



# Welcome

**In** 2007 the European Union initiated a project in partnership with the Higher Council for Science and Technology (HCST), and the Jordan Enterprise Development Corporation (JEDCO) to support research, technology development and innovation in Jordan.

The ***Support to Research and Technological Development and Innovation Initiatives and Strategies in Jordan (SRTD) Project***, was designed and initiated with the mission of ***“Bridging Science and Business”***.

Three years on, the Project is coming to a close, and its activities and achievements are set out in this report. The SRTD Project has addressed research, science and technology and innovation, the main pillars of a highly productive, competitive and knowledge-based economy. It is worth mentioning that among SRTD’s main achievements are providing 60 research and start-up grants; establishing 50 Focal Points in the universities, research centres, and small and medium enterprises (SMEs); building the capacities of the Liaison Officers running these Focal Points about EU research and technological development (RTD) programmes; establishing two new business incubators; providing consultancy services to the incubatees in Jordan Innovation Centres; expanding the national Intellectual Property Commercialisation Office at El-Hassan Science City; establishing 11 Technology Transfer Offices within research and business organisations; and submitting 15 patents received from the Technology Transfer Office network and El Hassan Science City.

We are convinced that the only way forward is to pool our brainpower and resources, to be “intelligent together”, working collaboratively, across national frontiers, to address current challenges. SRTD has conducted regular meetings with researchers and business people to enable a greater understanding of each other’s position; cooperation is now taking place between the two groups, and the foundation is set for further development of this important work.

We would like to thank everyone who has contributed to the success of SRTD over the past 3 years and hope that we can now build on its achievements for the future.

## Introduction

The National Agenda of Jordan (2006-2015) identified three characteristics of a vibrant growth-oriented economy: innovation and technological advancement; expansion of entrepreneurial activities; and support of start-up businesses. Matching the business sector with the research and academic community is one of the main keys to achieving these objectives.

The SRTD Project was funded to a total of €4 million, with each Jordanian partner contributing an additional 150,000 Jordanian dinars. The project was guided by a Steering Committee chaired by the Ministry of Planning and International Cooperation. Members were drawn from the Ministry of Higher Education and Scientific Research, the Higher Council for Science and Technology, Jordan Enterprise Development Corporation and Petra Engineering. A local staff of up to 15 full-time members and supported by EU Technical Assistance managed the implementation.

## Purpose

The overall purpose of the SRTD Project was to boost Jordan's scientific and technological capacity thereby providing additional contribution to Jordan's overall economic development. The Project's three specific objectives were:

- a) to accelerate the integration of Jordan into the European research community
- b) to further develop a culture of innovation and entrepreneurship
- c) to increase the commercialisation potential of research projects and to realise that potential through partnership with industry.

SRTD aimed to bridge the gap between the scientific community and the business community enabling scientific discovery and technological development to be used by industry to ensure Jordan can compete more strongly in the global economy.

Delivery of activities was organised into four key components:

- Research
- Commercialisation
- Start-ups and Incubation
- Grants



## Research Component

Within the Research Component, SRTD, in collaboration with the Higher Council for Science and Technology, established a network of over 50 Focal Points within universities, research and innovation centres, and SMEs.

The host institution of each Focal Point assigned a member of staff to be the Liaison Officer between itself and the SRTD Project. The role of the liaison officers were to:

- disseminate information on EU RTD and mobility programmes
- assist their colleagues in finding appropriate European research partners
- help in preparing proposals (administrative and legal issues)
- report back on the success of these initiatives or any difficulties that may face them in implementing the above mentioned duties

The focus of European research opportunities is the 7th Framework Programme for Research and Technological Development – FP7 – but other programmes such as ENPI-CBC have also been supported.

Links were developed with other bilateral and regional EU-funded projects, for example, MIRA, EU-JordanNet and RDI.



SRTD has provided the fifty Liaison Officers and researchers with over 750 hours of training in programme content, proposal preparation, consortium formation, contracting and finance, proposal evaluation, project coordination and focussed thematic workshops based around the published work programmes. In addition one-to-one meetings were held between Jordanian researchers and European experts.

Three internships were run for Liaison Officers in Europe where intensive training and meetings were arranged with practitioners and experts from the European Commission. A “train the trainers” concept was adopted and the liaison officers in turn conducted awareness events about the FP7 programme in their institutions.

Over 900 researchers participated in workshops, conferences, info-days, brokerage days and internships. SRTD supported participation by individual researchers in consortium meetings in Europe, where such meetings added value to the quality of the FP7 proposals.

As a result of these efforts, of the 168 FP7 Jordanian applicants, 118 were from SRTD Focal Points. 27 projects are now running or under negotiation to the value of nearly €2.6m.

Towards the end of the SRTD, 6 thematic National Contact Points (NCPs) were identified and will work jointly with the HCST in disseminating information about EU RTD programmes. These thematic NCPs are:

- **Energy NCP:** National Energy Research Center (NERC)
- **KBBE NCP:** National Center for Agriculture and Research Extension (NACRE)
- **Environment NCP:** The Environment Monitoring and Research Unit (EMARCU)
- **Health NCP:** King Hussein Cancer Center (KHCC)
- **NMP NCP:** National Nanotechnology Centre of Jordan (NANCEJ)
- **ICT NCP:** National Information Technology Center (NITC).

# Focal Points

## University Focal Points

University Name	Website	Liaison Officer
Al Al-Bayt University	<a href="http://www.aabu.edu.jo">www.aabu.edu.jo</a>	Dr Husam El-Nasser
Al-Ahliyya Amman University	<a href="http://www.ammanu.edu.jo">www.ammanu.edu.jo</a>	Dr Kenza Mansour
Al-Balqa' Applied University	<a href="http://www.bau.edu.jo">www.bau.edu.jo</a>	TBC
Al-Hussein Bin Talal University	<a href="http://www.ahu.edu.jo">www.ahu.edu.jo</a>	Dr Abdel Rahman Al-Tawaha
Al-Isra Private University	<a href="http://www.isra.edu.jo">www.isra.edu.jo</a>	Prof Zakariya AlDouri
Amman Arab University for Graduate Studies	<a href="http://www.aau.edu.jo">www.aau.edu.jo</a>	Dr Ghassan AlOmari
Applied Science Private University	<a href="http://www.asu.edu.jo">www.asu.edu.jo</a>	Prof Shafiq Haddad
Arab Open University	<a href="http://www.aou.edu.jo">www.aou.edu.jo</a>	Prof Nidal Mousa
German Jordanian University	<a href="http://www.gju.edu.jo">www.gju.edu.jo</a>	Prof Fawzi Banat
Irbid Private University	<a href="http://www.inu.edu.jo">www.inu.edu.jo</a>	Prof Mohammad Almahameed
Jadara University	<a href="http://www.jadara.edu.jo">www.jadara.edu.jo</a>	Dr Belal Zaqaibeh
Jerash University	<a href="http://www.jpu.edu.jo">www.jpu.edu.jo</a>	Dr Ahmed Al-Hawamdeh
Jordan University for Science & Technology	<a href="http://www.just.edu.jo">www.just.edu.jo</a>	Dr Nezar Samarah
Middle East University for Graduate Studies	<a href="http://www.meu.edu.jo">www.meu.edu.jo</a>	Prof Nidal Shilbayeh
Mu'tah University	<a href="http://www.mutah.edu.jo">www.mutah.edu.jo</a>	Dr Mohammad Abbadi
Petra University	<a href="http://www.uop.edu.jo">www.uop.edu.jo</a>	Dr Ali Maqousi
Philadelphia University	<a href="http://www.philadelphia.edu.jo">www.philadelphia.edu.jo</a>	Dr Ayman Issa
Princes Sumaya University for Technology	<a href="http://www.psut.edu.jo">www.psut.edu.jo</a>	Prof Abdullah Zoubi
Tafila Technical University	<a href="http://www.ttu.edu.jo">www.ttu.edu.jo</a>	Dr Abdallah Mahasneh
The Hashemite University	<a href="http://www.hu.edu.jo">www.hu.edu.jo</a>	Prof Saadi Abdel Jawad
University of Jordan	<a href="http://www.ju.edu.jo">www.ju.edu.jo</a>	Prof Abeer Al- Bawab
Yarmouk University	<a href="http://www.yu.edu.jo">www.yu.edu.jo</a>	Dr Abdel Monem Rawashdeh
Zarqa Private University	<a href="http://www.zpu.edu.jo">www.zpu.edu.jo</a>	Dr Mohammad Hassan

## Research Centre Focal Points

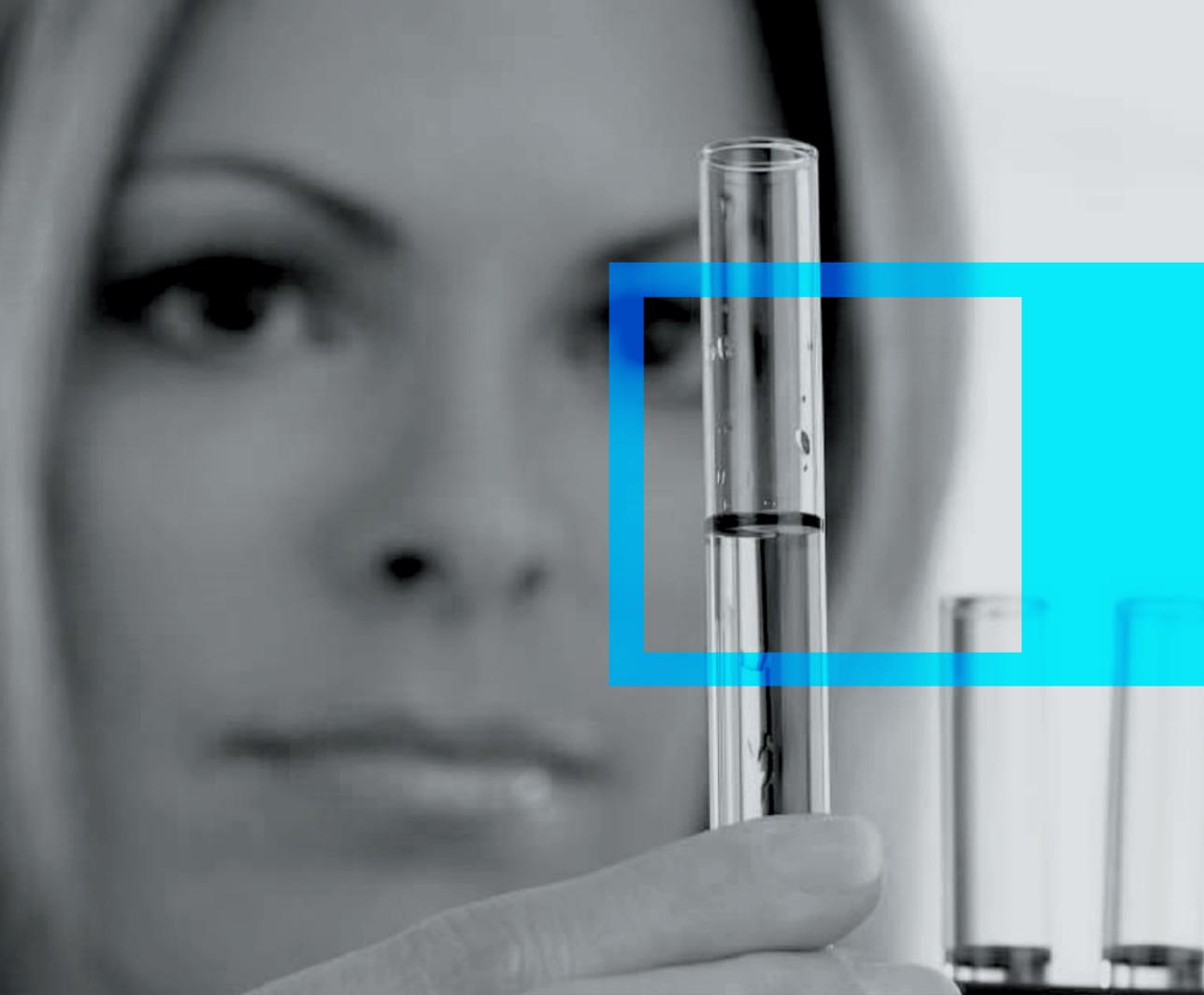
Research Centre Name	Website	Liaison Officer
Jordan Applied University College of Hospitality & Tourism Education	www.jau.edu.jo	Ms Rola Rihani
Jordan Badia Research and Development Center	www.badia.gov.jo	Ms Rima Ras
King Abdullah II Design and Development Bureau	www.kaddb.com	Dr Riyad AlRatrouf
King Hussein Cancer Center	www.khcc.jo	Ms Rabab Tayyem
King Hussein Institute for Biotechnology and Cancer	www.khibc.jo	Dr Khaled Matalka
National Center for Agricultural Research and Extension	www.ncare.gov.jo	Dr Muien Qaryouti
National Energy Research Center	www.nerc.gov.jo	Eng Muhieddin Tawalbeh
National Information Technology Center	www.nitc.gov.jo	Ms Laila abu alhaija
Natural Resources Authority	www.nra.gov.jo	Dr Tawfiq Yazjeen
Royal Scientific Society	www.rss.gov.jo	Eng Abeer Arafat

## SME Focal Points

SMEs Name	Website	Liaison Officer
Allied for Chemical Mfg Company	-	Eng Manar Hamid
Ciapple	www.ciapple.com	Eng Hussein Al-Natsheh
Gazelle	-	Eng Walid Taybeh
Jordan Chamber of Industry	www.jci.org.jo	Mr Anas Khasawneh
Jordan Company for Monoclonal Antibody Protection	www.monojo.com.jo	Ms Iman Hassan
Optimiza Company	www.optimizasolutions.com	Mr Alaa Shaban
Palestine Industrial Establishment for Automation and Electronic Control	www.palcocontrol.com	Eng Radwan Abu Tubbaneh
Terravertis	www.terravertis.com	Dr Dima Maaytah
Triumpharma	www.triumpharma.com	Dr Ahmad Ghazawi

## Jordan Innovation Centre Focal Points

JIC Name	Website	Liaison Officer
Agro-industry Business Incubator (Jordan University)	www.jic.jo	Dr Ayed Amr
iPark Jordan's Technology Incubator	www.ipark.jo	Ms Maha Al Akhal
Al Urdonia Lil Ebda (North BIC)	www.bic.jo	Mr Sharaf Obidat
Al Urdonia Lil Ebda (South BIC)	www.bic.jo	Eng Ohoud Al Dmour
Technology Business Incubator (Philadelphia University)	www.jic.jo	Dr Tareq Tutunji
Jordan Forum for Business & Professional Women	www.bpwa.org.jo	Ms Rania Al Khatib



## Start-ups and Incubation Component

The SRTD Project worked with the Jordan Enterprise Development Corporation (JEDCO) to strengthen the capacity of the **Jordan Innovation Centre Network** and its member incubators.

A business incubator provides a safe environment for a new business to start – be it a spin-out from a university, or simply an entrepreneur with a great idea. In addition to office infrastructure, the most important aspect of incubation is the support services provided for business planning, financial modelling, marketing strategy and human resources.

SRTD supported the establishment of two new Jordan Innovation Centres - **JICs**; one located in the Al Hussein Industrial Estate, and one focussed on women-owned businesses in Jerash. With these two new JICs in place, the JIC Network now has seven incubators spread across the Kingdom from Irbid in the north to Al-Karak in the south, covering diverse sectors from ICT, clean technology, industrial applications, and agri-business.

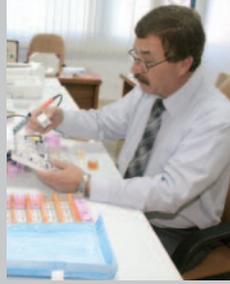


SRTD also supported the customisation of *theGrowbox* incubatee assessment and incubator management tool into Arabic. *TheGrowbox* helps incubatees understand their aptitude towards becoming an entrepreneur and allows them to present their business plan in a modular way. Incubator staff can use *theGrowbox* to manage the day-to-day incubation process.

During the project, SRTD supported the JIC Network – managed by JEDCO – to develop the “JIC Quality System” for assessing and monitoring the progress of each incubator’s service delivery activities. Based on standards developed by the Brussels-based European Business and Innovation Centre Network (EBN), the JIC Quality System considers the mission & management of the JIC, organisational development, financial assessment, services to new entrepreneurs, services to existing SMEs, signposting to partner organisations, quality and performance, and efficiency. The System has three levels, the highest of which is equivalent to the EBN standard.

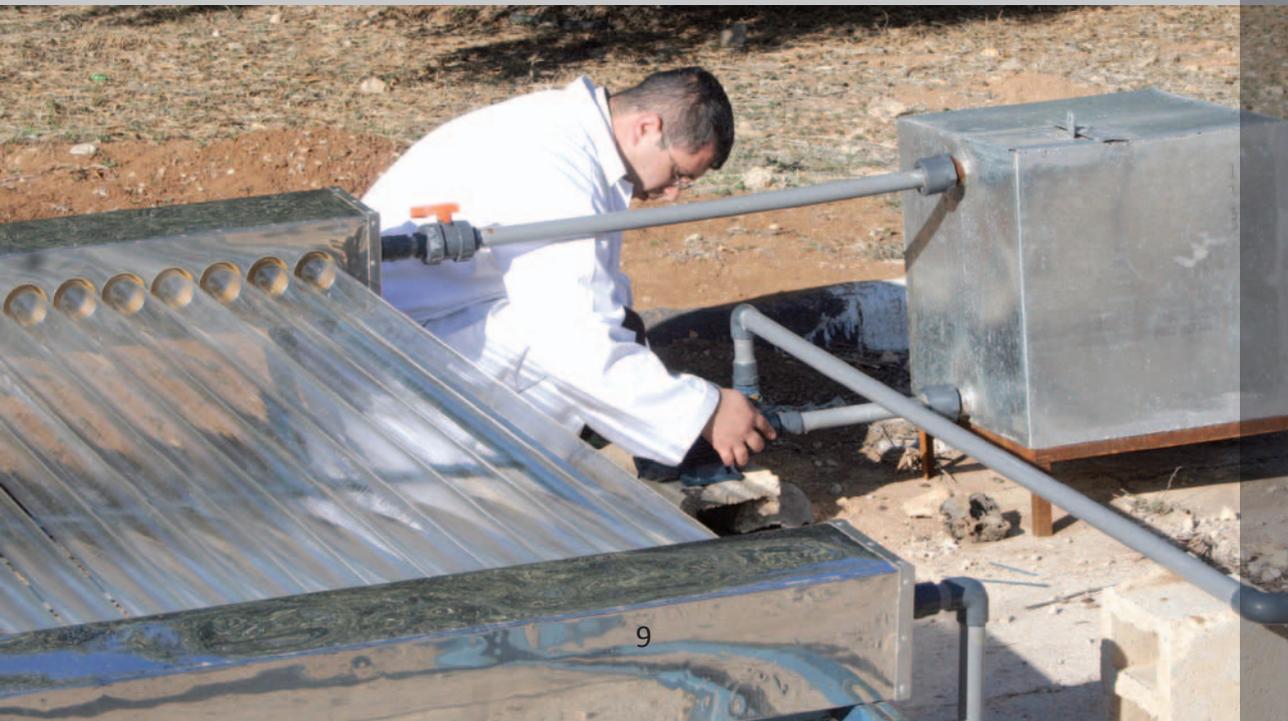
One of the JICs, Al Urdonia Lil Ebda (AULE), fulfilled the EBN standards and became a full member of the Business and Innovation Centre (BIC) network. It is hoped that others will soon follow and join this group of internationally-focused business support organisations. AULE is now working closely with other JICs to help raise their standards of support services to their incubatees.

JIC and JEDCO staff participated in two EBN Congresses (in Fez, Morocco and Burgos, Spain) and two EBN MasterClass training courses in Brussels.



Towards the end of the project, SRTD commissioned an expert to work with JEDCO in developing a **National Start-ups and Incubation Strategy**. This work is complete and recommendations are being considered by JEDCO regarding implementation and delivery.

Considering Jordan's approach to the **Creative Economy** was another area where SRTD provided support. This exciting sector includes creativity, culture, social and technological aspects. It can be an added dimension to economic growth, job creation and exports while promoting social inclusion, cultural diversity and human development. Sectors covered include: architecture; advertising; books & press; design; film and video; heritage; music; performing arts; television and radio; video games; and visual arts. With the right strategy and investment, Jordan has the potential to become a regional hub for some of these industries, providing high quality jobs and serving an international market. SRTD provided an expert to assess the situation and provide recommendations on the approach to take in order to move forward.





## Jordan Innovation Centre

### JIC Network

Managed by Jordan Enterprise Development Corporation

### Jordan Innovation Centres

JIC Name	Website	Director
Agro-industries Business Incubator (Jordan University)	<a href="http://www.jic.jo">www.jic.jo</a>	Dr Ayed Amr
iPark Jordan's Technology Incubator (El Hassan Business Park)	<a href="http://www.ipark.jo">www.ipark.jo</a>	Dr Wissam Rabadi
Al Urdonia Lil Ebda (North BIC, Irbid; South BIC, Kerak; ICT Incubator, Irbid)	<a href="http://www.bic.jo">www.bic.jo</a>	Mrs Reham Gharbiyeh
Technology Business Incubator (Philadelphia University)	<a href="http://www.jic.jo">www.jic.jo</a>	Dr Tareq Tutunji
Jordan Forum for Business & Professional Women	<a href="http://www.bpwa.org.jo">www.bpwa.org.jo</a>	Ms Rania Al Khatib

## Commercialisation Component

A key focus of the majority of European research is an emphasis on application to solving real-world problems. This emphasis naturally leads onto a possibility to commercialise the research through transferring the knowledge and technology to business.

The commercialisation component of the SRTD Project developed the infrastructure to support this technology transfer and help develop a **National Technology Transfer Programme**.

SRTD helped expand a national **Intellectual Property Commercialisation Office (IPOCO)** at the El Hassan Science City, and established 11 Technology Transfer Offices (TTOs) in universities, research centres and business organisations.

Significant training was provided to the TT Officers and IPCO staff in helping establish the TT Office, identifying commercially viable intellectual property (IP), protecting and exploiting IP, licensing and negotiation, and innovation management. Additional training in business planning, financial modelling, project management and marketing was also provided. The TTOs attended the Association of Science and Technology Transfer Professionals (ASTP) conferences, and an internship in Europe to visit a wide-range of technology commercialisation organisations.

IPCO's role is to encourage academic institutions to expand their commercial patent portfolio by supporting the TTOs in the disclosure of new inventions, the protection of any intellectual property that was developed and guidance on how best to commercialise the resultant patent. IPCO also provides a forum for the private sector to identify potentially useful IP and start a dialogue with the IP owner.

In addition to the 25 patents registered from El Hassan Science City itself (RSS), IPCO also studied, evaluated and helped in the commercialisation of 11 other disclosures from members in the TTO network.





With the support of SRTD, IPCO:

- is currently in the final stages of building a national database that provides information necessary for bridging the gap between the academic sector and the industrial sector, for example, details of on-going and completed research that may be valuable to industry, and the research needs of industry that could be addressed by the research community
- has developed its own website – [www.ipco-jo.org](http://www.ipco-jo.org)
- has created several publications and guidelines that aid inventors in the fields of IP and technology transfer

The TTOs within universities and research centres focus on identifying which research could have commercial potential, managing the disclosure and protection of that IP and ensuring that the researcher can still publish his results.

The TTOs within business organisations focus on identifying which industrial sectors, and then which individual businesses could benefit from additional research efforts. Pharmaceuticals, chemicals and agri-business are good examples of sectors where research could add value.

SRTD and IPCO also helped members of the network develop policies for intellectual policy to ensure that the ownership of the IP is clear, and that any financial benefit derived from it is fairly shared amongst the institution and researchers.

Working with IPCO, researchers and businesses meet to begin the process of matching business needs with research capabilities. The ultimate aim of such license negotiation is stronger businesses, built on protected intellectual property that can compete robustly in global markets.

## Technology Transfer Offices

### Intellectual Property Commercialisation Office – IPCO

**Location:** El Hassan Business Park

**Director:** Eng Khaleel Al Najjar

### Research-focused TTOs

Location	Website	Officer
Jerash Private University	<a href="http://www.jpu.edu.jo">www.jpu.edu.jo</a>	Dr. Mohammad Brake
Jordan University of Science and Technology	<a href="http://www.just.edu.jo">www.just.edu.jo</a>	Dr. Tareq Qasim
Mut'ah University	<a href="http://www.mutah.edu.jo">www.mutah.edu.jo</a>	Eng. Imad Halasah
NCARE	<a href="http://www.ncare.gov.jo">www.ncare.gov.jo</a>	Eng. Ammar Hattar
University of Jordan	<a href="http://www.ju.edu.jo">www.ju.edu.jo</a>	Dr. Abeer Bawab
Yarmouk University	<a href="http://www.yu.edu.jo">www.yu.edu.jo</a>	Dr. Abdel Monem Rawashdeh

### Business-focused TTOs

Location	Website	Officer
Al Urdinia Lil Ebda	<a href="http://www.bic.jo">www.bic.jo</a>	Mr. Sharaf Obeidat
Amman Chamber of Industry	<a href="http://www.aci.org.jo">www.aci.org.jo</a>	Eng. Fadel Allabadi
Jordan Enterprise Development Corporation	<a href="http://www.jedco.gov.jo">www.jedco.gov.jo</a>	Ms. Rawan Tarawneh
Jordan Industrial Estates Corporation	<a href="http://www.jiec.com">www.jiec.com</a>	Mr. Mahmud Tommaliah
King Abdullah II Design and Development Bureau	<a href="http://www.kaddb.com">www.kaddb.com</a>	Eng. Omar Abu Al Ghanam

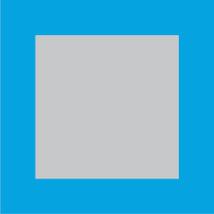
## Grants Component

The final component within the SRTD Project provided 60 Grants of up to 15,000 Jordanian dinars to 30 researchers and 30 start-up businesses. For each grant a maximum of 10,000 Euros was provided by the Project and approximately 5,000 dinars by the Higher Council for Science and Technology for research grants, and 5,000 dinars by Jordan Enterprise Development Corporation for the start-up grants. Over five deadlines 235 proposals were received and evaluated by committees established by HCST and JEDCO.

Described in full detail in an associated SRTD publication, examples of the 60 research and start-up projects include:

- Simple ideas such as coating nuts with an edible film to prolong their shelf life can reinvent the competitiveness of an important vertical within the food sector. In agriculture as well, another researcher is proposing grafting seedlings as an alternative to using hazardous methyl bromide in fumigation.
- A start-up in agribusiness is setting up the first tissue culture lab to produce commercial quantities of Aloe Vera plantlets, which is increasingly in higher demand globally. A similar research and start-up project is discovering the medicinal values hidden in the Jordanian flora; its main focus is a potential active herbal extract that is showing real promise as anticancer.



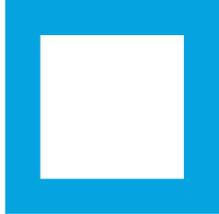
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- In health, a paediatric nutrition clinic was set up using the SRTD grant, a first in Jordan. The entrepreneur hopes she can enhance the intake of proper nutrients among Jordanian children and their families.
  - One novel Jordanian idea in information technology could save up to 30 percent of total software development time. With Jordan already enjoying a progressive software development industry in the region, such a tool could give Jordanian firms a new competitive edge to sustain its lead in the market.
  - Jordan has also joined the global race in “green tech” and can do much more if its financial and knowledge resources are better focused. The support one start-up has received is helping it introduce solar power to the treatment of industrial wastewater. Another green start-up is researching the feasibility of extracting hydrogen via electrolysis with a minimal use of voltage for use in hydrogen-powered vehicles. Only one breakthrough would put Jordan on world’s green map, producing significant future opportunities in an emerging global industry that is growing by the minute.
  - In environmental engineering, one entrepreneur is researching novel approaches to removing heavy metals and oxidation products from used lubricating oils. He’s using mineral adsorbents that occur naturally in Jordan. Another project has redesigned industrial membranes; if successful, it might disrupt the industry of desalination. This new system is already proving superior to existing commercial desalination systems.
  - Some local ideas might seem limited in scope but they are, in fact, global in impact when the issue is the environment. This is evident in a project that promises to slow down desertification in Jordan. Ultimately it could result in reintroducing vegetation cover to large barren areas in Jordan by increasing soil moisture in the topsoil.
  - Even in nanotechnology, which might seem too complex and demanding technologically for the Jordanian research appetite, milestones have been achieved. One SRTD beneficiary is developing superior nano-structured inks and has applied for a patent. Another researcher is applying nanotech in the development of self-healing paint. A more industrial application in nanotech is looking into the potential application of ceramic membranes in water pre-treatment for desalination using locally available raw materials.

Start-up grant beneficiaries participated in two internships in Luxembourg, benefiting from the experience of European entrepreneurs.

SRTD held an exhibition where all beneficiaries had the opportunity to present their results and meet potential investors or other partners.

## Research Grants

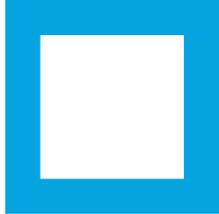
Grant Winner	Project Title
Prof Akl Awwad	Enhancing the Efficiency of Printing Materials by Developing Nano-Structured Printing Ink
Dr Ayman Issa	Developing an Integrated Use Case Patterns Catalogue
Eng Mohammad Shahbaz	Flow monitoring and soil-water applications
Dr Bashar Al-Nabulsi	Investigating the Role of Synthetic Fibres in enhancing normal concrete performance
Dr Bashar El-Khasawneh	Notebook Jacket Fabrication and Assembly
Dr Fadi Abdel-Jaber	Building an Automated Data/Documents Classifier using Data mining techniques
Dr Fares Al Momani	Solar renewable energy as an alternative to improve industrial wastewater treatment efficiency: increasing organic contaminant removal and decrease the amount of sludge production.
Dr Hassan Bedair	Monitoring of targeted trace heavy metals of toxicity concern in tissues of edible fish on the Jordan market; database study
Dr Hatem Alsyouri	Synthesis of Advanced Micro-porous and Nano-porous Inorganic Membranes
Dr Mohammed Qtaishat	Comparing the membrane distillation desalination performance of the hydrophobic/hydrophilic membranes to the commercial membranes in terms of wettability, fouling and long term experiments.
Dr Mohammad Al-Ghouti	Removing of heavy metals and oxidation products used in lubricating oils using novel Jordanian natural adsorbents
Dr Safwan Altarazi	Reducing the manufacturing cost of polyethylene sacks using appropriate fillers and recycled polyethylene pellets
Eng Fadi Al Ghawanmeh	Digital Melody Indexing of Jordanian Musical libraries and Automatic Music Transcription of Arabian music and Singing Applied to Web
Dr Farqad Saeed	Using the electrochemical reaction engineering bio-technology and solar cells technology to produce hydrogen & desalinated sea water
Dr Ghadeer Mehyar	Development of novelty packaging materials for nuts and intermediate moisture foods



Grant Winner	Project Title
Dr Hazem Kaylani	Achieving Hybrid Domestic Solar Heating and Air Conditioning Using Principles of Design for Six Sigma
Dr Loay Khalaf	Design & Development of 802.15.4 baseband Intellectual Property for Integrated Circuit
Dr Malyuba Abu-Daabes	Removal of Heavy Metals and Phenolic Compounds from Municipal Solid Waste Landfill Leachates in Jordan
Dr Marwan Batiha	An investigation into the removal of SO <sub>2</sub> from effluent streams: Novel approach to minimize SO <sub>2</sub> emission from potential Jordanian oil shale processing plant
Dr Mohammad Khabbaz	Investigating microsatellite instability in colorectal tumours in Jordan
Prof Mohammad Hamdan	Utilization of water as an alternative fuel in vehicles
Dr Mohammad Al-Addous	Integrated Solar System
Dr Monther Sadder	Development of molecular diagnostics for adulterated Jordanian cheese
Dr Motasem Saidan	Application of self healing polymer in paint industry
Dr Nida Salem	Development of a Rapid, Sensitive & Reliable Test for detection of Salmonella spp. in Foods
Dr Murad Kalaldehy	Development of an Expert Decision Matrix for Location Analysis of Investment Parks, First Matrix: Labor Force Supply.
Dr Nidal Ershaidat	Searches on the CP violation in the B-Physics sector at CDF (The Collider Detector at FermiLab)
Prof Fatma Afifi	Studies on the mechanisms of antiproliferative active extracts of selected medicinal plants from Jordan
Prof Nabil Hailat	Molecular & Pathological Diagnostic Study of Mycobacterium Avium Subsp Paratuberculosis in Imported Sheep and its Potential Application in Vaccine Production and Controlling the Disease in Jordan
Dr Zahir Rawajfih	Utilization of Jordanian minerals in the removal of pollutants from waste effluents - Phase 1

## Start-up Grants

Grant Winner	Project Title
Eng Abdulhameid Shams Elddein	Grandoka Co.
Eng Abdullah Kamel	Green Carpet Forage
Eng Afnan Ali	Human Heater
Mr Ahmed Shraideh	Four Seasons Farm For Fish Breeding
Mr Amjad KASHUQA	PracTech
Dr Abdallah Abdallah	AlWadee'a Corporation – Contact Centre
Dr Ghada Al-Hudhud	Spoken Command Control of Disability Devices
Dr Hussein Migdadi	Local plant varieties multiplication and maintenance
Dr Mohammad Brake	Commercial production of Taq DNA polymerase
Dr Yehya Al Attal	Pollination Services under Green Houses in Jordan
Ms Ena'am El Sakarneh	Developing and Marketing Crafts
Mr Shadi Bani Hani	Hard Power
Eng Sonia Damer	Al Baderat - Tissue Culture Laboratory for Medicinal Plant "Aloe Vera"
Mrs Hanaya Nahhas	Al Reef - Traditional Blankets and Duvets
Eng Ismail M. Aqil	MIDA Tech
Eng Khaldoun Khashan	AOSAF Co.
Eng Ma'moun Al-Hattab	Brilliance e-Notebooks Co.
Dr Adnan Shariah	Design & Testing of Solar Heating System for Space Heating
Mr Basem Al Jamrah	Diamond Saw Blades production
Eng Hussein Al-Natsheh	Ciapple
Mr Ahmad Khawaldeh	Our Sons for Educational Training Co.
Dr Nasser-Eddin Dweik	AlRayah Nursery
Mrs Barehan Tarhan	Creative Jordanian Women (Hand Crafts & Art Workshop)
Mrs Rawan Badawi	Shahd Shoe Factory
Dr Reema Tayyem	Nutriway - Paediatric Nutrition Clinic
Eng Samer Ammari	Life-Long Technologies
Eng Sami Al-Mandi	Sami for Innovation Technology
Eng Taghreed Samarah	Alnassah Software Solutions
Eng Walid Taybeh	Gazelle Agricultural Co.
Eng Widad Al-Tamimi	EDOM for Renewable Energy



## Summary and Sustainability

SRTD set out to “bridge science and business” through strong support to the research community, entrepreneurs and new technology transfer professionals. Building on its achievements is now the responsibility of the key Sustainability Partners; HCST, JEDCO and IPCO.

### Research

SRTD has established a strong network of researchers with knowledge of European RTD programmes, and the ability to share this knowledge with colleagues. These researchers came not only from universities and research centres, but also from SMEs, whose strong interest in European research is a key SRTD achievement. Building on the existing national contact point, six new thematic NCPs are also identified through partner institutions and these NCPs will give more focussed support to researchers.



<b>Sustainability Partner</b>	Higher Council for Science and Technology
<b>Activities</b>	Continued support for the Focal Point Network with regular meetings and information dissemination from the national contact point
<b>Links</b>	Continued dialogue with Amman Chamber of Industry on commercially viable research funded by HCST Continued dialogue with JEDCO on innovation and JIC network
<b>Networks</b>	Support Focal Point Network, initially through EU-JordanNet project Support recently established thematic NCPs International networks will be developed with health NCP network, Idealist network and other related networks.
<b>Funding</b>	Government and new donor projects

## Start-ups and Incubators

Through SRTD support the JIC Network has been extended and strengthened. A quality system is in place that will help ensure the services delivered to incubatees are of a high standard.

Links to the European EBN network are now established and should provide further capacity building and project opportunities for the JIC Network and individual incubators.

The two strategy missions will enable JEDCO to consider options for continued and strengthened support to start-ups and incubators, and open up potentially significant markets in creative industries.

<b>Sustainability Partner</b>	Jordan Enterprise Development Corporation
<b>Activities</b>	Continued support for the JIC Network Development of the National Start-ups and Incubator Strategy Development of Creative Industries support strategy
<b>Links</b>	Continued dialogue with HCST on innovation
<b>Networks</b>	National network of JICs Membership of European Business and Innovation Centre Network (EBN)
<b>Funding</b>	Government and new donor projects



## Commercialisation

The concept of technology commercialisation is very new to Jordan. SRTD has successfully laid the foundations, and it is important that the momentum is kept up.

Considerable capacity building has gone into the network of TTOs, and this group needs to continue to meet regularly, share experiences and work together to drive forward the necessary activities to ensure Jordan's applied research capability finds a home in its businesses.

The Intellectual Property Commercialisation Office at El Hassan Business Park (EHBP) is at the centre of technology transfer activities as its role is to help with the process of commercialisation. The EHBP also houses the iPARK innovation centre, the Queen Rania Centre for Entrepreneurship and a "business angel" network, so access to smart people, funds and support could be available to new commercially viable technology ideas.

<b>Sustainability Partner</b>	IPCO at El Hassan Business Park
<b>Activities</b>	Continued support for the Technology Transfer Office network Development of the Technology Transfer Programme Support for TTOs with patent application Visibility campaigns within research creators and research consumers
<b>Links</b>	Continued dialogue with all universities and business organisations Links to Jordanian funding agencies to help evaluate the commercial potential of proposals
<b>Networks</b>	National network of TTOs Membership of European Association of Science and Technology Transfer Professionals (ASTP)
<b>Funding</b>	Government and new donor projects IPCO is currently cooperating with the World Intellectual Property Organization (WIPO) to develop a three-year national capacity building programme in Technology Transfer

## **SRTD Achievements Against its Main Objectives**

### ***“To accelerate the integration of Jordan into the European research community”***

- 50 Focal Points, in both research institutions and SMEs, with well trained officers and well trained researchers
- 6 thematic National Contact Points established
- Over 100 awareness events conducted in beneficiary institutions
- 27 FP7 projects running with a value of €2.6m
- Delivery of 30 research grants across a wide range of fields
- Increased participation by Jordanian scientists in European research and mobility programmes, publications and conferences

### ***“To further develop a culture of innovation and entrepreneurship”***

- Establishment of 2 new JICs
- Creation of the JIC Quality System and acceptance of 1 JIC as EU-BIC, recognising the high standards of service
- Support to the development of Start-ups, Incubation & Creative Industries strategies
- Delivery of 30 grants to new businesses incubated in the JICs
- Provided consultancy services to incubatees to help accelerate their businesses

### ***“To increase the commercialisation potential of research projects and to realise that potential through partnership with industry”***

- Creation of the National Technology Transfer Programme
- Establishment of Intellectual Property Commercialisation Office
- Establishment of 11 Technology Transfer Offices and significant training
- Increasing the awareness of IPR in cooperation with Ministry of Industry and Trade
- Submission of 15 patents from TTO network and El Hassan Science City institutions



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The SRTD Project would like to thank the following organisations without which the project would not have been the success it is:

- European Union Delegation to the Hashemite Kingdom of Jordan
- General Secretariat of the Higher Council for Science and Technology
- Jordan Enterprise Development Corporation
- El Hassan Business Park
- SRTD steering committee
- Ministry of Planning and International Cooperation
- Ministry of Higher Education and Scientific Research
- Ministry of Industry and Trade
- Focal Points in the universities, research centres and SMEs in Jordan
- The Jordan Innovation Centre Network
- The Technology Transfer Office Network

Last but not least, the staff of SRTD whose enthusiasm, commitment and belief in the project enabled it to deliver the results and move Jordan forward on the road to fully exploiting the scientific and research ideas for economic benefit of the country.

# Useful websites

## Jordanian Organisations

Organisation	Website
SRTD Project	<a href="http://www.srted-eujo.org">www.srted-eujo.org</a>
Higher Council for Science and Technology	<a href="http://www.hcst.gov.jo">www.hcst.gov.jo</a>
Jordan Enterprise Development Corporation	<a href="http://www.jedco.gov.jo">www.jedco.gov.jo</a>
Ministry of Higher Education and Scientific Research	<a href="http://www.mohe.gov.jo">www.mohe.gov.jo</a>
Ministry of Planning and International Cooperation	<a href="http://www.mop.gov.jo">www.mop.gov.jo</a>
Ministry of Industry and Trade	<a href="http://www.mit.gov.jo">www.mit.gov.jo</a>
El Hassan Science City	<a href="http://www.elhassansciencecity.com">www.elhassansciencecity.com</a>
Intellectual Property Commercialisation Office (IPCO)	<a href="http://www.ipco-jo.org">www.ipco-jo.org</a>
Jordan Innovation Centre Network	<a href="http://www.jic.jo">www.jic.jo</a>
Jordan Industrial Estates Corporation	<a href="http://www.jiec.com">www.jiec.com</a>
Jordan Investment Board	<a href="http://www.jordaninvestment.com">www.jordaninvestment.com</a>

## International Organisations

Organisation	Website
EU Delegation to the Hashemite Kingdom of Jordan	<a href="http://www.deljor.ec.europa.eu">www.deljor.ec.europa.eu</a>
CORDIS	<a href="http://www.cordis.europa.eu">www.cordis.europa.eu</a>
ASTP (Association of European S&T Transfer Professionals)	<a href="http://www.astp.net">www.astp.net</a>
EBN (European Business and Innovation Centre Network)	<a href="http://www.ebn.eu">www.ebn.eu</a>
FP7 Information	<a href="http://cordis.europa.eu/fp7/">cordis.europa.eu/fp7/</a>
ENPI-CBC Information	<a href="http://www.enpicbcmec.e">www.enpicbcmec.e</a>
Licensing Executives Society - Arab Countries	<a href="http://www.lesarab.org">www.lesarab.org</a>
Licensing Executives Society International	<a href="http://www.lesi.org">www.lesi.org</a>
World Intellectual Property Organization	<a href="http://www.wipo.int">www.wipo.int</a>
German Technical Cooperation (GTZ)	<a href="http://www.gtz.de">www.gtz.de</a>
Swedish International Development Agency (SIDA)	<a href="http://www.sida.se">www.sida.se</a>
Swiss Agency for Development and Cooperation (SDC)	<a href="http://www.sdc.admin.ch">www.sdc.admin.ch</a>
United Nations Development Program (UNDP)	<a href="http://www.undp-jordan.org">www.undp-jordan.org</a>
World Bank	<a href="http://www.worldbank.org">www.worldbank.org</a>