ICT
SECTOR
IN URUGUAY

Uruguay *XXI*
INVESTMENT, EXPORT AND COUNTRY
BRAND PROMOTION AGENCY

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WHY CHOOSE URUGUAY FOR THE ICT SECTOR?

A solid history of political, social and macroeconomic stability, as well as the existence of a consolidated and dynamic innovation ecosystem make Uruguay a regional technology hub and a global provider for IT solutions. The growth of the sector over the last decade has allowed Uruguay to become the leading software exporter per capita in Latin America.

Its **strategic location** as a gateway to the region, intermediate time zone between the United States and Europe and state-of-the-art technological infrastructure, facilitate access and business with major global markets.

Easy access to decision makers. The country offers a coordinated and accessible technological and entrepreneurial ecosystem, with attractive investment opportunities, not only for existing companies (mergers and acquisitions), but also for the development of new ventures. The characteristics of a small, open and transparent country make **Uruguay an ideal destination to innovate and test new technologies**. Recently, innovation and new venture acceleration capabilities have been strengthened with the start of operations by NewLab and Microsoft Lab (AI/IOT). In addition to this, the program **Uruguay Innovation Hub** guides the development of high-performance projects, at both the national and international levels.

A favorable regulatory framework. Investment in Uruguay, both domestic and foreign, is declared of national interest. The country guarantees equal treatment for local and foreign investors, and a wide range of incentives are available for different types of activities. For the ICT sector there are specific tax exemptions (e.g., for software exports, exemption from IRAE -Income Tax on Economic Activities, for its acronym in Spanish) and the possibility of operating under the free trade zone regime, among other incentives.

Talent. Uruguay provides universal and free access to all levels of education. This has made it possible to develop generations of highly qualified and multilingual talent. In science, technology, engineering and mathematics, Uruguayan talent is highly regarded by investors due to their adaptability to new technologies and processes, as well as to their high level of specialization in the different verticals of the sector. On the other hand, in terms of access and development of human capital, companies exporting services from Uruguay to the world have received support for the implementation of tailor-made training programs for existing staff and new recruits.

Quality of life. Uruguay is a safe country that offers excellent living conditions for executives and their families, with access to first class health and education services. So much so that Montevideo has been selected the city with the best quality of life in Latin America (Mercer Index) and Punta del Este has recently become the city where many executives and founders of global and regional technology companies have settled.

1. EXECUTIVE SUMMARY

- The Information and Communication Technologies (ICT) segment had an early development in Uruguay, with a strong export profile that placed it in a relevant position in the region. **Uruguay is the second largest software exporter per capita in Latin America, and the fourth exporter in dollars in Latin America (latest data available for 2023).**

- The sector has shown strong momentum in recent years. According to the latest available data, published by the Uruguayan Chamber of Information Technologies (CUTI, for its acronym in Spanish), the sector's turnover amounted to US$ 2.84 billion in 2022, and reached 4% of the GDP. This meant a 46% increase in turnover compared with the previous year.

- CUTI categorizes companies in the sector in four segments: horizontal application software, vertical application software, IT services, and IT infrastructure. According to CUTI, the segments with the highest turnover are IT services and IT infrastructure. In this last period, software companies focused on horizontal application grew notably and generated a comprehensive development of the entire sector.

- Exports have grown steadily over the last 10 years, and in 2022 turnover grew alongside them. According to the latest data from CUTI, US$ 1.816 billion were exported in 2022, a growth of 81% compared with 2021. The IT services segment showed the greatest development, alongside solid levels in the services associated with horizontal and vertical applications. The main export destination was the United States, accounting for 87% of the total exports. The United Kingdom ranked second, followed by Argentina. According to data from the Central Bank of Uruguay (BCU, for its acronym in Spanish), IT services exports totaled US$ 1.020 billion in 2023, with figures similar to those of 2022.

- The sector is comprised of almost 550 companies with approximately 18,000 total employees. If microenterprises are taken into account, the employment numbers rise to almost 33,000 people, according to data from the Ministry of Labor and Social Security.

- This is a very intensive sector in terms of qualified talent. 32% of people participating in the ICT sector in 2023 completed university-level education, compared to the 11% figure for the total employed population. In this sector, 94% of workers are fluent in English, and 51% speaks Portuguese.

- According to the Continuous Household Survey (ECH, for its acronym in Spanish) prepared by the National Statistics Institute (INE, for its acronym in Spanish), the main task performed by workers in 2023 was application programming, followed by web development.

- Talent demand evolution exceeds the internal supply, especially in senior profiles. Both the public and private sectors have worked on various programs to close this gap, at all education levels. For example, there are programs like "MoscaLAb" or "WeCode" aimed toward the first years of education, and programs like "Youth should learn Programming" and "Holberton" for older ages. Another program of note in the latter area is Certified Tech Developer, a program in bootcamp format with educators from Digital House. This is in addition to the offering in tertiary and non-tertiary studies for the subsequent stages in the training process. Additionally, Program Uruguay Bootcamp was launched in 2022, with funding from the National Institute for Employment and Occupational Training (INEFOP, for its acronym in Spanish). In turn, the private sector generates internal programs for "on the go" training of young people, in many cases coming from some of the aforementioned programs. Also noteworthy is that both the ICT ecosystem and the quality of life in the country are attractive for talent from other countries to settle here. In the last few years, professionals from Argentina, Venezuela, Cuba and India have stood out.

- Availability and the access to technological infrastructure place Uruguay in a privileged position in the region, with high velocity and access to the network, and a growing use of technologies and development of technological abilities. Uruguay is the eight country in the world in terms of fiber-optic connectivity, according to information from FFTH Council Europe.

- In terms of e-government, Uruguay also stands out globally and is part of Digital Nations, a group of ten leading countries in technological development. Additionally, the country ranks third in the Americas (after the United States and Canada) in the E-Government Survey, a United Nations ranking on the effectiveness of e-government.

- There is an important public-private ecosystem that stands out due to its high collaboration level (according to a GED and MIT study) and because it has the advantage of easy access to decision-makers, in a context of political stability and good performance of macro-economic indicators.

- The success stories include several important multinational companies located in Uruguay, like UKG, Globant, Vasta Software Group, Tata Consultancy Services, and Mercado Libre, which exist alongside national companies and startups, like Genexus, Nearsure, Prometeo, Light It, and dLocal, among many others that are starting to develop. In the last few years, several mergers and acquisitions of companies in the sector have been completed, with companies being acquired by foreign funds with global reach. This was the case of Pedidos Ya, which was acquired by the German company Delivery Hero.

2. ICT SECTOR IN URUGUAY

2.1. DEFINITION

According to the National Council for Innovation, Science and Technology (CONICYT, for its acronym in Spanish), Information Technology (IT) refers to the acquisition, treatment, storage, communication, deployment, and use of information, using various technologies. These technologies include all aspects traditionally covered by the disciplines of computer science, information systems, telecommunications, and signal processing, in all its forms, as well as some applications of basic sciences to these disciplines. IT and Information and Communication Technologies (ICT) are usually used interchangeably, however, "ICT" is a wider term that emphasizes the role of communications.

The main components of ICT are:

- **Networks:** the transmission routes where information travels. The routes can be fiber-optic cables, wireless or mobile cellular connections, or satellite.

- **Physical support** encompassing smartphones, computers and network elements such as base stations for information transmission services.

- **Computer programs** are the flow of all these components and they send the instructions from the operative systems to the Internet.

The combination of these technologies has made various applications possible, such as videoconferencing, teleworking, teaching, e-commerce and information treatment systems.

In this regard, the relevance of ICT lies in the fact that it is an enabler and facilitator of knowledge, information and communications, which are elements that are increasingly important in the global economic and social interaction. Digital innovation is transforming almost all sectors of the economy by introducing new commercial models, products, services and, ultimately, new ways of creating value and jobs.

Dynamic growth and the impact of software investments in the productivity and competitiveness of companies and the economy in general explain the interest the policy makers have on this branch, which is among the ones with the biggest growth, characterized by a strong increment of added value, job creation and investment in R&D. Both software packages and services relating to them are gaining market shares in the ICT markets as a whole.

Software is a crucial component of ICT, and encompasses the development and design of operative systems, applications, and computer science solutions, as well as their commercialization. The Organization for Economic Co-operation and Development (OECD) defines *software* as the production of a structured group of instructions, procedures, programs, rules and documentation contained in different kinds of physical support with the aim of enabling the use of electronic data processing.

The sector has evolved new tools that allow the optimization of old processes and the creation of new ones, in a way that establishes them as a basis for the growth of the rest of the companies in the economies. For example, the development of artificial intelligence opened up a new window in this sector that widened the creation horizon of these companies and brought new innovations, both for the sector and for those supported by ICT.

In the report "Local impacts of global industry trends" Raúl Echeberría said that: *"I think that right now the entire development of the industry is permeated by the advances in artificial intelligence and that is a challenge from the point of view of the advancement of the industry"* (...) *I think that we need to leverage the fact that we come from a country of agricultural*

exports, a country permeated by the experience of the entire chain of production and industry in agribusinesses and agricultural production, which also gives us a really big opportunity to work in those sectors and offer solutions where artificial intelligence, robotics and remote connectivity are integrated, and then expand them to the entire world."

Echeberría also highlights what an opportunity it is to use this tool in key sectors of the Uruguayan economy, like the agricultural and touristic sectors, in order to develop more efficient environments, a process he defines as *"Cluster Creation."* In turn, the president and executive director of WEVE Acceleration, Frances Simowitz, believes that IA tools are growing, and she highlights that Uruguay shows *"an interesting trend of healthcare and biotechnology companies born in Uruguay, which is excellent, since it is an industry that is garnering attention and investments worldwide."*

2.2. BUSSINES SEGMENTS IN ICT COMPANIES

In this report, the terms "IT services" and "ICT sector" refer to the group of companies that commercialize software design and development services, and perform testing services, IT consulting and other services related to implementation, maintenance, support, training and commercialization of software licenses. These services are exportable and they are part of what is known as Global Export Services, classified in the Software and Information Technology Outsourcing (ITO) segments, which include technology companies' operations, either through the provision of development services or the commercialization of technological solutions.[1]

CUTI defines four business segments of ICT companies in Uruguay.[2]

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[1] Uruguay XXI Global Export Services Report
[2] Based on Mordezki and Matthesen's classification (PEP-ICT for Global Services Program, 2012).

Segment	Description
Horizontal Application Software	Companies that offer technological solutions focused on solving specific functionalities (e.g. ERP, CRM, development engine, etc.). A few examples are: GeneXus, Kona, IBM, Datalogic.
Vertical Application Software	Companies that offer technological solutions for specific industries. A few examples are: Bantotal, Ripio, Sabre, Verifone, dLocal, Agrotech.
IT Services	Companies that provide technological services made for their clients or with a certain technical specialization, such as IT consulting, design, and development. A few examples are: Globant, TCS, Nearsure, UruIT, *Código del Sur*.
IT Infrastructure	Companies that provide services in IT environments, both in traditional infrastructure and in the cloud (e.g. hosting, security, storage, telephone and cloud services, networks, etc.). A few examples are: Latechco, Microsoft, ZTE, AT, ATOS, Logicalls, HG, Arnaldo C Castro.

IT services provide cross-cutting solutions in different sectors of the economy, resulting in defined sub-sectors defined by the interaction of technology with the various activities. The following are the most relevant IT services for Uruguay:

Smartcities: technological solutions that improve performance and life in cities in different aspects, making them more digital and sustainable. The solutions in this activity segment generally arise out of the combination of urban planning actions and ICT connectivity. It is in this framework that the first Smartcity in Latin America is being developed in the city of Colonia del Sacramento. The project is called +Colonia and is expected to be ready for habitation in 2025. The initiative is an investment of US$ 2.000 billion that aims to convert over 500 hectares of the department into a paradise of short-distance services.

Gaming: the video game industry is one of the fastest growing sectors in the entertainment industry. Uruguay has a sector Chamber —the Uruguayan Chamber of Video Game Developers (CAVI, for its acronym in Spanish)— that brings together the main companies of the sector. Some examples of global success in this sector are IronHide Game Studio's _Kingdom Rush_ trilogy, Pomelo Games' _Outlanders_ and Batoví Games' _Charrúa Soccer_. Likewise, Uruguay has become an appealing location for foreign companies in this field. This is the case of the Argentine company Etermax, the Argentine-American company Jamcity, and Globant, which provides video game development services. With over 25 companies and two tertiary careers dedicated to videogames, Uruguay has an ecosystem for entrepreneurs and resources for their evolution. Moreover, there is a local event, LEVEL UY, that brings together national and foreign companies. This event offers a global perspective of Uruguayan videogame studios and their projects, as well as those of the international companies located in Uruguay.

Agtech: the name of the sector comes from the combination of the concepts of Agricultural Technology, as digital technology applied to the agricultural sector. It is comprised of all the companies that develop solutions for agriculture. In a country like Uruguay, with a long tradition of agricultural and livestock production, this is a segment with an enormous potential for growth, both in regard to new solutions implemented in agriculture and in regard to the attraction of Agtech initiatives that could be able to benefit from the advantages that Uruguay provides in matters of climate, soils, and availability of appropriate spaces for testing new technological solutions. For example, ActualRed, located in Paysandú, has created a solution for connected machinery that is currently following the productive development of over 600 agricultural equipment moving in Uruguayan fields.

Biotechnology: in this area software solutions are combined with biological systems and live organisms to innovate in a wide range of industries, and it has had great significance and relevance in recent years. Of note in this area is The, a Uruguayan technology company that created an innovative solution for the evaluation and management of the risk of frost in high-

value crops. Another highlight is the Uruguayan company MetaBIX Biotech that has developed a combination of artificial intelligence and air sampling hardware to precisely predict outbreaks of diseases caused by viruses and bacteria in the sector. Lastly, the Argentine company Agrotoken has recently arrived in Uruguay. This company combines the agricultural and crypto worlds, by creating tokens for commercialization that are highly backed by the fact that they deal with grains.

Fintech: Uruguay has a long-standing tradition as a country that provides financial services, which conveniently matches the existence of technological companies, both local and international, dedicated to the development of innovative technological financial solutions for the financial sector. According to a survey conducted by ECLAC, there are about 70 fintech companies in Uruguay, mainly specialized in the development of technological solutions for financial institutions.[3] A big step for the sector was the acquisition of Inswitch by the American TransNetwork, as well as the capital raise by the Uruguayan fintech Prometeo, a company which connects global companies with banking entities located in Latin America. In matters of innovation in this sector, the Central Bank of Uruguay (BCU) has developed the NOVA BCU program, which seeks to incentivize national projects to improve these types of tools in the financial system. It aims to promote research in areas like open banking, virtual assets, and digital onboarding, among others. Also worthy of note is the work of Crowder. It is a venture born from the ORT'S CIE incubator, which offers a collective financing platform (crowdfunding) under license of the Central Bank of Uruguay and backed by blockchain, with the goal of enhancing the entrepreneurial ecosystem in Latin America, where bonds issued by associated companies can be financed by small and large investments. Finally, the Uruguayan Chamber of Fintech has existed within the ecosystem since 2017. The Chamber is in charge of bringing together startups and revitalizing the business environment and bolstering the growth of companies that work in the financial sector.

Healthech: this sector is comprised of companies that develop solutions for the healthcare industry. Uruguay has very interesting cases of companies that develop innovative solutions for this activity segment, even with a focus on demanding markets like the United States, where many times the solutions have to be approved by the Food and Drug Administration (FDA). Some examples of the expertise developed in Uruguay in this segment are companies like Integer, with a center for prototyping and developing medical devices development; Ingenious, a digital agency specialized in design and development of digital products for the

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[3] M. Lavalleja "Outlook. Main", Studies and Perspectives series - ECLAC Office in Montevideo, No. 48 (LC/TS.2020/53; LC/MVD/TS.2020/3), Santiago, Economic Commission for Latin America and the Caribbean (ECLAC), 2020.

Healthtech segment in the United States; and Qubika, which specializes in wearables.[4] Uruguay has also made advances with its healthcare system through the digitalization of electronic medical records and the progress of telemedicine. Of note here is the significant growth of Light-it. The company defines itself as a *software factory* that offers remote patient monitoring services. Among other projects, it has collaborated with doctors to make it possible to monitor a patient's health condition through traditional medical tools connected via their own wearables or software.

Artificial Intelligence: in over 30 years of development of global solutions from the Uruguayan ICT industry, the field of artificial intelligence (AI) has grown in a dynamic way within the most advanced technologies. That growth is owed to the momentum of the academic community, which got the country to have a consolidated sectoral ecosystem with sustained government effort, and with the aim of improving research skills and IA application in diverse fields. According to CUTI and Microsoft's report "Uruguay: IT Sector Talent Report", Uruguay is the leading country in the region in terms of people skilled in AI per 10,000 inhabitants. The chamber is considering forming a group of honorary experts that could collaboratively address the new challenges that this new tool brings to the country's services. Finally, the Global Index on Responsible AI prepared by the Global Center on AI Governance (GCG) is a tool that makes it possible to compare government commitments and country capacities in a three-dimensional way: capacities, human rights, and governance. In the 2024 edition, the organization placed Uruguay 19th globally, and second in South America in AI development in these areas.

DSense stands out in this segment, mainly due to its reach toward several companies, both international and operating in Uruguay. This company works in research projects in various areas that use tools like image processing, artificial vision for interpreting images, remote sensing, biometrics, and pattern recognition. As part of its growth process Digital Sense carried out projects funded by the National Innovation and Research Agency (ANII, for its acronym in Spanish) and it now exports high-value services to the United States, Israel, and Chile, among others. The company has collaborated with **Geocom** in the development of a land use plan management system for agriculture based on image management. Likewise, it has collaborated with **Satellogic** in satellite image processing for commercialization and georeferencing. It has also associated with **GlamST** for the development of a computer vision and augmented reality technology for a virtual make-up application.

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[4] *Wearable* refers to the set of electronic equipment and devices that are incorporated in some part of our body, interacting continuously with the user and with other devices with the aim of performing a specific function.

Additionally, there are more and more companies developing a wide range of AI solutions from Uruguay to the world. Some examples are: GeneXus, Globant, Idatha, Mercado Libre, TryoLabs y Ulta Beauty. Finally, the Technological Laboratory of Uruguay (LATU, for its acronym in Spanish) and Microsoft inaugurated the first AI laboratory in Latin America. This laboratory will offer local and regional companies the possibility to collaborate with global experts to develop advanced solutions. The laboratory is expected to generate a minimum of 300 projects in three years.

Cybersecurity: it is the practice of defending computers, servers, mobile devices, electronic systems, networks and data from malicious attacks. The role of cybersecurity is to permit the proper achievement of organizational goals and, increasingly, foster a competitive advantage. The report Cybersecurity: companies, public sector and healthcare institutions, published by the Agency for Electronic Government and the Information and Knowledge Society (AGESIC, for its acronym in Spanish) analyzes the state of cybersecurity in Uruguay. Some companies like Hacknoid, Strike, and Bprot, have started to develop in the country, offering technological cybersecurity solutions for local and foreign companies.

NewSpace: the space industry has been growing steadily in Uruguay, and the country offers advantages in the region due to its shoreline of over 100km, and positioning and orientation that are strategic for activity in this area. Companies like Satellogic, which specializes in the development of satellite solutions for image collection, and Epic Aerospace, which specializes in last-mile space transportation, established the consolidation of this business branch. Also noteworthy is the activity of the American technology company Space AI, which will install a research laboratory in Uruguay for software development, hardware and satellite integration, along with the data collection necessary for these activities. The boom of this sector in Uruguay was an opportunity for the company, which decided to invest US$ 5 million and hopes that its activity will be the perfect companion to the country's space industry. In this regard, it will work alongside Tlon Space S.A., a company dedicated to putting satellites in orbit. The final aim of the initiative is to construct a space port in the department of Rocha for the launch of these satellites. It is expected that the project will start moving forward in 2025.

# 3. ECONOMIC RELEVANCE OF THE ICT SECTOR

3.1.HISTORY OF THE SECTOR IN URUGUAY

In 1967, with the creation of the Computing Institute and the university degree in Computer Science —which was later replaced by the Programmer Analyst and Computer Systems Engineer degrees—, Uruguay became a pioneer in Latin America in the development of academic offers in the ICT area. This facilitated the emergence of local companies and the creation of development centers in big companies. A generation of corporate leaders with experience in the technological needs of various vertical sectors developed alongside the sector.

In 1969 the Uruguayan Software Chamber was created; today it is known as the CUTI. This association is currently comprised of over 400 companies in the sector and aims to promote the development and growth of the technology industry in Uruguay. In 1999, it was declared that the sector was of national interest, and it was granted a special regime with tax incentives (Decree 84/999). Since 2002, companies in the sector have been eligible for tax exemptions. In particular, through Decree No. 150/007, the export of software and related services is exempt from income tax from businesses (IRAE). The specific rules and regulations of the ICT sector can be found in: Regulatory Framework.

These factors have permitted the emergence of professional capabilities and companies that develop technologies that are competitive at an international level. They, in turn, have leveraged the small size of the local market for the implementation and testing of their solutions, and nowadays are part of the business network. Uruguay got an early internationalization in this area compared to the rest of the countries in the region, a process that started during the late 1980s. The sector maintained a dynamic growth that means that Uruguay is currently the second exporter per capita of software and IT services (SSI, for its acronym in Spanish) and the fourth exporter in dollars in Latin America.

Graph No. 3.1
Software exports in Latin America
(2023, US$ per capita)
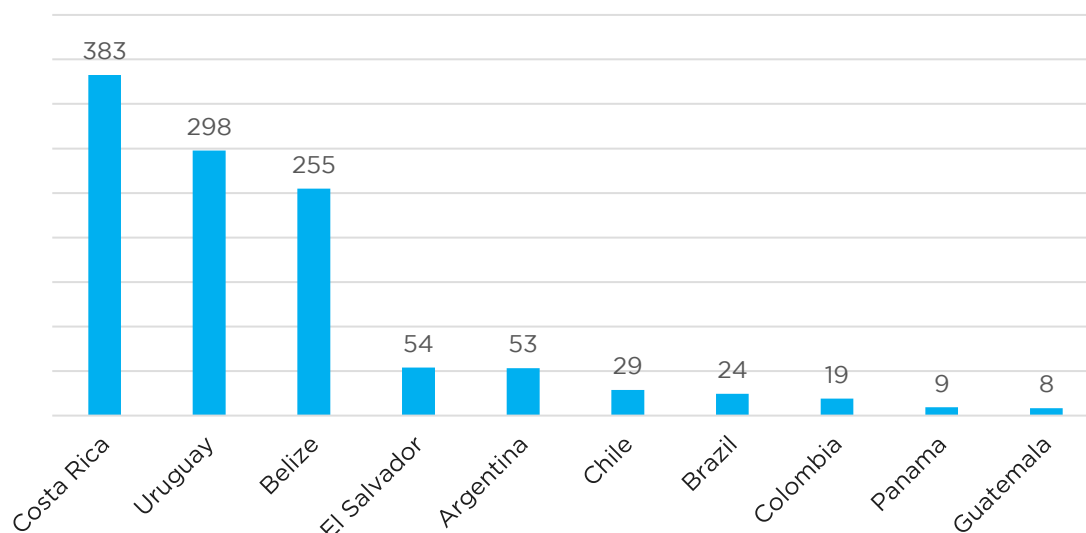
Source: United Nations Conference on Trade and Development (UNCTAD).

At the same time, Uruguay made important advances in the development of policies and incentives promoting a good business environment for investments. This, in addition to its track record of being a country that is stable, serious and with clear rules, fostered Uruguay becoming a regional hub, where the following operations and activities take place (sometimes in combination): regional distribution and logistics centers; regional headquarters and shared services centers; development centers; infrastructure services and operations.

Technology companies can install a global operation in Uruguay covering the entire ICT value chain, establishing commercial and/or logistical offices as well as service operations (SSC and ITO), and even R&D and testing centers for new technologies. The companies will also be immersed in a dynamic innovation ecosystem that offers attractive M&A opportunities. Some of the largest international operations in Uruguay include Tata Consultancy Services (TCS), Sabre, Mercado Libre, Globant, Pedidos Ya (Delivery Hero), Netsuite and Verifone (see success stories).

CUTI's strategic plan for 2025 aims for the sector to account for 5% of the GDP.[5] In this regard, the Industry 2030 plan is one of the areas most voted for among members of the chamber. The goal of the plan is to have a quality and value leap in the sector's output. The plan focuses on a slow change in the paradigm of the sector's structure in regard to the focus of the software companies in the country. The goal is to transition from companies that offer services (companies that develop products for other companies that will then offer solutions) toward companies that create final products (companies that develop products for themselves). According to the CUTI, 70% of companies in the information technologies sector are currently service companies. The aim is for 50% of the companies to be product companies by 2030.[6]

3.2. COMPANIES, TURNOVER AND EXPORTS

According to data from the Ministry of Labor and Social Security (MTSS, for its acronym in Spanish), in 2023 549 companies operating in the ICT sector were registered in Uruguay. Of those 549 companies, 69% were small companies, with between 5 and 20 employees; 26% were medium companies, with less than 100 employees; and the remaining 4% were large companies, with over 100 employees.

Table No. 3.1
ICT companies by size
(2023)

Size	Companies	Share %
Large	23	4%
Medium	145	26%
Small	381	69%
Total*	**549**	**100%**

Note: Microenterprises are excluded (9,231 microenterprises linked to the IT sector).
Source: MTSS.

In this section, the information from the MTSS is supplemented by CUTI data. The ICT sector report prepared by CUTI (2022) is based on a survey of 270 companies that are members of

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[5] At the date of this report, CUTI is creating a new action plan, that aims to give continuity to the growth of the sector and to lead to a larger percentage of the national GDP.
[6]   See   https://www.elpais.com.uy/negocios/noticias/el-sector-pujante-de-la-economia-uruguaya-que-busca-representar-el-5-del-pib-nacional-en-2024

the chamber.[7] The companies in the sector that are associated to the chamber are micro and small companies, and the other half are medium or small companies, which results in the sales data of these companies being an average of the reality in the sector. According to the data, IT companies produced US$ 2.840 billion in 2022, which accounts for 4% of the GDP. Production has been growing at a good pace over the last few years, and in 2021 it reached pre-pandemic levels again. There was record growth in 2022, when it increased 46% compared to the previous year. This growth was almost fully due to the growth of the sector, because ANTEL's turnover —the state-owned telecommunications company— has been fairly stable compared to 2021.

When looking at the production segments, IT services accounted for most of the production, with sales amounting to US$ 1.719 billion in 2022, which represented a 70% interannual growth when compared to the turnover in 2021, driven by the growth of exports. This segment also accounted for most of the companies in the sector as a whole, and represented 61% of the entire sector's participation. IT infrastructure was the second most important segment, amounting to 23% of the turnover (US$ 657 million in monetary terms), with a bigger group of companies than in 2021. The main company was ANTEL, with its bandwidth and optic fiber structure. Companies that create horizontal application software also grew notably in 2022, and had a combined turnover of US$ 234 million, with a growth of 212% in interannual turnover. This shows the growth of this type of software, which offers general services to different areas of the entire economy. Finally, vertical application software companies had a 4% decrease in interannual turnover, for a total turnover of US$ 230 million, representing 8% of the sector's total.

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[7] These are companies that have a classification in accordance to their main business segment and billing bracket needed for the processing of the data according to the methodology used in the report.

Uruguay XXI
PROMOCIÓN DE INVERSIONES,
EXPORTACIONES E IMAGEN PAÍS

Graph No. 3.2
ICT sector turnover
(US$ millions)
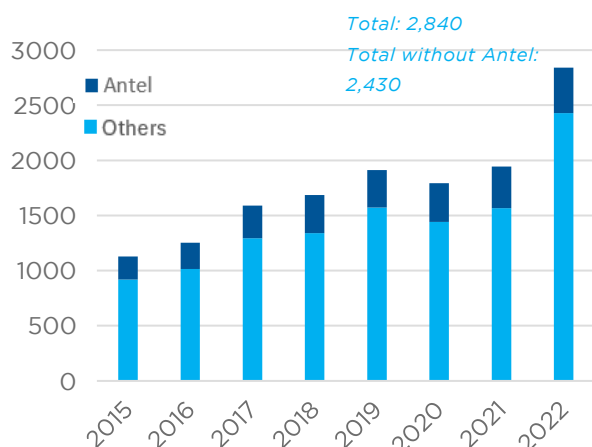
Table No. 3.2
Turnover by business segment 2022

| Turnover			
	Mill. US$	Share %	Var. % 22vs21	Companies
IT Services	1,719	61%	70%	143
IT Infrastructure*	657	23%	6%	65
Vertical	230	8%	-4%	19
Horizontal	234	8%	212%	43
Total	**2,840**	**100%**	**46%**	**270**

* Includes Antel
Source: CUTI 2022.

If we look at the data by segment **IT services** ranked first in terms of invoiced amounts in 2022. This was primarily caused by the greater exports related to this segment. In 2022, 85% of IT services were exports, which resulted in an increase in both the invoiced amounts and in the distribution of these services**. IT infrastructure** ranked second and was directed almost entirely to the domestic market. **Horizontal application software services** owe their large growth in 2022 to a greater opening to the external market. In 2021 the turnover was US$ 75 million, with a 43% opening and in 2022 the amount was US$ 234 million, with 70% of the turnover being exports. Finally, **vertical application software services** held steady compared with their performance in 2021, exporting 82% of their services.

In regard to the distribution of companies by their turnover amount, data from the IT Industry Monitor, created by CUTI, shows a good amount of companies with a large turnover operating in the sector. Data from the first quarter of 2023 shows that of the 59 companies surveyed by the chamber, 29% declared an annual turnover of over US$ 5 million, and 39% an annual turnover between US$ 1 million and US$ 5 million.

The sector's good performance was largely due to the consistent increase in foreign sales over the last year. According to the BCU, IT services exports showed a consistent increase over the last 10 years. While some specific years show deterioration in general terms the sector

increased its foreign turnover significantly. In this respect, ICT exports grew, on average, 30% per year in the last 10 years, which meant US$ 1.020 billion in exports in 2023.

Graph No. 3.3[8]
ICT sector exports
(US$ Millions)
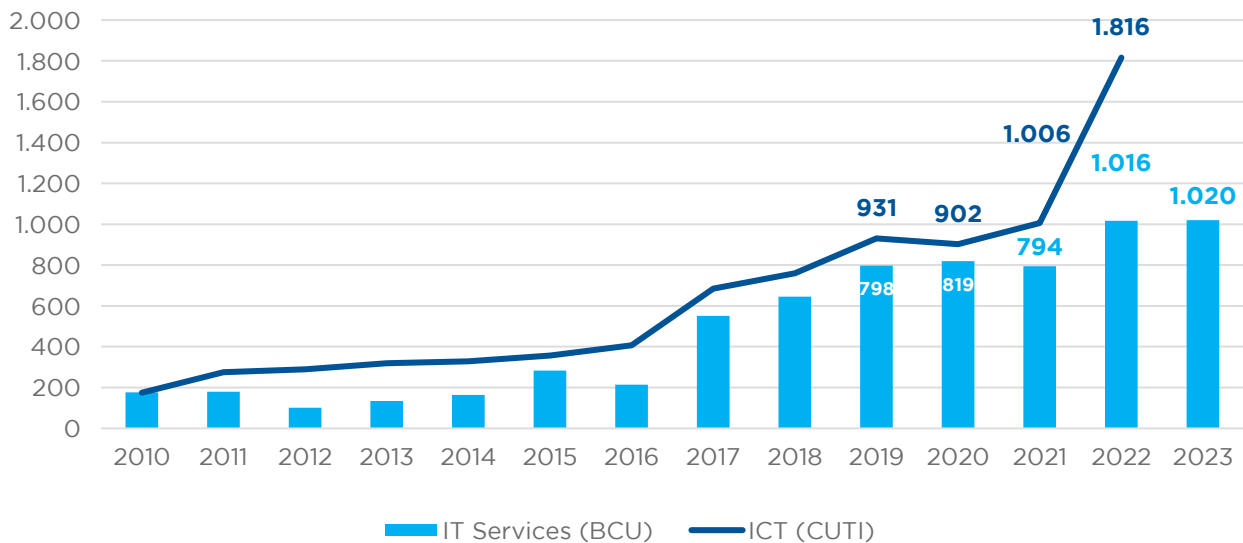
Note: CUTI figures include sales made through subsidiaries of Uruguayan companies abroad. This category of sales accounted for approximately 7.7% of exports in 2022.
Source: BCU and CUTI

Meanwhile, export data obtained from the CUTI survey also shows significant growth in the last decade. In 2022, it totaled US$ 1.816 billion, a growth of 81% compared to 2021. The survey allows data analysis by segment and by export destination. Taking into account data published by CUTI, the sector's exports increased strongly in the last decade, with a turning point in 2016. The average annual growth for the last 10 years was 21%.

The increase in exports in 2022 is due to larger sales of IT services software. Besides representing 80% of the sector's exports this year, IT services grew 91% compared to 2021. The large growth of horizontal application software services contributed to the sector's growth. More specifically for 2022, in that year these services increased their foreign turnover by 409% and reached US$ 163 million (compared to US$ 32 million in exports in 2021). They accounted for almost the same export fraction as vertical application software services (which

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[8] Accurately measuring the exports of the ICT sector based on official records is complex, because the sales of these companies can fit in various classifications in statistics. This report analyzes two sources: statistics reported by the BCU and the survey presented by CUTI. The differences can be explained by the classification used by the BCU for companies that offer IT services, compared to the registry used by CUTI for its survey.

amounted to US$ 189 million in 2022). Finally, infrastructure services slightly decreased their exports, totaling US$ 7 million in 2022.

Table No. 3.3
Export focus by business segment
(Market Share %)

Business segment	% Exported	% Exporting Companies
IT Services	85%	81%
IT Infrastructure*	1%	36%
Vertical	82%	81%
Horizontal	70%	75%
Total	**52%**	**74%**

Graph No. 3.4
Exports by business segment
US$ Millions
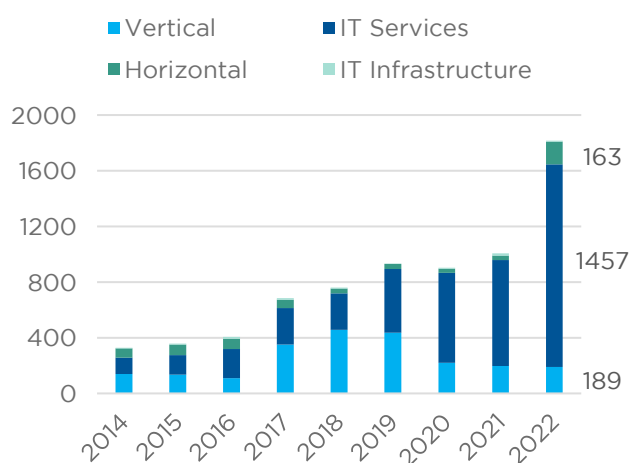
Source: CUTI 2022

The United States was the main export destination for the ICT sector, at a higher percentage than in 2021. More specifically, exports to this country went from accounting for 58.6% to 86.6% in 2022, totaling US$ 1.573 billion. The United Kingdom ranked second in 2022, followed by Argentina.

Table No. 3.4
Top 10 export destinations

|	2021		2022	
Destination	**US$ Mill**	**Share (%)**	**US$ Mill**	**Share (%)**
United States	590	58.6%	1,573	86.6%
United Kingdom	175	17.4%	87	4.8%
Argentina	16	1.6%	35	1.9%
Canada	24	2.4%	27	1.5%
Chile	43	4.3%	15	0.8%
Colombia	30	3.0%	13	0.7%
Brazil	6	0.6%	11	0.6%
Peru	15	1.5%	9	0.5%
Panama	6	0.6%	7	0.4%
Paraguay	12	1.2%	7	0.4%
Other	89	8.8%	33	1.8%
Total	**1,006**	**100%**	**1,816**	**100%**

Source: CUTI

4. TALENT

4.1. JOB CHARACTERISTICS IN THE INDUSTRY

According to CUTI and Microsoft's "Uruguay: IT Talent Report", prepared with data from their online professional network, Uruguay is the country in the region with the highest ratio of people with IT skills per 10,000 inhabitants (64 people per 10,000 inhabitants), although it is far from the values of the United States (187 people per 10,000 inhabitants). The document also highlights the fact that Uruguay has 2.3 people with AI skills per 10,000 inhabitants, thus ranking as the country with the highest proportion, followed by Chile (2) and Brazil (1.8).

Regarding employment in the sector, according to data from the MTSS, in 2023 the ICT sector employed around 32,955 people. Breaking this down by company, the data shows that most workers are in medium and large companies, which have 44% of the workers in the sector. Small companies accounted for 10% of workers and the employment percentage associated with microenterprises was 46%. Excluding microenterprises, workers in the sector totaled

slightly above 17,923.[9] Data from the aforementioned CUTI survey shows that companies from the sector reached record numbers, with almost 20,000 people employed in 2022. From this figure, almost 70% were dependents of their hiring company. The scope of the survey consisted of companies that are members of the chamber, and that is why it differs from the MTSS registry, but it nonetheless provides a very good approximation of the reality of the sector. Additionally, 44% of the workers were between 25 and 34 years old.

Graph No. 4.1
Employment by company size
(2023, % of total = 32,955)
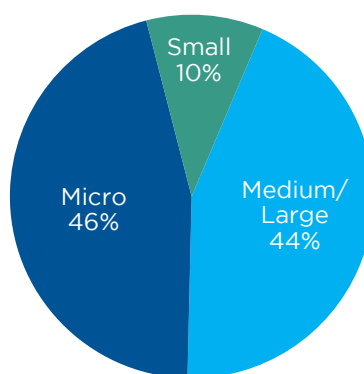
Source: Uruguay XXI based on MTSS 2023.

Employment in this sector is very intensive in highly qualified human capital. Consequently, ICT is considered a driver of development. The participation of people with a university degree in the ICT sector was 32%, while in the total employed population this figure was 11%.

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[9] Some medium and large companies hire workers as individual enterprises (microenterprises), so the participation of microenterprises in the sector would be lower.

Graph No. 4.2
Employment and level of education
Percentage of employed individuals by education level completion

■Other employed individuals   ■ICT Sector

	Primary School	Middle and High School	Tertiary (non uni)	University	Postgraduate
Other employed individuals	44%	32%	6%	5%	1%
ICT Sector	100%	99%	17%	38%	3%
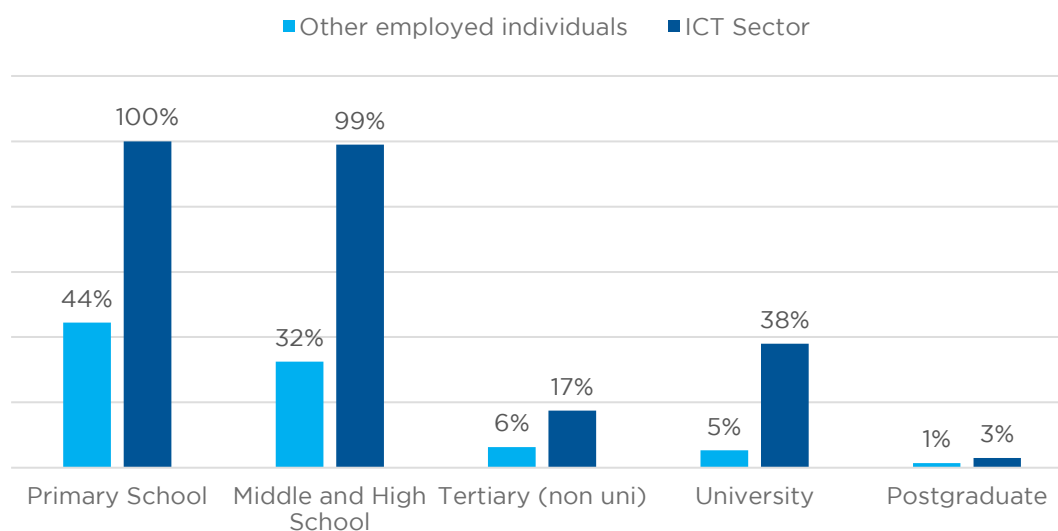
Source: Uruguay XXI based on ECH2023.

In matters of distribution, employment is mainly concentrated in IT services tasks, where software developers, application programmers, and technicians and systems analysts are the majority of workers. Meanwhile, electronic engineers represent a very important portion of workers. Other tasks like administration and accounting are also predominant among the workers in the sector. The following data refers to the Continuous Household Survey (ECH, for its acronym in Spanish), which showed 22,564 employed individuals.
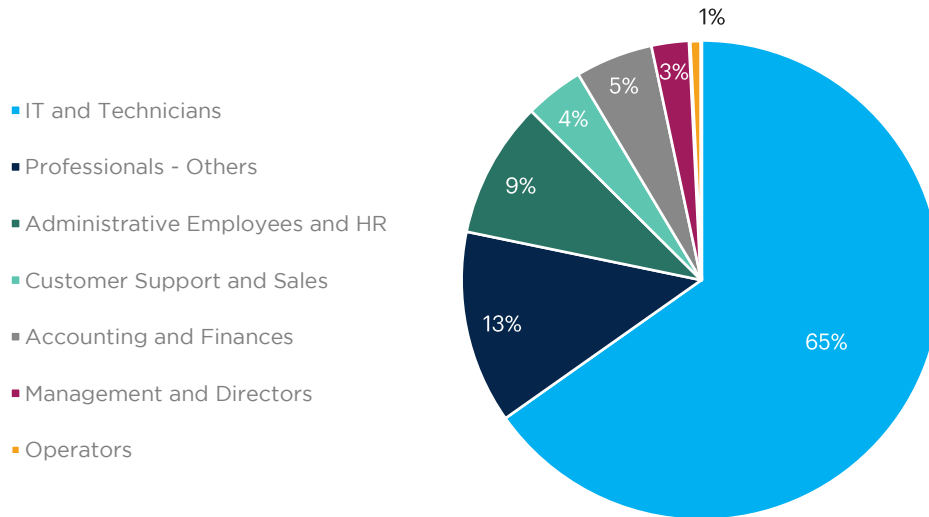
According to the 2022 Academic Formation in ICT report[10], there were 5,941 admissions, 20,082 enrollments and 1,261 graduations in that year. This was an increase in all areas compared to 2021 (see Table No. 4.3).

Regarding undergraduate-level university education, there were 13,077 enrollments for ICT studies, a 12% increase compared to 2021. This accounted for the highest portion of enrollments in ICT education offerings. The same report noted that, once again, the University of the Republic had the greatest number of admissions, with 35% overall, and a total of 2,079 students. It was followed by ORT University, with 1,949 admissions (33%) and the Technological University of Uruguay with 1,016 (17%). Technical education contributed 6,251

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[10] Source: CUTI (May 2024). For more information, see here.

enrollments to the sector, a 25% growth compared to 2021. Finally, there was also an increase at the post-graduate level, with 754 enrollments, a 95% increase compared to the previous year.

Graph No. 4.3
Employment by type of job
(% of total = 22,564)

- IT and Technicians
- Professionals - Others
- Administrative Employees and HR
- Customer Support and Sales
- Accounting and Finances
- Management and Directors
- Operators

1%
5%
3%
4%
9%
13%
65%

Source: Uruguay XXI based on ECH 2023.

Table No. 4.1
Employment by job type - IT and professionals

Task/Title	Jobs	Share %
Total - IT and Technicians	**14,716**	**100%**
Application programmers	3,529	29%
Software developers	3,035	21%
ICT Operations Technicians	2,441	15%
Systems Analysts	2,192	14%
Network and computer systems technicians	852	5%
Web and multimedia developers	817	4%
ICT services directors	561	3%
Software and multimedia developers and analysts and analysts not included elsewhere	541	3%
ICT installers and repairmen	248	3%
Web technicians	229	1%
System administrators	144	1%
Database designers and administrators	127	1%
Professionals - Others	**2,938**	**100%**
Electronics engineers	1,714	58%
Advertising and marketing professionals	87	3%
Graphic and multimedia designers	521	18%
Other	616	21%

Source: Uruguay XXI based on ECH 2023.

According to the IT Job Monitor created by CUTI and Advice on talent demand, between November 2022 and October 2023, 18% of all analyzed openings corresponded to companies that perform ICT-related activities. There were 12,001 total openings in companies belonging to the ICT sector, which made it the second most requested area, after Business Management and Marketing. Job offers to workers with ICT skills totaled 16,369, with 19% corresponding to companies that do not have activities in the sector but still need qualified personnel in those areas.

Regarding the gender gap, the CUTI and Microsoft report shows that the gap in Uruguay is slightly below the average in the region but is still far from the United States. According to MTSS data, women had low participation in the sector in 2023, at 32%. Currently, there are several initiatives focused on the empowerment of women working in STEM. Some of them are Girls in Tech, IT Women and the Interinstitutional Roundtable of Women in Science, Technology and Innovation. There are also gender quotas in promoted programs like *Sembrando*. In 2021, a program called Women in the IT sector was launched, with financing from the European Union.

Graph No. 4.4
Employment by gender and department
(2023, % of total = 22,564)
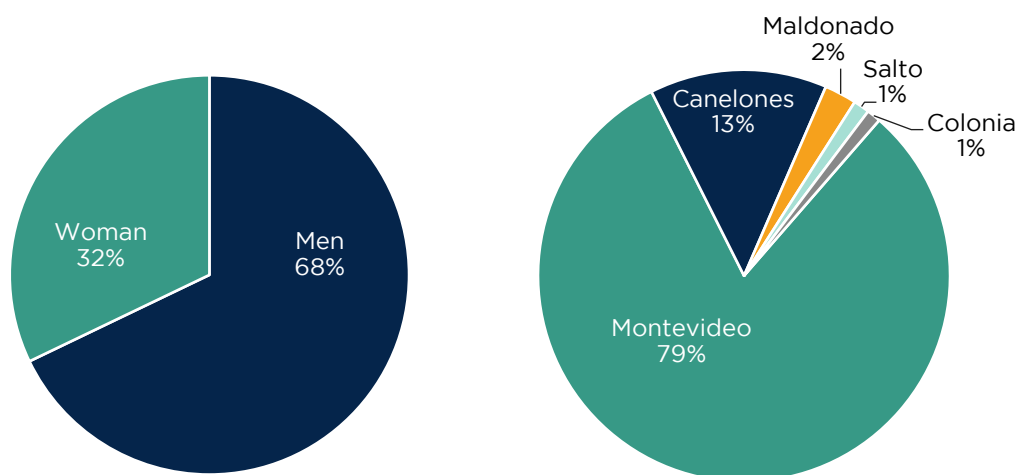
Regarding employment by department, Montevideo had a decrease in its concentration, with 79% of the workers of the sector, compared to the 90% figure it registered in 2022. Meanwhile, Canelones increased to 13%. While these two departments have 92% of the total IT employment, diversification toward other regions of the country is starting to be noticeable. An important thing to note is that from the total number of people who reside in Canelones and work in the sector (3,042 people), only 53% of them work in the department. The remaining 47% practices their profession outside of Canelones. The ease regarding work regimes could explain this effect, which is only noticeable in this department.

In turn, there is a more noticeable trend of companies starting to operate from the interior of the country. This trend is mainly owed to a larger academic offer outside the capital, which allows the development of these companies with local workforce. The presence of the University of the Republic, the Technological University of Uruguay (UTEC, for its acronym in Spanish) and the advances in virtual courses contributed to this. One of the most outstanding examples is Abstracta, a company that has been in business for 15 years and that originated in the department of Salto. Supported by the *Norte Tecnología* group, there are about 25 companies in the area comprised of Salto, Paysandú, Artigas, and nearby places in Argentina. Another example is Globant, a company that has continued its expansion toward Punta del

Este, where it recently set up operations in light of the opportunity to have qualified workers from Maldonado, and keep a virtual working regime for some of its areas.

4.2. LANGUAGE SKILLS

The Uruguayan workforce has shown a consistent growth of its language skills, in particular English and Portuguese. English is taught in almost all public primary schools, with the support of *Ceibal*. The large majority of private primary schools have also incorporated English to their curricula. In addition to that, many primary schools have also added Portuguese to their curricula. English instruction is mandatory in both public and private middle schools and high schools.

Being fluent in several languages has become almost an exclusionary requirement for working as a provider of IT services and other global services. In this regard, it is relevant to mention some of the results of the first Telephone Language Survey (ETI, for its acronym in Spanish) (ETI, 2019), done by INE and financed by Uruguay XXI. This national survey was conducted with the basis on a subsample of the ECH, which makes it possible to cross-reference the results with the variables of note that are included in the ECH. This survey investigated the knowledge level of languages other than Spanish —delving deeper into English and Portuguese— of people between the ages of 15 and 60 residing in urban areas in Uruguay. The ETI results[11] showed that 66% of people know languages other than Spanish. Additionally, 32% of people in Uruguay speak two or more languages (other than Spanish). In particular, information for 6 specific languages was collected: English, Portuguese, German, French, Italian, and Mandarin Chinese. English was the most widespread language, as 56% of the surveyed population knows the language; it was followed by Portuguese, which reached almost 30%. Almost every person associated with ICT activities knows more than one language, and the sector is characterized by having the highest levels of knowledge of more than one language of all global services.

In turn, the report "Uruguay: Talent Report in the IT Sector", by Microsoft and CUTI, analyzes the knowledge of languages in people with IT skills and a LinkedIn presence. The majority of these individuals (68%) indicated knowledge of English. Moreover, knowledge of other languages was identified in lesser proportions: 15% of Portuguese, 4% of Italian, and 2% of German.

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[11] For more information see: Telephone Language Survey (ETI), 2019.

Table No. 4.2
Employed individuals who speak more than one language by type of activity
(% of the total employed in each category)

	ISIC Rev 4* Section	Knowledge of a foreign language	English	Portuguese
J	Information and communication	98%	94%	51%
K	Financial and insurance activities	84%	72%	42%
M	Professional, scientific and technical activities	89%	86%	40%
N	Administrative and support service activities	58%	43%	41%
	Overall Services	**79%**	**70%**	**42%**

*Includes all sub-sectors (ISIC 4).
Source: Telephone Language Survey (ETI, 2019), INE.

In Uruguay, this sector is characterized by workers with a very high level of education in comparison to the rest of the population, workers that are also fluent in more than one language.

4.3. EDUCATIONAL AND EMPLOYMENT OPPORTUNITIES

Uruguay has a mixed educational offer from pre-school to university, with free, public centers and private centers. Uruguay was a pioneer in Latin America in the development of an academic offer associated to the ICT area. The offer related to ICT at the technical, undergraduate and post-graduate level has increased in the last few years (at the private and public levels) and it has also expanded to the interior of the country, mainly due to the Technological University of Uruguay (UTEC) and the General Directorate of Technical and Vocational Education (DGETP for its acronym in Spanish, also the UTU). Also, relevant and worthy of mention are bootcamps, which make it possible to study related careers remotely, thereby contributing to education outside of the capital.

The Academic Training in the ICT sector report by the IT Observatory at CUTI and the Statistical Yearbook of the Ministry of Education and Culture 2022, presented data relating to the IT academic offer in the country, with the aim of analyzing future trends. The following table summarizes the composition of the ICT academic offer, where the annual increase of both admitted students and graduates stands out. In 2022 there were over 1,200 graduates from degrees in the sector (including technical, undergraduate and postgraduate degrees).

An increase in enrollment is also appreciable; there were 20,082 enrollments in 2022, which corresponded with an increase in admissions, at over 1,200.

Table No. 4.3
Academic Offer in the ICT sector

ACADEMIC OFFER		2022			2021		
DEGREES:		Admissions	Enrollments	Graduates	Admissions	Enrollments	Graduates
TECHNICAL	Men	1,564	4,544	355	1,256	3,683	389
	Women	591	1.707	197	522	1,332	198
	Total	**2,155**	**6,251**	**552**	**1,778**	**5,015**	**587**
UNDERGRADUATE	Men	2,245	9,826	352	1,885	8,871	264
	Women	842	3,251	168	677	2,843	134
	Total	**3,087**	**13,077**	**520**	**2,562**	**11,714**	**398**
POSTGRADUATE	Men	401	464	122	198	267	116
	Women	298	290	67	145	120	52
	Total	**699**	**754**	**189**	**343**	**387**	**168**
Totals		**5,941**	**20,082**	**1,261**	**4,683**	**17,116**	**1,153**

Source: Compiled by the authors based on CUTI and Statistical Yearbook of the MEC 2022.

Undergraduate education

Within the university sector, the institutions that teach IT in Uruguay are:

- University of the Republic - UdelaR
- ORT Uruguay University - ORT
- Catholic University of Uruguay - UCU
- University of the Enterprise - UDE
- University of Montevideo - UM
- CLAEH University
- Technological University of Uruguay - UTEC

Enrollment in undergraduate ICT programs reached 13,077 students (12% more than in 2021), which accounted for 65% of the educational offer in 2022. The increase in admissions is mainly attributed to the expansion of the offer from UTEC, an expansion which resulted in the university doubling its admissions at this level. By comparison, the ORT, with a constant volume of offers, achieved a 33% increase in their admissions. On the other hand, the increase in graduates was noticeably led by UTEC.

There was a larger diversification in the admissions to university education. Montevideo registered 87% of the total admissions, compared to the 92% recorded in 2021. This meant an increase in admissions in the interior of the country, where the 13% was distributed mainly between Río Negro, Durazno, Lavalleja and Cerro Largo.

UdelaR was the institution that attracted the most students for IT degrees, with 46% of the admissions in 2022. ORT Uruguay University also had a strong presence, with 27% of the admissions in this period. The growth of the UTEC was represented by having 12% of the students in 2022.

Non-university technical education

This category includes degrees that are shorter than undergraduate degrees, but that have the endorsement of both technical and government levels. These degrees are taught by public and private companies, and the only requirement is the completion of middle and high school.

Some of these institutions are:

- University of the Republic - UdelaR
- General Directorate of Technical and Vocational Education - DGETP/UTU
- ORT Uruguay University - ORT

- Catholic University of Uruguay - UCU
- University of the Enterprise - UDE
- Center for Higher National Studies (Ministry of National Defense) - CALEN
- CLAEH University
- Technological University of Uruguay - UTEC
- BIOS Institute

This sector accounted for 36% of new admissions in 2022, a considerable portion of the qualified workers in the sector. Additionally, 44% of the total graduates and 31% of the enrollments came from technical education. These figures show an improvement in comparison with 2021, with increases in both admissions (+21%) and enrollments (+25%).

Geographic diversification has been a key factor for technical education and the entire educational offer, because it has permitted less reliance on the capital for the education of qualified IT workers. In this sense, according to the Academic Training in the ICT sector report from CUTI, institutions located in Montevideo accounted for 69% of the total. The rest was divided between virtual courses and departments from the interior of the country. Virtual courses, an important tool in contemporary education, attracted 9% of students from technical institutions. The departments that stood out from the rest were Maldonado (7%), San José (5%), Paysandú (4,5%) and Rivera (3%).

ORT Uruguay University was the institution that attracted the most students to technical education, accounting for almost half of the admissions in 2022. It was followed by UdelaR with 23% of admissions and the University of the Enterprise with 13%. There is a considerable gender gap in the admissions in 2022: 64% of the students were men, compared to 36% of women. In regard to the graduates, 552 students graduated during this period, a 26% graduation rate for these degrees.

Postgraduate ICT education

This category includes specializations, certifications, master's and doctorates in the ICT area. The postgraduate offer includes public and private institutions, and UdelaR is the institution with the highest number of offerings. Some of the institutions that offer these degrees and certifications are:

- Center for Higher National Studies (Ministry of National Defense) - CALEN
- University of the Republic - UdelaR

- Technological University of Uruguay - UTEC
- Catholic University of Uruguay - UCU
- University of Montevideo - UM
- University of the Enterprise - UDE
- CLAEH University
- ORT University

In the last year, the postgraduate degrees area showed a large increase at all levels. Compared to 2021, there were increases in enrollments (+95%), admissions (+104%) and graduates (+13%). Similarly to the other educational levels, the growth in postgraduate studies is attributed to the UTEC, which in 2021 registered 47 admissions and 162 enrollments, and in 2022 registered 432 and 487 respectively. This is also explained by the addition of new postgraduate degrees. Thus, UTEC cemented itself as the largest source of admissions in postgraduate degrees in 2022 for ICT professionals.

The offering was mainly focused on Montevideo, where the admissions accounted for 88% of the country's total. Additionally, 8% of admitted students in postgraduate education attended classes via blended learning or remotely. Finally, Rivera accounted for 4% of the admissions, being the only department in the interior of the country that offers this level of education.

In regard to the graduates, there was a 13% growth in compared to the previous year, totaling 189 graduates from these careers in 2022. The graduation rate for postgraduate degrees was approximately 27%, with a gender distribution of 65% men and 35% women.

Bootcamps

In addition to the formal academic offer, educational bootcamps are on the rise, which makes it possible for people to learn and train in the IT sector without having to attend a physical institution. Bootcamps have developed more over the last few years, because the educational demand for IT has required a larger offer, and there was also a need for an alternative way of learning after the pandemic.

The public sector has also implemented projects that provide courses to this portion of the population. The program Youth should learn Programming was created by *Ceibal* with support from CUTI, the IDB Group's Innovation Lab, and the National Institute of Employment and Vocational Training (INEFOP, for its acronym in Spanish). It started in 2017 and it offers training in the ICT sector to young people between the ages of 18 and 30 in the entire country

with the aim of creating awareness. Youth should learn Programming (JaP, for its acronym in Spanish) has registered over 5,000 graduates in the seven years it has been providing training. In this period there is an even distribution between Montevideo and the rest of the country, as 53% of the graduates reside in the capital and the rest are located throughout the entire territory, thus expanding training at an integral level within Uruguay. In regard to job placement, JaP graduates show a 17% increase in employment, a 34% increase in IT-related jobs, either by working in the sector or in related companies, and a 28% decrease in low-skilled positions.

In 2022, Uruguay Bootcamp was launched to create easy access to training and working in information technology. In a short time, people are trained in the essential skills required by the industry in order to assume an important role in a team and achieve company objectives. It is financed with economic support from INEFOP scholarships.

Another program dedicated toward training in the sector was b IT, which is entirely online, is promoted by CUTI, and has financial support from INEFOP. The program started in 2017 and lasted for two years. It granted 2,200 scholarships and trained 1,500 students in Python Devs, 250 IT analysts and 900 developers.[12]

The private sector has also started to provide alternatives for the training and education of ICT students. Holberton is a code programming school from Silicon Valley operating in several countries that arrived in Uruguay in 2020. It was founded by investors with experience in technology and education in companies like LinkedIn, Yahoo! and Docker, with the aim of bridging the digital divide by offering educational programs for quick insertion into the job market, using innovative methodologies. In Uruguay, the school has an academy in Jacksonville, *Zonamerica*. Ability to pay and previous working or educational experience is not needed in order to apply; the only requirements are being over 18 years old and having a basic English level.

Hack Academy is an educational institution founded in 2016 in Montevideo. It specializes in online and in-person programming courses, both part-time and full-time. Its mission is to train programmers and insert them into the IT labor market in as little time as possible. A lot of the

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[12] Read more: A course to enter the ICT world and reconvert in the workplace — El País.

courses are designed for people with little to no previous programming knowledge, but there are also courses focused on people with previous experience.

Certified developer is a degree created by Digital House alongside Mercado Libre and Globant, with the support of IDB and the UTEC. This two-year degree was designed with the aim of developing soft skills in their Professional Developer, Back End, and Front End certifications. Moreover, its online mode allows flexibility in the scheduling.

Senpai is an academy with over six years of experience that operates in several countries in Latin America. In Uruguay, it specializes in offering courses in Digital Marketing, Programming, Digital Products, Videogames, and Data Science. Likewise, Senpai develops made-to-measure trainings for companies with the specific focus that they require, according to their business model, situation and needs.

In 2014, Coderhouse created the first Digital School in Argentina, and it provides effective education in the fastest and most accessible way. In 2019, they started to teach 100% online and live courses, and they welcomed the first students from outside of Argentina. They have courses on UX/UI design, programming, and data analysis, among others.

Another initiative to worth mentioning is the UTEC bootcamp, that aims to train people with skills and tools that will allow them to become software programmers. It was implemented in collaboration with 4Geeks Academy (for more information, see here).

Additionally, through this macroeconomic environment, programs aiming at training people at the first learning stages have also emerged. These are programs like Wecode or MoscaLab that have the aim of children learning through robotics and programming in a way which allows them insertion into the world of technology, all while developing personal competence.

In regard to the offer in training at the school and high-school levels, Uruguay is the first country in the world to give a laptop to every child, teenager and teacher in the educational system (and also to train the teachers in the use of that tool), due to the Educational Connectivity Plan for Basic Information Technology for Online Learning, known as the *Ceibal* Plan. The plan was inspired by the "One Laptop per-Child" project created by MIT and it has been implemented since 2007. One of the greatest achievements of the plan is the reduction of the digital divide associated to income levels (see section on technological infrastructure). The *Ceibal* platform is also available in English, which has contributed to bilingualism in the Uruguayan population.

Finishing schools is a tool developed in a strategic alliance between Uruguay XXI and INEFOP to facilitate development and access to talent for the new investments that arrive in the country with a focus on exports and that are aimed toward generating new jobs. The program aims to support the demands of the companies through co-funding to implement training plans intended for the development of the technical competences or soft skills of workers with the intention of incorporating them to their staff. It provides funding —in a non-refundable way— for up to 70% of the costs of on-demand training plans for companies. In addition, the program offers a specific mode that facilitates intensive digital trainings (bootcamps) for companies. This mode provides larger subsidies, when meeting specific requirements.

Finally, the survey prepared by CUTI looked into the training received by workers in companies in the sector. In 2022, companies in the ICT sector trained approximately 40% of their staff at a cost of around US$ 750 per person.

SmartTalent

Through Uruguay XXI, the sector also has more support for access to talent, like the employment portal Smart Talent, where companies can publish, at no cost, employment opportunities focused on global services. The portal offers the opportunity to take several tests so registered candidates can measure their abilities. It also functions as a tool to promote the global services industry through a series of awareness-raising activities.

The website was launched in March 2015 and it currently has over 54,000 registered candidates, 462 global services companies (275 of which are IT companies) and over 5,000 job opportunities have been published since then, 3,800 of which are IT positions.

Table No. 4.4
Smart Talent - Users, companies and opportunities

Smart Talent (ST)	2015-2013	2023
ST Users	54,791	4,016
Job Opportunities	5,146	472
IT Job Opportunities	3,884	402
IT Opportunities/Job Opportunities	75%	85%
Companies that use ST	462	19
IT Companies that use ST	275	10

The Educational and Job Guide, is an online tool from this portal that shows the main job positions that are needed in the global services industry. They are organized by activity sector,

and include a brief description and the required training for the position. The guide was created by Smart Talent based on a survey of the main companies in the sector, and it identified the training based on *Info Educa* (*Progresa-UdelaR* and the National Youth Institute [INJU] - Ministry of Social Development). Additionally, the potential access to qualified talent is complemented by the ease in obtaining residency and visa (in the few cases where it is required). Uruguay XXI assists companies in the proceedings for residency and visa, both for requesting permanent residency for citizens from the Mercosur and for requesting temporary residency.

5. TECHNOLOGICAL INFRASTRUCTURE

Uruguay has a solid first-class technological infrastructure, the result of an intensive strategy in public investments that made it possible for the country to place among the top countries in Latin America in Internet penetration (ITU), in the percentage of households and businesses connected through fiber optics. In addition, it was the first country in the region to launch a 5G network. Uruguay has a growing connectivity that reached 91% of households in 2024, along with a high share of fiber optics connections.

One of the best data centers in Latin America is located in the country. The center has several international certifications, as well as growing connectivity through submarine cables. It has three submarine cables in operation: *Unisur* and *Bicentenario* (installed in 1994 and 2011) that connect to Argentina, and *Tannat* (installed in 2017) that connects to the United States through Brazil. In 2020, the extension of *Tannat* toward Argentina was announced.[13] In June 2021, Google announced the construction of *Firmina*, an international submarine cable that will connect the West Coast of the United States to Argentina, Brazil and Uruguay and the project was approved by the Executive Branch in December 2022. *Firmina* will enable better connectivity and data traffic for the Google products in a faster and more secure way, enhancing Google's infrastructure in the region. The installation of the cable extension toward the coast of Punta del Este started in July 2023, carried out by the company Subcom. The company has reported that the installation proceedings were carried out successfully. Additionally, Google continuously collects statistics on Internet IPv6[14] adoption and Uruguay

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[13] Source: [International submarine cable Tannat has arrived to Argentina](#).
[14] IPv6 is a new protocol where new types of IP addresses, the registrations that devices use when connecting to the Internet, are generated.

is ranked first in Latin America and among the 25 top countries in the world regarding the adoption of this protocol.

In turn, in May 2021, Google acquired a 30-hectare property at the *Parque de las Ciencias* in Canelones[15], with the aim of installing a data center for the storage and management of the company's servers. The construction of the data center will be completed in four phases throughout a 26-month period, which will create jobs for about 300 to 400 people, reaching a maximum of about 800 workers at its highest point. Once the center is in operation, it is estimated that it will employ about 50 people. It is important to remember that the telecommunications giant only has one data center in Latin America, located in Chile. It is in this context that the project is about to begin. The Ministry of Environment has approved the new change in the company's paradigm after negotiations with the government for a way of operation that coexists more harmoniously with the environment and the use of natural resources. In turn, the *Parque de las Ciencias* is waiting for construction to start, as all infrastructural measures are ready, along with a 3-hectare expansion in the area for this project.[16]

 The development of digital government in Uruguay is led by the Agency for the Development of e-Government (AGESIC, for its acronym in Spanish) and the country is part of *Digital Nations,* a group established in 2014 and composed of the leading countries in digital development worldwide: the Republic of Korea, Estonia, Israel, New Zealand, United Kingdom, Canada, Mexico, Portugal, Denmark and Uruguay.

The United Nations has been publishing the "*E- Government Survey*" since 2001. It is a study that measures the efficacy of e-government in the delivery of public services and identifies patterns in the development and performance of electronic administration. The dimensions taken into account for the construction of the total index (that ranges from 0 to 1) are online services, telecommunications infrastructure, and human capital. In the 2022 edition, Uruguay climbed to third place in the Americas, below the United States and Canada, leading Latin America and the Caribbean (LAC). Another indicator is the first Ibero-American GovTech Index, published in 2020 by the Development Bank of Latin America (CAF), which measures and analyzes the integration of entrepreneurial ecosystems with a technology base linked to the public management of governments, and also the maturity level of govtech ecosystems, the dynamism of startup and digital MSME markets with a public purpose and the degree of

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[15] For more information see here.
[16] For more information see here.

innovation of public institutions. Uruguay ranked fourth in Latin America and the Caribbean on this index.

Uruguay has a high level of worldwide connectivity and an outstanding performance in matters of fiber-optic installation in households. Of the totality of the fixed broadband services, which exceeds one million, 93% is transmitted through fiber optics. According to the FTTH/B Global Ranking 2024, created by the FFTH Council Europe, Uruguay ranks eighth in the world and first in South America in matters of connectivity through fiber optics. These connectivity levels far surpass those of European countries and other countries in the region.

Graph No. 5.1
Fixed broadband services
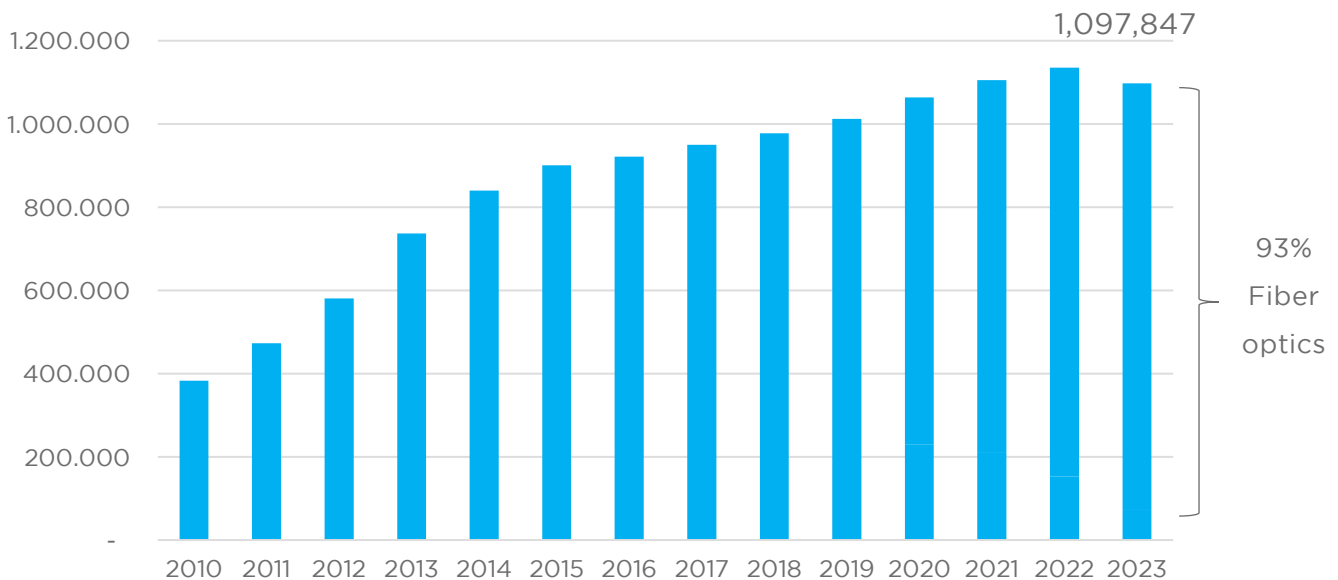
Source: Report on the Evolution of Telecommunications in Uruguay published by the Regulatory Unit of Communications Services (URSEC, for its acronym in Spanish).

The following are some results of the Survey of Uses and Information Communication Technologies 2022 (EUTIC 2022, for its acronym in Spanish) conducted every three years by INE and AGESIC. The last available edition focused on the diverse ways in which the Uruguayan population accesses and uses the Internet (measuring the period from 2010 to 2022), the weight of the main sociodemographic variables in the determination of these differences, and the most notable changes that have happened in online behavior.

The survey showed that Internet access has increased over the last 10 years, going from 45% of households with Internet connection in 2010 to 91% in 2022. In addition, the use of the connection intensified and 93% of the population connected to the Internet daily. This increase was accompanied by a reduction in the digital access gap between households with different income levels and between households in Montevideo compared to households in the interior of the country. In this improvement in Internet access and reduction of the digital gap due to income levels, the growing use of a variety of devices prevailed over computers with Internet access.
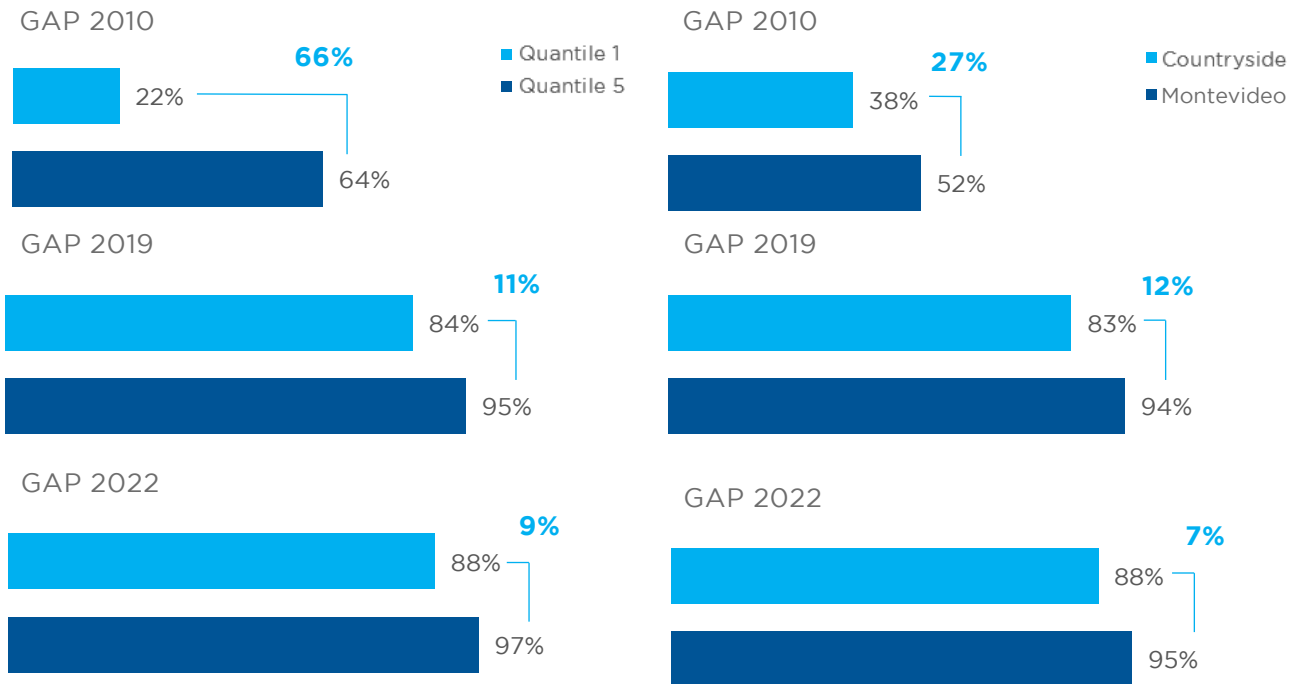
Graph No. 5.2
Internet Household Connectivity
(2010-2022, % of total households)
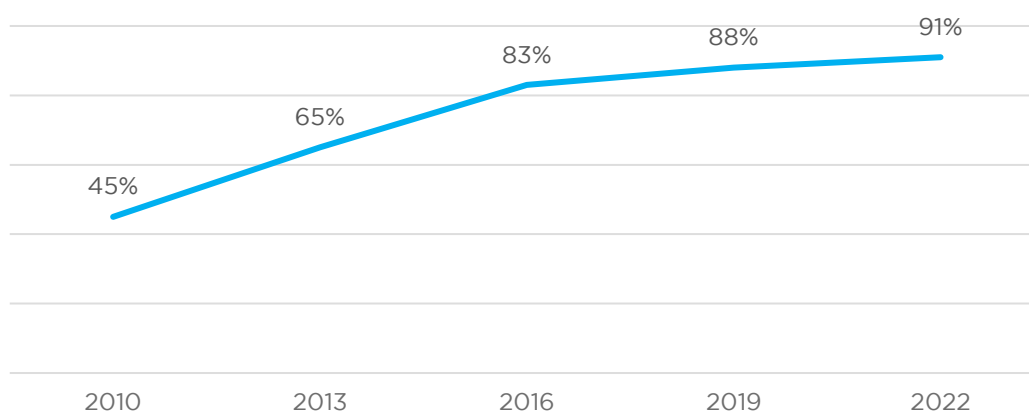
Source: EUTIC 2010-2022

At an international level, the 2024 edition of the ICT Development Index (IDI), presented by the International Telecommunication Union (ITU), revealed progress toward universal and meaningful connectivity. It is defined as the ability for everyone to go online under optimal conditions, at an affordable cost, anywhere and anytime they need. Uruguay ranked 43rd in the world, but the ranking placed it second in Latin America and third in the Americas.

Graph No. 5.3
Internet access gap between households in quantile 1 and 5 and between Montevideo and the interior of the country.

GAP 2010 | Quantile 1 / Quantile 5
- 22%
- 64%
- **66%**

GAP 2010 | Countryside / Montevideo
- 38%
- 52%
- **27%**

GAP 2019
- 84%
- 95%
- **11%**

GAP 2019
- 83%
- 94%
- **12%**

GAP 2022
- 88%
- 97%
- **9%**

GAP 2022
- 88%
- 95%
- **7%**

Source: ECH 2023

Ceibal had an essential role in the reduction of the digital gap. Moreover, in 2015 the *Ibirapitá* program was implemented. It promoted digital inclusivity of retirees through the free delivery of tablets with an interface that was specially developed to be intuitive and friendly. According to EUTIC 2019, 26% of Internet users between 14 and 19 years old use a *Ceibal* device, while 25% of Internet users over 65 years old use an *Ibirapitá* device.

Uruguay has made significant progress toward the democratization of the access to new technologies and the massive use of digital government services. As the usage of ICTs develops, in terms of digital transformation and the universalization of their use, so do cybersecurity threats in terms of quantity, sophistication and impact at different levels. In this framework CUTI, based on a report by Datasec, collected information through a survey for the 2023-2024 period on the perception and the measures taken by Uruguayan companies in matters of cybersecurity. In the same sense, within the framework of the macro cybersecurity program, AGESIC published the Uruguay Digital Agenda 2025, which establishes the National

Cybersecurity Strategy. As part of the Strategy, it commits to increasing cybersecurity to prevent and mitigate risks in the cyberspace and to guaranteeing the availability of critical information assets.

Uruguay's solid technological infrastructure was challenged in 2020 due to the health situation, since the reduction in mobility generated an increase in virtual traffic. In Uruguay, the telecommunication networks responded to the significant increase in traffic without any general outages, which also enabled companies to switch to remote work. According to the Quarterly IT Monitor prepared by CUTI, 87% of companies in the sector adopted telework into their structure, either in hybrid mode (75%) or fully remote (12%). Only about 14% of companies continue with an in-person mode. Likewise, the United Nations Agency ITU, which centralizes worldwide data linked to connectivity and technological infrastructure, making it possible to make comparisons at an international level, places Uruguay in a strong position as the first country in the region in broadband subscription per 100 inhabitants and second in people with access to it.

Graph No. 5.4
Internet users in Latin America (%)
Selected countries (2022)
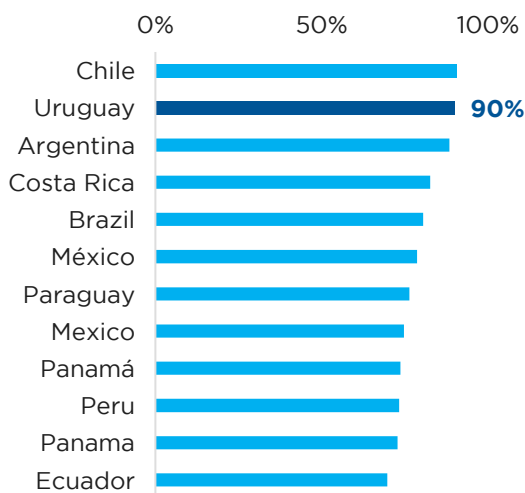
Graph No. 5.5
Fixed broadband subscriptions per 100 inhabitants
Selected countries (2022)
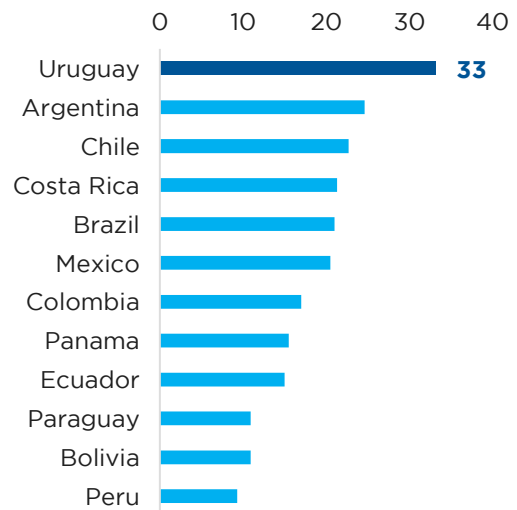
Source: ITU

6. SUCCESS STORIES

6.1. ECOSYSTEM AND SUCCESS STORIES

Uruguay has an articulated and accessible technological and business ecosystem, with investment opportunities for both existing companies and the development of new ventures. Economic ecosystems are comprised of various actors that interact with one another. Based on this interaction, innovation and growth can be favored to a great or lesser extent.

Global Ecosystem Dynamics Initiative (GED) y MIT D-Lab Local Innovation Group (2020) prepared innovation-based entrepreneurship ecosystem studies in various cities in Ibero-America. In their report for Montevideo, they highlighted the high-level of collaboration in the city's ecosystem as a strength (it was the largest collaborative dynamic in the ecosystems studied in Latin America). Moreover, they observed that collaboration between the actors generates synergies and better long-term results. According to the report, Montevideo has a solid foundation to be recognized as a benchmark innovation-based entrepreneurship ecosystem in Latin America.

An advantage of the innovation ecosystem in Uruguay is that there is easy access to decision makers. This, in addition to the characteristics of a small, orderly and transparent country, along with an optimal technological infrastructure, make Uruguay a suitable destination for innovation and testing of new technologies. Uruguay positioned itself internationally with important technological and digitalization projects that are associated to the modernization of the State and public companies and that are backed by technology developed by Uruguayan companies. Some examples are:

- The successful implementation of the "One Laptop per-Child" program (*Ceibal* in Uruguay), which made Uruguay the first country in the world to give free laptops to all students and teachers in public schools, from pre-school to high-school.

- The launch of the first 5G network in Latin America, along with a high level of Internet and mobile telephony penetration: 79.6% of penetration of LTE lines in the

population. Moreover, it is the fourth country in the world in mobile Internet download speed, according to the Speedtest Global Index.[17]

- A higher upload and download Internet speed from the installation of a fiber-optics network at national level. 91% of households have Internet connection and 93% of fixed broadband services are transmitted through fiber optics. Additionally, schools, institutions and universities have 100% Internet connection through fiber optics.

- The traceability of the entire meat production chain. This makes Uruguay the only country that secured the production chain by implementing a national traceability system that combines the maturity of a national production sector —like the agricultural sector— with the sophistication of the technology industry.

- Uruguay also offers a dynamic ecosystem based on biotechnology, including over 150 research groups, a solid network of research institutions like the Institut Pasteur, and incubators with state-of-the-art technological platforms.

- A favorable regulatory framework that promotes the internationalization of technology companies that operate from Uruguay, through considerable tax exemptions (100% IRAE exemption).

- All of this happens in an ecosystem of over 500 companies, that positions Uruguay as the main software exporter per capita in South America. Thus, the country offers an ecosystem where companies will be immersed in a mature IT market, surrounded by solution providers with experience at all stages of the process.

Furthermore, with the combination of on-going initiatives like *New Lab Studios*, *Microsoft IA/IOT Lab*, *Antel Open Digital Lab* and various others currently in the negotiation process, it is expected that in the short-term there will be a cluster of laboratories, located mainly in the LATU, which already houses several technology companies and support institutions for the sector.

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[17] For more information see here.

Innovation ecosystem

Toward the end of 2022 Uruguay Innovation Hub was born, a program that aims to bolster Uruguay to the forefront of knowledge economy. It is committed to consolidating the local innovation ecosystem. It is a new public-private interinstitutional initiative supported by the ANII, the Office of Planning and Budget (OPP, for its acronym in Spanish), Uruguay XXI, the Ministry of Economy and Finance (MEF, for its acronym in Spanish), the Ministry of Industry, Energy and Mining (MIEM, for its acronym in Spanish) and the Ministry of Culture and Education (MEC, for its acronym in Spanish). The program aims to boost and accelerate ventures in high-growth sectors like advanced technologies, green technologies and biotechnologies, as well as to present the country as a benchmark in the search and resolution of global problems through innovation. This is achieved through the implementation of new tools and the development of initiatives that promote collaboration and synergies between the actors in the system. This program also integrates public-private co-investing opportunities, open R&D infrastructure and acceleration programs to promote growth and the internationalization of the innovation ecosystem in Uruguay.

Regarding support for ventures, new programs focused on collaborating with companies in their development processes have arisen over the last few years. Currently there are about 10 incubators that support startups in the first steps of their creation, among which we can highlight those managed by universities (CIE ORT, ITHAKA, INITIUM), and others like *Ingenio*, Da Vinci Foundation, Thales Lab and CUBO, the most recent one, from the company Itaú. These actors from the innovation ecosystem assist companies from the business idea validation stage to the more advanced stages of capital raising. In addition to those already mentioned, there are other government organizations that function in this way, like the National Development Agency(ANDE, for its acronym in Spanish), Ceibal and the National Institute of Agricultural Research (INIA, for its acronym in Spanish).

Moreover, the support of ANII for ventures that innovate in their sector is also very valuable for the ecosystem. In this regard, the agency plans support tools in four big action areas:

1. Research: it promotes the generation of new knowledge through tools like the National Researchers System, digital science platforms, and investment promotion funds.
2. Entrepreneurship: it creates programs to promote entrepreneurial culture and the development of innovative or high value-added ventures.

3. Innovation, funding programs to promote innovation culture in companies. The agency shares the risk in this process, seeking development in local, regional and international markets.
4. Training: it offers scholarships in national and foreign postgraduate degrees, mobility scholarships, and other tools to promote the training of human resources for research and development.

In the private capital ecosystem there are also other actors like the accelerator Our Crowd, which was recently selected by the Uruguay Innovation Hub to lead operations in the country. The project was presented as a strategic alliance with local incubators *Ingenio* and CIE, as well as international incubator Mana Tech. The company has global reach and over 33,000 investors in 183 countries and it will lend support to about 15 local startups, as well as access to international mentors for three years.

Another relevant organization is the Uruguayan Private Capital Association (URUCAP, for its acronym in Spanish), a non-profit organization that concentrates risk-capital firms, angel investors, companies in different sectors and other relevant actors for the sector. Its goal is to integrate and develop the private capital, risk capital, and seed investments sector, creating more opportunities for investors and entrepreneurs. Through this collaboration, URUCAP aims to generate a positive impact in the business ecosystem.

In this context, the creation of Zorzal can also be highlighted. Through this project, *Capital Oriental* aims to incentivize funding for technology companies that are in the process of expanding. Its goal is to collaborate with the growth of the sector while offering profitability in terms of its shares. In July 2024, the company went on the stock exchange in Montevideo, issuing 100% of its shares for a total of US$ 5 million, with the aim of investing in Uruguayan technology companies that have the trajectory and capabilities both for paying dividends and for growing and achieving valuation over time.

Uruguay XXI offers its Investment Portfolio, an online portfolio that presents opportunities for investors, and is accessible through free registration. There are investment opportunities in both already established companies and in new projects that seek foreign investors (in minority or majority shares), as well as companies for sale. In order to be part of the portal, startups and newly-created ventures must be looking for a minimum of US$ 200,000 in investments, and companies with a long trajectory must be looking for a minimum of US$ 500,000. The companies in the portfolio have various characteristics: some are looking for investors in order to grow, while others are facing financial problems or are looking to sell

for personal reasons; there are startups in the early stages that are looking for venture capital funds; and there are also more mature companies and companies that have gone bankrupt. There is also great diversity among the sectors: technology, biotechnology, agribusiness, non-food industry, tourism, and real estate, among others. In cases where the company's information is confidential, an NDA must be signed.

Finally, there have been advancements in IP protection, with the aim of ensuring that entrepreneurs can protect their innovations and patents. Uruguay has subscribed to the Patent Cooperation Treaty (PCT)[18], an international agreement that facilitates patenting and seeks protection for inventions in several countries simultaneously through the filing of an international application at the organization. With unanimous approval of Uruguayan Parliament for this new regime, the country solidifies regulatory advances for creative inventions.

Mergers and Acquisitions

In 2023, the number of mergers and acquisitions (M&A) in Uruguay was stable in comparison to the previous year. 20 M&A transactions were registered, 16 of which corresponded to the trade and services hub platform, which includes companies in the areas of global services, fintech, technology, and commerce-related services. A positive outlook is projected for 2024, with an expected increase in the transaction volume in the country. The technology and mass consumer goods sectors showed significant dynamism in recent years. Uruguay will continue to be a trustworthy, stable and sustainable alternative for both international and national investors. According to the most recent survey of foreign companies (2023), 84% of international investors expressed a high or very high satisfaction level with the business environment in Uruguay.

In the last few years, the ICT sector in Uruguay has shown great momentum, not only in regard to emerging companies, but also companies joining the market through acquisitions or commercial agreements. In May 2023, with the merger of Moove It and December Labs, two leading companies in the technology area in Uruguay, Qubika was created by Recognize, a renowned investment fund based in New York. Qubika will be based out of Austin, Texas, with offices in the United States and Latin America. They expect to hire 3,000 people over the next five years, with a third of the employees coming from Uruguay. Qubika works for several industries, with a particular focus in the health and fintech segments, and is now one of the

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[18] For more information see here.

largest software development companies in Uruguay. Recognize's investment in Qubika is the fund's first in Latin America.

Likewise, The Sandbox, the leading metaverse company, acquired the Uruguayan technological company Cualit. Additionally, Vesta Software Group, a Constellation Software subsidiary, announced the acquisition of the Uruguayan company Datalogic, a provider of digital solutions for company resources planning, human resources, and payroll management in the region.

Also worthy of mention is the acquisition made by GlobalLogic, the leading company in the global market that is part of the Hitachi group, of the Uruguayan company Hexacta Inc. The Uruguayan company has provided software development services, IT consulting, UI/UX design, data engineering, and high-quality analysis for over 20 years. The acquisition is part of GlobalLogic's global strategy for expanding its offer and engineering talents in Latin America, in order to satisfy the growing demand for digital engineering services.

In the Big Data area, the Nooka Labs acquisition is worthy of mentioning. The startup was acquired by the American company PhData, a benchmark in that industry. The company closed the deal for 100% of the local company and is planning a new US$ 5 million investment plan in Uruguay. In turn, the Chilean company Lolocar acquired the Uruguayan company Olacar, which was up until then the leader of most of the shared mobility market in the country.

Other notable acquisitions in the sector in the last year include the sale of the technology company Octobot to the American company Sparq. Octobot is a software company dedicated mainly to developing web and mobile applications. This is the first acquisition of the North American company in Latin America. Finally, Flokzu, a Uruguayan technology company that offers cloud-based solutions and collaborates with management and automatization of business processes and workflows, closed its sale to the African group Hyperclear. The company is the first acquisition outside of Africa, and will be the Latin American hub for the Mauritian company, which also has offices in the United Kingdom.

The following table details the latest mergers, acquisitions, and investment announcements linked to the ICT sector in Uruguay.

Table No. 6.1
Mergers, acquisitions and investments in the ICT sector

Announcement year	Target company	Transaction type	Buyer	Buyer's country	Activity
2024	Octobot	Acquisition	Sparq; Harvest Partners LP	USA	Programming services
2024	Qualia Fintech SRL (Prometeo)	Minority share	PayPal Ventures; PayPal Holdings Inc; Samsung Group; Cometa; Antler Elevate; DN Capital; Magma Partners	USA	Software solutions
2024	Flokzu (Integradoc)	Acquisition	Hyperclear Technologies	Mauritius/South Africa	Software solutions
2024	Inswitch	Acquisition	TransNetwork	USA	Fintech
2024	Olacar	Acquisition	Lolocar	Chile	Software solutions
2023	*Compañía Uruguaya de Medios de Pago SA* (Totalnet)	Acquisition	*Indra Sistemas SA*	Spain	Software solutions
2023	Montevideo Labs	Acquisition	Blend360	USA	Computer systems design
2023	Scanntech Uruguay Hosting SA	Minority Deal	Warburg Pincus LLC	USA	Software solutions
2023	Hexacta Inc	Acquisition	Hitachi Ltd	Japan	Programming services
2023	GSOFT	Acquisition	Vesta Software Group	UK	Software solutions
2023	UruWare	Acquisition	Vesta Software Group	UK	Software solutions
2023	Nooka Labs	Acquisition	PhData	USA	IA / Big Data
2023	CreateThrive	Acquisition	Very Good Ventures	USA	Web Development
2023	Element 14	Acquisition	JARS Capital	USA	Software solutions

Source: EMIS

The following are some **success stories** of foreign, local and startup companies, some of them acquired by or merged with foreign companies.

Examples of foreign companies

Ultimate Kronos Group: the company provides people management and human resources services. It has over 70 thousand clients in 150 countries and over 15 thousand employees worldwide. The company landed in Uruguay in 2022 and in May 2023 it opened its offices in the country. According to what UKG said in the opening event for these offices, located at LATU, Uruguay will be the country's technology hub for all of South America. After this operation, by July 2024 the company employs over 200 people in the country. The company's authorities noted that they selected the country due to its good global positioning, talent, legal security and institutional framework. This opening entailed an investment of about US$ 15 million.

Cencosud: the technology company is located in five countries in Latin America and it has offices in the United States and China. In March 2023, it installed a technological, digital and innovation hub in Uruguay with the aim of developing and accelerating its digital ecosystem for the group's companies. From its offices in Aguada Park, it provides services associated to the development of digital products and businesses, like e-commerce, marketplace, retail media and advanced analytics, aiming to generate unique experiences for its clients. Its line of business includes supermarkets (its main business), home improvement, department stores, malls and financial services.

Vesta Software Group: this global organization buys, manages and creates software companies in various markets. The group helps software companies reach their growth goals, maintain their independence, and focus on the needs of their clients and employees. The group, which is part of Constellation —an organization that has already acquired about 1,500 companies in the world — has invested in Uruguay since 2020 and has already acquired eight companies, including Infocorp, GeneXus Consulting, K2B, Datalogic, Uruware, GSoft and Nodum, totaling an investment of about US$ 70 million. Uruguay is currently the platform chosen by Vesta from which to grow toward the rest of Latin America. The company classified proceedings in the country as "quite friendly" and confirmed that it has been allowed up to 600 employees, adding to the eight companies in its portfolio.

Infogain: Indian technology company based out of Silicon Valley, chose Uruguay as the main office for its expansion to Latin America in 2022. The technology company opened its first offices in *Zonamerica* in April 2022, and later expanded to the World Trade Center Free Zone. It has about 20 employees in Uruguay, while 25 others work remotely from other countries like Argentina, Mexico, Brazil, Chile and Colombia. In the next few years, the company aims to have a team of 150 people in the region, over 100 of which will be from Uruguay.[19]

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[19] For more information see here.

Satellogic: the Argentinian company specializes in the development of satellite solutions for collecting Earth images. Founded in 2010 by Emiliano Kargieman and Gerardo Richarte, the company has offices in Uruguay, the United States, China, Israel and Spain. Located in *Zonamerica*, it recently announced an agreement with SpaceX, who will be its partner for satellite launching. Starting June 2021, the company led by Elon Musk will be in charge of putting Satellogic's satellites in orbit. The company focuses on private aerospace investigation and aims to position the country as one of the leaders in the number of satellites in orbit.

Epic AeroSpace: the company specializes in last-mile space transportation, focusing on moving cargo from any point of origin to its final destination in space. This young space-tugs startup was founded in the United States by Argentinian engineer Ignacio Belieres Montero. The company focuses on cargo transportation from the point where a rocket or a large launcher —like those of SpaceX or Blue Origin— leaves the cargo, until its final destination in space. The goal is to place small satellites, that do not have their own motors or fuel, in their exact orbit. Epic AeroSpace makes it possible for these satellites to be launched as a group in large rockets and later reach their final destination through their orbital transport vessels.

Globant: the company is dedicated to software development and the creation of digital experiences that reach millions of users (innovating technology services). Globant is an Argentinian multinational company. It was founded in 2003 by its CEO Martin Migoya (along with other partners). In 2010, it arrived in Uruguay for the first time, operating in the free-trade zone Aguada Park, and in 2021 it opened its second office in the country in the World Trade Center Free Zone. Globant is considered one of the four Argentinian unicorns and it has over 16,000 employees worldwide, over 800 of which are Uruguayan. Moreover, in 2022 it expanded toward the inside of the Uruguay territory, inaugurating new offices in the department of Maldonado, with about 50 employees. In August 2023, the Argentinian unicorn announced a new investment in the entirety of Latin America, which will entail an expenditure

of over US$ 1 billion in the next five years. The main goals include the evolution of its own AI-based products for accelerating software development and improving digital experiences. Globant X, Globant's products and platform division, will be in charge of further developing products like Augoor, MagnifAI, StarmeUp and GeneXus.

Mercado Libre: an Argentinian e-commerce platform that connects millions of users in the purchase and sale of products over the Internet since 1999. The platform operates in 18 countries in Latin America. It currently expects to exceed 12,000 employees in Argentina and 76,000 throughout the region. In 2023, 900,000 buyers used the platform in Uruguay, 57% of which were in the interior of the country. Their purchases generated US$ 5.5 million in shipments. In addition, the platform was granted a license by the Regulatory Unit of Communications Services (URSEC, for its acronym in Spanish) to deploy its own postal delivery service.

Pedidos Ya: the Uruguayan online food-delivery service was acquired by the German company Delivery Hero, an online food-delivery service based out of Berlin. The company operates in over 40 countries. From the beginning, Pedidos Ya received financing for US$ 329 million, which made to possible for the company to expand its delivery network to over 35,000 delivery workers and 60,000 businesses in Latin America (restaurant, groceries, pharmacies and other convenience stores), have a team of over 2,500 employees, reach US$ 30 million in orders in the second quarter of 2020 alone, and get a market value of over US$ 2 billion according to its participation in the German group **Delivery Hero**, which is listed on the Frankfurt stock exchange.

Sabre: the American company is a leader in technology solutions for the travel and tourism industry. It offers a wide range of business intelligence solutions, mobile technology, distribution and software as a service, that are used by travel providers and buyers to plan, promote and operate their businesses. In Uruguay, the company has been operating a global services center in *Zonamerica* since 2004. This center employs about 860 people and provides customer support, sales, marketing, and development of technology services to subsidiaries and clients in over 90 countries in 14 different languages.

Tata Consultancy Services (TCS): in 2002, the company chose Uruguay as the location for its first development center in Latin America. Nowadays, it is the main employer in the ICT industry, and it has offices within and without free-trade zones, providing worldwide services. In Latin America, the company was recognized as a *Top Employer Institute*, ranking first among the participating companies. This is one of the most important awards in the field of human resources and it spotlighted the company in nine categories in which it had an exceptional performance: Talent Strategy, Workforce Planning, Onboarding, Learning and Development, Performance Management, Leadership Development, Career and Succession Management, Compensation and Benefits and Company Culture.

Examples of local companies

Nearsure: founded in 2018, the Uruguayan company has a staff of about 600 people in Latin America, and it plans to increase its staff by 50% in the next year. It focuses on the development of made-to-measure technology products, based on a wide range of tools and

platforms, depending on the requirements of the project. Its growth in the American market required an expansion plan that also includes Europe as a new destination for its products.

Light-it: the company has grown and developed in the healthtech area, creating made-to-measure solutions for small and large companies in the sector, which benefit from improvements to their processes. It has recently worked with two of the top five hospitals in the United States, which placed them among the 50 fastest growing companies according to the Financial Times. As reported by the magazine, Light-It grew by 1,246.2%, with an annual expansion rate of 137.9% percent since 2016, the year it was founded.

d·local

dLocal: the company develops digital payment solutions in developing countries. Its clients include Uber, Spotify and Amazon. This fintech company became the first Uruguayan unicorn in October 2020 —a rating that emerging companies receive when they surpass a valuation of over US$ 1 billion— and in June 2021 its shares began trading on the New York Stock Exchange. It is the first Uruguayan company to reach this milestone. Additionally, the company recently closed a deal with Amazon that allows foreign retailers to sell their products in Brazil for the first time.[20] dLocal operates from its main office in Montevideo, and it also has offices in San Francisco, São Paulo, London, Tel Aviv and Shenzhen.

nowports

Nowports: the company provides users with the exact location of their shipments in real time, while they are being transported from port to port. In the case of Nowports, the seed investment entailed a capital injection of US$ 8.6 million. In Series A funding it raised US$ 23 million, in Series B US$ 60 million, and in Series C US$ 250 million, with a valuation of US$ 1.1 billion, which granted it the unicorn rating by mid-2022. Thus, Uruguay has produced two unicorns in the last two years. Each financing stage made it possible for the company to open new offices in various parts of Latin America. The cargo technology company currently has ten offices in seven different countries: Mexico, Chile, Colombia, Peru, Brazil, Panama and Uruguay.

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[20]dLocal closed a deal with Amazon and foreign businesspeople will be able to sell in Brazil — *El Observador.*

Startups: [21]

Foccuz is a startup developing a B2B business model through which it offers a software that integrates with CRM (customer management platform) and works as a "copilot" for commercial teams to achieve better results. It closed an investment round of US$ 700,000 before starting business with clients from Colombia, Mexico and Chile.

"Proudly born in Uruguay. Made with love in California" is **Meitre**'s slogan, a company that serves over two million clients in several countries. Its company grew significantly after the pandemic. Meitre specializes in managing clients for restaurants to book tables according to trends in demand, rotate tables efficiently, introduce dynamic pricing techniques, organize events, and book tables with credit cards.

Developed by young students from Salto and boosted by ORT's Innovation and Entrepreneurship Center (CIE, for its acronym in Spanish), **Viatik** is a platform that aims toward a more efficient and economical way of travelling within Uruguay. It connects drivers to possible passengers, who then coordinate trips in a way that is more economical for both parties. The application was created in 2022 and it currently has 60,000 users and is in search of investors.
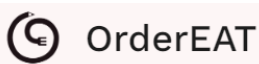
OrderEAT is a platform that connects parents to school feeding programs and digitizes the canteen and cafeteria services. Its main goals are to improve the reputation of educational institutions and to offer a more efficient luncheon and lunch services, eliminating the use of cash and reducing waits during breaks. The platform offers a virtual alternative for school purchases, for both students and parents. It currently works with schools in Uruguay, Argentina and Paraguay.

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[21]For more information see here.

TripWip was born out of the need for an alternative method for car rentals for clients that need quick and less expensive solutions. This startup was developed with the aim of fostering a collaborative economy, as it allows vehicle owners to make their cars available to users interested in renting. In this manner, existing resources can be leveraged in a more efficient and sustainable way.

ELdeS is the first worldwide platform to combine sign language instruction with AI tools to provide a larger reach for more people to learn sign language. It offers online courses where the student interacts with video tutorials and afterwards, through the webcam, the platform detects, analyzes and processes the movements made by the student to qualify whether they are correct or not. This guarantees universal access to this type of course, which tends to be sparse and costly in Uruguay. It is currently backed by key actors like ANII, the National Administration of Public Education (ANEP, for its acronym in Spanish), and the Uruguayan Sign Language School, CINDE.

Prometeo focuses on connecting global companies with Latin American financial institutions. It stands out because it offers its clients payment options in over 283 institutions in 10 countries in the region, through a unique API (Application Programming Interface). Thus, clients all over the world can connect to the Latin American financial system in an easier, faster and more secure way. In January 2024, the company closed the deal on its Series A funding for US$ 13 million, which included important companies such as PayPal, Ventures and Samsung Next.

Nocnoc is a technology platform aimed toward retailers and brands that want to boost their sales in Latin America. In particular, companies from China and the United States use Nocnoc to offer their products in dozens of e-commerce platforms, avoiding logistic proceedings that could negatively impact their transaction volume.

Vopero is a circular and sustainable fashion marketplace designed for the resale of secondhand clothing in perfect conditions. This initiative makes

it possible for new clients to access sustainable fashion at an affordable price, through a personalized catalogue and a unique experience.

Tuna is an open-source software that gives companies —in particular e-commerce ones— the possibility of integrating multiple payment providers and anti-fraud tools into their platform.

Paganza is a mobile application that enables users to perform financial transactions and manage their invoices with various functionalities.

Bankingly is a platform that offers financial institutions the possibility of offering online and mobile banking services. Through these channels, clients can perform national and international transactions, check balances and account movements, pay local services, manage their credit cards, and request loans.

7. OPPORTUNITIES

7.1. INVESTMENT OPPORTUNITIES MANAGED BY URUGUAY XXI

As of late 2023, Uruguay XXI has a portfolio of over 60 investment opportunities (ODI, for its acronym in Spanish), in the ICT sector, which accounts for 24% of the total opportunities in the portfolio. 96% of the ODIs are focused on the foreign market, with technology centers accounting for 78% of the ICT opportunities.

Table No. 7.1
ICT investment opportunities managed by subsector

Subsector	Share (%)
IT Center	78%
Global Services Center	12%
Other services - Foreign Market focus	6%
Other services - Domestic Market focus	4%

Source: Uruguay XXI

Most of the technology sector opportunities in the portfolio come from the United States and Argentina, which account for 34% and 32% of the total respectively.

7.2. INVESTMENT ANNOUNCEMENTS IN THE TECHNOLOGY SECTOR[22]

In 2023, the country attracted over 40 investment projects from foreign companies (hereinafter "Announcements")[23], 24% of which were from companies in the technology sector. These companies are considering investing in IT Centers.

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[22] Assisted Investment Opportunities and Announcements Report, Uruguay XXI
[23] This data was obtained by compiling information from investment opportunities identified by Uruguay XXI, databases (Fdi Markets, Emis y Orbis) and press releases.

Half of the Announcements came from American companies. The remaining 50% were mainly from companies from Latin America (16%) and Asia (16%). The investment announcements surveyed in 2023 are expected to generate approximately 300 new jobs.[24]

7.3. EXPORT OPPORTUNITIES MANAGED BY URUGUAY XXI

As of 31st May 2024, Uruguay XXI manages 84 export opportunities (ODE, for its acronym in Spanish) in the ICT sector, which accounts for 24% of the open opportunities in the portfolio. 58% of the ODEs in the sector are related to software development or commercialization of technology products, and the remaining 42% are related to the videogames industry.

These ODEs are directed toward 28 export destinations, which include global platforms and marketplaces that are particularly relevant for videogame companies, as these companies do not always have specific geographic markets. Thus, 23% of the opportunities have global platforms as destinations. However, for the ODEs that do have a specific destination country the five main markets are Paraguay (13.8%), Brazil (13.8%), the United States (11.4%), Mexico (9%), and Chile (4.8%).

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[24]Employment figures are approximations based on information provided to Uruguay XXI or FDI Markets by the investing company or published in press releases.

Table No. 7.2
ICT export opportunities by destination

Destination	Share（%)
Global Platforms	23.4%
Paraguay	13.8%
Brazil	13.8%
United States	11.4%
Mexico	9.0%
Chile	4.8%
Peru	3.4%
Czechia	3.1%
Switzerland	2.8%
United Kingdom	2.4%
Costa Rica	2.1%
Spain	1.7%
Germany	1.0%
Canada	0.7%
Colombia	0.7%
Portugal	0.7%
Other	2.7%

Source: Uruguay XXI

8. ANNEXES

8.1. REGULATORY FRAMEWORK

For more information on the regulatory framework of the sector in Uruguay see: Regulatory Framework.

8.2. INSTITUTIONAL FRAMEWORK

For more information on the institutional framework of the sector in Uruguay, see: Institutional Framework.

8.3. ICT EVENTS IN URUGUAY

For a list of the most relevant ICT sector events in Uruguay, see: Events in Uruguay

URUGUAY AT A GLANCE

Official name	Oriental Republic of Uruguay
Geographic location	South America, located between Argentina and Brazil
Capital	Montevideo
Surface area	176,215 km². 95% of the territory is productive land, suitable for agricultural exploitation
Population (2023)	3.44 million
GDP per capita (2023)	US$ 22,421
Currency	Uruguayan Peso ($)
Literacy rate	0.98
Life expectancy	77.9 years
Government type	Democratic Republic with presidential system
Political division	19 departments
Time zone	GMT -03:00
Official language	Spanish

MAIN ECONOMIC INDEXES

Index	2017	2018	2019	2020	2021	2022	2023	2024*
GDP (Annual % Variation)	1.74%	0.16%	0.93%	-7.38%	5.56%	4.71%	0.37%	3.35%
GDP (Billion US$)	64.995	65.259	62.166	53.615	60.728	70.236	77.131	79.715
Population (Millions of people)	3.43	3.43	3.44	3.44	3.44	3.44	3.44	3.58
GDP per capita (US$)	18,949	19,010	18.095	15.593	17.648	20.395	22.422	22.267
Unemployment Rate - Annual Average (% EAP)	7.9%	8.3%	8.9%	10.4%	9.3%	7.9%	8.3%	8.6%
Exchange Rate (Pesos per US$, Annual Average)	28.7	30.8	35.3	42.1	43.6	41.1	38.9	40.0
Exchange Rate (Annual Average Variation)	-4.8%	7.3%	14.7%	19.2%	3.6%	-5.6%	-5.5%	2.9%
Consumer Prices (Accumulated Annual Var %)	6.6%	8.0%	8.8%	9.4%	8.0%	8.3%	5.1%	5.2%
Exports of goods and services (Billion US$)**	16.845	17.283	17.254	13.909	19.639	22.611	25.353	25.886
Imports of goods and services (Billion US$)**	13.367	13.973	13.504	11.431	15.134	18.993	18.865	19.997
Trade Surplus / Trade Deficit (Billion US$)	3.478	3.309	3.750	2.477	4.505	3.618	6.488	5.889
Trade Surplus / Trade Deficit (% of GDP)	5.4%	5.1%	6.0%	4.6%	7.4%	5.2%	8.4%	7.4%
Overall Fiscal Result (% of GDP)	-3.2%	-3.9%	-4.4%	-5.8%	-4.1%	-3.4%	-3.6%	-
Gross Capital Formation (% of GDP)	15.9%	14.9%	14.1%	16.4%	18.3%	18.9%	17.3%	-
Gross Public Sector Debt (% of GDP)	59.8%	58.9%	59.9%	74.5%	69.8%	68.1%	0.69	-
Foreign Direct Investment (US$ Millions)***	-590	-11	2,018	756	1,937	3,456	3,429	-
Foreign Direct Investment (% of GDP)	-0.9%	0.0%	3.2%	1.4%	3.2%	4.9%	4.4%	-

*Data shown in red.
Sources: BCU, INE, MEF and estimated data (*). Fiscal result data include the effect of Law N°19,590 (fifty-year-olds). In 2017 the BCU adopted the methodology of the 6th Manual for Balance of Payments. This methodology includes purchases and sales of goods and re-exports which are available since 2012. Data are net flows so they may be negative values (**).