Summary Report

CMI - ISESCO Regional Workshop on Science & Technology Parks

Izmir, Turkey, 8-10 May 2018

By Jacques Van Der Meer
The IZMIR Workshop: Theme & Objectives

In a joint effort to promote a knowledge-based economy in the Middle East and North Africa (MENA), the European Investment Bank (EIB), through the Centre for Mediterranean Integration (CMI), and the Islamic Educational Scientific and Cultural Organization (ISESCO) organized, in cooperation with a local consortium formed by Izmir Katip Çelebi University Entrepreneurship House and Technology Transfer Office (IKC GETTO), the Aegean Region Chamber of Industry (EBSO), and the Aegean Exporters' Association (Ege İhracatçı Birlikleri), a 3-day workshop for stakeholders and managers of Science and Technology Parks in the MENA region.

The Theme

The theme of the workshop was: the role that Science and Technology Parks (the Izmir region has four) can play to integrate and strengthen the functioning of the region’s Industrial and Technology Development Zones, universities, R&D Labs and Public Research Centres, Technology Transfer Offices, Business Incubation Services, etc.

During this three days’ workshop, a case study of Izmir’s innovation system, a series of panel sessions and site visits, shed the light on the ability of Izmir region to nurture and create an innovation-oriented climate favorable and conducive to the emergence of successful technology-based production environment. The workshop also examined the role of the Technological Development Zones (Teknoparks).

The main issues addressed during the workshop, were as follows:

- The role of /and support from the local authorities: What are the stakeholders views?
- Private sector views’ on the role of STP’s: Chambers of Industry, individual firms, start-ups, etc.
- The TTO’s terms of references and business models: Can different TTO’s co-exist in one region?
- The Cooperative schemes / contract-types (incl. PPP’s) between local industries and universities.
- How to raise the interest of the academic sector for “indigenous” industries…and vice versa ?
- Case Studies: Success-stories and lessons-learned from unsuccessful initiatives.
- Role and business models for R&D-facilities: Any potential for PPP’s?
- Role of the financial sector: local banks, R&D-funds, VC-funds, business angels, crowd-funding.
- Ability of STP’s to attract foreign investment and to export the facilitation of its tenants.
The Choice of the Location

Why Izmir? Because the region is often cited for its competitive innovation and technology transfer ecosystem. The Izmir Regional Innovation Strategy prepared by the Izmir Development Agency (IZKA) in cooperation with Ege University’ Science and Technology Centre (EBİLTEM) and the İzmir Regional Directorate in 2012 stood at the basis of the 2014-2023 İzmir Regional Plan with the objective to increase the High Technology, Innovation and Design Capacity of İzmir’s -indigenous- industrial tissue. R&D and innovation were recognized to be the most important tools for improved social wealth and sustainable development. Therefore, scientific and technological development were aligned to the strategic priorities and objectives for İzmir’s industrial development and innovation policy with the Technological Development Zones (Teknoparks) as protagonists.

*The Innovation Centre at the Izmir Technopark campus*
The Workshop in Numbers

INTEGRATING UNIVERSITY & PRIVATE SECTOR DEVELOPMENT
THE ROLE OF STP'S REGIONAL WORKSHOP

33 PARTICIPANTS *

1 WORKSHOP

12 COUNTRIES**

20 SPEAKERS***

3 FIELD VISITS****

5 SESSIONS & PANEL DISCUSSIONS

* Excluding Turkish participants

** Including Turkey

*** Some participants were also speakers

**** Including Teknoparks, TDZ’s, TTO’s, incubators, startups and such
The IZMIR Workshop: From Day 1 to Day 3

Day 1

Setting the Stage

Jacques van der Meer, Managerial Advisor at the EIB and Lead of the Innovation Capacities Work Programme at the CMI and Amina Al Hajri, opened the three days’ workshop with welcoming addresses.

Ufuk Batum, Founder & CEO, Ventures & Mentors League started the workshop by briefing participants about the history and role of the Technological Development Zones and Technology Parks in Turkey. Their creation aimed to establish linkages between the private sector and the research community and was supported the Law on Technology Development Zones No. 4691 of 2001 (download), which set out the conditions for the establishment of Technology Parks in higher education Institutes and/or research centres to enhance knowledge Circulation.

Group portrait of the MENA Innovation and Entrepreneurship Experts
The Law on Technology Development Zones Law No. 4691 allows for the development of special investment areas for investments involving high technology and regulates the support of Research and Development activities as sources of innovations in production. Technology Development Zones Law No.4691 defines TDZs as: 'Sites integrating academic, economic, and social structures at or near the campus of certain universities; advanced technology institutes; an R&D centers or institutes; or a Teknopark involved in these same areas of work. They are sites where companies using advanced technology or companies with a new technological orientation, produce and develop technology or software by through the facilities provided by the organizations mentioned above. They are involved in activities which transform a technological innovation into a commercial product, method or service and by this means contribute to the development of the region.’ Under the regulations of January 2,2004, major tax advantages were provided to companies operating in TDZs. The main financial support mechanism for TDZs is provided by the Ministry of Science, Industry and Technology. Financial support is granted for land procurement, infrastructure and construction of management building. Foreign firms can also take part in TDZs and become shareholders of the managing company and can benefit from tax exemptions as domestic firms. Incentives provided with the law (till the end of 2023) are:

- Grant support for construction of infrastructure and management and incubation building,
- Income and corporate tax exemptions for the managing company,
- Income and corporate tax exemptions for the incomes obtained from software development and R&D activities of the companies operating in these zones,
- Income tax exemptions for the salaries of the researchers, software engineers, and R&D personnel working at the zone,
- Value added tax (VAT) exemptions for the software development activities,
- Half of the employer share of the Insurance Premium for the R&D and innovation and support personnel is covered by Ministry of Finance.

**Panel session: Understanding the Role and Functioning of TDZ in Izmir**

*The role and functioning of the TDZ and the Technology Parks in Izmir was the topic of a panel discussion.*

Prof Dr. Selçuk Karataa from the Yasar University started this session with a presentation of some innovations that originated in Turkish universities, illustrating the importance of the university’s incubator and technology transfer offices.
**Prof. Dr Okan Tuna** of the Dokuz Eylül University Technology Development Zone (Depark), explained how DEPARK creates, accelerates and develops an ecosystem for would be entrepreneurs in the fields of Material Technologies, Technical Textiles, IoT as well as the fields of Environment and Energy, Health, Business Administration, Informatics, Transportation and other similar fields, which constitute the basic scope of Dokuz Eylül University R&I strategies. As an Infrastructure Service Provider, DEPARK presents advantages to the companies it hosts by adequate, affordable offices and fiscal exemptions on the basis of applicable laws; moreover, it satisfies their tenants’ needs for business service needs and that of other ecosystem shareholders for their R&D (Research and Development) and Innovation-Based Researches together with the support of a group of specialists, who are employed in Dokuz Eylül University Technology Transfer Office (DETTO). Dr Tuna shared the importance to assist innovators and startups with market studies to validate the commercial potential, to apply for and to obtain intellectual property rights and to analyse a venture’s return on investment.

Dokuz Eylül Technology Transfer Office (DETTO) services can be used through DEPARK. These services are provided in five main groups: promotion, project development, intellectual and industrial property rights patenting and entrepreneurship services as well as consulting services regarding collaboration between universities and the industry. DEPARK provides an ecosystem providing the fundamental infrastructure needed for the process of creating qualified technological enterprises from R&D and innovative creative ideas. DETTO provides its services in scope of [TUBITAK 1513 support programme for Technology Transfer Offices (TTO)](https://www.tubitak.gov.tr/en/program/1513), as by Decision No 2011/104 of the Supreme Council of Science Technology. DETTO’s aforementioned five services provide services in interaction with each other in order to augment scientific knowledge and transform it into marketable technologies and products by means of:

- Awareness, Promotion, Information and Education Unit
- Project Development and University-Industry Collaboration Unit
- Development of Intellectual and Industrial Property Rights / Incorporation
- Entrepreneurship Unit:
  - Pre-incubation and Incubation process
  - Incorporation after Incubation Graduation

**Dr Serdal Temel** of the Ege University Teknopark (Ege TDZ) presented the park, that counts some 75 companies, mainly in the Bio- and medical technology, ICT, and electronic technologies. Reasons for companies to be present at EGE Teknopark are:

1) To be part of an holistic and integrated R&D, innovation and entrepreneurial ecosystem
2) To utilize the range of added value services that support entrepreneurs at all levels of development
3) To collaborate with the university, both researchers and graduates
4) To have access to laboratory infrastructure and analytical services
5) To benefit from large scale application facilities and pilot plants
6) To use the pharmaceutical research infrastructures
7) To gain access to national/international project calls
8) To obtain access to Techno-investment support
9) To help innovators to bring their ideas to market.

Ege University Science and Technology Centre - Technology Transfer Office (EBILTEM-TTO) is a regional and national expertise organization on innovation management, R&D, technology transfer and triple helix cooperation. Since its establishment in 1994, EBILTEM-TTO has been playing a pivotal role in increasing the innovation capacity in the Aegean region and in building bridges between the academia and industry. It does so by, amongst others, advising various key stakeholders on how to stimulate and increase the innovation and R&D level of the industry, adopting international developments to the local situations, advising the SMEs on issues such as research, IPR, innovation management, new investments and strengthening the ties between universities and businesses. In 2012, EBILTEM-TTO was supported within the scope of Technological Research Council of Turkey (TUBİTAK) 1513- Technology Transfer Offices Support Program to develop its existing Technology Transfer activities. The support was awarded for 10 years to transfer the University’s technologies to the market effectively to maximize their impact and benefit not only to the University itself, but also to the society. Its wide spectrum of activities can be grouped under the following main headings:

• **Raising Awareness:** EBILTEM-TTO promotes university-industry cooperation proactively through info days, seminars, trainings and sector-specific University-Industry twinning events in areas such as IT, Health, Textile, Agro food, Energy and Machinery sectors. EBILTEM-TTO is a one stop shop for companies in the region providing one-to-one advice and guidance regarding R&D and innovation issues. EBILTEM-TTO has a website where both entrepreneurs and researchers can search for partners for cooperation.

• **Training and Knowledge Transfer:** One of EBILTEM-TTO’s core activities is providing information about national and international R&D support programs. Moreover, EBILTEM-TTO provides external as well as in-house training opportunities on subjects related to innovation, technology and business and offers the use of the Foreign Experts' Service via foreign experts from The Netherlands or Germany.

• **Securing Funds for R&D and Innovation:** EBILTEM-TTO provides SMEs easy access to national and international innovation and R&D funds. Guide and assistance in project applications to various national and international funds is provided by EBILTEM-TTO staff and external experts if required.

• **Capturing New Ideas and Technologies:** EBILTEM-TTO organizes activities that enable business professionals to develop ideas and transform them into tangible business prospects. Activities such as project exhibitions, project competitions and project brokerage events provide platforms for introducing new ideas to entrepreneurs.

• **Meeting Researchers and SMEs:** As an interface organization between the academia and the industry, EBILTEM-TTO brings together academicians and SMEs to facilitate joint activities such as...
trouble shooting, contracted research, joint R&D projects and consultancy. Department, since 2010.

• **Providing IPR Consultancy Services:** EBILTEM-TTO houses an Information and Documentation Office of the Turkish Patent Institute as well as a liaison office of European Patent Office (EPO). These contacts enable EBILTEM-TTO to provide all kinds of information related to IPR issues. Patent searches and competitor analyses are carried out free of charge upon request for all clients from business and academia.

• **International Relations and European Projects:** EBILTEM-TTO is part of numerous international networks, such as Innovation Relay Centres (IRC), EuroAxess, or the Enterprise Europe Network (EEN). It also has close collaborations and/or memorandums of understanding with various international organizations such as the Turkish American Scientist & Scholars Association (TASSA), Association of University Technology Managers (ATUM), Triple Helix Association (THA), European Centre for Strategic Management of Universities (ESMU), European Knowledge Transfer Society (EUKTS).

• **Strengthening International Business Ties:** As a member of Enterprise Europe Network through its EBIC-Ege project, EBILTEM-TTO identifies new international market opportunities for its SME clients, organizes brokerage events and company missions to facilitate contacts between Turkish and European SMEs. EBILTEM-TTO also provides international technology transfer services, thereby promoting Aegean technologies as well as bringing foreign technologies to its region, making these new technologies available to interested SME clients.

### Afternoon Session: Visiting Ege University TDZ

In the afternoon, the participants headed to the **Ege University Teknopark** and visited the **Ege University Science and Technology Centre - Technology Transfer Office (EBILTEM-TTO)**.

The Teknopark offers some 15600 m2 of office space spread over different buildings on the campus, where 76 startup companies are being incubated. What was also interesting in the afternoon was the visit to the “Container Park”, an incubator park where containers have been converted into office spaces. This demonstrates that the creation of an incubator doesn’t necessarily require an important upfront investment in physical assets. The importance is the quality of the services from which the start-up companies benefit.
Day 2

Plenary session No 1: The Valorisation of Knowledge

_The second day started with a session on the valorisation of knowledge and research, that was moderated by Dr Hana Malkawi, Director at the Jordanian Royal Science Society._

The first speaker, Dr Özgür Seydibeyoğlu spoke about different cooperation models between academia and industry in Turkey. Cooperation with industry always starts with academic R&D excellence, that can become even a vehicle for foreign firms to set up proprietary R&D facilities. In order to facilitate communication and share similar frames of reference, it also a considerable advantage if R&D faculty have obtained industrial experience and are aware of industry’s needs and functioning.

Consecutively, Mustafa Çakir, patent attorney at the Sabanci university, underlined the importance to have appropriate, comprehensive IP-laws and governance systems in place. They offer the private sectors, research institutes and universities the potential for IP identification, commercialisation and the valorisation of knowledge. The use of IP data can also be used as an important tool in fore-sighting for meaningful R&D and innovation strategies:

- Identifying key players/competitors in your field.
- Monitoring your competitors' R&D activities using patent data
- Discovering emerging innovation trends technologies across different industries
- Identifying where competitors are investing in potentially different technology areas
- Identifying potential licensing targets and partnership opportunities
- Discovering R&D-trends in your technology fields.
- Identifying useful patent information to make better innovation decisions
- Segmentation strategies.

Finally, Prof Dr Graeme Hanssen from the Yasar university gave an inspirational talk about the ingredients for successful university and private sector collaboration in the field of innovation. Prof Hanssen explained that the parties involved have different objectives and perspectives and the key to success lies in fine tuning the reciprocal interests, attitudes and expectations. For example, where a car manufacturer might be forced to give up thinking along the lines of traditional products and to reflect in wider concepts like “mobility”, academics should think along in terms of producible solutions (products and services) that can be adopted by producers and their clients.
Plenary session No 2: Pitches from Startup Companies

This final plenary session of second the day was dedicated to statements by managers from industry and start-up companies in the Izmir region. Mr Yusuf Urkac from HSK-Renso, a recycling firm, talked about the value that university researchers can create for a company like his in the development of waste separation technology, or the recycling of white goods and other electrical appliances parts.

Prof Dr Vildan Mevsim presented her company Vinnova, a start-up at the DEPARK Dokuz Eylül University Health Innovation Campus, that offers mobile health monitoring solutions to patients and their physicians.

Prof. Dr. Ozan Karaman, Chief Scientific Officer and co-founder of Bonegraft Biomaterials, spoke about the development of his company since its establishment at the Ege University Technology Development Center in 2016. The research-based company develops biomaterials for bone and cartilage tissue regeneration for dental, spinal and orthopedic applications.

Finally, Taylan Demirkaya, professor at the Izmir Economy University and the manager of Embryonix introduced his company. Embryonix consists of an Entrepreneurship Acceleration and Investor Relation Center - which provide innovative opportunities for coaching start-ups, especially for finding the right customers, achieving a balanced growth by reaching the right market with the lowest resource effectively, to both SMEs and industrial companies. Embryonix-TTO aims to meet the needs of students, academicians and industry partners from the scientific technology through to the production of ideas from the idea of entrepreneurship supported by the Izmir University of Economics. The projects are carried out for the purpose of researching and projecting the industrial needs in order to provide added value to the industrialization in the region. İzmir University of Economics, İzmir Chamber of Commerce, Ege Young Businessmen Association, Aegean Industrialists and Businessmen Association, Aegean Region and İzmir University of Economics all are stakeholders of İzmir University of Economics and support national and international collaboration and scientific activities aimed at the production new technologies and their transfer to markets that provide collective benefit. Embryonix was established as a private company by Chamber of Industry. The presentation ended in an interesting discussion on the ISO 5833 certification requirements for one of the start-ups and the help that companies need for certification services in a Teknopark or a TTO.

Afternoon Session: Visiting Izmir Teknopark and Izmir Institute of Technology

Izmir Teknopark is located on the Izmir Institute of Technology (IZECH) campus. Established in 2002, it is the fourth technology park in Turkey and covers two million square meters of land. Izmir Teknopark operates in the scope of the passing of the “4691 Technology Development Zone Law” and is managed by Izmir Technology Development Zone, Inc. Full operations began in 2004. The park hosts more
than 900 employees working for over 154 domestic and foreign R&D-based companies that together hold 26 patents (from 87 applications), and an estimated value of TRL 266 million turnover and $20 million export. These companies primarily support the following sectors: software development, biotechnology, electronics, machinery manufacturing, defense, energy, healthcare, design, chemistry, telecommunications, advanced materials, food, mining, nano-materials, automotive, robotic systems, tourism, and the environment. Teknopark Izmir ranks invariably among the top performing Teknoparks on the Turkey Technology Development Performance Index published by the Ministry of Science, Industry, and Technology (see also Annex II for the list with KPI’s).

The Foreign Investment Incentives Law number 6224 sets out the conditions for foreign nationals and qualified R&D personnel are permitted to work in the Zone. Via the applications of this law, revenues earned by the managing companies and taxpayers residing in the zone are exempt from income and corporate tax until 31.12.2023. Wages and earnings of researchers, software developers and other R&D personnel are also exempt from all taxes until 31.12.2023. In accordance with law no. 4691 regarding Technology Development Zones, during the period in which entrepreneurs conduct business in technology developing zones, entrepreneurs are exempt from income or corporate tax; other delivery and services produced exclusively in these zones and in the form of system management, data management, business applications, sectorial, internet, mobile and military command control application software are also excluded from value added tax. Additionally, according to law no. 5746 on supporting research and development activities, personnel whose wages are exempted from the income tax and who work at the companies in technology development zones as per law no. 4691, the insurance premium of employer share which is calculated through their wages is to be covered by payments from the Ministry of Finance for five years for each employee.
The Izmir Teknopark Innovation Centre provides an enabling environment to potential entrepreneurs in the region to create technology-oriented innovations. The Centre organizes and offers qualified training for innovation activities and the development of applicable business ideas through incubation to ascertain the value-added goods and services. The Centre also mediates in knowledge and technology transfer. In summary, the Innovation Centre, with an indoor area of 7500 m2, proposed the following facilities:

- **An Incubation Centre** supporting Techno-entrepreneurs in tangible and intangible terms during their first 3 years. An area of 900 m2 harbours some 80 from techno-entrepreneurs. The incubation centre charges no rent from the incubates.

- **A Shareholders Office**, with an area of 75 m2, the fully equipped Shareholders Office is a satellite office, where techno-entrepreneurs may get specialized support in accounting, finance, law etc. fields.

- **Multi-purpose training and meeting halls**, that may be used for various organizations of entrepreneur companies along with training activities.

- **“Fab Lab”, a 150 m2 technical workshop**, equipped with advanced technology machinery and equipment for training, production and R&D activities and offered to use of R&D companies and techno-entrepreneurs in İzmir. The Fab Lab is set up to enable fast prototyping activities for design and equipment projects.

*At the Innovation Centre: A Stairway towards Innovation and Entrepreneurship*
“Promotion, Patenting and Technology Transfer Office” - The “Atmosfere” Technology Transfer Office (TTO) serves as an interface between academia and industry for the commercialization of intellectual capital and technologies resulting from academic studies. Atmosfer TTO was established within the scope of the TÜBİTAK 1513 TTO Support Program to provide entrepreneurship training oriented towards technology and R & D, prepare start-up candidates, and to provide office space to young entrepreneurs and academicians within the scope of incubation centre. The TTO further provides counselling services to prepare and follow up the calls related to projects under national and international support programs (such as TÜBİTAK programs, Horizon 2020, EUREKA, or COST). In terms of the relation between academia and industry, Atmosfer seeks to strengthen the relations with associations of industry (EBSO, ITO, ESİAD, EGİAD, İGİD, YASAD etc.) and to promote workshops, symposiums, company visits (also company invitation to the university). The TTO further serves as consultant to scholars and researchers on the acquisition and management of intellectual property rights.

The tour also included a visit to Commencis, one of the resident companies at Teknopark Izmir. This company, founded as Pozitron in 2000 develops -inter alia- mobile applications for the financial sector and Turkish Airlines. The company quickly expanded to the Gulf countries and entered into a technology partnership with eBay, before it was bought in 2014 by Monitise, a financial service technology firm. The USD 100 million acquisition was one off the biggest for a startup company in Turkey. The company bought itself out again after Monitise was acquired by Fiserv, starting under the name Commencis and now employing more than 200 employees. The company, that has its roots in Izmir, come to the Izmir Teknopark for its location, the incentives offered in the Development Zone, but also the possibility to meet people and specialists on the campus, in restaurants and cafés, ad offering the opportunity to brainstorm about new ideas, products and services.
Day 3

Plenary session No 1: The Entrepreneurial Ecosystem in Izmir

Dr Mustafa Tanyeri, Secretary General of the Izmir Chamber of Commerce, started the morning session with an overview of Izmir’s entrepreneurial ecosystem and the challenges it faces. He underlined in particular the importance to strengthen the capacity and the instruments to create employment for the youth and discussed the role for technology parks to offer the technology platforms for the development of the local industry.

Dr Levan Arslan, Director of KOSGEB, an Turkish public agency that provides technical and financial support to SMEs. KOSGEB has been established in 1990 with the aim to help Small and Medium Enterprises (SMEs) for their rapid adaptation to technological innovations, enhancing their efficiency and competitive capacity in order to increase their contribution to the national economy. KOSGEB provides development services and support programs to SMEs in the fields of Information Dissemination, Financial Guidance, Technology Development, Export Promotion, Regional Development and Entrepreneurship Development. KOSGEB provides extensive development services and applies support programs through its Market Research and Export Promotion Centres, Regional Development Centres, and Entrepreneurship Development Centres. It was stated that Izmir is an important industrial base, but the interlinkages between firms (business to business culture) need to be reinforced to increase the value added. Izmir’s attractive geographical location and size (compared to Istanbul and Ankara), can be a point for attracting creative technology-based industries (like IT or design), that can also add value to more traditional industries in the region, such as furniture and textiles.

Dr Seda Suer from Izmir Kâtip Çelebi University concluded this session. Dr. Suer addressed the system of Technology Development Zones (TDZ), Free Zones (FZ) and so-called Investment Areas outside the TDZs and FZs in Organised Industrial Zones. Advantages for investors in the Technological Development zones (Tekoparks) are:

- Profits derived from software development, R&D, and design activities are exempt from income and corporate taxes until December 31, 2023.
- Sales of application software produced exclusively in TDZs are exempt from VAT until December 31, 2023. Examples include software for system management, data management, business applications, different business domains, the internet, mobile phones and military command and control systems.
- Remuneration for R&D, design and support personnel employed in the zone is exempt from all taxes until December 31, 2023. The number of support personnel covered by the exemption may not exceed 10 percent of the total number of those involved in R&D, though.
- Investments for the production of technological products developed based on the outcome of R&D projects conducted in the TDZ may be made in the TDZ if deemed suitable by the operator company and allowed by the Ministry of Science, Industry and Technology (MoSIT).
• 50 percent of the employer’s share of the social security premium will be paid by the government until December 31, 2023.
• Custom duty exemption for imported products and stamp duty exemption for applicable documents within the scope of R&D, design, and software development projects.

More information on the respective legislative frameworks for these zones can be found on these links:
• Information and taxation regarding the different zones in Turkey
• Incentives for investors in the different zones in Turkey

In the Q&A session that followed the presentations, it was underlined that although incentives for innovation and entrepreneurship are important, once access to finance is established, the key challenges for entrepreneurs remain solidifying the link between ideation, financial and mentorship support. We should also learn to appreciate and value the experience of business failure, rather than penalize entrepreneurs that have lived a business failure. It was also discussed whether governments shouldn’t move away from grants and subsidies, but conceive and provide “smart capital”, which also offers knowledge and networks. Getting this type of investment support can be a key to the success of a startup and will be an increasingly important distinguishing factor.

Plenary session No 2: Open Innovation in Izmir

The last plenary session of the workshop addressed cooperative R&D and open innovation.

The session was moderated by Dr Maher Hakim, Managing Director of the Qatar Science and Technology Park. Dr. Hakim is professor of Entrepreneurship at Carnegie Mellon University in Qatar with a 20 years’ experience in Silicon Valley where he acted board member and mentor to several tech start-up companies and active angel investor. Dr Hakim underlined today’s importance of open innovation but warned that government policies and incentive instruments typically are contrarily to open innovation. Incentives and subsidies tend to create a competition for ideas, instead of stimulating ideas for competition. Thus, government policy hampers open innovation, as it blocks the sharing of ideas and working on innovation through cooperation.
Zehra Doruk and Tolga Akmezoğlu from the Open Innovation Association took the floor. The Open Innovation Association was founded in 2017 by a group of scientists, technology developers, R&D engineers, entrepreneurs, designers, educators, and people working on corporates or civil society organizations, mostly from different fields and industries and is based in Izmir. To promote an Open Innovation approach in Turkey. In order to increase efficiently R&D and innovation efforts and to generate sustainable outputs in science, technology and design fields, the open access culture and open innovation approach should be extended in public and private sectors and academic institutions. There are 5 key elements in Open Innovation process:

- **Networking**;
- **Collaboration**: involving partners, competitors, universities, and users;
- **Corporate Entrepreneurship**: enhancing corporate venturing, start-ups and spin-offs;
- **Proactive Intellectual Property Management**: creating new markets for technology;
- **Research and Development (R&D)**: achieving competitive advantages in the market.

Finally, Dr Kerem Odabaşı, the owner of startup KODECO, discussed the history and his experiences with his young company, incubated at DEPARK, the Teknopark of Dokuz Eylül University. KODECO is a design and engineering company that has won numerous important award for products offering mobility solutions. Kerem acclaimed the technical and business support he received at the start up and prototyping phase at the Teknopark, but also stated that the parks and incubation services could add more value with support on legal matters and international certification of his products.
Afternoon Session: Visiting DEPARK - Dokuz Eylül University Technology Development Zone

In the afternoon, the participants visited DEPARK, on the Dokuz Eylül University (DEU Tinaztepe Campus) where they were welcomed by its Director, Ms Burcu Ersoy. DEPARK is a technology development zone in which Dokuz Eylül University (DEU) is the majority shareholder. It constitutes the industry interface for the technologies created by the strong research infrastructure and academic expertise of DEU. DEPARK is host to more than 125 companies and more than 50 start-ups, with a combined export value of nearly USD 10 million and have created more than 1100 jobs since its establishment back in 2013. The companies are strongly R&D oriented, working on more than 250 projects that, so far, have resulted into some 30 patents. DEPARK provides service in two different locations: DEU Tinaztepe Campus (DEU Tinaztepe Teknopark – TGB 1) and DEU İnciralti Health Campus (DEPARK Health Teknopark – TGB 2).

**TGB-1 Tinaztepe**, opened in may 2014, offering business and incubation services to more than 60 Companies and start-ups on a total area of 17413 m2 in Dokuz Eylül University, Tinaztepe Campus, which also includes the **BAMBU Accelerator** and a Pre-Incubation Centre. BAMBU provides multiple runs of "Accelerator Programs" throughout the year for the pre-incubation services required by aspiring entrepreneurs to commercialize their ideas. Sectoral allocation of R&D and Innovation Studies are as follows:

- IoT, Software, Informatics,
- Automobile Technologies,
- Environment and Energy Technologies,
- Textile Technologies
- Logistics and Transportation Technologies
- Machines and Automation
- Nanotechnology

**TGB-2 Balçova**, that opened its doors in June 2013, hosts more than 60 companies and start-ups on a total field of 10487 m2 in Dokuz Eylül University Balçova Campus, which also includes the İzmir Health Technologies Development and
Accelerator (Bioİzmir), located at the heart of a fully integrated Teknopark, research centres, laboratories and academic education areas, where R&D-based companies can perform their studies from pilot production to phase studies without needing to venture outside. The need for academic support and trained researchers can also be satisfied in the same campus. The Teknopark offers a Pilot Production Infrastructure for the development of Bio-technology Medicines, in full compliance with Good Manufacturing Practices and Quality Control Analyses and Good Laboratory Practices. Sectoral allocation of R&D and Innovation Studies are oriented towards the health sector, with services in:

- Biotechnology
- Biomaterials and Nanotechnologies
- Translational Medicine
- Bio Design
- Medical Devices
- Health Informatics

The Dokuz Eylül University Transfer Office (DETO) services can be used by the tenants within DEPARK. These services include promotion, project development, intellectual and industrial property rights patenting and entrepreneurship services as well as consulting services regarding collaboration between universities and the industry. DETTO provides its services within the framework of the TUBITAK 1513 project under five main units that seek to augment technical knowledge and transform marketable products and services:
The tour was concluded with visit of the incubator and tenant firms, such as Ciltim, a software company and spin-off from Arkas, a major Turkish shipping company. The company chose to locate itself at DEPARK because of the vicinity to the university and the quality of the infrastructure and services that DEPARK offers.
The aim of the workshop was to introduce managers from Teknoparks in the MENA region to the “Turkish model” and better understand the role that Science and Technology Parks in the Izmir region play to integrate and strengthen the functioning of the region’s Industrial and Technology Development Zones, universities, R&D Labs and Public Research Centres, Technology Transfer Offices, Business Incubation Services, etc. Each of the delegates has his or her’s practical experience and background and may therefore well perceive and understand phenomena from their personal experience. However, a few conclusions and observations can be drawn from this three-days "case study" about the “innovation model” in Imir and the role of the Technological Development Zones or Teknoparks:

Advantages from a coherent Legal framework
Turkey has a comprehensive legal framework for Technology Development Zones (TDZ), falling under the “4691 Technology Development Zone Law”. Components within Teknoparks, like Technology Transfer Offices and Incubators also are embedded in within political and legal frameworks like the Guidelines on the Implementation of Technology Transfer Agreements and Articles 4 and 5 of Competition Law No. 4054 or the “Law 6170 for Technology Development Areas”. Under the “4691 Technology Development Zone Law”, “Incubator Centres are clearly defined as entities to develop young and new enterprises; structures that provide office services for entrepreneur companies, equipment support, management support, access to financial resources, critical business and technical support. Their financing is stipulated in the guidelines of the TÜBİTAK 1513 TTO Support Program.
Role of dedicated government agencies like Tübitak or KOSGEB

In addition to this legislative framework, there are a number of dedicated organisations, like Tübitak and KOSGEB, that provide support to R&D, Innovation, tech-transfers and start-up. The conditions and rules are clearly specified. The financial support for the Turkish Teknoparks is also based on an annual evaluation procedure, that “rank” the Teknoparks. The performance indicators are included in Annex 2.

Start-up culture

The above-mentioned political and legal measures have resulted in a lively start-up scene inside the Teknoparks. The example of the “container park” at Ege University demonstrates that modest investments in buildings and equipment can give encouraging results.

Place for confirmed business

The Technology Development Zones typically offer office space for established businesses. This could enable the contact between the university, start-ups and established business. Although the visits of the different Teknoparks included several company visits, this component of the Technology Development Zones remains to be further developed. The majority of established firms that choose to set up offices inside the Teknopark are in the ICT, software and (financial) services, rather than traditional indigenous industries.

TTO offices

TTO’s inside Teknoparks provide services within the framework of the TUBITAK 1513 project under five main units that seek to augment technical knowledge and transform marketable products and services:

- Awareness, Promotion, Information and Education Unit
- Project Development and University-Industry Collaboration Unit
- Intellectual and Industrial Property Rights
- Incorporation and Entrepreneurship Unit
- Pre-incubation and Incubation process
- Incorporation after Incubation Graduation

TTO’s and incubation services could add more value with support on legal matters (incorporation and IPR-law) and international certification of products and services. Also IP-services could play a role in foresighting meaningful R&D and innovation strategies.

Potential to reinforce link between industry, contract research

From the visits of the Teknoparks, it was clear that there is a lively start-up scene. However, the linages with existing local industries was less prevalent. There was also little evidence that local industries and academia were engaged through joint research programmes. With this respect, the situation is not different from other countries, where the link between academia and traditional industry is weak. Possible reasons might be the structure of the local industry, with many retail companies and the lack of a value chain, i.e.
little business to business activities. Also, the universities and teknoparks in Izmir are a relatively young. The Dokuz Eylül university was only founded in 1982. It was however the first university which applied the problem-based learning method in Turkey, beginning in the School of Medicine, and receives interest from industry for joint research programs and business activities.

**Smart capital instead of “money”**

It was often stated that funds and capital for start ups is not really an issue, but that mentorship and assistance for legal issues (IPR, certification) and international networking opportunities for the businesses (gaining critical mass) are more challenging issues. Entrepreneurs welcome therefore financiers that not merely offer money, but also practical knowledge and assistance (SMART capital).
ANNEX I: AGENDA

REGIONAL WORKSHOP AGENDA

DAY 1: Tuesday May 8th

8:30-9:00 Registration
9:00-9:30 Welcome by organisations: Opening Speech by Prof. Dr. Süleyman KOÇ (Ege University), Jacques Van der Meer, Uluk Batali, Venturi mentors
9:30-10:15 EBSO President: Why and how can Science and Technology Parks matter?
10:15-10:45 Coffee Break
10:45-11:45 Understanding the role and functioning of TTE’s in Izmir: Prof. Dr. Haşan YILDIZ (Ege University), Prof. Dr. Ökan UNLU (Dokuz Eylül University) Associate Professor İsmet ARSLAN (Ege University)

- What is the role of TTE’s to the economic and industrial development?
- Societies of TTE’s to bridge university and industrial private sector
- Business model and accountability?
- Key challenges for TTE’s

11:45-12:15 Panel discussion: Developing traditional industrial sectors: How can Science and Technology Parks contribute to the success of Organized Industrial Zones? Murat ARDUN, Aliaga Organized Industrial Zone, OSBMOD, Sefak KARAKAYA (Yuz University), Uluk BATALI (Venturi mentors)

13:00-14:00 Lunch
14:00-17:00 Visit Ege University TTE, Izmir: Hakavati Coffee and Tea: Which indicators for the academic component and its contribution to local industry? Prof. Dr. Raşan Yıldız, Izmir EGE

18:00 Visit Ağora and Kadifekale
20:30 Dinner (Hotel)

REGIONAL WORKSHOP AGENDA

DAY 2: Wednesday May 9th

9:00-10:30 Valorising knowledge: linking university and industry: Associate Professor Ergin ALTUĞ (Ege University), Mustafa ÇAV (Sabancı University), Prof. Dr. Edib KALUS (Mardin Science, Industry and Technology Provincial Directorate)

- Panel session with pitches on
  - Knowledge, Technology and Markets: Creation, Transfer and Valorisation
  - Patenting and licensing

10:30-11:00 Coffee Break
11:00-12:00 Panel session with start-up pitches em: Assistant Professor Emre ŞONOGLU (Salana), Assistant Professor Özan KARAMAN (Bireoretya), Prof. Dr. Vulkan MUSUM (Vadere), Aytaç DEMIRKOY (Izmir Institute of Technology, Galaxy 4), Hannes (Vagis University)

- Putting things in perspective: Technopark icing: TTE – IHE - SME, SAN TEZ
- SME – R&D Start-up initiative
- Wind power industry: Renos, BCG Agroflora and Food

12:00-13:00 Lunch
14:00-17:00 Tour of Izmir Technopark and Izmir Institute of Technology, Tour of CONMERCIS COMPANY

Hakavati Coffee and Tea: Obstacles in University Industry Partnership; Izmir Technopark Manager

18:00 Visit Alaçatı
20:30 Dinner (Alaçatı)

REGIONAL WORKSHOP AGENDA

DAY 3: Thursday May 10th

9:00-10:30 Panel session: I love an entrepreneurship ecosystem in Izmir? Lewent ARSLAN (Mardin), Muzaffer COLAK (IZKA), Sefa ALTUG (Göbek Organised Industrial Zone), Assistant Professor Mehmet SURU (Izmir Katip Celebi University), Prof. Dr. Mustafa TANER (Izmir Chamber of Commerce)

- STIP: Research, Entrepreneurship and Development of Professions Department, MARDIR Small and Medium Enterprises Development and Promotion Administration

10:30-11:00 Coffee Break
11:00-12:00 Panel session: Open Innovation, Business (IZKA Open Innovation Association), Zehra ISIK (Open Innovation Association), Selcuk GÜRLER (Izmir Institute of Technology (Izmir), Yeşilova OSMAN (K是很棒))

12:00-13:00 Lunch
14:00-17:00 Tour of DEPAK, with visits to the Dokuz Eylül University, the TTE, entrepreneurs and three industrial tenants

Hakavati Coffee and Tea: DEPAK TTO Manager: Prof. Dr. Ökan UNLU: Which indicators for start-ups, incubators and business tenants for university and private sector cooperation?

18:00 Visit Ephesus
20:00 Dinner (Selçuk Artemisia Restaurant)
**ANNEX III: PARTICIPANTS’ LIST**

<table>
<thead>
<tr>
<th>Title</th>
<th>First name</th>
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<th>Country</th>
<th>Institution</th>
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<tr>
<td>Mr</td>
<td>Pierre</td>
<td>Omran</td>
<td>Lebanon</td>
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