

ELIPSE WATER HELPS ÁGUAS DO RIO LOWER ITS OPEX BY GIVING IT A CLEARER OPERATIONAL OVERVIEW

Águas do Rio, a company of the Aegea Group, the largest private water and wastewater complex in Brazil, uses Elipse Software's new platform for controlling water supply and sewage systems in Rio de Janeiro State, thus lowering its operational expenditure

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Needs

Established in 2010, Aegea is Brazil's largest private-owned water and wastewater company. Operating in various locations in the country, it contributes to healthier life standards of their inhabitants, always observing and respecting local culture and the environment. Currently, it serves over 22 million people in 171 municipalities across the Brazilian territory.

The company is renowned for its experience with Elipse Software, and for years it has used the developer's solutions for real-time management of processes in several of its operations. Now, with the advent of Elipse Water, Aegea and Elipse Software are working together in the development of this new platform for water and wastewater systems automation.

The decision to join this venture was a natural one for Aegea: Elipse's platforms had always aggregated value to the business and are easy to implement. Another decisive factor in choosing Elipse Water was the fast, effective tech support supplied by Elipse Software.

In the state of Rio de Janeiro, Elipse's service started being implemented in July 2022, nine months after the start of the concession period of Águas do Rio (Rio Waters, in Portuguese). This company is one of the more recent operations of Aegea, and is responsible for the water supply and sanitation sewage system of 27 municipalities in the state, including 124 districts in the capital city of Rio de Janeiro.

Daily, Águas do Rio serves more than 10 million people in its operating area. In addition to Rio de Janeiro, Elipse Water is also being implemented in two other Aegea units, in Balneário Camboriú (SC) and Campo Grande (MS).



Águas do Rio's company lobby

Solution

Developed for the cloud, the new SCADA system for Águas do Rio introduces Elipse Water, aggregates greater scalability, and features security policies in a high management environment via multi-users. The system runs on MS Azure US East and presents systemic redundancy, which allows the creation of dynamic switches between applications.

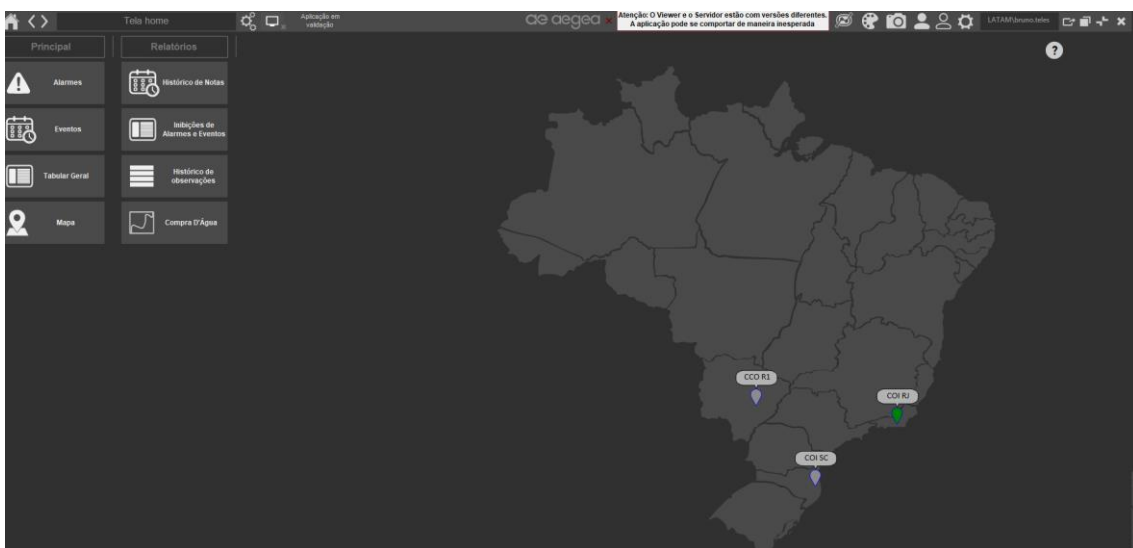
Recently, the system has integrated a smart operational technology, allowing the control of KPIs that provide continuous efficiency to the Integrated Operations Center (IOC). As for SCADA servers, they now feature redundant communication, thus ensuring the continuity of the operation under any circumstances.

Additionally, they are supported 24/7 by an infrastructure team that monitors services via a robust NOC (Network Operation Center). The system also features market-based PLCs with fast processing and standardized logic, allowing for periodic maintenance by internal automation staff, which makes for a more agile and cost-effective process.



Águas do Rio Integrated Operations Center (IOC)

Accessed via IOC, Elipse Water controls all plants composing Águas do Rio's water and wastewater network. This also includes low-priority plants, that is, plants not represented on the screens. They can be accessed via General Tabulation on the Home screen: a spreadsheet will pop up allowing operators to filter and monitor the data regarding the company's business areas and plant tags.



Screenshot: the green dot indicates Águas do Rio's IOC on the map

Via notes history, Elipse Water allows managers to check operational notes rated by controllers. In case of an alarm, the operator evaluates it and then sorts it into a category and subcategory that will generate an operational routine. This will allow tracking and following the anomaly until it's solved. If the alarm is an event, the software allows inhibiting it.

The platform also permits assessing if the volume of water being handled and supplied is the same that was agreed upon with the granting authority, in this case the State of Rio de Janeiro. If not, the company can request financial compensation for any contractual shortcomings.

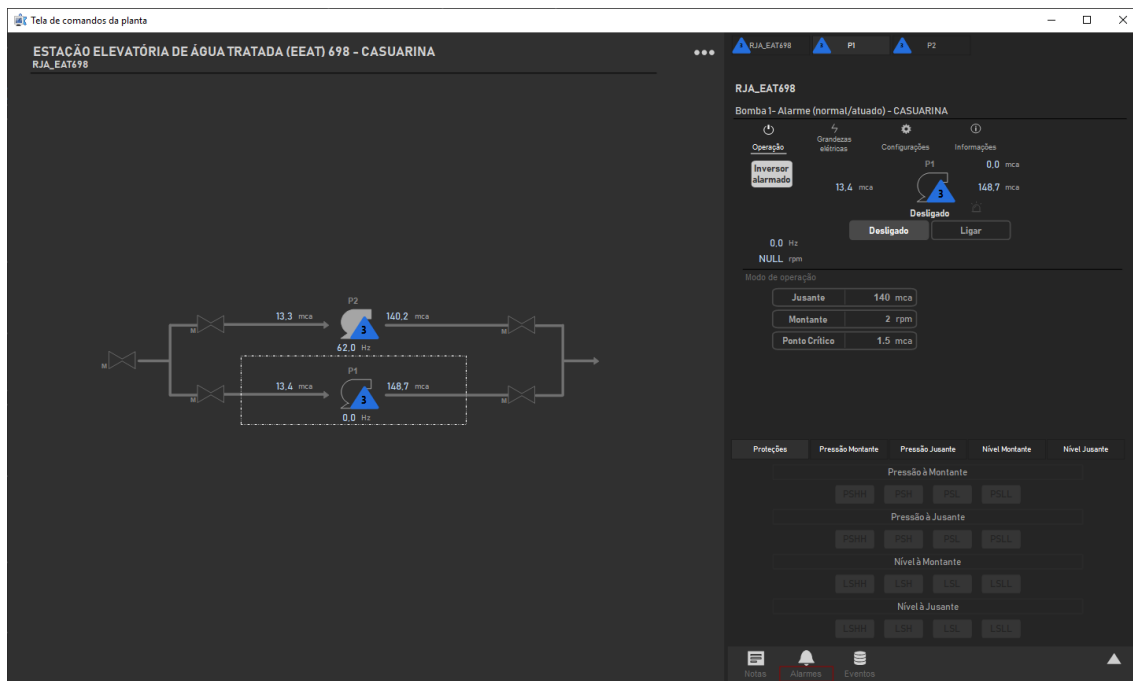
Elipse Water allows controlling opening and closing valves, the level of water in the reservoirs, and pumping pressure and flow. A crossed wi-fi symbol is displayed whenever the communication with a piece of equipment in the sanitation network has crashed.

Alarms positions and severity are symbolized by blue triangles with edges and numbers. Lighter blue edges represent unacknowledged alarms. The numbers refer to the alarms' severity (1 = critical, 2 = high, 3 = medium, and 4 = low).



Controlling equipment and variables on the network served by Águas do Rio

Currently, Elipse Water monitors and controls 303 plants altogether (treatment and lifting stations, reservoirs, valves, and pumps, among other equipment involved in the water and wastewater network) via Águas do Rio's IOC, and 30 others via Balneário Camboriu's IOC (in the state of Santa Catarina). In Campo Grande (state of Mato Grosso do Sul), it monitors 60 plants via OCC (Operational Control Center), most of which are sewage treatment stations.



Controlling a lifting station at Águas do Rio

Benefits

According to Paulo Rogerio Correia da Silva, Aegea’s Systems Coordinator, the company’s technology and operation areas constantly search for innovations that will make a difference for maintaining and boosting its leader status in the Brazilian water and wastewater market, while ensuring the quality and the efficiency of its operations.

“Our partnership with Elipse Software has been crucial in this journey, because it offers advanced technological solutions that are great for optimizing processes, thus making our operations increasingly more efficient and sustainable,” says Correia da Silva.

Luiz Couto, Executive Director of Águas do Rio’s Integrated Operations Center, says the IOC was designed to be a major hub for integrating and generating data, as well as indicators aimed at greater operational excellency. For that, the company sought out the best partners with the best technologies available in the market.

“Elipse Water, the integration platform that combines all different tools used for managing the IOC, with friendly, accessible, flexible interfaces, and which provides scalability at an intense pace, was the best solution for our needs, and it more than met our expectations,” says Couto.

To Bruno Teles Silva, Aegea's Systems Architect in charge of Águas do Rio, the software has allowed the team to qualify data analysis and, consequently, to better control its equipment, which in turn reduces operational expenditure (OPEX) and provides more opportunities to operators working outside the automation circuit.

"Thanks to the information made available by Elipse Water, we now understand our OPEX better, which allowed us to cut many of our expenses with physical supplies. Additionally, the staff that operated outside the automation circuit are now able to work more qualified jobs," says Teles Silva.

Datasheet

Client: Aegea - Águas do Rio (Rio Waters)

Solution provider: Automalógica Automation Systems

Elipse product: Elipse Water

Platform: Windows Server 2022

Number of copies: 26

I/O points: 10,000

I/O drivers: OPC UA, Modbus-TCP, Modbus-RTU, Remote Domains, and Intelbras