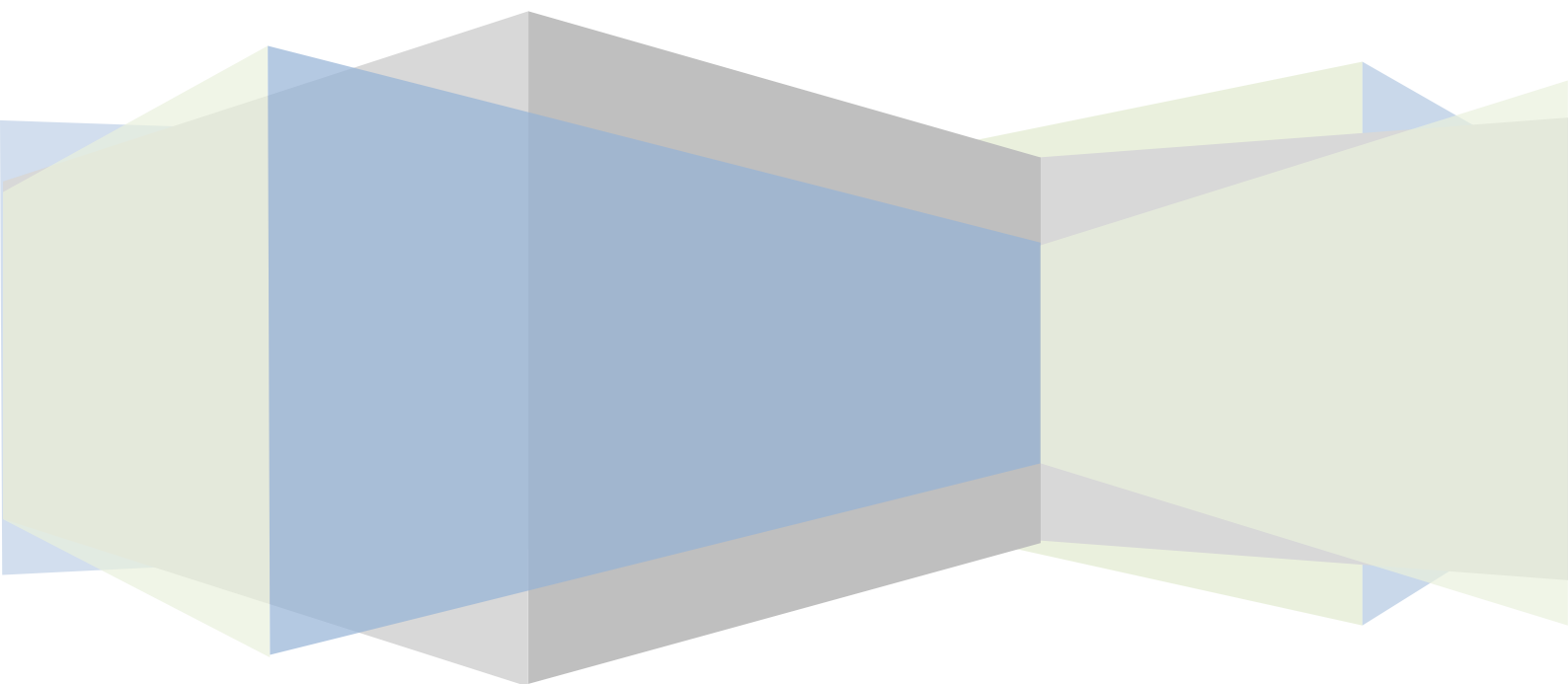


# **Towards Partnership & Complementarities with Horizon 2020**

Positioning the Joint Programming Initiative  
“Water Challenges in a Changing World”

21 June 2013



## I. Context

The European Union is determined to maintain and develop a smart, sustainable and inclusive economy in a healthy society. This goal requires effective research and innovation in societal challenges of a global importance, amongst others: water. Europe is a **world leader in water research and innovation**, with one third of the scientific publications and patents. Moreover the European water business, estimated at 72 G€, also represents one-third of the world market.

In a time of global economic difficulties, coordination of national and international efforts and cost-effectiveness becomes critical. The Joint Programming Initiative “Water Challenges for a Changing World” (the [Water JPI](#)) is an intergovernmental initiative which aims at **achieving sustainable water systems for a sustainable economy in Europe and abroad**. This grand challenge will be achieved through harmonizing and mobilizing Research, Development and Innovation (RDI) National and Regional Programmes. The initiative is composed by 18 partner countries plus the European Commission (non-voting partner). Five additional countries are observing the process.

Current National investments on Water RDI in the EU Member States and Associated Countries are estimated at 370 M€/yr, while the European Commission invests 130 M€/yr through the EU 7<sup>th</sup> Framework Programme. **Water JPI partners currently represent 88 %<sup>1</sup> of the European National Public RDI investment on water.**

With a proposed budget of 80 G€ and running from 2014 to 2020, Horizon 2020 will **implement the Innovation Union Flagship initiative**, which aims to secure Europe’s global competitiveness, growth and jobs. Horizon 2020 also aims to build a knowledge-based economy, to foster innovation, and to tackle European societal challenges (both environmental and socioeconomic).

This document outlines the Water JPI position on a natural partnership with Horizon 2020, by paying attention to the main Water JPI RDI themes and their relation to Horizon 2020. This is of great importance as water is not an autonomous Challenge in the structure of Horizon 2020.

## 2. Water JPI Research Priorities: 2014 to 2020

The Water JPI defined key research, development and innovation (RDI) questions in its [Vision Document](#). In coincidence with the European Multiannual Financial Framework and Horizon 2020, the objectives of the Water JPI are expected to be attained by 2020. The Water JPI Strategic Research and Innovation Agenda ([SRIA](#)) v. 0.5, released on May 30<sup>th</sup> 2013, is the reference document developing Water JPI priorities. Updates in this document are expected for June 2014, the end of 2015 and beyond.

The objective of the Water JPI SRIA is threefold. On a first level, it contains a **set of research, development and innovation gaps, needs, and priorities agreed among JPI partners**, on which Water JPI activities will be based; subsequently, the SRIA provides the ground for the **harmonization of national European RDI programs in water domain**, fostering a consistent

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<sup>1</sup> The Water JPI Mapping is currently being updated. New versions are expected at the end of 2013, 2014 and 2015. Mapping updates will include actualizations of RDI investments by European countries.

and programmatic European front with implementation capacity; finally, it is the reference document **to support an effective dialogue with Horizon 2020**. As a member of the Water JPI, the EC is expected to contribute to the successful implementation of the Water JPI SRIA.

The Water JPI SRIA defines five key water challenges acting as RDI themes:

### **1. Maintaining Ecosystem Sustainability**

Develop integrated and interdisciplinary actions for research and development aimed at **maintaining the essential functions and processes of ecosystems** (i.e. “ecosystem sustainability”) in order to enhance ecosystems resilience to stress due to human activities.

### **2. Developing safe water systems for the citizens**

The Water JPI is committed to assess the **impact of emerging pollutants on water quality and societal well being**, for example through the reuse of urban effluents in agricultural irrigation, water supply and water storage in rural and urban environments needs substantial research efforts. Moreover, it will draw attention to innovative practices for minimizing risks associated with **water infrastructures and with natural hazards**.

### **3. Promoting competitiveness in the water industry**

The Water JPI is **committed to fund problem-solving research** leading to the development of market-oriented solutions. Innovation will be particularly promoted in this theme, taking advantage of the capacities and know-how of the specialized innovation agencies partnering in the Water JPI. Promoting competitiveness in the water industry will also require **enhancements in the regulatory framework**.

### **4. Implementing a water-wise bio-based economy**

Understanding the **effects of the bio-based economy on European ecosystems and on water delivery systems** will require intense cooperative research. Identified goals include **improving water efficiency in agriculture and forestry, and reducing soil and water pollution**. Experimental, modelling and social sciences approaches will be combined to ensure that the right combination of technologies and policies is deployed in the agricultural sector to reach the target of sustainable intensification. In the Water JPI, agricultural water use is analyzed from the point of view of natural resources, not as a production factor.

**5. Closing the water cycle gap.** The Water JPI believes that RDI needs to be deployed in a number of scientific fields to **enable sustainable management of water resources**. Observation and modelling will be required to better understand hydrological processes and to analyze and forecast the effect of management options. RDI activities will be required at different hydrological scales. Additionally, **socioeconomic approaches in water management need to be strengthened**.

## **3. A Comparative Analysis: the Water JPI and Horizon 2020**

The Water JPI SRIA contains a comparative analysis of the Water JPI and Horizon 2020, which is summarized in this section.

## Different Footprints

The Water JPI, being an intergovernmental initiative, aims at reaching effective and **sustainable RDI coordination** of different activities on variable geometry. Horizon 2020 is a European Programme with a pre-determined budget implemented via competitive calls. Both the Water JPI and Horizon 2020 focus on the research-innovation continuum. However, the centre of gravity of the Water JPI is closer to the research pole than that of Horizon 2020. The **Water JPI is a public-public partnership focusing more on research than on innovation**. Horizon 2020 is a programme with a stronger innovation focus. In comparison with the 7<sup>th</sup> Framework Programme, Horizon 2020 is planning to devote a large share of its funds to private agents. The Water JPI is expected to fund both public and private RDI performers.

## Common Paths

Both the Water JPI and Horizon 2020 use public funds to achieve their goals, and enjoy a significant area of synergy in their respective research priorities.

The Water JPI has completed an exercise to illustrate where its **priorities fit under the Societal Challenges pillar of Horizon 2020**, and more specifically under Challenge 5 “Climate action, Resource efficiency and Raw materials”. The following Table underlines the complementarities between the research and innovation needs, gaps and priorities in Europe, identified at a national/regional level (Water JPI) or at an EU level (Horizon 2020). While Challenge 5 is the most direct reference, Challenges 1, “Health, Demographic Change and Wellbeing”, 2 “Food Security, Sustainable Agriculture, Marine and Maritime Research and the Bio-Economy”, 3 “Secure, Clean and Efficient Energy” and 7 “Inclusive, Innovative and Secure Societies” are also relevant in specific thematic areas.

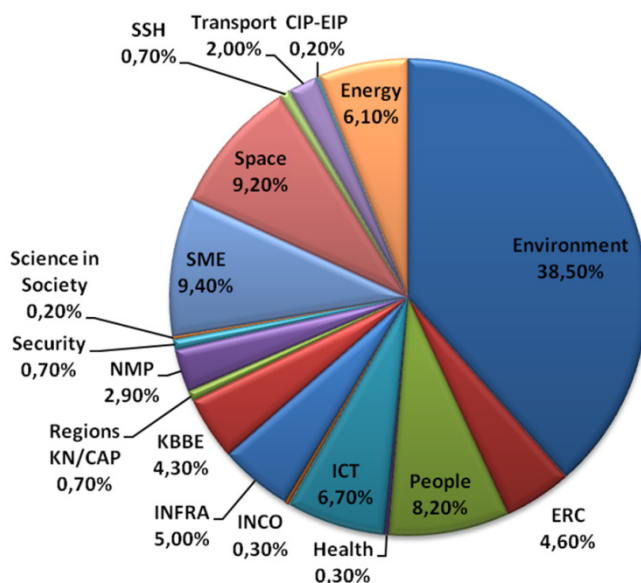
In addition, the Water JPI and Horizon 2020 share the interest of developing actions on projects, training and mobility, research facilities and infrastructure, knowledge sharing and networking, social and ethical values, gender dimension, and international cooperation. As a consequence, the Water JPI strongly supports the idea of **tackling these needs, gaps and priorities together through a coordinated approach**.

Water JPI Theme	Horizon 2020 Challenge: Climate Change, resource efficiency and raw materials						Additional Challenges
	Climate Change	Resources Ecosystems	Eco-Innovation	Observ. & Info.	Raw materials	Cultural heritage	
Ecosystem Sustainability	X	X	X	X	X	X	
Safe Water Systems for Citizens	X		X				1 - Health 3 - Energy 7 - Security
Competitive Industry	X		X		X		3 - Energy
Bio-based Economy	X	X	X		X		2 - Bio-Economy
Closing the Water Gap	X	X	X	X			2 - Bio-Economy

As a consequence of the paragraphs above, the Water JPI aims to develop strong partnership with the areas of Horizon 2020 where water related research and innovation is present.

The mapping exercise on Water RDI performed by the European Commission in 2011 (reproduced in the Figure on the right) revealed that a **considerable number of FP7 subprogrammes showed relevant water RDI funding**.

Water JPI partners are currently designing **variable geometry activities which will complement and reinforce Horizon 2020 activities**. In this sense, the Water JPI Pilot call for proposals will be released in autumn 2013, while a set of Joint Activities, including a second call, will be published in 2014.



## 4. Partnering to Tackle Common Challenges

According to the discussions above, partnership between the Water JPI and Horizon 2020 can be implemented through the following actions:

1. Establishment of a **permanent and effective dialogue** between Horizon 2020 and the Water JPI activities on the interaction between both initiatives. Dialogue needs to be sustained by periodic meetings. The Water JPI hereby expresses its interest to nurture this dialogue.
2. Cooperation in the **implementation of the synergy areas regarding projects and networking**. The new ERA-Net scheme will be useful to attain the objectives of Horizon 2020 and the Water JPI. Topping up Water JPI activities represents an effective way of addressing the synergy areas. In other cases the Water JPI may suggest topics to be implemented in Horizon 2020 Work Programmes and benefit from Horizon 2020 potential.
3. Cooperation in the **implementation of the synergy areas regarding mobility and infrastructure**. Cooperation with Horizon 2020 in the areas of Research Infrastructure and Marie Skłodowska-Curie will be established following the Water JPI SRIA.
4. Contribution to **agenda setting within Horizon 2020**, supporting its Water Research and Innovation strategy.
5. Cooperation in the **Coordination of National and Regional RDI Funding Programmes** in the area of water.

Cooperation will be extended to other European initiatives, policies and programmes:

1. Cooperation with the **European Innovation Partnership on Water** ([EIP on Water](#)) under the framework of the Innovation Union Flagship Initiative. The Water JPI is strongly involved in the governance of the EIP on Water.
2. Collaboration with the KICs of the EIT, particularly with the **Climate KIC**, through its [Land and Water](#) theme.
3. Cooperation with the European scientific, technological and industrial organizations in the water domain, which are for the most part represented in the Water JPI Stakeholder Advisory Board.
4. Synergies with the [Joint Research Centre](#) to further develop the **European Research Area**.
5. Alignment with the objectives of the **Water Framework Directive**, the **Blueprint** to Safeguard Europe's Water and all related policies.
6. Policy interaction on the **regional Smart Specialization Strategies** in water and water related fields of the Cohesion Policy.

## 5. An Open Invitation

The Water JPI remains at the disposal of Horizon 2020 to discuss and agree on specific cooperation issues. The release of the Water JPI SRIA, the activities programmed by the Water JPI for 2013-2015, the biannual Work Programmes under preparation for Horizon 2020 and the contents of this document make this the right moment for discussions.