

SÃO LOURENÇO PRODUCTION SYSTEM (SPSL) MAKES CONFIDENT, INFORMED DECISIONS, ACTS MORE EFFICIENTLY WITH ELIPSE PLANT MANAGER

Platform by Elipse Software runs graphical analysis of equipment and variables at São Lourenço Production System for water intake and treatment in Vargem Grande Paulista (SP)

Published on 03/24/2026

Needs

São Lourenço Production System Inc. (SPSL S.A. in Portuguese) is a special purpose entity (SPE) established in 2013 that developed a public-private partnership (PPP) to provide operational and maintenance services to the system that dehydrates, dries, and disposes of the sludge generated at their Water Treatment Plant (WTP). Additionally, it accounts for the maintenance at São Lourenço Production System and the execution of works in this project, which belongs to Basic Sanitation Utility Company of the State of São Paulo (SABESP in Portuguese).



São Lourenço Production System

São Lourenço Production System extracts water from Cachoeira do França dam, in Ibiúna (SP), all the way to Vargem Grande Paulista WTP (SP), traversing 83 km in pipes along the way to the attended municipalities. The development started building in 2014; assisted operation started in April 2018, and full market operation in July of the same year.

São Lourenço Production System is interconnected to the other systems supplying to Greater São Paulo. It broadened the treated water output capacity in São Paulo Metropolitan Area sustainably, and brought a series of benefits to the population, such as:

- Quality water supply, in a continuous, sustainable way, with great operational efficiency.
- Has met the estimated demands for São Paulo Metropolitan Area, with regular, sustainable water supply.
- Will meet future demands for the West Side of São Paulo Metropolitan Area (universal supply for the region).

In their search for a technology to collect, analyze, and store the data regarding water intake and treatment processes that take place at São Lourenço Production System, SPSL has opted for [Eclipse Plant Manager \(EPM\)](#). The platform by [Eclipse Software](#), the leading company in the Brazilian market of software developers for remote process management, ensures high performance for recording and retrieving the data, and larger availability and usability of the resulting information. We should note that SPSL's own automation team were responsible for implementing and customizing the EPM application.

Solution

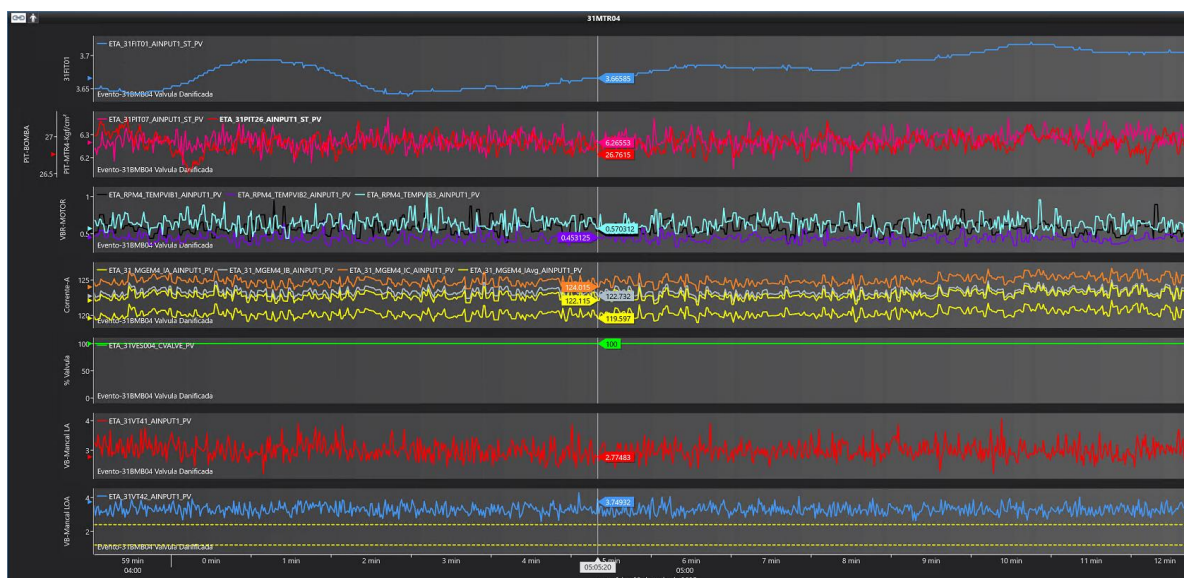
Processes are managed and analyzed by Eclipse Plant Manager (EPM) via the Raw Water Intake (RWI) and WTP equipment variables executed by São Lourenço Production System. The system's WTP and RWI automation architecture comprises 79 programmable logic controllers (PLCs) from different manufacturers, 1,235 field devices, and one supervisory, all interconnected by an industrial network. With EPM, the company can monitor processes in real time via trend charts, notifications, dashboards, and comparative panels.

With EPM, it also is possible to track the behavior of system variables such as flow, level, pressure, temperature, vibration, electrical quantities, and analytical parameters (pH, color, chlorine, water turbidity). The resulting information generates accurate analyses and helps the SPSL team make confident, informed decisions that will optimize the system's operation and maintenance, thus requiring fewer corrective and preventive measures.

Among the processes, devices, and variables monitored by EPM in this application, we highlight the following:

Water-pump set monitoring

EPM monitors the equipment that pumps finished water from the WTP to the external reservoirs at São Lourenço Production System. To do so, the platform by Elipse Software features a chart that trends main line flow, discharge line, general discharge pressure, discharge valve percentage, vibration, and motor current, in addition to the vibration at the water pump drive and non-drive ends.



EPM charts for controlling operating variables at WTP's water pumps

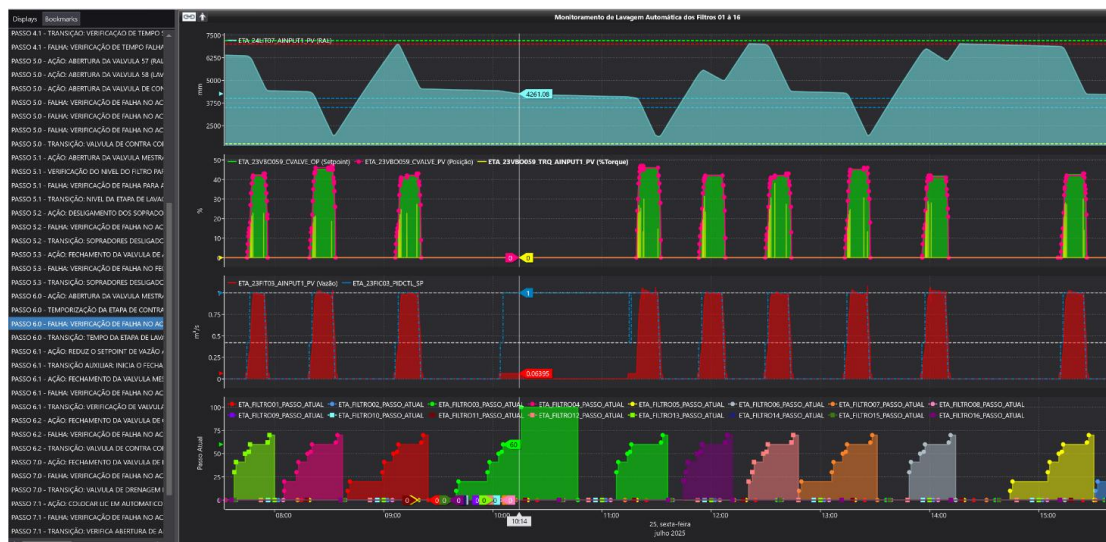
EPM Portal analyzes and monitors the main electrical magnitudes (current, power, power factor, energy consumption, operating time, number of starts, temperature, motor vibration) of the five most powerful motors at the pumps located at the RWI. By comparing the variables real-time data to the standards featured on the pump's nameplates, the software evaluates each variable's key performance indicators, as well as gauges their service lives.



EPM charts for controlling operating variables at RWI's water pumps

Filter backwashing

EPM has optimized filter backwashing failure control at SPSL. Previously to this project, failures involved an on-site crew sent to reset the backwashing, connect the PLC, and then program a new backwashing so that the maintenance team could analyze the PLC logic that indicated where exactly in the process did the failure take place. Now, thanks to EPM, when a filter fails, the maintenance team can spot where and why it failed, which means direct access to the PLCs is no longer required, and a shorter response time is expected.



Monitoring where and why the WTP filter backwashing has failed

Sludge discharge

EPM can plot the variables of the sludge discharge process in water treatment by comparing and relating the level height (mm) with the volume (L) in the settling tank. The analysis provided by the Elipse platform provides SPSL with information to choose the maximum desludging flow rate that can be programmed without overloading or impairing the desludging system.



Chart analyzing the desludging process at WTP

Master valve

EPM has brought good results for failure events analysis in the main flow control valve for filter backwashing.



Torque-controlled loops: One regular (green arrow) and two out of order (red arrows), causing fluctuations in the flow control at the WTP

Benefits

According to SPSL's automation team, EPM ensures greater agility in process analysis and decision-making, being an essential tool for maintenance.

"With EPM, we can speed up analysis and make confident decisions to act more efficiently on the prevention and resolution of occasional failures at São Lourenço Production System," says Anderson Pereira dos Santos, SPSL's Automation and Instrumentation Supervisor.

"Some issues could have taken longer to spot if control took place only in the supervisory. With EPM, we can rely on a comprehensive and granular control of the processes," says Tiago de Souza Lopes, SPSL's Automation Technician.

Among the benefits the Elipse platform has brought to SPSL, we highlight the following:

- Increased agility in root cause analysis.
- Increased reliability in real-time information.
- Analyses of process data and events across multiple time intervals via historical tracking charts with second-by-second logging.
- A comprehensive and granular view of all processes, equipment, and variables that are instrumental for the operation of São Lourenço Production System.
- A more cost-effective process, which requires fewer corrective and preventive measures.

Datasheet

Client: São Lourenço Production System Inc. (SPSL)

Solution provider: São Lourenço Production System Inc. (SPSL)

Elipse product: Elipse Plant Manager 6.00.161

Platforms: Windows 10 and Windows Server 2016

Number of copies: 2

Number of I/O points: 50,000

Drivers: OPC and SNMP II

Industry: Sanitation