THE DIGITAL TRANSFORMATION OF WATER

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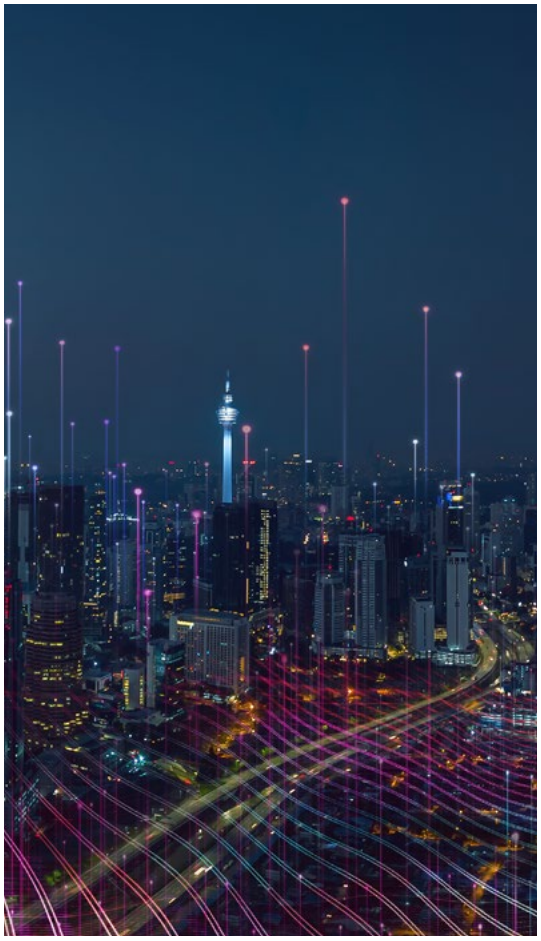
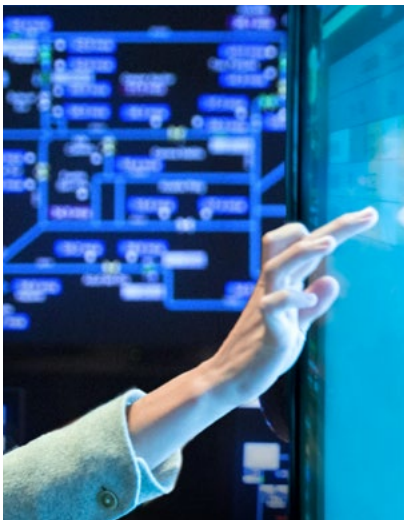


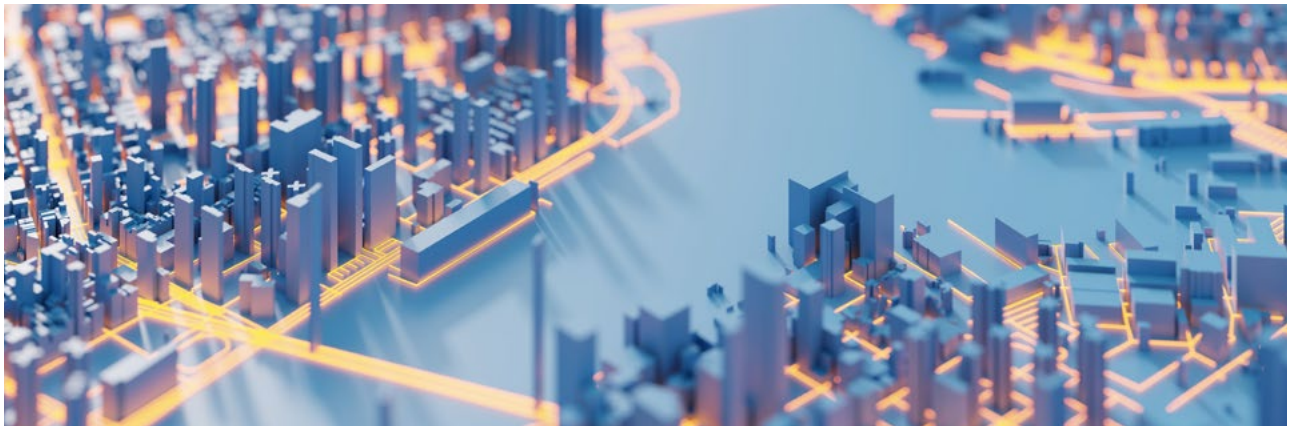
Benefits of digital transformation in the water sector

The GoAigua solution arose as a result of the digital transformation process undergone by the Global Omnium group, which began in 2003. The development of the GoAigua solution has benefited the management of various areas of the company, such as Operations Maintenance, Engineering, Customers, Billing and Accounting, bringing them the experience and know-how of a company founded in 1890.



Global Omnium is a benchmark in the water sector. Its innovative approach using cutting-edge technology and continuous development have marked a turning point not only in the regions in which it operates, but also in the fields of water treatment, supply and recovery.

The GoAigua solution enables integrated, sustainable and efficient water management, in line with the objectives of the 2030 Agenda for Sustainable Development.



REDUCTION OF NON-REVENUE WATER

OPTIMIZING THE USEFUL LIFE OF ASSETS

REVENUE GROWTH

DETECTION OF INVISIBLE LEAKS

REACTING TO EXTREME EVENTS

REDUCTION OF THE ENERGY COSTS

IMPROVEMENT OF WATER BODIES

END CUSTOMER SATISFACTION

IMPROVING CAPITAL PLANNING

APPLICATION AREAS

Different solutions for each area of the complete water cycle

GoAigua Water

Technological solutions to optimize water collection, purification, distribution and commercial cycle processes. Digital transformation of the urban water supply.

GoAigua Wastewater

Optimization of wastewater treatment plants and sewer and stormwater networks to prevent problematic events and automate treatment processes.

GoAigua Agriculture

Innovation irrigation infrastructure and operation automation through technological solutions. Centralized management of irrigation and agricultural uses.

GoAigua Irrigation

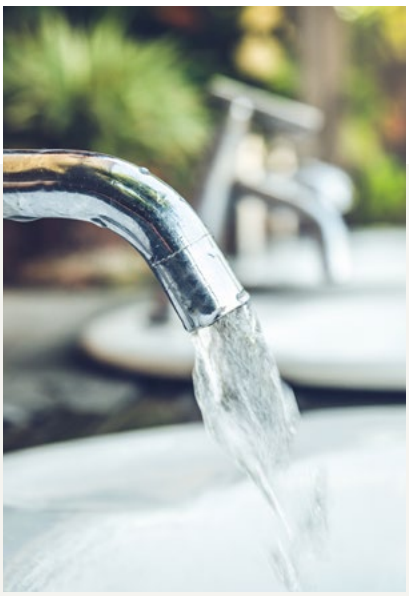
Technological solutions for integrated irrigation control of landscaped areas and optimization of resource consumption.

GoAigua Water Resources

Early warning service that incorporates and processes hydro-meteorological data measured or simulated in real time for even management in hydrographic basins.

GOAIGUA WATER

Technological solutions to optimize the integrated management of drinking water supply plants and networks



GoAigua Water centralizes the operational management of a drinking water company to reduce costs, maximize efficiency and improve service.

The diffrent modules facilitate decision-making and optimize operational processes, from collection and treatment to distribution and management of the commercial cycle.

GoAigua Water Twin

Real-time integration of multiple data sources using advanced algorithms for data science.

GoAigua FlowSens

Detection and location of leaks and calculation of unbilled water to improve efficiency.

GoAigua Meter Insights

Integral management of smart meters and their reading process.

GoAigua Water Twin Ace

Real-time monitoring through Digital Twin. "What if" scenario and decision support.

GoAigua WTP Twin

Intelligent operation for automatic process optimization in water treatment plants.

GoAigua WorkOrders

Predictive, preventive and corrective management of work orders.

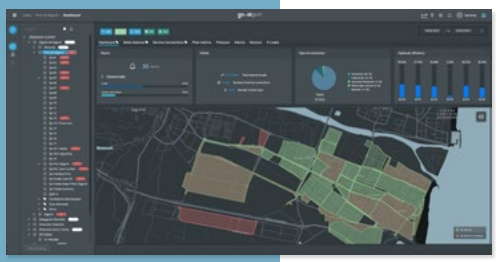
GoAigua Billing

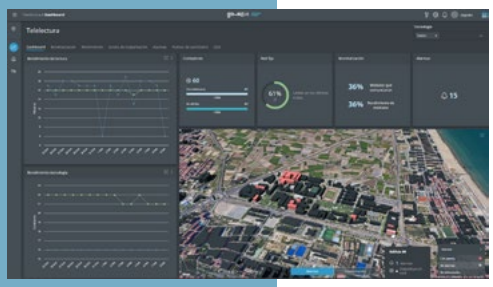
Management of the commercial cycle including reading, billing and collection processes.

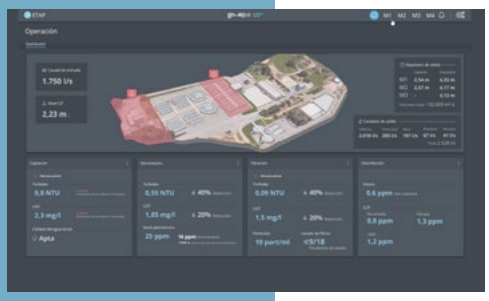
GoAigua Customers Portal

Virtual portal for customer interaction during the commercial process.

Applications. Use cases







Drinking water plants

Monitoring of plant assets and operational processes from a single portal

Integration of information from multiple data sources: SCADA, sensors, dataloggers, ERP, CMMS, smart metering, GIS, etc.

Simple configuration of alarms and operating rules with autonomous synoptic creation.

Monitoring and control of processes related to water quality and control.

Work order management with prioritization by economic or operational criteria for each application.

Water and energy efficiency of plant processes.

Distribution networks

Advanced management of hydraulic efficiency both in the distribution network and at supply points.

Decision-making support system based on a real-time hydraulic model.

Optimization of field operations routes and automatic planning of work orders.

Integral management of the network's meters, devices and communications.

Digitalization of customer management processes (payments, direct debits, changes of ownership, etc.).

Reduction of NRW (non-revenue water) indicators in urban supply.

Optimization of wastewater treatment plant sans sewage and stormwater networks to prevent events and automate processes.

GoAigua Wastewater centralizes on a singles platform the operational management and monitoring of wastewater treatment plants and sewage networks.

Solutions optimize the operation, from forecasting and monitoring of events and spills, to the detection of overflows due to obstruction or viruses such as SARS-CoV-2.

GoAigua SewerTwin

integration for sewer network monitoring and decision-making support.

GoAigua SewerTwin Ace

Early warning system for the sewer system using Digital Twin.

GoAigua WWTP Twin

ontrol center for the assets in charge of wastewater treatment.

GoAigua WorkOrders

Predictive, preventive and corrective field work management.

GoAigua SewerProtect

Detection of undesired flows from filtrations, rainwater condensation and discharges.

GoAigua ClogSpot

Optimization of the cleaning of sewage networks to prevent overflows and ensure their hydraulic capacity.

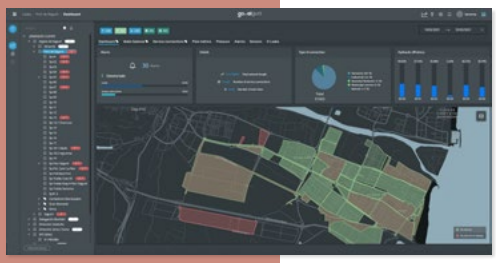
GoAigua Sewer Tracker

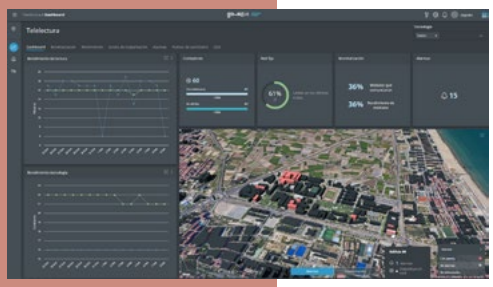
Wastewater quality control, industrial discharges and prediction of the pollutant load reaching the WWTP.

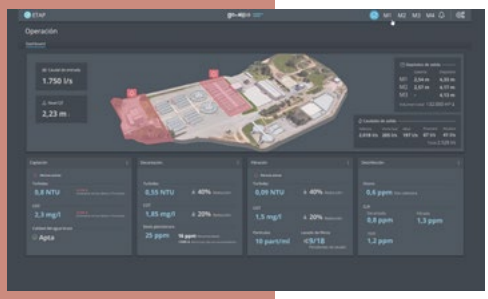
GoAigua BioRisk

Monitorization of the presence of viruses and other substances in the collector network.

Applications. Case studies







Sewage treatment plants

Integrated management of plant data.

Improvement of the operational costs of the facility: sludge production, energy and reagents consumed.

Carbon footprint reduction.

Process automation: sludge purging, aeration, etc.

Adaptability of WWTP operation according to influent quality.

Use of machine learning techniques for the prediction of influent flow rates and concentrations.

Effluent monitoring for the compliance with the required quality.

Simulations with "what-if" scenarios considering data from the plant.

Data integration from remote reading devices.

Sanitation networks

Early Warning System for Floods and Flood Relief.

Clogging detection in the sewerage network and prediction of SSO (Sanitary sewer overflows (SSOs).

Simulation of future and past events scenarios.

Early Warning System of water quality at the entry of the WWTP.

Analysis of contaminants and viruses.

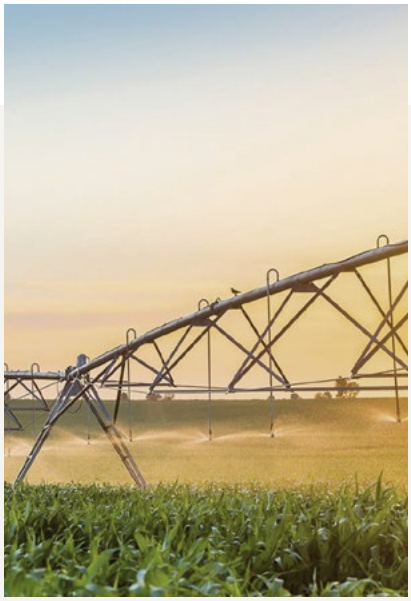
Optimization of preventive sewer cleaning.

Detection of undesired flows: infiltrations and connection of rainwater to wastewater network.

Detection and control of industrial spills released.

Data integration from remote reading devices.

Innovation and automation of irrigation infrastructure and operation through technological solutions.



GoAigua Agriculture centralizes the basic pillars of operational irrigation management for agriculture: infrastructure control, commercial support and field work monitoring.

The incorporation of Big Data techniques and advanced data analytics make it possible to define an intelligent system that supports decision-making.

GoAigua Agrotwin

Real-time control and monitoring of assets related to agricultural irrigation.

Programming of irrigation, pumping and fertilizer systems from the control center.

Analysis of soil water status and optimization of crop water consumption

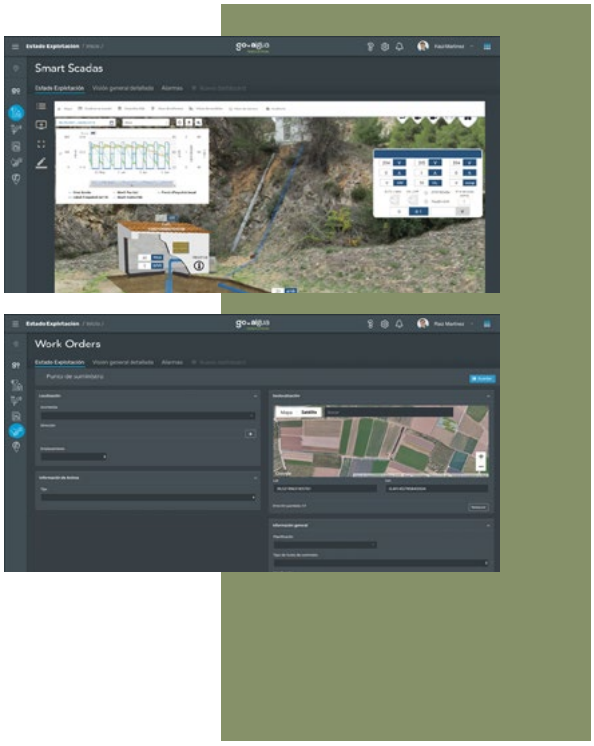
Management of the network of meters, devices and communications, as well as the energy consumption of the equipment.

Generation of alarms that can be parameterized by the user.

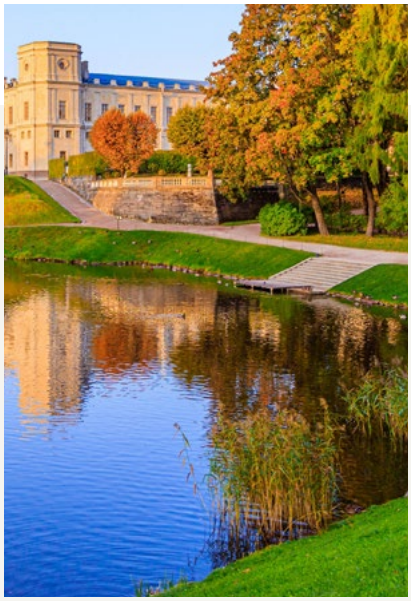
Comprehensive management of work orders linked to preventive, predictive and corrective maintenance processes.

Autonomous and intuitive design f synoptic charts for real-time data visualization.

Advanced management of hydraulic efficiency, both in the distribution network and at supply points.



Platform for the optimization of water consumption and centralized automation of irrigation in different types of activities.



GoAigua Irrigation helps to define the optimal irrigation plan in green areas and automate this process. Thanks to the use of advanced water efficiency algorithms, it is possible to calculate the most suitable dosage and frequency, considering the needs of the activity and the terrain.

GoAigua Smart Green

The GoAigua Smart Green technological solution helps to monitor, self-manage and centrally control irrigation in parks and landscaped areas in cities.

Centralized management of urban irrigation

Programming of irrigation pumping and fertilizer systems from a single control center.

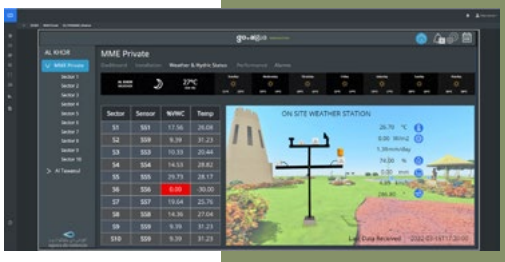
Automation and optimization of irrigation according to climatology, weather forecast, soil moisture status, crop and soil typology and topography.

Real-times monitoring and control of all assets and operational processes.

Water quality and soil water status analysis. Record generator.

Alarm generator parameterizable by the user: agronomic meteorological or, in case events on the assets.

Data exploitation through graphical interfaces.



Early warning system with integration of hydrometeorological information for event and water resource management.

GoAigua Water Resources supports resource management in river basins and the monitoring of extreme events in real time, helping to develop hydrological basin plans.

Hydrometeorological information obtained by integrating sensorization data and simulation model results that allow centralizing knowledge in a single platform.

GoAigua EWS

Its purpose is to generate warnings and management recommendations in real time, based on meteorological and hydrological variables and their evolution, both observed and simulated.

Automatic generation of weather observation maps.

Deterministic and probabilistic weather prediction models.

Integration of sensorization data in GIS format

Pluvial and fluvial analysis for the basin.

Hydrological and hydraulic simulation and snowmelt models.

Simulation of inflows, outflows and filing of reservoirs.

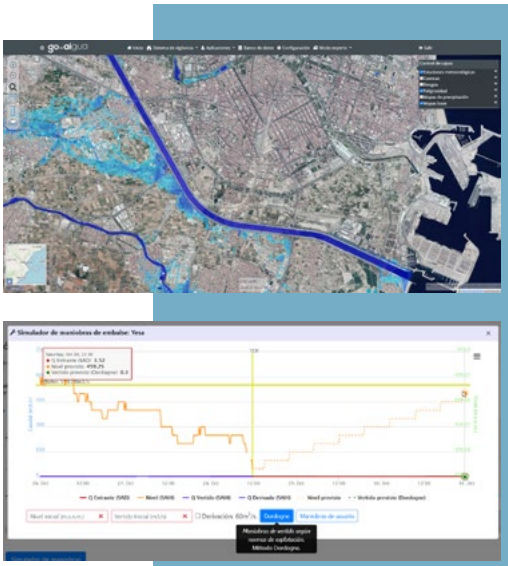
Generation and monitoring of alerts and instant warnings.

Visualization of flood sheets and affected elements.

Hydrometeorological database for information processing.

Multiplatform solution with user role management.

Development of flood risk management plans in watersheds.



CENTRALISED MANAGEMENT

Integrated water resource management architecture

The platform manages the Flow of data from its origin to its exploitation through advanced algorithms, data visualization and integration with other systems.

The system architecture is divided into layers that are made up of different components.

The platform retrieves data from sources and stores it in a **data lake** so as to be used by the other layers, including extract, transform and load (ETL) flows.

Our **Smart Water Engin**e which contains algorithms to process the data in the database, using machine learning techniques.

GoAigua solutions perform an extraction of the information from the data lake, displaying the main information in a front panel solution for the user to interact in a unified way with it.

The **Panel BI** tool allows the integration of data to manage the common aspects of the set of applications that are part of the platform.

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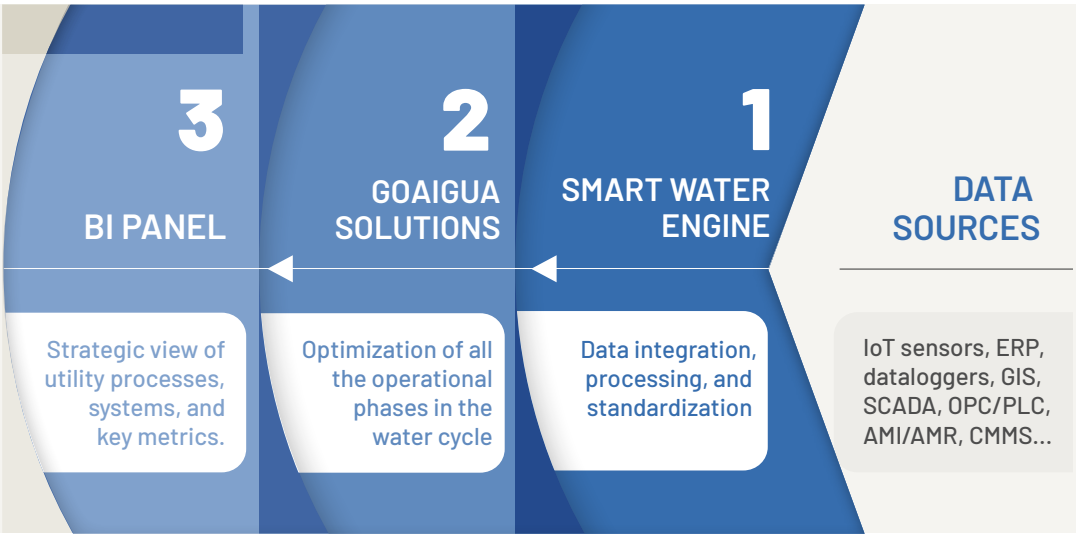
***GoAigua** unifies data, information and knowledge in a single platform.*

The three layers of architecture massively require multiple sources, transform them into useful information for the operation and generate knowledge to optimize decision making.



Why do we think it is important to choose GoAigua?

Designed, developed and calibrated by highly qualified technical experts in water cycle management.

Successfully implemented in more than 400 municipalities regardless of their technological maturity stage.

Applicable to all areas and operational phases of the integral water cycle, boosting efficiency and optimizing operation.

Guaranteed return on investment.

GOAIGUA CHARACTERISTICS

Modular, scalable solution for digitally transforming the water cycle

The architecture has been defined under the following premises:

Agnostic

It must be able to process different data sources independently of providers or technologies. This enables utilities to draw up a comprehensive electronic water register.

Modular

Solutions should be able to be activated or deactivated depending on the required use cases.

Interconnectivity

It must be able to communicate with other platforms or solutions (North/South Bound Interface)

General purpose software

Controlled investment in software, maintenance and deployment.

Scalable

Easy and simple integration of new elements to be managed, without altering the critical functional and service layers of the solution. It also guarantees stable performance as the database processed and archived increases.

Secure

The solution has been designed in line with cybersecurity protocols for critical infrastructures. Sensitive data undergoes encryption or obfuscation depending on the user's role.

Transparency

Greater transparency in water management and in the information available to governments, users, consumers and associations on a constant basis. This promotes responsible, sustainable use of water.

Administration and parametrization of the solution

The GoAigua portal gives the end user Access to a set of external applications that are related to the global parameters of the solution as well as to the management and availability of the data processes by the platform.

GoAigua provides comprehensive information on water usage, boosting resilience to climate change, and helping to mitigate its consequences in water utilities.

Main functionalities of the **Portal GoAigua**, that the user can work on.

Platform administration: transversal administration of users and permissions.

Access to **Smart Water Engine** that provides a unified IoT platform that unifies sensor data and smart meter data stored in a single repository.

Enterprise application launcher, from which the user Will have direct Access to GoAigua modules.

GO Aigua SOC (service operation center), which provides a single point of management for all active solutions.

GO Aigua Cockpit, allows general views of the data, either in graphical format or in table mode.

The **Business Intelligence** module allows the creation and configuration of reports to group the most relevant information of the different processes in a visual and user-friendly way.

The **GIS** product is a cartographic framework that can work transversally in a any of the solutions of the GoAigua suite.

Data Science Framework allows access to Jupyter and similar platforms, in which data scientist could interact with GoAigua data.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SMART WATER FOR
A BETTER WORLD