

Interview with Jokin Larrauri

Vice President (Sales and Business Development) of Water and Wastewater Segment in Schneider Electric



Photography by Pablo González-Cebrián for iAgua

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With a Bachelor of Environmental Sciences training, Jokin Larrauri has been linked to the water sector throughout his career in the field of information technology.

In 2002, he started working for an engineering company, developing treatment plant projects for the main construction companies and a year later he went to the international business area with the former Abengoa information technology subsidiary, Telvent. For 4 years, he developed control systems projects in the Middle East for the main water companies in the area, winning several international tenders in Qatar, Turkey, Saudi Arabia and Libya.

In 2007, he led the technological solutions in the water sector at Telvent and then transitioned to lead the water business unit in 2010.

One year later, Schneider Electric bought Telvent, a move that brought Larrauri in the direction of the company's global water solutions area. For the last two years, he has been the Vice President of Sales and Global Business Development of Schneider Electric, both in its area of solutions and products in the Water segment.

1. Mr. Larrauri, what is Schneider Electric's position in the water sector?

Schneider Electric is one of the leading companies in the global market for the supply of products, systems and services for power distribution, automation and control, software for advanced operations and maintenance management and energy efficiency services in the water sector. In global business figures, we are in the top 3. However, unlike our competitors we put a lot of emphasis on the solutions, since we see that many of our customers prefer integrated solutions for electrification, automation and management, for treatment, desalination and purification plants, as well as for supply and sanitation networks. In Smart Water, we are global leaders with a supply of hardware, software and services difficult to match.

2. What is the relevance of the water market for a company that invoices 25,000 million euros per year?

A lot. Water has been a strategic segment of Schneider Electric for a decade, long before the World Economic Forum in Davos raised the water crisis as the world's biggest risk in the coming years. We are not the largest segment in terms of turnover within the company, but the one with the largest growth in the last 5 years, and we are, along with the segment of "Cloud and Service Providers", the one that is growing the most in the first half of this year. In addition, the major companies in the water sector are strategic customers within the company. This status is important because it ensures that, regardless of billing, these customers are given the same service and priority throughout the planet. For every Schneider Electric strategic customer, there is an Executive Sponsor, a member of Schneider's Executive Committee, who sponsors and oversees that customer at the highest level. And to give an example, our CEO, Jean-Pascal Tricoire, is the Executive Sponsor of the largest water company on the market.

3. In recent years, and especially in recent months, the concept of Smart Water is frequently mentioned. To you it will already sound old.

It sounds old to me, because in 2010 Telvent, Schneider Electric and other companies founded the first forum for intelligent water management, Smart Water Networks - SWAN, to define this concept and make it available to water companies for their use. But beforehand, our clients who had a SCADA system and remotely controlled the pumping stations, wells, gates and valves in real time, and could have the information of flow, pressure, level and physical-chemical parameters in seconds, already made Smart Water. It is now with the digital revolution at user level and our thirst for information that the terms of Real Time, Smart Water, Digital Water, IoT, etc. are intertwined and express a reality that has only come to light in a global context.

4. The scope of Schneider Electric is global. Which countries or geographical areas would you highlight for their progress in this regard?

Our scope of action is "Glocal" (Global + Local): Global because we sell our technology to more than 100 countries, but Local because we have more than 3,000 distributors and integrators worldwide that help our technology give the best no matter where it is installed. And in Smart Water, more than countries or geographical areas, I would highlight pioneering clients, who have been brave and have opted for the integration of information systems and the digitization of their services before their neighbors did. My first experience in this sense was with Copasa in Brazil in 2005, followed by Kahramaa in Qatar in 2007 and by Anglian Water in the United Kingdom in 2010. But they were isolated cases, copied many years later by other companies, and at a more regional level. But it is now in the last year and a half that we are seeing international tenders in this regard, and acquisitions and solid bets on Smart Water by the leading companies of the sector such as Xylem or Suez.

5. Is the water sector aware of the need for data collection and interpretation (Big Data) in all processes for proper decision-making and for the sake of transparency?

In my 15 years of experience, I have seen the water sector very aware of the need for data collection and interpretation to carry out their processes within the water cycle. Due to the intrinsic nature and origin of water, often very far from the points of consumption, telemetry and telemanagement become necessary to optimize the operation, the cartography becomes necessary to manage more than 80% of its investment that is underground. It becomes

necessary to read the consumption to be able to supply the population, etc. Rightly, it is often said in the industry that we are rich in data, but poor in information. Information has always been available for specific activities. But when we need to put this information (leakage, customer satisfaction, service interruption, energy savings, etc.) in different contexts, the water sector has not been so aware of this need for data collection and interpretation cross-wide the organization. And now with the media impact of social networks, water companies need to be able to display this contextualized data to inform and help their users.

6. In the context of large infrastructures such as treatment plants, dams, large pipelines, how is this digital revolution affecting?

Operators of these large infrastructures are realizing that these infrastructures were designed as per specific operating parameters, and that, as time passes, these parameters are changing and can put at risk the profitability and resilience of the infrastructures. To have real-time information on all areas that affect a specific action, to have a recommendation from the system that allows you to glimpse the consequences of your actions before they occur, or allow you to predict the behavior of the different elements that make up that great infrastructure is of enormous value in anticipating unforeseen events and ensuring that the infrastructure is as efficient as possible in any operating scenario and therefore more profitable.

7. What references does Schneider Electric have in this regard?

One of the things that fascinates me about working at Schneider Electric is to know the huge number of references we have in power distribution, automation and control, software for advanced operations and maintenance management, and energy efficiency services in the water sector. We have our technology installed in more than 36,000 water installations worldwide. In the Smart Water area, our technology helps manage and optimize the operation of many of the world's largest wastewater treatment plants, desalination plants or water treatment plants, such as Atotonilco in Mexico or Seine Aval in France, Torrevieja in Spain or Sydney in Australia. Our software helps water companies to intelligently manage water supply and sanitation operations in cities like London, Sydney, Shanghai, Las Vegas or Barcelona, to name a few of the most significant. Our intelligent maintenance management software helps cities like New York, Toronto, Beijing or Paris to make the most of their assets and staff. And our energy efficiency services help you buy energy efficiently and more cost-effectively in cities like Sydney or Bilbao, or save millions of dollars annually to more than 10 cities in the United States. And although these references are some of the most outstanding, I would like to emphasize the thousands and thousands of references in small installations around the world that our distributors and integrators provide, which account for more than two-thirds of our global business.

8. Concerning urban water networks management, there are many areas where data must be taken from and put into context, to manage the infrastructure and to solve any incident that may arise. What are these areas? How do they integrate into a single platform?

During these 15 years, I have had the enormous privilege of visiting control centers of water companies in cities of 5 continents. And although no two are alike, they all must develop 5 basic functions: operate, maintain, plan, collect and manage their staff and finances. There are several information systems that support these basic functions. The so-called OT (Operational Technologies) oriented to the operation, maintenance and planning, such as control systems (SCADA - Supervisory Control and Data Acquisition), data storage systems (Historians), Laboratory Information Management Systems (LIMS), computer assisted management systems (EAM - Enterprise Asset Management), Workforce Management (WFM), Geographic Information System (GIS) and Hydraulic Modeling (HM). And the so-called IT, aimed at the collection and management of finances and personnel, such as Automatic Meter Reading (AMR), billing and collection systems (CIS - Commercial Information Systems or Billing Systems), Customer management systems (CRM), financial management systems (ERP) and business intelligence systems or business information aggregators (BI).

The challenge is how to contextualize, interpret and act with information that in most cases is not integrated, is not available in a single database, is not reliable, and is not easily accessible from multiple devices or by the right people depending on the incidence.

The clearest and most basic example is explained by leaks. When there is a leak all the systems described above are affected and can provide valuable information that can allow to manage that



incidence efficiently and effectively (pressure decrease and increase of flow in the SCADA, area of leak in the GIS, affected customers in the CRM, cost of the performance in the ERP, work order in the EAM, etc.). The serious problem is that such information is rarely centralized, verified and available to all users on a single platform. And if it is, it is integrated for a specific problem, as in this case, leakage. Even if the customer has this vertical system for the complete management of leaks, this same system is useless for energy management, to improve customer satisfaction, or to prevent sewerage blockage, for example. This could be solved in the same way as the previously described leaks.

Water companies today are well equipped with OT / IT technology to do the vertical functions of their business (operate, maintain, plan, collect and manage finances and staff), but not to deal with cross-cutting issues that make several departments collaborate and share information that is often not easily integrable or unprocessed. The different departments collaborate at a manual level among them, but often have conflicting aims that do not make easy the global management of this transversal incidence.

9. So, the implementation of smart water for water companies is not only a technological challenge but an organizational one?

Definitely. For many water companies the concept Smart Water represents a considerable cultural change. Technology abounds, and for me the technological challenge lies more in how its implementation is focused than in the technology itself. And this is where the organizational challenge takes on enormous importance, and it is something that water companies have not yet taken sufficient awareness of its irrelevance. The digital revolution will help companies operate as a whole, not just as the sum of their different departments. That day is still far away, but we will gradually go that way and hopefully we can see water companies with information systems completely integrated, transversal and available to any user in any type of device, with predictive capabilities and where the user has all the information available even before any occurrence occurs.

10. Increased demand and the threat of the impact of climate change makes energy efficiency one of the biggest challenges for Smart Water. How do Schneider Electric solutions respond?

Schneider Electric has, for years, played an important role in managing energy efficiency across multiple sectors of society globally. For the fourth year in a row, it has been recognized by the Dow Jones Sustainability Index as a leading sustainability company and participated as an official partner in both COP21 in Paris and COP22 in Marrakech. Within the water sector, our solutions cover the entire energy cycle, from purchase, management and savings at production points, to its most efficient use at the points of consumption, whether in water treatment plants, wastewater treatment plants or desalination plants, or in supply and sanitation networks, where pumping is the main energy consumer.

Our solutions combine an efficient design of our products, being more efficient in the use of energy than those of our competition, as well as services of energy audit at water facilities, which often result in "energy performance contracts", where energy saving pays the costs of the project in a determined period and without compromising the operation of the installations. In the latter case, we are leaders in the United States, a country that has been able to capitalize to date this business model paid by savings.

However, we see that in Smart Water globally, the area of energy efficiency is undervalued. The major players in Smart Water today are leak management and efficient meter management. But electricity is, in most water companies, the most important monthly bill and yet all water companies claim to be energy efficient. Here we have a huge potential for improvement, conditioned in my opinion to the public administrations finding a suitable bidding vehicle for the optimization of their processes, energy saving included, so they can release this type of tender without having to ask for funding from the central administration, since it is the savings that finances the projects.

11. Describe some of the most emblematic projects in this regard.

We decided to copy in the US, back in 2011, the business model that our Hotel and Hospital Segment colleagues had been doing with their clients since the 1990s. They took a hotel chain, audited their main buildings, and proposed a savings plan for 5-10 years that paid the cost of the project, and supposed a zero investment to its clients. Schneider Electric had saved its customers





more than \$1 billion from 1992 to 2009, and we wondered if we could do the same in the water industry.

In 2012, we contracted the first energy management service in a water infrastructure to the city of Denison, Texas, USA, where we proposed a savings plan of more than \$200,000 USD / year, which paid the performances to 10 years without hindrance the operation of the two water plants involved in the project, one of purification and another of treatment.

Subsequently, we contracted similar energy management self-financing projects in Riverbank, California, saving 75% of its energy consumption; In the city of Clute, Texas, where we are achieving savings of \$300,000 USD / year in savings in operational and energy costs; And in Kirksville, Missouri, where we are saving \$350,000 USD / year to the city's water company by blending energy efficiency services with operational efficiency and leakage reduction.

In 2017, we have contracted three major energy performance contracts, valued at more than \$20 million in the cities of El Centro in California, Lakeland in Florida and Laurel in Mississippi, which add up to nearly \$50 million of portfolio that we have in this type of projects in the United States. Outside the scope of self-financed energy management, we are helping the Bilbao Water Consortium to buy its energy more cost-effectively and we have been for a 7-year contract for 4 years helping AECOM deliver energy efficiency services to Sydney Water with our energy efficient purchasing services.

12. To conclude, how do you imagine the management of the water cycle within 30 years?

Well, I want to imagine it completely digitized, with tools to aid decision making and predictive analysis in all areas of operation of the company with the ability to act in a few clicks on the vertical and transverse aspects of the company, as can be the collection of an invoice or the management of a certain leak. If I am a manager of 200 treatment plants in a specific territory, I can know in a few clicks which plant to start to save the largest number of kWh, and in which areas or equipment to act within that plant, whether to change pump A, filter B or variator C of such a zone of the plant.

I would like to be able to enjoy the service of a water company where we know that you save up to the last m3 of water, or the last minute of your staff, where all the improvements of the service that are being experienced are publicized, where we are informed on the events before they occur, where we have the information on a portal that we can consult with our mobile and where we can interact with the company so all of us are able to preserve this valuable element such as water.

In short, not a very different scenario that we can enjoy today in other sectors, where technological advances in information are at the forefront, but for better or worse, there is still much to be done in water. Water is worth it and necessary. As always, we will reach excellence in water management thanks, among other things, to excellence in information systems, be it Smart Water, Digital Water or IoT.