

Europe-INBO workshop on

“How digital solutions can contribute to the implementation of EU water policies?”

Ressources

30 November 2021



OFB
OFFICE FRANÇAIS
DE LA BIODIVERSITÉ



OiEau
Office International
de l'Eau

1. EUROPEAN SETTINGS

1.1 - Commission work programme 2022. Making Europe stronger together [COM (2021) 645; 19/10/2021]

Text of the COM (2021) 645: https://ec.europa.eu/info/sites/default/files/com2021_645_en.pdf

More information here: <https://www.europeansources.info/record/commission-work-programme-2022-making-europe-stronger-together/>

Among the new 6 headline ambitions of the European Commission one is addressing the digitalisation of Europe.

New Commission's Six Headline Ambitions



1.2 – EU digital strategy “Shaping Europe's digital future” [COM (2020) 67; 19/02/2020]

Text of the COM (2020) 67: https://ec.europa.eu/info/sites/default/files/communication-shaping-europes-digital-future-feb2020_en.pdf

Everyone is experiencing the digital transformation in the life, the EU digital strategy will make it work for people, businesses and the planet, in line with EU values

Who will benefit from the EU's digital strategy?



What will we do?



2. DIGITAL SOLUTIONS FOR...

2.1 - ... EU Zero Pollution Ambition in 2050 [SWD (2021) 140; 12/05/2021]

Text of the SWD (2021) 140 final:

<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52021SC0140&from=EN>

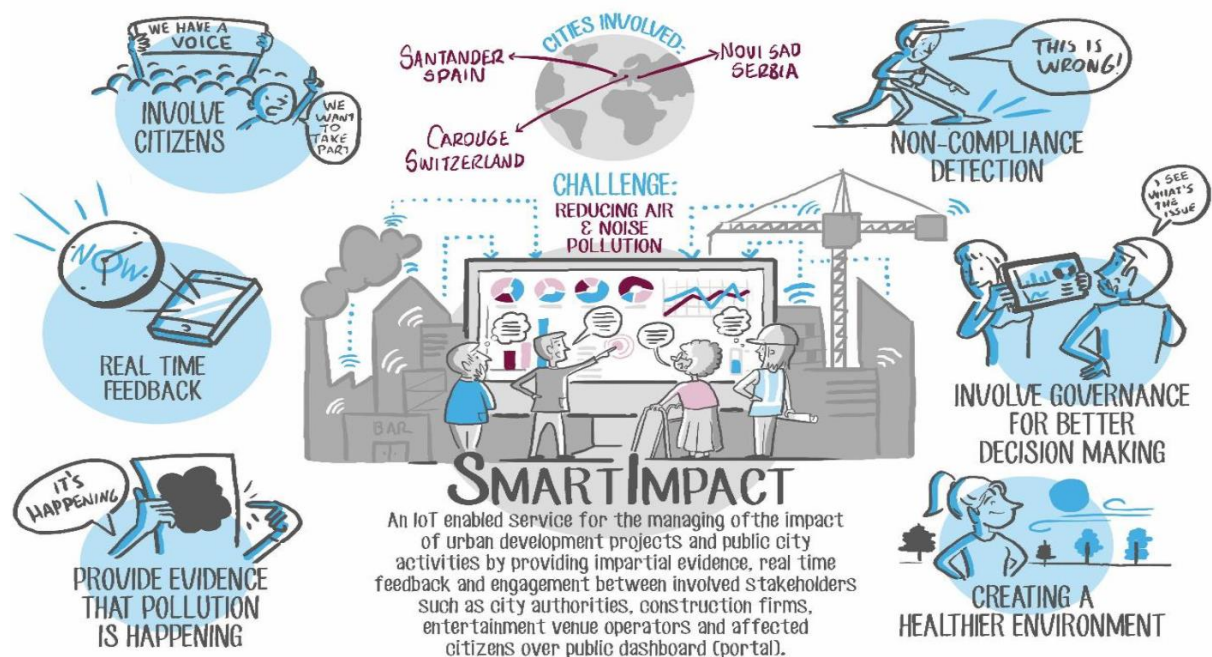
10 Action areas for digital solutions (SWD(2021) 140)



2.2 - ... Environment Policy

Source: INSPIRE Conference 2020 - presentation by Srdan Krco (DunavNET)

https://inspire.ec.europa.eu/sites/default/files/iot_and_ai_powered_synchronicity_srdjan_krco.pdf

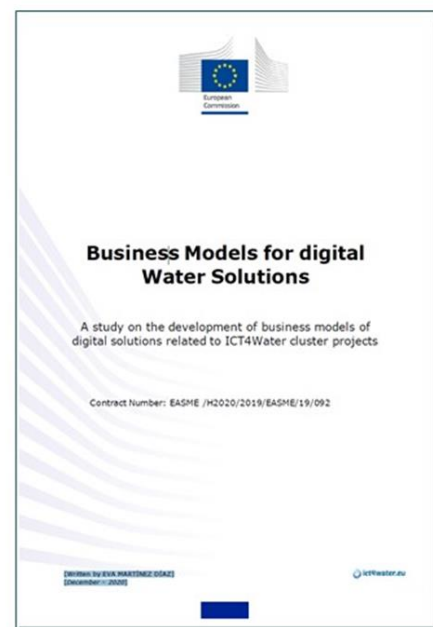


2.2 - ... EU WATER policy implementation

Digital solutions can support in addressing the current EU policies for water:

- New Drinking Water Directive
- Revision of Urban Waste Water Treatment Directive (2022, Q2)
- Revision Bathing Water Directive
- Revision Industrial Emissions Directive (2021, Q4)

EISMEA Publications on Digital Water



The need for digital water in a green Europe: EU H2020 projects' contribution to the implementation and strengthening of EU environmental policy <https://op.europa.eu/fr/publication-detail/-/publication/f68e3f26-821a-11eb-9ac9-01aa75ed71a1>

Business Models for digital Water Solutions: A study on the development of business models of digital solutions related to ICT4Water cluster projects <https://op.europa.eu/en/publication-detail/-/publication/17602700-821a-11eb-9ac9-01aa75ed71a1>

These 2 recent reports have been written by different action groups of the **ICT4Water Cluster** (<https://ict4water.eu/>), a hub for EU-funded research and innovation projects on **ICT applied to water** management. Currently, around 40 projects are members of the cluster. These are both ongoing projects and projects that were members of the cluster before their completion. In the latter case, the ICT4Water site continues to display links to the projects' webpages and to selected project outcomes (e.g. videos, IT tools open to the public). This permanent link between the cluster and the projects, even after their completion, helps showcasing project results and supports their dissemination and exploitation.

Access to the brochure presented below here: <https://cordis.europa.eu/article/id/413408-digital-transition-in-water>

ICT4WATER - Innovation in the Water Sector



Projects:

- Flexible IoT platform supports open innovation in farmland irrigation
- Multi-sector natural resource management – the nexus concept and serious games
- Recruiting microorganisms in wastewater treatments
- Closing the loop: Wastewater treatment becomes more sustainable and nearly carbon neutral
- Drones can support massive reductions in lost drinking water
- User-friendly boats seek out water pollutants in European rivers and lakes
- Co-designing citizen participation in environmental monitoring
- Water-savvy knowledge is POWER – for citizens, communities and policymakers
- Innovative technologies take the ‘waste’ out of wastewater
- Smart water treatment solution expands water reuse in the oil and gas industry
- Nature gives technology a hand to enhance water treatment processes
- Adaptable, scalable and cost-effective local solution to urban flooding prevention



3. PANORAMA OF SOLUTIONS FROM EU-FUNDED PROJECTS

3.1 – Fiware4Water Project (2019 – 2022)

FIWARE is a smart solution platform, funded by the EC (2011-16) as a major flagship PPP, to support SMEs and developers in creating the next generation of internet services, as the main ecosystem for Smart City initiatives for cross-domain data exchange/cooperation and for the NGI initiative. So far little progress has been made on developing specific water-related applications using FIWARE, due to fragmentation of the water sector, restrained by licensed platforms and lagging behind other sectors (e.g. telecommunications) regarding interoperability, standardisation, cross-domain cooperation and data exchange. **Fiware4Water** intends to link the water sector to FIWARE by demonstrating its capabilities and the potential of its interoperable and standardised interfaces for both water sector end-users (cities, water utilities, water authorities, citizens and consumers), and solution providers (private utilities, SMEs, developers). Specifically we will demonstrate it is non-intrusive and integrates well with legacy systems. In addition to building modular applications using FIWARE and open API architecture for the real time management of water systems, Fiware4Water also builds upon distributed intelligence and low level analytics (smart meters, advanced water quality sensors) to increase the economic (improved performance) and societal (interaction with the users, con-consensus) efficiency of water systems and social acceptability of digital water.



Project Website: <https://www.fiware4water.eu/>

More information about the digital solutions developed:

- for raw water supply: <https://www.fiware4water.eu/smart-applications-raw-water-supply>
- for drinking water supply: <https://www.fiware4water.eu/smart-solutions/smart-applications-water-supply>
- for waste water treatment: <https://www.fiware4water.eu/smart-solutions/smart-applications-waste-water-treatment>
- for customers engagement: <https://www.fiware4water.eu/smart-solutions/smart-applications-customers>

3.2 – Digital Water City Project (2019 – 2023)



European cities face major challenges to achieve sustainable management of urban water systems with: the over-exploitation of groundwater and surface water bodies by the agricultural industry and citizens and the effects of climate change competing with growing demand for liveable and resilient cities. Digital technologies can help. **Mobile devices, real-time sensors, machine learning, artificial intelligence and cloud solutions** can significantly improve the management of water infrastructures. They can boost the quality of services provided to citizens, as well as the level of awareness and collaboration between utilities, authorities and citizens.

With the potential of data and smart digital technologies, digital-water.city's main goal is to boost the integrated management of water systems in five major European cities: Berlin, Copenhagen, Milan, Paris and Sofia.

DWC's digital solutions are developed in close collaboration with municipalities, utilities, research institutes and innovation players from both the digital and physical sphere. digital-water.city integrates the development of digital solutions in a dedicated guiding protocol to cover existing gaps in governance, interoperability and cybersecurity.

Project Website: <https://www.digital-water.city/>

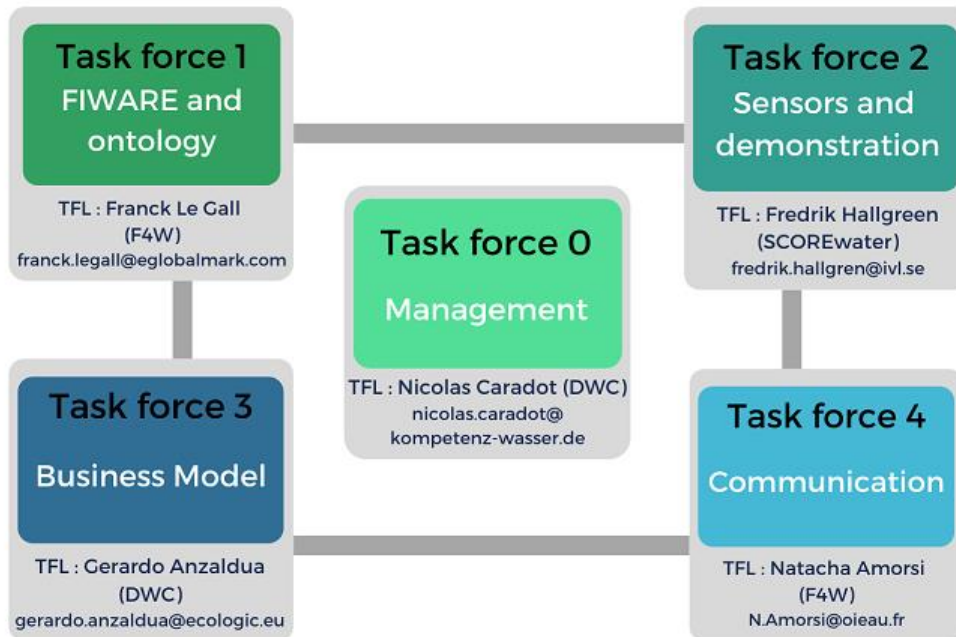
More information about the digital solutions developed: <https://www.digital-water.city/digital-solutions/> covering the whole water cycle.



3.3 – Digital Water 2020 Synergy Group: a cluster of 5 sister projects about ICT and Water



The **5 projects, Fiware4Water, aqua3S, DigitalWater.City, NAIADES and ScoreWater** composing the DigitalWater2020 synergy group have received funding from the European Union's Horizon 2020 Research and Innovation programme. They all address digital water related issues. DW2020 is organised into 5 tasks force. Since its creation in May 2020, the DW2020 different task forces have met many times to share and develop common approaches. DW2020 act to set synergies and complementarities in terms of development, research and communication, Join efforts and share experiences about the impact of digitalisation on the water sector and Support a more efficient means of managing and protecting water resources, solving several challenges related to resource efficiency, climate change and sustainable development. The overall aim is to Support decision making and bring innovative water digital solutions to the market and Achieve wide uptake among utilities, municipalities, SMEs and start up, software industry and general public.



More information here: <https://www.fiware4water.eu/digitalwater-2020/documents>

4. WORKSHOP CONTRIBUTION

The various contributions during the workshops are the following:

....