

# INTELLECTUAL OUTPUT 4

## Case Study IO4- Marketing

---

### **Business innovation and development. The case of BioBIP: Bioenergy and Business Incubator of Portalegre**

Ana José; Carolina Oliveira Santos; Liliانا Pêgo; Paulo Canário, Artur Romão  
Instituto Politécnico de Portalegre  
anajose@ipportalegre.pt; carolinasantos@ipportalegre.pt;  
liliانا.pegó@ipportalegre.pt; pnuno@ipportalegre.pt, romao@ipportalegre.pt  
Key words: Entrepreneurship, Incubators, Knowledge transfer

## **1. Summary**

This case study analyses the case of BioBip The Bioenergy and Business Incubator of the Norte Alentejo – Portalegre. Business incubators have come to position themselves as important structures that encourage the creation of new projects that result from collective or individual entrepreneurial capacity. Incubators play a key role in supporting the development of technology-based projects and companies.

## **2. Introduction**

A business incubator is an institution whose objective is to prepare, strengthen and support micro and small companies so that they survive in the market. The incubators offer business management services, technical support and complementary training for entrepreneurs. This is done through a structured physical space with meeting rooms, internet and access to tools and equipment that are offered to new companies.

The importance of business incubation programs for the promotion of entrepreneurship and innovation has been gaining more and more prominence in the business fabric. In this context, the incubation process helps the competitive strategy, since competitiveness is increasingly fierce in the market, requiring companies to have this differential.

The BioBIP - Bioenergy and Business Incubator of Portalegre is a structure belonging to the Polytechnic Institute of Portalegre (IPPortalegre). It was inaugurated on November 25, 2015 and it is inserted in the dynamics of the Alentejo Science and Technology Park (PCTA), dedicated to the incubation of companies, preferably based on technology, in particularly in the area of bioenergy, and others related to the training areas of the IPP or the use of resources in the region. BioBIP has a Bioenergy Center (BioBIP Energy). It is a semi-industrial experimentation center, on a pilot scale, with laboratory support, of technologies in the area of bioenergy, using areas in the industrial nave or spaces intended for incubation, complemented with the use of laboratory resources available at IPPortalegre. Its mission is to foster and disseminate entrepreneurship, the entrepreneurial spirit throughout the academic community and the surrounding business community, supporting the development of innovative business ideas, aiming at their concretization and successful implementation in the market.

### 3. Aims

This study seeks to analyze the role of a Technology Based Incubator, in order to be able to conclude about its current intervention and future promotion of new entrepreneurial ideas and projects.

- Present the management model of BioBIP and forms of intervention with the incubated;
- Evaluate the results of companies incubated at BioBIP.

To achieve these main objectives, an analysis of the internal environment of the BioBIP organization is presented and, subsequently, a characterization of its incubators.

### 4. Literature Review

Business incubators have been positioning themselves as important structures that stimulate the creation of new projects that result from collective or individual entrepreneurial capacity. Incubators play a fundamental role in supporting the development of technology-based projects and companies, as

they "bet on innovation as a way to help the creation and development of these companies." (Santos, 2013, p. 1).

Business Incubators are the preferred place where many entrepreneurs start their business venture. The first reference to the word "entrepreneur" dates back to 1437 when, in France, he called himself an entrepreneur "one who commits to something" (Landstron, 2005, quoted by Franco & Gouvêa, 2016, p.3).

In the economic era, interest in entrepreneurship is sustained by economists, who focus mainly on "risk" and "change and innovation". The era of social sciences marks "the entrance of scholars from the fields of psychology and social sciences, who direct their interests in the entrepreneur as an individual and have started to investigate his works and personality traits." (Verga & Silva, 2014, p. 5).

Entrepreneurship is fundamental to the socioeconomic development of a country / region, as it is essential for the design of job opportunities and is considered a catalyst for technological progress and product, service and market innovations (Mueller & Thomas, 2000, referenced by Silva, et al., 2013). Allied to the concept of entrepreneurship comes the concept of innovation, being thus a key variable when analyzing this theme. For Drucker (2005) innovation is the main tool of an entrepreneur, through which he identifies an opportunity and explores it in a way to create a different product and or service (Antunes, 2019).

Quoting Santos (2013, p. 13) "the words" entrepreneurship "and" innovation ", convey the possibility of opening new markets, enabling greater efficiency and economic growth."

Entrepreneurship is a multifaceted phenomenon that has attracted the attention of researchers from various disciplines, possibly because it is understood that competitiveness and innovation are today's challenges (Lüthje & Franke, 2003) that can make a difference in terms of employability, economic growth and, at the same time, mitigate social conflicts.

The Higher Education Academy (2004) defines this concept as "an activity which leads to the creation and management of a new organization design to pursue a unique, innovative opportunity" (p.2). The National Commission on Entrepreneurship (NCE, 2003) also defines the concept as a process "of uncovering and developing an opportunity to create value through innovation" (p.4) placing, as in the previous definitions, the emphasis on finding creative and innovative opportunities making them market opportunities, regardless of having as objective the creation of financial, social or aesthetic value (Karp, 2006).

Lee & Venkataraman (2006) define entrepreneurship as “the search process of alternative or new opportunities instead of just alternative employment opportunities” (p.120) in which the concept is understood, essentially, as the search for innovative entrepreneurial opportunities, considered as the possibility of the individual offering society new values through the introduction of new products and services creating new companies, be it considered as a process, activity, choice of career or creating one's own job (Frazão, 2010).

The author Sarkar (2007) argues that “entrepreneurship is the process of creating and / or expanding businesses that are innovative or that are born from identified opportunities” (p.47). This author incorporates the three most common structuring logic of entrepreneurship, namely the economic, the creation of an innovative way and the recognition of opportunities.

The entrepreneur, in addition to his personal fulfillment, is an innovator who creates, organizes and coordinates economic resources (Tamásy, 2006; Blenker et al., 2006) having generally associated the achievement of financial or material profit (Holland, 1985) as one of the objectives. In this context, entrepreneurship can also be understood as an art form, as it seems to be based on a deep theoretical knowledge allowing the individual to use his abilities to create something that did not exist in an innovative way (Frazão, 2010).

For Frazão (2010) the entrepreneurial behavior is a positive, flexible and proactive attitude of the change that can manifest itself in different contexts. Blenker et al. (2006) refer that the entrepreneurial behavior can be understood as a collective or individual phenomenon, being able to refer

Some authors have a broader conception of the concept considering that entrepreneurship is not the same as creating an organization or starting a business (Drucker, 1985) or a partnership, but it is an indispensable competence in a multiplicity of contexts of personal, professional and social life of individuals (Gibb, 2002; 2002a). For other authors, the concept is understood as a competence to recognize and assess the risks of exploiting an opportunity (Ulhøi, 2005), even assuming a crucial importance as a key competence in lifelong learning (EC, 2004).

The European Commission (EC, 2004), through the working group that studies the issue of key competences, adopts a very appealing perspective of the individual's personal characteristics and personality when defining the “entrepreneurship” competence as “the propensity to induce changes oneself, but also the ability to welcome and support innovation brought about by

*external factors by welcoming change, taking responsibility for one's actions, positive or negative, to finish what we start, to know where we are going, to set objectives and meet them, and have motivation to succeed" (p. 15).*

Many entrepreneurs, with few resources, use business incubators to kick start their venture.

The expression "business incubator" dates back to 1938, when the first incubation experiment was carried out by two students, Hewlett and Packard, which subsequently resulted in the creation of one of the largest global technology companies, HP (Silva, et al., 2013). In 1959, the "worldwide incubator movement" began, more specifically in Batavia Industrial Center, New York City, which later came to be called the first United States business incubator (Antunes, 2019).

The business incubator is defined, according to ANPROTEC (2011), as an "entity that aims to support entrepreneurs so that they can develop innovative ideas and transform successful ventures".

In this sense, "business incubators are mechanisms considered as important assets in supporting entrepreneurship." (Grimaldi & Grandi, 2003, cited by SEBRAE, 2015, p. 3).

For Lisboa & Castro (2016, p. 246) "the objective of business incubators is to provide an environment for interaction, knowledge transfer and constant search for technical and managerial improvement".

Business incubators offer their incubated companies' different conditions so that they can create and develop their projects, such as: adequate facilities and infrastructure, financial support, management support supporting companies in areas such as administrative, commercial and legal. They can also offer several services, "among which stand out the services associated with business opportunities, consultancy services, information, feasibility plans, insertion in entrepreneurship and innovation networks, infrastructure and facilities" (Araújo, Bonani, Ramalheiro, & Barboza, 2017, p. 2).

In the first phase of the incubation process, the company intends to improve its business plan, carrying out market research and prior preparation for the management of its business. The incubation phase is classified as the critical phase of the process and comprises the development of the business plan formulated in the pre-incubation phase, "taking advantage of the physical facilities and other services provided by the incubator" (Iacono, et al., 2011, p 1500). This phase usually lasts two years, but it can vary depending on the organization of each of the incubators and it is there that the incubator

guides and accompanies the companies so that they can add value to their enterprise. Post-incubation is characterized by the stage when EBT reaches its maturity and “receives the name of a graduated company, but the services provided by the incubator remain available.” (Iacono, et al., 2011, p. 1500). In this same phase, the company intends to gradually disconnect the incubator.

## 5. Method

A case study is a study of a particular situation. The question formation of the study determines mostly the methodology or the method that is the best one for the empirical part of the study in question.

As for the nature of the study that was developed, it is classified as a mixed study, that is, it encompasses the collection and observation of data with a quantitative character and data with a qualitative character.

As for the type, we classify the study as a case study. According to Yin (1994), the case study presents itself as an adequate strategy when asking questions of “how” and “why” questions, when the researcher does not have much control over events and when the focus is on current phenomena in a given real-life context. In Yin's (1994) view, a case study has three main intentions - to explore, describe and/or explain.

## 6. Results

BioBIP mission is to foster and disseminate the entrepreneurial spirit throughout the academic community and the surrounding business community, supporting the development of innovative business ideas and aiming at their successful implementation and implementation in the market. Its entrepreneurial nature aims to enhance the entrepreneurial spirit, promote and facilitate the growth of business ideas, in order to contribute to the development of the territory.

Depending on the type of support needed by the different states of the companies and projects under development, the Incubator offers 3 incubation modes: pre-incubation, incubation and business development.

During pre-incubation, the Incubator provides project promoters with support in the development of the business idea, in order to prepare promoters and companies to move on to the incubation phase, aiming to provide promoters with the best sustainability conditions to be able to launch the product on the market.

During the pre-incubation period, promoters will be able to use the incubator facilities in the coworking area, access consultancy services specialized in the development of the product / service, in monitoring the development of the idea, as well as other specialized services, with a view to legal formalization of the company (legal support, tax support, training, among others).

In the incubation mode, the promoter has the possibility to enjoy a physical space with a view to the implementation and / or business development of a project or company and may also choose to Virtual Incubation or Coworking ("Incubator services").

This type of incubation of a business or company idea, with access to all services that the incubator offers without being physically installed in it. The business project can move from virtual incubation to physical incubation, as long as there is space in the incubator and that is the will of the promoters.

In this phase, benefiting from the synergies between the incubated companies, the privileged conditions are maintained, in a favourable environment, with a view to increasing the competitiveness of the incubated companies.

Advantageous conditions are available for access to specialized services such as accounting, consultancy, legal support, among others, as well as the support and monitoring of the business, contributing to its future sustainability outside the incubator environment.

As we can see in Table 1, there are several and diverse areas of activity for companies incubated at BipBiop.

**Table nº1 - Development business areas at BioBip**

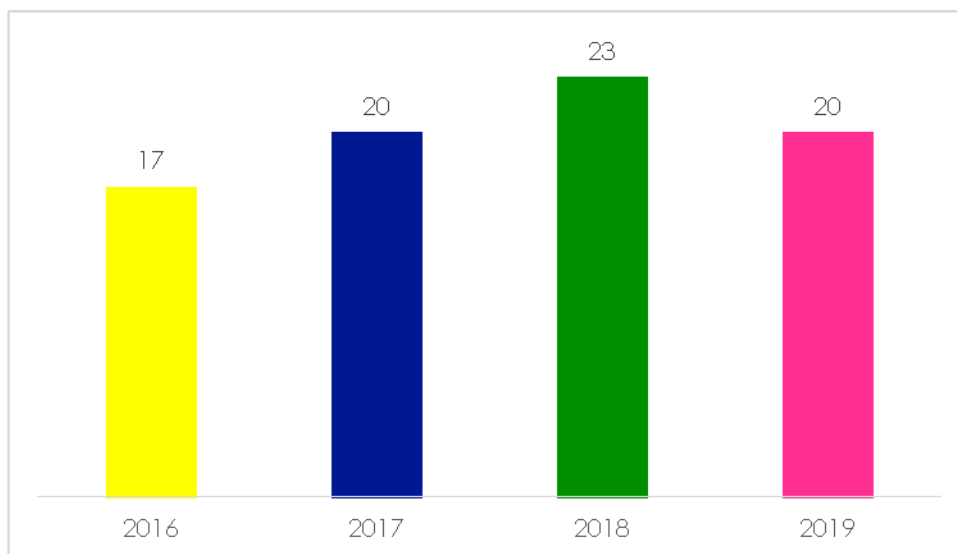
Multimedia animation	Engineering
Multimedia animation & Technologies	Engineering and architecture
Multimedia animation, Technologies, Television	Teaching creative technology
Arts, Design and Animation	Manufacturing of medicines
Bioenergy, technologies	Mycological resource management
Health Sciences and Technologies	Research and experimental development on physical and natural sciences
Online retail trade	Animal research and production
Trade and retail of books	Marketing
Communication	Marketing, Communication and Design
Consultancy	Microalgae for human consumption

Agricultural consultancy and technical support	Monitoring, mobility in industrial processes
Environmental consulting	Precision livestock
Mobile care in neurodegenerative diseases	Pet Sitting
Bot Development	Technology
Design, Multimedia	Multimedia technologies
Education, Social and Human Sciences	Tourism

Source: BioBip - Abril 2020

In graph 1 we can see the growth in the number of companies incubated at BioBip, with 2018 being the year with the most companies operating in BioBip, on a physical (70%) and virtual basis (30%). In 2019 the number of companies physically incubated decreases (60%), and virtual incubation increases (40%).

**Figure 1. Incubated Companies at BioBip**



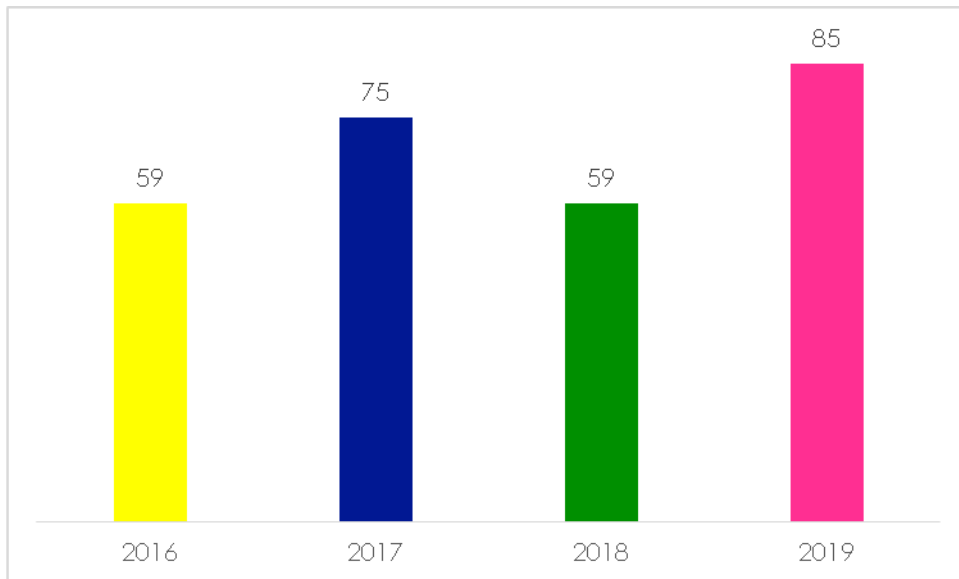
Source: BioBip - Abril 2020

Graph 2 shows the growth variation in the number of employees of the incubated companies. It should be noted that since its inauguration, BioBip has played an important role in combating unemployment in the North Alentejo region.

In 2019, 85 people worked in BioBip facilities, which represents a 44% growth compared to the previous year.



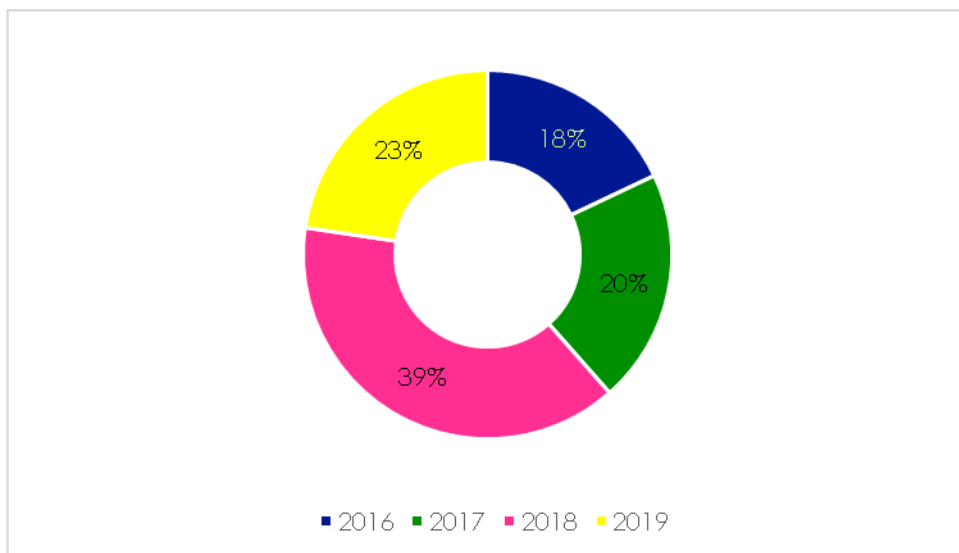
**Figure 2. Number of Employees at Companies Incubated at BioBip**



Source: BioBip - Abril 2020

In relation to the volume of business generated by companies incubated at BioBip in these four years, we can see that the year with the greatest relevance was 2018, in 2019 there was a small reduction in business volume by about 16%.

**Figure 3 . Volume of Business from Companies Incubated at BioBip**



Source: BioBip - Abril 2020

## 7. Conclusions and Recommendations

Incubators as entities that are considered important assets to support entrepreneurship, offering support to entrepreneurs so that they develop their innovative ideas. These, in order to enhance their capabilities and generate better innovative ventures, need to outline and put in place management models.

Currently, technology-based incubators are a means of entrepreneurship, of transferring and applying knowledge and innovation, which results from the close relationship between Higher Education Institutions and companies through Research and Development activities (Antunes 2019).

With the presentation of this case study, we sought to disseminate an example of a project with regional impact, generating innovative dynamics, enhanced by a recent infrastructure, under the responsibility of a higher education institution. The BioBIP technology-based incubator is thus a project that meets the need to promote entrepreneurial attitudes with scientific and technological bases, providing evolved technological means for testing business ideas, as well as monitoring by a qualified and qualified team with multidisciplinary human resources.

In this perspective, a technology-based incubator like the one we have analyzed here, based on the technical and scientific competences (of excellence) installed at IPPortalegre, is, after all, a form of regional affirmation and knowledge transfer.

## 8. References

- Antunes, M. (2019). Incubadoras de Base Tecnológica ligadas ao Ensino Superior: O caso da BioBip do Instituto Politécnico de Portalegre. Projeto de Mestrado em Gestão de PME Instituto Politécnico de Portalegre: Portalegre.
- Blenker, P., Dreisler, P., Kjeldsen, J. (2006). *Entrepreneurship education – the new challenge facing the Universities. A framework or understanding and development of entrepreneurial university communities*. Working paper 2006-02.
- Comissão de Coordenação e Desenvolvimento Regional do Alentejo. (2014). *Uma Estratégia de Especialização Inteligente para o Alentejo*. Évora.

- De Araújo, Camila Saracine et al. (2017). O papel da incubadora de empresas na promoção de inovação e no desenvolvimento da gestão dos empreendimentos. *Revista Brasileira Multidisciplinar*, [S.l.], v. 20, n. 1, p. 60-70.
- Drucker, P. (1985). *Innovation and entrepreneurship*. New York: Harper & Row Publishers.
- Drucker, P. (2005). *Inovação e espírito empreendedor (entrepreneurship): práticas e princípios*. São Paulo: Pioneira Thomson Learnin.
- European Commission (2004). Implementation of "Education and training 2010" Work programme. Working Group B – "Key competences". Brussels: EC. Progress report
- Eurostudent (2005). *EUROSTUDENT Report 2005. Social and economic conditions of student life in Europe 2005*. Consultado, Novembro 6, 2006 em <http://www.his.de/Eurostudent/report2005.pdf>
- Franco, J., & Gouvêa, J. (2016). A cronologia dos estudos sobre o Empreendedorismo. *Revista de Empreendedorismo e Gestão de Pequenas e Médias Empresas*, Vol. 5, n.o 3, pp. 144-166.
- Frazão, L. (2010). *As Intenções Empreendedoras como Preditores das Intenções de Abandono Académico: Um Estudo Exploratório*. Dissertação Universidade de Évora – Escola das Ciências Sociais Aplicadas. Évora: Portugal
- Gibb, A. (2002). In pursuit of a new "enterprise" and "entrepreneurship" paradigm for learning: Creative deconstruction, new values, new ways of doing things and new combinations of knowledge. *International Journal of Management Reviews*, 4(3), 213-231.
- Gibb, A. (2002a). Creating conducive environments for learning and entrepreneurship: leaving with, dealing with, creating and enjoying uncertainty and complexity. *Industry and Higher Education*, 16(3), 135-148.
- Holland, J. (1985). *Making vocational choices. A theory on vocational personalities and work environments*. Englewood Cliffs, NJ: Prentice-Hall.
- Karp, T. (2006). The inner entrepreneur: A constructivistic view of entrepreneurial reality construction. *Journal of Change Management*, 6(3), 291-304.
- Lee, J., Venkataraman, S. (2006). Aspirations, market offering, and the pursuit of entrepreneurial opportunities. *Journal of Business Venturing*, 21(1), 107-123.

- Lisboa, E.; Castro, M. (2016). O impacto da implementação da metodologia CERNE na Casulo – Incubadora de Empresas do UNICEUB. In: XXVI Conferência ANPROTEC, Empreendedorismo e ambientes de inovação. Anais da chamada de Trabalhos. Fortaleza. pp. 239-263.
- Lüthje, C., Franke, N. (2003). The “making” of an entrepreneur: testing a model of entrepreneurial intent among engineering students at MIT. *R & D Management*, 33(2), 135-146.
- Marques, J.P.C., Caraça, J.M.G. e Diz, H. (2010), Do business incubators function as a transfer technology mechanism from university to industry? Evidence from Portugal, *The open Business Journal*, 3, 15-29.
- Santos, J. (2013). Avaliação da eficiência e produtividade de empresas de base tecnológica em incubadoras: o caso de estudo do Madan Parque. Lisboa: Universidade Nova.
- Sarkar, S. (2007). *Empreendedorismo e inovação*. Lisboa: Escolar Editora.
- SEBRAE. (2015). A Contribuição da implantação do CERNE para a graduação dos empreendimentos incubados.
- Silva, R., Silveira, M., D'Amore, T., & Araújo, A. (Julho de 2013). Incubadora e Gestão: uma percepção das empresas incubadas. *HOLOS*, Vol. 3, pp. 27-37.
- Tamásy, C. (2006). Determinants of regional entrepreneurship dynamics in contemporary Germany: A conceptual and empirical analysis. *Regional Studies*, 40(4), 365-384.
- Tamásy, C. (2010). Nascent entrepreneurs and regional context. *International Journal Entrepreneurship and Small Business*, 10(2), 205-223.
- Ulhøi, J. (2005). The social dimensions of entrepreneurship. *Technovation*, 25(8), 939-946.
- Verga, E., & Silva, L. (2014). Empreendedorismo: Evolução Histórica, Definições e Abordagens. *Revista de Empreendedorismo e Gestão de Pequenas e Médias Empresas*, Vol. 3, n.o 3, pp. 3-30.