



TRAINING FOR TRAINERS ON THE DEVELOPMENT OF SCIENCE PARK IN INDONESIA

Jakarta, Indonesia

19-20 April 2018

I Background

Innovation is a driving force behind national economic policies to improve the global competitive strategy and improve the standards of living of the nation. The ability to innovate around technologies is more than ever the major determinant of the competitiveness of firms, regions, and countries. Science and Technology are important inputs to the innovation process, but many other economic and social factors combine with the technological ones to influence success in innovation. University, Industry and Governments have an important role to play in stimulating innovation by ensuring that economic and social policies, as well as their S&T policies, reinforce possibilities for innovation, rather than negating the process.

Science Parks¹ and Technology Business Incubators (TBI) are among the common platforms to accelerate innovation. They typically accomplish this by bringing together the interests of academic, business and governmental organizations at one physical location, and supporting interrelationships between these interests through incentives established by government policies. In addition to providing space and infrastructure for business and production, the science parks can house centres for scientific research, technological innovation, and business incubation, as well as training facilities, market analysis and forecasting capacities, in addition to facilities for fairs, exhibitions and market development through popularization.

Within the framework of the UNESCO Programme – University-Industry Science Partnership Programme, the Division of Science Policy and Capacity Building of UNESCO, encourages and supports the development of science parks and TBI. This project was designed as a novel approach to resolve the innovation issues Indonesia face. The project will strengthen national capacity in nurturing, accelerating and stimulating innovative entrepreneurship through technological and social venture.

With the financial support from the Korea International Cooperation Agency (KOICA), UNESCO is supporting the development of an innovation acceleration platform, including science parks and technology business incubators in Indonesia by providing advice to review the national strategy in the development of science parks and manage knowledge-based SMEs, giving technical assistance in their development and organizing related capacity building activities. The project will also grassroots innovation. Grassroots innovation is generating bottom-up solutions that respond to the needs of local communities. These initiatives usually operate in civil society arenas and involve committed activists experimenting with social innovations as well as using greener technologies. As bottom-up initiatives, grassroots innovations have an immense potential for wealth creation. Currently, there are many successful grassroots technological innovations, unfortunately the economic impact of these innovations are low. Based in many cases, there is a need to build a value chain around these innovations and to provide incubation support if the benefits from these innovations are to be shared to consumers far and wide.

The project is implemented in very close cooperation with the Ministry of Research, Technology and Higher Education of Indonesia.

¹ The term of “science park” encompasses any kind of high-tech cluster including technopark, technology park, technopole, technopolis, science city, science town, cyber park, hi-tech (industrial) park, research and development park, university research park, and science and technology park.

II National Policy Framework in Promote Innovation

The initiative to develop hi-tech cluster is not new for Indonesia. It was started in 1976 by the creation of the Research Centre for Science and Technology (*Pusat Penelitian Ilmu Pengetahuan dan Teknologi = Puspiptek*) in Serpong, in the Southern part of Jakarta. During the last 5 years, several other science and technology parks have been progressing. Following the willingness of the Indonesian Government to use science parks as one kind of engines for economic development, the country need to prepare human resources to manage and to work at the science park.

During the last 10 years, the awareness on contribution of science, technology and innovation (STI) on economic development has significantly increased among policy makers in Indonesia. Among the recent innovation policy measure that have been taken by Indonesian government are as follows.

1. Establishment of National Innovation Committee (NIC)

In June 2010, the President of the Republic of Indonesia established the National Innovation Council (NIC) with a mandate to assist the President by providing policy advice in promoting national innovation system. NIC has main functions: (i) to assist the President of the Republic of Indonesia in strengthening the National Innovation System (NIS) and promoting national innovation culture; (ii) to provide policy advice in the formulation of national priorities of programmes for generating new knowledge and to determine strategies for the application STI for economic development, including recommendation on the budget allocation and infrastructure development to strengthen NIS; and (iii) to evaluate and monitor policies and programs related to strengthening NIS.

2. Integration of Innovation in the Master Plan Acceleration and Expansion of Indonesia Economic Development 2011-2025 (in Bahasa Indonesia: Masterplan Percepatan dan Perluasan Pembangunan Ekonomi Indonesia 2011-2025, known as MP3EI). The Indonesian Government defined three key strategies to achieve the implementation of the MP3EI:

- (i) Increasing added value and expanding value chain for industrial production processes by increasing the efficiency of the distribution network and the capability of the industry to access and utilize natural and human resources;
- (ii) Encouraging efficiency in production and improving marketing in order to integrate domestic markets; and
- (iii) strengthening the national innovation system especially in relation to the aspects of production, process and marketing to achieve a sustainable competitiveness towards an innovation driven economy.

3. National plan to develop 100 technoparks

In 2014, the Government launched a policy to support the development of a total of 100 "Techno Parks" around the country by 2019. The Government distribute the responsibilities of their development among 7 several ministries and non-ministries government institutions. In 2016, several responsible institutions involved on STP projects reduce the number of STP from 100 units to 22 units. The main reason is that STP is integrated program involving many policies and interests, so that it needs much money, long time, and various actors. The main purpose of this is project is to support this government programme.

III Objectives

The overall goal of the project is to enhance national capacities in managing science, technology and innovation for sustainable development by strengthening national capacity in nurturing, accelerating and stimulating innovative entrepreneurship through technological and social venture.

The ultimate objective of the programme is to facilitate the creation of knowledge-based small and medium size enterprises (SMEs) in TBI and science parks by mobilizing all innovation stakeholders such as governments, academia and production sector (industry), civil society, as well as financial institutions (investors).

To reach above-mentioned objective the project will conduct five following activities.

1. Technical assistance in review the Indonesian national strategies on the development of the innovation accelerators (Science parks and TBI).
2. Training for trainers on the development of science parks.
3. Technical assistance in reviewing masterplans of science parks in Indonesia.
4. Entrepreneurship development training on managing knowledge-based SMEs in Indonesia: Training for trainers.
5. Technical assistance in building value chain on grassroots innovation.

The activity training for trainers on the development of science park has a specific objective to prepare national trainers in the governance of science and technology park. To this end, this activity will develop the capacity of the trainees to combine international and national experience to be used in their own science park and to be shares with other science parks in Indonesia.

IV Implementation strategy

To optimize the effectiveness of this capacity building activity, UNESCO will organize a training workshop in form of round-table meeting that allow open exchanges between trainers trainees.

In cooperation with the Ministry of Research, Technology and Higher Education, UNESCO will select the trainees among the most knowledgeable people on the science parks governance in Indonesia, such as manager of science parks, person in charge of science parks in the Government. Concerning the trainers, UNESCO will use the international experts who are hired to conduct the review of national policy in the development of technopark (activity No. 1) and three experts who will provide technical assistance in the development of science parks (activity 3). Additionally, UNESCO also invite the World Technopolis Association (WTA) to sponsor the participation of one expert from the Republic of Korea and the Regional Centre for the Development Science Parks and Technology Incubators in Isfahan (IRIS) to sponsor the participation of one expert from Iran.

There will be no specific contract of experts for this activity. The experts' intervention in this training will be specified in their contract for the activity. Each expert will prepare training materials.

V Resources persons



Prof. Fred Y. Phillips

Dr. FRED PHILLIPS is currently a Visiting Scientist at the Chinese Academy of Sciences in Beijing, and Visiting Professor at National Chengchi University in Taiwan and Stony Brook University in New York. He is the 2017 winner of the N.D. Kondratieff Gold Medal, awarded by the Russian Academy of Sciences. He is a Senior Fellow at the IC² Institute of the University of Texas at Austin, and a Fellow of PICMET, the Portland International Centers for Management of Engineering and Technology.

Dr. Phillips is Editor-in-Chief of Elsevier's international journal *Technological Forecasting & Social Change*, one of the top three journals in the technology management field. He authored/edited two books on high-tech economic development, *The Technopolis Columns* (Palgrave 2006) and (with D.-S. Oh) *Technopolis: Best Practices for Science & Technology Cities* (Springer, 2014).

Dr. Phillips has consulted worldwide on technology based regional development. Through his advisory firm, General Informatics LLC, he and his team have worked on projects for World Bank, UNESCO, the World Technopolis Association, and the US Environmental Protection Agency. Starting in Fall, 2018, Fred will move to the University of New Mexico (Albuquerque, USA) for half of each year, and devote the balance of each year to consulting and speaking.



Dr Malcolm Parry OBE

Dr Malcolm Parry OBE gained a BSc Hons in 1972, PhD in 1977 and PGCE 1977 from the University of London after which he took an academic post at the University of Surrey in 1977. He moved from his academic post in 1983 to create for the University its Surrey Research Park. Being CEO and Managing Director Surrey Research Park, he has been active in supporting the commercialisation of science and technology for over 35 years.

He has written and lectured extensively on the subject while also gaining commercial experience through starting and selling two companies. He continues to run the Surrey Research Park while also acting as an expert for UNESCO, the WTA, the UK Science Park Association, which he founded with colleagues in 1984 and is an active member of the International Science Parks Association.

He has also been active in the business community in his region for more that 35 years and was honoured in 2006 with an OBE by Her Majesty Queen Elizabeth II for his work on Education and Industry links.



Prof. Jaehoon Rhee is currently CEO of Gyeongbuk Technopark Foundation, chairman of Korean Technopark Association (KTA) and a Professor of School of Business at Yeungnam University. He is in charge of Industrial Promotion Policies and SMEs' supports in Gyeongbuk Province. Gyeongbuk Technopark plays a key and leading role in initiating and guiding the 4th Industrial Revolution in Gyeongbuk by attracting and developing such national projects as Wireless Power Transfer R&D Center, Global Game Center, Plant Factory, etc. Gyeongbuk Technopark is famous for the first Unicorn Technopark in Korea because its tenant companies' sales volume exceeded one billion dollars last year.

He is both globally and nationally well known as one of the authentic Technopark professionals since he participated in Technopark

<p>Prof. Jaehoon Rhee</p>	<p>Project in 1998. Thus, he was accepted and included in 2018 Marquis Who's Who in recognition of his success for Technopark management and business support. He got his Ph.D in Organizational Behavior from Cornell University in USA and has several articles in the international journals such as Technovation, International Journal of Human Resource Management, Management Decision, Personnel Review, and Managerial Psychology</p>
 <p>Dr M. Javad Omid</p>	<p>Prof. M. Javad Omid received his Ph.D. from University of Toronto in 1998. He worked in industry by joining a research and development group designing broadband communication systems for 5 years in US and Canada. In 2003 he joined the Department of Electrical and Computer Engineering, at Isfahan University of Technology (IUT), Iran; and then served as the chair of Information Technology Center and then chair of the ECE department at this university. He has been a cofounder and manager of several hi-tech startup companies in Iran and Canada in the past 25 years.</p> <p>He is currently the Director of IRIS, a category II center of UNESCO organization in Iran, and the vice president for Research and Development at Isfahan Science and Technology Town. He has been active as a member of Board of Directors in many national and international organizations, and has presented several lectures and workshops on the management of science parks.</p> <p>He has numerous scientific publications and more than 15 US and international patents in the area of telecommunications. He is supervising a software radio lab in IUT and his scientific research interests are in the areas of mobile computing, and digital communication systems.</p>
 <p>Dr Ilkka Kakko</p>	<p>Ilkka Kakko is an acknowledged expert in the areas of innovation management and platform thinking. He has worked fifteen years in improving management practices in innovation intermediaries like science parks and regional/national development organizations and surrounding ecosystems. Ilkka has gained his expertise and perspective during a diverse working career; the latest ones as working in a management position in Joensuu Science Park Finland and by acting as an independent consultant in his own company Karostech Ltd. He has a widespread interest in platform thinking and serendipity related issues, he has studied this field for more than ten years and published many academic papers in the areas of serendipity management and third generation science park concept. The latest challenge for Ilkka is to link platform thinking into the management practises of science parks and especially to introduce the use of competence platforms in community and ecosystem building.</p> <p>Ilkka has a Masters Degree in Production Economics from Lappeenranta University of Technology and is in the final stages of his PhD work about serendipity management. Ilkka lives in Eastern Finland and is enthusiastic about outdoor activities and fishing.</p>



Prof. Byung-Joo Kang

Prof. Byung-Joo Kang is currently a professor of the College of Social Science at Hannam University, Daejeon, Republic of Korea, and Secretary General of World Technopolis Association. He received a Master of Environmental Planning in 1981 from Seoul National University and a Master of Urban and Regional Planning from University of Wisconsin -Madison, U.S.A. in 1985. He got a PhD degree in Urban and Regional Planning at University of Wisconsin-Madison, U.S.A. in 1989.

He also acted as an executive director of Regional Development Research Institute (RDRI) for 5 years from 1997 which did important work for regional innovation in Daejeon City and Chungnam province. He was elected as a dean for College of Social Science, Hannam University in 2010 and appointed as a dean for Graduate School of Administration and Welfare by the President of Hannam University in 2011. His recent research interest involves 'green growth' and knowledge and technology convergence. He presented a few articles on 'green growth and green technology industries and creative economy and creative industries', and some papers on the 'technology convergence' are under preparation.

VI Training Participants

The target group of the training for trainers is the person in charge of the development of science parks who could be managers or specialists of science parks. We expect to train 11 future trainers that consist of 10 managers of science parks and the Director of STP and Supporting Institution in the Ministry of Research, Technology and Higher Education. The following manager of science parks are invited:

1. Indonesia STP, Puspiptek, Tangerang Selatan City
2. Bandung Techno Park
3. Solo Techno Park, Batam Techno Park
4. IPB Science and Techno Park, Bogor
5. Marin Science and Techno Park, Jepara
6. UGM Science Park, Yogyakarta
7. NSTP Pasar-Jumat, Jakarta
8. Palembang Techno Park, Palembang
9. Riau Techno Park (Riau Province)
10. STP of Cibinong

UNESCO is covering transportation cost (economic class air tickets), full board and accommodation of the training participants from during three days from 18 to 21 April 2018.

VII Language

The working language will be English. There will be no translation to any other language therefor the training participants have to have good level of English

IX. Programme Agenda (tentative)

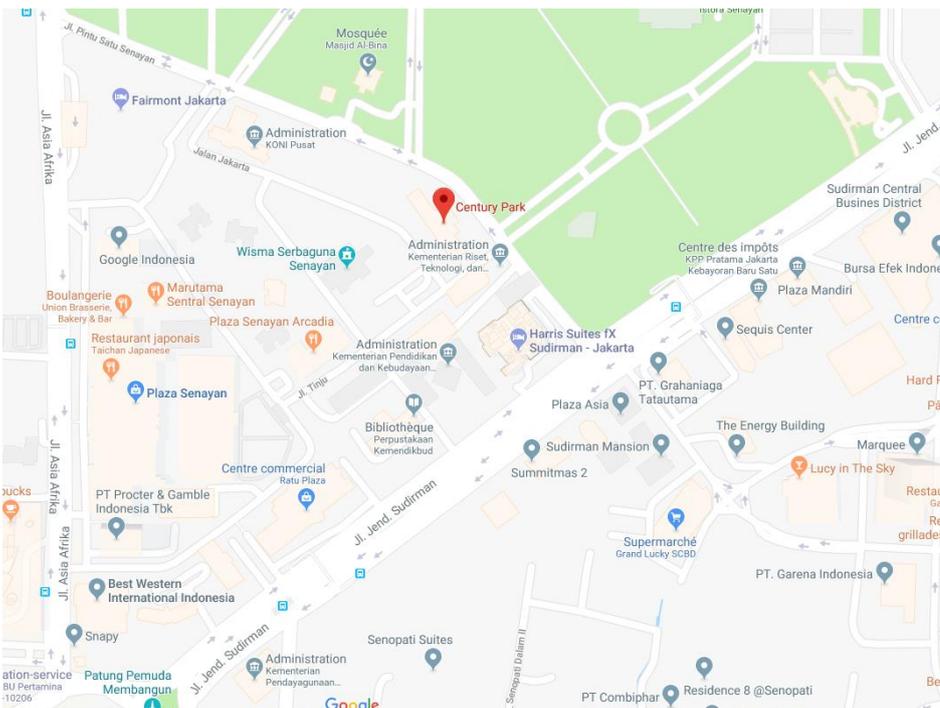
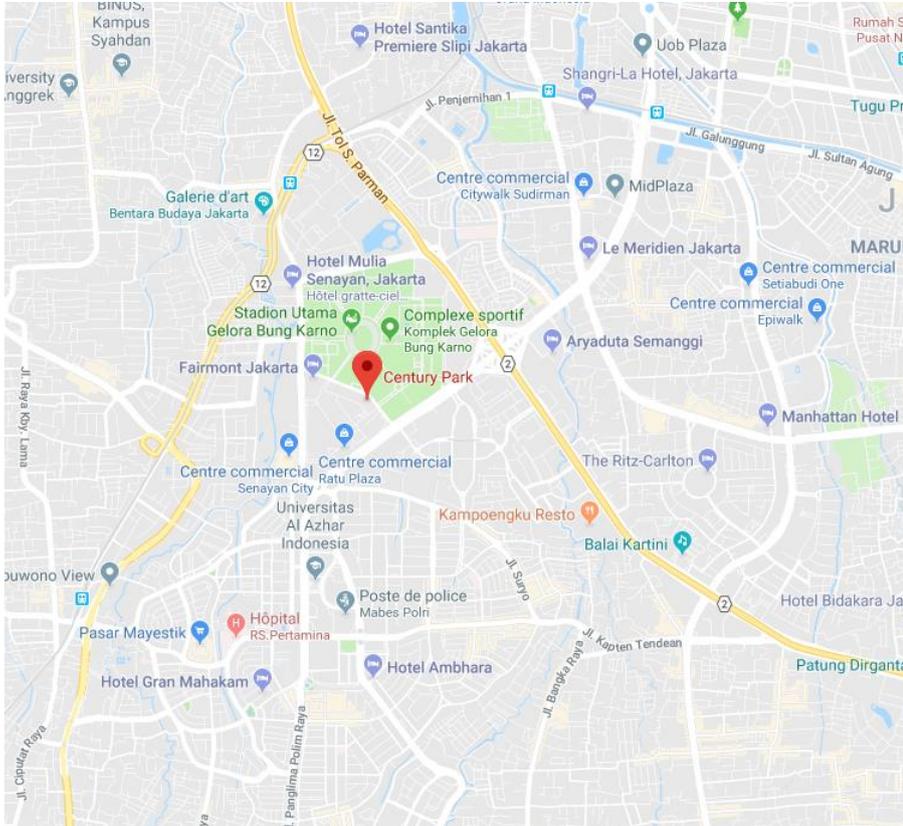
Wednesday, 18 April 2018		
Venue: Arrival of lecturers and training participants at the Century Park Hotel, Jakarta		
Time	Title	speaker
DAY 2: Thursday, 19 April 2018		
Venue: Century Park Hotel, Jakarta		
Opening ceremony		
09:00-09:10	Introduction:	Dr Yoslan Nur , Project Responsible Officer
09:10-09:20	Welcome speech	Prof. Shahbaz Khan , Director of UNESCO Office in Jakarta
09:20-09:30	Opening remarks	Dr Oh Gi Youn, Country Director of KOICA Indonesia
09:30-10:00	Opening remarks	Prof. Ainun Naim, Secretary-General of the Ministry of Research, Technology and Higher Education
10:00-10:20	Self-introduction of participants	
10:20-10:30	Group photo	
10:30-10:45	Coffee Break	
10:45-11:45	Lecture 1: The development of science park within a context for national Innovation System	Prof. Fred Young Phillips , Visiting Professor, National Cheng Chi University Graduate Institute of Technology, Chinese Taiwan
11:45-12:00	Q&A	
12:00-13:30	Lunch	
13:30-14:30	Lecture 2: Iran experience in the development of science parks – Role of Government	Dr M. Javad Omid , Director-General of Science Parks and Technology Incubator Development, Ministry of Research
14:30-14:45	Q&A	
14:45-15:45	Lecture 3: Development of Technoparks in the Republic of Korea – Case study Gyeongbuk Technopark	Dr Jaehoon Rhee , CEO of Gyeongbuk Technopark Foundation and chairman of Korean Technopark Association
15:45-16:00	Q&A	
16:00-16:15	Coffee Break	
16:15-17:15	Lecture 4: Role of the University-Industry partnership in the development of science park	Dr Malcolm Parry , Dr Malcolm Parry OBE, CEO and Managing Director Surrey Research Park, UK
17:15-17:30	Q&A	
18:00-20:00	Diner	

DAY 2: Friday, 20 April 2018

09:00-10:00	Lecture 5: The role of research and development, platform thinking and serendipity in the orchestration of an innovation ecosystem	Dr Ilkka Kakko , Founder and Partner, Managing Direct of Oy Karostech Ltd.
10:00-10 :15	Q&A	
10 :15-10-30	Coffee Break	
10 :30-11:30	Lecture 6: A Strategy of Science and Technology Parks Collaboration through Networking with Open Innovation Paradigm	Prof. Byung-Joo Kang , Secretary General of the World Technopolis Association
11:30-11:45	Q&A	
13:30-15:30	Indonesian Science park presentation	<ol style="list-style-type: none">1. Direktorat of STP and Supporting Institution in the Ministry of Research, Technology and Higher Education. The following manager of science parks will be invited2. Indonesia STP, Puspiptek, Tangerang Selatan City3. Bandung Techno Park4. Solo Techno Park, Batam Techno Park5. IPB Science and Techno Park, Bogor6. Marin Science and Techno Park, Jepara
15:30-15 :45	Coffee Break	
15:45-17-15	Indonesian Science park presentation	<ol style="list-style-type: none">7. UGM Science Park, Yogyakarta8. NSTP Pasar-Jumat, Jakarta9. Palembang Techno Park, Palembang10. Riau Techno Park (Riau Province)11. STP of Cibinong
17:15-17:45	Round table discussion	
17:45-18:00	Closing ceremony	
18:00-20:00	Diner	
Saturday, 21 April 2018		
Departure of training participants		

VIII Venue

Venue: Century Park Hotel Jakarta
Adresse : Jl. Pintu Satu Senayan, RT.1/RW.3, Gelora, RT.1/RW.3, Gelora, Kota Jakarta Pusat, Daerah Khusus Ibukota Jakarta 10270, Indonesia
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