



Energy

# Energy Company Fits Unique SCADA Platform Nationwide

An Ignition Project by Cofely - GDF SUEZ

## Project Scope

|                         |                 |                 |        |
|-------------------------|-----------------|-----------------|--------|
| <b>Historical Data:</b> | 8,000 tags      | <b>Screens:</b> | 662    |
| <b>Databases:</b>       | 21 MSQ          | <b>Tags:</b>    | 22,000 |
| <b>Architecture:</b>    | Wide-Area SCADA | <b>Alarms:</b>  | 2,500  |
| <b>Devices:</b>         | 594             | <b>Clients:</b> | 47     |

## Bringing Control and Flexibility to Energy Management Software

■ **Problem:** The project was a challenge itself, mainly due to the lack of clear requirements at the beginning, as well as to the large number of stakeholders involved. On the other hand, our expertise was in industrial automation and we had never thought of dealing with systems such as street lighting.

One of our main concerns was to ensure that the system would be able to grow to match the scope of any new contract to come.

The project should provide the personnel in charge of the energy services contracts with a tool which allowed them to manage these contracts by: maximizing reduction in energy costs and CO2 emissions; determining the correlation between energy costs and manufacturing costs (for industrial facilities); simulating energy bills; implementing consumption-based cost allocation; identifying and justifying energy savings measures; remotely

controlling the different systems (changing set-points, adjusting sunset and sunrise delays, switching equipment from manual to auto, etc.); displaying energy reports, diagrams, and charts for an equipment, subsystem, or main system; comparing power and energy consumption between different periods; getting alarms related to power consumption overruns, equipment malfunction, etc.

■ **Solution:** We deployed hundreds of data loggers with built-in cellular routers, which made it possible to connect PLCs, BMS, etc., to the Internet via the cellular network, while achieving a high availability of data even in case of communication loss.

The routers communicate with the central servers using standard OPC-UA, but they connect to remote networks and devices using a variety of industrial protocols. Electrical power analyzers, heat and gas meters, etc., on Modbus loops are connected directly to the data loggers while PLCs

or control systems are connected through the data logger Ethernet port.

Remote monitoring of the facilities would let operators improve their efficiency and reduce response times when disruptions occurred, while simultaneously achieving energy savings and reducing pollutant emissions.

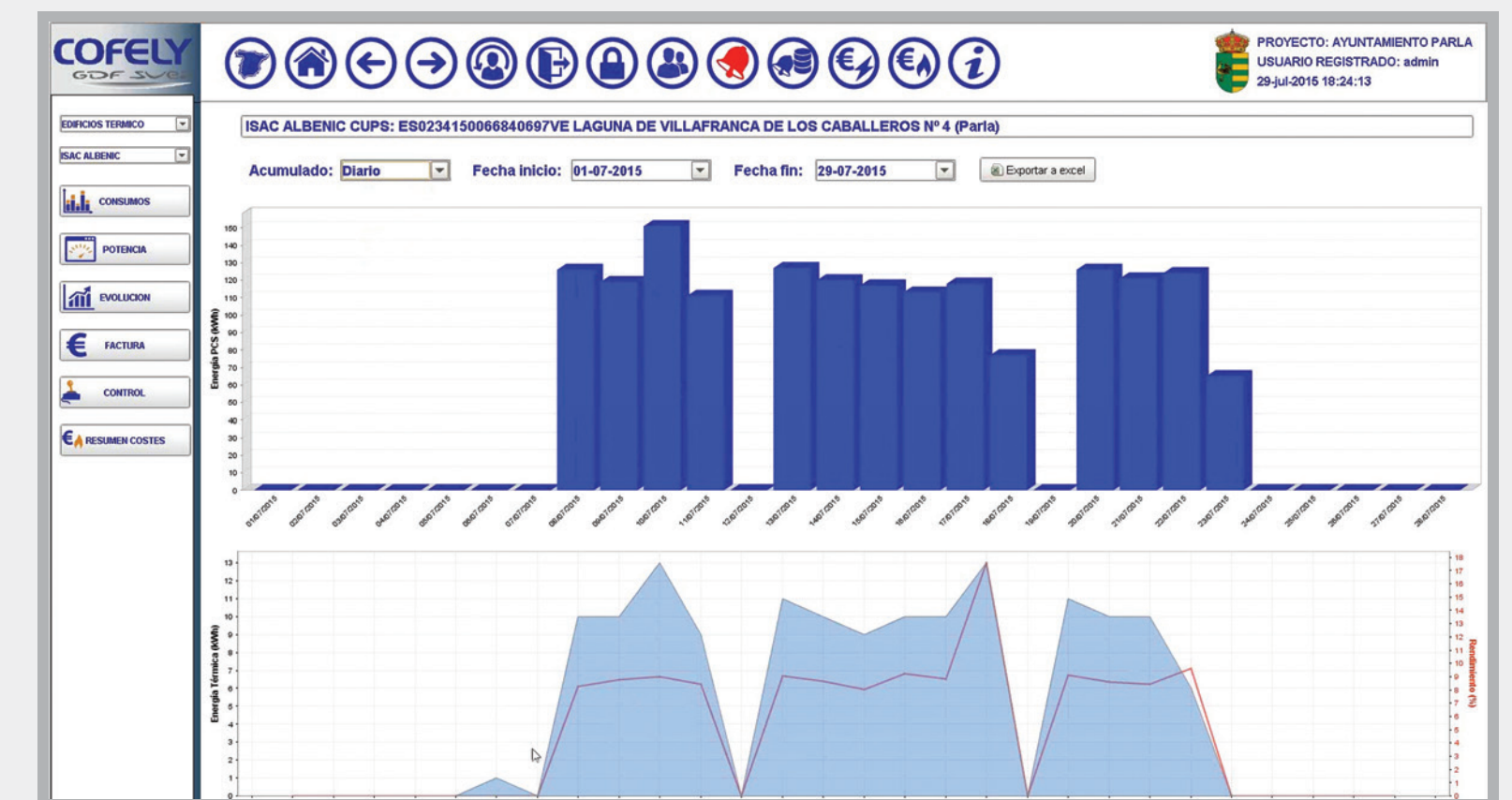
As security was a main concern when planning the project, we decided to use OPC-UA as the main communication standard and to set up a large VPN in order to use the cellular system as securely as if it were a proprietary infrastructure.

■ **Result:** The main feature on which we have built our solution is the seamless access to the SQL data by running either simple or complex queries from charts, tables and reports. On the other hand, the possibility of retargeting from one Gateway to another, allows us to deploy Gateways on the

critical installations, industrial plants, while maintaining the platform look as a whole.

The use of Ignition has saved the company a lot of money, since the other two alternatives that we were considering were either developing our own software or using any other existing platform; the cost estimates of either alternative solution were huge, especially when compared to the price of Ignition licences.

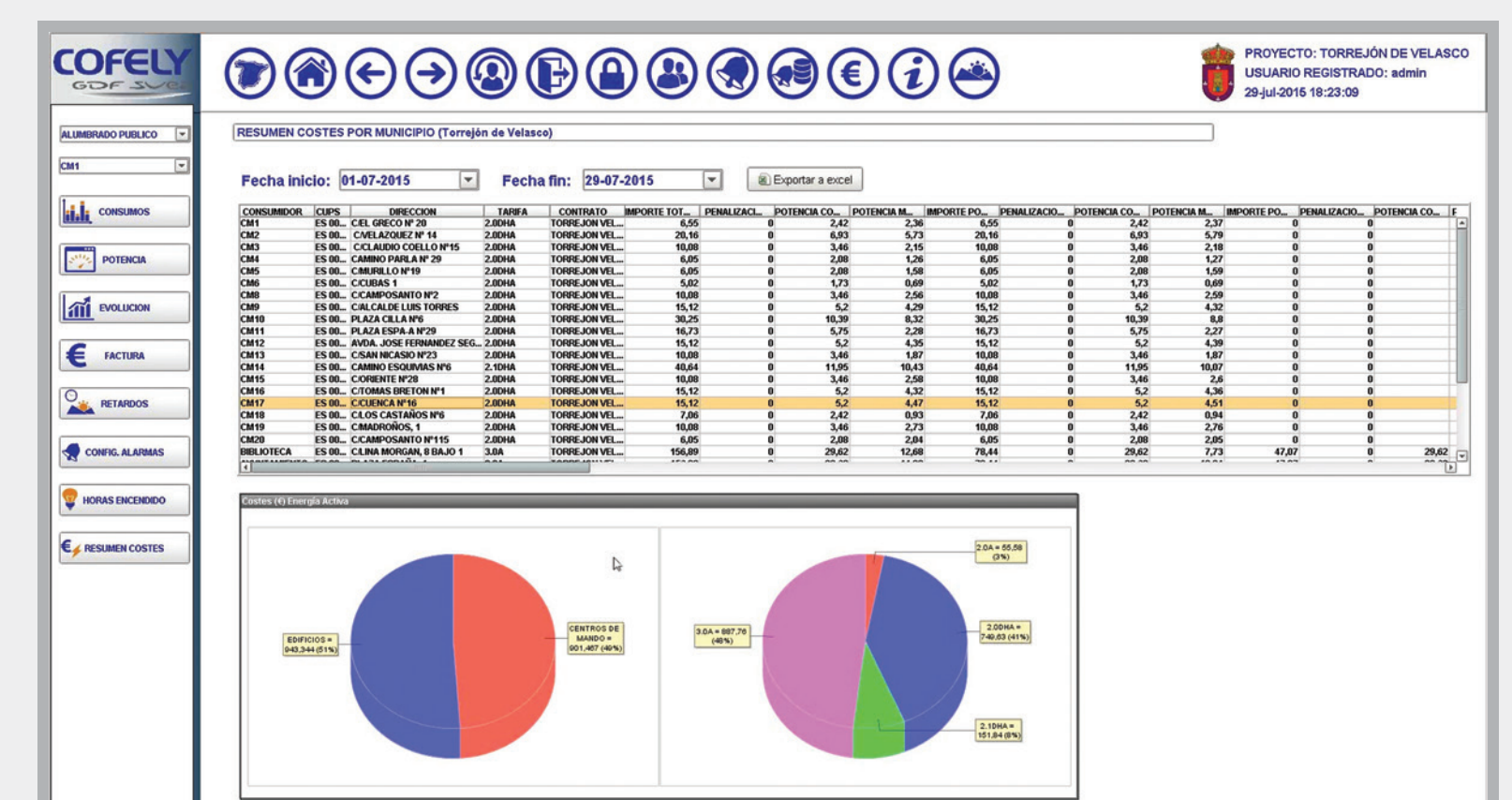
The main benefit from the project has been to have an available platform of our own, which is under our control without depending on third-party servers residing in the cloud. This means that it can be customized to meet the company needs as these evolve, leaving the management of the system reliability, performance and security in our hands.



Cofely provides the entire country of Spain with energy control and monitoring.



Integrated maps help to navigate sites across the country.



Advanced analytics help improve efficiency and cut cost.



### Creator | Jose Granero Nueda

Jose Granero Nueda has over 12 years experience working on industrial automation and I&C projects. For the past 9 years he has been working as a Project Manager for Cofel-GDF SUEZ, where his primary role has been leading, designing developing, testing and deploying automation control systems for their customers.

### Submitted By | Cofely - GDF SUEZ

Cofely is the energy and environmental efficiency services company of GDF SUEZ for business and local authorities. Cofely is the leader in energy and environmental efficiency services, designing and implementing solutions to help businesses and public authorities make better use of energy, whilst reducing environmental impacts. Cofely offers a unique combination of service expertise, from the design, installation and management of local & renewable energy solutions, to the operational delivery of integrated facilities services.

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Scan the code to view the project video  
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