

SECURING WATER FOR ALL

A life changing opportunity for citizens and regions

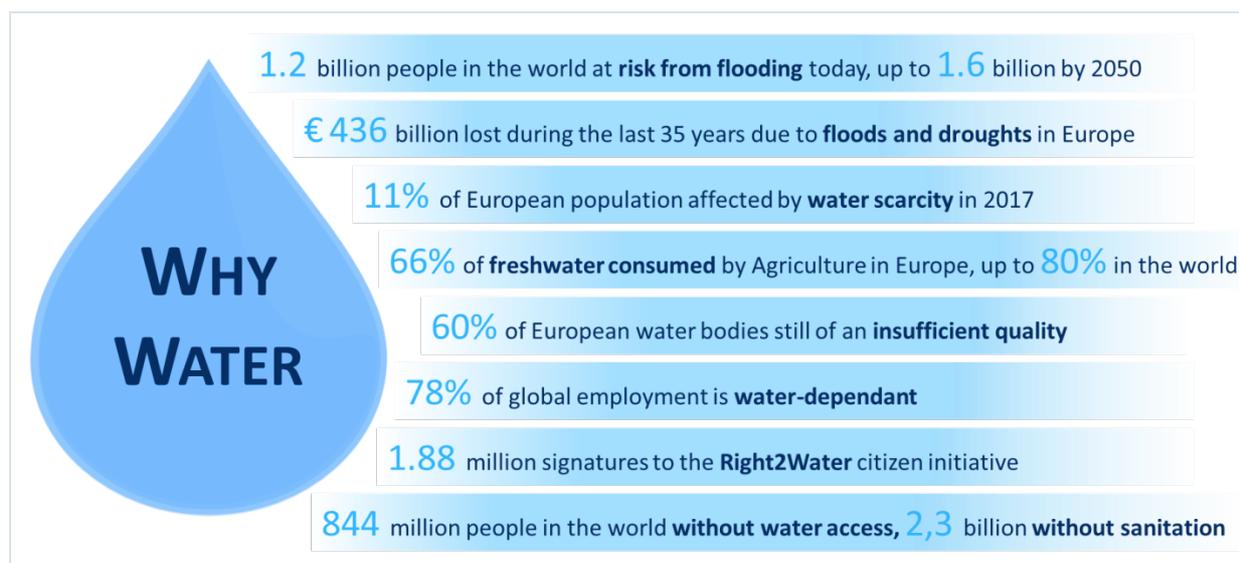
A Horizon Europe mission to counter water challenges

From Vision to Action

More than any other region in the World, Europe boasts a wealth of experience in collaboration, innovation and the creation of proven solutions in addressing past and current water challenges. Hydrological extreme events such floods and droughts, increasing water abstraction for agricultural and industrial activities, the escalating global demand for energy which is strongly water dependent, and the pollution of surface water and groundwater means that water security is the primary challenge in the coming decades. In addition, the loss of livelihood due to increasing water variability can also exacerbate migration phenomena and flows with an impact on social stability. The European Union is in a unique and privileged position to secure water for all by adopting an integrated approach at the watershed level. Building on past experiences and combining forces and efforts together with best practices drawn from all over Europe, a breakthrough will be achieved that will provide real water sustainability for people, economies and the ecosystem both now and in the future. International collaboration within such a mission will further permit the overcoming of global challenges as defined by the UN Sustainable Development Goals.

Why a Research and Innovation mission approach?

Currently risks related to water and benefits derived from water are measured from outside the water sector, **leading to a lack of accountability**. With all society's needs (food for all, access to energy, a safe environment) depending heavily on water, the water sector alone cannot technically provide water security.



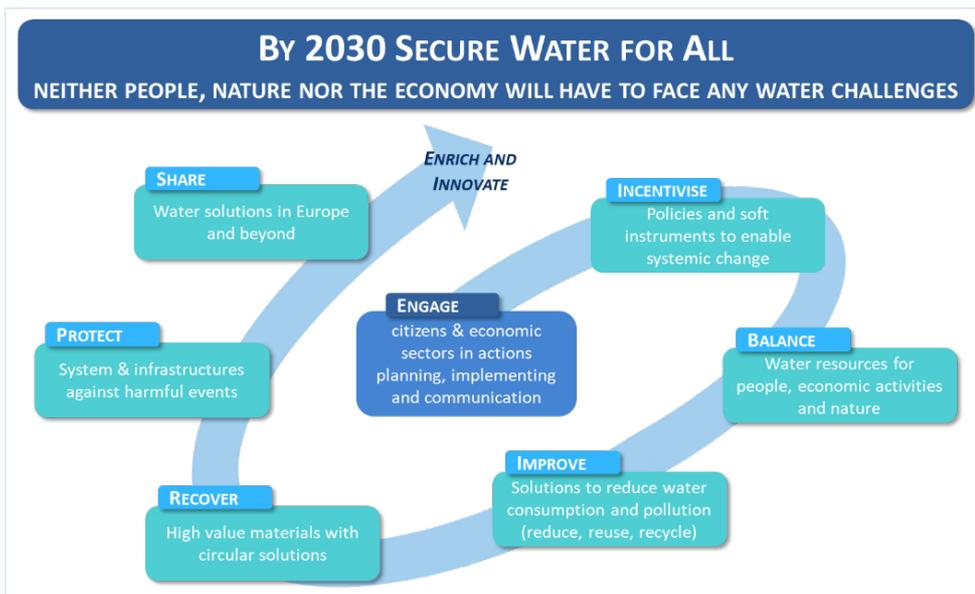
Sources: European Environment Agency report – Floods 2018; UN Water Development report 2018; UN Water Development report - Water and Jobs 2016; World Bank and World Economic Forum

A joint **Water Research and Innovation mission** is the only possible way for the European Union **to make progress and deliver**, by combining forces and effort **in order to research, innovate, scale-up and implement the correct combination of existing and new solutions** to secure water for all. There is a need for a **fundamental new approach, placing the engagement of civil society in the centre** and leveraging research and innovation in order to generate green growth.

A water mission can provide innovative solutions in a concerted action at a relevant scale, the water catchment level, addressing the pertinent global challenges related to Food and Natural Resources, Climate, Energy and Mobility, ICT and Industry, Health, and the establishment of an Inclusive and Secure Society. By so doing, it will rapidly **demonstrate the added value of the European Union's approach to citizens**.

What is this Water R&I mission about?

This mission will demonstrate, by 2030, proven methods in order to ensure a sustainable future in Europe and beyond. Securing water means that all water demands can be satisfied in terms of quantity and quality, and that both economic and natural systems as well as people are protected from water-related hazards, including anthropogenic



impacts and extreme weather and climate events such as droughts, heatwaves, storm surges and floods.

The mission builds on a systemic strategy and set of actions aimed at developing a new cooperative and multiscale paradigm and at supporting the related shift at the appropriate watershed scale. **This holistic innovation approach will furthermore integrate solutions for both urban and rural areas as well as economic sectors thus contributing to the achievement of the water-related legislation and Sustainable Development Goals.**

This mission will be deemed as having been accomplished when, in a number of geographical focus regions that are currently water insecure, decision makers will have the possibility to implement science-based, validated responses for water-related risk management that are **affordable, sustainable, just and accepted**.

Decisive results will consolidate the Europe's position as a leading player in the creation of effective solutions for water security and furthered by a continuous exchange of knowledge with key stakeholders throughout the world.

Why is this mission important?

Society as a whole is now aware that acute water issues are not 'a freak of nature' but will recur and worsen. There is much to do in terms of education, awareness and capacity building if we are to achieve a resilient water smart society. Citizens are heavily dependent on the ability of water utilities to deliver. Indirectly, citizens are affected as their jobs, in particular in economic sectors such as agriculture, energy and industry, are water dependent, as are their food and non-food products, while floods put both lives and livelihoods at extreme risk.

Water insecurity has been identified as an important driver for social unrest and migration globally. Tackling water insecurity will positively impact migration patterns, an issue which today constitutes a major concern of the European Union.

If we do not solve water challenges now, the very basis of wellbeing and growth in Europe and the world is at risk.

How are we going to achieve the mission?

To develop and demonstrate the pathways towards solutions, the mission is centred on a number of **living labs converging on pilot catchment areas representing different challenges** so as to actively engage scientists, technologists, manufacturers, innovators, businesses, educators, policy-makers, civil organisations and citizens. Co-designing and co-creating research and innovation, demonstrating and scaling-up, training and education, combined with the recruitment of young talent will be at the heart of the effort to accomplish the mission.

Technological and social solutions have to be accompanied by political, governance and financial innovations to break down barriers and facilitate uptake and roll-out, leading to systemic changes. Integrating all this in a shared and cross – sectoral process will nurture Europe's long-term vision and a continuous investment in water policies with supporting research and innovation programs.