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Cooperation with Mediterranean Partners to build Opportunities around ICT and Societal And Industrial Challenges of Horizon 2020

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Abstract

This document is the analysis of the ICT sector for Jordan.



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Section 1 - Introduction

1.1 Purpose

This document compiles the analysis of the ICT sector in Jordan.

The objective is to identify in Jordan the critical mass per specific Information and Communication Technology where it is suitable to create Working Groups within the future Technology Platform of Mashriq.

1.2 Scope of the document

This document is produced as part of WP2 - Information and data intelligence analysis and identification of MED key stakeholders.

This document is produced as an outcome of:

- Task 2.1 Definition of methodology for the study and interviews
- Task 2.2 Collection of country information and analysis of collected data
- Task 2.3 Consolidation and harmonisation of the analysis

1.3 Structure of the document

The document is structured as follows:

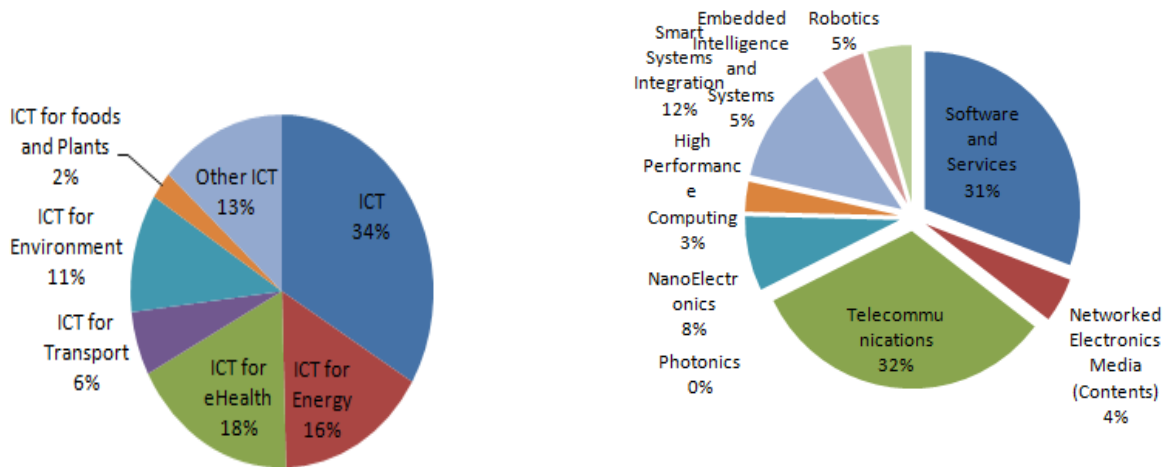
- Overview of the ICT Sector in the country.
- Analysis per Technologies following the ETP model.
- List of contributors / stakeholders.

Section 2 - Jordan

2.1 Situation for ICT

ICT in Jordan has been at the backbone for existing economic development in the country. Thirty four (34%) percent of all ICT activities in the country are manifested primarily in the telecom industry featuring a number of regionally prominent ICT service companies, amongst the other ICT activities taking place. The remaining percentages of the ICT industry has a spread up across various sectors including ICT for energy (16%), ICT for health (18%), ICT for environment (11%), ICT for transport (6%), ICT for food and plants (2%), with a remaining 13% dispersed across other domains of the sector. To elaborate further, the 34% portion can be broken up into the following activities: 32% go into the telecom service industry, 31% software development activities, 12% into smart systems integration, 8% for nano-electronics, 10% into robotics and embedded intelligence and systems, and 7% into high performance computing and networked electronics media.

Despite the steady growth in ICT sector in Jordan, however, the ICT-type activity remains primarily focused on a service-oriented ICT industry.



2.1.1 General overview

ICT in Jordan has been at the backbone for existing economic development in the country. Thirty four (34%) percent of all ICT activities in the country are manifested primarily in the telecom industry featuring a number of regionally prominent ICT service companies, amongst the other ICT activities taking place. The remaining percentages of the ICT industry has a spread up across various sectors including ICT for energy (16%), ICT for health (18%), ICT for environment (11%), ICT for transport (6%), ICT for food and plants (2%), with a remaining 13% dispersed across other domains of the sector. To elaborate further, the 34% portion can be broken up into the following activities: 32% go into the telecom service industry, 31% software development activities, 12% into smart systems integration, 8% for nano-electronics, 10% into robotics and embedded intelligence and systems, and 7% into high performance computing and networked electronics media.

Despite the steady growth in ICT sector in Jordan, however, the ICT-type activity remains primarily focused on a service-oriented ICT industry.

Jordan, being a developing economy does not rank highly in comparison with countries in the developed world. Nonetheless, at the regional level across countries of the Middle East, Jordan would rank in the top five countries in the ICT area. Many ICT firms that operate globally with business outlets in the Gulf region have their engineering and technical backbone situated in Jordan. Much of the ICT workforce operating in the Arab countries of the Middle East has either received training in Jordan or is affiliated to companies stationed in Jordan.

The ICT industry operating out of Jordan is already a one billion dollar industry. Much of this industry revolves around offering solutions to the service sector. As such the ICT industry in Jordan has a well established profile with a lot of expertise gained in the process. Such expertise already puts Jordan on the verge of delving right into hard core ICT achievements once heavy industry starts to kick in. In the meantime, the ICT industry is already honed in and well adapted to more genuine developments and advances in the fields of energy, water, health and security.

Government involvement in terms of support for the ICT sector in Jordan is rather poor, which poses one of the more challenging issues to try to address. Nonetheless, one would expect to see more government involvement once a genuine (heavy) industry starts to evolve.

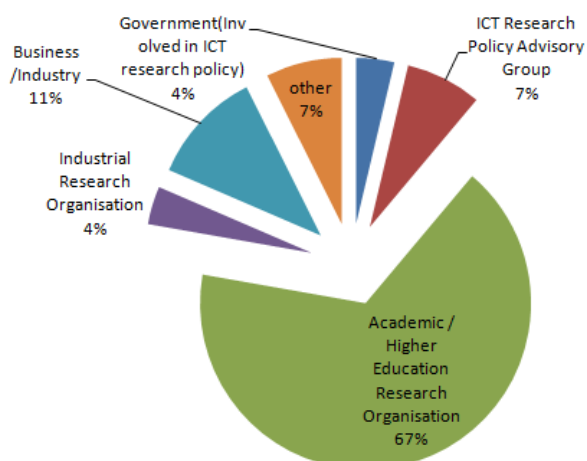
2.1.2 Situation of research and innovation

Once can identify with one or more funding agencies that are supportive of innovative initiatives. For one, there is the Scientific Research Support Fund operating out of the Ministry of Higher Education and Scientific Research. Another mechanism that operates in that direction would be the King Abdallah II for Development (KAFD). Other mechanisms include a good number of angel investors and private companies that are often good contributors to innovation and entrepreneurship.

In 2011 the government instituted a “National Council for Competitiveness” to serve as the authority that would guide national efforts towards fulfilling a country’s objective through innovation and entrepreneurship and best quality work practices. Commensurate with this council, the Ministry of Higher Education and Scientific Research launched two committees to set forth a comprehensive report fortified by an action plan to help institutions of higher learning to be in line with set government policies in this direction.

Currently, the set policies pursuant with the Ministry of Higher Education are in the process of updating and customizing in a manner that would bolster experimental research as opposed to existing theoretical research. Through the Scientific Research Support Fund, the government has earmarked significant allocation of the fund’s budgets in favor of supporting research endeavors in the areas of ICT, nanosciences and nanotechnology, basic sciences, medical research, agricultural and pharmaceutical research, amongst others.

2.1.3 Situation of industry and academia



As shown in figure above, number of universities that participated was large compared to other participants, although research centres is low in comparison with it but it is good indicator for research situation in Jordan. Government agencies, ICT Research policy advisory group, Industrial establishments, and entities in the private sector and SME’s participated with different degrees.

2.2 Sectorial analysis and indicators

2.2.1 Software & Services

Although Jordan has been major regional ICT leader in software and services but still has weak presence of large industry in doing research and innovation, where 39% of research community think that it is low. However, SME was less than that because it has more than 50% of low result for innovation intensive. The number of researchers in this filed and number of publications is acceptable. However, the number of research centres and universities which deal with large industries and SME regarding innovation and supporting research in software and services is moderately high (40%). The innovation initiative in this area is very high (85%), which is good indicator that people from Jordan support this part of the industry. This topic is important to Jordan in order to grow up the country through ICT products. Jordan participated in previous projects with EU to do research within this sector through FP6, FP7 and HORIZON 2020.

| Nº | Indicator - Political Support | Indicator | Results |
|----|---|-------------|---|
| 1 | National or State Policies | PO-01 | Yes(77%) No(23 %) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(60%) No(40%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(77%) No(23%) |
| 4 | Support to MED-TPs | PO-04 | Yes(95%) No(5%) |
| Nº | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (39 %) Medium (22%) Medium Low (32%) Medium High (7%) High (0 %) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (50 %) Medium (15%) Medium Low (35%) Medium High (0%) High (0 %) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (51%) Medium (12%) Medium Low (29%) Medium High (8%) High (0 %) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) No (32 %) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (37%) Medium (22%) Medium Low (34%) Medium High (2%) High (5 %) |
| 10 | Market Demand | IN-06 | Yes(72%) No(28%) |

| | | | | | |
|-----------|--|------------------|--------------------------------|----------------------------|------------------|
| 11 | Number of Patents | IN-07 (1-5) | Low (62%) Medium High (3%) | Medium (17%) High (0 %) | Medium Low (18%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100 %) | | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium High (12%) | Medium (17%) High (0 %) | Medium Low (25%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (40%) Medium High (8%) | Medium (20%) High (0 %) | Medium Low (32%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (27%) Medium High (10%) | Medium (33%) High (0 %) | Medium Low (30%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (32%) Medium High (10%) | Medium (43%) High (0 %) | Medium Low (15%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium High (5%) | Medium (25%) High (3 %) | Medium Low (30%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (35%) Medium High (15%) | Medium (20%) High (0 %) | Medium Low (30%) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) No(3%) | | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (35%) Medium High (0%) | Medium (42%) High (0 %) | Medium Low (23%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(85%) No(15%) | | |

2.2.2 Networked Electronic Media (Contents)

Jordan has been major regional ICT leader in Networked electronic media, and has a real development in this sector, but still has weak presence of large industry in doing research and innovation, where 41% of research community thinks that it is low. SME scored more than 50% in respect to the intensity of innovation. The number of research centers and universities which deal with large industries and SME regarding innovation and supporting research in networked electronic media is also low (38%). However, the innovation initiative is very high (85%), which is a good indicator that people from Jordan need support to do their research. This topic is important to Jordan in order to grow up the country through ICT products. Jordan participates in previous projects with EU to do research within this sector through FP6, FP7 and HORIZON 2020.

| | | | | | |
|-----------|---|------------------|--------------------------------|----------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(75%) No(25%) | | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(62%) No(38%) | | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(87%) No(13%) | | |
| 4 | Support to MED-TPs | PO-04 | Yes(95%) No(5%) | | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (41%) Medium High (15%) | Medium (20%) High (0 %) | Medium Low (24%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (52%) Medium High (0%) | Medium (13%) High (0 %) | Medium Low (35%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (49%) Medium High (10%) | Medium (12%) High (0 %) | Medium Low (29%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(52%) No(48%) | | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (37%) Medium High (2%) | Medium (22%) High (5 %) | Medium Low (34%) |
| 10 | Market Demand | IN-06 | Yes(72%) No(28%) | | |
| 11 | Number of Patents | IN-07 (1-5) | Low (62%) Medium High (3%) | Medium (17%) High (0 %) | Medium Low (18%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) | | |

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|-----------|--|------------------|--------------------------------|----------------------------|------------------|
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium High (12%) | Medium (16%) High (0 %) | Medium Low (26%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (38%) Medium High (10%) | Medium (21%) High (0 %) | Medium Low (31%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (27%) Medium High (10%) | Medium (32%) High (0 %) | Medium Low (28%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (32%) Medium High (10%) | Medium (43%) High (0 %) | Medium Low (15%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium High (5%) | Medium (25%) High (3 %) | Medium Low (30%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (35%) Medium High (15%) | Medium (30%) High (0 %) | Medium Low (20%) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) | No(3%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (40%) Medium High (5%) | Medium (37%) High (0 %) | Medium Low (18%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(85%) | No(15%) | |

2.2.3 Telecommunications

Jordan has grown up rapidly in this sector where a lot of companies have a real development in this sector. However, there is weak presence of large industry in doing research and innovation; more than 45% of research community think that the presence of large industry is low. However, SME presence scored better where more than 70% think that their presence innovation intensive. There is good cooperation between SMEs and researchers. Also, although number of researchers in this field and number of publications is acceptable, but number of researches centers and universities which deal with large industries and SME regarding innovation and supporting research in telecommunications is also low (30%) percentage. The innovation initiative is very high up (85%), which is good indicator that people from Jordan need support to do their researches. This topic is important to Jordan in order to grow up the country through ICT products. Jordan participates in previous projects with EU to do research within this sector through FP6, FP7 and HORIZON 2020.

| | | | | | |
|-----------|---|------------------|--------------------------------|----------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(87%) | No(13%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(70%) | No(30%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(75%) | No(25%) | |
| 4 | Support to MED-TPs | PO-04 | Yes(87%) | No(13%) | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (46%) Medium High (7%) | Medium (15%) High (0 %) | Medium Low (32%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (37%) Medium High (13%) | Medium (15%) High (0 %) | Medium Low (35%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (37%) Medium High (15%) | Medium (19%) High (0 %) | Medium Low (29%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) | No(38%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (24%) Medium High (3%) | Medium (34%) High (5 %) | Medium Low (34%) |
| 10 | Market Demand | IN-06 | Yes(72%) | No(28%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (55%) Medium High (3%) | Medium (25%) High (0 %) | Medium Low (17%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) | No(0%) | |

| | | | | | |
|-----------|--|------------------|--------------------------------|-----------------------------|------------------|
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (35%) Medium High (15%) | Medium (20%) High (0 %) | Medium Low (30%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (30%) Medium High (18%) | Medium (10%) High (0 %) | Medium Low (42%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (20%) Medium High (10%) | Medium (32%) High (20 %) | Medium Low (38%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (37%) Medium High (10%) | Medium (43%) High (0 %) | Medium Low (10%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium High (5%) | Medium (25%) High (3 %) | Medium Low (30%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (35%) Medium High (15%) | Medium (20%) High (0 %) | Medium Low (30%) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) | No(3%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (35%) Medium High (0%) | Medium (42%) High (0 %) | Medium Low (23%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(85%) | No(15%) | |

2.2.4 High Performance Computing

High performance computing enjoys political support and assumes a high priority in the national agenda. The government has acquired a high performance computing with 22,000 processors and more than 1 TB memory. The industrial support to the high performance sector remains on the average medium low (<30%). The indicator for the academic support is surprisingly low (~20%). However, the majority of academic respondents support collaboration with FP6-FP7 EU collaboration (>95%). Support for innovation policies is relatively high (>85%). In general, high performance computing requires more support from local industry (large and SME) and the initiative for high performance computing most likely will lead to a more solid infrastructure in this field.

| | | | | | |
|-----------|---|------------------|--------------------------------|----------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(95%) | No(5%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(75%) | No(25%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(77%) | No(23%) | |
| 4 | Support to MED-TPs | PO-04 | Yes(95%) | No(5%) | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (39%) Medium High (7%) | Medium (22%) High (0 %) | Medium Low (32%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (60%) Medium High (0%) | Medium (15%) High (0 %) | Medium Low (25%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (51%) Medium High (8%) | Medium (12%) High (0 %) | Medium Low (29%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) | No(38%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (37%) Medium High (2%) | Medium (22%) High (5 %) | Medium Low (34%) |
| 10 | Market Demand | IN-06 | Yes(72%) | No(28%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (62%) Medium High (3%) | Medium (17%) High (0 %) | Medium Low (18%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) | No(0%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium High (12%) | Medium (17%) High (0 %) | Medium Low (25%) |
| N° | Indicator - Academic support | Indicator | Results | | |

| | | | | | |
|-----------|--|------------------|--------------------------------|----------------------------|------------------|
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (40%) Medium High (8%) | Medium (20%) High (0 %) | Medium Low (32%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (42%) Medium High (0%) | Medium (33%) High (0 %) | Medium Low (25%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (40%) Medium High (10%) | Medium (42%) High (0 %) | Medium Low (8%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium High (5%) | Medium (25%) High (3 %) | Medium Low (30%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (35%) Medium High (15%) | Medium (20%) High (0 %) | Medium Low (30%) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) | No(3%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (35%) Medium High (0%) | Medium (42%) High (0 %) | Medium Low (23%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(85%) | No(15%) | |

2.2.5 Photonics

This area remains relatively new and largely unexplored in Jordan. More than 60% of the research and industry community believe that the ICT industry in this field is relatively low. Similarly, research and innovation is still under developed (60%). More than 65% believe that the involvement of research centers and universities is relatively low. Although, research publications in this field is moderately high (43%). This area is definitely important for the country and for the future growth of knowledge based economy (75%).

| | | | | | |
|-----------|--|------------------|--------------------------------|----------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(75%) | No(25%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(62%) | No(38%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(72%) | No(28%) | |
| 4 | Support to MED-TPs | PO-04 | Yes(75%) | No(25%) | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (61%) Medium High (7%) | Medium (22%) High (0 %) | Medium Low (10%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (60%) Medium High (0%) | Medium (15%) High (0 %) | Medium Low (25%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (51%) Medium High (7%) | Medium (20%) High (0 %) | Medium Low (22%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) | No(38%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (37%) Medium High (2%) | Medium (22%) High (5 %) | Medium Low (34%) |
| 10 | Market Demand | IN-06 | Yes(72%) | No(28%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (62%) Medium High (3%) | Medium (17%) High (0 %) | Medium Low (18%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) | No(0%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium High (12%) | Medium (17%) High (0 %) | Medium Low (25%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (65%) Medium High (8%) | Medium (20%) High (0 %) | Medium Low (7%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (37%) Medium High (0%) | Medium (33%) High (0 %) | Medium Low (30%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (32%) Medium High (0%) | Medium (43%) High (0 %) | Medium Low (25%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium High (5%) | Medium (25%) High (3 %) | Medium Low (30%) |

| | | | | | |
|-----------|---|------------------|-------------------------------|----------------------------|------------------|
| 18 | Existing cooperation with EU countries | AC-05 | Low (50%) Medium High (0%) | Medium (20%) High (0 %) | Medium Low (30%) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) | No(3%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (47%) Medium High (0%) | Medium (53%) High (0 %) | Medium Low (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(25%) | No(75%) | |

2.2.6 Nanoelectronics

This field is relatively new in Jordan. However, the country has launched several initiatives at the national level as well as at university levels to establish and strengthen a solid infrastructure for nano-electronics research, development and industry. It is becoming more of a priority at the national level. The presence of large industries in this field is almost non-existence, whereas smaller SME industry is moderately low (60%). Similarly, the number of research institutes and centers in this area remain moderate (45%). Publications in this area is moderate, with more than 40% approval.

| | | | | | |
|-----------|--|------------------|-------------------------------|----------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(37%) | No(63%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(75%) | No(25%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(90%) | No(10%) | |
| 4 | Support to MED-TPs | PO-04 | Yes(95%) | No(5%) | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (46%) Medium High (0%) | Medium (22%) High (0 %) | Medium Low (32%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (60%) Medium High (0%) | Medium (15%) High (0 %) | Medium Low (25%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (64%) Medium High (7%) | Medium (12%) High (0 %) | Medium Low (17%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(75%) | No(25%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (42%) Medium High (0%) | Medium (24%) High (0 %) | Medium Low (34%) |
| 10 | Market Demand | IN-06 | Yes(72%) | No(28%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (62%) Medium High (3%) | Medium (17%) High (0 %) | Medium Low (18%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) | No(0%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium High (0%) | Medium (29%) High (0 %) | Medium Low (25%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (47%) Medium High (0%) | Medium (20%) High (0 %) | Medium Low (33%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (27%) Medium High (0%) | Medium (43%) High (0 %) | Medium Low (30%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (32%) Medium High (0%) | Medium (53%) High (0 %) | Medium Low (15%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (40%) Medium High (2%) | Medium (25%) High (3 %) | Medium Low (30%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (35%) Medium High (8%) | Medium (27%) High (0 %) | Medium Low (30%) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) | No(3%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (52%) Medium High (0%) | Medium (38%) High (0 %) | Medium Low (10%) |

| | | | | |
|----|-------------------------------------|-------|----------|---------|
| 21 | Innovation policy and/or initiative | GE-02 | Yes(85%) | No(15%) |
|----|-------------------------------------|-------|----------|---------|

2.2.7 Smart Systems Integration

Smart system integration enjoys the support of national policy in general (73%) and the support of MED-TP (87%). The presence of large ICT industry is relatively low (39%), where as SMEs presence in this sector is moderately high (50%). In the meantime, the participation of universities, research centers, and higher education institutions in the innovation in this sector is low (40%). There is a good amount of researchers working in this field (33%), and a moderate number of publications (38%). The call for innovation and related policies is very high (80%). Participation in FP-6, FP-7 and support is high (80%).

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|---|
| 1 | National or State Policies | PO-01 | Yes(77%) No(23%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(37%) No(63%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(75%) No(25%) |
| 4 | Support to MED-TPs | PO-04 | Yes(87%) No(13%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (39%) Medium (27%) Medium Low (24%) Medium High (7%) High (3 %) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (50%) Medium (15%) Medium Low (35%) Medium High (0%) High (0 %) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (51%) Medium (17%) Medium Low (29%) Medium High (3%) High (0 %) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) No(38%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (37%) Medium (22%) Medium Low (24%) Medium High (12%) High (5 %) |
| 10 | Market Demand | IN-06 | Yes(62%) No(38%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (62%) Medium (17%) Medium Low (18%) Medium High (3%) High (0 %) |
| 12 | Support to MED-TPs | IN-08 | Yes(75%) No(25%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium (17%) Medium Low (25%) Medium High (12%) High (0 %) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (40%) Medium (20%) Medium Low (25%) Medium High (15%) High (0 %) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (27%) Medium (33%) Medium Low (25%) Medium High (15%) High (0 %) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (37%) Medium (38%) Medium Low (15%) Medium High (10%) High (0 %) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium (25%) Medium Low (20%) Medium High (15%) High (3 %) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (35%) Medium (20%) Medium Low (30%) Medium High (15%) High (0 %) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) No(3%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (40%) Medium (37%) Medium Low (13%) Medium High (10%) High (0 %) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(80%) No(20%) |

2.2.8 Embedded Intelligence and Systems

This sector enjoys above average support (>60%), and the support for MED-TP is high (>95%).

The engagement of large ICT industry in research and innovation is low (49%) and the same is true for SMEs (37%). The number of research institutes and universities supporting innovation in this area is low (37%). The number of researchers working in this area is moderate (33%), and the number of publications is also moderate (42%). The call for innovation and initiatives with support from government, EU and others is high (85%).

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|--|
| 1 | National or State Policies | PO-01 | Yes(62%) No(38%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(60%) No(40%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(60%) No(40%) |
| 4 | Support to MED-TPs | PO-04 | Yes(98%) No(2%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (49%) Medium (12%) Medium Low (24%) Medium High (15%) High (0 %) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (37%) Medium (28%) Medium Low (30%) Medium High (5%) High (0 %) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (49%) Medium (15%) Medium Low (24%) Medium High (12%) High (0 %) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(37%) No(63%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (24%) Medium (21%) Medium Low (33%) Medium High (10%) High (12 %) |
| 10 | Market Demand | IN-06 | Yes(75%) No(25%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (60%) Medium (20%) Medium Low (17%) Medium High (3%) High (0 %) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (49%) Medium (14%) Medium Low (22%) Medium High (15%) High (0 %) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (30%) Medium (20%) Medium Low (32%) Medium High (18%) High (0 %) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (22%) Medium (33%) Medium Low (30%) Medium High (15%) High (0 %) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (25%) Medium (42%) Medium Low (23%) Medium High (10%) High (0 %) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (50%) Medium (12%) Medium Low (25%) Medium High (10%) High (3 %) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (30%) Medium (25%) Medium Low (30%) Medium High (15%) High (0 %) |
| 19 | Support to MED-TPs | AC-06 | Yes(90%) No(10%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (25%) Medium (42%) Medium Low (23%) Medium High (10%) High (0 %) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(85%) No(15%) |

2.2.9 Robotics

The field of robotics is fairly new in Jordan, and is gaining more support from the government and political establishment. The royal court in Jordan supported several initiatives for robotics research and development. The national policy support for this sector is moderately high (77%), and the support for MED-TP is very high (95%). The involvement of large ICT sector in the research and innovation in this area is relatively low (39%), where the involvement of SMEs is moderate (50%). The involvement of universities, research centers, and academic institutes in the research and innovation is moderate (40%), whereas the publications in this field is moderately high (48%). The

call for innovation policies and support from FP-6, FP-7 and other EU organizations is relatively high (85%).

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|---|
| 1 | National or State Policies | PO-01 | Yes(77%) No(23%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(60%) No(40%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(25%) No(75%) |
| 4 | Support to MED-TPs | PO-04 | Yes(95%) No(5%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (39%) Medium (22%) Medium Low (32%) Medium High (7%) High (0 %) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (50%) Medium (15%) Medium Low (35%) Medium High (0%) High (0 %) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (51%) Medium (12%) Medium Low (29%) Medium High (8%) High (0 %) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) No(38%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (46%) Medium (12%) Medium Low (34%) Medium High (3%) High (5 %) |
| 10 | Market Demand | IN-06 | Yes(72%) No(28%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (71%) Medium (6%) Medium Low (20%) Medium High (3%) High (0 %) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium (22%) Medium Low (25%) Medium High (7%) High (0 %) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (40%) Medium (20%) Medium Low (37%) Medium High (3%) High (0 %) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (27%) Medium (32%) Medium Low (38%) Medium High (3%) High (0 %) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (32%) Medium (48%) Medium Low (15%) Medium High (5%) High (0 %) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (40%) Medium (30%) Medium Low (24%) Medium High (4%) High (2 %) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (35%) Medium (20%) Medium Low (30%) Medium High (15%) High (0 %) |
| 19 | Support to MED-TPs | AC-06 | Yes(97%) No(3%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (57%) Medium (43%) Medium Low (0%) Medium High (0%) High (0 %) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(85%) No(15%) |

2.2.10 ICT for Energy

ICT for wind energy

Jordan has two wind plants working but with little products, but considered the most feasible and the most reliable among the renewable energy technologies after hydropower. More than 60% of respondents believe that there is a weak presence for large industry supporting innovation and research regarding this area of research. 53% believe that the presence of research and Innovation Intensive SMEs was low as well. Similarly, the number of universities, research centers and higher education institutions is believed to be low by 48 % of the respondents. Researchers operating in the targeted field were low (63%) and the number of yearly scientific publications was low (68%).

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|---|
| 1 | National or State Policies | PO-01 | Yes (43%) No(47%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (79%) No(21%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (74%) No(26%) |
| 4 | Support to MED-TPs | PO-04 | Yes (89%) No(11%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (68 %) Medium (16%) Medium Low (16%) Medium High (0%) High (0 %) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (53 %) Medium (10%) Medium Low (32%) Medium High (5%) High (0 %) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (69 %) Medium (5%) Medium Low (26%) Medium High (0%) High (0 %) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (63%) No (37%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (47%) Medium (10%) Medium Low (32%) Medium High (0%) High (11%) |
| 10 | Market Demand | IN-06 | Yes (74%) No (26%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (68%) Medium (16%) Medium Low (16%) Medium High (0%) High (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes (95%) No (5%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (74%) Medium (26%) Medium Low (0%) Medium High (0%) High (0%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (48%) Medium (21%) Medium Low (26%) Medium High (5%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (63%) Medium (11%) Medium Low (26%) Medium High (0%) High (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (68%) Medium (32%) Medium Low (0%) Medium High (0%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (68%) Medium (21%) Medium Low (11%) Medium High (0%) High (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (58%) Medium (16%) Medium Low (26%) Medium High (0%) High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (53%) Medium (16%) Medium Low (26%) Medium High (5%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(74%) No(26%) |

ICT for Photovoltaic energy

This area is still weak and not widespread in Jordan, since the presence of large ICT industry doing research and innovation was very low according to 79% of the surveyed people. Also, the presence of research and innovation intensive SMEs was low (50%). However, the number of universities, research centres and higher education institutions was low (53%) and researchers operating in the targeted field was also low according to more than 40%. The number of yearly

scientific publications was also low (more than 60%). However, Innovation policy and initiative in this topic is very high according to more than 80% respondents.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|--|
| 1 | National or State Policies | PO-01 | Yes(26%) No(74%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(26%) No(74%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(53%) No(47%) |
| 4 | Support to MED-TPs | PO-04 | Yes(79%) No(21%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (79%) Medium (16%) Medium Low (5%) Medium High (0%) High (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (53%) Medium (10%) Medium Low (32%) Medium High (5%) High (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (74%) Medium (0%) Medium Low (26%) Medium High (0%) High (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(63%) No(37%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (58%) Medium (10%) Medium Low (23%) Medium High (0%) High (0%) |
| 10 | Market Demand | IN-06 | Yes(63%) No(27%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (68%) Medium (16%) Medium Low (16%) Medium High (0%) High (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(95%) No(5%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (63%) Medium (26%) Medium Low (11%) Medium High (0%) High (0%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (53%) Medium (21%) Medium Low (26%) Medium High (0%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (42%) Medium (11%) Medium Low (47%) Medium High (0%) High (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (68%) Medium (32%) Medium Low (0%) Medium High (0%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium (10%) Medium Low (42%) Medium High (11%) High (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (37%) Medium (16%) Medium Low (47%) Medium High (0%) High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (47%) Medium (11%) Medium Low (42%) Medium High (0%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(84%) No(16%) |

ICT for Electricity energy

Jordan is among the highest in the world in dependency on foreign energy sources, with 96% of the country's energy needs coming from imported oil and natural gas from neighboring Arab countries. In this area, Jordan has good indicator for innovation in doing research, but the percentage for presence of large ICT Industry is low according to more than 60% of the surveyed community. The presence of research and Innovation intensive SMEs is also considered low (more than 50%). Also, academic institution like universities and research centers and Higher Education Institutions indicator is low (more than 40%). In the targeted field of this research the number of researchers was low (more than 40%), and number of yearly scientific publication is also low (more than 50%). Innovation policy and initiative was high (more than 70 %).

| N° | Indicator - Political Support | Indicator | Results |
|----|-------------------------------|-----------|--------------------|
| 1 | National or State Policies | PO-01 | Yes (53%) No (47%) |

| | | | | |
|-----------|--|------------------|--------------------------------|--|
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (42%) | No (58%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (74%) | No (26%) |
| 4 | Support to MED-TPs | PO-04 | Yes (86%) | No (11%) |
| N° | Indicator - Industrial support | Indicator | Results | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (68%) Medium High (11%) | Medium (5%) High (0%) Medium Low (16%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (53%) Medium High (5%) | Medium (10%) High (0%) Medium Low (32%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (69%) Medium High (0%) | Medium (5%) High (0%) Medium Low (26%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (63%) | No (37%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (47%) Medium High (0%) | Medium (10%) High (11%) Medium Low (32%) |
| 10 | Market Demand | IN-06 | Yes (74%) | No (26%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (68%) Medium High (0%) | Medium (16%) High (11%) Medium Low (16%) |
| 12 | Support to MED-TPs | IN-08 | Yes (97%) | No (3%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (74%) Medium High (0%) | Medium (26%) High (0%) Medium Low (0%) |
| N° | Indicator - Academic support | Indicator | Results | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (48%) Medium High (5%) | Medium (21%) High (0%) Medium Low (26%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (42%) Medium High (0%) | Medium (11%) High (0%) Medium Low (47%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (53%) Medium High (0%) | Medium (31%) High (0%) Medium Low (16%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (42%) Medium High (0%) | Medium (21%) High (0%) Medium Low (37%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (37%) Medium High (0%) | Medium (16%) High (0%) Medium Low (47%) |
| 19 | Support to MED-TPs | AC-06 | Yes (100%) | No (0%) |
| N° | Indicator - General | Indicator | Results | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (53%) Medium High (5%) | Medium (16%) High (0%) Medium Low (26%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes (74%) | No (26%) |

ICT for Biofuels

| | | | | |
|-----------|---|------------------|-------------------------------|--|
| N° | Indicator - Political Support | Indicator | Results | |
| 1 | National or State Policies | PO-01 | Yes (26%) | No (74%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (16%) | No (84%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (58%) | No (42%) |
| 4 | Support to MED-TPs | PO-04 | Yes (79%) | No (21%) |
| N° | Indicator - Industrial support | Indicator | Results | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (68%) Medium High (%) | Medium (16%) High (0%) Medium Low (16%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (47%) Medium High (0%) | Medium (10%) High (11%) Medium Low (32%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (68%) Medium High (0%) | Medium (16%) High (0%) Medium Low (16%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (63%) | No (37%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (53%) Medium High (5%) | Medium (10%) High (0%) Medium Low (32%) |
| 10 | Market Demand | IN-06 | Yes (63%) | No (37%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (16%) Medium High (5%) | Medium (47%) High (0%) Medium Low (32%) |

| | | | | | |
|-----------|--|------------------|--------------------------------|---------------------------|------------------|
| 12 | Support to MED-TPs | IN-08 | Yes (97%) | No (3%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (53%) Medium High (0%) | Medium (37%) High (0%) | Medium Low (10%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (47%) Medium High (61%) | Medium (21%) High (0%) | Medium Low (61%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (53%) Medium High (0%) | Medium (21%) High (0%) | Medium Low (26%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (47%) Medium High (0%) | Medium (32%) High (0%) | Medium Low (21%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium High (11%) | Medium (10%) High (0%) | Medium Low (42%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (50%) Medium High (0%) | Medium (17%) High (0%) | Medium Low (33%) |
| 19 | Support to MED-TPs | AC-06 | Yes (100%) | No (0%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (37%) Medium High (11%) | Medium (10%) High (0%) | Medium Low (42%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes (84%) | No (16%) | |

ICT for Zero Emission Fossil Fuel Power Plants

In general, research in the area of emission fossil fuel power plants is still weak, since no policies are set for this area. The presence of large industries doing research is very low of (more than 80%), which is an indicator that this topic needs more support. SME part has the same result with no innovations regarding this field. The number of universities, research centers and higher institution addressing this issue is very low (> 50%). The number of researchers in this field is very low, and the number of publications is also low (more than 60%).

| | | | | | |
|-----------|--|------------------|-------------------------------|----------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes (16%) | No (84%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (26%) | No (74%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (26%) | No (74%) | |
| 4 | Support to MED-TPs | PO-04 | Yes (53%) | No (47%) | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (84%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (16%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (79%) Medium High (5%) | Medium (11%) High (0%) | Medium Low (5%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (68%) Medium High (0%) | Medium (11%) High (0%) | Medium Low (21%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (37%) | No (63%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (58%) Medium High (0%) | Medium (10%) High (11%) | Medium Low (21%) |
| 10 | Market Demand | IN-06 | Yes (68%) | No (32%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (68%) Medium High (0%) | Medium (16%) High (0%) | Medium Low (16%) |
| 12 | Support to MED-TPs | IN-08 | Yes (95%) | No (5%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (74%) Medium High (0%) | Medium (26%) High (0%) | Medium Low (0%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (50%) Medium High (0%) | Medium (11%) High (0%) | Medium Low (39%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (63%) | Medium (11%) | Medium Low (26%) |

| | | | | | |
|-----------|---|------------------|-------------------------------|---------------------------|------------------|
| | | | Medium High (0%) | High (0%) | |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (68%) Medium High (0%) | Medium (32%) High (0%) | Medium Low (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (68%) Medium High (0%) | Medium (11%) High (0%) | Medium Low (26%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (68%) Medium High (0%) | Medium (16%) High (0%) | Medium Low (16%) |
| 19 | Support to MED-TPs | AC-06 | Yes (100%) | No (0%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (58%) Medium High (0%) | Medium (21%) High (0%) | Medium Low (21%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes (58%) | No (42%) | |

ICT for Renewable Heating & Cooling

Renewable energy in Jordan now is a hot topic for research because Jordan has limited energy resources, and there is a large demand for research in this area. Although many programmes are introduced, the number of large ICT industries has low innovations and research in this topic, according to more than 60% of respondents. SME part has the same results of low cooperations and low innovations. However, universities that participate in such research is acceptable but still need more support to do more and encourage research in the targeted field, where the amount of support needs to be more in this important topic to increase number of publications.

| | | | | | |
|-----------|--|------------------|--------------------------------|----------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes (68%) | No (38%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (42%) | No (58%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (74%) | No (26%) | |
| 4 | Support to MED-TPs | PO-04 | Yes (95%) | No (5%) | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (68%) Medium High (11%) | Medium (5%) High (0%) | Medium Low (16%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (42%) Medium High (5%) | Medium (10%) High (0%) | Medium Low (32%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (69%) Medium High (0%) | Medium (5%) High (0%) | Medium Low (26%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (63%) | No (37%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (42%) Medium High (5%) | Medium (10%) High (11%) | Medium Low (32%) |
| 10 | Market Demand | IN-06 | Yes (63%) | No (37%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (63%) Medium High (5%) | Medium (16%) High (0%) | Medium Low (16%) |
| 12 | Support to MED-TPs | IN-08 | Yes (97%) | No (3%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (53%) Medium High (0%) | Medium (26%) High (0%) | Medium Low (21%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (37%) Medium High (16%) | Medium (21%) High (0%) | Medium Low (26%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (32%) Medium High (11%) | Medium (10%) High (0%) | Medium Low (47%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (47%) Medium High (0%) | Medium (32%) High (0%) | Medium Low (21%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (37%) Medium High (11%) | Medium (10%) High (0%) | Medium Low (42%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (32%) Medium High (5%) | Medium (16%) High (0%) | Medium Low (47%) |

| | | | | |
|-----------|---|------------------|--------------------------------|---------------------------|
| 19 | Support to MED-TPs | AC-06 | Yes (100%) | No (0%) |
| N° | Indicator - General | Indicator | Results | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (37%) Medium High (11%) | Medium (10%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes (84%) | No (16%) |

Others ICT for Energy (General)

ICT in energy sector in Jordan has been a main problem so there is a demand for research in this field to find alternatives in order to help people solve the problem of high energy cost. Large ICT industries must show more cooperations since its presence is very low and SME part is the same. However, the core of research and innovation is growing up from universities and research centers. This in turn has very low participation in this area. Consequently, there is a relatively low number of publications.

| | | | | |
|-----------|--|------------------|--------------------------------|----------------------------|
| N° | Indicator - Political Support | Indicator | Results | |
| 1 | National or State Policies | PO-01 | Yes (84%) | No (16%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (95%) | No (5%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (95%) | No (5%) |
| 4 | Support to MED-TPs | PO-04 | Yes (100%) | No (0%) |
| N° | Indicator - Industrial support | Indicator | Results | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (53%) Medium High (10%) | Medium (5%) High (16%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (42%) Medium High (5%) | Medium (10%) High (11%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (37%) Medium High (0%) | Medium (26%) High (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (63%) | No (37%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (53%) Medium High (5%) | Medium (0%) High (10%) |
| 10 | Market Demand | IN-06 | Yes (84%) | No (16%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (68%) Medium High (0%) | Medium (16%) High (10%) |
| 12 | Support to MED-TPs | IN-08 | Yes (95%) | No (5%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (53%) Medium High (0%) | Medium (26%) High (0%) |
| N° | Indicator - Academic support | Indicator | Results | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (37%) Medium High (11%) | Medium (26%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (32%) Medium High (11%) | Medium (10%) High (10%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (68%) Medium High (0%) | Medium (32%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (47%) Medium High (0%) | Medium (11%) High (10%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (37%) Medium High (0%) | Medium (16%) High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes (100%) | No (0%) |
| N° | Indicator - General | Indicator | Results | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (47%) Medium High (0%) | Medium (21%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes (84%) | No (16%) |

2.2.11 ICT for Health

Nanotechnologies for Medical Applications

In general, nanotechnology is still incient in Jordan, and it is still at the early stage of research. So there is hardly any presence or cooperation of large industries in this topic, and the same for SME. In addition the research in this area is still primitive. Universites has limited resources to perform such research so the number of researchers is low, which leads to low number of publications.

| N° | Indicator - Political Support | Indicator | Results | | |
|----|--|-------------|-------------------|--------------|------------------|
| 1 | National or State Policies | PO-01 | Yes (67%) | No (33%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (67%) | No (33%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (81%) | No (19%) | |
| 4 | Support to MED-TPs | PO-04 | Yes (90%) | No (10%) | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (52%) | Medium (5%) | Medium Low (33%) |
| | | | Medium High (10%) | High (0%) | |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (57%) | Medium (14%) | Medium Low (29%) |
| | | | Medium High (0%) | High (0%) | |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (20%) | Medium (30%) | Medium Low (35%) |
| | | | Medium High (15%) | High (0%) | |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (59%) | No (41%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (38%) | Medium (14%) | Medium Low (34%) |
| | | | Medium High (0%) | High (14%) | |
| 10 | Market Demand | IN-06 | Yes (75%) | No (25%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (67%) | Medium (19%) | Medium Low (9%) |
| | | | Medium High (5%) | High (0%) | |
| 12 | Support to MED-TPs | IN-08 | Yes (55%) | No (45%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (53%) | Medium (14%) | Medium Low (33%) |
| | | | Medium High (0%) | High (0%) | |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (33%) | Medium (43%) | Medium Low (19%) |
| | | | Medium High (5%) | High (0%) | |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (24%) | Medium (38%) | Medium Low (24%) |
| | | | Medium High (14%) | High (0%) | |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (43%) | Medium (33%) | Medium Low (14%) |
| | | | Medium High (10%) | High (0%) | |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (45%) | Medium (30%) | Medium Low (20%) |
| | | | Medium High (5%) | High (0%) | |
| 18 | Existing cooperation with EU countries | AC-05 | Low (38%) | Medium (19%) | Medium Low (24%) |
| | | | Medium High (19%) | High (0%) | |
| 19 | Support to MED-TPs | AC-06 | Yes (95%) | No (5%) | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (33%) | Medium (43%) | Medium Low (24%) |
| | | | Medium High (0%) | High (0%) | |
| 21 | Innovation policy and/or initiative | GE-02 | Yes (85%) | No (15%) | |

Others ICT for eHealth (General)

eHealth is important sector in Jordan, where health issues in general assume a high priority because it is directly related to the human life. Large industries presence is weak (more than 50%). Also, SME has low presence according to more than 55%. However, universities with the limited resources show a good indicator for doing research in this filed (more than 50%). Also, number of researchers in this hot topic is high as well as the number of publications.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|--|
| 1 | National or State Policies | PO-01 | Yes (71%) No (29%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes (67%) No (33%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes (81%) No (19%) |
| 4 | Support to MED-TPs | PO-04 | Yes (90%) No (10%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (52%) Medium (2%) Medium Low (33%) Medium High (10%) High (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (57%) Medium (14%) Medium Low (29%) Medium High (0%) High (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (20%) Medium (30%) Medium Low (35%) Medium High (15%) High (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes (59%) No (41%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (38%) Medium (14%) Medium Low (34%) Medium High (0%) High (14%) |
| 10 | Market Demand | IN-06 | Yes (86%) No (14%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (67%) Medium (19%) Medium Low (9%) Medium High (5%) High (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes (55%) No (45%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (53%) Medium (14%) Medium Low (33%) Medium High (0%) High (0%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (38%) Medium (52%) Medium Low (10%) Medium High (0%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (24%) Medium (38%) Medium Low (24%) Medium High (14%) High (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (43%) Medium (33%) Medium Low (14%) Medium High (10%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (45%) Medium (30%) Medium Low (20%) Medium High (5%) High (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (48%) Medium (19%) Medium Low (24%) Medium High (9%) High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes (90%) No (10%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (43%) Medium (43%) Medium Low (14%) Medium High (0%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes (71%) No (29%) |

2.2.12 ICT for Transport

ICT for Waterborne

National policies hardly exist for waterborn transportation; evidently Jordan has very limited access to water pathways. The support for MED-TP in this area is very high. More than 85% believe that the involvement of large ICT industry is too low in this area. Same is true for SMEs. There is hardly any EU funded projects in this area. Research, publications, and academic institutions participation is also low according to more than 70% of respondents.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-----------|------------------|
| 1 | National or State Policies | PO-01 | Yes(14%) No(86%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(14%) No(86%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(29%) No(71%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |

| N° | Indicator - Industrial support | Indicator | Results |
|----|--|-------------|---|
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (86%) Medium High (0%) Medium (14%) High (0%) Medium Low (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (86%) Medium High (14%) Medium (0%) High (0%) Medium Low (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (86%) Medium High (0%) Medium (14%) High (0%) Medium Low (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(71%) No(29%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (86%) Medium High (0%) Medium (10%) High (0%) Medium Low (14%) |
| 10 | Market Demand | IN-06 | Yes(86%) No(14%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (57%) Medium High (0%) Medium (29%) High (0%) Medium Low (14%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (29%) Medium High (0%) Medium (0%) High (0%) Medium Low (71%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (71%) Medium High (0%) Medium (29%) High (0%) Medium Low (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (28%) Medium High (0%) Medium (29%) High (0%) Medium Low (43%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (57%) Medium High (0%) Medium (43%) High (0%) Medium Low (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (71%) Medium High (0%) Medium (29%) High (0%) Medium Low (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (50%) Medium High (17%) Medium (16%) High (0%) Medium Low (16%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (25%) Medium High (0%) Medium (25%) High (0%) Medium Low (50%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(86%) No(14%) |

ICT for Road

Moderate number of the surveyed people (> 55%) believe that there is adequate national policy to support this sector. The presence of large ICT industry is relatively low (40%). Same is true for SMEs. Universities, research centers and higher educations institutions are expected to raise the level of their research; percentage of results is very good with more than 40%. Number of researchers in this field is good (more than 40%), and the number of publications is also good with more than 40%.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|---|
| 1 | National or State Policies | PO-01 | Yes(57%) No(43%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(43%) No(57%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (43%) Medium High (14%) Medium (14%) High (0%) Medium Low (29%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (43%) Medium High (0%) Medium (14%) High (0%) Medium Low (43%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (57%) Medium High (0%) Medium (14%) High (0%) Medium Low (29%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(71%) No(29%) |

| | | | | | |
|-----------|--|------------------|--------------------------------|----------------------------|------------------|
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (43%) Medium High (0%) | Medium (14%) High (14%) | Medium Low (29%) |
| 10 | Market Demand | IN-06 | Yes(86%) No(14%) | | |
| 11 | Number of Patents | IN-07 (1-5) | Low (57%) Medium High (0%) | Medium (29%) High (0%) | Medium Low (14%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) | | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (71%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (29%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (29%) Medium High (0%) | Medium (29%) High (0%) | Medium Low (43%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (29%) Medium High (14%) | Medium (14%) High (0%) | Medium Low (43%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (43%) Medium High (0%) | Medium (43%) High (0%) | Medium Low (14%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (28%) Medium High (29%) | Medium (29%) High (0%) | Medium Low (14%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (50%) Medium High (17%) | Medium (16%) High (0%) | Medium Low (16%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) | | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (28%) Medium High (29%) | Medium (29%) High (0%) | Medium Low (14%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(86%) No(14%) | | |

ICT for Rail

Actually this sector is not within the priority of Jordanian people since railways is very limited in Jordan. Very low research and innovations in this sector and low results regarding the presence of ICT large industries. Also, SME part is also very low with more than 40%. The number of researchers and centers doing research in this area are very low, and this leads to low number of publications in this field (>50%). Jordan plans to do more in this topic in the future and innovations is expected to be very high.

| | | | | | |
|-----------|---|------------------|-------------------------------|---------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(14%) No(86%) | | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(14%) No(86%) | | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) | | |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) | | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (50%) Medium High (0%) | Medium (25%) High (0%) | Medium Low (25%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (43%) Medium High (0%) | Medium (14%) High (0%) | Medium Low (43%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (71%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (29%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(71%) No(29%) | | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (71%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (29%) |
| 10 | Market Demand | IN-06 | Yes(86%) No(14%) | | |
| 11 | Number of Patents | IN-07 (1-5) | Low (57%) Medium High (0%) | Medium (43%) High (0%) | Medium Low (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) | | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (29%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (71%) |

| N° | Indicator - Academic support | Indicator | Results |
|----|--|-------------|---|
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (71%) Medium High (0%) Medium Low (0%) Medium (29%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (25%) Medium High (0%) Medium Low (50%) Medium (25%) High (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (57%) Medium High (0%) Medium Low (0%) Medium (43%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (71%) Medium High (0%) Medium Low (0%) Medium (29%) High (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (50%) Medium High (0%) Medium Low (16%) Medium (16%) High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (25%) Medium High (0%) Medium Low (50%) Medium (25%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(86%) No(14%) |

ICT for Aviation

National or state policies are rare for this area (less than 15%), but this is expected to change and improve in the future, with high interest in support for MED-TP. Large industry presence is low (>70%); but SMEs has relatively moderate presence (43%). More than 70% believe that the involvement of EU funding is low. Also the involvement of research bodies in this area is low (>70%). The call for innovation policy is high (> 80%).

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|---|
| 1 | National or State Policies | PO-01 | Yes(14%) No(86%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(14%) No(86%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (71%) Medium High (0%) Medium Low (0%) Medium (29%) High (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (43%) Medium High (0%) Medium Low (43%) Medium (14%) High (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (71%) Medium High (0%) Medium Low (0%) Medium (29%) High (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(71%) No(29%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (71%) Medium High (0%) Medium Low (29%) Medium (0%) High (0%) |
| 10 | Market Demand | IN-06 | Yes(86%) No(14%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (57%) Medium High (0%) Medium Low (0%) Medium (43%) High (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (29%) Medium High (0%) Medium Low (71%) Medium (0%) High (0%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (100%) Medium High (0%) Medium Low (0%) Medium (0%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (28%) Medium High (0%) Medium Low (43%) Medium (29%) High (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (57%) Medium High (0%) Medium Low (0%) Medium (43%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (71%) Medium High (0%) Medium Low (0%) Medium (29%) High (0%) |

| | | | | | |
|-----------|---|------------------|-------------------------------|---------------------------|------------------|
| 18 | Existing cooperation with EU countries | AC-05 | Low (57%) Medium High (0%) | Medium (43%) High (0%) | Medium Low (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) | | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (28%) Medium High (0%) | Medium (29%) High (0%) | Medium Low (43%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(86%) No(14%) | | |

ICT for Logistics

National or state policies are rare for this area (less than 15%), but this is expected to change and improve in the future, with high interest in support for MED-TP. Large industry presence is moderate (>40%); but SMEs has relatively low presence (>70%). More than 70% believe that the involvement of EU funding is low. Also the involvement of research bodies in this area is low (>70%). The call for innovation policy is high (> 80%).

| | | | | | |
|-----------|--|------------------|-------------------------------|---------------------------|------------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(14%) No(86%) | | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(14%) No(86%) | | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) | | |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) | | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (43%) Medium High (0%) | Medium (28%) High (0%) | Medium Low (29%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (71%) Medium High (0%) | Medium (29%) High (0%) | Medium Low 0% |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (71%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (29%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(71%) No(29%) | | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (71%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (29%) |
| 10 | Market Demand | IN-06 | Yes(86%) No(14%) | | |
| 11 | Number of Patents | IN-07 (1-5) | Low (57%) Medium High (0%) | Medium (43%) High (0%) | Medium Low (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) | | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (29%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (71%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (71%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (29%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (71%) Medium High (0%) | Medium (29%) High (0%) | Medium Low (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (57%) Medium High (0%) | Medium (43%) High (0%) | Medium Low (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (57%) Medium High (0%) | Medium (43%) High (0%) | Medium Low (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (50%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (17%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) | | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (28%) Medium High (0%) | Medium (29%) High (0%) | Medium Low (43%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(86%) No(14%) | | |

Other ICT for Transport (General)

In general, Jordan in this topic has very high policy but still need more support. There is low presence of large ICT industry doing research and innovations with more than 40% of low results. SME part has the same low results, too. Number of researchers in this field is acceptable result of more than 40%. However, the number of universities, research centers and higher education institutions is very low of more than 60%, which lead to low publications in this field.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|--|
| 1 | National or State Policies | PO-01 | Yes(86%) No(14%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(86%) No(14%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (43%) Medium (14%) Medium Low (29%) Medium High (14%) High (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (43%) Medium (14%) Medium Low (29%) Medium High (14%) High (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (86%) Medium (0%) Medium Low (14%) Medium High (0%) High (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(71%) No(29%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (72%) Medium (14%) Medium Low (14%) Medium High (0%) High (0%) |
| 10 | Market Demand | IN-06 | Yes(86%) No(14%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (71%) Medium (29%) Medium Low (0%) Medium High (0%) High (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (29%) Medium (0%) Medium Low (57%) Medium High (14%) High (0%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (67%) Medium (16%) Medium Low (17%) Medium High (0%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (28%) Medium (29%) Medium Low (43%) Medium High (0%) High (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (57%) Medium (43%) Medium Low (0%) Medium High (0%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (43%) Medium (28%) Medium Low (29%) Medium High (0%) High (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (50%) Medium (16%) Medium Low (16%) Medium High (17%) High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (25%) Medium (25%) Medium Low (50%) Medium High (0%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(86%) No(14%) |

2.2.13 ICT for Environment

ICT for Water Supply and Sanitation

Jordan is very poor country in water resources, so it needs research in this sector ICT part in order to safe water. But presence of large ICT industries is low. Also, SME part has the same percentage of low results. In addition, number of universities that participate is extremely good of result more

than 40% percentage. Number of researchers in the targeted field is also good with a good number of yearly publications.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|--|
| 1 | National or State Policies | PO-01 | Yes(54%) No(46%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(31%) No(69%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(85%) No(15%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (54%) Medium (7%) Medium Low (31%) Medium High (8%) High (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (54%) Medium (46%) Medium Low (0%) Medium High (0%) High (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (62%) Medium (15%) Medium Low (15%) Medium High (8%) High (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) No(38%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (62%) Medium (38%) Medium Low (0%) Medium High (0%) High (0%) |
| 10 | Market Demand | IN-06 | Yes(69%) No(31%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (77%) Medium (15%) Medium Low (8%) Medium High (0%) High (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium (16%) Medium Low (23%) Medium High (15%) High (0%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (31%) Medium (23%) Medium Low (46%) Medium High (0%) High (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (39%) Medium (15%) Medium Low (38%) Medium High (8%) High (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (54%) Medium (23%) Medium Low (23%) Medium High (0%) High (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (39%) Medium (15%) Medium Low (38%) Medium High (8%) High (0%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (46%) Medium (16%) Medium Low (23%) Medium High (15%) High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (38%) Medium (31%) Medium Low (31%) Medium High (15%) High (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(100%) No(0%) |

Other ICT for environment (General)

In general, Jordan has some state policies in this sector, since the environment of Jordan needs more state policies to be considered. Presence of large industries is very low and SME part is the same. Universities, research centers and higher institution has more innovation in this part of more than 40%. The number of researchers working in this field is rather moderate, and there is low number of publications (>70%).

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-----------|------------------|
| 1 | National or State Policies | PO-01 | Yes(77%) No(23%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(77%) No(23%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(85%) No(15%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |

| N° | Indicator - Industrial support | Indicator | Results |
|----|--|-------------|--|
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (61%) Medium High (0%) Medium (8%) High (0%) Medium Low (31%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (69%) Medium High (0%) Medium (31%) High (0%) Medium Low (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (62%) Medium High (0%) Medium (38%) High (0%) Medium Low (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(62%) No(38%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (59%) Medium High (0%) Medium (33%) High (0%) Medium Low (8%) |
| 10 | Market Demand | IN-06 | Yes(69%) No(31%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (77%) Medium High (0%) Medium (23%) High (0%) Medium Low (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (46%) Medium High (0%) Medium (15%) High (0%) Medium Low (39%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (31%) Medium High (0%) Medium (23%) High (0%) Medium Low (46%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (39%) Medium High (0%) Medium (15%) High (0%) Medium Low (46%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (77%) Medium High (0%) Medium (23%) High (0%) Medium Low (0%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (39%) Medium High (8%) Medium (38%) High (0%) Medium Low (15%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (62%) Medium High (0%) Medium (15%) High (0%) Medium Low (23%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (69%) Medium High (0%) Medium (31%) High (0%) Medium Low (0%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(100%) No(0%) |

2.2.14 ICT for Food and Plants

ICT for Food and Plants

Food security is very important, however Jordan is considered to be a consuming country rather than a producing one. There is a low percentage of research and innovation regarding this topic with a low cooperation with large ICT industries. In addition, SME part has also low results. Although this type is very important but number of universities is very low which participate in doing research and innovation (more than 50%), and the same for researchers in this filed.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|---|
| 1 | National or State Policies | PO-01 | Yes(67%) No(33%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(67%) No(33%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (100%) Medium High (0%) Medium (0%) High (0%) Medium Low (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (100%) Medium High (0%) Medium (0%) High (0%) Medium Low (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (100%) Medium High (0%) Medium (0%) High (0%) Medium Low (0%) |

| | | | | | |
|-----------|--|------------------|--------------------------------|---------------------------|------------------|
| 8 | Independence of local industry | IN-04 (1-5) | Yes(67%) No(33%) | | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 10 | Market Demand | IN-06 | Yes(67%) No(33%) | | |
| 11 | Number of Patents | IN-07 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) | | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (100%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (0%) |
| N° | Indicator - Academic support | Indicator | Results | | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (25%) Medium High (0%) | Medium (50%) High (0%) | Medium Low (25%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (33%) Medium High (0%) | Medium (67%) High (0%) | Medium Low (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (34%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (33%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (34%) Medium High (33%) | Medium (0%) High (0%) | Medium Low (33%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) | | |
| N° | Indicator - General | Indicator | Results | | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (33%) Medium High (0%) | Medium (0%) High (0%) | Medium Low (67%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(100%) No(0%) | | |

Industrial Biotechnology Platform

In general, Jordan is not industrial country, and especially in the filed of biotechnology platform, although there are policies in this field but still very weak research especially with large industries.and SME part (67%). However, some universities and research centers start doing research in this topic with a medium percentage of more than 60 %, but still the number of researchers in the targeted filed is low (more than 60%). Also, number of publications is the same as researchers number.

| | | | | | |
|-----------|---|------------------|-------------------------------|---------------------------|-----------------|
| N° | Indicator - Political Support | Indicator | Results | | |
| 1 | National or State Policies | PO-01 | Yes(100%) No(0%) | | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(67%) No(33%) | | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) | | |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) | | |
| N° | Indicator - Industrial support | Indicator | Results | | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(33%) No(67%) | | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 10 | Market Demand | IN-06 | Yes(67%) No(33%) | | |
| 11 | Number of Patents | IN-07 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) | | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (67%) Medium High (0%) | Medium (33%) High (0%) | Medium Low (0%) |

| N° | Indicator - Academic support | Indicator | Results |
|----|--|-------------|--|
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (33%) Medium High (0%) Medium (67%) High (0%) Medium Low (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (67%) Medium High (0%) Medium (33%) High (0%) Medium Low (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (34%) Medium High (0%) Medium (33%) High (0%) Medium Low (33%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (67%) Medium High (0%) Medium (0%) High (0%) Medium Low (33%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (67%) Medium High (0%) Medium (33%) High (0%) Medium Low (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) |
| N° | Indicator - General | Indicator | Results |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (0%) Medium High (0%) Medium (33%) High (0%) Medium Low (67%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(100%) No(0%) |

Others ICT for Food and Plants (General)

For Food and Plants, in general Jordan takes care of this type of research especially for plants that are very important for Jordan in green planted areas. There is a low presence of large industries and SME for doing researches and innovations (67%). Academic institutions like universities and research centers need more resources to do research in this area, so it has low research and low number of publications and researchers in the targeted filed.

| N° | Indicator - Political Support | Indicator | Results |
|----|--|-------------|--|
| 1 | National or State Policies | PO-01 | Yes(100%) No(0%) |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(67%) No(33%) |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(100%) No(0%) |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) |
| N° | Indicator - Industrial support | Indicator | Results |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (67%) Medium High (0%) Medium (0%) High (0%) Medium Low (33%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (67%) Medium High (0%) Medium (0%) High (0%) Medium Low (33%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (67%) Medium High (0%) Medium (0%) High (0%) Medium Low (33%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(33%) No(67%) |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (67%) Medium High (0%) Medium (33%) High (0%) Medium Low (0%) |
| 10 | Market Demand | IN-06 | Yes(67%) No(33%) |
| 11 | Number of Patents | IN-07 (1-5) | Low (67%) Medium High (0%) Medium (33%) High (0%) Medium Low (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (67%) Medium High (0%) Medium (33%) High (0%) Medium Low (0%) |
| N° | Indicator - Academic support | Indicator | Results |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (33%) Medium High (0%) Medium (67%) High (0%) Medium Low (0%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (67%) Medium High (0%) Medium (33%) High (0%) Medium Low (0%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (33%) Medium High (0%) Medium (34%) High (0%) Medium Low (33%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (67%) Medium High (0%) Medium (0%) High (0%) Medium Low (33%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (67%) Medium High (0%) Medium (33%) High (0%) Medium Low (0%) |

| | | | | |
|-----------|---|------------------|------------------------------|---|
| | | | Medium High (0%) | High (0%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) | |
| N° | Indicator - General | Indicator | Results | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (0%) Medium High (0%) | Medium (33%) High (0%) Medium Low (67%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(100%) No(0%) | |

2.2.15 Other ICT domains

Other ICT domains of major concern to Jordan include security. The presence of large industries is acceptable with more than of 40%. SME presence in this field is also low with more than 50%. Research in this field is acceptable because of number of universities, research centers and higher education institutions which are concerned about ICT topics is good with more than 30%. Number of researchers who work in this field is also good and acceptable, so number of publications is acceptable but need to be more innovative in the future.

| N° | Indicator - Political Support | Indicator | Results | |
|-----------|--|------------------|--------------------------------|---|
| 1 | National or State Policies | PO-01 | Yes(81%) No(19%) | |
| 2 | Funding mechanisms to support ICT research | PO-02 | Yes(37%) No(63%) | |
| 3 | Future Plans, Priorities and Strategies in ICT R&D | PO-03 | Yes(75%) No(25%) | |
| 4 | Support to MED-TPs | PO-04 | Yes(100%) No(0%) | |
| N° | Indicator - Industrial support | Indicator | Results | |
| 5 | Presence of Large ICT Industry doing Research and Innovation | IN-01 (1-5) | Low (38%) Medium High (5%) | Medium (43%) High (0%) Medium Low (14%) |
| 6 | Presence of Research and Innovation Intensive SMEs | IN-02 (1-5) | Low (56%) Medium High (0%) | Medium (19%) High (0%) Medium Low (25%) |
| 7 | Involvement in European funded projects | IN-03 (1-5) | Low (56%) Medium High (0%) | Medium (19%) High (0%) Medium Low (25%) |
| 8 | Independence of local industry | IN-04 (1-5) | Yes(50%) No(50%) | |
| 9 | Foreign Direct Investment (FDI) and presence of development centres | IN-05 (1-5) | Low (31%) Medium High (0%) | Medium (38%) High (0%) Medium Low (31%) |
| 10 | Market Demand | IN-06 | Yes(62%) No(38%) | |
| 11 | Number of Patents | IN-07 (1-5) | Low (69%) Medium High (0%) | Medium (31%) High (0%) Medium Low (0%) |
| 12 | Support to MED-TPs | IN-08 | Yes(100%) No(0%) | |
| 13 | Already existing commercial cooperation with European industries | IN-09 (1-5) | Low (69%) Medium High (0%) | Medium (25%) High (0%) Medium Low (6%) |
| N° | Indicator - Academic support | Indicator | Results | |
| 14 | Number of Universities, Research Centres and Higher Education Institutions | AC-01 (1-5) | Low (19%) Medium High (25%) | Medium (31%) High (0%) Medium Low (25%) |
| 15 | Researchers operating in the targeted field | AC-02 (1-5) | Low (25%) Medium High (13%) | Medium (31%) High (0%) Medium Low (31%) |
| 16 | Number of yearly scientific publications | AC-03 (1-5) | Low (25%) Medium High (6%) | Medium (56%) High (0%) Medium Low (13%) |
| 17 | Previous participations in FP6-FP7 R&D projects in the ICT priority | AC-04 (1-5) | Low (19%) Medium High (6%) | Medium (31%) High (0%) Medium Low (44%) |
| 18 | Existing cooperation with EU countries | AC-05 | Low (25%) Medium High (19%) | Medium (19%) High (0%) Medium Low (37%) |
| 19 | Support to MED-TPs | AC-06 | Yes(100%) No(0%) | |
| N° | Indicator - General | Indicator | Results | |
| 20 | Previous participations in FP6-FP7 R&D projects in the ICT priority | GE-01 (1-5) | Low (31%) Medium High (0%) | Medium (44%) High (0%) Medium Low (25%) |
| 21 | Innovation policy and/or initiative | GE-02 | Yes(81%) No(19%) | |

2.3 List of contributors

The following table compiles the list of contributors to the analysis (data collected by interviews or by email campaign).

| Nº | Name | Surname | Organization | Type (*) |
|----|--------------|------------------|---|------------|
| 1 | Nabeel | Akram | Jordan University | Academic |
| 2 | Ahmad | Khasawneh | Hashemite University | Academic |
| 3 | Zaid | Zoubi | Private Sector | SME |
| 4 | Ashraf | Bany Mohammed | University of Jordan | Academic |
| 5 | Majdi | Sawalha | The University of Jordan | Academic |
| 6 | Mutasem | Zalloum | Seneca IT | SME |
| 7 | EMRAN | HAMDAN | SmartSoft LLC | SME |
| 8 | Yaser | Jararweh | Jordan University of Science and Technology | Academic |
| 9 | Moad | Mowafi | Jordan University of Science and Technology | Academic |
| 10 | Ahmad | Tawayha | Princess Sumaya University for Technology | Academic |
| 11 | Walid | Salameh | Princess Sumaya University for Technology | Academic |
| 12 | Abdel Rahman | Alzoubaidi | Al-Balqa Applied University | Academic |
| 13 | Qutaibah | Althebyan | Jordan University of Science and Technology | Academic |
| 14 | Jamil | Khatib | ibtecar | SME |
| 15 | mahmaod | alrawad | | |
| 16 | Mohammad | Shurman | Jordan University of Science and Technology | Academic |
| 17 | Nedal | Al Taradeh | United Arab Emirates University | Academic |
| 18 | Baker | Khlefat | ahu | Academic |
| 19 | Hamdan | Al-Onizat | Al-Balqa Applied University | Academic |
| 20 | Khalaf | Fakhri khatatneh | Al-Balqa Applied University | Academic |
| 21 | Daher | Thabet Daher | Royal Scientific Society | Government |
| 22 | Hussain | Khalid | | |
| 23 | Malik | | Amman University | Academic |
| 24 | Esam | Qaralleh | Princess Sumaya University for technology | Academic |
| 25 | Abdallah | Qusef | Princess Sumaya University for Technology | Academic |
| 26 | Sahel | Alouneh | German Jordanian University | Academic |
| 27 | Sokyna | M Alqatawneh | Alzaytoonah University of Jordan | Academic |
| 28 | Lo'ai | Tawalbeh | Jordan University of Science and Technology | Academic |
| 29 | Emad | Alsukhni | Yarmouk University | Academic |
| 30 | Samar | mezayek | Erada for e solutions | SME |
| 31 | Qussai | Yaseen | Yarmouk University | Academic |
| 32 | Sa'ed | Abed | Hashemite University | Academic |
| 33 | Mohammad | Malkawi | Jordan University of Science and Technology | Academic |
| 34 | Atheer | Al-Shaggah | Jordan University of Science and Technology | Academic |
| 35 | Hussein | Alzoubi | Yarmouk University | Academic |
| 36 | Bassam | Abu-Karaki | Al Hussein Bin Talal University | Academic |
| 37 | Ghazi | AL SUKKAR | The University of Jordan | Academic |
| 38 | Fadi | | Princess Sumaya University for | Academic |

| | | | | |
|----|----------|--------------|---|----------|
| | | R. Shahroury | Technology | |
| 39 | Qasem | Al-Radaideh | Yarmouk University | Academic |
| 40 | Qutaibeh | katatbeh | Jordan university of science and technology | Academic |
| 41 | Basim | Al-Khateeb | | |
| 42 | Yazeed | A. Al-Sbou | Mutah University | Academic |
| 43 | Muhanna | Muhanna | Princess Sumaya University for Technology | Academic |
| 44 | Nameer | N. EL-Emam | Philadelphia University | Academic |
| 45 | Malek | alraddad | Philadelphia university | Academic |
| 46 | Moayad | A. Fahdil | Philadelphia University | Academic |
| 47 | Ghassan | M. Tashtoush | Jordan University of Science and Technology | Academic |
| 48 | Mohammad | Adnan | STS | SME |
| 49 | hussein | hiyassat | eqra tech | SME |
| 50 | Nasser | Saleh | Madfoo3atCom for ePayments | SME |
| 51 | Ahmad | Al Shaikh | SSSPProcess | SME |
| 52 | Khalid | Al Ghanem | TeleFinity | SME |
| 53 | Abdullah | Tashtoush | Yarmouk University | Academic |
| 54 | Amal | Al Dababseh | ESTIDAMA | SME |
| 55 | Wael | Awad | Al Balqa' Applied University | Academic |
| 56 | Nora | Bajes | ESKADENIA Software | SME |

(*) Industry (large), Industry (SME), Academic, Government

Section 3 - Conclusions

In Jordan, the technologies identified with critical mass to be part of a Working Group in the future Technology Platform of Mashriq are the following ones (by order of importance).

Telecommunications

This ICT sector was the highest priority in Jordan, with more than 75% involved in this sector, mostly universities and SMEs. Telecommunication is a fast growing sector in Jordan, which has rapidly grown during the past few years. There is reasonable cooperation between academic institutions and national companies in this sector. Hot topics in this sector include: Cognitive radio, Wireless ad hoc networks, RFID Advance electronic system, High Throughput Wireless Broadband Systems, Overcoming Spectrum Scarcity: Utilizing Terahertz Spectrum, Spectrum Reuse; Software Radio; Smart Antennas.

Software and Services

More than 70% of those who are involved in ICT related research in Jordan, focus more on software services research, where Jordan is a major regional ICT leader in software services sector. Hot research topics include advanced cloud information and services for education, Smart Networks, Big data, ICT Cyber Security, Arabic speech recognition, Human Language Translation.

Smart Systems Integration

More than 30% of respondents showed interest in this field. Significant research exists in this area. Hot topics in this area include: Smart Networks, Mathematical Modelling, tools for testing a critical systems.

Networked Electronics Media (Contents)

More than 20% of respondents showed interest in this sector. Hot research topics in this area include: Utilizing of Multimedia Applications, Social Networks, Remote monitoring using multimedia sensors.

NanoElectronics

This field is still relatively new in Jordan at research and development level, however, there is good contributions in the nano-electronics field, where more than 15% of researches showed interest in this sector of ICT. Several research centres were founded in Jordan to support this type of research. There is no nano-electronics manufacturing in Jordan because the area is still relatively new, and Jordan is hardly industrial nation.

Robotics

More than 14% of respondents showed interest in this field. Significant research exists in this area. Development in this area is still at its infancy, and continues to be within the research scope. Hot research areas include: High sensitivity sensors, high performance robotics, reliability and availability of robotic systems, application oriented robotics research.

High Performance Computing

More than 10% of ICT entities showed interest in high performance computing. There is a significant amount of researches in this area. Hot topics include numerical processing, architecture, high productivity computing.

Embedded Intelligence and Systems

More than 10% of respondents showed interest in this field. Significant research exists in this area. Hot topics in this area include: Wireless sensors, Real time systems, Computer on Chip Systems.

Photonics

This Sector is not within the main priorities of researchers in Jordan in general. This area requires development. Potential research areas include Mathematical Physics and Electoral system.

Annex I - Acronyms

| Term / expression | Description |
|--------------------------|--|
| ETP | European Technology Platform |
| ICT | Information and Communication Technology |
| LatAm | Latin America |
| LATP | Latin America Technology Platform |
| SRIA | Strategic Research and Innovation Agenda |
| TP | Technology Platform |