

## **Project Acronym: NAIADES**

*Full title: A holistic water ecosystem for digitisation of urban water sector*

*Funding instrument: e.g. H2020*

*Topic: Digital solutions for water: linking the physical and digital world for water solutions*

*Coordinator: CERTH*

*Beneficiaries: number 18; countries e.g. GR, IE, CH, ES, SI, RO, DE, NL, EE, BE,*

*EU contribution: 4. 999. 980,13*

*Start date: 01/06/2019*

*End date: 31/05/2022*

*Duration: 36months*

*Contact point for the ICT4Water cluster: Katerina Margariti*

## Main Problem Addressed

- ◆ Competing pressures towards sustainable urban water management & business objectives
- ◆ Integration of legacy isolated , heterogeneous systems and data sources
- ◆ Low levels of consumer confidence and motivation to engage
- ◆ Change in Customer Expectations for Personalised Services
- ◆ Vulnerability of current water management infrastructure

## NAIADES Goal

- Transform urban water management to an automated, smarter, AI-enabled operation
- Provide the framework for future water CPS
- Enable interoperability of legacy infrastructure and next generation water components and promote standardization
- Deliver high level of water services for both residential and commercial consumers
- Enhance public awareness on water consumption and usage savings
- Generate increased confidence of water consumers
- Assure the safety and reliability of water infrastructure and data exchange
- Promote user engagement in water conservation activities
- Ensure water quality and supply reliability

**NAIADES's vision is to support the modernization and digitization of water sector by providing a holistic solution for the control and management of water ecosystems.**

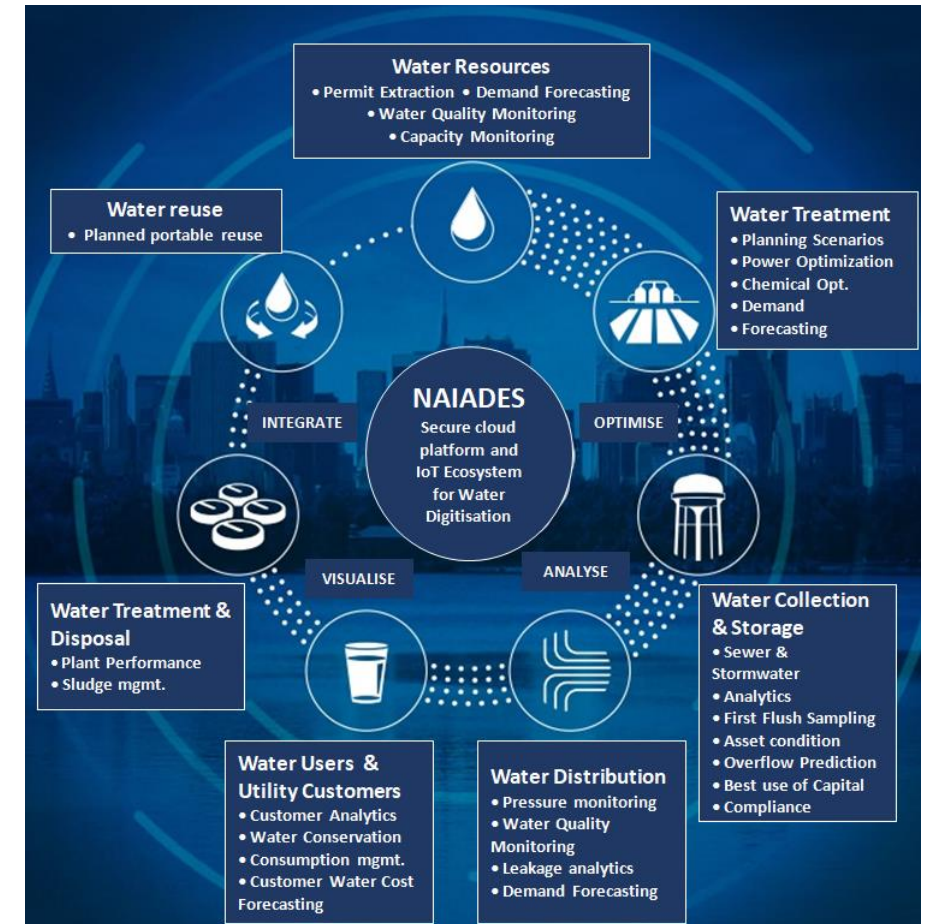
## NAIADES AT A GLANCE

- Adopts a **Total Cyber and Physical Approach**, merging and balancing all relevant aspects in the delivery of a novel smart-water system.
- Introduces a **ground-breaking approach in simulating the behaviour of important sub-systems, potential threats and the human factor.**
- Supports a total **Early Detection and Situational Awareness** mechanism
- Assesses at runtime how activities or phenomena might evolve into an incident for the water sector
- Improvement of detection** of complex events such as water leaks, system failures, consume changes and others with reduced rates of false positives.
- Sets a cornerstone for **the standardization of equipment, processes and methodologies**
- Safeguards the societal acceptance**
- Implements **visible demonstrations of an innovative and Unique Reference System**



### KEYWORDS:

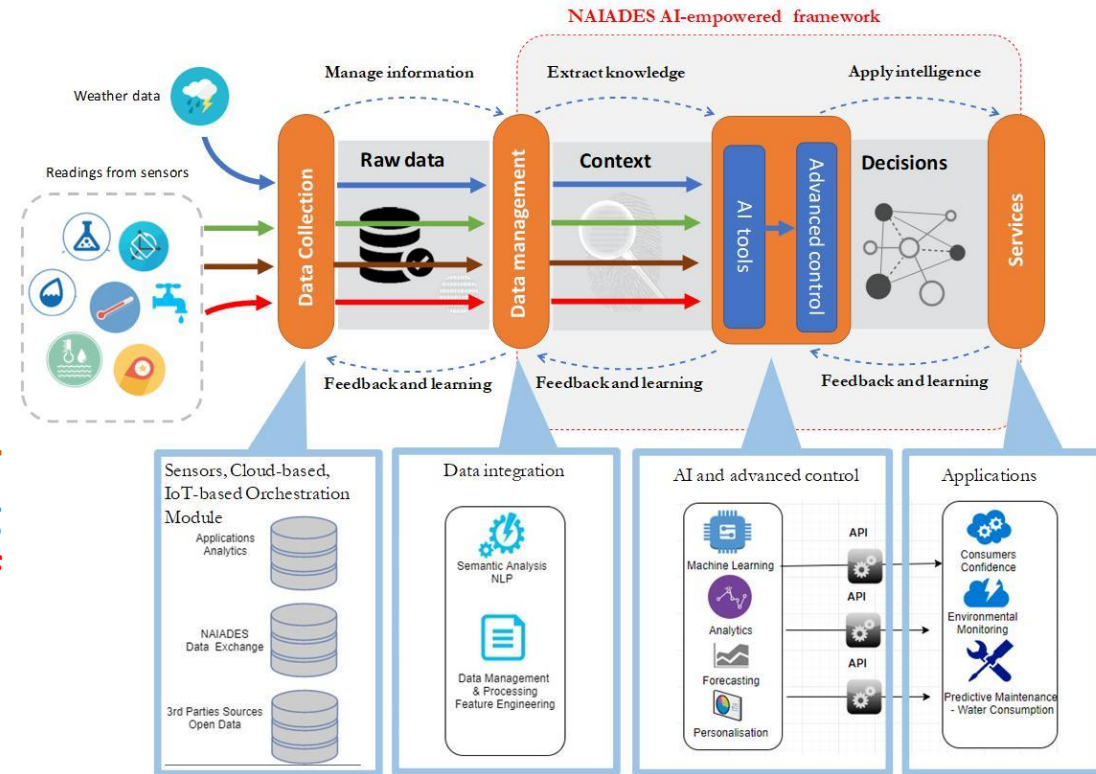
- Artificial intelligence modelling systems for water resources management
- Water Consumers Awareness and Behavioural Change Support
- Smart water monitoring system



## KEY INNOVATION

### NAIADES INTELLIGENT FRAMEWORK

- ◆ Data Collection, integration and Fusion Middleware;
- ◆ Advanced Data Mining Engine;
- ◆ The core Machine Learning and Control Development Environment;
- ◆ NAIADES Decision Support tool – Mitigation and Counteraction Platform;
- ◆ AI-driven services: (i) Failure Prediction Engine, (ii) Environmental Monitoring and Weather Forecasting Toolkit; (iii) Water demand prediction toolkit; (iv) Predictive AI analytics for building consumers' comfort assessment; (v) AI empowered optimisation of water consumption and Smart water operation scheduling; (vi) AI –Water Quality Monitoring & Dynamical Water Treatment; (vii) Analytics & Prediction for the Quality of the Water;



**WE ARE SEEKING!!! Training Data Records, Data-Driven Models of Water Value Chain**



**THANK YOU !!!!!**