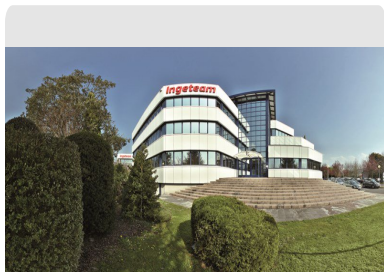


CASE

STUDY

INDUSTRY 4.0 SOLUTIONS



Water Treatment



Oil & Gas Industry



Steel Industry



Energy Generation



Railway Traction



Marine



Automatic Report Generator



Monitoring at a Glance



Signal Graphics



Parameter Trending



Ingeteam implements applications related to the Internet of Things (IoT), data intelligence, augmented reality (AR), as well as virtual commissioning and training.

From the Bizkaia Technology Park, Ingeteam offers its services focused on the latest trends in Industry 4.0, which imply an efficient and remote relationship with the process of manufacturing, transformation and finishing steel. Solutions for metallurgical projects are aimed to promote a more efficient production using an intelligent analysis of the data extracted from production environments. In addition, these tools will contribute to a greater efficiency and dynamic maintenance of the facilities through applications for the display of power and control equipment, through different devices: tablets, smartphones, etc., even using virtual reality glasses (VR).

The INTERNET OF THINGS (IoT) concept and the technology that develops it, allow us to make essential data accessible to users through an industrial cloud. These technologies can be applied both to improve the production of a line as well as to modernize the maintenance services of a production center. In the metallurgical industry, it is vital to immediately know data, variables and parameters that affect our production processes; Edge intelligence tools provide us with the appropriate treatment of this data, giving us the ability to make immediate decisions at the source of origin.

Ingeteam has a web application that provides Business Intelligence tools with the aim of improving the efficiency of asset life cycle management. The functionalities of the Ingeboards® tool allow us to reduce the operation and maintenance costs of any facility by extracting data from HMI's, PLC's, GMAO's and logistics systems. In this way, the system projects strategic information to the user, such as:

- Comparative and statistical analysis of efficiency, deviations and quality of the production process.
- Generation of alarms based on possible anomalies.
- Study of root causes that cause loss of availability in systems.
- Presentation of KPI productivity indicators: MTBF, MTTR, consumption of spare parts, fluids, etc.
- Operational analysis through event tracking.
- Economic analysis of all operation and production processes of the plants

On the other hand, Ingeteam develops applications to allow the factory operator to have access to the details of the installed electrical equipment, without even having to open its door. This is possible through augmented reality (AR) applications that improve work and productivity by superimposing data of interest, such as images, 3D objects and other complementary information, in the user's vision.

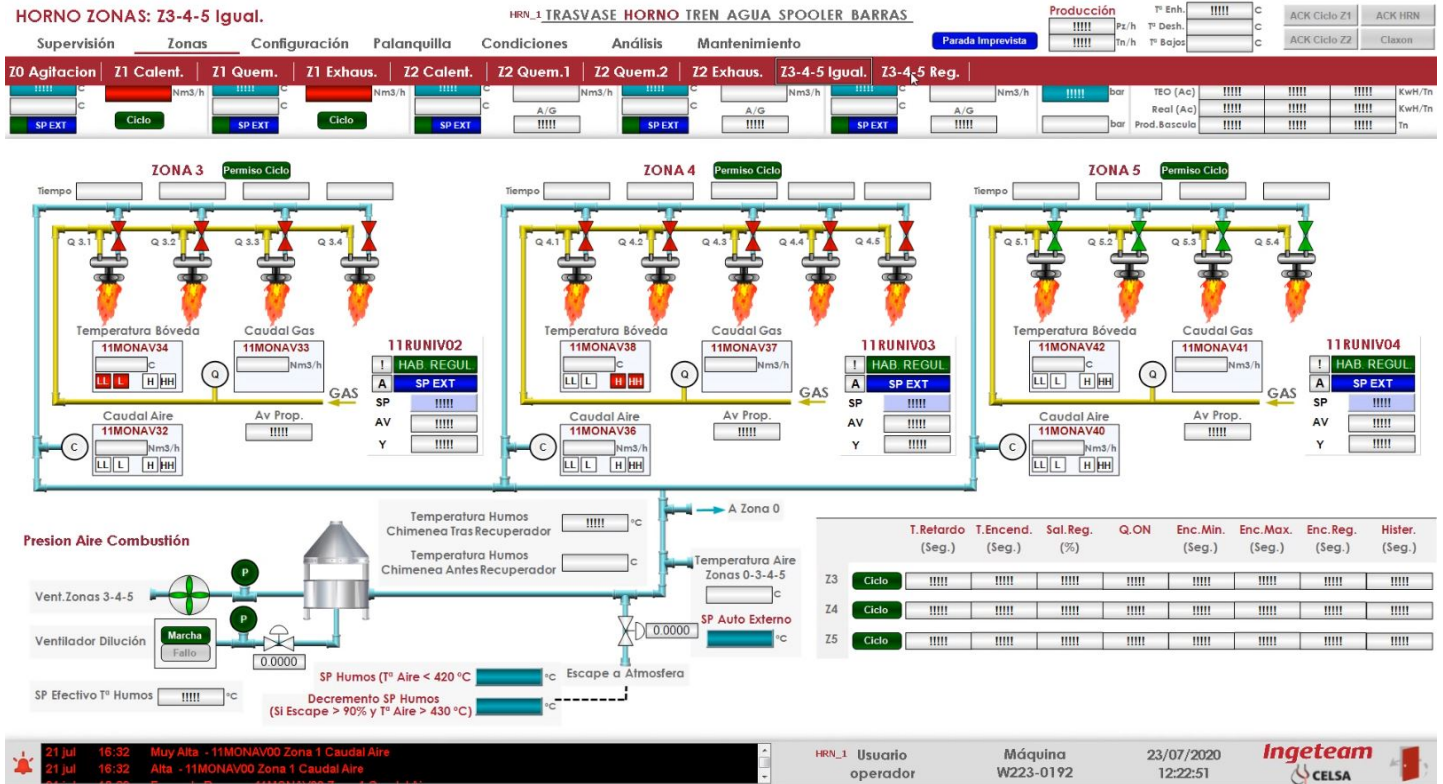
Another solution that the company provides within its IoT tools, but that it has been implementing for years, is virtualization in projects. The adoption of platforms to run SCADAS, HMI's, etc. makes it possible to carry out exhaustive tests, as well as the virtual commissioning of all the components of the line. This technology facilitates engineering and prevents failures that an installation could experience without having to be on-site, being able to carry out comprehensive tests prior to commissioning, facilitating and shortening the times of local commissioning.

In a complementary way, this same virtualization platform allows training and training of operators and maintenance personnel in the most realistic environment possible, taking advantage of the same tools with which virtual commissioning is carried out.

Main Diagram

HORNO ZONAS: Z3-4-5 Igual.

HRN_1 TRASVASE HORNO TREN AGUA SPOOLER BARRAS



Simulation Diagram

