

**Ingeteam will optimize the maximum performance of
several renewable energy facilities in
Central America and the Caribbean**



CMI team in the offices of Pamplona

- **Ingeteam will accompany the company “Corporación Multi Inversiones” (CMI) for the use of IOT INGEBOARDS.**
- **The agreement includes a long-term maintenance commitment integrating more than 700 MW of power.**
- **The pioneering software tool allows the generation of indicators based on the analysis of all the information available at the facility (SCADA, CMMS, CMS,...) enabling an advanced analysis that allows to maximize performance conditions and therefore an increase in the life extension of CMI assets.**

29 of june 2020. Ingeteam has signed an agreement to market the services of its application with the energy unit of the Multi-Investment Corporation (CMI) located in Central America and the Caribbean.

It is a web application that provides Business Intelligence tools with the aim of improving the efficiency of the management of the life cycle of the assets. It allows reducing the operation and maintenance costs of any renewable installation, based mainly on:

- ! Maintenance analysis with specific indicators such as MTBF, MTTR, monitoring of spare parts consumption, failure rates, troubleshooting, etc.
- ! Operational analysis through events tracking
- ! Economic analysis by monitoring budgets, market conditions, availability, etc.

INGEBOARDS is completely modular and configurable according to the needs and requirements of the customer. It allows integrating any source of information (SCADA, SAP, CMMS (CMMS), maintenance reports, etc.) with the aim of reusing tools already implemented in the management of the installation.

The company (CMI) has a renewable energy generation business unit with a total installed capacity of 741 MW, divided into 317 MW of hydroelectric energy, 324 MW of wind energy and 100 MW of photovoltaic energy, located in Central America and the Caribbean.

All this power will be integrated into the INGEBOARDS application, allowing the monitoring, analysis and automatic generation of reports and status tracking meters of wind, photovoltaic and hydro assets.

It has different sources of information, like:

- ! SCADA data (energy storage systems and solutions), which can also be supplied by Ingeteam.
- ! Data from CMMS (maintenance management software), in particular from SAP and Infor EAM.

! Predictive data, including the integration of data from the vibration equipment they have in their wind turbines.

The implementation phase of the application is already underway and it will be fully operational in less than six months. By then, they will be able to begin optimizing the performance and costs associated with these renewable energy facilities.

Progresses in both technology and current processors make it possible to work with data in previously unproductive or directly unfeasible ways. Taking this into account, Ingeteam's R&D department is developing machine learning models in order to make data much more useful and in order to extract much more value from them.

Ingeteam is currently focusing this development on several projects in which the lines of research range from automatic process optimisation, error classification, image processing to natural language processing in operations, predictive detection of anomalies and component life estimation; the last two being the ones in which the greatest depth and development has been achieved.

Once the models have been developed for each of the problems that arise, the Ingeboards platform allows them to be integrated into the processes so that they are useful on a day-to-day basis, as well as allowing the models to be retrained automatically to obtain a constant improvement in them.

About Ingeteam Group

Ingeteam is an international technology group specialised in the conversion of electrical energy. Its technological development in power and control electronics (inverters, frequency converters, controllers and protections), its rotary electrical machines (motors, generators and Indar motor-pump groups), its systems (integration of electro-mechanical and automation engineering) and its operation and maintenance services, all of them allow Ingeteam to offer solutions for the wind, photovoltaic, hydroelectric and fossil fuel generation sectors, the metal transformation industry, shipbuilding, railway traction and the electrical energy network, including substations covering as well transport and distribution, and always seeking more efficient energy generation and consumption.

Ingeteam works all around the world and has permanent establishments in 24 countries, employing more than 4,000 people. Its activity is structured on the basis of R&D, investing annually over 5% of its turnover.

About “Corporación Multi Inversiones” -CMI-

It is a multi-Latin family business located in Central America that generates investment, employment and development in the region.

The CMI Energy Unit is characterized by the development, design and operation of projects that generate and commercialize electrical energy with renewable resources in Central America, with an installed capacity of 711MW of hydraulic, wind and solar energy. This energy is distributed in nine plants that are located in the five countries that make up the region, being the largest private renewable energy generator in the region.

The growing operation of CMI ratifies the corporation's commitment to investing in the region and promoting the development of the countries where it is located through a Social and Environmental Management strategy, with the aim but to achieving the UN's sustainable social development objectives.

For more information:

www.ingeteam.com

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