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**Science Park and
Technology Business Incubator**
UNESCO-WTA INITIATIVES
(2006 - 2010)





Introduction

Since the 1970s, UNESCO has been involved in the promotion of the relationship between science, technology, innovation and economic development. In 1993, the Organization created the University-Industry Science Partnership (UNISPAR) Programme, with the objective to promote interaction between universities and the productive sector with emphasis on research for industrial innovation. In 2002, the Division of Science Policy and Sustainable Development integrated science and technology parks (STPs) cooperation into the UNISPAR Programme. Since then, UNESCO has established a solid cooperation with many international partners to promote the development of science parks and technology business incubators in developing countries. One UNESCO partner is

the World Technopolis Association (WTA), an NGO based in Daejeon, Republic of Korea.

UNESCO and WTA have been working together during the last several years based on the awareness that important synergies and complementary elements exist between them. Both organizations have expressed their intention to render assistance to each other to improve their service and functions with a view to promote science, technology and innovation for sustainable development. Special gratitude goes to the Korea International Cooperation Agency (KOICA), the Daejeon Metropolitan City Government, the Islamic Educational, Scientific and Cultural Organization (ISESCO) and to all national governments for their support to this programme.





Main areas of cooperation between UNESCO and WTA

- (a) **Capacity building** : conducting training, workshops, seminars and conferences for science park and technology business incubator stakeholders.
- (b) **Technical assistance** : providing developing countries with technical advice in science park and technology business incubator governance
- (c) **Sharing experiences** : promoting knowledge transfer between the public and private sectors.
- (d) **Networking** : facilitating regional and international network development, as well as collaborative research and development (R&D)
- (e) **Pilot project** : supporting the development of science parks to be used as regional case studies





Concepts

The term Science Park refers to all property development that is designed to support the clustering of knowledge-based enterprises in order to commercialize science and technology. Science parks aim to foster the development and growth of knowledge-based economies by bringing together scientific research with governmental organizations and their business support and development programmes in one physical location. There are many approximate synonyms for the term "science park", such as: science and technology park, technology park, research park, biopark, technopark, technopolis, technopole, science city, and science town.

Technology Business Incubator is an economic platform designed to help start-up companies by providing them with the necessary resources and support that they need to evolve and grow into more mature businesses. The main goal is to generate successful businesses that will leave the programme financially viable and freestanding. These graduates create jobs, revitalize communities, commercialize new technologies and create wealth for local and national economies.



Science Park and Technology Business Incubators supports their tenants by the provision of property services together with: physical infrastructures for business and research; services such as venture capital, legal support, protection of intellectual property; various incentives such as: financial, fiscal and debureaucratization; and good business environment.





Opportunities and Challenges

Opportunities

Many developing countries have experienced the following opportunities linked to the development of science parks:

- Great potential to develop a knowledge-based economy
- Communication system is increasingly available
- Availability of universities, research institutes/centres and researchers
- Great potential market for knowledge-based products



Challenges

The great challenges in the development of science parks in developing countries are, among others:

- Lack of skilled manpower, especially in knowledge based activities
- Lack of knowledge on science park concepts leading to a lack of clear vision
- Insufficient legal and policy framework
- Lack of infrastructure for applied research
- Insufficient funding



UNESCO-WTA INITIATIVES

SCIENCE PARK AND
TECHNOLOGY BUSINESS INCUBATOR



Development Approach

The triple-helix model of innovation, which converging academia, government and business sector, is used as a basic approach on science park development.

The interaction among the stakeholders causes transformation in the role of each institution. Under certain circumstances, the university can take the role of industry, helping to form new companies in incubator facilities. In other hand, the government can take the role of industry, helping to support these new developments through funding programmes and changes in the regulatory environment. Industry can take the role of the university in developing training and research, often at the same high level as universities.

Our Actions

Capacity Building



- Training workshops
- Seminars
- Conferences

Technical Assistance



- Policy advice in science park and technology business incubator development and management

Pilot Project



- Africa,
- Arab States,
- Asia-Pacific Region,
- Latin America and the Caribbean

International and regional centers for science parks and technology business incubators development



→ Our Actions

1. Capacity building

The objective of capacity building activities is to regularly upgrade the knowledge of managers or future managers of science and technology parks in developing countries.

International Training Workshop

Since 2005, we have been organizing one international training workshop per year for science park managers and researchers from developing countries. The participants are members of a network of technopolis developments in their region and will actively participate in the development of a pilot project. The lecturers for the training are invited international experts.

[Training Programs]

2005 "Science City Governance"

- November 1-7, 2005 in the Information and Communication University, Daejeon



2006 "High-tech Clusters in Global Context"

- November 6-10, 2006 in Daejeon City Hall



2007 "Towards Sustainable Growth of Science and Technology Park" :

"Role of Technology Business Incubation in Techno Park"

- November 6-10, 2007 in Daedeok INNOPOLIS



2008 "Towards Creative Growth of Science Park and Innovative Cluster"

- October 8-11, 2008 in Daejeon Convention Center



2009 "Green Growth based on the Science Park Initiatives"

- November 11-14, 2009 in Daedeok INNOPOLIS

Regional training Workshops

The objectives of the regional workshop are: i) to assess the state of the development of science and technology parks in every country of each region; ii) to initiate the development of a network of science and technology parks at regional levels; iii) to identify a science park that can be used as a UNESCO-WTA pilot project. The workshop consists of five different parts as follows: introductory courses, participant presentations, working group discussions, panel discussions on networking and the development of science parks, and finally the conclusion.

- **Arab States** - Manama, Bahrain, September 12-14, 2006
- **Africa** - Windhoek, Namibia, May 9-11, 2007
- **Asia Pacific** - Jakarta, Indonesia, September 3-5, 2007
- **Latin America and the Caribbean Region** - will be held 2009.



National Training Workshop

The main objective of the national training workshop is to assist the national government in preparing new managers or upgrading the knowledge of existing managers on science park governance.

- **June 22-26, Oran, Algeria** : National Workshop on Science Park Development in Algeria, organized by ISESCO and UNESCO
- **July 13-16, 2009, Abuja, Nigeria** : National Workshop on Science Park Development in Nigeria, organized by ISESCO and UNESCO



2. Technical assistance and policy advice

UNESCO and WTA provide the interested Member States with technical assistance in all phases of science park and technology business incubator development. We have provided technical assistance to the following countries in the formulation of their national strategy on science park development: Egypt(2007), Kenya(2008), Indonesia(2009), and Iran(2009).

The technical assistance consists of following the activities:

- Preparation of feasibility studies
- Elaboration of technopolis development plans
- Technical advice on networking, funding and technopolis establishment, and
- Encouraging and promoting the region to attract foreign investment.

3. Pilot projects

UNESCO and WTA have agreed to establish one pilot project in each of the following regions over the next five years: Africa, Arab States, Asia Pacific, and Latin America and the Caribbean. Three pilot projects were initiated: (1) Mubarak Science and Technology Park in Alexandria, Egypt; (2) Nairobi Science and Technology Park, Kenya; and (3) PUSPITEK Science and Technology Park, Jakarta, Indonesia.

Project 1.

Arab States : Mubarak(Alexandria), Egypt
Mubarak City for Science and Technology

- 1st mission(18-26 July 2007)
- 2nd mission(23-24 January 2008)



Project 2.

Africa : Nairobi, Kenya
Science and Technology Park of Nairobi University

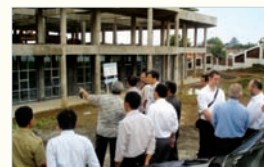
- 1st mission(21-25 July 2008)
- 2nd mission(March 2009)



Project 3.

Asia-Pacific : Jakarta, Indonesia
State Ministry of Research and Technology
(STP development program)

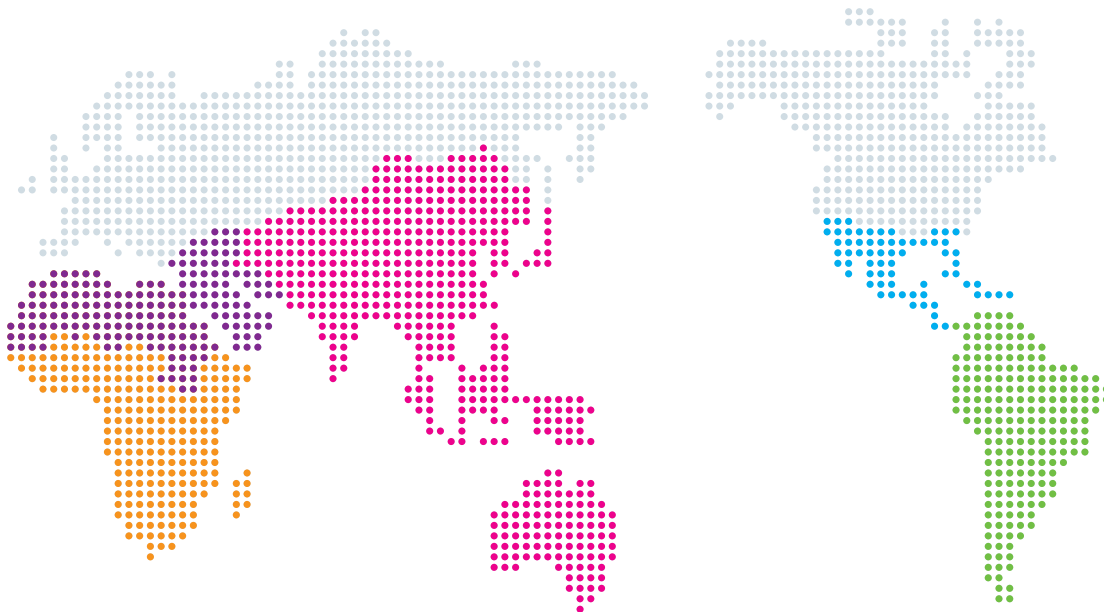
- 1st mission(22-27 February 2009)





4. Support the establishment of centers for science park development

The main emphasis of the work of the Centre is facilitating the integration of a developmental approach into science, technology and innovation, organizing capacity building, providing policy advice, facilitating the exchange of experience and best practices, and conducting research and problem solving in science park and technology incubator development.



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