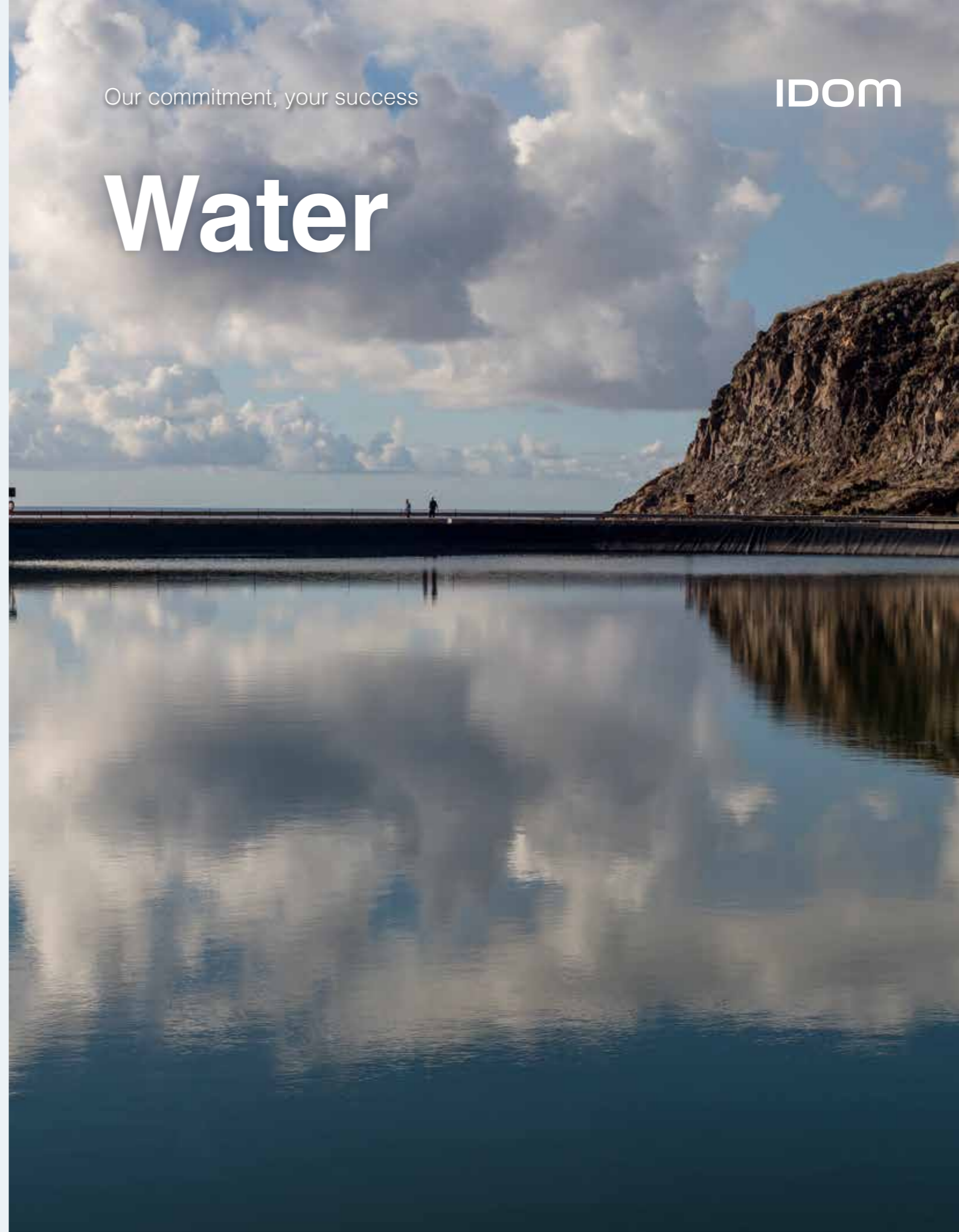


Our commitment, your success

IDOM

Water

[IDOM.com](https://www.idom.com)





Life cycle of water

Water is the most indispensable foundation for life. Making water available means a better future for everyone

Water is the lifeblood of human activity and guides how we relates to the environment. Essential for life, water has always been one of the primary goals of man. And, after so many years of history, that search continues.

Management of water has always been an important challenge, regardless of its scarcity, abundance or quality. Concepts such as sustainability or resilience compound this challenge even further.

The specialized knowledge of IDOM, together with the capacity to integrate and the commitment of our multidisciplinary professionals, has allowed us to undertake important works in the various sectors that make up the water cycle: planning, treatment, distribution, etc. We offer multiple services: consulting, design, value engineering, works supervision, exploitation, etc.

At IDOM, we are working toward the universal right to water.

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Water planning & management

Water is a valuable resource. Planning and management are essential to achieve sustainability and resilience in large-scale hydraulic development



Laos / Integral water planning

Evaluating the resource and its sustainable use

Evaluating sustainable water resources from an integral perspective, ensuring the compatibility of water uses and permanence over time, is fundamental

The Government of the Democratic People's Republic of Laos has launched a nationwide support program for the integrated management of its water resources. Laos is one of the countries of Southeast Asia that has more abundant water resources per capita, with 55,000 m³/person-year. In addition, 80% of the country's water resources come from the basin of the Mekong River.

Within the Program for the Integrated Management of Water Resources, IDOM assisted the Ministry of Environment of the Lao People's Democratic Republic, producing annual reports on the state of the basin, writing a study with recommendations to mitigate the expected impact of climate change, and providing technical support to the National Nam Ngum River Commission.

Even in countries where there is an abundance of resources, managing and assessing the impact of climate change is always a challenge.



Tunisia / Grand Sousse Supply Master Plan

Planning Growth

The planning of drinking water distribution systems is fundamental to ensuring the current and future water supply for users

The Sousse region is one of the main tourist destinations in the Mediterranean. Although its base population is only 400,000 inhabitants, in the periods of greatest occupation it can reach up to 2 million. This steep seasonal increase poses a challenge to the planning and operation of the supply network.

The first step undertaken by IDOM was the digitization and organization of existing information. Next, a diagnosis of its current state was carried out, to later plan the improvement and expansion of the supply network. Having a complete digital model of the network (more than 600 km) is an essential tool for its management and planning.





Spain / Sanitation plan for the Ría de Arousa


Preserving marine ecosystems

The use of hydraulic models allows us to know how the current systems are working and propose improvements to optimize them

The estuaries of Galicia are one of the economic drivers of the region, not just for their natural and tourist value, but also for fishing, especially shellfish. These are habitats with important marine dynamics and are very sensitive degradation by pollution.

Augas de Galicia, the body responsible for water management in the area, develops programs to identify and manage sources of pollution at these locations. In this context, and after a first phase of the identification and digital modelling of the existing network (over 420 km modelled), actions for improvement were proposed to ensure the sustainability of the different uses present in the estuary.

Knowledge of the sanitation system and its impact on the marine ecosystems has set the stage for promoting the preservation of the natural environment, while ensuring the much-needed economic activity of the region.

A person is captured in a dynamic splash of water, with their arms raised high. The scene is set against a bright, golden sunset sky, with the sun low on the horizon. The water is splashing around the person, creating a sense of movement and energy. The overall mood is one of joy and freedom.

Dams and large-scale hydraulic works

Large hydraulic works, designed considering sustainability, durability and efficiency, must value the available natural resources

Spain / Hydroelectric power station on the island of El Hierro

The challenge of energy self-sufficiency

Hydraulic energy storage systems will ensure the penetration of renewable energies, especially in isolated systems

The entry of renewable energies into the energy mix is ever more fundamental to ensuring the sustainability of electricity systems. Energies such as wind and photovoltaic are subject to resource availability and this determines demand satisfaction. Hydraulic energy acts as a regulatory storage, taking advantage of the excesses of renewable production and completing its deficits.

The island of El Hierro has accepted the challenge of supplying its own electricity from renewable sources, with the launch of a hydroelectric plant. This new system combines the installation of 11.5 MW of wind power with a reversible hydroelectric power plant, which has an installed capacity of 11 MW (generation) and 6 MW (pumping).

IDOM began participating in the project at the conception phase and has continued until commissioning, providing engineering services, procurement management and technical assistance (construction and commissioning). The Hydroelectric Power Plant of El Hierro began its operation in July 2015 and its operation has been refined over time until, in February 2018, the milestone of self-supplying the consumption of the island for 18 consecutive days with 100% renewable energy was achieved.



Scan this code if you want to know how the hydropower plant system works





Nicaragua / Hydropower Master Plan

Reducing the carbon footprint

The use of hydroelectric resources contributes to reducing our dependence on fossil fuels in emerging economies

The Government of Nicaragua, a country with great hydroelectric potential, has relied on IDOM for the development of renewable energy. The identification of the best locations and the design of dams and hydroelectric plants will reduce fossil fuel consumption and, at the same time, achieve a greater penetration of renewable energies in the country's energy matrix.

After a complete analysis of two of the river basins with the greatest capacity, Río Coco and Río Grande de Matagalpa, 21 potential sites were identified, of which the top ten were studied in greater detail. The first two sites are already being launched for construction.



Spain / Canal de Navarra

Engineering for important challenges

Large hydraulic works can put the resource into service where it is really needed

Agriculture, one of the pillars of human activity, must seek a balance between economy and sustainability, the water supply is compatible with the preservation of the natural environment.

The objective of this work is to enable 57,000 hectares of new irrigation, reinforce the existing 16,000 hectares, and ensure the supply of drinking water to various populations.

The design flow of the main trunk is 45 m³/s. It is a linear work that crosses the Province of Navarra from north to south, with a total length of 180 km, where IDOM has participated in several sections.



Treatment

Proper water treatment is fundamental to ensure environmental sustainability. Using the most innovative and efficient technologies is essential in all our projects





Turkey / Water treatment for the Municipality of Zonguldak

Ensuring the quality of water

New treatment infrastructure must be resilient and incorporate the best of the latest technologies

The project involves the improvement and expansion of the existing collector system, more than 42 km of sewerage network, with another 25 km of new construction.

The network includes seven pumping stations and a main sewer pipe to pump wastewater to the treatment plant. In addition, part of this structure is a marine outfall, 620 metres in length, which evacuates the effluent from the treatment plant.

The main node of the project is the wastewater treatment plant, which must ensure adequate treatment for the flow generated by the population of approximately half a million inhabitants, and which has a capacity for over 60,000 m³/day.



Colombia / Optimization of drinking water treatment plants in Cali

Improving existing infrastructure

New environmental requirements make it necessary to update plants, already in operation, to guarantee the supply of water with adequate quality

The city of Cali has been suffering shortages in the supply of drinking water for years. The heavy rains that regularly fall in the Valle del Cauca leads to displacement that, in turn, causes excessive turbidity of the river's water, which, together with the increase in uncontrolled discharges, renders the quality of the water inadequate for use.

In order to remedy this situation, improvements have been proposed to increase the operation and efficiency of the two EMCALI drinking water plants (with a nominal flow of 7.5 m³/s of 2.5 m³/s, respectively) that serve 80% of the population of Cali.





Spain / Treatment plant operations support

We cover the entire life cycle of a project

The assistance that we provide during operation of the water systems allows us to verify the fulfillment of the objectives and to feed back into the design process

IDOM supports various water management organizations, providing monitoring and technical assistance services during the functioning and operation of their facilities, mainly treatment plants. Verifying compliance with water quality, ensuring the proper functioning of processes and providing integral support while upgrading and improving the treatment systems, are the main tasks that IDOM offers in the field of asset management.

In the daily operation of plants, IDOM verifies their functionality and compliance with the quality requirements of the treated water. In addition, we participate in the process of improvement and optimization of facilities. For this, we have a multidisciplinary team of experts in process, equipment and execution of works.



Desalination

Obtaining drinking water from the sea is now a reality, using technologies that make desalination a truly competitive alternative



Ghana / Seawater desalination plant in Accra

Technology generating resources

Desalination technologies simplify the collection and treatment infrastructure, as supply sources are closer to the points of consumption

The Government of Ghana has contracted the construction, commissioning and operation of a desalination plant of 60,000 m³/day that will supply localities near the capital, Accra, which has a population of 500,000 inhabitants. The plant will purify seawater through the reverse osmosis process, with a previous ultrafiltration stage and a subsequent remineralization stage.

IDOM developed the basic engineering and part of the detailed engineering.





Saudi Arabia / Rabigh 3 Seawater Desalination

Plant

Water in the desert

The growth that the Middle East is experiencing has resulted in an important increase in the demand for water in an area with scarce freshwater resources

The abundance of seawater makes desalination facilities the obvious solution to address the problem. ACWA Power has contracted the consortium formed by Abengoa, Sidem and SepcoIII to build the Rabigh 3 production plant. The project is located in the Rabigh area, 150 km north of Jeddah, in the western region of Saudi Arabia.

The new desalination plant is based on reverse osmosis technology and will have the capacity to produce 600,000 m³/day of drinking water. The plant will have seawater towers and pipes, a seawater pumping station, pretreatment, reverse osmosis, post-treatment and brine outfall. It will also include a wastewater treatment plant to ensure compliance with environmental requirements.

IDOM has been developing the basic and detailed engineering for SepcoIII, as well as integrating the engineering developed by the other two partners.



A close-up photograph of a young girl with dark skin and hair, looking down at a public water tap. She is holding her hands under the running water, drinking from them. The tap is made of brass and has a silver pipe leading down. The background is a soft-focus green, suggesting an outdoor setting with foliage. The text 'Transportation & distribution' is overlaid on the left side of the image.

Transportation & distribution

The infrastructures that transport water are the arteries that connect the resource with the users. An efficient design now, will guarantee connection in the future

Colombia / Design of water supply and sanitation networks

A commitment to ensuring access to water

Ensuring decent access to water must be accompanied by raising awareness of its correct use

Those involved in the sanitation of the Aburrá River basin have developed a Sanitation and Management of Discharges Plan (PSMV), for the various rivers that make up the water network.

IDOM has worked with Empresas Públicas de Medellín (EPM) on several contracts, designing more than 50 km of sanitation networks and 35 km of supply networks.

In addition to universalizing the service, the efficient use of these public services in the home must be promoted, and irregular use must be mitigated. It is necessary, therefore, to provide not just technical assistance, but also social and environmental support to the communities. IDOM has put in place a team of experts working to this end.





Spain / Framework contracts for the design of networks and plants for Canal de Isabel II

Guaranteeing service

The water distribution and sewage systems of cities are under great pressure to keep up with urban growth and continue to guarantee universal access to water

Canal de Isabel II is the company responsible for the supply of drinking water for almost all the municipalities of Madrid. It serves over 6 million inhabitants, which involves operating more than 17,000 km of supply networks, 14,000 km of sanitation infrastructure and 500 km of reclaimed water.

IDOM has been working with this client since 2006, designing projects to improve drinking water supply, wastewater systems and treatment plants.

The contracts developed include the design of new pipelines and networks, improvement actions in existing facilities and the conception of new plants, which ensure the water supply matches the growth of the metropolitan area of Madrid. IDOM has positioned itself as one of the recognised engineering providers for Canal de Isabel II.

Slovakia / Supply and sanitation projects in Kosice

Networks marking progress

Having funds in place is the first step on a long road of development for less favoured areas

For the expansion of supply and sanitation networks in the Kosice region, the European Union has allocated cohesion funds. The first phase has been the drafting of design projects.

In addition to treatment plants themselves, IDOM has designed 53.5 km of 1-metre diameter steel pipeline, the corresponding pumping stations' equipment for the regulation, automation, control and protection of the pipeline.

Also noteworthy is the supply and sanitation project in the South Zemplin area, in the district of Trebisov, which includes more than 250 km of new pipelines, 14 new WWTPs, pumping stations, etc.

IDOM has extensive experience in development projects with multilateral and cohesion funds, which ensure compliance with the investment objectives.



Smart Water

Digitalization and the implementation of the most innovative technologies are the way forward for integral water management





Colombia / Modelling the sanitation networks of the Aburrá Valley

A model of Knowledge

The use of digital models allows us to know and evaluate the operation of the existing infrastructure and evaluate improvement actions

Empresas Públicas de Medellín (EPM) is responsible for the construction, operation and maintenance of the sanitation system of the city of Medellín and its metropolitan area. Within an ambitious plan to improve the sewage system, EPM has promoted the generation of hydraulic models of the existing network.

This will provide a tool for decision-making for the planning of future investments, optimization of the sewerage system and timely customer service.

IDOM has met the technological challenge of modelling more than 1,300 km of networks, using commercially available solutions and in-house applications, which allow us to monitor the current operation and identify the deficiencies and future problems.

Peru / Implementing SCADA Systems

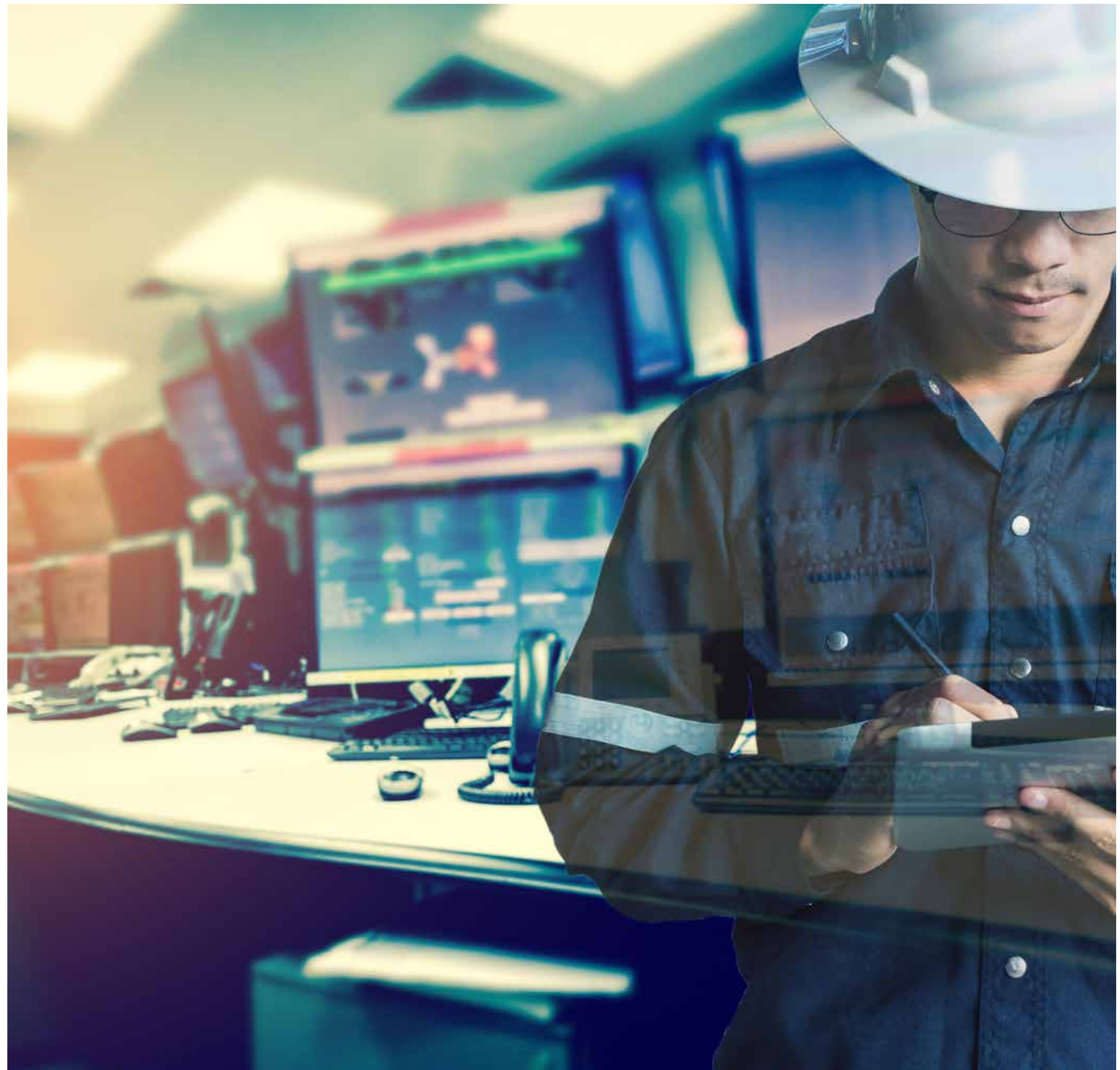
Automation & security

Information management systems allow networks to operate safely and immediately

SEDAPAL, a Peruvian state-owned company, manages the supply of drinking water and the collection, treatment and final disposal of the wastewater of the 9 million inhabitants of Lima and Callao. IDOM has assisted SEDAPAL in the process of standardization of the SCADA systems, automation, communications networks and control centers of the company.

The introduction of new technologies for the management of water systems allows us to track, in detail, their operation, anticipate problems, control and reduce costs, not just financial, but also social and environmental.

The water sector is in the process of digitizing and integrating new technologies for the operation of its systems and infrastructure. IDOM advises and assists companies in this task.





Uruguay / Management plan for sewage sludge from WWTPs

Efficiency is the objective

Water treatment plants and transport systems must incorporate efficiency as one of their core foundation

IDOM has the tools, knowledge and experience to seek maximum efficiency in the water cycle. Some of the possible fields of application include:

- Efficiency in the process: analyze and model the processes that obtain the best product.
- Energy efficiency: minimize electricity consumption, by applying specific electrical simulation software.
- Efficiency in the operation: design the processes, considering the operating procedures, such as cleaning and preventive maintenance.
- Use of resources: inclusion of complementary generation modes that allow self-supply of the facility, such as photovoltaic energy or sludge energy recovery.

Within this plan, the energy use of the sludge generated during the operation of the wastewater treatment plants (WWTP) is dealt with, as a means of reducing energy consumption.



Sustainable & resilient infrastructure for changing environments

Contact

Water Division Manager
Javier Fernández Gómez
javier.fernandez@idom.com

Managing Director - Infrastructure
Juan Ramón López Laborda
jlopez@idom.com

About IDOM

€300 M
turnover

62
years

We are an **association of independent professionals** working in the fields of Consulting, Engineering and Architecture, united in our way of doing things and shared objectives, at the service of our clients.

125
countries

45
offices

3,500
professionals

780
partners



If you want to know more about our activity and our projects, scan this code with your phone to see our corporate video

Our pillars

Our activity is governed by elements that **allow our professionals to grow and resolve the challenges of our clients.**



We believe in **excellence**.
We strive for excellence in everything we do.



We believe in the **power of human relationships** as a motivating force to overcome difficulties.



We are passionate about **resolving problems** that no one has solved before.



Innovation is present in all our activities.

Our soul

We are a free association of professionals united in the ownership of the company, working together, facilitating the professional and human development of our people, while providing the highest quality of service for our Clients.

What do we understand by commitment?

Assuming the needs and difficulties of our clients as our own.

Involving ourselves in projects, personally and professionally, striving for excellence.

Working closely with the client to achieve their objectives.



The Client

The centre of our activity.
We provide the highest quality service, based on the highest technological standards.
We resolve problems with solutions which are innovative and efficient.



Professional development

IDOM is a company of highly qualified people who seek excellence in the development of their work, while tackling the most ambitious challenges with enthusiasm.



People

The basis and foundation of IDOM.
For more than 62 years, we have developed our own philosophy, a style of personal and professional action, committed to the success of our clients.

Our activity

We are working in the fields of Consulting, architecture and engineering, with **multidisciplinary teams, developing sustainable projects that contribute to a more livable world.**



CITIES

We transform cities into habitable, resilient territories, competitive, sustainable, social and economically viable.



ELECTRONICS & TELECOMMUNICATIONS

We implement the latest technology, for the purpose of helping our clients achieve their business objectives.



INDUSTRY

Our commitment is to help industry be more competitive and environmentally sustainable, by providing innovative solutions.



HEALTH

We pay special attention to one of the most important challenges of today's society: improving access to quality healthcare.



ENERGY

We are participating in the most advanced energy projects in the world, providing innovative solutions for the energy of the future.



TRANSPORTATION SYSTEMS

Transportation systems are the backbone of the economic and social activity of cities.



DIGITAL

We use digital transformation to overcome challenges, creating innovative solutions and ensuring the transfer of ideas to the market.



SCIENCE & ASTRONOMY

We participate in large-scale astronomy and nuclear physics projects, and we provide high performance and precision instruments.



PUBLIC SECTOR

We approach challenges with innovative and feasible solutions, of the highest level, capable of responding to local needs.



WATER CYCLE

We contribute to extending the universal right to water and sanitation in many different countries.



ARCHITECTURE

Faced with a perspective that architecture is reduced to a mere product, we want to show greater sensitivity towards the process as a whole.



ENVIRONMENT

Sustainable development is the focus of our projects on climate change and the circular economy.

For further information,
visit our website
IDOM.com

PHOTOGRAPHY

Cover photo:
Lower reservoir of the El Hierro Hydroelectric Plant

Aitor Ortiz
Carlos Olmedilla
Jacobó Pereira
Alfonso Calza
Álvaro Andrés Gómez
Felipe Restrepo
José Luis Palencia

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