

# Strategic Research and Innovation Agenda (SRIA), upcoming joint activities



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## Strategic Research & Innovation Agenda



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- Strategic document that lays out Research, Development and Innovation (**RDI**) needs in Europe in the field of water
- Conceived as an instrument **to guide European research and innovation**

# SRIA vs IP

- The Water JPI SRIA 2.0:
  - is a collective, shared and forward-looking exercise
  - identifies and sets out an integrated vision of Water RDI priorities at regional, EU & global level.
- The Water JPI Implementation Plan (IP):
  - establishes how some of those RDI directions and priorities will be implemented through the Water JPI's instruments
  - makes recommendations on how some of these needs could be addressed under other European and international initiatives (e.g. Horizon 2020)

# SRIA process and structure

- Following an « iterative » fashion and producing

- SRIA 0.5 (May 2013)
- SRIA 1.0 (June 2014)
- SRIA 2.0 (April 2016)



- SRIA is structured around **5 themes** (*vision document*) and **11 subthemes**



# SRIA process

## Objectives

Complete the identification of potential RDI needs

Selection, Refining and Priorisation of RDI needs

SRIA 1.0 and 2.0 write-up

## How

1) Selection and review of information sources (strategic documents, foresight, roadmaps, ...)

2) Advisory Boards (June 2015)

1) **Public consultations**  
2) **stakeholder consultatives workshops** (April 2014, October 2015)

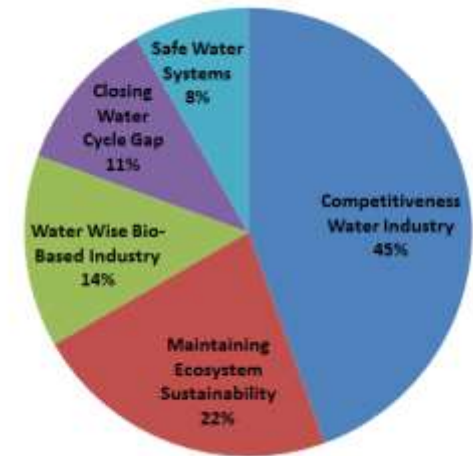


1) Revision of the description of themes, sub-themes and introductory texts to match RDI needs

2) Higher involvement of the Advisory Boards

# Information sources reviewed for SRIA 2.0

- National Programmes
- Foresight studies
- Water EIP + action groups
- Roadmaps/ agendas of European scientific networks (e.g. Euraqua, EuroGeoSurvey, NORMAN)
- Roadmap of the European Water Association
- Eureau, European Water Alliance
- Outputs from international conferences
- Post-2015 Development Agenda process towards the UN SD Goals
- Agendas of relevant ERA-NETs in the field of water
- (...)



*47 Foresight studies*



# Looking into the agenda...

## 5 themes

Maintaining ecosystem sustainability



Developing safe water systems for the citizens



Promoting competitiveness in the water industry



Implementing a water-wise bioeconomy



Closing the water cycle gap



*For each theme, analysis of socioeconomic, environmental and policy impact*

## 3.2. Developing Safe Water Systems for the Citizens

For each sub theme, RDI needs and specific objectives:

### 3.2.2 Minimising Risks Associated with Water Infrastructures and Natural Hazards

Current global changes (such as climate change and urban sprawl) demand innovative practices to minimise the risks associated with: (i) water distribution and storage facilities in urban areas; and (ii) natural hazards (floods and water scarcity as well as associated risks for citizens' life and assets). Protecting the capacity of urban water networks to deliver water to citizens with target quality standards is a major goal for both European and non-European countries. Urban water networks concentrate large public investments, guarantee the right to water access and represent a very important niche for multinational European companies of all sizes. Research can protect citizens, investments and businesses by supporting innovative management and decision-making. Urban water natural hazards can be exemplified by urban floods and water scarcity. Their devastating power will be limited through multidisciplinary research exploring the areas of risk prevention and management. A variety of scientific and technological areas will be explored to put research results at the service of citizens' life and assets. The two aspects of this subtheme (infrastructure and natural hazards) may be combined in specific topics. For instance, the performance of storm water retention ponds could be improved, including the management of contaminants, and overflows in advanced wastewater treatment facilities could be managed when affected by floods.

#### Currently Identified Needs

RDI needs and related objectives	Time frame
<p><b>2.2.1. Exploiting ageing urban water systems for dependable and cost-effective service</b></p> <p>Developing methodologies and technologies for the effective monitoring and control of urban water networks and storm water systems.</p> <p>Enhancing the resilience of urban water systems (i.e. pipeline networks, drinking-water reservoirs, pumping stations and large water treatment plants).</p> <p>Improving the efficient use of state-of-the-art monitoring and control systems.</p> <p>Developing decision-support systems (DSS) for long-term rehabilitation decisions based on the time evolution of system conditions.</p> <p>Improving data-management routines. <a href="#">Link with 3.1.1.</a></p>	Long
<p><b>2.2.2. Progressing towards urban flood-proof cities.</b> <a href="#">Link with 1.3.2 and 1.3.3.</a></p> <p>Developing and setting up technological and managerial solutions to urban floods.</p> <p>Producing integrated systems for the prediction and risk management of urban floods (overflows in advanced wastewater treatment facilities, urban hydrology, surrounding river flow, hydrodynamics, internet of things, drainage design, social sciences and climate change analysis).</p> <p>Developing a smart city approach to integrate sensors and public information services designed for all event phases. <a href="#">Link with 3.1.1.</a></p>	Short

- 3.2.1. Emerging Pollutants: Assessing their effects on nature and humans and their behaviour and treatment opportunities
- 3.2.2. Minimising Risks Associated with Water Infrastructures and Natural Hazards



# Looking into the agenda...

## List of themes and subthemes

### **1. Improving Ecosystem Sustainability and Human Well-being**

1.1. Developing Approaches for Assessing and Optimising the Value of Ecosystem Services

1.2. Integrated Approaches: Developing and Applying Ecological Engineering and Ecohydrology

1.3. Managing the Effects of Hydro-climatic Extreme Events

### **2. Developing Safe Water Systems for Citizens**

2.1. Emerging Pollutants and Emerging Risks of Established pollutants: Assessing their effects on nature and humans and their behaviour and opportunities for their treatment

2.2. Minimising Risks Associated with Water Infrastructures and Natural Hazards

# Looking into the agenda...

## List of themes and subthemes

### **3. Promoting Competitiveness in the Water Industry**

3.1. Developing Market-Oriented Solutions for the Water Industry

3.2. Enhancing the Regulatory Framework

### **4. Implementing a Water-Wise Bio-Based Economy**

4.1. Improving Efficiency of Water Use for a Sustainable Bio-economy Sector

4.2. Reducing Soil and Water Pollution

### **5. Closing the Water Cycle Gap – Improving Sustainable Water Resources Management**

5.1. Enabling Sustainable Management of Water Resources

5.2. Strengthening Socio-economic Approaches to Water Management

# Cross cutting issues

	Theme 1 Improving Ecosystem Sustainability and Human Well-being	Theme 2 Developing Safe Water Systems for Citizens	Theme 3 Promoting Competitiveness in the Water Industry	Theme 4 Implementing a Water-wise-Bio-based Economy	Theme 5 Closing the Water Cycle Gap
Ecosystems' ecological status, resilience, services and restoration	+++	+	+	+	++
Pollutants: risks and remediation	+	+++	++	++	+
Water and energy	+	+	+++	+	++
Water and agriculture	+	+	+	+++	++
Water and citizens	+	++	+	+	+++
Water and climate	++	++	+	+	++
Water data (monitoring, citizen participative sciences)	++	++	++	++	+++
Sensors, technologies and smart systems	++	++	+++	++	++
Governance and acceptance Removing barriers (legislation, funding schemes, governance, acceptance)	+	+	+++	++	+++
Developing new tools combining in situ and remote sensing data: models	+	+	+	+++	+++
Integration of water policies in the EU	++	++	++	++	++

Thank you for your attention

