



# MOSAIC

## MOSAIC

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

<b>Title</b>	<b>D2.1 - Set of country reports</b> highlighting major findings and relevant aspects towards the (Maghreb and Mashriq countries) highlighting major findings and relevant aspects towards the establishment of a MED-TP in each region Methodology for developing WP2 - Information and data intelligence analysis and identification of MED key stakeholders
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<b>Abstract</b>	This document describes the methodology for data collection and analysis of ICT sector per country.
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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	<p>A harmonized document will be produced in which at least the following will be included:</p> <ul style="list-style-type: none"> <li>• List of key stakeholders (private companies, universities, technologic centres, associations, etc.) from the R&amp;D point of view in the field of ICT including ICT applied to Societal Challenges sectors.</li> <li>• Main R&amp;D supporters and R&amp;D agencies.</li> <li>• Current or past activities that could be related with the targeted fields of research.</li> <li>• 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.</li> </ul>
D.2.2	MED-TP Country Matrix	<p>This deliverable will consist of the production of one matrix per MED-TP that will:</p> <ul style="list-style-type: none"> <li>• Classify the information collected in D2.1 in a matrix that will analyse it in a comprehensive way.</li> <li>• Define in a quantitative way in which areas (with respect to ETPs) there is enough critical mass to launch activities in cooperation with Europe.</li> </ul>

### 1.3 Indicators of success

<i>Proposed objectives</i>	<i>Corresponding activities</i>	<i>Indicator of success</i>
<p><b>Objective 1:</b> Identify areas for potential cooperation in each MED country targeted by MOSAIC. Areas will also match those technological fields in which ETPs are focused.</p>	<p>WP2. Task 2.4</p>	<p>Delivery and acceptance of D2.2 indicating the appropriate Working Groups structure of each national MED-TP, plus the list of most relevant stakeholders.</p> <p>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).</p>
<p><b>Objective 2:</b> 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).</p>	<p>WP2 Mostly tasks 2.1, 2.2, 2.3</p>	<p>Delivery and acceptance of D2.1</p>

## **Section 2 - Definition of methodology for the study and interviews (Task 2.1)**

### **2.1 Description**

The initial activities (identification of previous R&D activities, interviews with potential MED-TPs members and public authorities) should be performed in a harmonized way by each one of the country responsible to make that results are easily comparable. The harmonization in the methodology will also improve the results of the later analysis.

### **2.2 Methodology**

The objective is to define a list of parameters and indicators to be taken into account during the collections of information and interviews.

This methodology will also include a brief report to be delivered to the key entities identified, in order to inform them about the MED-TPs objectives, benefits for the MED ICT industry, opportunities for cooperation with European researchers, and the Horizon 2020 work programme.

The collection and analysis of data and information has been approached in a twofold manner, by combining a set of indicators, (quantitative and qualitative) and direct interviews with stakeholders of the government and institutional setting, industry, academy and other relevant actors, likely to bring relevant contributions to drawing a sound picture of the target countries' research potential in the areas considered.

### **2.3 Indicators definition**

The definition of indicators clarifies why we attribute importance to specific information and sets of data in respect of the final scope of the analysis, which is to give suggestions on which areas each country should see as a priority for the establishment of Technology Platforms.

It is expected that one Technology Platform focused on ETPs areas will be launched in each region addressed by MOSAIC (Maghreb and Mashriq).

The purpose of the analysis to be performed in WP2 is to suggest (for each MPC) which research areas offer a critical mass of actors (industrial and academic), as well as enough political, industrial and academic support with potential to originate Working groups within the MED-TPs on ICT. These Working groups will be modelled after the European Technology Platforms operating on the same topics in the European Union.

In such context, it should be stressed that:

- a) Analysis will not depend exclusively on quantitative indicators, as it will include also aspects related to policies and strategies of actors involved at government or industrial level.
- b) Precise and scientifically validated indicators to benchmark the research potential in areas like ICT have not been developed nor agreed at international level.
- c) Analysis will have to cover a large array of research areas and therefore the application of standardised and exclusively quantitative indicators might prove insufficiently effective for the purposes of such analysis.

Whereas the identification of the stakeholders aims at drawing a picture of the forces in place, which could leverage the creation of the MED-TPs, an overview of the ICT research environment at national level is important to depict the “ecosystem” within which initiatives like the TP’s can be promoted. To do so, a set of key indicators has been agreed upon, to allow an assessment of the conditions that every country offers to new research areas and to new forms of collaboration and consultation.

Such indicators have the function to identify, together with the stakeholders of ICT research, also the conditions (such as the overall ICT policy framework, or the trends of market demands for ICT based applications) that can pave the ground to a faster deployment of research activities in the region, along the lines of the strategic research agendas fixed at European level.

In order to provide a balanced overview related to the three above mentioned components in section 2 (institutional setting, industry and academia), the indicators have been defined and organized in three groups: Political support, industrial support and academic support.

### **2.3.1 Political support (PS)**

- ✓ Existence of national or state policies either on ICT globally or on specific R&D areas of ICT.
- ✓ Existence of public or private funding mechanisms to support research in those fields.
- ✓ Future plans (through interviews and questionnaires).
- ✓ Support to the MED-TP concept.

### **2.3.2 Industrial potential (IP)**

- ✓ Existence of large industries doing research and innovation.
- ✓ Existence of research and innovation intensive SMEs<sup>1</sup>
- ✓ Previous participations in FP6-FP7 R&D projects in the ICT priority
- ✓ Existence and independence of local industries (the character of independence should be referred to the fact that the company is not subject to control and strategic decisions originating in other countries)
- ✓ Foreign Direct Investment and existence of development centres of multinational corporations
- ✓ Fields of applications and state of market (potential). Is there demand for given types of services and applications?
- ✓ Number of patents
- ✓ Already existing commercial cooperation with European industries
- ✓ Support to the MED-TP concept.

### **2.3.3 Academic potential (AP)**

- ✓ Existence of universities, or research centres or other academic institutions (private or public) carrying out research activities in the framework of the relevant themes
- ✓ Number of researchers operating in the fields that are relevant to the Future Internet and to

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<sup>1</sup> These can be defined, as in the Eurostars programme, as SMEs that devote at least the 10% of their budget to R&D activities

the corresponding Technology Platforms

- ✓ Number of scientific publications
- ✓ Previous participations in FP6-FP7 R&D projects in the ICT priority.
- ✓ Already existing inter-changes and other cooperation with European academia.
- ✓ Support to the MED-TP concept.

#### **2.3.4 Generic (GE)**

- ✓ Previous participations in FP6-FP7 R&D projects in the ICT priority (any type of entities: Large companies, SMEs, Universities, etc).
- ✓ Innovation policy and/or initiative.

While indicators such as the ones above should be effective parameters to identify the most relevant actors and assess the weight of the national scientific and industrial communities, these should be cross-checked with the distribution of research areas into themes corresponding to the core missions of European Technology Platforms. Targeted ETPs are listed in Annex II.

As the end objective of the MOSAIC project is to promote the birth and operational launching of MED-TPs in Maghreb and Mashriq, it would be pointless to run an analysis that does not take into sufficient account the way in which the European industrial communities have structured their cooperation in the definition of priority research themes.

Finally it should be stressed that although every care has been taken in identifying indicators and benchmark values to be attributed to them in such a way that the different weight of countries under exam could be reflected, therefore ensuring a principle of fair proportion in evaluating the potential of each area in each country, data on ICT in the target countries are not homogeneously available and until now no segmentation has ever been made of such data in previous analysis. This means that data might not be easily or immediately available on different indicators and that the analysis will have to rely, where these are missing or insufficient, from qualitative indicators for instance on the basis of interviews with widely acknowledged stakeholders of the ICT industry, research and policy in the Mediterranean regions.

Due to the time and resources constraints, the MOSAIC project does not have the means to carry out a complete and scientifically exhaustive analysis on the sectors addressed in the target countries. In this respect, the work proposed here has to remain functional to the objective of providing sound indications on the opportunity to establish MED-Technology Platforms modeled after the European ones, in the areas related to ICT. By no means has this analysis the purpose of drawing an exhaustive picture of the ICT sector in the targeted countries.

## Section 3 - Collection of country information and analysis of collected data (Task 2.2)

### 3.1 Description

According to the list of country responsibility per partner, each partner will perform the collection of information following the methodology defined in T2.1.

### 3.2 Methodology

The collection of information in each country should at least include:

- Identification of previous R&D activities, and its classification according to the organisational model defined by the project.
- Identification of key actors in the ICT field. A group of at least 50 entities will be identified.
- Individual interviews with more relevant actors in order to evaluate their potential to be members of the initial core group of the MED-TP. At least the following number of entities per profile will be interviewed:
  - 8 Large industries.
  - 12 SMEs.
  - 10 Technological centres or Universities.
- Identification and interviews with public authorities that are candidates to support ICT research activities and MED-TPs.
- Initial analysis of the collected data at national level.

#### Country level responsibility:

- Maghreb: Université "Mohammed V - Agdal University "
  - Algeria: University of Sciences & Technology of Oran
  - Libya: all MPC partners collaborate through their links in the country. Answare and UM5A coordinate the collection of data.
  - Morocco: Université "Mohammed V - Agdal University "
  - Tunisia: Centre National de L'Informatique (CNI), Institut National Agronomique de Tunisie (INAT)
- Mashriq: Jordan University of Science and Technology
  - Egypt: Technology Innovation & Entrepreneurship Center (TIEC)
  - Jordan: Jordan University of Science and Technology
  - Lebanon: American University of Beirut (AUB)
  - Palestine: Birzeit University
  - Syria: GWA Group

### 3.3 Sources of information

This section gives suggestions on entities or other sources of information from which relevant data can be collected.

As stressed above, the analysis should integrate and process a mix of qualitative and quantitative analysis, as illustrated in the EXCEL file. The column "Type of Indicator" refers to whether an indicator is used to assess the potential at academic (AC), industry (IN) or policy (PO) level. One indicator, related to previous participation in the Framework Programme is referred to as GE (General) type of indicator since it covers participations in the programme by any type of entity (industrial, academic or governmental).

It should also be stressed that although every effort has been made to ensure that the indicators proposed are coherent with the reality of the target countries, these should be considered essentially as a way to harmonize the analysis.

The overall analysis will emerge by collection of data and their interpretation according to the suggested indicators and by interviews.

In principle, you should find useful sources of data at:

- National Ministries for Research and Higher Education
- ICT Associations of Industry
- Universities and Research Centres
- National Statistics Institutes
- National Institutes for Intellectual Property or National Patent Organisations
- ICT Chambers of Commerce
- National Contact Points of the ICT programme
- Organisations that have run previous studies on ICT in the target countries (in many cases they might have background information that has not been published but that could prove relevant to our analysis)

Interviews will provide precious additional information. Refer to section 3.5 of the document to get indications about how to organize and how to run an interview.

It is essential to remember that all the indicators are compiled for each one of technological areas identified in the field of ICT. More detailed instructions are given in section 3.6 on how information has to be gathered and analyzed.

### **3.4 Identification of key stakeholders**

The main scope of work is to identify the most relevant stakeholders, likely to take initiative or being involved, in the target countries, in the creation and launch of the MED Technology Platforms.

A mix of stakeholders representing three different, and yet fundamental components, has been considered as the right combination of interests and roles to ensure a favourable environment to the MED-TPs. These three components are:

- **Governmental stakeholders and policy priorities:** Main actors in shaping ICT R&D policies identifying also political priorities in the support of ICT R&D activities.
- **Industrial stakeholders:** Industrial actors currently involved (or likely to be) in research and development work related to the ICT and ICT for societal challenges: Energy, eHealth, Transport, etc.
- **Research stakeholders:** Academic actors (Universities, technology centres and others) currently involved (or likely to be) in research and development work related to the ICT and ICT for societal challenges: Energy, eHealth, Transport, etc.

These three aspects are considered the basis for the creation of a Technology Platform (TP), and it will be necessary to have enough *interest, critical mass and political support* in order to have a proper environment to launch it.

This is the reason why the analysis performed in WP2 focuses on the identification of different indicators that will define whether there is *interest/critical mass/political support*.

Depending on *interest/critical mass/political support* different thematic working groups will be created within each MED-TP. These thematic Working Groups will be aligned with the areas addressed by their respective European Technology Platforms (ETPs). See annex II:

- For ICT: NESSI, NEM, Net!Works, ISI, ETP4PC, Photonics 21, ENIAC, EPoSS, ARTEMIS, EUROP.
- For ENERGY: Photovoltaics, SmartGrids, TPWind, Biofuels, ZEP and RHC.
- For FOOD: Food for Life, Plants for the Future, Industrial Biotechnology Platform.
- For HEALTH: Nanotechnologies for Medical Applications.
- For TRANSPORT: Waterborne. ERTRAC, ERRAC and ACARE.
- For ENVIRONMENT: WSSTP.

Then we will propose the stakeholders to become part of Working Groups of the MED-TPs, as counterparts of the ETPs.

### **3.5 Interviews with the stakeholders**

This section gives suggestions on how to run interviews and which information these should provide to integrate the analysis.

#### **The interviews with the stakeholders**

Interviews with experts and stakeholders of the areas under exam are an essential component of the analysis, since they will provide more explicit and complex information than a simple collection of data.

According to the DoW, interviews should be done in each country with:

- 8 Large industries
- 12 SMEs
- 10 Technological centres or Universities

Interviews should cover as many as possible of the ICT areas considered. It is therefore highly recommended that entities with which interviews are carried out, are identified in different sectors.

Interviews are a dynamic process based on the interaction between the interviewer and the interviewed person. Thus, no mandatory pattern is provided for them, and interviewers should be free to lead the interviews in the way they considered most appropriate.

However, a couple of principles and suggested questions or subjects to be touched upon in the interviews are provided in the following paragraphs:

#### **When contacting the persons to interview**

Remember that it is very important to state clearly what the interview is meant for. You should always keep in mind and remind it to the people you interview, that this work is functional to assess the potential of each country to set up Technology Platforms, modeled after the European ones, in the identified ICT areas. Since many people will not be aware on what European Technology Platforms are, please be ready to explain the scope and structure of ETPs and have something written in your language that you can send over to them to make things clear about the ETPs and

why we as a project consider that they would be a beneficial system for the research and industrial community of the Mediterranean area.

Some people may express some concerns about whether the interview will be published. In principle the interviews will integrate the analysis. As such, they will not be published, but quotations from the interviews could be included in the conclusions documents (see section 4).

### **Ensure you are doing interviews in the best possible conditions**

Please make efforts to allow interviews to be carried out in the best possible conditions:

Make all efforts to have a meeting (Phone or skype interviews are often disrupted and people will more easily get tired or distracted)

Allow the interview a reasonable time (You should aim not to restrict interviews below one hour of time)

### **Some of the points you should touch upon:**

As stressed above there is no mandatory pattern. You should feel free to ask any question you consider relevant to the analysis we are carrying out. However some aspects related to countries' potential for new TPs should be definitely addressed. Here are some suggestions on points that you might want to keep in mind while carrying out the interviews.

- a) How important do the stakeholders in your country consider collaboration with Europe in their research fields ?
- b) How strategic do they consider their field of research for their own country ?
- c) Are they satisfied or not, and if not what do they think should be changed in the setting of research policies on their field in their own countries ?
- d) What are the bottlenecks or threats that they see as hindering factors in the development of their own field of research (lack of resources, not mature markets, insufficient opening to external cooperation...) ?
- e) Do they see the Technology Platforms model as a viable way of fostering cooperation in their country and between their country and Europe ?
- f) How intensively would they commit to work within the future MED-TPs (ETPs members are usually not paid to provide their contributions to the ETPs work, but they find it a good thing to do because it is strategic for them to be among the ones who determine the research priorities in their areas at European level) ?

### **3.6 How to fill the form**

This section explains how to complete the excel file to be used for the collection of data.

#### **Guidelines on how to fill in the form**

In order to gather easily comparable data, an excel form has been created, with the mix of indicators (policy, industrial, research) + one general indicator related to previous participation into the Framework Programme are proposed. As stressed above, the analysis should integrate and process a mix of qualitative and quantitative analysis, as illustrated in the table below. The column

“Type of Indicator” refers to whether an indicator is used to assess the potential at academic (AP), industry (IP) or policy (PS) level.

Column F corresponds to a general figure for the indicator. Next columns correspond to the European Technology Platforms currently active on ICT themes. Try to provide answers for every column whenever possible.

For each indicator, the MPC partners were requested to assign a score either qualitative or quantitative.

- For qualitative answers, the choice was given in most cases among 3 options (Yes/No/is foreseen) describing different situations in which ICT research in a particular domain could be described, for instance whether an ICT research policy exists or not.
- For quantitative answers, partners could assign the real number or a score from 1 (low) to 5 (high).

Other questions are of a “quantitative nature”. It was decided to provide for all “quantitative indicators” a score that can be comprised between 1 (low) and 5 (high).

Therefore:

- 1 – Low
- 2 – Medium Low
- 3 – Medium
- 4 – Medium High
- 5 - High

The advantage of using a 1-5 ranking is that the analysis is more easily comparable and differences related to the different ICT areas can emerge more rapidly. However, since the countries considered are different in dimension and level of ICT maturity, the 1-5 values should correspond to different absolute figures, as these might differ substantially from country to country.

Given the differences among the countries in exam (from Egypt nearing 80 million people to Lebanon and Palestine, close to 4,3 million inhabitants), a weighting calculation will be proposed in order to obtain proportioned results that would take into account the size of each country. A proportioning system based on the population would be sufficient, since there is the need to assess the potential in each country on the basis of common indicators, but not of comparing or benchmarking the situation among the different countries. Such an objective would have demanded a much more complex weighting system, in order to assess the relative potentialities of the research areas in the target countries in the light of the differences existing at regional level. As the only form of ranking in this investigation deals with is on a purely national basis (within which country, which research area has more potential than the others), no other weighting system was considered necessary to the purpose of this task.

A “conversion table” will be obtained according to proportions based on the population size, suggesting each partner to give an indicator a given score if the data collected during the preliminary analysis were comprised between given values. For instance, the existence of 15 universities or research centre focusing on a particular research area (embedded systems, microelectronics, photonics) would correspond to a score medium-low in one country and maybe to a different score in a different country.

This can be taken as a basic criterion to assess the quantitative potential in each country. The objective is to determine which areas each country has priority.

## Section 4 - Consolidation and harmonisation of the analysis (Task 2.3)

### 4.1 Description

Although a common methodology has been defined for these WP activities, it is foreseen that the outcomes of national analysis will not be fully coherent and directly comparable due to the lack of information or its unreliability. This task shall take care of performing a consolidation and harmonisation process together with the national responsible in order to produce a coherent result.

### 4.2 Methodology

Once national information has been gathered and initial national analysis has been done, an overall analysis will be initiated in order to:

- Harmonize each one of the national analysis by providing guidelines and recommendations to the partner responsible of each national analysis.
- Check the quality and amount of the information gathered, guaranteeing that the national analysis meets the minimum thresholds established in the methodology
- Produce a Global analysis on the basis of national analysis.

### 4.3 Recommendations

This section gives recommendations on how to integrate the data and the analysis with a summary of conclusions structured in a clear and functional way.

Collecting data and answering the questions is a very important phase of the analysis. However, this needs to be integrated with conclusions so as to interpret, mitigate and draw essential information from the analysis carried out on the basis of the proposed indicators.

Conclusions must be provided by each partner on each area under exam. Conclusions should be summarized in a one page document. Although no mandatory structure is requested for the conclusions, it is suggested that the conclusion documents should contain the following elements:

- **Highlighting the national specificities:** It is possible that specific conditions, factors or other aspects that are present only in one country do not emerge explicitly from the analysis based on indicators. Where present, such conditions should be conveyed in one paragraph so as to allow a sound reading of data collected.
- **Overall estimation:** The overall estimation should take into account the data emerging from the indicators based analysis and from the interviews with stakeholders. It should therefore provide an informed and intelligent interpretation of the country's potential in respect of each area.
- **Recommendations:** Based on the overall estimation, recommendations should suggest a list of actions ordered by priority. This should apply to all areas (even those with lower potential) and provide as precise as possible indications on the steps to be undertaken for research areas where the potential is higher.

#### **4.4 National Reports**

A harmonized document will be produced in which at least the following will be included:

- 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, audio-visual, telecommunications, ICT Components, etc.) and potential application sectors associated to ICT for societal challenges more relevant in the region.

#### Proposed Table of Contents

##### **I. Introduction**

The situation of the country (see DoW the analysis presented, Funding schemes, population, level of innovation, etc)

Situation of the country in terms in ICT

Position in the world ranking (indicators if any)

Potential for growth / forecasts (indicators if any)

Spending of GDP in ICT

##### ***Situation of research and innovation***

Main funding organizations for research and innovation programmes

Main current initiatives / programmes / policies / tools for research and innovation

Future initiatives and roadmap

##### ***Situation of industry and academia***

Main geographic locations where ICT is developed

Situation of industry

- large industry
- SMEs, policy for SMEs / entrepreneurships

Situation of academia

- number of universities
- number of research centers, technology centers, ...
- number of researchers

##### **II. Sectorial analysis and indicators**

Current situation for industry: overall turnover, number of employees, ...

Main relevant entities in terms of turnover, employees, etc

Research community: size, ...

Plan for the future / relevance and importance of the topic for the country

Indicators Table: Explanation of the analysis

(Areas of ICT sectors: e.g. NESSI; NEM, MOBILE and WIRELESS, etc)

**II. List of contributors (stakeholders)**

**III. Conclusions and Recommendations**

## **Section 5 - Preparation of MED-TP Country Matrix of potentialities (Task 2.4)**

### **5.1 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.

### **5.2 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.

## Annex I - Acronyms

<b>Term / expression</b>	<b>Description</b>
ETP	European Technology Platform
ICT	Information and Communication Technology
SRIA	Strategic Research and Innovation Agenda
TP	Technology Platform

## Annex II – European Technology Platforms

See ETPs: [http://cordis.europa.eu/technology-platforms/individual\\_en.html](http://cordis.europa.eu/technology-platforms/individual_en.html)

### ICT

ETP	Description
NESSI	Software and Services
NEM	Networked and Electronic Media
Networld 2020 (Net!Works and ISI)	Mobile and Wireless Communications (including satellite)
ETP4HPC	High Performance Computing
Photonics 21	Photonics
ECSEL	ENIAC - Nanoelectronics
	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/](http://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 communication<sup>1</sup> 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 (CO<sub>2</sub>) - 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 CO<sub>2</sub> emissions on the massive scale required. This includes renewable energies, energy efficiency, and CO<sub>2</sub> Capture and Storage (CCS). Indeed if deployed in all industry sectors, CCS has a potential to reduce CO<sub>2</sub> 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.