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**New global challenges, new communities, new
technologies and new industries**

Plenary Session 5 :
Managing the global dimension

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1. ABSTRACT

The paper deals with a dimension hidden in the motto of the conference: that of global challenges (climate change, food safety, biodiversity, environmental protection, etc.) driving an economic revolution with the constitution of new and global communities, industries, companies and technologies.

The author takes as an example the new maritime economy, named "Blue Growth" (sustainable development of the maritime economy) a strategy emerging from a requirement: to reduce the anthropogenic impact on marine environment while taking benefit of oceans resources. Blue Growth is a challenge, for all (decision makers, technologies providers, research centers). It is quite a representative example of global challenges that create new communities and industries. Many other examples could have been taken related to green technology, food quality and safety, energy, etc.

The paper analyses the international context and its consequence on the markets and on Science Parks, created locally for developing regional economies.

The author concludes on new foreseen opportunities, open for Science Parks and for their members, if they manage to catch these new global economies..

2. INTERNATIONAL CONTEXT AND CONSEQUENCES

Global challenges-such as climate change, food safety, biodiversity, environmental protection, etc. are driving an economic revolution with the constitution of new and global communities gathered to set out innovative services, technologies, economic models, regulations, etc.

The Ocean economy is quite representative of this context. The "Blue Growth" concept, what tends for "sustainable development of the maritime economy". The concept emerged from a requirement: to reduce the anthropogenic impact on marine environment while taking full benefit of oceans resources.

Facing a decrease of land-based resources, the ocean reveals progressively its richness: minerals, oil & gas, active molecules, renewable energies, not to speak about food and biodiversity with all applications to health, food, chemistry. But scientists also discover the strong connection between oceanic and climatic processes. They claim for urgent action to reduce environmental degradation, responsible of sea water acidification and eutrophication, loss of bio-resources and biodiversity, coastal erosion, increase of natural disasters and possibly of climatic change. All maritime countries and regions are confronted to the same menace (the destruction of their natural assets), responsibilities (their own contribution to oceanic and climatic change) and interests (to sustain the development of their local economies). Most of them are engaged in the so called "Blue growth" strategy, a complex but strategic equation that links development, innovation and environment. "Blue Growth" is still a concept, but it is a development strategy already adopted by most maritime countries

and regions. It constitutes a challenge, for all, decision makers, technologies providers, research centers. How finding the balance between protection and economy? Which techniques, which funding strategy for new “clean” products? How changing worldwide practices? etc.

The ocean economy is thus quite a representative example of the situation. Many other examples could have been taken related to green technology, food quality and safety, energy, etc. New communities are naturally emerging from this situation. They are composed of scientists, private companies and clusters, public authorities, non-profit and international organizations. These global communities organize themselves in “theme” or interest networks to jointly find solutions to Blue Growth challenges. A new economy is to be established at a worldwide level. New “global” techniques are being set out by these multi-dimensional public-private-scientific cooperation networks.

This status underlines one first opportunity for Science Parks: to take an active role in the development of these new global economies, representing, promoting and organising regional communities to contribute with advanced techniques and services to the development of new blue or green economies .

3. GLOBAL CHALLENGES CREATE GLOBAL MARKETS, GLOBAL COMMUNITIES AND GLOBAL TECHNOLOGIES

Clearly international organizations and funding agencies are deeply influencing this evolution. Harmonisation of development strategies, of techniques and policies is a requirement to reach an effective global impact. Funding agencies ask for innovative but proven techniques adaptable globally. The ocean is unique and the need to change practices becomes urgent.

The type, the size and/or the place of companies and industries in these new emerging markets are to be reconsidered, and, together with them, the economic business models as well as the role and services of Science Parks.

Resulting markets are driven by “innovation” and “harmonization”, two key words which still appear as contradictory. But they are not. Switching for sustainable development strategy requires strengthening cooperation between research centers, at international level, but also “digesting” more rapidly research results,. In other words, it requires fostering and accelerating technology transfer between research, private and public sectors, at local and at international level.

So, these markets open new opportunities for creative companies and startups, if they manage to become global., or to be borne global. Therefore, they also must rapidly become visible and credible on the international scenery. They will also have to plant some roots in target countries of high market potential.

Even if global, these markets are effectively driven by national strategies. Thus, having a partner or setting up an office or an agency in the countries will increase their competitiveness. At last, because of the complexity of the issues addressed, decision makers look for “One Stop Shop” services and techniques. These last two trends require unclassical business models. For example, clustering of highly specialized companies even from different countries appears as an efficient way to boost smart and adaptive companies and to create globally operating companies capable to provide complete solutions to very specific needs (e.g. management of coastal zones, marine renewable energies, sustainable aquaculture, surveillance of the ocean, fisheries...) It is one economic model to grow globally, to become rapidly visible and to develop technologies, brands and strategies in line with the demand.

At this stage of the analysis it is important to underline a change of paradigm for Science Parks. Because

the challenge is global and leads to highly stringent markets, science parks must reconsider their support missions at the cross point of public institutions, research organisations and private companies. At local level their role is to catch these international trends, to guide public policies towards development programs responding to these identified global challenges while creating the necessary links with international development programs and interest networks. It is thus an easily accessible opportunity to actively contribute to the international development of their members.

Some typical examples of this remark could be taken in food and aquaculture industry, energy (including marine renewable energies), marine instrumentation and coastal ocean observing networks or ship building. Clearly Science Park must carry one a strong international cooperation strategy while organising their local services to help their partners organising themselves as pools of competencies in fields of high economic interest, at international level. The point is developed below.

4. “MANAGING THE GLOBAL DIMENSION” – SUPPORT SERVICES TO INNOVATION AND MARKET DEVELOPMENT

As these “Green/Blue” development policies require “global innovative markets”, innovation itself becomes a global process in which technology transfer and development of companies must be thought differently. This situation represents an opportunity, if not a necessity for Science Park members (companies, research centers and public authorities). This status drives a change of paradigm of the Science Park mission. While being historically focused on local economy they will have to sustain global development processes. Different approaches enable ensuring this new (and not contradictory) mission of Science Parks.

First, considering the global character of the markets, Science Parks can develop cooperation with other Science Parks of similar development assets and strategies. This facilitates birth of young global stars through coordinated services for “innovation”: technology transfer, support to startups, development of cooperation programs between research, public and private sectors, setup of events etc. By doing so, they inherently develop a common brand promoting their members and partners on the international scenery.

Some examples can be taken to illustrate the issue. “Blue Farming” and “Coastal Ocean Observing Systems” are two international programs set out by the international network “MITIN” created to accompany Blue Growth policies of maritime regions. The two programs address two international challenges. What are the technologies and economic models required to develop aquaculture and to deploy means to coastal economies? These questions are universal. The responses are not only scientific. They pass through the adoption of new practices and techniques by professionals and public authorities. They are also two bases of new Blue Growth strategies. The positive influence of networks of science parks would be to “incubate” these international programs at regional level to set out best economic and technical solutions, in cooperation with international organization and experts.

So, Science Parks must think different about their own international development mission. The goal is no longer to simply promote their region and park as the “best of place on the planet”. The goal is to organize their partnerships as a net to anchor support services in strategic key regions.

5. MITIN AS ONE EXAMPLE OF INTERNATIONAL INTEREST NETWORK CALLING FOR STRONGER INVOLVEMENT OF SCIENCE PARKS

To illustrate the importance of this international cooperation requirement, and possible approaches, the

example of Blue Growth will be discussed in details together with the international network, "MITIN" created to organize global responses to Blue Growth challenges.

MITIN gathers regions ("territories") engaged or willing to engage in Blue Growth strategies. Each region is represented by a variety of actors: public authorities, clusters, science parks, research centers and companies.. "Blue Growth" issues are thus analyzed at the right global level but under the angle of local or national specificities and programs. The Network works like a big international Science Park. For its Science Park members, the Network is a good opportunity to become visible, to develop a brand, to find partners (for themselves for their members), to maintain a high level view on market trends and to support involvement of their members. Following its vision and intrinsic level of expertise, the network has won the support of international organisations MITIN is an example of "credible global platforms that can successfully host and/or create global businesses". Networking contributes to change Science Park strategies. By thinking together they do not march "blind". They can develop along a vision with experts, with the support of international organizations and with easier access to global funding and policy makers.

However, such a strategic change often faces reticence, having a consequent impact on human resources, management and services issues. To create such global platforms Science Parks must reinforce their own links with research centers and big companies engaged in the same strategy, at local and international levels. Therefore, they should consider international cooperation as a fantastic development tool, instead of putting their focus locally only.

6. CONCLUSION

The full presentation will develop this example of Blue Growth and related networks such as MITIN to illustrate some responses to the various questions raised by these new "global market developments and political strategies": How can Science Parks seize and adapt themselves?

The author would like to end with congratulations to IASP for having positioned this conference on quite an important change of innovation support services.

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