

# Urbana Smart Water Grid

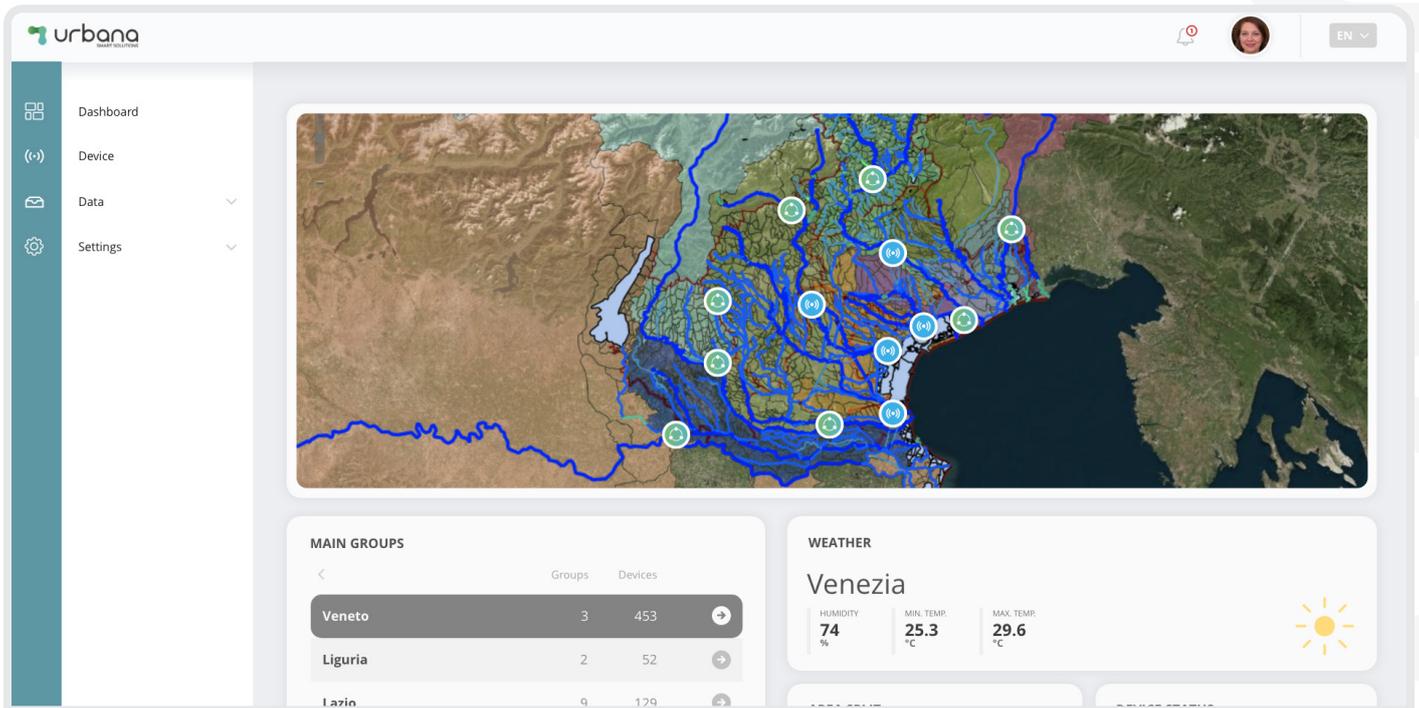
# Water becomes digital

**The ability to predict floods, droughts, and sustain aquatic ecosystems** needs quantifying components of the hydrologic cycle and the accurate measurement of surface water and groundwater.

**The provision of safe drinking water** depends on actions to protect water resources from sources of pollution.

In today's world, **hydrologic modeling takes a data-driven approach**, with more hydrologic variables at higher temporal resolution. This reduces both the time required in model development and the accuracy of the results.

**IoT technology** increases the speed and ease of data collection and application management.



## Digitization of Water

The process of "digitizing water" has great potential to solve many of the challenges faced by the water sector, with benefits, including business benefits, especially in two areas:

- **Energy Efficiency:** by optimizing and controlling the various energy-intensive components of networks and plants
- **Asset Management:** Long-term and predictive maintenance, and replacement planning

The development and increasing deployment of sensors and control devices, in combination with systems for data collection, visualization and processing (smart water networks, IoT, data-science techniques, augmented intelligence), will make the water sector increasingly digital, as has already happened in other industries.

In this transformation, one of the first opportunities for water service managers is the realization of the Digital twin, the virtual representation of water system infrastructures, whose information can be used to plan interventions of optimization and efficiency.

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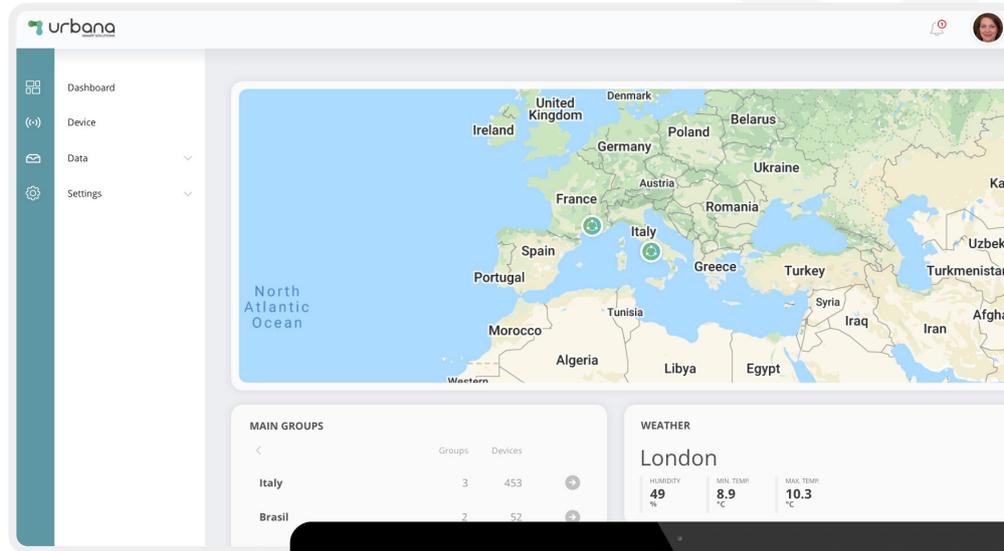
Urbana created **Smart Water Grid**, a cloud-based platform that integrates a wide range of wireless sensors that can monitor real-time field data and proper plant operation.

**Urbana Smart Water Grid** enables early detection of anomalous data and malfunctions. Operators and maintenance technicians can intervene more quickly and effectively.



# Sustainable water management

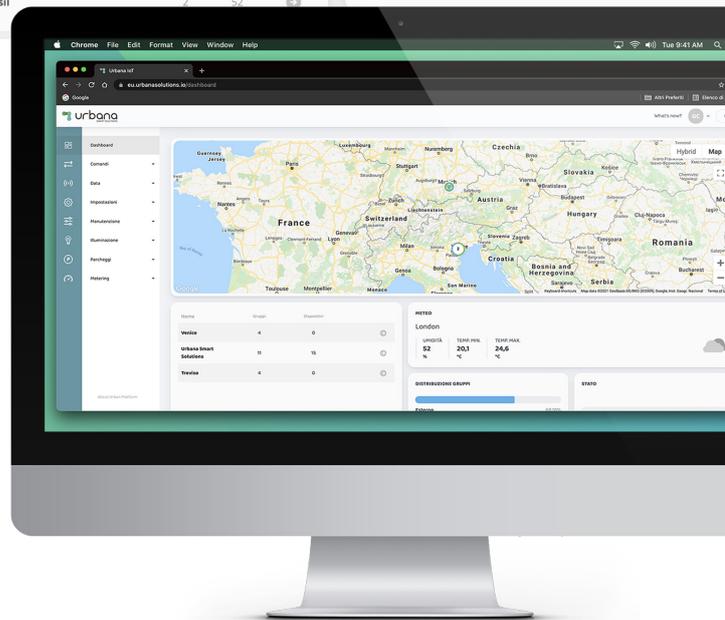
**Urbana Smart Water Grid Platform** consists primarily of a web dashboard and mobile app that allow users to perform all types of management tasks and changes.



Through the dashboard you can manage users, product modules, devices, groups as well as roles, permissions etc.

**All products and solutions provided by Urbana are configurable and manageable from the platform.**

The Platform is designed with a better User Experience: you can easily perform complex management tasks.



# System architecture



**Platform & Mobile App**  
Data Management, API Management,  
Big Data, Analytics, Automation



## Network

LoRaWAN, NB-IoT, 4G, ETH



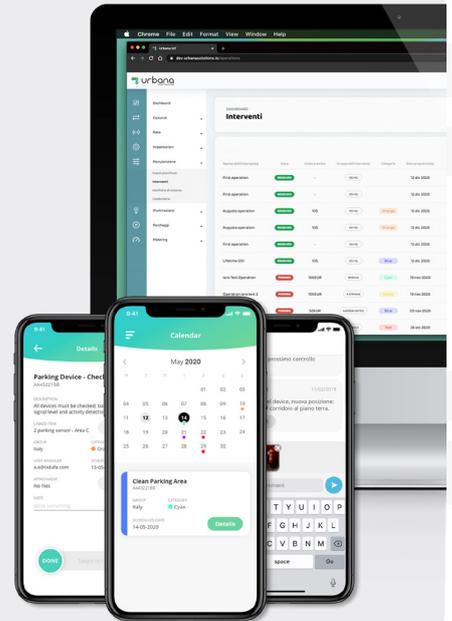
## IoT Sensors

## Device management

The platform checks the real-time status of plants and devices in order:

- to highlight the proper functioning of sensors and alarms from different types of systems: abnormal stream or reservoir levels, extreme rainfall, leaks in the distribution network, abnormal pH levels, etc.
- to highlight the operational status of system so as not to suffer disruption.
- to detect anomalies to automatically initiate the appropriate actions (email alerts or with triggers to other devices such as sirens, closing barriers, etc.).

User can scan QR codes on the devices and manage them directly in the platform. The platform also allows for full maintenance and monitoring of device repair and service operations.



## Areas of intervention

Below are tables showing the main detections for each area of intervention and the products that are used.

### Reclamation Consortia

Detection	Products
Water-level metering	MILESIGHT EM500-UDL 
Water pressure and Salinity metering	DECENTLAB DL-PR36CTD 
Rainfall quantity measurement, radiation, wind direction and wind speed	ENGINKO MCF-LWW500 

## Waterworks

Detection	Products
Water flow measurement up to 4 cubic meters per hour –Line Leaks	AXIOMA QUALCSONIC W1 
Water flow measurement up to 100 cubic meters per hour –Line Leaks	AXIOMA QUALCSONIC F1 
Level, temperature, and electrical conductivity measurement	DECENTLAB DL-CTD10 
Water pressure and Salinity metering	DECENTLAB DL-PR36CTD 
Water-level metering	ULTRASONIC DISTANCE / LEVEL SENSOR MILESIGHT EM500 - UDL 
Dissolved oxygen measurement and temperature	DECENTLAB DL-OPTOD 
Chlorine level measurement	THINGSTEL 202630 

## Wastewater

### Detection

### Products

Water-level metering

MILESIGHT EM500-UDL



Water pressure and Salinity  
metering

DECENTLAB DL-PR36CTD





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