

## Porto Digital, Recife

### Porto Digital: 18 years and a brief chronology

We have talked about the importance of entrepreneurial ecosystems for the development of cities in an economic reality driven by innovation, knowledge and creativity. This is basically due to their ability to attract talent, provide qualified technological services, provide knowledge flows, mobilize venture capital, promote cooperation links and stimulate globally competitive innovative businesses, among other factors. The underlying view is that 1. innovation is an essentially business phenomenon (in the Schumpeterian sense); and 2. companies do not innovate on their own and depend on complementary external skills and interactions between them. That is, they depend on innovation ecosystems, which are complex formed by sets of elements and interconnections that influence the production, diffusion and use of new and useful knowledge for generating business and for economic development.

When looking for examples of environments with such characteristics, the name of Porto Digital invariably comes up. A few years after its foundation in late 2000, the technology park was already beginning to receive encouraging feedbacks, either from the press or from specialized national and foreign organizations. Some examples. In 2007, the National Association of Entities Promoting Innovative Enterprises (Anprotec) recognized it as the best technological park / innovation habitat in Brazil. This same recognition occurred again in the years 2011 and 2015. In 2008, the IASP - International Association of Science Parks and Areas of Innovation highlights Porto Digital as a global reference model, alongside the Technology Parks of Malaga (Spain), Manchester (United Kingdom) and Hyderabad (India). More recently, it was one of the cases highlighted in the book "Global Clusters of Innovation - Entrepreneurial Engines of Economic Growth Around the World" (2014), authored by researcher Jerome S. Engel, from the University of Berkeley, California.

In 2017 Porto Digital received from Iphan - even though it is not a strictosensu culture institution - a national award in the area of historical heritage for the preservation and restoration of almost 100,000 m<sup>2</sup> of properties in the historic region of Recife Antigo. And in that same year, another federal public administration body, Finep - an institution that finances studies and innovation projects - pointed out Porto Digital as one of the success cases of its broad client portfolio, alongside only 11 other companies and institutions across the country.

The official birth certificate for this innovative business environment is from December 2000, but its construction comes from much earlier, and nothing is fairer than referring to the background and highlighting the actions carried out by public, private and academic agents that for decades were based diligently every brick of that work.

Of course, establishing a chronology for such projects, which involve multiple actors and different views, is not a simple task. The way out came from listening to several characters with outstanding performance in the state's information technology sector. This procedure mitigated part of the difficulties and enabled the identification of several initiatives relevant to the history of the technology park. The fact that there is one event or another that is not peaceful among the people consulted does not invalidate the attempt to create a narrative

that, considering the view of many, helps to dilute distortions generated by the reading of a few.

The fault lies with the electronic brain

One of the characteristics of the Information Society is the dematerialization of economic life, due to the miniaturization of products - especially electronic devices - the increase in the capacity of computational processing and the progressive replacement of stock of goods by data flows in the processes of generating information. value. Stocks take up space; flows ignore these limits and flow freely with ideas.

One of the most striking metaphors of the 90s comes with the internet: it was about announcing a new world (Nicholas Negroponte, MIT researcher, *Being Digital*), in which bits replace atoms; when the economy was digital, not industrial anymore. It seemed a little bit of fiction, and Porto Digital was born in that context.

The whole fault was of an IBM 1401, equipment launched by the company in 1959 and acquired by the City of Recife in 1963. The relevance of hardware today - taken over by social networks, advanced artificial intelligence systems, big data, robotics and the internet of things - it seems out of place. But not in those days. Thus, having defined our ground zero, the question now is to identify the key moments of this escalation and to draw up a chronology that goes beyond the lengthy sequence of facts and dates.

To help with the task, we used Triple Helix. One of its authors, Henry Etzkowitz, conceives the Triple Helix as an innovation model in which the university, industry and government are primary institutional spheres that interact to promote social and economic development through innovation and entrepreneurship. In the interaction process, new secondary institutions are formed, that is, "hybrid organizations". Porto Digital can be seen with one of these institutions, and the adoption of the shared organization model has been one of its success factors. We believe, therefore, that one of the most appropriate ways to write the history of Porto Digital is to highlight the achievements of each of its main actors, of each blade of this triple helix. So, let's get to the facts:

**POLLINATION (60s)** - The 1960s were characterized by the implantation of a large computer park by public entities for internal use and installation of the first private business to provide services.

1. Government - The kick given by the City of Recife was supported by the installation of large computers by Sudene, Chesf, Secretaria da Fazenda and Condepe. The 1960s saw the creation of the two public data processing companies by the City Hall and the State, respectively Emprel and Cetepe.

2. Companies - Banorte acquired its first computer and was preparing to make history in the history of information technology in Pernambuco. Still at the turn of the 1960s, the two main global players in computing, IBM and Burroughs, settled in Recife and contributed to the formation of a technical and business culture in the field of information technology. Recife learned to issue invoices even before it knew how to develop systems.

3. University - UFPE also installs its CPD (Data Processing Center) to automate administrative and academic tasks.

**THE FECUNDATION (70s)** - In the 1970s, the structuring of local private businesses and the first initiatives for the formation of human capital at a higher level began to take place, without any particularly relevant facts in the public sphere. Interactions between the actors begin to emerge.

1. Government - Consolidation of state-owned companies and the culture of data processing in public management.

2. Companies - Creation of Procenge (1972), the oldest company operating in the Porto Digital ecosystem, and Elógica (1978), carrying out typical service bureau activities for the private sector and for city halls and governments of various states that did not have their own computational infrastructure.

3. University - UFPE creates the Department of Statistics and Informatics (1974), offering bachelor's and postgraduate degrees in computer science. In 1975 Unicap (Catholic University) started to operate its undergraduate course.

**PROPAGATION (80s)** - Larger and more complex private businesses are emerging and state information technology expands its role in public management. The computer science area grows in status at the university.

1. Government - The increasing automation of computer services streamlines processes and contributes to the organizational restructuring of public administration, resulting in the creation of Fisepe at the turn of the decade.

2. Companies - Banorte, with the creation of BanorteSistemas and Methods and the development of the first banking automation systems (1982), and Grupo Elógica, with the launch of Corisco, the first computer designed and built in Pernambuco (1983).

3. University - Creation of UFPE's DI (Department of Informatics) (1983), separated from the Department of Statistics and Informatics, of the Center for Exact and Natural Sciences.

**GERMINATION (90s)** - Pernambuco lives a serious economic crisis and loses relevance (its relative participation in regional GDP falls from 24.6% in 1970 to 17% in 1995; and the national GDP grows between 1990-1995, more than double of the state's GDP). New interactions and connections between the initiatives developed in previous periods are gaining volume, generating the idea of an entrepreneurial and innovative ecosystem in world-class information technology to insert the state in the new global economic context.

1. Government - Several public initiatives in the field of data and internet infrastructure were essential for the germination of the ecosystem. The installation of the PoP-PE (point of presence on the internet), in 1990, and the implantation in the state of the National Research

Network by ITEP in 1995; the creation of the Citizen Network at Emprel (first municipal freenet in Latin America, in 1994); the creation of the Softex Recife Center, an action coordinated by the City of Recife in conjunction with Assespro (1994); the donation by the City Hall of a building to install the ITBC (Information Technology Business Center) (1998), an intelligent building that years later would become one of the anchors of Porto Digital.

2. Companies - Approximately 15 new software development ventures, many of which were formed by entrepreneurs who had graduated from the dissolution of the Banorte group, were incubated at Softex. Several contributed to the first wave of settlement of Porto Digital in the early 2000s. But as the great transformation in the business world and in social life itself would come from the implementation of the commercial internet in the mid-90s, it is worth mentioning the pioneering spirit of the state's first commercial provider, Truenet (1995).

3. University - Contributed with at least four seminal initiatives in this decade: the creation of the PhD in Computer Science at UFPE (1992); the creation of Cesar (1996); the Delta do Capibaribe movement (publication of a manifesto article by Silvio Meira O Conhecimento and the Delta do Capibaribe) / Information Society Project / Popular Digital Culture Movement, all in 1997); and the elevation of the Department of Informatics to the category of Center in 1999.

**THE DEVELOPMENT (00s)** - Porto Digital was formally created in December 2000, as a reflection of an articulation articulated and coordinated by CIn (UFPE's Informatics Center) and the State Secretariat of Science and Technology, and with support from segments of the business community of Information and Communication Technologies (ICTs) in the state.

### **Evolution milestones**

Porto Digital was conceived with two purposes: to create a world-class software development environment and to contribute to the requalification of the urban fabric and the built historical heritage of the Recife Antigo neighborhood. The first reflected the belief in the role played by the software industry in shaping the economy of the future. In addition, the need for re-agglutination, in Recife and from Porto Digital, of local skills in the area of ICTs that had dispersed amid a strong brain drain that occurred in the context of the economic crisis of the 1990s, was considered.

The second purpose was linked to the understanding, at that time, of the importance of cities, especially their historic areas, in the configuration of innovative and entrepreneurial productive arrangements. From here, we will close our chronology describing the most relevant moments since December 2000, Porto Digital's official birth date.

Eighteen years after its inception, Porto Digital can be understood as a cluster of innovation in the knowledge economy.

The life cycles of this type of productive arrangement have four stages of maturity: creation, growth, sustainability and decline. Avoiding this fourth stage and positioning yourself

permanently in the second has always been the biggest challenge for Porto Digital management. Successful clusters are those that, having reached the sustaining phase, are able to promote transformations of great amplitude (and not just adaptation initiatives) and resume a growth trajectory. It is possible to counter this dynamic on our reality from the following chronology.

Stage 1 - Creation (2001-2002) - Having defined the general context conditions, in what we referred to in the previous column as Germination of our ecosystem (90s), the first two years since formal creation focused essentially on the establishment of conceptual bases, physical-real estate and structuring the management of Porto Digital. The main initiatives of that period were the restoration of ruined properties to house the headquarters of the Management Center, CESAR (Center for Advanced Studies and Systems in Recife) and the State Secretariat for Science and Technology, anchors of the project, reaching the end of the period with 26 companies installed in Porto Digital.

Stage 2 - Growth (2003-2010) - This period was characterized by the implementation of several mechanisms to attract companies and promote business, supported by a consistent institutional and territory marketing strategy (the place matters). The 2008-2010 triennium deserves a special record, since it was evident that Porto Digital was clearly making a transition from the growth to the support phase, going from 100 to 200 companies, surpassing the number of five thousand employees and approaching revenue of R \$ 1 billion (effectively achieved in 2012).

The most relevant actions in these eight years were, in 2006, 2008 and 2009. In 2006, the assignment by the State Government of the Vasco Rodrigues building (the former state bank Bandepe) and the Municipal Tax Incentives Law, both aimed at attracting information technology ventures. In 2008, the elaboration of an aggressive strategy to raise funds from sources external to the state, mainly the federal government (which enabled the elaboration of approximately R \$ 300 million in agreements and contracts between 2008 and today). In 2009, the creation of the CAIS incubator for ICT ventures (project conceived since the foundation, but only carried out that year); and, in 2010, the inauguration of the ITBC business, a Softex initiative designed 12 years before and which soon became one of Porto Digital's main anchors.

Stage 3 - Sustainability (2011-2013) - The sustainability phase is conceptually characterized by maintaining a large number of companies and professionals in a state of equilibrium, whose fluctuations occur more cyclically than structurally. This has been observed in this three-year period. The clear reduction in the pace of growth of Porto Digital compared to the previous period is seen in numbers.

Starting from an average rate of around 29% per year between 2003-2010, the index declines to about 6% between 2011-2013, reaching 233 installed projects in the last year. It was a clear sign that the model was losing momentum and that new initiatives of greater scope, the "innovations inside", should be conceived.

The resumption of a new cycle of visibility and added value for the growth of the ecosystem took place between the years 2013 and 2016, through four movements for the

diversification of complementary skills and the redefinition of the thematic limits of Porto Digital. Are they:

1. The expansion of the scope, when it stopped supporting only businesses based on information technologies and started to include the creative economy sector; in this case, by implementing a platform for creating, prototyping and finalizing products in the areas of games and animation, audiovisual, music, photography and design (the Portomídia strategy, 2013);
2. The structuring of a support hub for the creation and consolidation of startups, based on mechanisms such as accelerators, incubators and coworking spaces (the Jump Brasil strategy, 2014);
3. The expansion of the cluster's own geographical limits, based on a movement to internalize Porto Digital's performance in search of new connections with other production chains in the state, started in Caruaru with the clothing and fashion hub (the Armazéns da Creativity, 2015);
4. The configuration of Porto Digital as an Urban Living Lab, to foster a new area of specialization focused on mobility and urban technologies structured in internet of things and digital manufacturing (the Porto Leve / LouCo strategy - Laboratory of Connected Urban Objects, 2016).

As already registered here, Porto Digital arrives in 2018 with 315 projects, about nine thousand jobs and revenues of around R \$ 2 billion. Due to the installed entrepreneurial capacity and the reputation it has achieved, it has the potential to go much further, to explore new markets through open innovation programs and other services with global production chains; fostering technological innovation in traditional economic sectors towards industry 4.0; and expand its role as an agent of urban transformation in Recife and an inspiring example for other cities. All of these fronts show themselves as new frontiers to be worked on.

- **Francisco Saboya**

CEO of the Porto Digital management group (2007 - 2019).

### **Political decisions that supported the creation of Porto Digital**

The official creation of Porto Digital was on July 21, 2000, made possible thanks to the R \$ 33 million raised in the privatization of CompanhiaEnergética de Pernambuco (Celpe). At the time, names like Jarbas Vasconcelos, João Paulo and Waldemar Borges stood out in the defense of the initiative in the political sphere. The investment with Celpe's resources was decisive for the existence of what today is one of the largest innovation hubs in the world. After all, ideas existed, people willing to develop them too. But the money was still missing for the plans to get off the ground.

That is why the necessary funds came from the controversial privatization of CompanhiaEnergética de Pernambuco (Celpe), sold in February 2000, for R \$ 1.7 billion, in an

auction on the Rio de Janeiro Stock Exchange with a single competitor, the then Guaraniana Consortium. In order to prevent this money from being used to finance the public sector, Jarbas Vasconcelos decides to create a fund to ensure that the amount collected becomes investment in the State.

With ideas and money guaranteed, the Porto Digital project was presented for the first time in Pact 21 - a forum that brought together people from all segments of the State and where structuring projects were discussed. With the plan approved, the State Government invested R \$ 33 million in the creation of the technology hub. Telecommunications companies also made an investment of R \$ 1 million in infrastructure and private companies guaranteed an investment of R \$ 10 million.

#### Creation of CIn influenced decision

In addition to the sale of Celpe, another important factor was the creation of the Computer Center (CIn) of the Federal University of Pernambuco, in 1999. It was from CIn that names like Silvio Meira and CláudioMarinho, founders of Porto Digital and influencers of the decision of the then governor of Pernambuco, Jarbas Vasconcelos, in favor of creating an innovation center in Recife. Jarbas even says that he was taken by them to see for himself the potential of the technology sector. It was from a visit to the UFPE Computer Center that the final decision was made to invest in the creation of Porto Digital.

#### Recife neighborhood becomes innovation hub

Another point that makes Porto Digital stand out is its geographical location. At the time the hub was created, Bairro do Recife was run down and had little economic relevance. Today, about to complete two decades of history, Porto Digital has huge numbers. In 2018, the hub brought together 319 companies contributed, earning R \$ 1.7 billion and employing nine thousand people. In 2019, the numbers grew and reached 339 related companies, annual revenues of R \$ 2 billion and 10,000 job vacancies.

In addition to the economic recovery of a traditional neighborhood in the capital of Pernambuco, the arrival of Porto Digital ensured the architectural recovery of the region. Since the foundation of the technology park, more than 138 thousand square meters of historic buildings have been restored. Waldemar Borges remembers that, almost, this development did not contribute anywhere else:

“There was a question as to whether the IT center should be on the island of Recife or if on the outskirts of the university (UFPE), such was the strength that CIn had at that time. Only after it was decided that it would be on the island will the hub be called Porto Digital.”

State deputy João Paulo took over the City of Recife in 2001 and saw the rebirth of the port region of the capital of Pernambuco. Over time, the companies spread and left Bairro do Recife, extending to the neighborhoods of Santo Amaro, Santo Antônio and São José, totaling an area of 171 hectares. "I have no doubt that it was a wise decision to invest in the occupation and reactivation of that area," says João Paulo.

For Jarbas Vasconcelos, undoing bad habits that the Recife residents themselves had in the center of the Pernambuco capital was one of the challenges of implementing the projects planned for Porto Digital in the locality: “The biggest challenge was to work to undo the local culture of many of the people of the city that public spaces are free of regulation and that therefore they could be occupied without rules. And that was the reality of many streets, important streets in the center of Recife. Main and secondary roads were occupied in a disorderly manner in relation to trade, mainly informal trade.”

One of the milestones of this work to give a new presence to the neighborhood of Recife was the process of transferring the Information Technology Business Center (ITBC) building, where the Association for the Promotion of Brazilian Software Excellence (Softex) now operates. The building was conceived as the anchor of Porto Digital but it took about ten years to become a reality, being opened only in 2011.

#### Tax incentive boosted the arrival of new businesses

The articulation between city councilor Waldermar Borges and the mayor of Recife João Paulo also yielded another fruit that was decisive for the increase in the number of IT companies interested in settling in the Porto Digital region: the reduction of the Taxes on Service (ISS) rates). According to the booklet that details the “Tax Incentive Program for Porto Digital Companies”, aimed at entrepreneurs interested in investing in the area, “Municipal Law nº 17,244 / 2006, with its amendments, establishes a tax incentive program corresponding to 60% reduction in the ISS rate for companies / establishments linked to Porto Digital.”

The legislation was created under the João Paulo administration, which elects this initiative as one of the most correct in favor of the IT sector. “I don't remember the number of companies that became interested in establishing themselves in the area, but there was an increase in the city's revenue. You give up a payment on ISS knowing that there will be a return with the implantation of new companies, generating business and jobs. It happened with the arrival of the call center companies at that time”, points out the former mayor and current state deputy.

The booklet also informs the delimitation of the area benefited with the reduction of the ISS collection from 5% to 2% and what type of action companies must have in order to have access to the benefit. “Among the changes presented are simplification of processes, tax incentives and greater legal certainty for companies focused on technology”, summarizes the text in the booklet.

In 2013, already under the management of Geraldo Julio, Law No. 17,244 / 2006 underwent changes and began to expand the benefit for activities involving programming and visual communication, industrial design, design and technical drawing services. In addition to the tax incentive, the Secretariat of Tourism and Leisure of Recife became part of the Municipal Committee to Support Porto Digital, as well as a representative of the City Council. At the time of the change, the then mayor of Recife, Geraldo Julio said that “Every time the public service signals the market with a reduction in bureaucracy, it builds a better business environment.”



## Exempt and non-profit management

Porto Digital's success as a business catalyst goes beyond tax incentives. The way it is managed also has a great influence on this good performance. Since the largest contribution to the creation of the hub was from state public funds, it could be natural for the State Government to become the administrator of the process. However, Jarbas Vasconcelos decided that the business would be managed by a social organization, the first in the state, inclusive. The measure is considered fundamental to give autonomy to the innovation pole. It was decreed by law that the Government has a minority of seats on the board of directors - up to 40% of the seats.

- **Site: Memória do Futuro**

## Restored Buildings

The first building restored by Porto Digital is located at Rua Bione, in the neighborhood of Recife, and houses the headquarters of the Center for Studies and Advanced Systems of Recife (C.E.S.A.R.). Built in the 19th century to function as a storage shed, the property was purchased by the Porto Digital Management Center in 2001. That same year, the technology park acquired three more 19th-century buildings in Recife Antigo, two of which were located on Rua do Apolo (175 and 181) and another at Cais do Apolo (212), renovated to accommodate Portomídia.

Still in the neighborhood of Recife, Porto recovered a building owned by the state government to receive the Secretariat of Science, Technology and Innovation (Rua Vital de Oliveira) and a building of the Recife City Hall, to implement Softex (Rua Domingos José Martins). In Santo Amaro, the property number 420 on Rua Capitão Lima once again became part of the life of the city as Jump Brasil and is now the address of the administrative and service office of the Uber application.

In the last building restored and reopened by Porto Digital (Rua do Apolo, 235), sponsored by BNDES, there are Portomídia support laboratories (training rooms, auditorium, digital arts gallery), the Laboratory of Connected Urban Objects (LOUCo) and Jump Brasil (accelerator and business incubator). It was a ruined house from the 19th century, originally used as a residence and business.

One of the ongoing projects foresees the reoccupation of 50 da Rua da Moeda with a business hotel. "It is a space for smaller companies, fresh out of the accelerator or incubator, with rooms ranging from 40 to 50 square meters. This is missing in Bairro do Recife", says Leonardo Guimarães. The ruined building occupies one block.

- **Editoria Cidades, 2017**

\* All texts were taken from journalistic articles found on web sites.

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