

PRIMA and the Water JPI: Analysis of thematic complementarities between these two initiatives

20 April 2018

Purpose of this note

Members of the Water JPI provided their comments on the PRIMA Strategic Research and Innovation Agenda (SRIA) in May 2017 in a paper¹ that was sent to the PRIMA coordination team and Diego Intrigliolo, the Work Package leader in charge of the development of the strategic agenda of the initiative. The Water JPI also contributed on PRIMA's request with suggestions for the 2018 Action Plan (on both sections). As stated in that paper and further exchanges (Brussels, November 2017; Larnaca, January 2018), the **Water JPI calls for a sound complementarity across European initiatives on water** so that duplicated research and innovation efforts are avoided. This willingness is also expressed by PRIMA in its strategic agenda, where it states that *“thematic complementarities will be specifically sought for improving ecosystem sustainability and restoration, closing the water cycle gap and improving sustainable water resource management”*.

Almost one year after the Water JPI workshop in Tangier² and the completion of the Water JPI paper on the PRIMA SRIA, the Water JPI wishes to reestablish contact with the PRIMA coordination team in order to ensure a better coordination between both initiatives as regards the selection of Research Development and Innovation (RDI) themes for upcoming calls for proposals or the launch of additional instruments (i.e. knowledge hubs, exploratory workshops). Indeed, the Water JPI reckons that **only a better coordination between these two initiatives will prevent competition for funding at both the EC and the national level**. Moreover, coordination efforts from both initiatives will contribute to **enhancing the overall impact of RDI actions in water**.

The remit of this note is to provide a **better understanding of the thematic similarities and differences between the Water JPI and PRIMA**. The content of this note is expected to pave the way towards more in-depth discussions on the actions that could be launched by both initiatives for the sake of thematic complementarity and a clear coordination of RDI activities.

The first part of the note provides a brief description of the Water JPI mission, membership and thematic priorities. The second section looks into thematic similarities and differences following a detailed review of the strategic agendas of both initiatives. Conclusions and recommendations are listed in the third section of the note.

Brief description of the Water JPI: common points and main differences with PRIMA

Launched in December 2011, the mission of the Water JPI is to strengthen water RDI collaboration amongst Member States in order to address the challenge of **“Achieving**

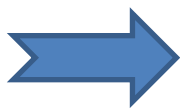
¹ Water JPI paper on PRIMA SRIA, May 2017

http://www.waterjpi.eu/images/documents/Consultation_on_PRIMA_SRIA.PDF

² Water JPI workshop on “RDI International Cooperation for tackling global water challenges” dedicated to Africa and the Mediterranean area, March 2017 - [webpage](#) and [proceedings](#)

Sustainable Water Systems for a Sustainable Economy in Europe and Abroad”.

The Water JPI covers a wide range of water challenges, including water quality, aquatic ecosystems restoration, adaptation strategies to climate change and the efficient use of water resources for agricultural uses. The alignment of water research agendas and programmes of participating States is the backbone of the Water JPI, which published its strategic agenda in June 2016. This agenda results from strong coordination efforts of participating countries. Since its launch, and in addition to the development and implementation of a strategic agenda, the Water JPI has succeeded to launch five calls for proposals (2013 on emerging pollutants, 2014 on waste water treatment technologies and water reuse, 2015 on impacts on water resources of agriculture, forestry and freshwater aquaculture, 2017 on tools for the implementation of United Nations Sustainable Development Goals - UN SDGs - and 2018 on closing of the water cycle gap).



The integration, alignment and joint implementation of national research and innovation programmes under a common innovation are as well listed by the PRIMA initiative as strategic objectives to be attained. However, PRIMA’s activities will concentrate on the Mediterranean area.

Other than water management, PRIMA’s thematic areas include farming systems and agro-food value chain. The thematic scope of PRIMA is therefore larger than that of the Water JPI.

The Water JPI counts today 22 member countries, including South Africa, and three observer countries vs 19 Euro-Mediterranean countries for PRIMA: Algeria, Croatia, Cyprus, Egypt, France, Germany, Greece, Israel, Italy, Jordan, Lebanon, Luxembourg, Malta, Morocco, Portugal, Slovenia, Spain, Tunisia and Turkey (Figure 1).

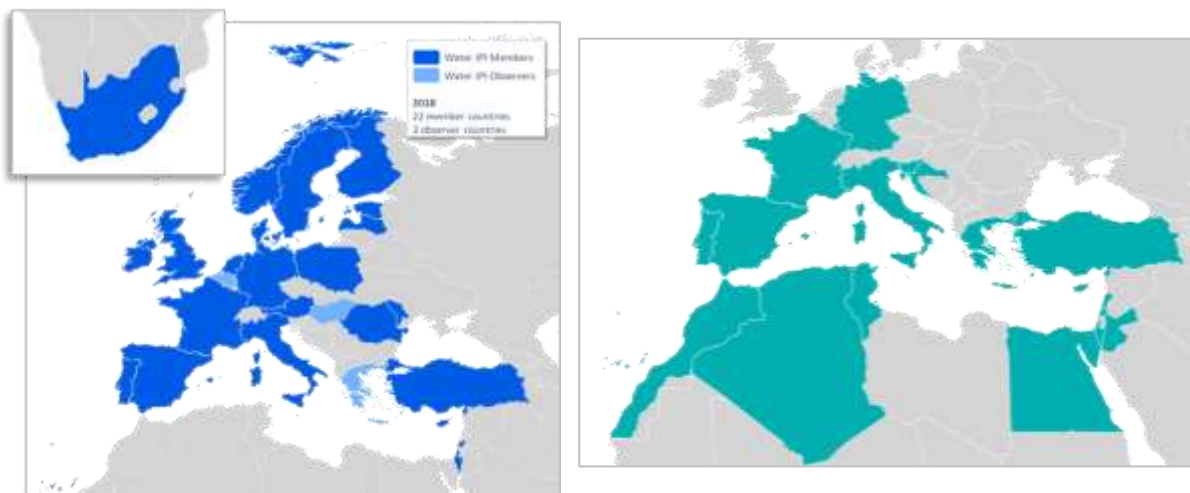
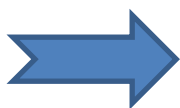


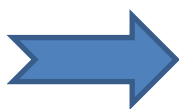
Figure 1 - Current members of the Water JPI (left) and the PRIMA initiative (right)



With the exception of Germany, the same programme owners/managers are full members of both the Water JPI and PRIMA. It should be noted that neither Malta nor Croatia or Slovenia are members of the Water JPI. Greece is an observer country in the Water JPI.

Northern African countries, Egypt and Tunisia, have participated in some of the calls launched by the Water JPI but none of them are full members of the initiative.

As with PRIMA, the Water JPI covers the full range of RDI, as the national programmes comprising it fund projects from blue-sky research to support for industrial innovation. Moreover, the Water JPI has started off reflections on possible activities for encouraging the participation of the industrial sector in funding and alignment activities.



PRIMA's general goal is to build **research and innovation capacities and to develop knowledge and common innovative solutions** for water management and provision and agro-food systems in the Mediterranean region, to make them more climate resilient, efficient, cost-effective and sustainable.

Cross-cutting analysis of the strategic research and innovation agendas of PRIMA and the Water JPI

In order to develop a more comprehensive understanding of thematic commonalities between the two initiatives, the presence of a number of keywords from the PRIMA SRIA³ has been sought in the Water JPI's SRIA. The table below shows the results of this analysis.

PRIMA's keywords and Thematic Area (TA)	Presence in the Water JPI's SRIA? If Yes, which RDI need and topic/-s (if relevant)
TA 1: Aquifer modelling (storage, depletion trajectory)	RDI need 1.3.3: Establishing multiple pressure–impact–response relationships in aquatic, riparian and groundwater-dependent ecosystems. Topic: Improving existing hydrodynamic models , coupled with the development of a monitoring scheme adapted for aquifers , in order to improve the quantitative management of the resource.
TA 1: Sea water intrusion and salinization	RDI need 5.1.5: Mitigating water stress in coastal zones. Topic: Evaluating the effect of measures to deal with salt intrusion , eutrophication and land use change.
TA 1: Contamination of the water cycle	RDI need 2.1.3: Remediation of pollutants: developing strategies to reduce pollutants. Topic: Developing biotechnological tools for the detection, monitoring, prevention and removal of pollution from soil and water . RDI need 4.2.1: Developing sustainable production systems. Topics: Developing monitoring schemes and indicators, assessment methods and management tools to identify, quantify and minimise sources for pollution from agriculture, aquaculture and forestry, as well as to assess impacts of pollution; Reducing diffuse and point source pollution caused by agrochemicals, mineral fertilisers and manure; Comparing combinations of context-specific, cost-effective, acceptable measures to reduce water pollution from agriculture and forestry in various climatic and pedological conditions. RDI need 5.1.5: Mitigating water stress in coastal areas. Topic: Establishing management plans for the prevention of pollution in coastal and inland waters .
TA 1: Intermittent streams	RDI need 1.2.1: Restoring morphology continuity and hydraulic connectivity. Topic: Overcoming difficulties (in particular resilience and stability) in assessing ecological status in temporary streams .
TA 1: Water-energy-food synergies	RDI need 3.1.4: Supporting the energy–water nexus (namely on efficiency and sustainability) --- several topics, such as: Improving the understanding of the water–energy nexus, in particular developing a better awareness of the role of water in energy production AND o Understanding the influence of climate change on the water–energy nexus.

³ PRIMA SRIA, 2018-2028 http://prima-med.org/wp-content/uploads/2018/02/PRIMA-SRIA_Strategic-Research-and-Innovation-Agenda.pdf

PRIMA's keywords and Thematic Area (TA)	Presence in the Water JPI's SRIA? If Yes, which RDI need and topic/-s (if relevant)
TA 1: Transboundary cooperation	RDI need 5.2.1: Integrating economic and social analyses into decision-making processes. Topic: Fostering trans-boundary cooperation on sound legal and institutional arrangements .
TA 1: Irrigation water productivity	<p>RDI need 4.1.1: Implementing efficient water use systems and practices for the European and overseas markets. Topic: Developing, testing and evaluating innovative and efficient irrigation systems and practices combining crop water equipment, crop physiology, ground-based sensors, imagery satellite, ICT and expert systems.</p> <p>RDI need 4.2.1: Developing sustainable production systems. Topic: Reducing diffuse and point source pollution caused by agrochemicals, mineral fertilisers and manure. This will require the development of cost-effective, easily accessible and adaptive technologies, including (among others) manure separation and treatment and energy recovery technology, irrigation, precision farming, regulated drainage and an adapted management of buffer strips.</p>
TA 1: Environmental risks of irrigation	RDI need 4.2.1: Developing sustainable production systems – several topics, such as: Preventing water-related soil degradation, including salinity, erosion, structural degradation, compaction and oxidation of organic soils, among others AND Developing monitoring schemes and indicators, assessment methods and management tools to identify, quantify and minimise sources for pollution from agriculture, aquaculture and forestry, as well as to assess impacts of pollution.
TA 1: Water reuse	<p>RDI need 2.1.3: Remediation of pollutants: developing strategies to reduce pollutants. Topic: Assessing and implementing management measures and technologies to reduce the impact of emerging pollutants and pathogens on water quality. Particular focus should be given to wastewater and sludge reuse</p> <p>RDI need 2.2.2: Improving the performance of water systems. Topic: Promoting the sustainable use of storm waters and groundwater and drainage in cities. Promoting innovative separation and extraction technology pilot projects in industrial zones to harvest resources from wastewater and reused water.</p> <p>RDI need 3.1.7: Developing and demonstrating water reuse and recycling concepts; recovering products and energy from treatment plants (RDI need 3.1.7) – several topics, such as Reusing wastewater for different purposes according to its quality, based on risk, safety and health perspectives.</p> <p>RDI need 4.2.3: Promoting reuse of water in irrigated agriculture and forestry.</p>
TA 1: Technologies and governance models (including constraints)	<p>RDI need 3.1.2: Delivering technological solutions for water and wastewater treatment. Topic: Developing innovative, safe, efficient and low-cost advanced processes for water treatment and assessment.</p> <p>RDI need 3.2.1: Removing barriers to innovation. Topic: Understanding the requirements driving society's adoption and acceptance of innovations by integrating technical and social science and humanities research and innovation.</p> <p>RDI need 5.1.4: Innovating on practical, low-cost technologies treating wastewater to produce resources that are safe for reuse. Topic: Developing integrated approaches combining technological solutions with social acceptability.</p>
Cross-cutting: Digital and ICT tools, including precision farming	<p>RDI need 4.1.1: Implementing efficient water use systems and practices for the European and overseas markets. Topic: Developing, testing and evaluating innovative and efficient irrigation systems and practices combining crop water requirements, crop physiology, ground-based sensors, imagery satellite, ICT and expert systems.</p> <p>RDI need 4.2.1: Developing sustainable production systems. Topic: Development of cost-effective, easily accessible and adaptive technologies, including (among others) manure separation and treatment and energy recovery technology, irrigation, precision farming, regulated drainage and an adapted management of buffer strips.</p>

Conclusions and recommendations

In a context of budgetary constraints in many European and beyond Europe countries, and considering that a number of Water JPI members are as well partners of the PRIMA initiative, this note sheds some light on thematic areas where cooperation between both initiatives could be reinforced in order to avoid redundant financial efforts. Based upon the analysis of the strategic agendas of PRIMA and the Water JPI, it is possible to assert that most of the scientific priorities listed within the Thematic Area I of PRIMA (related to water management) are as well identified as RDI needs in the Water JPI's agenda. There is therefore a good match as regards the scientific priorities of both initiatives.

There are however a few differences that need to be pointed out:

- (i) Contamination of water bodies is a scientific priority for both PRIMA and the Water JPI. The latter pays special attention to emerging pollutants (Theme 2 of the strategic agenda); behavior, risk assessment and treatment. No direct reference to emerging pollutants is made in PRIMA.
- (ii) The Water JPI is strongly oriented towards the identification of RDI needs in all the waterbodies concerned by the European Water Framework Directive but it recognizes the importance of the continental waters – marine waters interface. A number of RDI needs linked to coastal management are therefore included in the Water JPI strategic agenda. This aspect is not present in PRIMA's agenda.
- (iii) Both PRIMA and the Water JPI call for water use efficiency. This objective can be accomplished not only by reducing evaporation losses and improving the management of irrigation systems, but also by better mastering distribution network water losses in agricultural areas. Whereas PRIMA advocates for the development of innovative solutions for alternative water resources (Thematic Area I) and water soil retention (cross cutting area: soil sustainability), no reference is made to the performance of water systems in urban and peri-urban areas (as done by the Water JPI within Theme 2).

Recommendations and follow-up:

Given the thematic complementarity between both initiatives, the Water JPI coordination team invites PRIMA to reinforce **collaboration and discuss jointly possible items for future calls for proposals**. This will not only reduce financial redundancy but it will enhance complementarity of RDI efforts. **The Water JPI remains open to strengthen this collaboration on the occasion of the preparation of the 2019 work programme of PRIMA**. Other than the launch of calls, the Water JPI is fully open to collaborate in the exchange of information on current and future activities – Water JPI's strategic agenda update, knowledge hubs, alignment, international cooperation and mobility and infrastructure sharing.

The Water JPI Coordination team is fully available to meet with the PRIMA Coordination team for future discussions and invites them to participate in future meetings of the Governing Board, the Advisory Boards and the Management Board.

End.