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**Technology Park of Andalusia; its model of international  
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## **The Technology Park of Andalusia; its model of international development**

### **The Internationalisation of companies**

The international economic environment today is characterized more and more by its dynamism and globalization. Trends such as the growing collaboration between countries, the emergence of economies, as well as the amazing technological advances in different sectors, constitute a global environment increasingly competitive and changing.

The crisis is an opportunity for the industry to go abroad. The internationalization of businesses is essential in the current context. If the firms of science and technology parks want to maintain or increase their business, they will have to be able to do so outside its borders.

Today there are many companies that have an international profile and more and more companies face up to a process of internationalization. The central decision for the company emphasizes on the definition of the international strategy to follow. The world economy is witnessing an important fundamental change.

Due to the numerous reductions in barriers trade, that make business and investment more difficult, the processes of internationalization of companies are flourishing greatly and firms are engaging this process through various forms that also involve various degrees of commitment of resources and control. However, due to the increasing complexity of products and markets, everything seems to indicate that knowledge has become one of the most important factors of production. In this sense, the work of the Science and Technology Parks is vital as transmitters and facilitators of knowledge to their companies as a way to format the internationalization of the same.

The current economy is essentially international and will be even more. Not a day passes without a strong dose of internationalism perceived by the entrepreneurs: foreign competition intensifies; the pressure to seek other markets increases, political and economic events are presented chaotically, etc. On this basis we can say that the internationalization is not a solution to a specific problem, but it must be a philosophy of the company. In this sense, Science and Technology Parks have to work.

The Technology Park of Andalusia has become a point of international reference in terms of technological development and a channel for the internationalization of the companies located in it.

The Technology Park of Andalusia has become in the last few years an international reference in technological development and therefore, it is continuously designing strategies that aim to facilitate the incorporation and adaptation to international markets, maintaining knowledge flows, both technological and management.

The internationalization of the park favors the international projection of both, the park itself but also the internationalization of the companies that are located in it. Actions are carried out in this sense, such as initiations to new markets or consolidations.

The PTA has significantly evolved during the last years and maintains an increasing trend in its activities. It is reflected in the evolution of the number of companies installed, the employment generated and the turnover of its companies. The PTA has become a reference

on development technology that serves as a model to the creation of other technological parks.

In addition, many national and international networks have their headquarter in the park such as the International Association of Science and Technology Parks which has its global Headquarters in the PTA since 1996 as well as the Spanish Association of Science and Technology Parks which has both the presidency and headquarter in the PTA since 1998.

The model applied in the park, which combines both the support to the creation of companies with technological basis, as well as the backing of companies in expansion and the impulse to enter foreign markets, has attracted international interest from all over the world.

The PTA acts as consultant to the creation of Science and Technological Parks, in the search of transnational partners, in the participation of multi-sector projects, manages the realization of grants that occur in the companies of the park and realizes external promotion in new markets, such as fairs and business meetings.

It is important to mention that the Technological Park of Andalusia is head of national and international networks such as the Association of Science and Technology Parks of Spain (APTE) and the International Association of Science and Technology parks (IASP), from which the PTA holds the permanent headquarters since 1995, as well as the headquarter of the Andalusia Technology Network (RETA).

### **Presence y cooperation of the Technology Park of Andalusia in the world**

#### **Europe**

The PTA, SA maintains continuous relations with entities from European countries such as science and technology parks, universities, technology centers, chambers of commerce, research institutes, corporations, etc. and also participates in numerous projects in line with various programs of cooperation from the European Commission.

The PTA is leading the ambitious European project Med Technopolis, where it is leading a consortium composed of 11 entities, whose main objective is the implementation of a Mediterranean network of interface structures technology aimed at the creation of technological environments in areas of low economic and business development. This program is carried out with partners in Portugal, Italy, France, Greece and Spain.

The program seeks to promote innovation and the knowledge economy in the MED regions, on the basis of the economic and social development of entities already consolidated in the field of technology and innovation to help pave the way toward a sustainable development of these regions.

Poland is another country where the park is going into through a variety of actions carried out so far, such as intensive advisory courses and the participation in international conferences on Polish systems of innovation, where the PTA has been shown as a reference in the management of parks, releasing the experience and model of business development that characterizes the PTA; enabling the PTA to transmit it to the national parks system in Poland.

#### **Africa**

The PTA, SA has been working for several years in promoting itself among the countries of the Maghreb; particularly in Morocco, where various projects of Spanish-Moroccan cooperation for technological development have been conducted, such as trade missions, which have involved companies of the PTA and Moroccans.

In this sense, the PTA develops actions with the Moroccan market with the main objective of continuing to encourage the business cooperation and business opportunities with this country, the development of bilateral relations, the promotion of forums, as well as boosting business activities.

In the same way but this time in Tunisia, the Park is developing various projects for advice and technical support for the establishment of technology parks and incubator networks of companies in this country. These projects are undertaken in collaboration with the Tunisian Government and the Spanish Agency for International Cooperation.

### **Latin America**

Since several years ago, the Technology Park of Andalusia, maintains ongoing relations with Latin American institutions such as parks, universities, administrations, research institutes, technology centers, etc. These relationships have materialized in different performances, such as bilateral agreements for training, technical advice, institutional and business visits, participation in workshops and conferences...etc.

Public administrations in Latin America are fully aware that scientific and technological parks have become a key tool for promoting a new generation of entrepreneurs that enable countries to promote innovation and technological development.

In this sense innovation is configured as one of the key challenges of the economy of Latin America, as it is proving that the processes of technology, research and development are the spring from the productivity and competitiveness in the so-called knowledge society. But for Latin America the challenge of innovation is particularly crucial, not only because of the possible disadvantage with its American rivals, but also by the own settings of the national productive network, too dependent and biased toward traditional sectors. To maintain and further enhance the growth rates achieved in recent years, Latin America needs, therefore, to bet on innovation and to reorient its economic development towards new emerging sectors and with a higher added value in which the technological components play a substantial weight.

In other words, for the progress and welfare of the continent, innovation must be a cross-sectional strategy not only in public policies of administrations but also in the strategic plans of companies.

The PTA is performing tasks of business collaboration in countries such as Mexico, Cuba, Argentina, Panama, Peru, Colombia, Dominican Republic, Brazil and Ecuador. It is also conducting a program of soft-landing intended to facilitate the location of companies in the PTA in international parks and to attract companies from other parks to the PTA.

### **Asia**

Since the beginning of this decade, the park has followed with attention the development of Asia. The relations and business actions carried out in China in which the companies of the PTA have committed themselves are remarkable.

Also with Korea, the PTA is conducting an international projection, supported in relations with the Government, Technology Parks and Korean universities.

The PTA is developing an action plan with the Technological Park of Songdo in Seoul, designed to promote collaboration between companies in both parks; on the one hand, to facilitate the access of companies of the PTA to Korean companies and on the other hand, for the companies in the Park of Songdo to access to the companies in the PTA. A plan has been jointly put into practice, to carry out a series of trade fairs and seminars. The primary objective is to promote business cooperation between the two parks. It intends to encourage progress in research and technological development, especially in new technologies in the IT sector and renewable energies. Also, both parks offer services of softlanding with the main objective to facilitate the necessary contacts to establish relationships with companies in the same sector.

India is another country entrepreneurially strategic for the PTA. For three years now, the PTA has been carrying out an annual mission in India with the companies of the PTA. Indiasoft enjoys international prestige after having demonstrated its ability to bring technology-based

firms from all over the world to Indian companies. Given its importance, the Ministry of Trade and Industry of the country, in collaboration with the Ministry of IT, promote the fair celebration as a way of encouraging foreign trade and to boost domestic production of the country and international cooperation of the companies.

Also with Russia, the PTA maintains actions of international cooperation with the aim of boosting cooperation between companies of the park and Russian companies in the field of innovation. It is about promoting the russian-spanish dialogue in the field of cooperation in innovation, through the realization of parallel activities that contribute to mutual knowledge and development of possible alliances.

#### *IASP Peer-to-Peer Advice Service*

It is important to mention that in the process of internationalization the International Association of Science and Technology Parks (IASP) has launched the program IASP Peer-to-Peer Advice Service, an initiative that aims to provide its members advice on management of parks, given by a group of international experts. To do this, before any request for support or accompaniment coming from a member of the IASP, the committee of international experts offers its expertise and experience in financial management, projects, support to companies based in the parks, infrastructure management, technology transfer, innovation and markets. The PTA also participates in this interesting project of internationalization.

To summarize, we can say that the Technology Park of Andalusia, facilitates the representation of its companies in the international system of innovation, empowers the knowledge of their companies and facilitates the connection of its partners among themselves and with the rest of the staff members of the global system of knowledge.

#### **Actions in the field of internationalization of companies carried out by the PTA**

The Technology Park of Andalusia, S.A. has emphasized in recent years the international vocation that has characterized it. However, the PTA does not only seek its own internationalization but carries out various actions aimed at businesses located in the park, promoting their access to global markets.

In this work, the managing body of the Technology Park of Andalusia, S. A. , works closely with other entities such as the Chambers of Commerce, National Governments, Universities, Embassies...etc. The park aims to be an instrument that facilitates the development of communication networks, technological cooperation between the entities of the park, allowing, as a result, the transfer of technological knowledge and capacity building of business collaboration.

On this basis, the managing body of the Technology Park develops actions to access to international markets, by siding with the phenomena of globalization of markets and internationalization of companies and working to ensure that employers have increasingly more international vision and develop business strategies that facilitate their internationalization.

In this way, the PTA is continuously designing strategies that aim to facilitate the incorporation and adaptation to international markets, while maintaining with them knowledge flows, both technological and management, and carries out numerous actions both for initiation in new markets as well as for consolidating with the ones that it has already been acting.

In this way, the PTA, S.A. provides advice to the creation of technology parks, to the search for transnational partners, to participation in multispectral projects, manages the implementation of scholarships for foreigners that carry out their internship in companies of the park and carries out overseas promotion in new markets, such as fairs and business meetings.

The managing body of the park began its process of internationalization years ago. The presence of the Technology Park of Andalusia in global markets has been progressively increasing. This globalizing task has done that the park is currently an international reference in the management of technology parks.

In addition, being aware that globalization is present in all the business sectors, the managing body of the PTA works to enable its companies to seek new strategies to achieve their business objectives. In this sense, the park displays internationalization as a way for their enterprises to obtain a greater presence in foreign markets.

The strategy developed by the park to penetrate global markets varies a lot, acting in this regard in the organization of business missions, preparation of sectorial meetings with entities and foreign companies, participation in projects, reception of foreign delegations, etc.

Among the actions that are mainly being carried out, in the aforementioned countries, the following are highlighted:

- *Participation in European programs*

The Technology Park of Andalusia participates in the development of projects both at the regional level, European and international. In this sense the park has a team that is involved in all the phases of the project, from design, drafting and negotiation of proposals until the search for partners. In this sense, the managing body of the park manages all the stages of the process of projects; initiation, planning, execution, control and closure of the same.

- *Leadership in European Projects*

The Technology Park of Andalusia, S.A. is leading the European project MED Technopolis, a project for the implementation of a Mediterranean network of structures of technology interface whose main objective is the creation of technological environments in areas of low economic development and business.

The program aims to promote innovation and the knowledge economy in the MED regions, on the basis of the economic and social development of entities already consolidated in technology and innovation, to open the way towards a sustainable development of these regions.

- *Preparation of proposals to international programs (Framework Program, Programs DG of the European Union, Territorial Cooperation Program, etc.)*
- *Organization and preparation of business meetings to national and international level*

In order to promote the development of commercial and economic ties between the entrepreneurs of the Technology Park of Andalusia and entrepreneurs in other markets, the International Cooperation Department of the PTA organizes working meetings with representatives of business circles in other countries. The experts of the Department working in close contact with technology parks, international universities, business centers, foreign chambers of commerce, embassies, etc, with whom they maintain and develop a plan of international cooperation. In this sense, it carries out annually various trade missions both direct and inverse where they are in contact with the the representatives of foreign companies.

Highlight the meetings between companies of the PTA and companies in Brazil, Russia, Portugal, Panama, India, Korea, USA, Morocco, Tunisia...among others. Often the result of these actions is the signing of contracts and agreements of cooperation.

- *Carrying out advice on creation of parks*

Through the advice in development of technology parks, the PTA is intended to provide comprehensive training in merging theoretical and real practical cases, by which its staff will transfer and adapt its experience, knowledge and results, which is credited as an expert, in

the social, cultural and economic context in which the training is conducted, so that each participant achieves understand, assimilate, and finally, transfer all the scientific and technological background that has been transmitted to their own social reality.

In this regard, the PTA has held counseling sessions to parks in Poland, Panama, Mexico, Argentina, Brazil, Morocco, Tunisia, Portugal, among others.

- *Organization and reception of foreign delegations*

The park is a point of reference for national and international delegations, who continually come to know the business development model of it.

- *Coordination of training actions and master taught both nationally and internationally*

The Technology Park of Andalusia, set in the European project MED TECHNOPOLIS, has launched the first-Action Training Course "Entrepreneur Small Business", aimed to support young entrepreneurs in the realization of their business idea. The course offers the possibility to obtain the official title of the Small Business Entrepreneur Level III (BA +2) which has a score of 60 points according to the European credit system ECTS. The main course objectives are to improve the ability of entrepreneurs, the transformation of a project carrying to an entrepreneur autonomous and responsible, the development of new projects likely to generate a new source of value added and rehabilitation processes acquisition of knowledge between actors in small organizations.

Also highlight the International Master in Integrated Science and Technology Park, developed by the Technology Park of Andalusia, SA, the International Association of Science Parks (IASP) and the University of Malaga, a project for the realization of an International Master on the Management of Science Parks, considered as a separate title from the University of Malaga and managed by the UNESCO Chair.

The main objective of this program is to provide a theoretical-practical and quality in the field of integrated management of science and technology parks, providing the concepts, tools and developing the skills needed for the formulation of planning strategies and implementation of plans of action of these centers of production and innovation.

- *Actions of soft-landing*

The PTA is developing a soft landing business program in which it intends to help companies in the park to enter or expand into other foreign markets through the introduction to businesses and assist in the understanding of business practices and cultures of other countries.

As an incubator client, foreign companies can accelerate their ability to make US contacts, and more efficiently remove barriers to market entry.

This is done in cooperation with other scientific and technological parks which aims to develop a set of tools that can accelerate the ability of firms to have a presence in other markets, more efficiently and eliminate barriers to enter into these markets.

The Technology Park of Andalusia, provides soft landing for companies from other technology parks with which it has agreements, such as Rabat, Casablanca, Lisbon, Korea and Panama.

- *Presence of the PTA in national and international forums, conferences and business meetings*

The PTA organizes and is present in meetings and international workshops, within its technical cooperation program, and is also responsible for organizing business missions for its companies. The purpose of meetings/workshops typically is to work out a set of recommendations and advices or analyses of particular aspects of individual projects or specific programmatic areas. The purpose of the meetings and workshops is to develop a set

of recommendations and advice or analysis of specific aspects of internationalization. The purpose of a national consultant assignment typically is to gain familiarity with Agency practices and procedures or to hold consultations on one (or more) specific project(s). In this sense, the PTA continuously performs acts related to the world of Science and Technology from the field of business, science, politics, finance, technology, internationalization, etc.

- *Creation and development of business clusters*

The Technology Park of Andalusia has initiated the creation of business cluster with the main objective of promoting integration, creation and strengthening companies and institutions that are assigned to a sector, through cooperation and innovation activities and to ensure high competitiveness both regionally, nationally and internationally.

In this sense we have set the start of two clusters, one cluster is called: Food Biotechnology Cluster and the other cluster is: Biotechnology Health. The ultimate goal of these groups is to develop technical cooperation, pursue actively the search for trading opportunities for participants nationally and internationally and to generate social and economic development of these companies.

- *Actions of worldwide transfer of technology with universities and technological centers*

The PTA is working with universities to promote technology transfer, international knowledge by contacting the academic and the corporate world internationally.

- *Preparation, implementation and follow-up of collaboration agreements.*

In this model of internationalization, the Technology Park of Andalusia doesn't only pursue its own global position, but the managing company of the park is also deepening its role as a channel to promote the internationalization of firms which are located in it, favoring agreements with other entities and parks in the world and organizing trade missions in order to facilitate the access to foreign markets.

On the basis of this, strategies are being continuously designed to promote the integration and adaptation to international markets, holding with them flow of knowledge, both in technology, and management.

The international economic environment is increasingly dynamic, global, and the increasing globalization of markets is reflected on the one hand in the enormous growth of world trade in recent decades of the twentieth century and another in the rise of direct investment alien who also grew this time at rates not provided. In summary, we can say that internationalization is increasingly necessary for companies. The internationalization of companies in science and technology parks can make parks market larger, thus an exercise in improving the competitiveness of companies in foreign markets. The main advantages include:

- FLEXIBILITY. Companies can achieve a better competitive position to gain flexibility through its international expansion. The first way to get it is diversify, which reduces geographical risk to no longer depend on one market. Besides operating in several markets can better defend themselves from the competition because you will not have to do it only in the country of origin.
- LEARNING. What firms learn in foreign markets is another important source of competitive advantage, because they get to know other ideas and other innovations on products, services, distribution, marketing, advertising, etc, only those racing their can learn. In addition, companies can always be more competitive if they are in the most demanding markets.
- PRESTIGE. For a business, international prestige adds value to their clients who appreciate those products as referenced in the best markets.



In this sense, the Technology Park of Andalusia is a remarkable tool that favors the presence of their firms in foreign markets by generating a series of services to promote the internationalization such as:

- Approval and monitoring of business projects.
- Direct support of a comprehensive strategy for the internationalization of the company.
- Organization of business agendas.
- Support for the detection and management of financing for internationalization, international tenders, etc.
- Support the organization and participation in fairs and trade missions.
- Custom Projects (market studies, company directories, event reports, search for contacts, etc.).
- Information on new business opportunities.
- Facilitate access to Spanish and International institutions.
- Organization and support at meetings and conferences with business.
- Regular meetings to track business opportunities and monitoring activities.
- Reports: sectoral chips countries, reports of international fairs.
- Visit technology parks, business meetings, conference attendance and presence.
- Mobility and Cluster Spin-off Workers

### **The international future of Science and Technology Parks**

Science and Technology Parks are an international network of technological infrastructures of enterprise support very important in the world and one of the best places to develop business innovation. The parks represent the meeting place for scientific knowledge and businesses and an excellent opportunity to promote convergence in R & D with the objectives of the European Union and global policy in general.

The parks are also important parts of cities where neighborhoods of the new knowledge economy can be developed with more intensity. The international system of innovation in the coming years will consist of a network of local innovation systems where the parks will be the nodes of the network and where technology-based companies and rapid growth will take place in the parks with greater intensity than in other environments.