



Context

Water4All – Water security for the planet is a Partnership co-funded by the European Union under the Horizon Europe Research and Innovation programme. Officially launched on the 1st June 2022, **Water4All aims to enable water security on the long term through different types of activities**, ranging from the funding of research and innovation projects to the strategic alignment of participating members, the support to science-policy interface, demonstration and testing of innovative solutions, networking, capacity-building and international cooperation.

Building upon the experience and knowledge generated by previous water initiatives, and moving a step further in the innovation chain, **Water4All will boost systemic transformations whilst fostering the matchmaking between problem owners and solution providers**. To this end, Water4All reunites forces from, at the time of its launch, more than 70 entities across Europe and abroad representing national research and innovation funding agencies, policy-driven organisations, local authorities, water associations, research performing organisations, and scientific and economic networks in the field of water at European, national or regional levels.



Credit: Unsplash - Daniel Stuben

Through a mix of research and innovation and practice-oriented activities, Water4All intends to ultimately contribute to achieving the environmental objectives of European policies and international frameworks, in particular the European Green Deal and the United Nations Sustainable Development Goals (UN SDGs).

The Strategic Research and Innovation Agenda (SRIA) is the strategic backbone of Water4All. It lays out key research

and innovation topics that should be addressed by the partnership in the following years to address the big challenge of water for all.

Foreword

As one of the largest RDI water networks and funding mechanism ever established, Water4All offers a unique opportunity for all water professionals involved in research and innovation in Europe to bring knowledge and solutions to a new level.

There is an urgent need for such new knowledge and solutions, both in terms of more holistic thinking and interactions of the whole water cycle with nature and society and in terms of management approaches and new technology. The challenges to get enough water for the globe of a quality fit for the purpose are ever increasing, both due to climate change effects on the water cycle and other anthropogenic activities and are accelerating despite a huge effort to counteract these challenges.

For that purpose, we need more than resources. We need new ways of thinking, we must dare to tread new paths, and we must insist on the ambition to strive for excellence to attract the best institutions and brightest water professionals. But first of all we must join forces, and we must bring the innovative researchers and forward-thinking entrepreneurial brains to the table. All that Water4All is aiming for.

The framework for this ambitious effort is the strategic agenda. Building on the experience from previous and current networks, the strategic agenda covers in an excellent way the basis for fostering the match-making between those who are faced with the problems, and those who provide solutions for managing the problems. However, a strategy is a dynamic instrument, and in Water4All we will insist on an open-minded, respectful and dynamic working attitude to keep the strategy alive.

Bjørn Kaare JENSEN, Chair

Objectives of the Water4All SRIA and development process

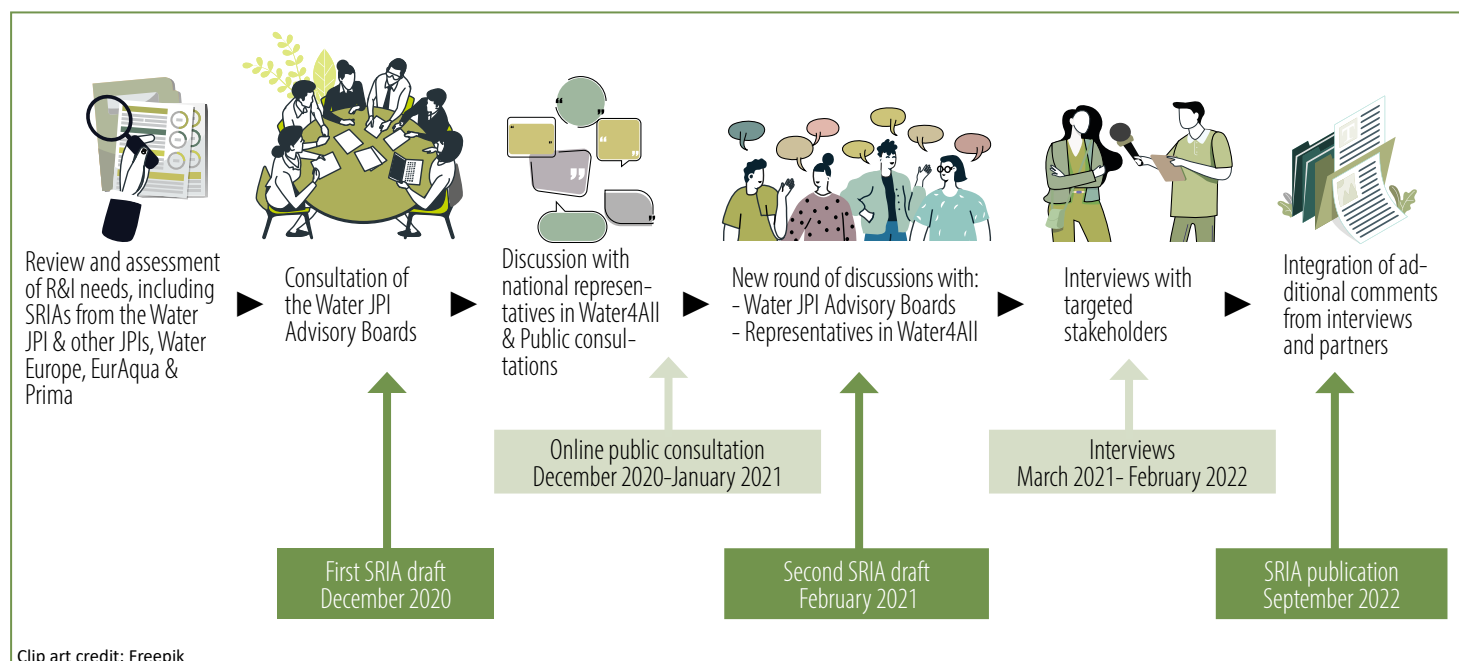
The SRIA constitutes the basis for collaboration among the partners of Water4All. Water4All SRIA results from a participatory concertation process in which all partners could contribute to the identification of key water topics that should be addressed by the programme through different types of activities such as research and innovation projects, demonstration, dissemination or capacity building.

The Water4All SRIA has the following objectives:

- Providing an overall framework and coherent direction to the consortium to support Water4All activities.
- Aligning existing water Research and Innovation programmes;
- Supporting partners in the preparation of annual implementation plans;
- Analysing thematic synergies with other European initiatives, especially other Horizon Europe Partnerships and EU Missions;
- Offering a better understanding of specific European policies and international frameworks that could benefit from Water4All's work;
- Promoting to the European Commission and other international funders the water topics that should be supported to secure water for all.
- Widely communicating on the scientific direction of Water4All.

- The development of the SRIA was based on a deep analysis of the strategic agendas of previous water related initiatives - in particular that of the Water JPI.
- A consultative approach, structured around a public consultation, targeted interviews and dedicated meetings with Water4All partners completed the process.

The recommendations made by respondents to the consultation and targeted interviews as well as the comments provided by partners were integrated in different versions of the SRIA, the final version of which was released in September 2022.



Public consultation

Responses from EU countries, India, Norway, Turkey, United Kingdom and United States.

Representatives from international organisations, water authorities, technology platforms, non-governmental organisations, funding institutions and networks of research and innovation operators took part in the interviews.

■ Setting out water Research and Innovation priorities

The Water4All SRIA is structured around 7 core themes and 25 sub-themes. As strong interrelations exist between the topics, **Water4All promotes multidisciplinary and encompassing approaches that jointly address several topics across the themes.**

The following table lists SRIA themes, sub-themes and related keywords.

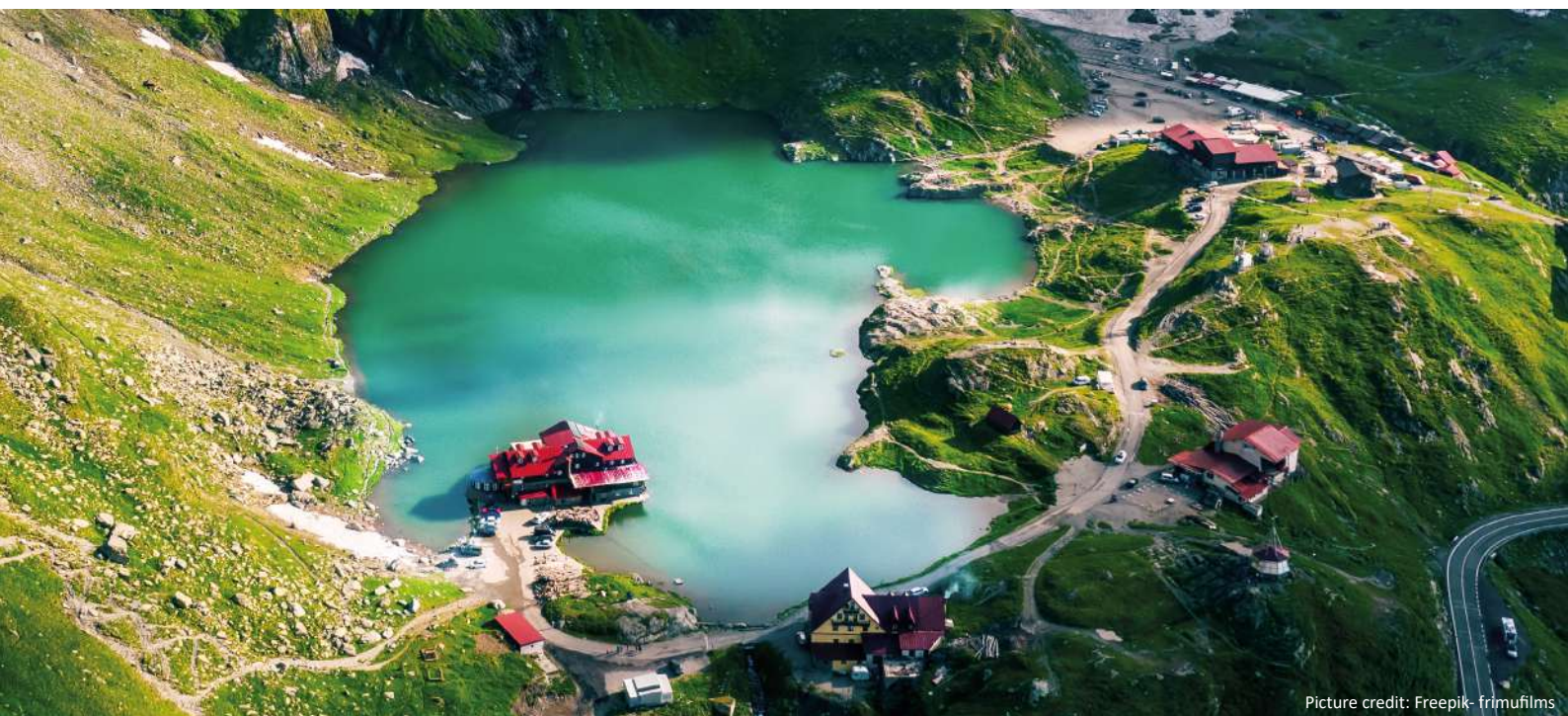
THEME I. Water for circular economy: smart water value	
I.I. Water supplies for socio-economic development and activities, such as agricultural, aquaculture, urban, industrial and energy uses.	Water allocation, water demand, smart technologies, new water sources
I.II. Circular economy.	Recovery, valorisation, Water-Energy-Food-Ecosystems nexus, green transition
I.III. Empowering the public, water users and stakeholders in valuing water.	Participatory approaches, awareness, water value, water footprint
THEME II. Water for ecosystems and biodiversity	
II.I. Functioning and biodiversity.	Monitoring, evaluation and prediction tools, multiple pressures, vulnerable ecosystems
II.II. Resilience, mitigation and adaptation of aquatic ecosystems and ecosystem services to global changes	Adaptation, mitigation, green/ blue infrastructure, Nature-based solutions
II.III. Developing and applying ecological engineering and ecohydrology for ecosystems restoration.	Green/ blue infrastructure, Nature-based solutions, pressures and impacts
II.IV. Integrating ecosystem services into the management of water resources and aquatic ecosystems.	Valuation of ecosystem services, innovative policy instruments
THEME III. Water for the future: sustainable water management	
III.I. Integrated water resources management.	Modelling tools, integrated water management
III.II. River basin management.	Water Framework Directive, programmes of measures, natural water retention measures
III.III. Groundwater management.	Managed aquifer recharge, Nature-based solutions
III.IV. Resilience, adaptation and mitigation to hydroclimatic extreme events.	Water scarcity, disaster management, hydroclimatic extreme events
III.V. Tools for water management	Big data, Earth observation, monitoring tools, artificial intelligence, decision support, scenario analysis, digital twins
THEME IV. Water and health	
IV.I. Behaviour and effects of contaminants of emerging concern, litter, plastics, endocrine disruptors.	Contaminants of emerging concern, invasive species
IV.II. Water dimension of anti-microbial resistance.	Monitoring, reduction and control interventions
IV.III. Innovative water tools and technologies for water quality monitoring and water treatment, remediation and disinfection.	Water quality monitoring and treatment, remediation, disinfection
IV.IV. Risk assessment and threshold values for protection of human health and ecosystems.	Exposure, risk assessment procedures, health protection
THEME V. Infrastructures for water	
V.I. Adaptation of existing water infrastructures to new challenges.	Renovation, smart systems, emergency responses, adaptation to climate change
V.II. Water infrastructures resilience.	Smart monitoring and control, global changes, natural hazards
V.III. Water infrastructures security	Cybersecurity, security, performance, ageing infrastructure
THEME VI. International cooperation (cross-cutting theme)	
VI.I. Water diplomacy.	Alignment, benefit sharing, trust, early warning, conflict management
VI.II. Establishing tools for trans-boundary cooperation.	Data, cooperation barriers
VI.III. Developing integrated, fair and adaptive water resource management systems.	Water allocation, gender, vulnerability, water management schemes
THEME VII. Governance (cross-cutting theme)	
VII.I. Developing methods for more efficient citizen and wider stakeholder engagement.	Participatory approaches, citizen science, Human Rights-based Approach, perceptions
VII.II. Strengthening policy integration, alignment, coherence and water policy coordination to exert a change in society.	Institutions, alignment, water-energy-food-ecosystems nexus
VII.III. Supporting the adoption of innovations.	Innovations, time to market, knowledge transfer, financing

■ The SRIA as a living document

Current environmental challenges and a rapidly evolving political and socioeconomic context call for the thorough analysis of emerging water research and innovation needs. Hence, Water4All partners will carry out a review of the SRIA that will be completed by the end of 2025.

Activities for this review have already started and they will involve the review of additional strategic documents on water and a new consultative process. Amongst others, the Partnership will hold two stakeholder

consultative events bringing together representatives from selected European and international water policy and research and innovation organisations as well as Water4All Advisory Boards. In addition, a public consultation, a foresight exercise and targeted interviews with identified stakeholders will be carried out. Discussions with partner initiatives, in particular other Horizon Europe partnerships and Missions, will enrich the contents of the next SRIA by providing a comprehensive understanding of thematic synergies.



Picture credit: Freepik- frimufilms

Water4All representatives

Chair: Bjørn Kaare JENSEN (Denmark)

Vice-chairs: Miguel-Angel GILARRANZ (Spain), Maciej ZALEWSKI (Poland)

Chief Executive Officer: Ariane BLUM (France)

As part of its communication and dissemination activities, Water4All is engaged to permanently inform the European research community and interested stakeholders on progress towards the revision of the SRIA and planned activities.

Further information on the SRIA and Water4All can be found on:
www.water4all-partnership.eu

The Water4All Partnership Coordination Team is available for any questions at:
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