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ASSESSING THE IMPACT PATHWAYS OF IA/RIA SC5 PROJECTS THROUGH THE USE OF PORTFOLIO ANALYSIS

# Policy Co-Creation Workshop on Water-related Projects of Societal Challenge 5

# Impact Pathways Approach and Results: WATER PORTFOLIO

**Workshop**

**12th of May 2021**

tecnalia Inspiring Business

JIIP Joint Institute for Innovation Policy

VTT

Q-PLAN INTERNATIONAL

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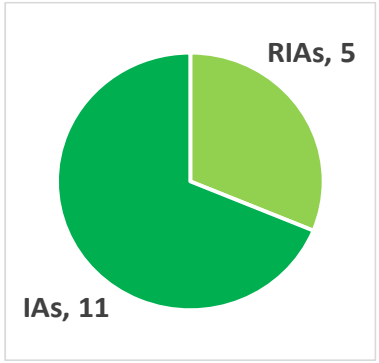
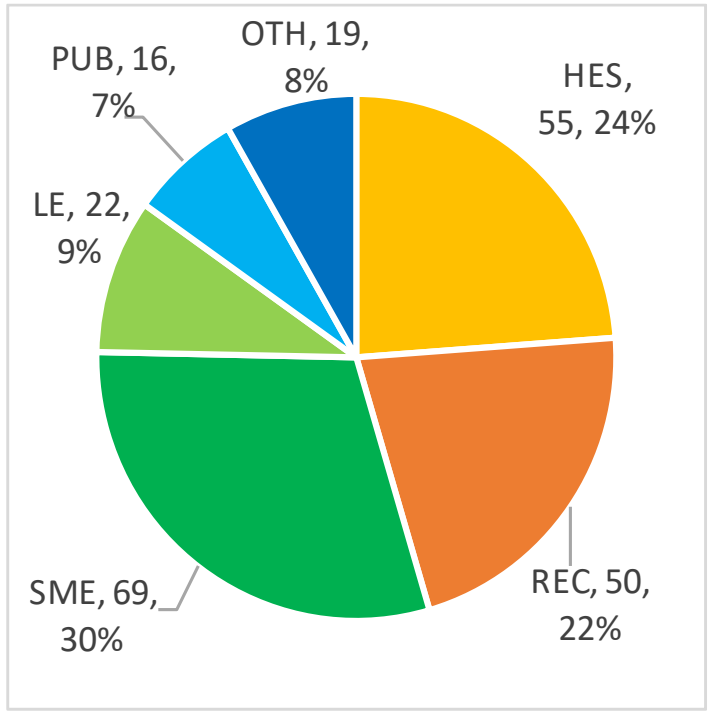
# WATER portfolio SC5 2014-15

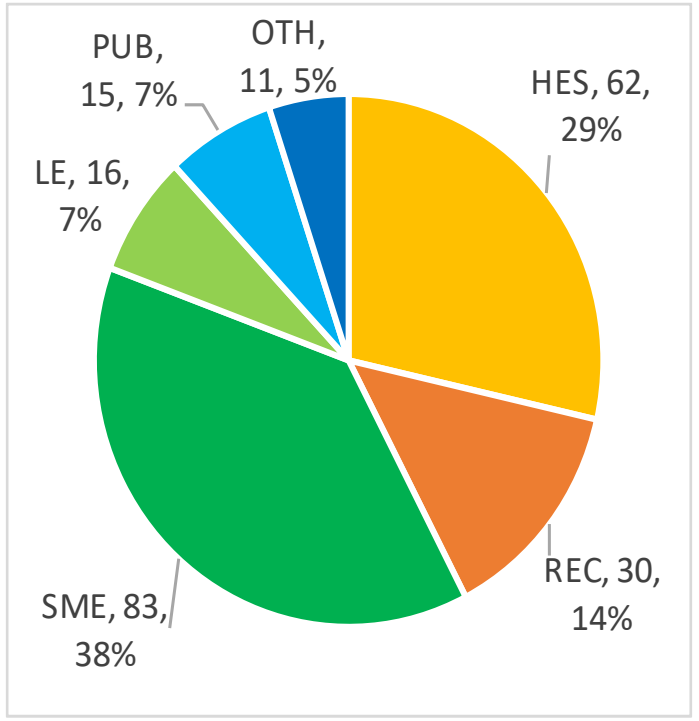
| Project clusters under WATER portfolio | Call topics | Number of projects | EC Contribution (€) |
|---|---|---|---|
| **Cluster 1: Water resources and resilience** | • WATER-1a-2014 (MOSES, MASLOWATEN, CENTAUR, iMETland, CYTO-WATER, REGROUND & SUBSOL)<br>• WATER-1b-2015 (INCOVER, INTEGROIL, WADI & INTCATCH)<br>• WATER-2a-2014 (IMPREX & BINGO)<br>• WATER-2b-2015 (MAGIC & SIM4NEXUS)<br>• WATER-5c-2015 (DAFNE) | 16 | 78.8 M€ |
| **Cluster 2: Water treatment technologies** | • WATER-1a-2014 (ECWRTI, POWERSTEP, REMEB & Eco-UV)<br>• WATER-1b-2015 (SALTGAE, SMART-Plant, AquaNES & INNOQUA)<br>• WATER-5c-2015 (FLOWERED, VicInAqua, MADFORWATER, SafeWaterAfrica & WATERSPOUTT) | 13 | 59.2 M€ |

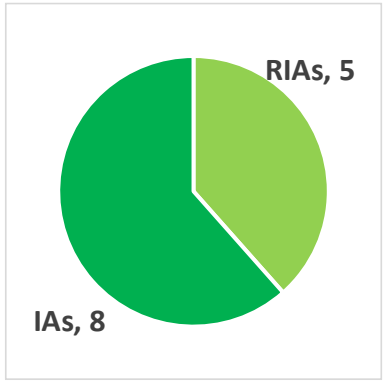
# The WATER portfolio
# Overview of clusters: Type of partners




## Cluster 1: Water resources and resilience




## Cluster 2: Water treatment technologies

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# WATER portfolio: KPIs per cluster


Cluster 1: Water resources and resilience


Cluster 2: Water treatment technologies

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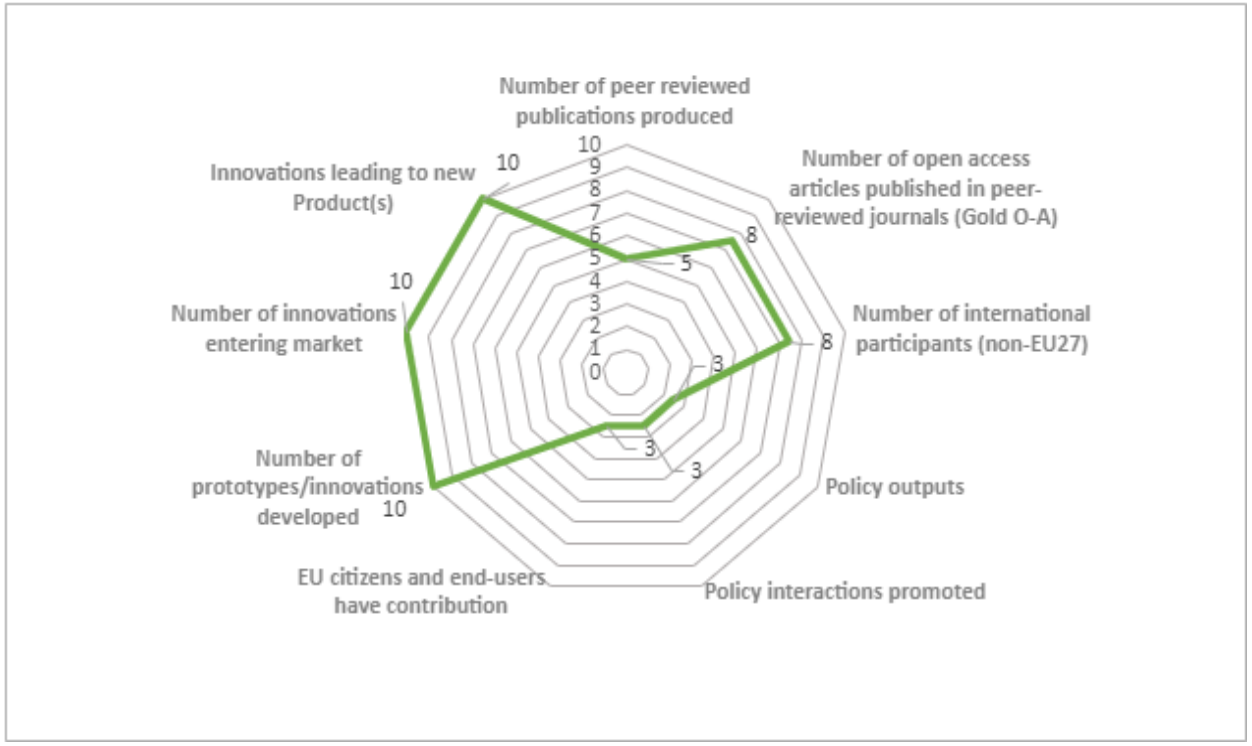
# WATER portfolio: KPIs for the whole portfolio



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# WATER portfolio: Scientific impact pathway

## SCIENTIFIC RESULTS & CONTRIBUTION (1/2)

- **Creating high-quality new knowledge**: 376 peer-reviewed publications
- **Diffusion of knowledge**: 70 open access datasets; 138 open access peer-reviewed publications
- **Gender**: Researcher shares: 63%-37% (1388 males/805 females) and non-researchers shares: 60%-40% (794 males-531 females); 15 projects, about half, incorporated and/or developed gender knowledge
- **Strengthening human capital**: More than 30 PhD thesis
- **Partnerships and international openness**:
    - 9 projects participated in joint activities with other H2020 projects mostly with a focus on disseminating the projects' results, exchange knowledge and experiences
    - A good rate of activities outside Europe - out of 448 participants, 28 were from associated countries, 15 from countries with bilateral science & technology agreements, and 17 from the rest of the world (Africa)

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# WATER portfolio: Scientific impact pathway

## SCIENTIFIC RESULTS & CONTRIBUTION (2/2)

- Development and uptake of eco-innovative water solutions for water resource management and water treatment
- Better understanding on water contamination
- Improved understanding of water cycle under future climate
- Integrated approaches to food security, low-carbon energy, sustainable water management and climate change mitigation (the Nexus approach)

**To sum up: Good research performance, openness, junior researcher involvement and international collaboration - half of the projects paid attention gender issues**

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# WATER portfolio: Societal impact pathway

## SOCIETAL RESULTS & CONTRIBUTION (1/2)

- **Policy priorities**:
  - Majority of the projects addressed EU policy priorities via policy outputs and interactions
  - Plenty of efforts to raise the awareness of water solutions among regional and national policy makers and utilities
  - More efficient and sustainable water use and treatment, reduction of pollution, resource recovery and reuse - in line with the European Green Deal, the New Circular Economy Action Plan and the Zero-Pollution Ambition
  - Improved capabilities of water and wastewater systems to meet the environmental and socio-economic objectives and requirements of various regions
  - The most common Sustainable Development Goals (SDGs) identified: Clean water and sanitation, Climate action, Responsible production and consumption, Industrial innovation and infrastructure, Partnerships to the goals & Sustainable cities and communities

# WATER portfolio: Societal impact pathway

## SOCIETAL RESULTS & CONTRIBUTION (2/2)

- Citizens: less than half of the projects reported on interaction with local communities or citizens
  - Note: collaboration with water utilities was frequent and seen strategically important as they represent the end users of the most technologies developed within this portfolio
- Given the relatively low amount of policy outputs and policy and stakeholders events reported by the projects, it is difficult to assess if the environmental and societal impact pathway of this portfolio is on its way towards the medium- and long-term impacts in the policy domain
  - Note: the quality and scope of the policy activities employed by the projects can be considered appropriate for creating impact

**To sum up: Relatively low amount of policy activities but of high quality - citizens missing**

# WATER portfolio: Economic impact pathway

## ECONOMIC RESULTS & CONTRIBUTION (1/2)

- **Innovation based growth**:
  - Majority of the projects reported on producing innovative products, processes or methods
  - 19 patent applications submitted, 9 trademark applications
  - Technologies of commercial value: Versatile new water technologies ranging from online platforms to robotic monitoring vehicles and novel water treatment technologies
  - Less than half of the projects contributed to formal standardisation activities, such as the work of standardisation bodies

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# WATER portfolio: Economic impact pathway

## ECONOMIC RESULTS & CONTRIBUTION (2/2)

- **Adoption of innovative technological solutions:**
  - Majority of the projects reported on great advancements in raising the TRLs of the technologies under development (many of them up to close-to-market TRLs 8-9)
  - High participation of the private sector - out of 448 organisations involved, 190 were private companies and 152 SMEs
  - Several projects reported on successful full-scale pilots and demonstrations
    - Note: Further research still called for improving some aspects of the technology under development in many cases, such as its lifetime or operational efficiency
  - 15 projects reported on joint public-private publications
- **No information on job creation and leverage of complementary or follow-up funding**

**To sum up: the projects of Water portfolio developed several new water technologies in close-to-market projects, of which many were IAs with a high share of SME partners**

# WATER portfolio: Success factors

- Industry involvement
- SMEs well-motivated and -adapted to the project execution
- Good relationships and trust between partners
- Support received by from the EC

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# WATER: Questions for discussion

- Could water-related projects benefit from more active citizen engagement and use of participatory approaches?
- The high number of SMEs vs. large enterprises - do SMEs have enough resources for the scale-up and commercialisation activities after the project?
- Scientific outputs and economic results are not in contradiction, not even in IAs - should joint public-private publications be reported and monitored more carefully?

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# Next steps

- Final stakeholder conference
  - ✓ 3 June 2021

- Indicators and other project results are available on our website: https://impact-sc5.eu
  - ✓ We are also present in LinkedIN