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e'Innobridge, Competitiveness through inno-connections.

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Managing the global dimension

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1. Executive Summary

The stimulation of economy growth and employment worldwide require the support of entrepreneurship context. Entrepreneurship is a strong engine of prosperity as it fosters the employment creation and the new competencies development, strengthening the innovation and opening new markets. Establishing an appropriate environment for the companies in specific areas, for instance Mediterranean Basin, will facilitate the identification of potential cooperation projects among them and also among the countries where are located.

Science and Technology Parks (STP) play an important role in driving the growth of Micro-Small and Medium Enterprises (MSMEs) by providing the tools and the right environment to facilitate their consolidation. However, there are some elements essential to strengthen the process of generating innovation in this ecosystem: continued support for network expansion in the long term [Rhee, Hassan , Saitova , 2010] , creating an environment that encourages the development of knowledge-based enterprises [Molanezhad , 2010] or improving the relationship between companies located in parks and knowledge-generating institutions such as universities, technology centers , etc ... [Fukagawa , 2005] . In the environment of the Science and Technological Parks it usual to find innovative solutions brought up due to the interaction and knowledge sharing between companies.
One of the main processes crucial for MSME growing long path is the internationalisation process that will help in extending their target markets. However, internationalization process should not be understood as just a “soft-landing” activity but a complex framework where soft-landing is only an additional option to the myriad of possibilities.

Science and Technology Parks are powerful instruments suitable to provide a common platform to facilitate the international connections among MSME located in such ecosystem that could engage global cooperations. Nevertheless, it could not be possible unless an international network is set up to inter-connect all the Science and Technology Parks such as International Association of Science Technology Parks and Areas of Innovation (IASP). More than 400 STPs belong to the network that encloses more than 128.000 MSMEs as potential partners, providers, clients, etc. However, the level of interaction among those STPs are scarcely significative and, when exists, poorly procedured in order to be escalated and resusable.

2. Main Drivers of Internationalization processes

2.1. Local Economic Development Impact

Local Economic Development would cover all economic activities which happen at local or regional level and/or have any impact on the localities . Locality is considered, traditionally, as an agglomeration of several economic actors such as enterprises, industries, investors, authorities, etc.. that compete and collaborate to reinforce the economic growth of the region using the appropriate resources required to do so [Birkhölzer, 2005] . However, from Local Economy view point the localities (i.e. neighbourhoods, villages, towns, cities and regions) are understood as “living organisms” which in the Anglo-Saxon tradition would be called “communities” [Pearce 1993; Twelvetrees 1999].

Local Economic Development is a special economic self-help strategy originally invented by and for losers, disadvantaged social groups and/or disadvantaged communities on local or regional level [Birkhölzer, 2005] based mainly on practical experience improved by the learning-from-others process and best practices sharing. Under such perspective, the networking is a crucial element in developing local economic strategies.

European Commission in 1994, laid out what was expected from local economic development such as [Jouen,2011] :

- make decision-makers aware of the importance of small-scale investment and non-material factors in regional development
- accelerate learning about sustainable development at the lowest level of government, by encouraging imitation in their similar regions and at higher levels of government (provincial, regional and national)

- The internationalization process sustained by STPs innovation ecosystems interrelation reinforces the local economic development of the territories involved due to the following drivers:

- Generation of new opportunities of collaboration between local and foreign entities that will help to foster the creation of new companies (start-ups) spin out from the original ones and therefore, the creation of new job with different qualified profiles.
- Increase of financial resources investment required for project collaborations that will impact not only on the companies involved but in the full ecosystem where they are linked to.
- Facilitation of implementation of new solutions to local problems due to the new opportunities of collaboration among the different agents of the innovation ecosystem and thus, will promote the economic growth of the territory.

2.2. High Qualified Job Creation by Cooperation

One of the main derivatives of performing project collaborations between companies from different countries (either physically or virtually), and in some way the generation of new business initiatives, is the need of identification of new talent that will increase the added value of the company.

From that perspective, the “talent-as-a-service” model during a cross-cooperation process is attractive to employers who can get access to valuable skills on-demand [Williams and Mettler, 2011] and this model is setting up in Science and Technology Parks during the support to MSMEs growth. In this step, STPs are playing a very relevant role providing support to MSME identifying the “best-of-the-breed” in terms of human resources.

For instance, espaitec Science and Technology Park has set up an advanced service called

that aims to identify HQ employees based on specific qualifications by companies. For such purpose, espaitec has created a workflow with several tools and links to institutions (such as OPIEP, FUE, ORI, rePCV, APTE, IASP, CEC) that will help to achieve the goal in a short term.

2.3. Open, Cross and Co-Innovation among High Technology Based MSME

The third driver in the execution of internationalization process is the facilitation of collaboration among all the MSME linked to a Science and Technology Park and also, between the MSME and the rest of agents of the innovation ecosystem. That collaboration can be posed under three perspectives, by means of Open Innovation processes, Cross-Innovation processes and Co-creation activities.

A common strategy is required among STPs involved in a internationalization process in order to adapt the mindset of the MSME to incorporate open innovation strategies to their business models. Open Innovation processes require to foster the incorporation of new knowledge from external sources and not all the companies are ready to share information with third parties and less to accept other insights to their business model.

On the other hand, the networking activities developed around an innovation ecosystem use to generate new innovative products or services by synergies, symbiosis or hybridization and even more by knowledge spillover among the agents that are involved in. This process is called “cross-innovation”. Solutions generated by means of cross-innovation are very powerful and provokes the creation of a myriad of innovative deliverables and post-derivatives that will embrace new business opportunities.

Finally, the connection of the Science and Technology Park with all the socio-economic agents of the territory where it is located facilitates the interaction of citizens with the innovation generation ecosystem. Under this schema, the co-creation process allows the emergence of new spaces for interaction and knowledge exchange that will bring about a significant change of paradigm in the collaboration between MSMEs which will, in turn, lead towards a different Open Innovation scenario more citizen-driven under the concept of LivingLabs. The concept of ‘Living Lab’ was first developed by William J. Mitchell in the 1990s at the MIT labs in Massachusetts (USA) in order “to study people and their interaction with new technologies in a living environment”. This approach is becoming very interesting for Science And Technology Parks strategy, as it is opening a new perspective in open innovation processes and moreover, the involvement of STPs in Local Social and Economic Development.

Under this perspective, an interesting collaboration model is present in Science and Technology Park supported by the three innovation strategies: The Hollywood Model, by which the projects are set up ad-hoc for each solution provided aggregating different agents (MSME, entities, etc) just during the implementation of the project and once it is finished the team disbands, following the same strategy that Hollywood films are created. Although HM could be considered just for short-term projects, project-based business structure is an alternative to the corporate model, in which capital is spent up front to build a business, which then hires

workers for long-term, open-ended jobs that can last for years, even a lifetime. With the Hollywood model, ad hoc teams carry out projects that are large and complex, requiring many different people with complementary skills.

3. Science and Technology Parks role in internationalization processes

Science and Technology Parks and Areas of Innovation shapes a big ecosystem around the world, under the umbrella of International Association of Science Technology Parks and Areas of Innovation (IASP), with more than 400 STPs and housing more than 128.000 NSMEs.

Looking at this constellation, the potential business opportunities that can be identified by interaction among the NSMEs located at the STPs are huge and Parks are very relevant in this networking process, and moreover the project collaboration opportunities among STP teams are considerable, sharing management best practices and efficient and effective NSME support strategies.

However, even though there are strong possibilities in this ecosystem there is not a common approach based in a specific strategy and solid methodology but every STP is developing its own schema.

Science and Technology Parks are becoming an active player in the internationalization process either for the MSME landing from other STPs or for the MSME that are going abroad to explore new markets. In the first set, STPs provide a deal of services to facilitate the jumping to other markets such as identification of the best location to be placed, remote location legislation in order to facilitate the landing process searching the most suitable financial resources for it, exploring the market and potential partners that will be reinforced by the host STP. On the other set, for the MSME that are coming from abroad with the aim of exploring the local market, Science and Technology parks are required to help them providing some physical locations, helping them to meet with local potential clients, providers, partners, etc… as well as identifying financial resources for foreign companies as future landers.

However, in order to be effective and also attractive to MSME around the world as potential country to develop their new markets and, in addition, to help the local companies to identify cooperation activities with the coming companies Science and Technology Park has to develop a specific, flexible, reusable, scalable and strong methodology to organize the whole process with all the potential derivatives in terms of impact (direct or indirect) over the environment where MSME is developing they main products and services.

This is the reason, supported by the aforementioned three pillars, by which espaitec Science and Technology Park decided to design a service in order to be used by all the MSME linked to STPs that could facilitate the full landscape if this internationalization process. We called: e'Innobridge or Bridge of Innovation of espaitec.

4. Case Study: e'Innobridge (“The bridge of Innovation”)

4.1. e'Innobridge as General Approach

Espaitec, Science and Technology Park launched on 2012 an internationalization framework called e'Innobridge: The Bridge of Innovation, to help their companies which are undertaking the internationalisation process. The rationale of the project is the readiness of a platform to facilitate the integration and inter-

cooperation among all MSMEs and Science And Technology Parks in target regions.

This channel will facilitate the building of partnerships, joint ventures or business relationships between companies located at the parks to facilitate the internationalization process which results in reducing risks and costs of implementation, and the possibility of installation of company headquarters in other parks.

The creation of a well-structured network should take into account the interdependence between internationalization and innovation capacity of companies in their new opportunities on new markets findings by strengthening the collaboration on both sides of the regions where applied, in order to improve the effectiveness of services provided to businesses and facilitate their integration into the world economy.

That kind of network adds value to businesses by helping them to improve their competitiveness and explore business opportunities. In particular, it can be used to find cooperation partners, to promote the transfer of technology among the countries and to get advice on funding sources and on law and intellectual property.

Bearing in mind the focal point on the main project driver, i.e. to facilitate the integration and intercooperation among all the SMEs and Science and Technology Parks throughout a specific territory, a series of Long-term Objectives and Project Specific Objectives have been identified:

Long-term Objectives

a) Reinforcing the competitiveness and sustainability of Technology-Based Companies (TBC).
b) Encouraging entrepreneurship and supporting a business environment to leadconducive to business growth.
c) Encouraging technology based companies to innovate and perform internationalization processes.
d) Developing long-term relationships and partnerships among the companies of the two locations involved.
e) Corroborating the importance of STP/BICS in the local economy development process in a given territory in terms of facilitating the creation of a Regional Innovation Ecosystem that will foster the socio-economic growth of the participating regions.
f) Improving access to markets worldwide markets.

Project specific objectives

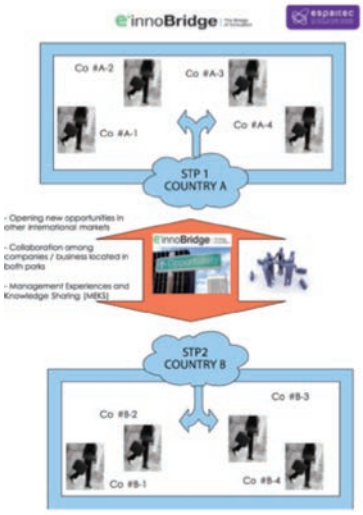
The specific project objectives are:
a) Supporting actions to strengthen the competitiveness and sustainability of technology-based enterprises by focusing mainly on two areas: by the Acceleration Training-Coaching-Mentoring Programme and identifying Project Cooperation frameworks with other SMEs and institutions in order to extend their market penetration.
b) Promoting entrepreneurship by means of hackatons or open calls to identify solutions for specific local or regional problems, particularly among specific target groups, that will help increase employability and job creation.
c) Improving the access of SMEs to public-private finance resources for collaborative R&D&I (Research and Development and Innovation) projects in on the Mediterranean Basin landscape by creating Financing Workshops with the main public-private investors or institutions in the territory.
d)Supporting actions to develop new competitive strategies during the capabilities assessment process for each SME.
e)Supporting actions to promote cooperation and the exchange of good practices and addressing international aspects of the competitiveness policy.
f) Evaluating the socio-economic impact of the project on local economic development in the territories involved in employability and economic growth terms (generation of GDP)

The project beneficiaries are classified as direct and indirect:
The direct beneficiaries are the STP/BICs involved in the project and their linked micro, small and medium enterprises located in STP/BICs thanks to the add value obtained by intercooperation, which will increase their competitiveness and will extend their markets to other countries with fewer risk.

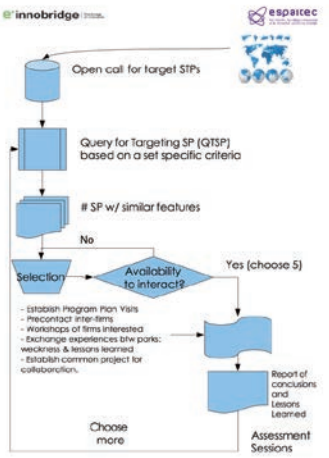
The indirect beneficiaries are:
- The cities where the STP/BIC are located and their corresponding territories in their influence area of influence.
- Governments.
- SME Associations.

Moreover, and probably the most important indirect/direct beneficiary, the territories where the STPs are located will benefit from not only the intercooperation of STPs as they will become promoters of local development, but also from collaboration among SMEs from different countries in terms of increasing employment rates (including employability among youths and women) and talent generation as new business opportunities will be identified

e'Innobridge is focused on a three-layer bi-directional channel:
- A set of technology and innovation transfer processes among companies and entrepreneurs located at Science and Technology Parks (STP) with the aim of potentially establishing soft-landings if proceed on the correspondent countries,
- A set of STP management best practices sharing between the parks involved named Management Experience & Knowledge Sharing (MEKS) Park-to-Park (K2K)
- Promotion and Fostering of Local Economy Development in the territories that will help to job creation and possibilities for the building of partnerships, joint ventures or business relationships between companies located at the parks to facilitate the internationalization process which results in reducing risks and costs of implementation, and the possibility of installation of company headquarters in other parks.



This process can be performed in a systematic way with each STP of the network as it can be seen in the workflow



4.2. Main Key Performance Indicators

E'Innobridge has defined a series of Key Performance Indicators (KPIs) that will provide a way to quantify the impact of the initiative on each country involved.

The basics indicators considered are as follows:

- Number of project collaborations among the SMEs from different STPs/BICs, understood as developing a relationship as client-provider, partner-partner or client-distributor.
- Number of potential hybridizations among the SME identified by STPs/BICs, understood as generation on new innovative products by means of synerging their SME capabilities.
- Number of soft-landings performed in STPs/BICs
- Number of collaborations among STPs/BICs in Management Best Practices Coaching.
- Number of STP Projects annually with a direct impact on SME's growth processes, understood as opportunities identified among STP Executive Teams that could become into new services or projects that could be implemented in all the partners locations and that will help to accelerate the SMEs in the market, for instance LivingLabs as a service.
- Economical impact on the regions from collaborative projects in terms of the:
- Number of direct highly qualified jobs and number of indirect jobs created
- Direct impact on the local economy

The expected results as a consequence of performing e'Innobridge in the territories where the STPs are located and connected, in the aforementioned countries, will focus on increasing the current figures.

Just as an example, if we take into account the total number of target companies, and taking a 10% of the SMEs as a project participants, the above-mentioned KPI would include the following expectation, over a 2-year period:

- 80 number of collaborations among the SMEs from different STPs/BICs
- 10 number of potential hybridizations among the SME identified by STPs/BICs
- 20 number of soft-landing performed in STPs/BICs
- 8 number of collaborations among STPs/BIC in the Management Best Practices
- 20 number of STP Projects annually that directly impacts on SME's growth process
- Economical impact in the regions due to collaborative projects in terms of:
  - 160 number of direct high qualified jobs and 640 number of indirect jobs created in the two-year period
  - 40 M euros in the total direct impact on local economy The calculation of this Direct Impact has been

calculated based on the following premises:
• From the total number of project collaboration among SME only 50% would be funded by local financial institutions
• It has been considered two new jobs created by project collaboration with a regular salary of 20.000 euros/ year and 4 indirect jobs created by project collaboration in two years period with a regular salary of 10.000 euros/year.
• It is estimated an increase of 40% of turnover per year per SME

4.3. First tries of e'Innobridge in Europe

Espaitec started to test e'Innobridge with some STPs around Europe: Tehnopol Tallinn Park (Estonia), the Kaunas Technology Park (Lithuania) and the MSU (Moscow State Universitat) Science Park signing a Memorandum of Understanding with some rules to follow but without budget assigned to the process.

The results were significant with Tehnopol in which the e'Innobridge process crossed potential collaborations among 150 Estonian SMEs and 45 Spanish SMEs (at that point of time), and 105 potential cooperation actions were identified. Unfortunately, the SMEs were not enough active to reinforce those potential collaborations. In relation to the other two parks, there were some presentations of SME technologies but none concluded in a specific project.

The first lesson learned from this try was the fact that specific budget is required to incentive all the parties to participate, it is difficult to move them just for free. The second lesson learned was the methodology, as it was not too mature in order to set up concrete steps and indicators to pursue during the performing of the process.

4.4. #eInnobridge4MED as Specific Approach

With the lessons learned from the initial process, we decided to run a whole project with solid budget for all the participants and more defined methodology incorporating Acceleration Training Program for the MSME participants, tools like Strategigram to help STP executive teams to improve they management skills and their strategic plans.

A particular case of e'Innobridge has been "e'Innobridge for Mediterranean Basin", or shortly named #eInnobridge4MED, where eight STPs from MENA area (Middle East, North Africa) and Spain, Italy and Greece aim to develop a platform to demonstrate how a Science and Technology Park can leverage the generation of Local Economy Development at their territories with a set of specific objectives such as:
a) Supporting actions to strengthen the competitiveness and sustainability of technology based enterprises.
b) Promoting entrepreneurship, particularly among specific target groups, that will lead to increase the employability and job creation.
c) Improving SME access to public-private finance resources for collaborative R&D&I (Research and Development and Innovation) project in Mediterranean basin landscape.
d) Supporting actions to develop new competitive strategies.
f) Establishing measures to ensure the development of Mediterranean business networks, and the development of products and services.
h) Supporting actions to promote cooperation and exchange of good practices and address the international aspects of competitiveness policy.
e) Evaluate the socio-economic impact of the project in local economy development at Mediterranean Territory.

The project has been estimated in 1.7M€ and several institutions are involved. Currently the project is in negotiations to get the appropriate funds (in Public-Private Partnership) in order to execute the full workplan. Nevertheless, some knowledge sharing activities have already taken place to understand the commonalities and the customization required based on each territory.
This experience, has allow us to transfer the global visualization of the project to other areas such as LATAM for which we are developing the #eInnobridge4LATAM landscape.

5. Conclusions

In Summary we consider that, form theoretical perspective, e'Innobridge becomes a powerful mechanism to strengthen the value of an international network such as IASP facilitating the knowledge and technology transfer among STPs around the globe in a procedured manner creating an innovative pool of connections (inno-connections) worldwide that subsequently will generate an interesting market place for their MSMEs linked to the Parks, reducing the risk in the internationalization process of their business model and giving an added value to the international network of Science and Technology Parks and Areas of Innovation.