IASP International Association of Science Parks and Areas of Innovation

32nd IASP World Conference on
Science Parks and Areas of Innovation 2015

Beijing, China

# REGIONAL INNOVATION AND ENTREPRENEURIAL ECOSYSTEMS BOOSTING NEW GENERATION SCIENCE PARKS: THE AVEIRO REGION (PORTUGAL) CREATIVE SCIENCE PARK

*Parallel Session 5 :*

Environments and spaces for innovative entrepreneurship


Author :

Carlos Pascoal Neto
University of Aveiro, Portugal
Filipe Teles
University of Aveiro, Portugal
José Ribau Esteves
Council of Mayors of Aveiro Region, Portugal


Hosted by:

中关村 Z-Park ZHONGGUANCUN SCIENCE PARK

# REGIONAL INNOVATION AND ENTREPRENEURIAL ECOSYSTEMS BOOSTING NEW GENERATION SCIENCE PARKS: THE AVEIRO REGION (PORTUGAL) CREATIVE SCIENCE PARK


## Executive summary

The aim of this paper is to present the experience the Aveiro innovation area and its recently launched “Creative Science Park”, a project aiming at leveraging the regional knowledge-intensive economy within a context of an international clustering network.

We discuss the drivers and evolution of a "naturally born" innovation area, given the fact that the region had all the elements of a spatially delocalized modern science park. This setting encouraged the relevant regional triple helix stakeholders to move forward and create a central infrastructure, contiguous to the University of Aveiro Campus, gathering in its premises the academia, industry, and entrepreneurs, strongly articulated with the existing municipal incubation poles, municipal industrial parks and local authorities, further stimulating knowledge based economy.

The triple helix model is used as a tool to recognize pre-existing conditions in the region and to establish the necessary strategic decisions, namely in the selection of specialization areas and governance model of the Creative Science Park.

## 1. Territorial development and innovation ecosystems

Socio-economic development is undoubtedly the greatest ambition of any region. To foster and maintain an ecosystem that allows for creating the conditions to achieve such goal, providing the suitable setting for a prosperous context, must be a common challenge of political leaders, economical agents and other regional stakeholders.

Knowledge and innovation play a relevant role in this setting and are often seen as the most relevant pieces in the complex puzzle underlying the socio-economic development. Thus, not only public policies should follow a strategy oriented to promote innovation, but also the private sector must consider knowledge and innovation as key ingredients for their sustainability, growth and differentiation.

The main drivers of territorial development, in this context, are the decision-makers and the correct mix of public policies, the scientific ecosystem and the private sector, which set the well-known triple helix model. The relationship between stakeholders and their governance becomes essential when the correct implementation of a capable and effective development strategy is at stake. Only with the correct alignment of these three agents, building and sharing a strategy, which sees in innovation and knowledge the tools to enable companies and to qualify people, the desired sustainable socio-economic development becomes possible. In fact, rich and dynamic regional ecosystems tend to present the following characteristics: i) a thriving industry, in specific sectors with a relevant degree of sustainability over time; ii) higher education and research institutions, as a source of qualified human resources, and of knowledge and technology; and iii) a local or regional government, which acts as a facilitator of dynamic relationships amongst agents. This model has been playing, also, an important role in the design of regional programs outlined for socio-economic development, thus explaining European policy and guidelines for regional development strategies. The operationalization of territorial strategies based on the triple helix model results, however, in different settings with diverse characteristics. Nevertheless, it is rather simple to identify some commonalities between regions aspiring to such label. In those cases it's not uncommon to see industry clusters, business incubators and accelerators, knowledge transfer units, internship programs, entrepreneurship training, innovation incentives, talent attraction strategies and, especially, science and technology parks.

Although innovation is regarded as an essential tool in European policy for the 2014-2020 period and considered as the instrumental for the promotion of economic growth and employment, this cannot be considered with disregard to the specific territorial resources of each region. The central policy decision made by the European institutions was to foster smart specialization strategies in order to identify and enhance areas with the greatest potential to promote the necessary balance between economic growth, job creation and more balanced and cohesive societies, and, at the same time, environmentally sustainable. In fact, European regions cannot be excellent in all areas. There will certainly be areas of expertise, with local resources, business practices, social capital and recognizable economic opportunities with greater potential in each region. Thus, the goal is the identification and definition of a strategy of careful application of public funding in order to enable a more efficient and effective use of resources.

Innovation policies are, thus, central to the concept of smart specialization, and are closely linked to the promotion of efficient and coordinated use of public investment. The European Commission proposal for the present programming period was very clear on this matter and included the implementation of research and innovation strategies for smart specialization as a precondition for the approval of the partnership contracts with Member States and their respective funding schemes.

There is, also, a significant body of theory and practice on the role of universities in regional development.

It identifies the relationship between universities and regional authorities as particularly relevant to this process. At the most basic level, universities can serve as an anchor institution, being large employers, goods consumers, and active contributors to the regional social and cultural life. The investment in teaching and research infrastructures can therefore have a passive multiplier effect on the regional economy. However, the active contribution of universities is particularly relevant. This can be understood in four areas: in innovation, closely linked - but not exclusively - to their research mission; in the development of human capital, related to education and training; to community development, linked to their third mission role; and, in the institutional capacity of the region, through their collaboration with local and regional public authorities.

It's in the integration of these four areas that the contribution of Universities to regional innovation ecosystems is quite evident. Furthermore, the abovementioned concept of "smart specialization strategies" has made this even clearer, asking from universities, and research and innovation centres to become even more active in this role as a critical resource, whose engagement can have a disproportionately positive effect on the regional economy.

Territorial development as a goal, and regional innovation ecosystems as a tool to achieve it, requires the commitment, active engagement and strategic alignment coordination of all stakeholders, with a particular focus on public authorities, higher education institutions and industry. In this paper we seek to shed some light on why we consider the Aveiro Region to possess the needed elements to be an adequate setting for intelligent and sustainable growth, having established itself as a regional innovation ecosystem that sets the ground for a new generation science park in its next phase of development.

## 2. The case of Aveiro Region

### 2.1. Context

The Aveiro Region, located in the Central Region of Portugal, is composed by 11 municipalities with 370 000 inhabitants, bathed by the Atlantic Ocean and by an extensive and environmentally sensitive natural aquatic ecosystem with a rich biodiversity, the Ria de Aveiro lagoon. With an area of about 1,690 km2, it has a population density of approximately 219 inhab./km2, much higher than the average of the Centro Region (where it is located) and Portugal (113 inhab./Km2). This Region, between 2001 and 2011, maintained a positive demographic variation (1.49%), and the age structure of the population has similar characteristics to those of the national level, though with a relatively minor impact of ageing.

The Council of Mayors of Aveiro Region (CIRA) is widely recognized as one of the most dynamic inter-municipal government structures in the country. CIRA has developed a long term vision, supported by strategic planning, jointly developed with the University of Aveiro, and involving the relevant stakeholders of the regional triple helix. This strategy, allowed a well succeeded income of national and European structural funds to the Region and the implementation of joint inter-municipal initiatives which have stimulated innovation and competiveness of the regional economy, the quality of life and social cohesion. Aveiro Region has been recently acknowledged by the European Commission as an exemplary Region in the efficient and effective using of the European cohesion and structural funds.

The Region is characterized by a strong entrepreneurial activity and a production system with significant export activity, with several national leading companies. Besides the Aveiro District (which comprises 8 more municipalities besides those of the Region), only the districts of Lisbon and Porto have higher performance regarding their relative weight in national turnover, GDP and exports. In this national picture, the metallurgical,

forest, chemical, food, automobile, non-metallic minerals (including ceramics), shoes and electrical equipment sectors account for over 80% of industrial business in the region. Information and communications technologies (ICT), energy, and sea economy are relevant sectors, transversal to some of these industrial activities.

According to a recent study (July 2013) of the Industry Association of Aveiro District, the agents of the above sectors identified workers' skills and technological innovation as the most common factors to explain the competitiveness and internationalization of the Region. The same study shows that about 55% of companies undertake innovative activities and technological development, underlining also their cooperation with the University of Aveiro, which is recognized as one of the most innovative and entrepreneurial universities in the country.

The economic differentiation factors of the Region result both from the existing entrepreneurial dynamism, with the transformation and/or evolution of traditional sectors with greater integration of technology and innovation, and from its relationship with the scientific and technological system. One should also add the geographical factors, which enable mobility and accessibility, besides the existence of relevant institutional resources in the territory.

### 2.2. Early stage

A few decades ago, in the early 70s of the last century, Aveiro economy was mostly based in primary and secondary sectors, both labour intensive. Agriculture, animal husbandry, forestry, fisheries, marine salt and clay extraction were the most relevant activities in the primary sector. Aveiro had an impressive fishing fleet that caught codfish, the “Portuguese national fish” in the North Sea and Canada, in very harsh conditions. These natural resources stimulated the development of flourishing industries such as agro-food industries, fish processing, wine production, industrial production of wood products, pulp-and-paper, cork, namely cork stoppers (Portugal is the main worldwide cork producer, with processing industries mainly concentrated in the Aveiro District), leather and shoes, ceramics, among others. Vista Alegre, a company producing fine porcelain known worldwide, founded in 1824, is a good example of the historical importance of the ceramic sector in this Region. The natural resources existing in Aveiro Region attracted some international companies like Nestlé, in the thirties. Also, a big chemical industry pole was established in the surroundings of Aveiro lagoon after the second war, focused on the production of primary chemicals and, later, on petrochemistry derivatives, involving some national groups but also international investments. This industrial activity stimulated the appearance of metalworking and tooling industries, including molding tools, as well as innovative and entrepreneurial projects like ‘Metalurgia Casal’, the biggest Portuguese motorcycle producer.

Two major national initiatives, launched in the seventies, strongly influenced the future of this Region: the establishment of the Innovation Center of Portugal Telecom in Aveiro city (which has evolved from GECA – Study Group on Automatic Communications, an initiative from early Portuguese Communications Company – CTT, launched in Aveiro in the fifties), and the creation of the University of Aveiro.

The Innovation Center of Portugal Telecom (Centre for Studies in Telecommunications – CET, in its original designation) aimed at surveying the last technological developments in European telecommunications sector and developing new knowledge and technologies for the Portuguese telecommunications infrastructure and services.

In the same period, the Portuguese government decided to create three new universities, mostly oriented to improve the qualification of the Portuguese population and to foster the social and economy development of

the country.

The University of Aveiro (UA) was created in 1973, strongly pushed by a strong will of the regional economy and administration stakeholders. UA started its activity exactly within the building and facilities of the Innovation Centre of Portugal Telecom. This fact has been determinant in the definition of UA DNA: an innovative university, focused on science and technology, strongly oriented to promote innovation, boosting the economic and social development of the Region and of the country. The initial academic offer and research activities were exactly on the domain of electronics and telecommunications, ceramics and materials, environment and marine sciences and technologies, natural and agro-food products, as well as fundamental sciences such as mathematics, chemistry, physics, biology and geology.

The flourishing economic and industrial activity (organized in a very active industrial association – Industry Association of Aveiro District) claiming for new knowledge and innovation, the establishment of an innovation centre for telecommunications, the creation of an innovative university strongly committed with Regional development, as well as the engagement of the local government bodies, were the main ingredients for the seeding of an innovative and entrepreneurial ecosystem in Aveiro Region, based on the triple helix model.

### 2.3. Development stage

The University Aveiro education programme, with its main campus in Aveiro city and two poles delocalized in Aveiro District (Águeda and Oliveira de Azeméis), covers from post-secondary technological training programmes (in strong cooperation with local municipalities) to polytechnic and university degrees (bachelor, master and doctor degrees or, first, second and third cycle degrees, according to “Bologna designations”). UA degrees were designed mostly to meet economy demands, particularly for the established clusters or emerging industrial domains in Aveiro Region. Special attention has been devoted to on job training, involving UA industrial partners. Additionally, entrepreneurship education and training has been included in most degrees. With these approaches, the employability of UA graduates is above the national average.

A strong research capacitating programme, including advanced researchers training, and the acquisition of state-of-the art research infrastructures, in areas fully aligned with regional economy needs, was implemented. This young university was also able to attract many young and highly skilled national and international professors and researchers, which strongly contributed to the creation of excelling research units and to the international recognition of UA. In parallel, in the last few decades, UA has created a number of interface units mostly oriented to support entrepreneurship and business creation (business incubator, IEUA), innovation and technology transfer (technology transfer office, UATEC), insertion of graduates on labour market, as well as professional training.

The placement of highly qualified graduates issued from UA, more than 40000 in the last decades, as well as the knowledge transferred to industry, administration and private and public bodies, definitely contributed to the economic and social development of Aveiro Region and to the gradual evolution from a labour intensive to a knowledge-based economy.

Today, the University of Aveiro is considered an innovative higher education institution, focused on the training of highly qualified and entrepreneurial people and on the creation of knowledge with direct impact on the economy and the quality of life of citizens. Due to its long term vision, the University of Aveiro is nowadays ranked amongst the best world 500 higher education institutions and one of the top 100 under fifty world universities (Times Higher Education Ranking, 69th position in 2015), having the highest scientific production and patents per capita (professors and reserchers) amongst the Portuguese universities.

ICT is one of the economic areas that mostly benefited from the university-business partnership, here involving UA and Portugal Telecom Innovation (PTin), with its headquarters in Aveiro. This long term cooperation involving joint pioneering education and research activities, contributed to the creation of a strong regional ICT cluster, involving about 60 companies (SMEs, most of them) associated in an innovation network (Inovaria), with an annual turnover of around 370 M€. The UA-PTin cooperation led, in the past decades, to 50 and 20 joint master and PhD thesis, respectively, 140 M€ of joint projects with external funding, about 5 M€ of technology transfer agreements (with PTin direct funding), as well as more than 100 joint publications and 5 patents, and promoted the establishment of about 40 start-ups (some of them, owned by UA graduates). The Aveiro dynamics on ICT has attracted to the Region several national and international companies, such as Nokia, with an innovation centre with more than 100 employees, located in the university campus. Aveiro hosts also the headquarters of the ICT National Cluster, TICE.PT.

Forestry is one of the consolidated clusters in Aveiro. Portucel Soporcel company, the biggest national pulp-and-paper producer, has strongly updated its infrastructure and improved production capacity in Aveiro mill and has established the “Forest and Paper R&D Centre” (RAIZ) near Aveiro. UA is one of the stakeholders of this non-profit private body. In the last decades a strong cooperation has been established between the two partners, involving the offering of an “in job” Master of Science, joint research projects, publications and patents. Cork industry, has evolved from traditional cork stoppers production to high-tech cork products, including high performance insulating materials and new generation cork stoppers. The Technology and R&D Centre of cork industry sector is located in Aveiro District. Agro-food sector, after a period of crisis, induced by the decline of the traditional agriculture, is gaining a new impetus, with high-tech and precision agriculture and new merging clustering opportunities (eg “small fruits” cluster). The winemaking has evolved to a modern, knowledge intensive sector, with some of our wines receiving reputed international awards in the last few years.

As far as fisheries and sea economy is concerned, although the fishing fleet was strongly reduced due to international competition and to the EU policy for the sector, the fish processing sector is growing, with new technologies and products. Also, new aquaculture (fish, shellfish and algae production and transformation) as well as shipbuilding and maintenance initiatives are now running or being installed in the Region. However, the potential of the sea and Ria de Aveiro lagoon resources is far from being explored. The integrated and modern exploitation approaches for the old sea salt production facilities as well as the blue biotech and aquaculture sectors, are emerging opportunities, involving new challenges for the Region and their stakeholders.

Ceramics sector has suffered a big shift from traditional products industry to high performance materials for building applications. The fine porcelain sector, also observed a significant evolution, with the installation of new state-of-the-art mills. The headquarter of the National Cluster for the Habitat Sector has been settled at UA, mostly due to the importance of the ceramics and building materials sector in Aveiro region. Additionally, new technical materials industries (like tugsten carbide materials) emerged in the sector.

The molding, metalworking and tooling industry, mostly concentrated in the northern part of Aveiro District, has evolved for a high-tech and precision industry, where the quality of the Portuguese products is recognized worldwide.

The shoes sector evolved from a local activity to an international industry. The main reason for this evolution has been assigned to two main factors: quality and design. The activity developed by the Technological Centre for the shoes industry, established in the northern part of Aveiro District, strongly contributed to this remarkable achievement.

The energy sector has observed a tremendous development on the last 40 years. Aveiro has attracted multinational companies like Bosch, where they started the production of hot water technologies in the eighties. Nowadays, the world Bosch Centre of Competences for Thermotechnology, is installed in Aveiro. Also, the advent of solar and wind energies, promoted the appearance of several companies in this sector. Such regional innovation dynamics have attracted to the Region many other companies (national or international, like Renault) which are now national or world leaders in their specific sectors.

At the same time, Aveiro's regional and local authorities became even more committed with territorial development policies, especially reinforcing their interactions with the University of Aveiro. The inter-municipal association had, already in 2008, in its territorial development plan considered the triple helix model in its strategy and reinforced new mechanisms of inter-municipal and inter-institutional cooperation in the region, particularly through the development of common projects. This process became even more evident with the regional investments' common framework for the next seven years ('QCIRA 2014-2020'), whose strategy was developed between 2012 and 2014. In this case, again as a result of a robust interaction with the University and other regional stakeholders, there has been a clear identification of innovation and entrepreneurship promotion as the main regional policy challenges. The role of public authorities in assuring the success of this triple helix based regional development approach is particularly clear in the process of developing a common strategy between regional authorities, the university and the private sector, based on smart specialization principles. This is also true in its contents: programs and actions to be implemented the next seven years in order to promote development, growth, social inclusion and employment through reinforcing and strengthening the regional innovation ecosystem.

This new regional development strategy also considered as its smart specialization areas those that are closely related to the Science Park's main focus: "Sea and Ria de Aveiro lagoon", "Materials", "Agro-food and Forest", and "ICT and Electronics". Having common priority areas, both in the regional smart specialization strategy and in the Creative Science Park action plan is a clear evidence of the fact that both instruments emerged from a pre-existing context where collaboration, common goals, networks, specialization areas, industry development, knowledge transfer and research were naturally going hand-in-hand.

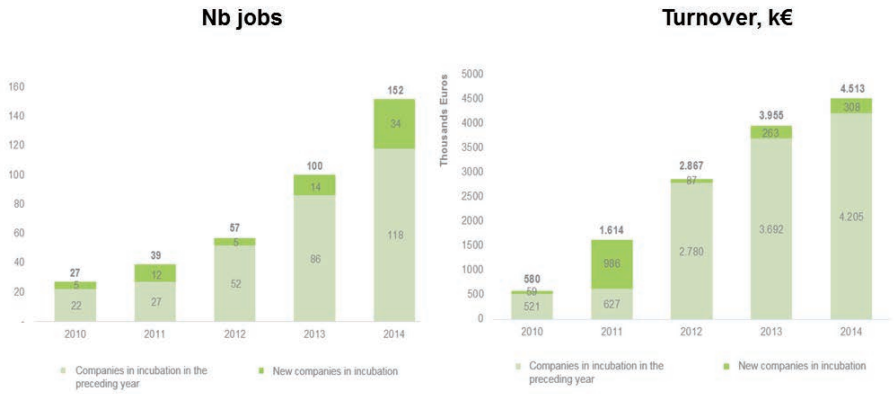
### 2.4. Ecosystem's facilitation stage

In the last few years, the Aveiro innovation and entrepreneurial ecosystem has gained a new impetus with the implementation and/or development of a set of individual or joint initiatives, supported by the long term cooperation between the university, enterprises and the local and regional government bodies. We refer below a couple of examples of such initiatives

The University of Aveiro has launched a strong entrepreneurship programme inside academia, covering the whole "entrepreneurship pipeline", from education and training to supporting of business creation and acceleration, involving the different university departments and schools, the technology transfer office (UATEC) and the university business incubator (IEUA). In the last 5 years a significant increment was observed in IEUA activity (Figure 1). By the end of 2014, the 24 incubated companies involved 150 permanent jobs, with an annual turnover of about 4.5 M€. The activities of innovation and technology transfer (including R&D activities with companies and private and public bodies, specialized services, consulting intellectual property licensing) were significantly improved. Nowadays, the financial income resulting from such activities represents about 10% of the university annual budget. This net result is a direct consequence of (i) the European, national and regional funding programs, promoting business innovation, and (ii) internal university policy, stimulating the university-business cooperation, strengthening the supporting interface units, and creating new interaction

approaches, such as Technology Platforms. The universities Technology Platforms are informal operational structures, involving researchers and infrastructures from different research centres, aiming to tackle economy needs, using an holistic and multidisciplinary approach, and covering as much as possible the whole value chains. Such platforms involve the excelling areas of the University of Aveiro and cover some of the most relevant economy sectors, including ICT, materials, agro-food, forest and sea, among others, fully aligned with the smart specialization strategy for the Aveiro Region.

Figure 1. Evolution of the activity of the business incubator of the University of Aveiro (IEUA)




The dynamics and expertise on the promotion of entrepreneurship, gathered by the University of Aveiro, spread along the entire Aveiro Region. As an example of the activities developed within the scope of the university-region strategical cooperation program, a single multipolar incubator, with poles in different municipalities (Aveiro Region Business Incubator – IERA, Figure 2) was launched in the last few years as an instrument to promote local entrepreneurship and social innovation, involving the University of Aveiro and the Council of Mayors of Aveiro Region, with the collaboration of the Aveiro District Industrial Association. The university entrepreneurship training activities initially directed to academia, are now open to the whole Region, the incubation program and services (including mentoring, access to funding, among others) from the university incubator are shared with municipal poles of IERA, supporting the municipal entrepreneurship policies. IERA involves now about 100 incubated business ideas or start-up companies.

Figure 2. The incubation poles in Aveiro Region Business Incubator (IERA)

The local entrepreneurship programmes have been accompanied by municipal and regional industrial development policies aiming to attract new companies to the Region, giving them conditions to grow and compete in global markets. Within this context, a several new generation municipal or inter-municipal industrial parks were built (or are being planned) in the region, attracting new investments. The neighboring to a world class university, with the access to knowledge and highly qualified people is appointed as one of the main reasons for the Aveiro choice by many national and multinational companies. Transportation facilities, including the Aveiro Harbour (the fifth most important at national level), a good network of highways and railways, are also decisive factors in this territorial attractiveness.

Today, Aveiro Region is widely recognized as one of the most innovative Portuguese regions, and a good example of the triple helix innovation model, with all the ingredients of and innovation and entrepreneurial ecosystem: a highly reputed and innovative university developing excelling research and innovation activities and educating highly qualified human resources, a strategic partnership between the university, the economy stakeholders and the local and regional government, facilitating structures, including a university technology transfer office and technological centres, university and regional business incubator, providing support to business development and innovation, and a goof set of infrastructures, including state-of-the-art industrial parks with easy terrestrial and maritime accesses.

## 3. The ecosystem's next step – the role of the Creative Science Park

Such "naturally born" ecosystem and innovation area, with all the already existing typical ingredients of a spatially delocalized modern regional science park (which deserved the status of a IASP full member since 2011) stimulated the ambition of the major Aveiro triple helix stakeholders to go further on the creation of a central infrastructure, joining on the same physical space academia, industry, and entrepreneurs, strongly articulated with existing municipal incubation poles, municipal industrial parks and local and regional administration, further stimulating a knowledge based and entrepreneurial economy.

This recently launched central infrastructure (see Figure 3), the "Creative Science Park - Aveiro Region", owned by a non-profit company involving the university, the Council of Mayors, municipalities, companies, associations and banks, is being installed in a 35 ha implementation area, contiguous to the university campus, representing an initial investment of around 30 M€ with 85% contribution from European structural funds. Contiguity to the university campus has been a key factor in the selection of the implementation area, in order to stimulate the knowledge permeation between university research centres and companies and the easy access to the advanced scientific infrastructures in the university campus as well as to pilot scale and demonstration facilities and prototyping equipments to be installed in park.


Figure 3. The masterplan of Creative Science Park – Aveiro Region

The Creative Science Park will host a central incubator (evolving from the existing university incubator), shared laboratories (hosting company R&D facilities or R&D university-industry projects, as well as pilot scale and proof-of-concept demonstration equipment), a Design Factory (a facility joining designers, engineers, managers working together within the framework of the Design Thinking innovation concept), as well as supporting services. Such services, covering the access to university knowledge and infrastructures, support to innovation and technology transfer (including intellectual property issues), access to funding, mentoring, international markets, soft-landing for newly arrived companies, among others, will be provided not only to the Creative Science Park users but also to the regional network of municipal incubation poles (IERA) and municipal industrial parks. These dynamics are expected to have a strong positive impact in IERA as well as on the regional network of industrial parks development, by stimulating new entrepreneurial projects as well as the competiveness of industry. Also, it is expected that some of the fast growing start-up companies, born or installed in the Creative Science Park, after gaining critical physical dimension, may migrate to local new generation municipal industrial parks. This "centrifugal and driving force" of the science park will promote the creation of new jobs and the development of municipal economies, boosting the Aveiro innovation and entrepreneurial ecosystem.

Three initial buildings (under construction) will host these central and shared facilities. The remaining area is available for the installation of knowledge intensive companies or future facilities of the park, using different business models (including land use rights for private investments), following a well-defined masterplan that promotes the environmental quality and quality of life in the park.

Five main strategic areas were defined for the Creative Science Park, which are fully aligned with the smart specialization strategy and the main economy clusters of Aveiro Region, as well as with the excelling R&D and education areas of the University of Aveiro, namely ICT, Materials, Marine Science and Technologies, Energy and Agro-Food / Agro-Forestry (Figure 4). It is expected that ICT will play a central role in the park because it represents a transversal domain and is one of the most consolidated knowledge-intensive economy clusters in the Region and with a great growing potential. In spite of the focus on regional development, the Creative Science Park has the ambition to be a global player in the knowledge-based economy and national and international networks, attracting international investments to Aveiro Region and promoting the internationalization of the regional and national economy.

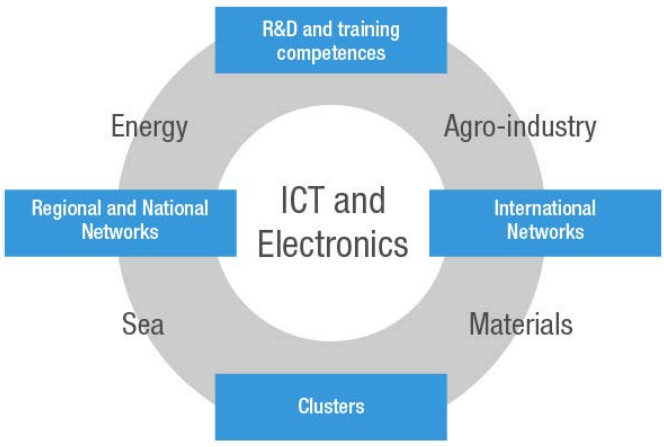



Figure 4. The strategic areas and concept of the Creative Science Park – Aveiro Region

## 4. Final considerations

The Aveiro Region had already the necessary conditions to promote increasingly comprehensive policies, programs and tools in order to foster innovation and entrepreneurship, as a path to territorial development. It was in this context that the Creative Science Park took shape, as a platform for the promotion and coordination of regional resources and stakeholders, contributing to the consolidation and enrichment of existing networks among a wide range of institutions (public and private in nature), whose activities and interactions change, spread and apply new technologies in the Region.
This step towards a new platform for effective collaboration is intended to play an important role in the facilitation of new cooperative solutions between the University, knowledge centres, the private sector and the local and regional governments, with the goal of designing products and services with added-value, based on the knowledge specialization areas. Its goal is, ultimately, to strengthen the competitiveness of the territory. As an open platform for innovation and knowledge, it represents a challenge for all agents involved, both in terms of governance model, services provided, and collaboration attitudes, as well as in the quality of the results obtained.

Regarding the set of conditions presented as necessary to foster territorial development (vibrant industry, knowledge specialization, and committed policy and governance mechanisms), there was significant signs in this Region to consider as viable this new stage of development of the ecosystem. This was an entrepreneurial Region, where most of these aspects were present: the interaction of the different regional agents, the strengthening of knowledge networks, the strengthening of cooperative knowledge sharing solutions, the integration of business innovation centres, the promotion of entrepreneurship, a network of incubators, and consolidation of a shared regional economic growth strategy.
The three stages we presented above (early, development, and facilitating stage) tried to provide the evidence of the triple helix setting and its evolution over the last four decades. The final section, where the Creative Science Park is presented and its role in this ecosystem is explained, shed some light on why it is seen as an understandable next step in the regional development, rather than a mere instrument in this regional process.

This does not means that this has been a simple and straightforward process. The necessary alignment between agents and the identification of the specialization areas is not just a matter of characterization and diagnosis. It requires, most of all, will, commitment and evidence. The needed regional agreement and interaction between several agents is a long, slow and important process. That is why we have chosen to present the Creative Science Park - Aveiro Region as the result of this development over the previous years, rather than just a decision to create new knowledge and technology infrastructures in a specific Portuguese region.

The complex and arduous process that led to this important step, and the learning capital resulting from this collaborative arrangement, gives some assurance regarding its success and the role it will perform in the economic development of the Region. Nevertheless, it relies on the research centres capacity to produce new knowledge and technology, on the private sector to incorporate research and development into their business processes, and on policy makers to continue to stimulate and nudge this facilitative policy environment.

Finally, it depends on all of the above to continue collaborating and interacting.
In this context, we believe that the science parks can perform a special role in the mobilization of the triple helix agents, and work as a facilitator of their interactions, specially focused on promoting new knowledge, new businesses, new technologies, and, ultimately, territorial development.

Therefore, adopting the triple helix model within the framework of a Science Park, as the one we are analyzing in this paper, can prove itself as a way to stimulate knowledge transfer, business and university interaction, and public policies focused on providing the right setting for innovation and entrepreneurship. More than a changing concept, this takes into consideration a new attitude. The shared commitment of all the territorial agents will allow the Creative Science Park to perform his role in this new stage of the regional innovative ecosystem. Thus, more than an academic appraisal of territorial development, the triple helix model has been used as a tool to recognize pre-existing conditions in the Region and to establish the necessary strategic decisions, namely in the selection of specialization areas and governance model of the park.