MHPS
REVOLUTIONARY ENERGY

Mitsubishi Hitachi Power Systems

HARNESSING BIG DATA, ANALYTICS AND HUMAN INSIGHTS.

The MHPS Energy Revolution

The evolving energy marketplace challenges power producers with new regulatory pressures and competitive realities.

Power plant operators must optimize efficiency, flexibility, maintenance cycles and environmental performance. A number of industry suppliers are heavily marketing new software that power plant operators can install, while Mitsubishi Hitachi Power Systems (MHPS) has been collaborating with its customers and using best in class software for years to implement an optimum blend of expert systems and human insights to capture, transmit, analyze and respond to massive amounts of data. MHPS Revolutionary Energy offers power plant operators a new level of knowledge and control to drive their businesses forward by creating the power plant of the future.

MHPS was an early proponent of remote monitoring and diagnostic services as a method to deliver added customer value. By leveraging that experience of informing power plant operations and maintenance using both expert systems and human insights, MHPS is at the forefront of improving power plant reliability, performance and flexibility. Today, MHPS is developing new digital solutions and analytical tools to unlock the promise of increased productivity and efficiency across entire power plant systems.

Listening to the Plant

Already recognized as a world leader in thermal-power and environmental technologies, MHPS has been steadily expanding the benefits of digital analytics across its customers' fleets because the energy market of the future will reward plant operators who maximize efficiency and productivity, while reducing the carbon intensity of energy production.

MHPS digital solutions provide customers with real-time adaptive control and actionable knowledge. By utilizing sensor and control system data to create a "Voice of the Plant," MHPS optimizes plant performance, increases operating flexibility, avoids unplanned downtime and enables predictive maintenance.

By gathering performance metrics, using data analytics to filter that mass of information to get comprehensive insights and then leveraging expertise and knowledge, MHPS can help achieve measurable business performance improvements at a power plant or across an entire fleet.

MHPS Digital Solutions at Work

MHPS has a customer first approach that relies on collaboration to prioritize potential opportunities and work to improve plant operations. The result is a comprehensive family of digital solutions that can be tailored and targeted to the priority needs of each power plant.

MHPS can trace its digital roots to the early 1980s when it pioneered advanced boiler combustion management systems, followed by application of early AI/Expert Systems in 1987 and machinery health monitoring systems for automatic diagnosis of abnormal vibration of turbine generator shaft systems in the early 1990s. An early system-level implementation of power plant data acquisition and digitization commenced in 1997 when MHPS commissioned the T-Point power plant at the Takasago Machinery Works in Japan, a fully operational and heavily instrumented gas turbine combined cycle total power plant dispatching into the Kansai Electric grid. When MHPS launched its first remote monitoring and diagnostics center in 1999, it understood the importance of putting plant performance data to work – not just as a measure of energy output, but as a tool to shape future gains in reliability and availability.

MHPS digital analytics focus on the key areas:
1. Centralize fleet monitoring and diagnostics
2. Data-driven adaptive control at the power plant
3. Analytical services to optimize plant operations

MHPS is steadily advancing plant operator abilities to use technology to acquire and process massive amounts of data and utilize human insight to create actionable operational and maintenance solutions. MHPS digital solutions help customers increase reliability, implement better outage planning and targeted plant upgrades to meet changing grid requirements, shifting fuels and other variables in a dynamic industry. Creating the power plant of the future helps boost fleet ROI.

The MHPS Difference

MHPS customizes solutions to meet specific energy company needs to take full advantage of the power of big data. With MHPS total plant engineering, design and construction experience, and its operations expertise across a range of technologies – including gas turbine combined cycle, coal fired, renewable, geothermal and IGCC – MHPS takes into account the real world circumstances faced by plant operators.

MHPS takes a unique approach in combining human insights with data. It's not just about selling software, it's about tailoring solutions that work. MHPS recognizes the importance of customer collaboration in a rapidly evolving energy market. MHPS is committed to leveraging its broad resource of power plant knowledge with the latest and most appropriate digital technologies to help meet those challenges. By facing this complex puzzle together, the mutual goal of maximizing power plant productivity is achievable.

MHPS is committed to adding customer value – millions of dollars over the lifetime of a power plant – through O&M optimization, performance improvement and flexible operations. Using advanced data collection, analytics technologies and human insights not only helps customers address the needs of the evolving market and maximize ROI, it opens the door to a brighter future for our planet.

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