Roadmap for EU - Southern Neighbourhood S&T cooperation

1. SOUTHERN NEIGHBOURHOOD as a partner of the EU

The European Union and its Southern Neighbours share a rich common history and heritage as well as several opportunities and common challenges. With total trade amounting to 174 billion euros in 2016, Southern Mediterranean countries in aggregate would rank 5th as trading partners of the EU. Meanwhile our proximity also means that a stable EU Neighbourhood in political, socio-economic and security terms is critical. Therefore the European Neighbourhood Policy (ENP) seeks to build effective partnerships between the EU and its Southern Neighbours, framed by the values of democracy, the rule of law and respect of human rights.

While the ENP principally frames bilateral policy of the EU with each Neighbourhood country, it prioritises the Union for the Mediterranean (UfM) to channel regional cooperation efforts with Southern Neighbours. The UfM provides a platform for multilateral cooperation initiatives with Southern Neighbours among other UfM Member Countries. The UfM promotes economic integration among Member Countries working in a range of fields including the business environment, energy and climate action, water and the environment, urban development and higher education and research.

The countries within the Southern Neighbourhood that are included in this roadmap comprise: Algeria, Egypt, Jordan, Lebanon, Libya, Morocco, Palestine and Syria. Israel and Tunisia are not included in this edition of the roadmap being associated to Horizon 2020 since 1 January 2014 and 1 January 2016 respectively.

[Latest EU-SOUTHERN NEIGHBOURHOOD Summit]

The second Regional Forum of the UfM took place on 23-25 January 2017 in Barcelona where the EU was represented by the High Representative for Foreign Affairs and Security Policy and Vice-President Federica Mogherini.

On this occasion UfM Member States endorsed a roadmap that addresses the potential of youth for stability and development¹, which provides a framework for agreed-upon priorities across UfM Member Countries. The roadmap sets the stage for a deeper regional political dialogue to address common challenges such as terrorism, radicalisation and irregular migration. The UfM will also continue to strive to support human development, particularly through youth and the empowerment of women. For this purpose youth employability, job creation, education, women’s socioeconomic empowerment and the territorial dimension will underpin the UfM’s agenda as a means to addressing youth employment, mobility and economic integration.

¹ Mediterranean in Action: Youth for Stability and Development, URL: http://ufmsecretariat.org/ufmregforum/
The EU established association agreements with a number of countries in the region covering a broad range of areas including political dialogue, trade, economic, social and cultural issues. To date the EU has established association agreements with the Palestinian Authority (in force: 1 July 1997), Tunisia (1 March 1998), Morocco (1 March 2000), Israel (1 June 2000), Jordan (1 May 2002), Egypt (1 June 2004), Algeria (1 September 2005) and Lebanon (1 April 2006).

In addition, in 2011 the Council adopted negotiation directives for Deep and Comprehensive Free Trade Agreements (DCFTAs) with Egypt, Jordan, Morocco and Tunisia which would essentially integrate these countries into the EU single market. Negotiations for a DCFTA were launched with Morocco in 2013 and with Tunisia during 2015.

The year 2017 saw the first meeting of Research Ministers of UfM Member Countries since 2007 when the Meeting of Euro-Mediterranean Ministers on Higher Education and Scientific Research took place in Cairo.

The "Ministerial Conference on Strengthening Euro-Mediterranean Cooperation through Research and Innovation" was held on 4 May 2017 in Valletta. This meeting coincided with the culmination of inter-institutional negotiations that led to the adoption of the Decision of the European Parliament and the Council on the Union’s participation in PRIMA.

The resulting Valletta Declaration sets out the Ministerial Conclusions that commit to the implementation of PRIMA through a common research an innovation agenda in the key fields of food systems and water resources and a higher degree of integration between UfM countries. In addition the Research and Innovation Initiative for Blue Jobs and Growth in the Mediterranean Area (BLUEMED) will further develop and shape a common vision for the Mediterranean and promote integration among UfM countries in marine and maritime research and innovation. In the area of migration research the need for common platforms, methodologies and shared data collection and analysis was acknowledged by the Ministers.

Preparatory work for the Ministerial Conference took place during two meetings of the Euro-Mediterranean Group of Senior Officials in Research and Innovation (EU-MED GSO) that took place on 22 November 2016 and 25 January 2017. The Ministers also charged the EU-MED GSO with implementing the Valletta Declaration.

Meanwhile negotiations with third countries that are not associated to Horizon 2020 proceeded in earnest with a view to the timely conclusion of bilateral international agreements setting out the terms and conditions of

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2 Decision (EU) 2017/1324 of the European Parliament and of the Council of 4 July 2017 on the participation of the Union in the Partnership for Research and Innovation in the Mediterranean Area (PRIMA) jointly undertaken by several Member States
4 Note that the Association to Horizon 2020 provided Israel, Tunisia from the Southern Neighbourhood as well as Turkey with direct access to participate in PRIMA since the respective Association Agreements with these countries allow them to participate in 185 TFEU initiatives such as PRIMA.
their participation in the Partnership for Research and Innovation in the Mediterranean Area (PRIMA). The signature of the Agreement between the EU and each of Algeria\(^5\) and Egypt\(^6\) took place on 26 October 2017 and 27 October 2017 respectively. The signature of the Agreement with Jordan is foreseen on 10 November 2017, Meanwhile negotiations between were successfully concluded with Lebanon on 18 July 2017 enabling the Agreement for Lebanon’s participation to PRIMA to be concluded as soon national procedures are completed.

Country-level bilateral Science and Technology Cooperation Agreements (S&T Agreement) between the EU have been established with Morocco (2005), Egypt (2008), Jordan (2010) and Algeria (2013). Since the previous edition of the Roadmap the EU has held meetings of the Joint Science and Technology Cooperation Committee (JSTCC) with Algeria on 26 October 2017 and Egypt on 27 October 2017 on occasion of the signature of the Agreements between each of these countries and the EU setting out the terms and conditions of the participation in PRIMA.

[R&I landscape in SOUTHERN NEIGHBOURHOOD]

Of the Southern Mediterranean countries included in this edition of the roadmap Egypt, Jordan, Morocco and Syria are lower middle income countries while Algeria, Lebanon and Libya are upper middle income countries. The total population reaches 185 million and includes a large youth population. For example in Egypt, which has the largest population among Southern Mediterranean countries, about one in three people are aged fifteen or younger. Unemployment remains a major challenge in the region with unemployment rates hovering around 10%. Unemployment is particularly high among youth reaching the 25% mark in many countries in the region.

The current economic outlook remains challenging for all countries included in this roadmap. Algeria’s reliance on oil export revenues is expected to impact its GDP growth in 2017, estimated at 1.5%, down from around 4% in 2016 as a result of a prolonged low level of oil prices. Meanwhile Egypt has undertaken an ambitious reform programme backed by the IMF since November 2016 but faces high inflation (around 35%) and significant pressure on public finances. Lebanon and Jordan continue to suffer from spillovers from the Syrian conflict, resulting in a deceleration in their economies and an increase in unemployment (close to 20% in both countries). However both countries have proved resilient notwithstanding high public debt levels (2016 - %/GDP: Lebanon: 144%; Jordan: 95.1%). The conflict in Syria is estimated to have resulted in a 63% fall in GDP between 2010 and 2016 in addition to major human loss with an estimated 400,000 casualties and more than half of the Syrian population having been displaced. In Libya GDP is estimated to have shrunk cumulatively 47% since 2012. In 2016 the Libyan economy shrunk a further 3.3% affected by low oil prices and oil production levels reaching only a fifth of the country’s potential. In Palestine GDP growth resumed in 2015-2016, albeit driven by reconstruction activity in Gaza and not sustainable. Per capita GDP in Palestine has been mostly on a downward trend since 2012, reaching USD 1,766 in 2016. Finally Morocco’s economy grew more slowly in 2016 (1.5%) due to a contraction in agricultural output although it is expected to rebound to around 4.4%, primarily on the back

\(^5\) Agreement for scientific and technological cooperation between the European Union and the People’s Democratic Republic of Algeria setting out the terms and conditions for participation of the People’s Democratic Republic of Algeria in the Partnership for Research and Innovation in the Mediterranean Area (PRIMA)

\(^6\) Agreement for scientific and technological cooperation between the European Union and [Egypt] setting out the terms and conditions for participation of [Egypt] in the Partnership for Research and Innovation in the Mediterranean Area (PRIMA)
of a recovery in agriculture. Morocco’s main challenge continues to be that of promoting private sector growth and job creation.

Table 1: Southern Neighbourhood Countries – Overall R&D Landscape

<table>
<thead>
<tr>
<th>Country</th>
<th>Population¹</th>
<th>GDP² (per capita)</th>
<th>GERD³ (as % of GDP)</th>
<th>R&amp;D personnel per million habitants⁴ (researchers per million habitants)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Algeria</td>
<td>40.4</td>
<td>584.0 (14687)</td>
<td>241.1 (0.07%)</td>
<td>508 (415)</td>
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<tr>
<td>Egypt</td>
<td>93.4</td>
<td>999.0 (10891)</td>
<td>7,217.9 (0.72%)</td>
<td>2526 (1396)</td>
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<tr>
<td>Jordan</td>
<td>7.7</td>
<td>82.8 (10880)</td>
<td>263.3 (0.43%)</td>
<td>1568 (1197)</td>
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<tr>
<td>Lebanon</td>
<td>6.0</td>
<td>81.5 (13938)</td>
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<td></td>
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<tr>
<td>Libya</td>
<td>6.3</td>
<td></td>
<td></td>
<td>182 (74)</td>
</tr>
<tr>
<td>Morocco</td>
<td>34.8</td>
<td>274.0 (7821)</td>
<td>1,483.6 (0.71%)</td>
<td>1469 (1385)</td>
</tr>
<tr>
<td>Palestine</td>
<td>4.8</td>
<td>22.2 (5009)</td>
<td>95.533.9 (0.49%)</td>
<td>1972 (1026)</td>
</tr>
<tr>
<td>Syrian Arab Republic</td>
<td>18.6</td>
<td></td>
<td></td>
<td></td>
</tr>
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¹In million; values of 2016.
²In billion PPP current international $; values for 2015.
Source: DG Research and Innovation, Dir. C - International Cooperation
Data: UNESCO Institute for Statistics, retrieved on 12/10/2017

As a result efforts geared towards fiscal consolidation in most countries are putting public expenditure under pressure. The partial data provided in Table 1 above shows total population and gross domestic product data as well as expenditure on research and experimental development (GERD) measures in Southern Mediterranean countries. While GERD/GDP ratios appear to be in line with average values for upper middle-income (0.55%), except for Algeria (0.07%) and lower-middle income (0.34%) countries, they fall below the targets set as individual national policy objectives for 1% or above.

Based on the most recent data available Algeria and Libya also trail behind average for upper-middle income countries in the number of researchers per million inhabitants (average: 792.86)⁷, while Egypt, Jordan, Morocco and Palestine all report above average figures (lower-middle income researchers, per million inhabitants: 449.14).

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⁷ The Global Innovation Index 2017 – innovation Feeding the World, tenth edition
2. State of play of EU-SOUTHERN NEIGHBOURHOOD S&T cooperation

2.1 On-going FP7 and Horizon 2020 cooperation

In FP7 applicants from Southern Neighbourhood countries (excl. Israel and Tunisia) were involved 2429 times to 1281 eligible proposals in collaborative research actions. Of these, there were 406 participations by entities from the Southern Mediterranean (excl. Israel and Tunisia), in 194 successful projects with a European Commission (EC) contribution to Southern Mediterranean beneficiaries (excl. Israel and Tunisia) amounting to €43.8 million.

Until October 2017, in Horizon 2020 applicants from Southern Neighbourhood (excl. Israel and Tunisia) countries were involved 613 times in 348 eligible proposals to collaborative actions. 39 proposals were mainlisted, leading to a success rate of 11.2% (as compared to 14.7% overall). Southern Neighbourhood (excl. Israel and Tunisia) entities have 71 participations in 39 signed grants, receiving 8.9 million euros from the EU while 2.9 million euros is the non-EU budget of beneficiaries from this region.

Figure 1: Participation of most active Southern Neighbourhood countries in Horizon 2020

Note: Participations of beneficiaries, third-parties and partner-organisations.
Source: DG Research and Innovation - International Cooperation
Data: CORDA (JRC, EIT and art.185 not included); extraction date: 17/10/2017

8 Here referring to non-bottom-up, internationally open, collaborative actions, i.e. all actions except for ERC, MSCA, actions under the SME Instrument and Access to Risk Finance.
In the Research Infrastructure dimension, at multi-lateral level, the EU has also provided support towards the setting up the Synchrotron-light for Experimental Science and Applications in the Middle East (SESAME), whose members include Egypt, Israel and the Palestinian Authority. The EU has observer status in SESAME. The EU continues to engage building human capital in the Middle East to exploit the SESAME infrastructure while training SESAME staff both in the technical aspects of using of a modern light source facility and in building awareness about the positive impact of SESAME among a broad public.

In the context of broader cooperation with Africa and global STI cooperation the involvement of Southern Mediterranean countries varies according to the area. For example:

**Belmont Forum:** Apart from France and Italy) no Mediterranean research & innovation funding agencies are member of the Belmont Forum which supports multi-national collaborative projects which address some of the grand research challenges in areas such as food security, ecosystem services, freshwater security, and coastal resilience. With over 20 major funding agencies from 4 continents the Belmont Forum is the largest and most operational international partnership of research funding organizations and science councils invested in interdisciplinary and transdisciplinary research to inform human action and adaption to global environmental change. As it is the case for Horizon 2020, the Belmont Forum strongly adheres to open access to research data principles. For the EU & Associated States, the EC (H2020) and funding agencies from France, Germany, Italy, the Netherlands, Sweden and the UK and are members. The EU-Mediterranean Partnership could gain from more Mediterranean R&I funding agencies becoming member of the Forum.

**Future Earth:** Launched at the Rio+20 Summit in 2012, Future Earth is a 10-year international research initiative that will develop the knowledge for responding effectively to the risks and opportunities of global environmental change and for supporting transformation towards global sustainability in the coming decades. It is sponsored by the International Council for Science (ICSU), the International Social Science Council (ISSC), the Belmont Forum, the UN Educational, Scientific, and Cultural Organization (UNESCO), the UN Environmental Programme (UNEP), the UN University (UNU), and the World Meteorological Organization (WMO). With more than 70,000 researches linked to it world-wide, Future Earth is evolving also into a virtual interface for scientists from 6 continents and has the potential of becoming a prominent context for EU and non-EU researchers, research bodies and research funding agencies exchanging STI visions with each other. Although a regional hub in the Mediterranean is being established, Mediterranean countries are still under-represented in this initiative.

### 2.2 Current framework conditions for EU-SOUTHERN NEIGHBOURHOOD S&T cooperation

Framework conditions are mostly relevant to bilateral aspects of cooperation with Southern Mediterranean countries rather than at a regional level. Issues such as the protection of intellectual property rights, competition rules or the liberalisation of public procurement are addressed in bilateral association agreements the EU has established with Southern Mediterranean countries⁹.

During FP7 cooperation with Southern Mediterranean countries included a strong component of competence building and the creation of networks among research and innovation communities with funding in a wide range

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⁹ Algeria, Egypt, Israel, Jordan, Lebanon, Morocco, Palestinian Authority,
of projects reaching 20.1 million euros (excl. Israel and Tunisia), Support to competence building, networking and coordination continues in Horizon 2020, although to a lesser extent with 2.5 million euros of EU funding provided to Southern Mediterranean participants to date.

Researcher mobility is promoted through Marie Skłodowska-Curie Actions (MSCA), part of the EU’s Research Framework Programme, Horizon 2020. Up to October 2017, Southern Neighbourhood (excl. Israel & Tunisia) entities have participated 40 times in MSCA actions (1 in Individual Fellowships (IF), 37 in the RISE, 1 in the ITN and 1 in the NCP programme). Furthermore, ‘partner organisation’ participants of the MSCA-RISE programme have received 5.5 million euros of indirect EU contribution. A total of 203 nationals of this region have participated in MSCA actions.

Finally 3 nationals from Southern Neighbourhood countries have acquired a grant from the European Research Council.

Meanwhile EU Member States have until 23 May 2018 to transpose an EU Directive on the conditions of entry and residence for third-country nationals for the purposes of research, studies and training\(^\text{10}\), which will facilitate the entry of non-EU nationals for the purposes of carrying out research in a host organisation established in the EU. The possibility to stay for an additional nine months in the host EU country is available following the period of research or training activity has been completed.

3. **Priorities for the future in S&T cooperation**

3.1 **Areas of future S&T cooperation agreed at latest Joint Committee/High Level Dialogues**

The focus of EU-Southern Mediterranean cooperation focusses on the thematic areas summarised below.

- **PRIMA** aims to build research and innovation capacities and to develop knowledge and common innovative solutions for **agro-food systems and water management and provision** in the Mediterranean area. Its overall objective is to make these more climate resilient, efficient, cost-effective and environmentally and socially sustainable, and to contribute to solving water scarcity, food security, nutrition, health, well-being and migration problems upstream. As an added value Participating States will seek to align national R&I programmes, involve a critical mass of actors and resources and strengthen R&I capacities in the region. These priorities will be implemented through the PRIMA programme as from its launch on 1 January 2018.

- Efforts in the area of marine and maritime research have taken a new dimension with a focus on governance through the **BLUEMED** initiative that not only directed resources towards research and innovation actions in BLUEMED-related fields but is now also developing as a means for policy coordination across the countries of

\(^{10}\) Directive (EU) 2601/801 of the European Parliament and of the Council of 11 May 2017 on the conditions of entry and residence for third-country nationals for the purposes of research, studies and training, voluntary service, pupil exchange schemes of educational projects
the Mediterranean area. BLUEMED will strive to work through dedicated platforms\textsuperscript{11} while developing an operational network of research funders and key players in BLUEMED-related sectors. Building on the existing Strategic Research and Innovation Agenda\textsuperscript{12} BLUEMED will act in a wide range of areas including the integration of Mediterranean countries beyond EU founder countries\textsuperscript{13}, integration of policies on data collection and access, Blue skills and employment among other areas.

- A \textbf{Blue Bioeconomy Public–Public Partnership} (topic: BG-02-2018) will be developed with a view to mobilising investments by aligning national and regional innovation research agendas across different blue bioeconomy sectors. Participating national and/or regional research programmes will pool financial resources with a view to implementing joint calls for proposals resulting in grants to third parties. Activities shall address a range of areas including the exploitation of aquatic biomass, achieving zero waste or optimising waste materials from fisheries and aquaculture, the use of biotechnology and ICT in the blue bioeconomy from different trophic levels for use in food and other value chains.

- In the area of \textbf{migration} the priorities are in addressing emerging trends in international protection of asylum seekers, with special reference to Jordan among other countries but not limited thereto (topic: MIGRATION-08-2019). In addition the study of medium and long-term socioeconomic dimensions of mass displacement when people driven by forced migration are in camps or hosting areas or settle in unprotected and underprepared urban settings (topic: MIGRATION-09-2018) targets in particular participants from Africa and the Middle East. These are just two of a range of topics that will address migration research (Call MIGRATION within the work programme; "Europe in a changing world – inclusive, innovative and reflective societies"). Topics will address the analysis of drivers, existing governance structures, improving forecasting, modelling, and institutional arrangements to establish a global governance for migration.

- Global \textbf{governance and violent extremism} in the broader MENA region and the Balkans (topic: SU-GOVERNANCE-10-2019) will be addressed to understand the interplay between religion, politics and identifies at both country and regional levels. This topic and to develop empirical and interdisciplinary research obtain a better understanding of historical, geopolitical, socioeconomic, ideological, cultural, psychological and demographic factors that drive violent extremism.

- In the context of preserving, managing and leveraging our \textbf{cultural heritage}, cooperation with Neighbourhood Countries will focus on establishing an international network to promote heritage-led innovation for sustainable development and provide expertise and assistance, particularly where cultural heritage is at risk (topic: LC-CLA-05-2019). The network composed of a wide range of stakeholders will seek to address various

\textsuperscript{11} Currently addressing knowledge, economy, technology and policy angles of BLUEMED-related topics involving all countries of the Mediterranean area.

\textsuperscript{12} URL: http://www.bluemed-project.eu/wp-content/uploads/2016/12/Bluemed-SRIA_A4.pdf

\textsuperscript{13} The "Research and Innovation Initiative for Blue Jobs and Growth in the Mediterranean Area (The BLUEMED Initiative)" aims to advance a shared vision of a Mediterranean Sea that is healthy, productive, resilient, understood and valued so as to promote the well-being and prosperity of our citizens and future generations and boost socio-economic growth and jobs. It was jointly developed by Cyprus, Croatia, Greece, France, Italy, Malta, Portugal, Slovenia and Spain and presented by the Italian Presidency during the Competitiveness Council of 04-05 December 2014.
topics including the identification and promotion of heritage-leg initiatives, the identification of gaps in knowledge in the domain of preservation and management of heritage, the analysis of regulatory, economic, social and technical barriers among many others.

- In the area of **research infrastructures** the development and installation of a dedicated beam-line in SESAME will be supported (topic: INTRASUPP-01-2018). This will help strengthen the links to the European network of analytical facilities with particular reference to new synchrotrons currently under development. The objective is to consolidate research activity in SESAME and to strengthen its profile in the region.

- In the area of **security research** cooperation is sought in developing a deeper understanding of how novel technologies and social media impact border control. These may depend on a variety of human factors, social and societal issues, (topic: SU-BES01). This will address two areas: detecting security threats possibly from certain perceptions abroad that deviate from the reality of the EU and modelling, predicting and dealing with migration flows to avoid tensions and violence. In the context of **developing sustainable chemistry, smart materials and intelligent recycling**, a topic on catalysis technologies (topic: CE-NMBP-24-2018) targets cooperation with EU Neighbourhood countries, Iran and Iraq among others. This topic will address a range of angles including the direct conversion of light hydrocarbon resources, the conversion of non-transportable gas resources to liquid hydrocarbons, novel energy-efficient and cost-competitive routes for the direct utilisation of light alkanes in the production of high-value chemicals and the assessment of environmental and safety issues.

- In the context of the EU-Africa cooperation, support will be provided to the **EU-Africa Research and Innovation Partnership on food and nutrition security and sustainable agriculture** (FNSSA) in order to create a platform for exchange and to seek synergies between different funding mechanisms implementing the R&I Partnership on FNSSA (topic: SFS-33-2018). The nutrition performance of African farming systems, strengthening the agro-biodiversity (including integrated aquaculture systems) and food diversity will be addressed (topic: LC-SFS-34-2019) as part of joint efforts to tackle nutritional imbalances, including under-nutrition and diet-related, non-communicable diseases, together with sustainable agricultural production (SFS-35-2019-2020).

- In the context of **EU-Africa cooperation, renewable energies** will be addressed initially through a coordination and support action (topic: LC-SC3-JA-4-2018) with a view to preparing for a common strategic joint research and innovation programme on renewable energy technology (topic: LC-SC3-JA-5-2019). The latter will focus on the adaptation of renewable energy generation technologies to the African environmental, including the social and economic conditions of their utilisation, of and on improving the innovation capabilities in Africa with the ultimate goal of providing affordable access to renewable energy and of improving the innovation cycles.

- In the context of **EU-Africa cooperation** in the area of **Climate action** will address climate services tailored for Africa and the impact of climate change in shaping population migration patterns (topic: LC-
CLA-05-2019). Climate services will focus on the water, energy and land use sectors with a view to developing and implementing climate adaptation strategies in Africa. In terms of migration, a multidisciplinary approach is required to identify and describe climate parameters, develop analytical methodologies and demonstrate how these relate to human migration patterns.

• In the context of EU-Africa cooperation, cooperation in the area of Transport (topic: LC-GV-05-2019) will focus on urban mobility and sustainable electrification in large urban areas in developing and emerging economies. Cooperation in this area will aim to develop innovative solutions toward private and public electricity mobility, increasing mobility and energy efficiency, the development of networks and charging infrastructure as well as to perform demonstration and pilot activities around innovations in the area of electrified mobility. It will also address sustainable planning, plans for financing deployment and replication across a larger group of urban areas and countries.

3.2 Potential new areas of future S&T cooperation proposed at latest Joint Committee/High Level Dialogue, through SFIC, or by thematic services

• The Valletta Declaration\(^3\) calls for the development of further priorities for cooperation, including in areas of high industrial relevance. In this context novel innovation paradigms, particularly frugal innovation, that address societal needs in a sustainable and affordable way could encourage the take-up of new solutions coming from industrial enabling technologies with the involvement of relevant stakeholders and target value chains. In the area of transport cooperation could be enhanced in the fields of competitive, green ports and hinterland connectivity transport and logistics networks.

• In addition to currently planned cooperation activities and as an input to and EU’s commitment in implementing the Paris Agreement as a follow-up to COP21, the EU and the Southern Mediterranean have also agreed to pursue cooperation in the area of renewable energies, possibly in solar energy as well as wind power and Mediterranean-specific biomass as a means to meet significant forecast increases in energy demands in the region while transitioning to low-carbon energy and improving energy security and efficiency.

• In the area of health, potential areas for cooperation are rare diseases, infectious diseases and non-communicable diseases such as diabetes, cancer and obesity. A number of multi-lateral initiatives including the Global Research Collaboration for Infectious Disease Preparedness\(^14\) (GloPID-R) and the Global Alliance for Chronic Diseases\(^15\) (GACD) may provide the right setting for cooperation with Southern Mediterranean countries. Egypt has expressed interest to GACD and other countries from the Southern Mediterranean might follow.

• Closer cooperation in the context of the Belmont Forum is desirable. The Belmont Forum, created in 2009, is a global partnership of 21 research funding organisations and science councils investing in the advancement of interdisciplinary and transdisciplinary research in the field of global environmental change challenge.

\(^14\) www.glopid-r.org
\(^15\) www.gacd.org
# ANNEX: HORIZON 2020 WORK PROGRAMME 2018-20 TOPICS EXPLICITLY ENCOURAGING COOPERATION WITH THE SOUTHERN NEIGHBOURHOOD

<table>
<thead>
<tr>
<th>Topic identifier /Year</th>
<th>Topic title</th>
<th>Type of Action</th>
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<tbody>
<tr>
<td><strong>Nanotechnologies, Advanced Materials, Biotechnology and Advanced Manufacturing and Processing</strong></td>
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<td>CE-NMBP-24-2018</td>
<td>Catalytic transformation of hydrocarbons (RIA)</td>
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<td><strong>Food security, sustainable agriculture and forestry, marine and maritime and inland water research and the bioeconomy</strong></td>
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<td>BG-02-2018</td>
<td>Blue Bioeconomy Public-Public Partnership</td>
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<td>SFS-33-2018</td>
<td>Support to the implementation of the EU-Africa Research and Innovation Partnership on Food and Nutrition Security &amp; Sustainable Agriculture (FNSSA)</td>
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<td>SFS-35-2019-2020</td>
<td>Sustainable Intensification in Africa</td>
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<td><strong>Secure, clean and efficient energy</strong></td>
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<td>Support action in preparation of a Joint Programming activity</td>
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<td>Joint Programming with EU and African partners for a R&amp;I actions in the area of renewable energy</td>
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<td><strong>Smart, green and integrated transport</strong></td>
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<td>LC-GV-05-2019</td>
<td>InCo flagship on “Urban mobility and sustainable electrification in large urban areas in developing and emerging economies”</td>
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<td><strong>Climate action, environment, resource efficiency and raw materials</strong></td>
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<td>SC5-19-2018</td>
<td>International network to promote cultural heritage innovation and diplomacy:</td>
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<td>LC-CLA-05-2019</td>
<td>Human dynamics of climate change</td>
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<td>MIGRATION-08-2019</td>
<td>International protection of refugees in a comparative perspective</td>
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<td>MIGRATION-09-2018</td>
<td>Addressing the challenge of forced displacement</td>
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<td>SU-GOVERNANCE-10-2019</td>
<td>Drivers and contexts of violent extremism in the broader MENA region and the Balkans</td>
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<td><strong>Research Infrastructures</strong></td>
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<td>INTRASUPP-01-2018</td>
<td>Policy and international cooperation measures for research infrastructures</td>
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<td><strong>Secure societies - Protecting freedom and security of Europe and its citizens</strong></td>
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<td>SU-BES01-2018-2019-2020</td>
<td>Human factors, and social, societal, and organisational aspects of border and external security:</td>
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<td>- Sub-topic 2: [2019] Modelling, predicting, and dealing with migration flows to avoid tensions and violence</td>
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