers of **“Providers of content, tools and digital platforms: the challengers”** and **“Providers of software and digital support tools”**, largely due to the growing concentration of Edtech startups within them.



Identification of the players in the industry's value chain (I)

Knowledge and research

Public agencies | **Cultural institutions and clusters** | **Fairs, congresses and** | **Financial and entrepreneurial support**

Venturing and support for entrepreneurship

Customers

Learning contents and resources

- **Curricular content**
- **Extracurricular content**

Development of tools and educational software

- **New technologies**
- **New learning methodologies**

Management platforms

- **Integrated educational center management**
  - Educational center integrated management platforms
- **Digital learning management**
  - Learning management platforms

Traditional content providers: publishers.

Providers of content, tools and digital platforms: the challengers.

Providers of software and digital support tools.

Digital solution implementation consultancies (with education vertical)

Users

Infrastructures and equipment

Infrastructure and equipment providers

Digital solution implementation consultancies (with education vertical)

Note: *The agents in pink boxes Pure players (companies strongly linked to the Edtech sector); the agents in purple boxes are Environmental players (companies partially linked to the Edtech sector).* ***Source:*** *ACCIÓ*

Identification of the players in the industry's value chain (II)

Traditional content providers: publishers

In a **publishing market** that is still linked to the physical format, **there is growing awareness of the transformational role of technology in education**, marking a path towards innovation that publishers are determined to follow with the support of companies. Overcoming traditional resistances with a digitized future in mind, the expectation is that the publishing market will move significantly towards digitization.

Providers of content, tools and digital platforms: the challengers

In recent years we have witnessed the emergence of **Edtech firms that propose new learning methodologies**, offering personalized digital materials, interactive tools and platforms to manage the learning process and **transforming the educational process from the creation of the content to the monitoring of the learning.** They have appeared as innovative forces and they are making education more interactive, personalized and synchronized with the demands of the digital age.

Providers of software and digital support tools

Companies that offer solutions linked to supporting different processes within the value chain (not strictly pedagogical ones) based on digitization and innovation. These **improved processes can benefit teachers, the staff at educational centers, publishers and, on many occasions,** players unrelated to the curricular area. These players establish themselves as partners in the technological progress and as engines of innovation in the Edtech field.

Source: *ACCIÓ*

Identification of the players in the industry's value chain (III)

Educational center integrated management platforms

Educational centers, like companies, have the need to manage their internal processes in an integrated and digital manner. Companies specializing in integral management platforms for educational centers **centralize the academic, administrative and financial management and encourage communication between teachers, families and students.** A small number of companies with significant track records have established themselves in the state education field.

Learning management platforms

Learning management platforms, also known as **Learning Management Systems (LMS)**, are digital tools designed to facilitate the **creation, administration and distribution of online educational content**. These platforms allow teachers to provide materials, track their students' progress and manage interaction in a virtual environment. Companies like **Blackboard, Moodle, Canvas d'Instructure and Google Classroom** have become benchmarks in the area.

Digital solution implementation consultancies

The growth of the Edtech industry has encouraged **technological consultancies** to **expand their range of products, which now includes the development of platforms (LMS) and personalized e-learning solutions** for various customers, ranging from educational centers to publishers and companies. This trend demonstrates the understanding of the crucial role of technology in the transformation of education and vocational training.

Source: *ACCIÓ*

Identification of the players in the industry's value chain (IV)

Infrastructure and equipment providers

Large companies, **consultancies and technological multinationals** are expanding their lines of business to **enter the dynamic Edtech market**, developing advanced technological solutions for the education industry. The focus is currently placed on developing **immersive learning environments.** Despite the above, the national transition towards these innovations is progressing at a slow pace, with numerous educational spaces still anchored to the use of screens and outdated technologies.

Universities and providers of e-learning and venturing and support for entrepreneurship

Innovation centers from **universities, digital schools and large corporations in the education industry** offer programs to foster entrepreneurship and business support. These assist Edtech startups in the different stages of pre-acceleration and acceleration, helping them to overcome the challenges of entering the market. Thanks to these programs, educational solutions and technologies are emerging and generating an innovative Catalan ecosystem.

Source: *ACCIÓ*

Catalan ecosystem of the Edtech industry

Public agencies

ACCIÓ Catalonia Trade & Investment

Generalitat de Catalunya Departament d'Educació

Institutions and Clusters

EduTech Cluster

KID'S CLUSTER

mSchools

FUNDACIÓ BOFILL Educació per canviar-ho tot

Fairs, congresses and communities

Saló de l'Ensenyament

EdTech CONGRESS Barcelona

SIMO EDUCACIÓN

EUROPEAN EDTECH ALLIANCE

Financial and entrepreneurial support

nuclio digital school

SEKLAB

Abacus Ventures

UOC Universitat Oberta de Catalunya Hubbik

upf. Ventures

psitic

Universities and educational centers

Research and technology centers

upf. Universitat Pompeu Fabra Barcelona

Blanquerna Universitat Ramon Llull

UAB Universitat Autònoma de Barcelona

UOC Universitat Oberta de Catalunya

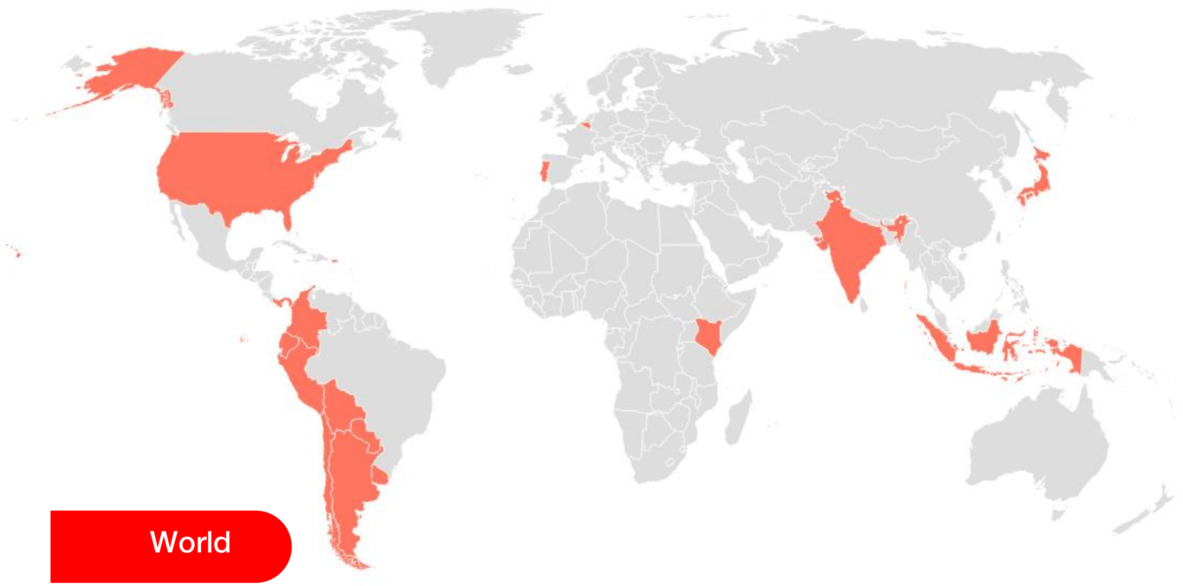
SJD Sant Joan de Déu Campus Docent

Universitat de Barcelona

UPC Universitat Politècnica de Catalunya BarcelonaTech

Note: *Partial representation with the aim of illustrating the ecosystem of the Edtech industry in Catalonia.* ***Source:*** *ACCIÓ*

International business opportunities for the Edtech industry



Colombia
Edtech: Young people, technology and opportunities in the education industry.

Argentina
Education industry open to technological innovation.

Paraguay
Digitizing education as a priority tool for educational improvement.

Uruguay
Avant-garde in Edtech in LATAM: Ceibal Plan, technology made available to students.

Peru
Potential for educational modernization, overcoming current shortcomings.

Indonesia
Broad student demography and a growing number of programs for access to edtech.

Panama
Edtech advancement with emerging opportunities related to platforms and e-learning content.

Bolivia
Growing demand for technologies for education

Chile
Educational digital transformation with a growing demand for specialized tools.

Ecuador
A firm commitment to the digital transformation of education.

Portugal
Investment in the digital transformation and reforms in education as governmental priorities.

Kenya
Kenya and ICT: the Silicon Savannah

Japan
Digital Garden City Nation, a rural digitization plan to enrich the Edtech environment.

USA
USA: The epicenter of digitization, with a growing demand for Edtech.

Belgium
Digital Europe strategy: a pillar in the EU and Belgium.

India
Global Digital Hub by 2030, promoting digital solutions and capabilities.

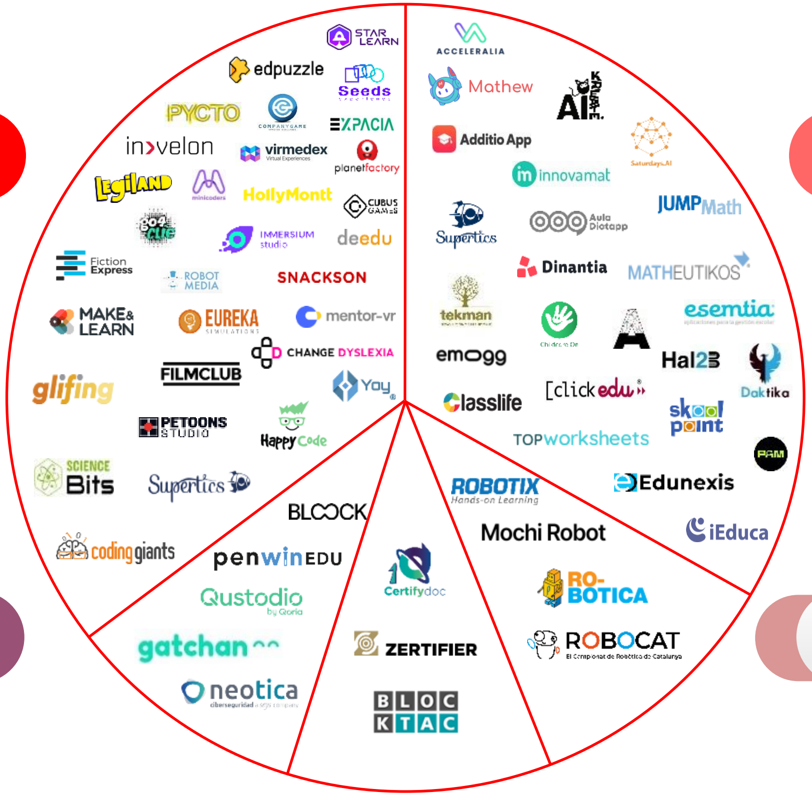
Source: Global map of international business opportunities 2023

Technological opportunities of the Edtech industry in Catalonia

There is a wide range of technological opportunities within the Edtech industry, especially in areas such as **immersive technologies and digital entertainment**, as well as **big data and artificial intelligence**, the keys to innovation and the development of new educational tools.

Immersive technologies and digital entertainment H

Big Data + artificial Intelligence



Cybersecurity

Robotics and collaborative robotics H

DLT/blockchain

Source: *ACCIÓ. Partial illustrative image.*

Companies interviewed within the framework of the study

Edebe
Pioneer educational publishing group in the creation of multimedia materials

Epson
Multi-national provider of hardware supply services

3iPunt
Technological consultancy with a digital approach

Seidor
Catalan multi-national provider of software consultancy and ICT services

Adaptical
Pioneering startup in Catalonia in the field of educational AI

Wiris
Company that develops advanced tools for STEM fields

UOC
Reference Catalan online university

Robocat
Reference Catalan educational robotics competition

Company Game
Developer of gamification solutions and business simulators

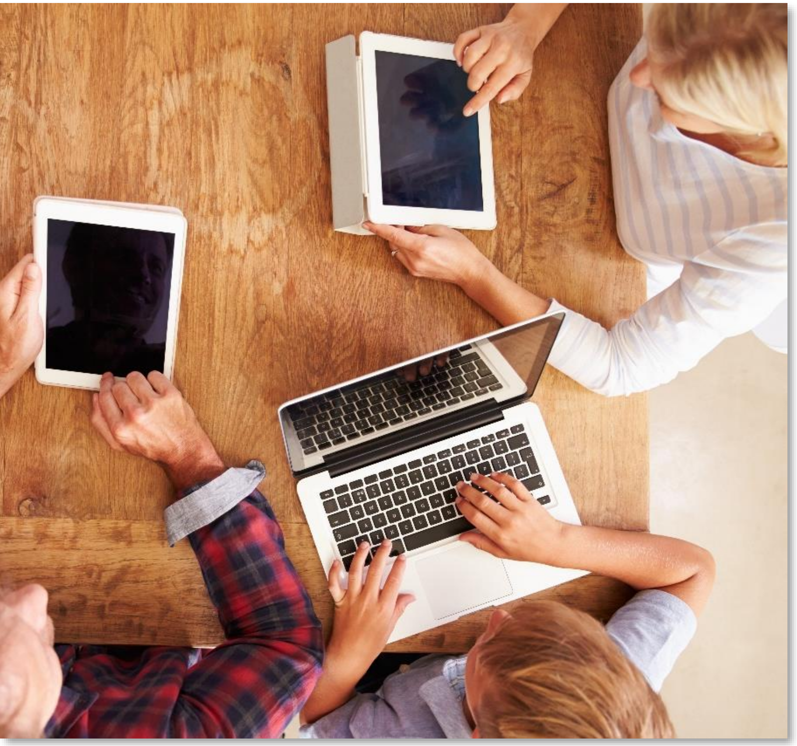
Educaria
Consultancy that develops digital solutions

Nuclio
Digital ecosystem devoted to creating and promoting startups

Source: *ACCIÓ based on interviews*

3. Future trends and business models in the edtech industry

Future trends and business models in the industry



Changes and trends in the educational model

1. Lifelong learning
2. Emergence of hybrid education
3. Homeschooling
4. The new STEAM learning methodologies
5. The hyper-personalization of the educational experience
6. Immersive educational technologies

New business models

7. Adoption of SaaS models at educational centers
8. New digital training courses for teachers
9. New models and online training courses

Changes and trends in the educational model (I)

Lifelong learning

The **education system** is undergoing a **radical transformation, leaving behind the rigidity of the centralized educational structure**. This change, known as **lifelong learning**, is characterized by the presence of a wide range of academic options that facilitate access and flexibility in learning.

Emergence of hybrid education

Online learning has become a need, but **hybrid education is expected to emerge as the new normal**. This approach effectively integrates the **benefits of online and face-to-face learning** and places particular emphasis on human interaction as a fundamental component of education.

Homeschooling

In recent years there has been a growing interest in home education. Despite the above, many of the resources available to families still rely on traditional formats such as a pen and paper. Within this context, several companies are actively exploring in this area, developing **innovative and interactive educational solutions for learning from home**.

Source: *ACCIÓ*

Changes and trends in the educational model (II)

The STEAM learning approach

STEAM is an innovative educational approach that promotes **practical and experimental learning through the use of digital learning tools** in the fields of science, technology, engineering, art and mathematics.

The hyper-personalization of the educational experience

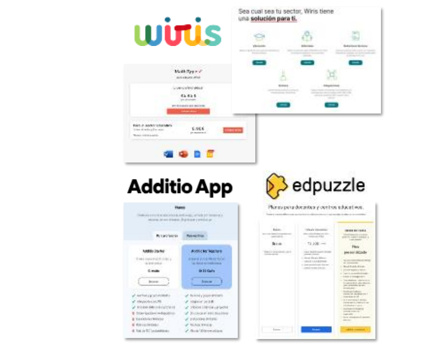
The application of **technologies in education** allows the **constant monitoring of students' skills and knowledge acquisition.** They facilitate the detection of learning patterns and **the adjustment of the teaching and content to the needs of each student.** They are driving the development **of approaches focused on aptitudes and skills** and moving away from traditional methods based on academic results.

Immersive educational technologies

Virtual reality (VR) and augmented reality (AR) are immersive technologies that encourage **active and cooperative learning.** Through the above, students can experiment with realistic environments and take part in simulations that enrich the educational experience.

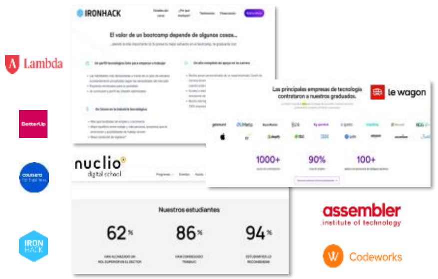
Source: *ACCIÓ*

New business models



Adoption of SaaS models at educational centers

The traditional model of purchasing educational content was based on paying for them on a one-off basis. With the introduction of the new technologies, **educational institutions are undergoing a paradigm shift leading them to opt for SaaS models** in order to access the content, the classroom management and the advanced functions that Edtech companies place on the table.



New models and online training courses

The socio-economic and technological changes are encouraging the need to acquire new knowledges and work skills. Within this context, **new online course models** are emerging, ranging from **upskilling courses and corporate reskilling courses** to **end-to-end models** that promote employment. These kinds of online courses are promoting the adoption of educational technologies.

New models of digital training courses for teachers

The **preparation and digital training of teachers are key elements in the process of adopting technologies in education.** There is a growing trend for both academic institutions and Edtech companies to offer courses and content aimed at enriching teachers' training in digital skills.

Source: *ACCIÓ*

4. Challenges and opportunities in the edtech industry in Catalonia

Main strategic challenges facing companies in the Edtech industry (I)

Resistance of physical content in classrooms

1

Edtech companies face the **challenge of overcoming resistance to innovation in traditional education.** This situation requires an effective **digitization strategy that involves all the educational actors** (students, teachers and families), including the administration's advocation of policies that encourage technological integration throughout the student's life cycle.

Difficulties faced when entering public centers

2

Public subsidy policies decisively influence the tools used by public educational centers, which still concentrate on physical resources too much to the detriment of new digital applications. The above contrasts with state-funded and fully private schools, which are making greater investments in digital solutions thanks to their greater contractual flexibility.

Integration of tools into a single environment

3

Edtech presents more and more **integrated value propositions** intended to cover all the needs of a modern educational environment, **from teaching and learning to administration and communication.** The main Edtech companies are seeking to integrate the following areas.

Main strategic challenges facing companies in the Edtech industry (II)

Adaptation of the content by geographical area

4

Edtech startups are faced with the challenge of scaling their businesses in the State, due to the **diversity of educational policies among the different autonomous communities.** This legislative complexity constitutes a particularly difficult entry barrier for Edtech startups seeking to scale domestically, as well as for international competitors.

Barriers to entry for startups

5

Edtech startups face different barriers to entry into the market, beset by the **fear of customer changes due to commercial decision cycles, the need to fully understand the educational field and the widespread declines in the levels of investment** in startups in global terms.

Internationalization

6

The expansion of Catalan Edtech companies has been characterized by **the exploration of markets with cultural and linguistic affinities**, with Latin America a favorite destination, although we can currently see companies that are opening up new paths to internationalization.

Business opportunities for Catalan companies (I)

Vocational training

1

In **higher education**, the **transformation of the traditional educational processes is gaining speed** with the aim of adopting a **skill-oriented framework** that goes beyond conventional academic results. This evolution is closely linked to the **integration of technology**, which proves to be a **key element and engine of this change.**

Adaptation of the solutions to corporate challenges

2

A growing trend along Edtech companies, which, in response to the positive adoption of technological solutions in the educational market, are exploring new ones focused on meeting the needs of the corporate industry. Educational technologies are **improving the training processes, from welcoming and training new employees to the upskilling and reskilling.**

Evolution towards a more sophisticated consumer

3

Customers (educational centers, students, and corporations) are **developing greater skills, knowledge and demands** in the use of technological tools, requiring solutions that are innovative but also encouraging **more personalized, collaborative and accessible learning environments.**

Business opportunities for Catalan companies (II)

Integration of tools: multi-device ecosystems

4

The **digital educational platforms** have moved on from being simple desktop software and evolved through web solutions to **become multi-device ecosystems.** This metamorphosis has not only expanded the potential for monitoring, management and educational communication, it also reflects a growing trend towards **learning that promotes the flexible use of different devices in and outside the classroom.**

Integration of generative AI into the value propositions

5

Interest in artificial intelligence (AI) solutions in education is on the rise, with Edtech companies beginning to explore this technology in order to **enhance the personalization and automation of pedagogical processes.** With this basis, AI will become established as the technological driving force of the next educational revolution, which **promises to redefine teaching and learning practices for years to come.**

Collaboration between traditional players and Edtech startups

6

The **state educational content market** is **dominated by publishers.** Numerous educational centers still enjoy a faithful relationship with them. The publishers are **gradually expanding their range of digital products to meet the growing demand and remain competitive in the market.**

Thank you

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