MOSAIC

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

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Abstract	This document describes the ICT sectors where MPC countries have critical mass to create Working Groups within the future MED-TP Technology Platforms.

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Disclaimer

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Version	Date	Modification reason	Modified by
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Section 1 - Introduction to WP2

This document refers to the activity foreseen in **WP2: Information and data intelligence analysis and identification of MED key stakeholders.**

WP2 will conduct the necessary analysis previous to the launch of a MED Technology Platforms. Technology Platforms are structures that need the participation of different entities with some key profiles (Large industries, SMEs and academic partners such as universities, research and technological centres). Enough participation and potential in each of these key profiles is of key importance to bring critical mass. In addition to the participation of these entities, the support of local public authorities and R&D supporters (managers of R&D programmes) is also essential.

WP2 will analyse the potential and capabilities in each of the target areas (ICT and ICT for Societal Challenges), at national and regional (Algeria, Libya, Morocco, Tunisia for Maghreb and Egypt, Jordan, Lebanon, Palestine, and Syria for Mashriq). This analysis will identify areas and fields with enough potential for cooperation with European researchers, according to European research priorities. ICT will be divided into different areas according to the organisational model described in the project (areas addressed by each ETP as per Annex II). The outcome shall be a proposal of areas to be included in the MED-TPs to be launched in the different countries addressed by MOSAIC. MED-TPs will include thematic working groups focused on the fields in which enough potential has been identified.

1.1 Objectives

The following **objectives** covered by WP2:

- **Objective 1:** Identify **potential areas of cooperation** between Europe and MED countries around the thematic areas of ICT and ICT applied to societal challenges.
  - Analyse **previous R&D activities** in the field of ICT in the target MED countries from Maghreb (Algeria, Libya, Morocco, Tunisia) and Mashriq (Egypt, Jordan, Lebanon, Palestinian administrated areas, Syrian Arab Republic). Example: participation in FP7 projects and in national research programmes.
  - Identify **technological areas** (out of the main areas addressed by ETPs covered by the project, see Annex II) for potential cooperation between EU-MED within the fields of ICT and ICT for Societal Challenges in MED countries.
- **Objective 2:** Identify **key stakeholders** to launch and run Technology Platforms in MED countries including representatives from industrial (large companies and SMEs) and academic sectors.
  - Identify **entities** for potential cooperation between EU-Med within the fields of ICT and ICT for Societal Challenges in MED countries and with capacity to lead MED-TPs.
  - Propose a **list of actors** (from large industry, SMEs, Technological centres and Universities) with demonstrated leading capacity in MED countries, to be the initial core group for launching the national MED-TPs
  - Identify **public authorities** as candidates to support the MED-TPs activities in MED countries.

  MED-TPs, as it is happening with ETPs, shall have a certain structure in their core group (Steering Council) including representatives with different profiles. MOSAIC will identify these key stakeholders having at least:

- 4 large industries
- 5 SMEs
- 3 Technological centres
- 3 Universities

This activity will be done in Maghreb countries (Algeria, Libya, Morocco, Tunisia) and in Mashriq countries (Egypt, Jordan, Lebanon, Palestinian administrated areas, Syrian Arab Republic) and this group will be considered the initial Steering Council of the Technology Platform. Members of this group should meet special criteria in order to guarantee that they are entities able to motivate and foster the participation of other actors in the country.

In addition to these key stakeholders, MOSAIC will also identify a potential group of entities interested in becoming members from the initial General Assembly of the Technology Platform (at least 30 additional entities).

1.2 Deliverables

The following **deliverables** should be produced:

D.2.1	Report compiling 9 national reports (Maghreb and Mashriq countries) highlighting major findings and relevant aspects towards the establishment of a MED-TP in each region	A harmonized document will be produced in which at least the following will be included: • List of key stakeholders (private companies, universities, technologic centres, associations, etc.) from the R&D point of view in the field of ICT including ICT applied to Societal Challenges sectors. • Main R&D supporters and R&D agencies. • Current or past activities that could be related with the targeted fields of research. • Economic dimension of the ICT sector in each country, identifying different relevant subsectors (software and services, audiovisual, telecommunications, ICT Components, etc.) and potential application sectors associated to Societal Challenges relevant in the region.
D.2.2	MED-TP Country Matrix	This deliverable will consist of the production of one matrix per MED-TP that will: • Classify the information collected in D2.1 in a matrix that will analyse it in a comprehensive way. • Define in a quantitative way in which areas (with respect to ETPs) there is enough critical mass to launch activities in cooperation with Europe.

1.3 Indicators of success

Proposed objectives	*Corresponding activities*	*Indicator of success*
Objective 1: Identify areas for potential cooperation in each MED country targeted by MOSAIC. Areas will also match those technological fields in which ETPs are focused.	WP2. Task 2.4	Delivery and acceptance of D2.2 indicating the appropriate Working Groups structure of each national MED-TP, plus the list of most relevant stakeholders. At least 15 SC members and 40 additional entities per MED-TP (min. 50 members per MED-TP, min 100 members for both MED-TPs).
Objective 2: Identify key stakeholders with capacity and interest in the field of ICT and map them according to MED-TPs structure (Large industries, SMEs, Universities and Technological centres).	WP2 Mostly tasks 2.1, 2.2, 2.3	Delivery and acceptance of D2.1

Section 2 - Preparation of MED-TP Country Matrix of potentialities (Task 2.4)

2.1 Description

Based on the result of task 2.3, a comparative analysis will be performed in order to produce a so called “matrix of potentialities” that shall help in the decision process identifying technology areas and regions where there is enough potential for cooperation with EU under H2020, and therefore where a thematic working group shall be created.

2.2 Methodology

On the basis of the findings of the previous tasks, this task will make a proposal per each region Magrheb and Mashriq including:

- List of **entities** to be invited to form the initial core group to launch the MED-TP (Definition of the Steering Council membership). There should be at least the following number of representatives from each profile:
  - 4 Large Industry
  - 5 SMEs
  - 3 Technological centres
  - 3 Universities

List of **areas** (according to the ETP-organisational model used in MOSAIC) in which each MED-TP should create a thematic working group. This information will be extracted from the objective evaluation of the national analysis, and the gathered indicators. The outcome will be a matrix of potentialities in which the different areas identified will be classified for each region using an objective indicator created by the project that will measure the potential for cooperation. This indicator will be calculated using the information on national analysis. Only those areas marked over the minimum thresholds will have a thematic working group in the national MED-TP.

Section 3 - MED-TP Maghreb Matrix

The following drawing depicts the ICT sectors of interest in the Maghreb region (4 countries).

ICT sectors versus Countries		Algeria	Morocco	Libya	Tunisia	Total
Software & Services (NESSI)		3	3	3	3	12
Electronics Media & Contents (NEM)		3	1	3	3	10
Telecommunications (Networld 2020)		3	3	3	3	12
High Performance Computing (HPC)		1	2	1	1	5
Photonics (Photonics 21)		1	1	1	1	4
ECSEL	Nanoelectronics (ENIAC)	1	1	1	1	4
	Smart Systems Integration (EPoSS)	1	3	1	1	6
	Embedded Intelligence and Systems (ARTEMIS)	2	2	3	3	10
Robotics (EUROP)		3	1	1	1	6
ICT for Energy		2	3	2	2	9
ICT for Health		2	2	1	2	7
ICT for Transport		1	3	3	2	9
ICT for Environment		2	3	1	2	8
ICT for Food and Plants		1	2	1	2	6
Other ICT domains		1	0	1	2	4

(3) Enough interest (critical mass)
(2) Some interest (moderate)
(1) Interest is low
(0) no interest

The overall score indicates the sectors with critical mass to create a Working Group:

- equal or greater than 8 – High interest
- between 5 and 7 – some interest
- below 5 – low interest

When the score is 0 for minimum one countries out of the four countries, then we consider there is no interest to create a Working group at regional level.

The following table compile the ICT sectors of interest for Maghreb.

Level of interest	Sector	Score (8-15)
High	Software & Services (NESSI)	12
	Telecommunications (Networld 2020)	12
	Electronics Media & Contents (NEM)	10
	Embedded Intelligence and Systems (ARTEMIS)	10
	ICT for Energy	9

	ICT for Transport	9
	ICT for Environment	8
Level of interest	**Sector**	**Score (5-7)**
Some	ICT for Health	7
	Robotics (EUROP)	6
	Smart Systems Integration (EPoSS)	6
	ICT for Food and Plants	6
	High Performance Computing (HPC)	5
Level of interest	**Sector**	**Score (0-4)**
Low	Photonics (Photonics 21)	4
	Nanoelectronics (ENIAC)	4
	Other ICT domains	4

There is high interest and enough critical mass to create Working groups in the following ICT sectors (Those are the Working Groups where Maghreb researchers and innovators have most interest in collaborating with ETPs):

- Software & Services (NESSI)
- Telecommunications (Networld 2020)
- Electronics Media & Contents (NEM)
- ECSEL – major interest in Embedded Intelligence and Systems (ARTEMIS)
- ICT for Energy
- ICT for Transport
- ICT for Environment

There is some interest to create Working Groups in the following ICT sectors:

- ICT for Health
- Robotics
- ICT for Food and Plants
- High Performance Computing (HPC)

There is low interest in creating a Working Group in the following ICT sector:

- Photonics.

Section 4 - MED-TP Mashriq Matrix

The following drawing depicts the ICT sectors of interest in the Mashriq region (5 countries).

ICT sectors versus Countries		Egypt	Jordan	Lebanon	Palestine	Syria	Total
Software & Services (NESSI)		3	3	3	3	3	15
Electronics Media & Contents (NEM)		3	3	2	3	1	12
Telecommunications (Networld 2020)		3	3	2	3	2	13
High Performance Computing (HPC)		3	2	1	2	1	9
Photonics (Photonics 21)		0	0	0	0	0	0
ECSEL	Nanoelectronics (ENIAC)	1	2	0	0	0	3
	Smart Systems Integration (EPoSS)	1	1	0	2	1	5
	Embedded Intelligence and Systems (ARTEMIS)	3	1	1	2	1	8
Robotics (EUROP)		1	1	1	1	1	5
ICT for Energy		1	3	1	0	3	8
ICT for Health		1	3	3	3	3	13
ICT for Transport		3	2	1	3	2	11
ICT for Environment		1	3	1	3	2	10
ICT for Food and Plants		1	1	3	0	3	8
Other ICT domains		0	0	0	0	0	0

(3) Enough interest (critical mass)
(2) Some interest (moderate)
(1) Interest is low
(0) no interest

The overall score indicates the sectors with critical mass to create a Working Group:

- equal or greater than 10 – High interest
- between 7 and 9 – some interest
- below 7 – low interest

When the score is 0 for minimum two countries out of the five countries, then we consider there is no interest to create a Working group at regional level.

The following table compile the ICT sectors of interest for Mashriq.

Level of interest	Sector	Score (10-15)
High	Software & Services (NESSI)	15
	Telecommunications (Networld 2020)	13
	ICT for Health	13
	Electronics Media & Contents (NEM)	12
	ICT for Transport	11
	ICT for Environment	10
Level of interest	**Sector**	**Score (7-9)**
Some	High Performance Computing (HPC)	9

	Embedded Intelligence and Systems (ARTEMIS)	8
	ICT for Energy	8
	ICT for Food and Plants	8
Level of interest	**Sector**	**Score (0-6)**
Low	Smart Systems Integration (EPoSS)	5
	Robotics (EUROP)	5
	Nanoelectronics (ENIAC)	4
	Photonics (Photonics 21)	0

There is high interest and enough critical mass to create Working groups in the following ICT sectors (Those are the Working Groups where Mashriq researchers and innovators have most interest in collaborating with ETPs):

- Software & Services (NESSI)
- Telecommunications (Networld 2020)
- ICT for Health
- Electronics Media & Contents (NEM)
- ICT for Transport
- ICT for Environment

There is some interest to create Working Groups in the following ICT sectors:

- High Performance Computing (HPC)
- ECSEL – major interest in Embedded Intelligence and Systems (ARTEMIS)
- ICT for Energy
- ICT for Food and Plants

There is low interest in creating a Working Group in the following ICT sector:

- Photonics.
- Robotics

Section 5 - MPC overall matrix

The following table compiles the overall interest of MPC by ICT sectors.

		Maghreb				Mashriq					
ICT sectors versus Countries		Algeria	Morocco	Libya	Tunisia	Egypt	Jordan	Lebanon	Palestine	Syria	Total
Software & Services (NESSI)		3	3	3	3	3	3	3	3	3	24
Electronics Media & Contents (NEM)		3	1	3	3	3	3	2	3	1	19
Telecommunications (Networld 2020)		3	3	3	3	3	3	2	3	2	22
High Performance Computing (HPC)		1	2	1	1	3	2	1	2	1	13
Photonics (Photonics 21)		1	1	1	1	0	0	0	0	0	3
ECSEL	Nanoelectronics (ENIAC)	1	1	1	1	1	2	0	0	0	6
	Smart Systems Integration (EPoSS)	1	3	1	1	1	1	0	2	1	10
	Embedded Intelligence and Systems (ARTEMIS)	2	2	3	3	3	1	1	2	1	16
Robotics (EUROP)		3	1	1	1	1	1	1	1	1	8
ICT for Energy		2	3	2	2	1	3	1	0	3	15
ICT for Health		2	2	1	2	1	3	3	3	3	18
ICT for Transport		1	3	3	2	3	2	1	3	2	19
ICT for Environment		2	3	1	2	1	3	1	3	2	16
ICT for Food and Plants		1	2	1	2	1	1	3	0	3	13
Other ICT domains		1	0	1	2	0	0	0	0	0	3

(3) Enough interest (critical mass)
(2) Some interest (moderate)
(1) Interest is low
(0) no interest

The overall score indicates the sectors with critical mass to create a Working Group:

- equal or greater then 18 – High interest
- between 12 and 17 – some interest
- below 12 – low interest

The following table compile the ICT sectors of interest for MPC.

Level of interest	**Sector**	**Score (18-24)**
High	Software & Services (NESSI)	24
	Telecommunications (Networld 2020)	22
	Electronics Media & Contents (NEM)	19
	ICT for Transport	19
	ICT for Health	18
Level of interest	**Sector**	**Score (12-17)**
Some	Embedded Intelligence and Systems (ARTEMIS)	16

	ICT for Environment	16
	ICT for Energy	15
	High Performance Computing (HPC)	13
	ICT for Food and Plants	13
Level of interest	**Sector**	**Score (0-11)**
Few or no Interest	Smart Systems Integration (EPoSS)	10
	Robotics (EUROP)	8
	Nanoelectronics (ENIAC)	6
	Photonics (Photonics 21)	3
	Other ICT domains	3

In MPC, there is high interest in the following ICT sectors (These are the Working Groups where Maghreb and Mashriq could collaborate together):

- Software & Services (NESSI)
- Telecommunications (Networld 2020)
- Electronics Media & Contents (NEM)
- ICT for Transport
- ICT for Health

In MPC, there is some interest in the following ICT sectors:

- ECSEL – major interest in Embedded Intelligence and Systems (ARTEMIS)
- ICT for Environment
- ICT for Energy
- High Performance Computing (HPC)
- ICT for Food and Plants

There is low interest in the following ICT sector:

- Robotics
- Photonics.

Section 6 - Alignment MED-TPs and ETPs

The following table compiles the matching between MED-TPs and ETPs.

					MEDITERRANEAN TECHNOLOGY PLATFORMS								
					MAGHREB				MASHRIQ				
	EUROPEAN TECHNOLOGY PLATFORMS				Morocco	Tunisia	Algeria	Lybia	Egypt	Jordan	Palestine	Lebanon	Syria
ICT	1.1 Information and Communication Technologies (ICT)	NESSI (Software & Services)		www.nessi-europe.com/	WG				WG				
		NEM (Electronics Media and Contents)		http://www.nem-initiative.org/	WG				WG				
		NetWorld 2020 (Telecommunications)		http://www.networks-etp.eu/	WG				WG				
		High Performace Computing (ETP4HPC)		http://www.etp4hpc.eu/	WG				WG				
		Photonics 21		http://www.photonics21.org/									
		EUROP (Robotics)		http://www.robotics-platform.eu/	WG				WG				
		ECSEL	EPoSS (Smart Systems Integration)	http://www.ecsel-ju.eu/	WG				WG				
			ARTEMIS (Embedded Intelligence and Systems)										
	1.2 Nanotechnologies		ENIAC (nanoelectronics)										
ENERGY	Secure, clean and efficient energy	Photovoltaics (solar energy)		http://www.eupvplatform.org/	WG				WG				
		Smart grids (Electricity Networks of the Future)		http://www.smartgrids.eu/									
		TPWind (wind energy)		http://www.windplatform.eu/									
		European Biofuels Technology Platform (Biofuels)		http://www.biofuelstp.eu/									
		Zero Emission Fossil Fuel Power Plants – ZEP		http://www.zeroemissionsplatform.eu/									
		Renewable Heating & Cooling (RHC)		http://www.rhc-platform.org/cms/									
HEALTH	Health, demographic change and wellbeing	Nanotechnologies for Medical Applications		http://www.etp-nanomedicine.eu/public	WG				WG				
TRANSPORT	Smart, green and integrated transport	Waterborne ETP – Waterborne		http://www.waterborne-tp.org/	WG				WG				
		European Road Transport Research Advisory Council - ERTR		http://www.ertrac.org/									
		European Rail Research Advisory Council - ERRAC		http://www.errac.org/									
		Advisory Council for Aviation Research and Innovation in Eurc		http://www.acare4europe.com/									
ENVIRONMENT	Climate action, resource efficiency and raw materials	Water Supply and Sanitation Technology Platform (WSSTP)		http://www.wsstp.eu/	WG				WG				
FOOD	Food security, sustainable agriculture	Food for Life		http://etp.ciaa.be/	WG				WG				
		EPSO (Plants for the Future)		www.epsoweb.org									
	1.4 Biotechnology	Suschem (Industrial Biotechnology Platform)		www.suschem.org/									

WG = Working Group

Section 7 - Conclusions

The Working Groups of each MED-TP (Maghreb and Mashriq) have been identified.

The potential members of each Working Group have been identified (at country level).

Each country has also identified the potential candidates to lead the Working Groups. Now it is a matter of selecting the best candidate to lead the Working Group at regional level. This will happen during the second year of the project.

The next step will be the operational launch of the MED-TPs validating the governance rules and internal rules (already proposed at this stage). Once MED-TPs are launched, the Working Groups will start to be operational. During the life of the MED-TPs the Working Groups will review the Strategic Research and Innovation Agenda orienting joint research and innovation efforts for Maghreb and Mashriq and also towards issues of common interest between Europe and MPC to build upon collaboration on research and innovation.

During the first year of the MOSAIC project, the preconditions for a positive deployment of the MED-TPs have been gathered.

Annex I - Acronyms

Term / expression	Description
ETP	European Technology Platform
ICT	Information and Communication Technology
MPC	Mediterranean Partner Countries
TP	Technology Platform

Annex II – European Technology Platforms

See ETPs: http://cordis.europa.eu/technology-platforms/individual_en.html

ICT

Area	ETP	Description
Networks, content, computing and services	NESSI	Software and Services
	NEM	Networked and Electronic Media
	Net!Works (and ISI)	Mobile and Wireless Communications (including satellite)
	ETP4HPC	High Performance Computing
ICT Components	Photonics 21	Photonics
	ENIAC	Nanoelectronics
Systems	ePoSS	Smart System Integration
	ARTEMIS	Embedded Intelligence and Systems
	EUROP	Robotics

- **NESSI, the European Technology Platform dedicated to Software and Services**

  www.nessi-europe.com/

  The main focus of NESSI is that of **software and service**. There are many definitions of service used in different contexts. However, all of them are based on the same principle: a service consumer does not own the service and therefore doesn't need to be concerned with all the aspects generally associated with ownership such as infrastructure, technology, integration and maintenance. Instead he/she only needs to choose a service which meets his business needs.

  Answare is member of the Board and Steering Committee of NESSI.

- **NEM, The networked and electronic Media Technology Platform**
  http://www.nem-initiative.org/

  The main objective of the Networked and Electronic Media (NEM) European Technology Platform is to foster the development and introduction of novel **audiovisual and multimedia broadband services and applications** to benefit European citizens and enterprises.

  Holken Consultants is member of the Steering Committee of this ETP.

- **Networld 2020 merging two platforms:**

  - **Net!Works, The Mobile and Wireless Communications Technology Platform**
    http://www.networks-etp.eu/

    Net!Works defines and implements a comprehensive research agenda in the **mobile and wireless sector** to be conducted in Europe, on the basis of a strong co-ordination of the national research efforts as well as the collaboration of key research programmes from other regions in the world.

  - **ISI, the Satellite Communications Technology Platform (just merged with Net!Works)**

http://www.isi-initiative.org/

ISI is the European Technology Platform on **Satellite Communications**, whose membership embraces all relevant and interested private and public stakeholders from SatCom and the Space sector. Currently ISI involves more than 170 member organizations and 29 Countries.

- **ETP4HPC, The Technology Platform High Performance Computing**
  http://www.etp4hpc.eu/

  ETP4HPC will define research priorities for the development of a globally competitive High Performance Computing technology ecosystem in Europe. It will propose and help to implement a Strategic Research Agenda, while acting as the “one voice” of the European HPC industry in relations with the European Commission and national authorities. The creation of this ETP fits perfectly with a European Commission’s recommendation made in its recent communication1 about HPC.

- **Photonics 21, The Technology Platform for Photonics in Europe**
  http://www.photonics21.org/

  P21 was initiated to establish Europe as a leader in the development and deployment of **Photonics** in five industrial areas (**Information and Communication, Lighting and Displays, Manufacturing, Life Science and Security**).

- **ECSEL merging 3 platforms:**

  - **ENIAC, European Technology Platform on Nanoelectronics**
    http://www.eniac.eu/web/index.php

    ENIAC, the European Technology Platform for Nanoelectronics, was launched in 2004 with the overall aim to guarantee Europe the earliest possible access to leading-edge integrated components and design skills for application in high-technology products and services, thereby reinforcing Europe's existing industrial strengths and ensuring that core intellectual property is generated and benefited from in the region.

  - **EPoSS, the European Technology Platform on Smart Systems Integration**
    http://www.smart-systems-integration.org/public

    Smart systems integration addresses the trend toward miniaturized multifunctional devices and specialized connected and interacting solutions. Multidisciplinary approaches featuring simple devices for complex solutions and making use of shared and, increasingly, self-organising resources are among the most ambitious challenges.

  - **ARTEMIS, the European Technology Platform for Embedded Intelligence and Systems**
    http://www.artemis.eu/

    The ARTEMIS Technology Platform brings together actors from industry, small and medium-sized enterprises, universities, research centres and European public authorities in the field of **Embedded Systems**. ARTEMIS helps to create the necessary critical mass and co-ordinate research efforts and initiatives across Europe in order to establish and implement a coherent and integrated European research and development strategy for Embedded Systems.

- **EUROP, the European Robotics Technology Platform**
  http://www.robotics-platform.eu/

EUROP is an industry-driven framework for the main stakeholders in robotics to strengthen Europe's competitiveness in **robotics** R&D, as well as global markets, and to improve quality of life.

FOOD

- **Food for Life**
  http://etp.ciaa.be/asp/home.asp

  The challenging opportunities for improving welfare and well-being in Europe through research and innovation in the European agro-food industry, together with the size, nature and regional importance of this industry sector, justify the inclusion of a food ETP amongst the some 25 existing ETPs at various stages of development.

- **Plants for the Future**
  http://www.epsoweb.org/Catalog/TP/index.htm

  The European Technology Platform "Plants for the Future" is a stakeholder forum on plant genomics and biotechnology that was initiated by the European Commission upon the request of the Brussels European Council of March 2003. It is supported by the European Commission via a Specific Support Action in FP6 and by the major public and private stakeholders. It is coordinated by EPSO and EuropaBio.

- **Industrial Biotechnology Platform**
  http://www.suschem.org/

  The industry led Technology Platform on sustainable chemistry which brings together the leading chemical industries with the new emerging biotechnology sector, was launched in 2004 in recognition that biotechnology has an important contribution to make to a sustainable and competitive chemical industry.

ENERGY

- **European Wind Energy Technology Platform (TPWind)**
  http://www.windplatform.eu/

  The European Technology Platform for Wind Energy (TPWind) is the indispensable forum for the crystallisation of policy and technology research and development pathways for the wind energy sector, as well as an opportunity for informal collaboration among Member States including those less developed in terms of wind energy.

- **European Photovoltaic Technology Platform**
  http://www.eupvplatform.org/

  The European Photovoltaic Technology Platform is an independent and objective body which aims to be the recognised point of reference for key decision and policy makers. The Platform's mission is to develop a strategy and corresponding implementation plan for education, research & technology development, innovation and market deployment of photovoltaic solar energy, to realise its vision.

- **European Technology Platform for the Electricity Networks of the Future**
  http://www.smartgrids.eu/
  The European Technology Platform for Electricity Networks of the Future, also called SmartGrids ETP, is the key European forum for the crystallisation of policy and technology

research and development pathways for the smart grids sector, as well as the linking glue between EU-level related initiatives.

- **European Biofuels Technology Platform (Biofuels)**
  http://www.biofuelstp.eu/

  The European Union has set ambitious objectives on renewable energy and sustainable biofuels to tackle the challenges of climate change and energy security. In 2009, 12.1 Mtoe (million tonnes of oil equivalent) of biofuels were consumed in the EU 27, accounting for 4 % of road transport fuels. Sustainable biofuels are expected to make a significant contribution to reach the EU 2020 target of 10% renewable energies in the transport sector, as other renewable energies for transport are not yet widely available.

- **Zero Emission Fossil Fuel Power Plants – ZEP**
  http://www.zeroemissionsplatform.eu/

  Experts agree that unless we cut greenhouse gas emissions - especially carbon dioxide (CO2) - by 50%-80% (compared to today) by 2050, the impact on global warming will be disastrous. But with world energy demand expected to double by this date, the challenge will be enormous. It means we must act fast, using a portfolio of solutions, since no single solution will be capable of reducing CO2 emissions on the massive scale required. This includes renewable energies, energy efficiency, and CO2 Capture and Storage (CCS). Indeed if deployed in all industry sectors, CCS has a potential to reduce CO2 emissions by over 50% by 2050.

- **Renewable Heating & Cooling (RHC)**
  http://www.rhc-platform.org/cms/

  Combating climate change and ensuring the security of energy supply represent profound challenges for Europe. Adapting the current energy scenario into a truly sustainable one will require realising the full potential of renewable energy sources to satisfy the heating and cooling demand – which accounts for around half of the EU's final energy consumption.

HEALTH

- **Nanotechnologies for Medical Applications – NanoMedicine**
  http://www.etp-nanomedicine.eu/public

  An ageing population, expectations for a better quality of life and changing lifestyles call for improved, more efficient and affordable health care. A better understanding of the functioning of the human body at the molecular and nanometre scale as well as the ability to intervene at pre-symptomatic, acute or chronic stages of an illness are of utmost importance to meet these expectations.

TRANSPORT

- **Waterborne ETP – Waterborne**
  http://www.waterborne-tp.org/

  The history of civilisation and commerce cannot be separated from waterborne transport. Trade of goods, travelling, exchange of knowledge, and the development of cities, regions and even civilisations, were in past centuries often only possible by means of waterborne transport.

- **European Road Transport Research Advisory Council - ERTRAC**
  http://www.ertrac.org/

  ERTRAC was established to mobilize the stakeholders of the Road Transport System, to develop a shared vision and to ensure a timely, coordinated and efficient implementation of Research in Europe, with the objective to tackle the societal challenges of road transport and to enhance the European Competitiveness.

- **European Rail Research Advisory Council - ERRAC**
  http://www.errac.org/

  Europe's railways provide a vital transport infrastructure supporting Europe's citizens and businesses through passenger travel and the shipment of freight around the continent. However, a large part of the European network is already working to its maximum capacity and customer expectations are increasing in terms of speed, availability, comfort, punctuality, reliability, flexibility and traceability (freight). New technologies are needed in order to meet these demands and further enhance the role that railways play in providing reliable, affordable, safe and environmentally friendly transport for long and short distances.

- **Advisory Council for Aviation Research and Innovation in Europe - ACARE**
  http://www.acare4europe.com/

  The air transport industry makes a significant contribution to the prosperity of Europe, both as a manufacturing sector and as an enabler of the effective transfer of people and goods. The sector generates € 220 billion of direct added value for the EU economy representing some 2.6% of Europe's GDP. Moreover, air transport is important to many other sectors (e.g. tourism) and the contribution of the sector to the EU's wider economy is estimated to be well over 10%. To achieve this, the sector employs 3.1 million people, many of whom are highly skilled workers.

- **Alliance for Logistics Innovation through Collaboration in Europe**
  http://www.etp-alice.eu/

  The European Technology Platform ALICE is set-up to develop a comprehensive strategy for research, innovation and market deployment of logistics and supply chain management innovation in Europe. ALICE is based on the recognition of the need for an overarching view on logistics and supply chain planning and control, in which shippers and logistics service providers closely collaborate to reach efficient logistics and supply chain operations. Future research should focus on new concepts in which increased collaboration and coordination will eventually result in the Physical Internet, where complete horizontal and vertical supply chain collaboration takes place.

ENVIRONMENT

- **Water Supply and Sanitation Technology Platform (WSSTP)**
  http://www.wsstp.eu/

  Water is the basis of life. Advanced water supply and sanitation services and integrated water resources management are extremely important both for economic development and for safeguarding health and survival. Today, utilities and private companies in the EU provide largely adequate water and sanitation services to people, industry, agriculture and nature.

Annex III – Examples Mashriq - Syria

Though it would be too long to list all the information for each MPC, we provide some examples.

The following table compiles the candidates identified to lead each Working Group of the Mashriq - Technology Platform per the country of Syria and the initial number of members per Working Group.

Working Goup		Proposed Coordinator	Organization type (e.g. SME, Univ.)	Number of potential members
Software and Services		ELIXIR	SME	21
Networked Electronics Media (Contents)		GWA-Group	SME	7
Telecommunications		HIAST	Academy	8
High Performance Computing		NOVA	SME	6
Photonics		Damascus University	Academy	3
ECSEL	NanoElectronics	HIAST	Academy	3
	Smart Systems Integration	Yarmouk Private University	Academy	6
	Embedded Intelligence and Systems	Syrian Private University	Academy	4
Robotics		HIAST	Academy	5
ICT for Energy		HIAST	Academy	5
ICT for Health		ICT incubator	Observer	7
ICT for Transport		Arab International University	Academy	5
ICT for Environment		HIAST	Academy	6
ICT for Foods & Plants		Arab International University	Academy	10
ICT for other domains		Fikra	SME	5
Total				**101**

The following table compiles the initial list of members identified to form part of the Working Group on Software & Services for the Mashriq Technology Platform per the country of Syria.

Nb	Organization name	Type of organization	Contact name	email address
1	Arab International University	Academia	Mohammad Imady	m-imadi@aiu.edu.sy
2	HIAST	Academia	Said Dasouki	sdesouki@gmail.com
3	HIAST	Academia	Riad Sonbol	rsonbol@gmail.com
4	HIAST	Academia	Ghaida Rebdawi	ghaida.rebdawi@hiast.edu.sy
5	Damascus University	Academia	Firas Alkassar	en.feras@hotmail.com
6	Damascus University	Academia	Nada Ghneim	nada.ghneim@gmail.com
7	Damascus University	Academia	Madhad Soos	msoossoos@gmail.com
8	Damascus University	Academia	Salah Dowaji	sdowaji@gmail.com
9	TMSARABIA	SME	khaled@tmsarabia.com	Khaled Daifallah
10	Transtek Systems	SME	Husam Khaskieh	husam@transtek.com
11	zgroup mobile	SME	Hesham Zerik	hesham.zreik@gmail.com
12	Technogroupsyria	SME	marwan Saba	marwansaba@gmail.com
13	Huda	SME	Huda Midani	huda.midani@gmail.com
14	Engineering for multi-technologies	SME	Fadi Hajjar	fadi.hajjar@multitech-eng.com
15	Innovative systems	SME	kamal Mounajed	kamal@almounkez.com
16	Automata4 Group	SME	Ammar Fallaha	ammar.fallaha@automata4.com
17	el-ixir	SME	Ammar Jokhadar	ajoukhadar@el-ixir.com
18	syrian commission financial markets securities	SME	Alaa Hamadeh	IT@scfms.sy
19	Mobinets	SME	Anas Ghamian	anas.ghamian@mobinets.com
20	ICT incubator	NGO	Fadwa Murad	fadwa.murad@gmail.com
21	ESCWA	International Organization	Nawar Alawa	nawar.alawa@gmail.com

Annex IV – Examples Mashriq – Jordan

The following table compiles the candidates identified to lead each Working Group of the Mashriq - Technology Platform per the country of Jordan and the initial number of members per Working Group.

Working Group		Proposed coordinator	Organization type	Number of potential members
Software & Services (NESSI)		Science and Technology	Academy(University)	15
Electronics Media & Contents (NEM)		Seneca IT	SME	15
Telecommunications (Networld 2020)		Princess Sumaya Uni	Academy(University)	16
High Performance Computing (HPC)		ersity of Science and T	Academy(University)	15
Photonics (Photonics 21)				
ECSEL	Nanoelectronics (ENIAC)	Jordan University of Science and Technology	Academy(University)	5
	Smart Systems Integration (EPoSS)	STS	SME	10
	Embedded Intelligence and Systems (ARTEMIS)	ESKADENIA Software	SME	8
Robotics (EUROP)		Royal Scientific Socie	Observer	7
ICT for Energy		ibtecar	SME	15
ICT for Health		eqra tech	SME	12
ICT for Transport		SmartSoft LLC	SME	8
ICT for Environment		ESTIDAMA	SME	5
ICT for Food and Plants		ersity of Science and T	Academy(University)	3
Other ICT domains		Madfoo3atCom for eP	SME	7
Total				141

The following table compiles the initial list of members identified to form part of the Working Group on Telecommunications (ICT) for the Mashriq Technology Platform per the country of Jordan.

Organization name	Type	Contact Name	Email
The University of Jordan	Academic	Majdi Sawalha	sawalha.majdi@gmail.com
Al-Balqa Appiled Unversity	Academic	Khalaf Fakhri khatatneh	dr.khalaf@bau.edu.jo
Princess Sumaya University for Technology	Academic	Abdallah Qusef	a.qusef@psut.edu.jo
Jordan University of Science and Technology	Academic	Lo'ai Tawalbeh	tawalbeh@just.edu.jo
Erada for e solutions	SME	Samar mezayek	Samar@e-rada.com
Yarmouk University	Academic	Hussein Alzoubi	halzoubi@yu.edu.jo
The University of Jordan	Academic	Ghazi AL SUKKAR	ghazi.alsukkar@ju.edu.jo
Mutah University	Academic	Yazeed A. Al-Sbou	yazeed_alsbou@yahoo.com
PSUT	Academic	Muhanna Muhanna	m.muhanna@psut.edu.jo
Philadelphia University	Academic	Nameer N. EL-Emam	nemam@philadelphia.edu.jo
STS	SME	Mohammad Adnan	madnan@sts.com.jo
SSSProcess	SME	Ahmad Al Shaikh	ahmadsh@sssprocess.com
Jordan University	Academic	Nabeel Akram	edward@psut.edu.jo
Hashemite University	Academic	Ahmad Khasawneh	akhasawneh@hu.edu.jo
Private Sector	SME	Zaid Al-Zoubi	z.a.alzoubi@gmail.com
University of Jordan	Academic	Ashraf Bany Mohammed	ashraf.bany@gmail.com
Seneca IT	SME	Mutasem Zalloum	mutasemz@senecaltd.com
JUST	Academic	Yaser Jararweh	yaser.amd@gmail.com
Jordan University of Science and Technology	Academic	Moad Mowafi	mowafi@just.edu.jo
PSUT	Academic	Walid Salameh	walid@psut.edu.jo
Al-Balqa Applied University	Academic	Abdel Rahman Alzoubaidi	alzoubaidi@bau.edu.jo
ibtecar	SME	Jamil Khatib	jamil_khatib2004@yahoo.de
United Arab Emirates University	Academic	Nedal Al Taradeh	nstbzu@gmail.com
BAU	Academic	Hamdan Al-Onizat	enizat80@hotmail.com
Royal Scientific Society	Observer	Daher Thabet Daher	daher.thabet@rss.jo
		Hussain Khalid	khalid234@gmail.com
Amman University	Academic	Malik	malikam@ammanu.edu.jo
Princess Sumaya University for technology	Academic	Esam Qaralleh	qaralleh@psut.edu.jo
German Jordanian University	Academic	Sahel Alouneh	sahel.alouneh@gju.edu.jo
Hashemite University	Academic	Sa'ed Abed	sabed@hu.edu.jo
Jordan University of Science and Technology	Academic	Mohammad Malkawi	jilan1957@gmail.com
JUST	Academic	Atheer Al-Shaggah	atheer.m.sh@gmail.com
Yarmouk University	Academic	Qasem Al-Radaideh	qasemr@yu.edu.jo
Jordan university of science and technology	Academic	Qutaibeh katatbeh	Qutaibeh@just.edu.jo
Philadelphia university	Academic	Malek Alraddad	alraddad.malek@gmail.com
Philadelphia University	Academic	Moayad A. Fahdil	muayad.af@gmail.com
eqra tech	SME	hussein Hiyassat	hhiyassat@eqratech.com
Madfoo3atCom for ePayments	SME	Nasser Saleh	nhsaleh@madfoo3at.com
TeleFinity	SME	Khalid Al Ghanem	khalid.ghanem@tele-finity.com
KFD	Observer	Emad Yared	imad@kafd.jo
Erada for e solutions	SME	Samar mezayek	smezayek@erada.com.jo