



**17-20th of June 2012, Tallinn**



## **29th IASP World Conference 2012**

### **Porto Digital´s Support System for Economic Development and Innovation Promotion**

#### **Roundtable 1**

#### **Cooperation among Innovation Support Structures**

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## **Porto Digital´s Support System for Economic Development and Innovation Promotion**

### **Executive summary**

Technology Parks´ objective is to increase the richness of the environment by promoting an innovation culture and competitiveness. As a technology park developed, as one of its actions, a Support System for Economic Development and Innovation Promotion. The system is supported by four strategic actions aimed at a distinct and well defined public with specific objectives, which together contribute to the development of an innovation culture and the increasing of the economic development supported by technology. All these activities are conducted in cooperation with the most diverse kind of actors from the local and national technology sector. This paper will describe the four strategic actions from the System, as well as their objectives and results.

### **Keywords**

Economic Development, Innovation Promotion, Technology Park

## 1. INTRODUCTION

According to IASP (International Association of Science Parks) definition, Technology Parks are habitats which objective is to increase the richness of the environment by promoting an innovation culture and competitiveness. To meet this purpose, it stimulates and manages the knowledge and technology flow generated in the ecosystem in which they are inserted in order to make the production circulate between Universities, Research Institutes and the market. Thus, they contribute effectively to the economic development of a region.

The Technology Park Porto Digital (Recife, Brazil) is the result of the coordinated effort between the university, the productive sector and the government, in order to insert the Information Technology and Communication (ICT) industry in the economic matrix of the Pernambuco state. As a high growth potential sector, ICT is also the basis for increasing the competitiveness of a region in any contemporary economic development strategy.

As a Technology Park, among the various roles that Porto Digital plays, it stands out as agent in the process of technological innovation by presenting a synergistic business environment with real conditions to promote continuity the development of companies generated through incubators, education and research institutions or by its employees.

The Park is considered as an important asset in local and regional economic base, contributing to improve and strengthening the competitiveness of traditional sectors of the state. So, the way it was designed and the nature of transversality of the technologies, both have made of the park environment a dense ecosystem that concentrates the most diverse types of actors that influence the ICT chain and, today, also the Creative Economy chain. Porto Digital becomes a more competitive environment due the great productivity generated inside this atmosphere, that is, positive externalities recurrent of the synergies generated by agglomeration. The presence of companies of the same industry and correlated sectors (clients and suppliers) provides a reduction of cost and the appearance of integration opportunities because of the geographical proximity and institutional intermediation of a governance entity, as the Porto Digital Management Unit (NGPD), which is a nonprofit private social organization founded in April 2001 to manage the park.

After understanding the Technology Park concept, its role as a governance unit and the context in which it is inserted, the NGPD developed a Support System for Economic Development and Innovation Promotion. This is supported by four strategic actions aimed at a distinct and well defined public with specific objectives, which together contribute to the development of an innovation culture and the increasing of the economic development supported by technology. All these activities are conducted in cooperation with the most diverse kind of actors from the local and national technology sector.

This paper will describe the four strategic actions from the Support System for Economic Development and Innovation Promotion created by Porto Digital: (i) Porto Digital Journalism Award, (II) Landing, (iii) Pernambuco innovative Awards and (iv) Porto Digital Incubator, as well as their objectives and results.

Thus, with this initiative, the Porto Digital hopes not only to promote a change of scale in the economy of the region in which it operates, but also allow, through the replication of this model, the increase of competitiveness through innovation and consequent homogeneous development of other regions of the world.

## 2. DEVELOPMENT

### 2.1. Innovation as an Essential for Competitiveness and Economic Development

Science, technology and innovation are understood as fundamental for the economic development, growth, employment and income generation and the democratization of opportunities. The work of

technicians, scientists, researchers and academics and the engagement of companies are crucial for the consolidation of a sustainable development model, capable of meet the social demands<sup>1</sup>.

For three decades the world economy goes through a period of intense technological dynamism and a strong increase in competitiveness. The technical progress and the international competition determine that, without investment in science, technology and innovation, a country could hardly reach the virtuous development, in which competitiveness does not depend on the predatory exploitation of natural or human resources<sup>1</sup>. It becomes necessary to invest in high-level human resource training and in the accumulation of intangible capital - the incorporation of knowledge. It is also necessary to integrate science and technology policy to the industrial technology and innovation policy, so that companies are encouraged to incorporate innovation to its production process<sup>2</sup>.

As stated by Figlioli<sup>3</sup>, Technology-based companies require specific business arrangements, due to the need for the generation of innovation, to the complexity of the interaction between the actors in the national innovation system and the importance of knowledge management in such a globalized environment. Those clusters, according to Porter<sup>4</sup>, have competitive advantages derived from the location factor. The proximity and close ties with buyers, suppliers and other related institutions bring contributions to the increase of production efficiency, the adaptability to changes and implementation of innovations.

## 2.2. Porto Digital: Pernambuco's Valuable Economy Active

The main breeding ground of knowledge and development of ICT applications in Pernambuco is the Porto Digital (PD). This is a technology park located in the neighborhood of Recife Antigo (Old Recife) which is in the historic center of Pernambuco. Porto Digital is a result of the innovation environment that was consolidated in Pernambuco in recent decades along with the coordinated effort of the university, the productive sector and government, in order to enter the industry of Information Technology and Communication in the economic matrix of the Pernambuco state. Sector with high growth potential, ICT is also the basis for increasing the competitiveness of a region in any economic development strategy contemporary.

Porto Digital is the main component of ICT in the State of Pernambuco. Its goal is to implement economic development, public policies for the state, urban regeneration, social inclusion, strengthening of the ICT cluster and other arrangements through the use of these technologies. With 11 years of existence, the Porto Digital is a leading technology centers in the country. The PD generate to the state more than 6000 jobs, attracted 200 institutions among universities, government ministries, research and development centres and technology companies on a national and international level. All sizes companies have already settled in PD and are producing new solutions and new technology products.

As a result of the success of all its actions, the PD was elected by AT Kearney<sup>5</sup>, one of the largest consulting companies in the world, as the largest technology park in the country in number of companies and sales in 2005. In 2007, the PD was recognized as the Best Technology Park and Habitat for Innovation in Brazil by the Anprotec - Associação Nacional de Entidades Promotoras de Empreendimentos Inovadores (National Association of Entities Promoting Innovative Enterprises)<sup>6</sup>, which represents the interests of business incubators, technology parks and innovative enterprises in Brazil. The recognition came with the National Award for Innovative Entrepreneurship 2007.

<sup>1</sup> QUERETTE, E., CALHEIROS, G., OUREM, H. Model for Analysis of The Innovation and Prospection Processes in Technology-Based Firms: The Case of Porto Digital. XXVII IASP World Conference on Science and Technology Parks, Daedeok, Korea, 2010

<sup>2</sup> MCT - MINISTÉRIO DA CIÊNCIA E TECNOLOGIA (2007) Ciência, Tecnologia e Inovação para o Desenvolvimento Nacional: Plano de Ação 2007-2010 do Ministério da Ciência e Tecnologia. Brasília, MCT.

<sup>3</sup> FIGLIOLI, A (2007) *Perspectivas de Financiamento de Parques Tecnológicos: um Estudo Comparativo*. (Mestrado - Faculdade de Economia, Administração e Contabilidade de Ribeirão Preto / USP)

<sup>4</sup> PORTER, M (1999). *Competição: estratégias competitivas essenciais*, 6ª ed. Rio de Janeiro, Campus.

<sup>5</sup> AT KEARNEY. Desenvolvimento de uma Agenda Estratégica para o Setor de "IT Off-shore Outsourcing". Brasília, 2005.

<sup>6</sup> ASSOCIAÇÃO NACIONAL DE ENTIDADES PROMOTORAS DE EMPREENDIMENTOS INOVADORES. Panorama de Incubadora de Empresas e Parques Tecnológicos 2006. Brasília> ANPROTEC, 2005. Disponível em <

[http://www.anprotec.org.br/ArquivosDin/Panorama\\_2005\\_pdf\\_11.pdf](http://www.anprotec.org.br/ArquivosDin/Panorama_2005_pdf_11.pdf)> Acesso em 29 de junho de 2009. 15:32:57

Moreover, in 2008, Porto Digital was the only Brazilian technology park to integrate the first edition elaborated by IASP - International Association of Science Parks of the book *Learning by Sharing* which is that featured four parks around the world. And in 2009, *BusinessWeek*, the largest business magazine in the world, recognized PD as one of the places where the future is being created. In 2011, the PD was again recognized as the Best Technology Park and Habitat for Innovation in Brazil, by the Anprotec.

To manage the park, it was created in 2001 the NGPD - Núcleo de Gestão do Porto Digital (Porto Digital Manage Unit), a private and non-profit social organization. Its actions are guided by a strategic plan, whose essence is to strengthen the competitive capacity of enterprises to enable them to access regional, national and international markets, in another scale level and magnitude. This strategy involves actions such as: to contribute to the economic and regional development, to promote the diffusion of innovation and to stimulate the entrepreneurship, among others. In this context, Porto Digital is a valuable active in Pernambuco's economy with the potential to contribute to improving the productive efficiency standard and therefore to improve competitiveness levels of domestic and foreign markets.

Based in this context, the NGPD has created the Support System for Economic Development and Innovation Promotion in order to contribute to the development of an innovation culture and the increasing of the economic development supported by technology. All these activities are conducted in cooperation with the most diverse kind of actors from the local and national technology sector.

### 2.3. The Support System For Economic Development And Innovation Promotion

The Support System for Economic Development and Innovation Promotion involves the four strategic actions: (i) Porto Digital Journalism Award; (ii) Landing; (iii) Pernambuco innovative Awards and (iv) Porto Digital Incubator, that works together as a chain to promote the innovation culture and consequently increase the economic development, as show in Figure 1.



Figure 1 - Support System for Economic Development and Innovation Promotion and its four actions

#### 2.3.1. Porto Digital Journalism Award

##### Public and Partnerships

The first action is destined to the innovation diffusion for the journalists, opinion makers, communication students and, consequently to the society at large, ordinary people who are not familiar with the innovation environment composed of technology parks and incubators and have

only these vehicles as sources of information. For this public it was developed the Porto Digital Journalism Award in partnership with the Pernambuco's Government through its Secretary of Science and Technology, and with the Journalists Union of Pernambuco.

### Objectives

This initiative seeks to: (i) increase the promotion and dissemination of the state's ICT sector and (ii) integrate it with other supply chains of Pernambuco state that currently redraws its economic base. Talk about this issue at the level of complexity required is the main purpose of the Porto Digital Journalism Award. The intention is to encourage and enhance journalistic work with quality around ICT and innovation and its importance for the development of various economic sectors in the region. It also seeks to acknowledge and reward journalism professionals and students and opinion leaders who have contributed to the development and diffusion of the ICT sector in the state.

With this, the Award seeks to increase the generation of information, which should result in a more updated society about innovation and initiatives commonly performed in this dynamic industry. Thus, this award will contribute decisively to the socialization of knowledge and the consequent deepening and consolidation of democracy in our society, social causes that the state of Pernambuco has been leading throughout its history.

### How it works

The award is held annually guided by the theme "Innovating for growth: the contribution of information technology for economic and social development of Pernambuco" and is divided into the following categories:

- (i) Press Journalism: Reports, articles, essays, illustrated or not, with photos or not, published in newspapers and magazines from Pernambuco;
- (ii) Digital Journalism: Blogs, Sites and Newsletter, reports, articles, essays, illustrated or not, with photos or not, edited in sites, blogs and newsletters from Pernambuco;
- (iii) Electronic Journalism - Television: Reports circulated on television stations of Pernambuco;
- (iv) Electronic Journalism - Radio: Reports circulated on radio stations of Pernambuco;
- (v) Students: Monographs and experimental projects of course conclusion made in the following modalities: press, radio, photo or video, produced by graduate students of journalism course.

All submitted works are evaluated by a commission of five judges, selected by Porto Digital Management Unit that can be from Pernambuco or from other place.

### Results

Since 2007, Porto Digital has been held four editions of the award. In each of this edition there was an average of 13 registrations and around 250 people in the awards ceremony. In 2012 there will be a new edition.

## **2.3.2. Landing**

### Public and Partnerships

The second action is directed to entrepreneurs from traditional sectors of the state's economy such as confection, horticulture, wine industry and others who are poor of technological innovations to improve their processes, products and services and consequent increase of competitiveness and greater market access. The project that serves this public was called "Landing" and has as partners the Ministério de Ciência e Tecnologia e Inovação (Ministry of Science, Technology and Innovation), Secretaria de Ciência e Tecnologia de Pernambuco (Secretary of Science and Technology of Pernambuco) and Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (Brazilian Service to Support Micro and Small Enterprises).

### Objectives

The objective of the landing is to promote economic and social development of Pernambuco State through strengthening and improving the competitiveness of depressed regions using ICT as a basic

tool. Other expected goals of this project are: (i) to introduce ICT in large scale into traditional sectors; (ii) to create networks between Porto Digital and other clusters; (iii) to promote debate about the use of new technologies and new management methods as an instrument toward competitiveness and (iv) to sensitize traditional managers about the importance of innovation in order to facilitate the adoption of ICT systems in their business.

#### How it works

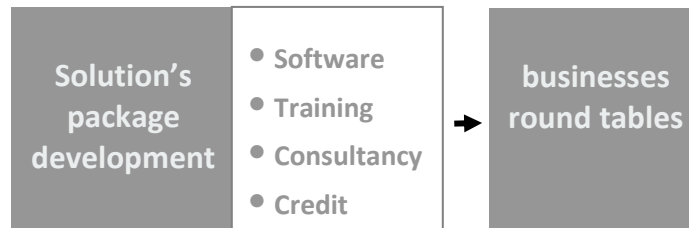
The project is about to provide visits to all development regions of the state (there are 12) to promote exchange between companies poor of technological solutions and Porto Digital entrepreneurs who develop technologies that serve these demands. Through lectures, seminars, meetings and business rounds the real problems of the business universe in question are discussed generating innovative solutions.

To make it works the first step is to identify the depressed economic regions of the state. Then, the idea is to schedule preparatory meetings with the local leaderships to understand their difficult and their needs in order to conduct better the next steps. After that, we produce some material (papers) about ICT, innovation and competitiveness to distribute to the local entrepreneurs and start the divulgation of the project in the main cities of the selected regions. Thus, the Porto Digital using its articulation with the entrepreneurs, the funding institutions, the development governmental agencies, the Porto Digital's ICT companies and the experts from academy, make an agenda to perform, in each region previously selected, a seminar to discuss the problems faced by the regions and the power of the existent technologies. After the seminars the results are consolidated and the bottlenecks from each cluster are identified in order to helps the ICT companies to generate propositions to mitigate/solve the main cluster's ICT problems. The Figure 2 shows all these steps.



**Figure 2 - First phase of the Landing**

The ICT companies suggest solutions that consisting of software, training, consultancy and credit. To finalize the activities, the NGPD organize business round tables in each region with the interested entrepreneurs and the ICT companies in order to encourage them to make business and, thus, contribute to the economic development of these sectors through innovative solutions. It is represented in Error! Reference source not found..



## Results

**Figure 3 - Second phase of the Landing**

As presented in a Brazilian conference <sup>7</sup> and in a paper presented in Iran<sup>8</sup>, both about the Landing Project, this section shows the results obtained in the Landing.

Before the visits it was performed pre-events in order to identify the existing needs. After each intervention it was possible to list the participating companies' expectation that involved commercial, operational and social issues. The work done in each city had an impact on the overall context of the region, namely:

- (i). Resolution of productive, administrative and logistics bottlenecks
- (ii). Generation of fluidity and safety in the companies' internal information.
- (iii). Construction of a collaborative environment between enterprises from the region, government and funding institutions.
- (iv). Training and loyalty of the workforce.

The first "landing" performed by the project consisted of 12 "visits", there were the participation of 720 professionals (entrepreneurs, managers, and local leaderships), which gives an average of 60 people per event; involved 4 professionals from Porto Digital's team; costed around U\$ 190.000 and reached 8 clusters (from 12 economic regions): (i) Milk industry; (ii) Gypsum industry; (iii) Vineyards and wineries, (iv) Textile and clothing manufacturing; (v) Goat farming, (vi) Oil and gas; (vii) Shipyards and (viii) Sugar cane and ethanol.

As a result of these technical visits it was detailed the priority bottlenecks to be worked on this project, listed below:

- (i) Lack of commitment to exchange information from producers and entrepreneurs in the same sector.
- (ii) Lack of knowledge about ICT and business and economic benefits it can offer.
- (iii) Lack of credibility in changes based on ICT and in the professionals that work in this sector.
- (iv) Poor training of manpower and lack of priority in training for qualification of the workforce.
- (v) High turnover of manpower created by the small link created in most companies.
- (vi) Lack of operational organization and insecurity of information between departments, by a need for an integrated tool (software).
- (vii) Excess hours of rework, errors and losses due to the lack of a control tool.
- (viii) Lower operational productivity by the lack of historical and integrated records what difficult the better decision-making of strategic planning by management.
- (ix) The need for greater interaction between entrepreneurs, corporate institutions, government and funding institutions.
- (x) Few innovations in production and logistics processes.
- (xi) Difficult to meet the qualification requirements for expansion and meet the international market.
- (xii) Lack of a concrete action by the corporate institutions to encourage the use of ICT.

<sup>7</sup> TARGINO, P., GOUVEIA, C., CAVALCANTI, J., SABOYA, F., CALHEIROS, G., Porto Desembarca: Um Caso Prático de Desenvolvimento Econômico através de TIC. ANPROTEC, Campo Grange, 2010

<sup>8</sup> TARGINO, P., CAVALCANTI, J., GOUVEIA, C., SABOYA, F., CALHEIROS, G., LACERDA, N., Porto Desembarca: A Way to Enhance the Role of Technology Park in Regional Development, ASPA-IASP, 2011



The caravans were formed by technicians from Porto Digital, representatives of Assespro (Association of Information Technology Brazilian Companies) and Softex (Brazilian Society for Promoting the Software Export) and IT entrepreneurs. Project beneficiaries were the businessmen and entrepreneurs of micro and small companies of the state, particularly from the country that have been heavily involved in the project.

The success of accession achieved by the Landing is a result not only from the intrinsic interest of the producers involved, but also from the engaged representation of cooperatives and the union of its participants in order to allow attractive negotiations of technological solution to be presented , which must be the outcoming of the landings.

The contribution of Porto Digital, however, was not only about building this type of spillover of knowledge and fostering innovation that can be replicated anywhere in the world to contribute to the increase of economic and social development of a region. In its scope, the Porto Digital continues with actions to stimulate the transversality of ICT, preserving and encouraging new negotiating connections between the generators of solutions in intensive technologies of Porto Digital and the other developing regions of the State in order to maintain the animation of the economic and social scenario of Pernambuco to always contribute to its development.

### 2.3.3. Pernambuco innovative Awards

#### Public and Partnerships

The Pernambuco Innovative Award is an action to recognize and promote innovative experiences developed in Pernambuco and supported by the Information and Communication Technologies. The action that has the Jornal do Comércio (Commercial Journal), National Confederation of Industry (CNI)/ Federation of Industries of the State of Pernambuco (Fiepe) and the Ministry of Science, Technology and Innovation (MCTI) as a partner is focused on public defined below:

- (i) Innovative Companies: companies that have innovative initiatives already taken or in progress.
- (ii) Innovative Organizations/ Institutions: nonprofits organizations that present innovative initiatives already taken or in progress.
- (iii) Innovative Students: Students with active enrollment in institutions of Higher and Technical Education (IETS) to submit innovative projects (individual or group)

#### Objectives

The Pernambuco Innovator Award aims to encourage, value and recognize innovative initiatives developed by companies, public institutions and universities which are based on the intensive use of Information Technology. Competed for the prize projects with solutions to social problems, market and public management. With this, we intend to increase the degree of competitiveness of enterprises, promote increased efficiency of public services and promote actions to promote citizenship and social inclusion.

#### How it works

Proposals submitted must describe an innovative idea, for the applicant that is a student, or an innovative action already taken or in progress, for applicants that are company or nonprofit institutions. The idea/ action have to present a relevant social or economic impact (or both) impact supported by technology information.

The award has three categories as detailed below:

- (i) Innovation to the market - Idea/ innovative action already taken or in progress, based on Information Technology, that aims to improve the competitiveness of companies of a productive sector;
- (ii) Innovation for the government - Idea/ innovative action already taken or in progress, based on Information Technology, seeking to maximize the results of public management and / or optimize the efficiency of the administrative machinery;
- (iii) Innovation for society - Idea/ innovative action already taken or in progress, based on Information Technology, to promote citizenship and social inclusion.

So, considering that the prize has three categories and is directed to three distinct and well-defined audiences that can compete in all categories, the award can have up to nine winners in all: The best Innovative idea to market, The best Innovative Idea for society and The best Innovative idea to government each of them for three distinct audiences Who submitted. The table below summarizes all this information.

<u>CATEGORIES</u>	<u>PUBLIC</u>		
	<u>Innovative Companies</u>	<u>Innovative Organisations / Institutions</u>	<u>Innovative students</u>
Innovation to the market	Solutions and projects that aim to optimize the competitive position of firms		
Innovation for the government	Solutions and projects that seek to maximize the results of public action or optimize the efficiency of the administrative machinery		
Innovation for society	Solutions and projects that promote further actions to promote citizenship and social inclusion		

Table 1

All submitted works was evaluated by a commission composed of experts from the Academy, Market, Government and Civil Society in Pernambuco state or other states.that made the analysis based on the following criteria:

- (i) CHARACTERISTICS OF EXPERIENCE / IDEA
- (ii) CHARACTERISTICS OF INNOVATION
- (iii) IMPACT OF INNOVATION
- (iv) IMPACT OF INFORMATION TECHNOLOGY IN OBTAINING THE RESULT
- (v) REPLICATIONG POSSIBILITY / SUSTAINABILITY EXPERIENCE / IDEA
- (vi) PARCERIAS E ARTICULAÇÃO

### Results

In all, 52 projects were registered, 22 were finalist and there were eight winning projects. At the end of the Award the magazine Innovative Pernambuco was produced with the winning initiatives of the competition, analyzed by experts. This publication, whose purpose is to disseminate best practices and encourage innovation in the sectors covered, had 2,000 copie that were distributed among agents promoting the economic and social development of Pernambuco.

Thus, we believe that the Award is an incentive for the Clusters boosts its base of information technology and there by improve their market competitiveness. Thus, we can more effectively pursue the expansion of employment levels in Pernambuco, the internal development and promotion of social inclusion across the state.

#### **2.3.4. Porto Digital Incubator**

The System developed by Porto Digital has as the last and fourth strategic an action that relates to all actions addressed previously. It is an incubator to promoting the creation and growth of innovative companies as it's believed that a technology park should do. The idea of Porto Digital's incubator, however, differs from the existing patterns of incubation. Its conception starts from the belief that business success comes from ideas and people. Thus, the incubator areas comes from a list of problems related to the development regions of Pernambuco so that possible solutions can be envisioned to try to minimize identified bottlenecks in these regions through the second strategic action, the Landing.

### Public and Partnerships

The proposals to the incubator may be submitted by both, companies as well as regular people who have found out themselves as innovative entrepreneurs when met with the first initiative of this

system, the Porto Digital Journalism Award, which, by encouraging journalists, made information of the innovation environment arrive in much bigger quantity and quality to common people. It is worth to note that also students with innovative ideas can participate in the incubation process. This is where starts the connection with the third strategic action, the Pernambuco Innovative Award, which among other things, awards the winning student with the incubation process.

So, the project has as partners the Ministério de Ciência e Tecnologia e Inovação (Ministry of Science, Technology and Innovation), Secretaria de Ciência e Tecnologia de Pernambuco (Secretary of Science and Technology of Pernambuco) and Serviço Brasileiro de Apoio às Micro e Pequenas Empresas (Brazilian Service to Support Micro and Small Enterprises).

### Objectives

The Porto Digital incubator presents a solution that seeks to promote economic and social clusters development by strengthening and increasing their competitiveness through the generation of innovative IT projects aimed at solving the real problems of this clusters.

Among the reasons for structuring the incubator environment in PD are: (i) maximizing the survival conditions of new ventures generated from the University and companies already established, (ii) the possibility of developing ideas and technologies generated by entrepreneurs, and (iii) the consolidation of a link in the sequence and maturation of these new businesses.

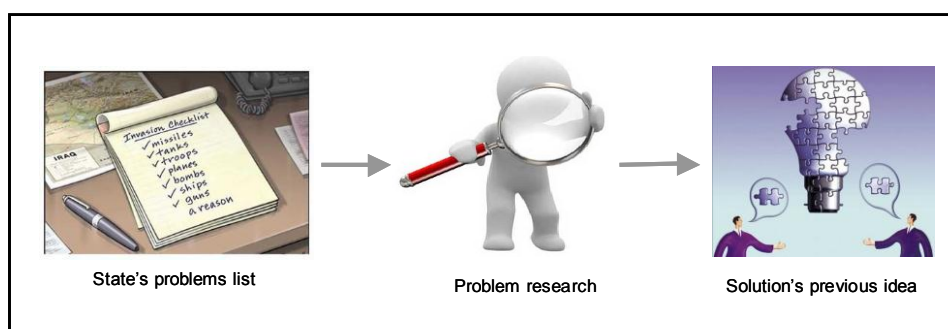
### How it works

The innovative incubation model is expected to decrease the enterprises mortality rate and balancing other economic regions of Pernambuco, stimulating competitiveness, innovation and contributing to state economic development.

The Porto Digital Incubator is structured as a micro site of innovation, conducting training activities, capabilities, structuring companies, incubation and post-incubation. In a multifunctional space that provides adequate support to all its activities, the Incubator is able to graduate in three years 30 new companies.

The incubator structure is expected to stimulate the emergence of new software development business in Porto Digital, whose main characteristic is the high degree of technological innovation and it is focused on a higher value market niche. Based on relevant issues in development regions of Pernambuco state, the business should show feasibility to grow national and internationally.

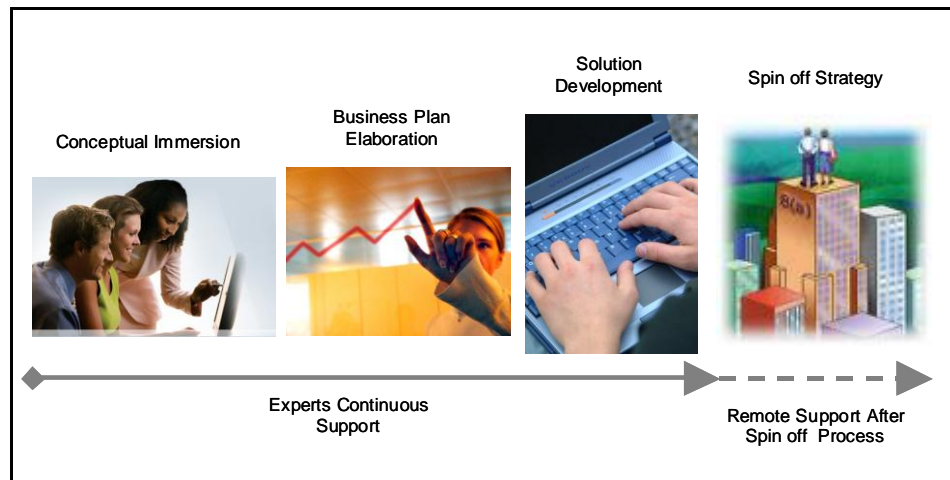
The Porto Digital Incubator idea runs far from the already existent models. His conception believes that the business success comes from ideas and people. Thus, as summarized graphically in Figure 4, the incubator is be based on ideas that come from a list of issues related to Pernambuco's cluster, so that possible innovative solutions are envisioned to try to minimize the bottlenecks identified in these regions. It is expected that the proposals submitted contain a deeper investigation on the highlighted problem and a previous idea of the innovative solution to be developed during the incubation period.



**Figure 4 - Flow to join the incubator**

The incubation process have a support of an expert group that provide training and advice in areas such as Marketing and Sales, Management / Business, Accounting / Financial, Technological and

Behavioral. These consultants act at all stages, both collective and individually, varying the intensity according to the steps that are detailed below and summarized graphically in Figure 5.



**Figure 5 - Incubation Steps**

**CONCEPTUAL IMMERSION** - This step is divided into two parts: the first consists in an intensive and collective training about the areas supported by the experts and the second part consists in an individualized support. Each part will take place in a period of one month, resulting in two months for completion of the whole stage. At this point, the expert consultants will work with great dedication, each one in its own area.

**BUSINESS PLAN PREPARING** - The Business Plan construction is held based on the proposed project, putting into practice the concepts learned in training, and refined with the help of experts. This stage will be held in the 3rd and 4th months.

**SOLUTION DEVELOPMENT** - This is the biggest step and it is the moment, in fact, when the technological development of the proposed solution take place. During this step, which occurs within 12 months, the experts' performance will be less intense than the early stages, but systematic. It increases, as the project is taking shape and the need is increasing. It is believed that, even though it is the technological development moment, the market does not stop. Therefore, the incubator manage unit must always be following and updating the marketing plan, conducting surveys, participating in fairs, events, managing the project, raising more resources, etc.

**SPIN OFF STRATEGY** - Finally, after the solution development, the company is held to prepare for the spin off. Specialists and incubator manager, together, consider and decide the future of graduate companies choosing one of the three alternatives below:

- a) The enterprise may be: (i) a new business generated from each incubated solution, (ii) a new business generated by all the solutions incubated, or (iii) some companies generated by the best combination in terms of future sustainability subsets of solutions incubated.
- b) The enterprise may be a new project or product supporting institution, in this case it is a company already established that it was decided to incubate a new business, or,
- c) The project could become a product ready to be sold.

**POST SPIN OFF PROCESS SUPPORT** - After performing the spin off, entrepreneurs may take advantage of expert consultants during a 6 months period in order to establish itself in the market.

### Results

The incubator is in its first group of work. There were 62 project proposals from which 13 was selected to be incubated. All of them passed by the Conceptual Immersion, the Business Plan Preparation and they are now in the Solution Development phase. Even without finish their project, 8 of the companies have won a total of 17 awards, which involves: money, firsts places in competitions, selection in programs supported by funding organizations in Brazil and also an startup prize that takes the entrepreneurs to spend 3 months in Ireland in a startup acceleration program.

### **3. CONCLUSION**

As the main representative of Pernambuco's ICT cluster, the technological park Porto Digital has sought to exercise its role to promote an Economic Development. The park has played a key role in implementing this Support System for Economic Development and Promotion of Innovation once it acts as a mobilizing and organizer agent for the construction of cooperative actions to promote innovation and competitiveness glimpsing the increase of the economic development. The project is, therefore, a practical case of a region's economic development through innovative solutions that can be replicated anywhere else in the world. Thus, with this initiative, the Porto Digital hopes not only to promote a change of scale in the economy of the region in which it operates, but also allow, through the replication of this model, the increase of competitiveness through innovation and consequent homogeneous development of other regions of the world.

It is also believed therefore that the promotion of innovation actions, especially related to technology has a fundamental importance in the institutional image of the technology environment of a region, serving as a benchmarking example for other parks in the country and improving access of Brazilian technology to international markets.