



## CUSTOMER CASE STUDY

# Ansaldo Energia takes remote asset monitoring to the next level with the PI System™

Ansaldo Energia  
Industry - Power Generation

## Challenge

- Create a single platform and user experience for remote monitoring of hundreds of power plant assets across the world

## Solution

- Create digital twin in Asset Framework (AF) and custom widgets in PI Vision

## Result

- One platform for a unified monitoring experience

Headquartered in Genoa, Italy, Ansaldo Energia is a leading manufacturer of power plants and power-generation equipment such as coal and gas turbines. The company has built over 100 power plants and 300 gas turbines around the world and provides remote monitoring services and maintenance solutions for customers in 35 countries.

To monitor the health and reliability of so many pieces of hard-working equipment across the globe, Ansaldo Energia adopted the PI System. By 2016, the company was operating Integrated Plant Support (IPS) centers – one in Italy, another in Florida – to deliver 24/7 remote monitoring and maintenance solutions. At the heart of the IPS diagnostic platform is the PI System, which collects data from hundreds of assets around the world. Creating a unified data fabric for both centers wasn't an easy task. Faced with thousands of data sources, including equipment from a variety of manufacturers, and many legacy systems, Ansaldo recently implemented a centralized, global approach to real-time data monitoring to accelerate support decisions.

## A digital twin of all equipment

Working closely with Ansaldo's integration partner e-matica, the company began by unifying all data collection and monitoring into one centralized system, which could be used by both IPS centers to support customers around the clock. The team implemented Asset Framework (AF), a contextualization layer of the PI System, to create a standard asset hierarchy for the diagnostic platform. Relying on easy-to-use AF templates, engineers developed digital twins for over 300 pieces of heavy-duty power plant equipment.

## Custom widgets create targeted success

To help engineers identify issues faster and respond to them before serious failures could occur, the team turned its attention to improving visualization for the IPS centers. Experts at e-matica created custom widgets for PI Vision, the PI System's web-based visualization platform. "A widget is a graphical tool, which is embedded in PI Vision, and it's made to answer specific requests by users and expand PI Vision functionalities," said Michela Carmeli, a product specialist at e-matica. Widgets were implemented for a huge variety of tasks, from graphs showing temperature fluctuations over timed events to Bode plots.

The team even implemented a widget that aggregated the data from the IPS centers' separate ticketing system into PI Vision. The data for each asset is easy to see and all in one place. Because support tickets are searchable directly from the dashboards, it's easy for an IPS center to know when an issue needs immediate attention. Today, support engineers in Italy and the U.S. can receive automatic notifications for event warnings, open a link through their email, and be taken directly to the display with the relevant performance data.

Such an early-warning system, combined with ticketing information on the same screen, allows engineers to meet their support goals. All high-performance tickets are solved within 24 hours of being opened, and 85% of all other tickets are solved within 72 hours.

## A strong and united approach with the PI System

Thanks to the PI System, the IPS centers gained a single 360-degree view into all the equipment monitored around the world. From there, they can drill down into a single turbine or generator to see its performance data, related support tickets, KPIs, and process events such as out-of-spec parameters. What was originally a tangled and complex system of data sources a few years before is now a centralized platform uniting data with experts for speedy support.



A single steam turbine is easy to manage, with all the data, tickets, and image widgets working in tandem on one easy-to-analyze PI Vision display.

---

**"The result of this is one unique platform for several different technologies for 300 machines condensed into just 18 templates with low and easy maintenance."**

- **Sandro Gollini,**

Diagnostic Systems Technical Leader, Ansaldo Energia

For more information about Ansaldo Energia and the PI System, [watch the full presentation here.](#)