Water Data Management Ecosystem for Water Data Spaces

HORIZON-CL4-2021-DATA-01-03— Technologies for data management (AI, Data and Robotics Partnership)

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PROJECT INFO

- Start Date: **01 October 2022**
- End Date: 30 September 2025
- Total cost: € 5 253 964,65
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CONTACT

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MISSION

To develop a **Water Data Management Ecosystem** (WDME) for making data management practices and resources in the water sector accessible, affordable, secure, fair, and easy to use

CONSORTIUM

- holistic, interdisciplinary approach blending together complementary competencies of **17 partners** from **10 EU countries**, representing **the water domain**
- Research organisations, water utilities, water domain technology providers, innovation companies, and technical communities
- **Demonstrations in 6 countries** (CY, ES, DE, NH, FI, UK)

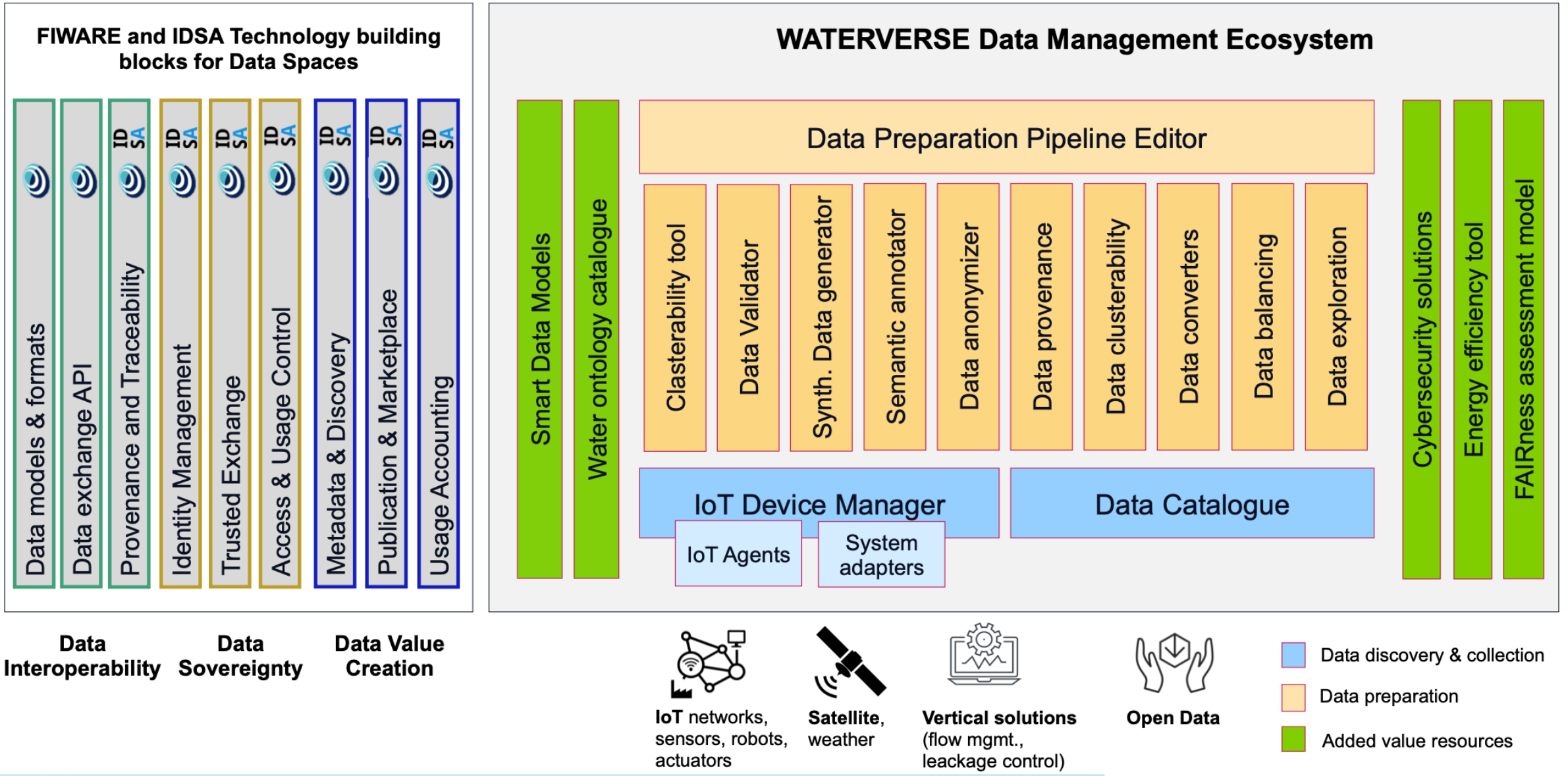
Participant No.	Participant organisation name	Country	Type
1 (Coordinator)	Information Technologies Institute, Centre for Research & Technology Hellas (CERTH)	EL	Research
2	CETaqua, Centro Tecnologico Del Agua, Fundacion Privada (CET)	ES	Research
3	Fundacio Eurecat (EUT)	ES	Research
4	KWR WATER B.V. (KWR)	NL	Research
5	VTT Technical Research Centre of Finland Ltd (VTT)	FI	Research
6	The University of Exeter (UNEXE)	UK	Research
7	Engineering - Ingegneria Informatica S.p.A. (ENG)	IT	IND
8	Phoebe Research and Innovation Ltd (PHOEBE)	CY	SME
9	Easy Global Market SAS (EGM)	FR	SME
10	Water Europe (WE)	BE	No Profit
11	FIWARE Foundation (FIWARE)	DE	No Profit
12	NV PWN Waterleidingsbedrijf Noord Holland (PWN)	NL	End User
13	South West Water (SWW)	UK	End User
14	Hidralia, Gestion Integral De Aguas De Andalucia S.A. (HIDR)	ES	End User
15	Keypro ltd (KEY)	FI	End User
16	Water Board of Lemesos (WBL)	CY	End User
17	HST Systemtechnik GmbH & Co. KG (HST)	DE	End User

CONCEPT

- **Digitalization** is a key enabler for the water sector
- **Digital transformation** process towards more resilient and sustainable water services and data-driven decisions
- **Data intensive technologies** are being adopted in the water sector (multi-parametric sensing infrastructures, SCADA systems, earth observation data, statistics on consumption, network operation analytics, digital twins).
- **Data ownership** approaches (data retention) - data sharing is a risk for confidentiality leakage,
- **Data fragmentation** and conservative attitude of the end-users (water utilities)
- **Data spaces**, as intended by the **European Strategy for Data**, can make data sovereignty a reality that will help overcoming the aforementioned challenges.

OBJECTIVES

- Actively engage end-users and stakeholders to assess the main gaps and challenges the water sector must overcome to effectively be part of and contribute to quality **European data spaces**;
- Identify, extend, and integrate a wide set of **data management tools** building upon data space components and assets already available from FIWARE and IDSA
- Setup and **demonstrate** the WATERVERSE WDME in **real environment** with relevant and diverse case studies involving water sector stakeholders from 6 countries;
- Set clear and measurable indicators for assessing **FAIRness of data in water-related data spaces**;
- Ensure the viability and **sustainability** of the WATERVERSE WDME, as well as its **replicability**, **scalability** and **business applicability**


FIWARE and IDSA Technology building blocks for Data Spaces
Data models & formats
Data exchange API
Provenance and Traceability
Identity Management
Trusted Exchange
Access & Usage Control
Metadata & Discovery
Publication & Marketplace
Usage Accounting
Data Interoperability
Data Sovereignty
Data Value Creation
WATERVERSE Data Management Ecosystem
Smart Data Models
Water ontology catalogue
Data Preparation Pipeline Editor
Clasterability tool
Data Validator
Synth. Data generator
Semantic annotator
Data anonymizer
Data provenance
Data clusterability
Data converters
Data balancing
Data exploration
Cybersecurity solutions
Energy efficiency tool
FAIRness assessment model
IoT Device Manager
IoT Agents
System adapters
Data Catalogue
IoT networks, sensors, robots, actuators
Satellite, weather
Vertical solutions (flow mgmt., leackage control)
Open Data
Data discovery & collection
Data preparation
Added value resources

PILOTS

[NL, DE, CY]

- Prediction of water quality and its impact in the treatment steps.
- Digital Village Twin for flood protection and territorial management
- Leveraging the potential of water digital twin and water analytics tools.

PILOTS

[UK, ES, FI]

- Addressing the challenges of Combined Sewer Overflow (CSO) performance.
- Management of the integral water cycle and open innovation
- Smart water tools and risk management

IMPACT

- A **Water-Smart Society** goes beyond the digitalisation of the water sector
- **Green Transition** requires data sharing across relevant domains
- Digital water, water re-use and water efficiency
- **Water Data Space**: A Community approach

THANK YOU

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