Water4All: Water security for the Planet

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IRSA-CNR
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Aim of the Partnership

- Concentrating research and innovation and the funding landscape of water in Europe and beyond.
- Enabling **water security for all** on the long term by boosting systemic **transformations** and changes across the entire water research and innovation pipeline, fostering the matchmaking between problem owners and solution providers.
  1. Cross-sectoral approach, encompassing policy, environmental, economic, technological and societal considerations.
  2. Continuum from knowledge development to the transfer and practice to the actors of policy, operators and society.
A co-funded partnership under Horizon Europe

- National/regional research funders, policy makers, research and economic actors
- 79 partners
  - 23 EU MS + 8 non-EU countries

<table>
<thead>
<tr>
<th>Category</th>
<th>Number of partners</th>
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<tbody>
<tr>
<td>R&amp;I ministries / agencies</td>
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<tr>
<td>Sectoral ministries / agencies</td>
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<tr>
<td>Local authorities</td>
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<td>EU networks</td>
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<tr>
<td>National/regional networks</td>
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<tr>
<td>Research Performing Organisations</td>
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</tbody>
</table>

- From 2022 to 2029 and beyond
  - Launch: 1st June 2022
  - Some activities may last until 2032
Addressed through a variety of actions

**E. Internationalisation**
- Developing international cooperation agreements
- Engaging with UN Water and other international stakeholders
- Developing innovative tools for cooperation

**B. Research and innovation Development**
- Joint transnational calls
- Thematic annual programming
- Young researchers calls
- Demo/transfer calls

**A. Joint vision & SRIA**
- SRIA Development
- Mapping of programmes and impacts
- Development of synergies
- Dissemination

**D. Demonstrating Solution efficiency**
- Water Living Labs (LLs) & demos atlas
- Network of LLs/demos and roadmap for demonstration implementation
- Support to development of new LLs
- Market uptake support
- Liaising with investors

**C. Science – Policy - End-users interface**
- Knowledge hubs, policy WGs
- Support to start-ups creation
- PhD scheme; mobility scheme
- Vocational training
- Capacity building on systemic thinking
- Link to research infrastructures
- Toolbox for managing water data
Water4All’s RDI themes
Strategic Research and Innovation Agenda

**DRIVERS**
- Climate change
- Health
- Migration
- Urbanisation and population increase
- Food security
- Global needs, interactions

**Water4All R&I themes**
1. Water for circular economy: smart water value
2. Water for ecosystems and biodiversity
3. Water for the future: sustainable water management
4. Water and health
5. Water infrastructure
6. International cooperation (cross-cutting issue)
7. Governance (cross-cutting issue)

**ENABLERS**
- The digital revolution (big data, AI, IoT)
- Existing research infrastructures & technologies
- Open and Responsible Research
- Changes in people’s vision towards natural resources
- Technology and new frameworks
Theme I. Water for circular economy: smart water value

- **Why this theme?**
  1. There is a need to enable **water allocation and water use optimisation**.
  2. Water use conflicts may occur as a result of limited water availability for different usages/sectors.

- **Sub-themes:**
  1. I.I. Water supplies for socio-economic development and activities (such as agricultural, aquaculture, urban, industrial and energy uses).
  2. I.II. Circular economy.
  3. I.III. Empowering the public, water users and stakeholders in valuing water.

- **Keywords:** circular economy, fit for use, WEFE nexus, water value, partnerships and business models, water pricing, bio-based feedstocks, value chains, resource recovery, diffuse pollution.

- **Links to EU policies and initiatives:** WFD, CAP, Circular Economy Action Plan, Circular bio-based Partnership.
Theme II. Water for ecosystems and Biodiversity

- **Why this theme?**
  1. More than half of river and lake water bodies in Europe are reported to hold less than good ecological status (EEA, 2018).
  2. Need to improve water quality, restore ecosystems and reduce biodiversity loss.

- **Sub-themes:**
  1. II.I. Functioning and biodiversity.
  2. II.II. Resilience, mitigation and adaptation of aquatic ecosystems and ecosystem services to global changes.
  3. II.III. Developing and applying ecological engineering and ecohydrology for ecosystems restoration.
  4. II.IV. Integrating ecosystem services into the management of water resources.

- **Keywords:** ecosystems quality, multiple stressors, resilience, ecosystem restoration, ecosystem services nature-based solutions, eutrophication, nutrient and pollution loadings, groundwater, surface water.

- **Links to EU policies and initiatives:** EU Green Deal, EU Biodiversity Strategy, Mission Starfish, Biodiversity Partnership.
Theme III: Water for the future: sustainable water management

Why this theme?
1. Many obstacles remain in achieving the goals of the WFD.
2. Need to underpin the implementation of EU policy and EU water management.

Sub-themes:
2. III.II. River Basin Management.
3. III.III. Groundwater management.
4. III.IV. Resilience, adaptation and mitigation to hydroclimatic extreme events.
5. III.V. Tools for water management, including big data, Earth observation, sensors/monitoring tools, artificial intelligence, DSS, scenario analysis.

Keywords: river basin management, groundwater management, integrated water management, source-to-sea, hydroclimatic hazards and extreme events, nature-based solutions, land-sea continuum, disaster risk reduction, decision support tools, water retention measures.

Links to EU policies and initiatives: EU Green Deal, WFD, Climate resilient Europe mission.
Theme IV: Water and health

- Why this theme?
  1. Water quality is threatened by pollutants.
  2. Need to find solutions to reduce risks to human health.

- Sub-themes:
  1. IV.I. Behaviour and effects of contaminants of emerging concern, litter, plastics, endocrine disruptors.
  2. IV.II. Water dimension of anti-microbial resistance.
  3. IV.III. Innovative water tools and technologies for water quality monitoring and water treatment, remediation and disinfection.
  4. IV.IV. Risk Assessment and threshold values for protection of human health and ecosystems.

- Keywords: drinking water and sanitation, contaminants of emerging concern, emerging pollutants, risk assessment, treatment technologies, micropollutants.

- Links to EU policies and initiatives: Zero pollution Action Plan, Mission area on Oceans and Waters.
Theme V: Water infrastructure

- **Why this theme?**
  1. European water distribution networks and critical infrastructures must adapt to emerging environmental and socioeconomic challenges/risks.

- **Sub-themes:**
  1. V.I. Adaptation of existing water infrastructures to new challenges.
  2. V.II. Water infrastructures resilience.
  3. V.III. Water Infrastructures security (including cyber and terrorism security).

- **Keywords:** water infrastructures adaptation, resilience, security, accounting, disaster risk reduction, environmental sustainability.

- **Links to EU policies and initiatives:** EU Green Deal, EU Adaptation Strategy, Climate resilient Europe mission.
Theme VI: International cooperation (cross-cutting)

**Why this theme?**

1. Water challenges are **global**.
2. Opportunities for **EU to become a leader** in knowledge and technology transfer, networking, capacity building, education, technical advocacy, expertise, etc.

**Sub-themes:**

1. VI.I. Water diplomacy.
2. VI.II. Establishing tools for trans-boundary cooperation.
3. VI.III. Developing integrated, fair and adaptive water resource management systems.

**Keywords:** water diplomacy, trans-boundary cooperation, mass migrations, water access.

**Links to EU policies and initiatives:** EU Green Deal.
Theme VII: Governance (cross-cutting issue)

- **Why this theme?**
  1. Emerging water challenges call for innovative governance models enabling the conception and implementation of effective rules, measures, good practices and processes.
  2. Good governance drives the «success» of measures for any of the themes described above.

- **Sub-themes:**
  1. VII.I. Developing methods for more efficient citizen and wider stakeholder engagement.
  2. VII.II. Strengthening policy integration, alignment, coherence and water policy coordination in order to exert a real change in society.
  3. VII.III. Enhancing the regulatory framework.

- **Keywords:** participatory tools and web services, stakeholder participation, enhancing policy integration and regulatory framework, social sciences, policy instruments, FAIR data.

- **Links to EU policies and initiatives:** EU Green Deal, WFD, CAP, Starfish mission, Soil mission.
Pilar A: 2022 Joint Transnational Call

- Management of water resources: resilience, adaptation and mitigation to hydroclimatic extreme events and management tools
- Budget over 30 M€
- 34 funding agencies (29 countries) + EC
Water4All 2022 Joint Call

- **TOPICS**
  - **Topic 1.** Resilience, adaptation and mitigation to hydroclimatic extreme events
  - **Topic 2.** Tools for water management - in the context of hydroclimatic extreme events
  - **Topic 3.** Improved water governance in the context hydroclimatic extreme events and international contexts
Water4All 2022 Joint Call

Topic 1. Resilience, adaptation and mitigation to hydroclimatic extreme events

- Addressing knowledge gaps in our understanding of the causes of water scarcity, drought events, seasonal variability in climate impacts to develop adaptation and mitigation measures, taking climate change into account.

- Developing and demonstrating innovative (or improved) societally acceptable adaptation and mitigation strategies to cope with hydro-climatic extreme events and their increase in length and duration. This includes floods and droughts, although is not limited to them, adopting a regional or a basin scale wide approach.

- Improving resilience and adaptation capacity of water infrastructure (e.g., industrial water facilities, urban networks, wastewater treatment facilities, stormwater management systems and rural systems) to hydroclimatic extreme events.
Water4All 2022 Joint Call

Topic 2. Tools for water management - in the context of hydroclimatic extreme events

• Developing tools (e.g., multi-risk approach, decision support tools, monetary/non-monetary costs valuation) to support the design and implementation of strategies for adaptation and mitigation to hydro-climatic extreme events, especially floods (including “flash-floods”), heat waves and droughts in a catchment to sea perspective.

• Generating new methodologies, tools and models for water resources assessment/modelling for water bodies in scarcely monitored/data scarce areas. A combination of physical and digital solutions is expected, and opportunities provided by citizen science should be seized.

• “Smartening the water system” and use of innovative digitalization, including improved/new sensors, models, communications and computing technologies.
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Topic 3. Improved water governance in the context hydroclimatic extreme events and international contexts

• Undertaking an analysis and developing robust Governance models for the management of water resources in the context of extreme events, is critical increasing the decision-making capacity of institutions and involvement of citizens. This should include ways of improving coordination between water managers to increase our capacity to reduce vulnerability to extreme events, as well as effectively respond to them.

• Addressing and encouraging international cooperation in the field of water, including management of transboundary water resources and contribution to Water Diplomacy.
Useful information...

- Transnational projects consortia with
  - at least 3 eligible partners from participating FPOs and from 3 different countries
  - at least 2 partners from 2 EU Member States or Associated Countries
- 3 year projects (max)
- Each FPO fund their national/regional partner(s)
- ALL proposals must conform to the general eligibility criteria specific to the call and national eligibility criteria

➢ Check the Call Announcement and National/Regional Regulations
<table>
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<tr>
<th>Country</th>
<th>Funding Partner Organisation</th>
<th>National budget (tentative)</th>
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<td>Germany</td>
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<td>Engineering and Physical Sciences Research Council</td>
<td>EPSRC UKRI</td>
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SMEs eligibility

- Countries participating in the call and funding all types of partners Austria, Denmark, Estonia, Germany, Hungary, Ireland

- For other countries participating in the call... check Annex C of the Call Announcement and National/Regional Regulations!

- The participation of applicants from other countries is allowed, if they have their own separate source of funding or if funds by another source are guaranteed (i.e., by a national or international funding organisation)
Tools and support for applicants

- Call [webpage](https://water4all2022-submission.mur.gov.it)
- National Contact Points
- Partnering tool (available on the online Submission Platform) [https://water4all2022-submission.mur.gov.it](https://water4all2022-submission.mur.gov.it)

- Webinar for applicants
  - **Friday 23 September 2022** - from 14.00 to 15.30 (CEST, Brussels time) [https://us06web.zoom.us/j/87911790563?pwd=NTlhSlF5YmRDQzN0bURidjI3ZGEUT09#success](https://us06web.zoom.us/j/87911790563?pwd=NTlhSlF5YmRDQzN0bURidjI3ZGEUT09#success)
Thank you for your attention

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