Analysis.
Collaboration.
Optimization.

MHPS-TOMONI™
Digital Solutions for Power Plants
In today’s energy market, it’s more challenging than ever to control costs and achieve environmental and business goals. Staying competitive requires a whole new, heightened level of power plant optimization and flexibility.

There are thousands of sensors capturing massive amounts of valuable data in your power plant every second. The good news is with MHPS-TOMONI™ digital solutions, this data can be harnessed and leveraged to provide insights, solve complex problems and maximize overall power plant performance.

Designed for the specific needs of power plant owners and operators, MHPS-TOMONI is a customizable suite of user-driven digital applications, fueled by analytics and insights. It makes your data actionable in the most efficient and affordable way possible.

Transforming your power plant into a digital data powerhouse
Tomoni is the Japanese word for “together with” and reflects the importance of collaboration. At MHPS, we bring best-in-class technologies from premier software partners, add the expertise and experience of our industry-leading MHPS engineers and scientists, and work with you to provide targeted digital solutions that solve your specific challenges.

We listened and learned that, instead of a costly, time-consuming software overhaul, most plant owners and operators strongly prefer digital solutions that are compatible with their current processes and software systems. That’s why we choose to apply solutions that easily integrate with your existing data management infrastructure, allowing you to quickly and affordably create actionable knowledge from the data in your power plant.
Solution validation and proven profitability

MHPS-TOMONI digital solutions are implemented first on pilot plants, with close supervision. For the most complex implementations, our solutions are tested at the MHPS T-Point validation combined-cycle plant in Takasago, Japan. All our solutions are thoroughly evaluated prior to release for general application.

Our solutions have led to significant increases in profitability, which we’ve proven and documented at power plants around the world. You can be confident that the MHPS-TOMONI digital power plant solutions you choose, with the help of our team, will also have a positive impact on your power plant’s competitiveness.

The smartest way to achieve your power plant goals

We use the latest digital technologies to create a wide range of MHPS-TOMONI solutions that provide asset optimization, analytical and O&M support services, and AI. MHPS works with you to apply the most appropriate combination of these solutions to meet your objectives in the areas of O&M Optimization, Performance Improvement and Flexible Operation.

This is all done with the utmost attention to cybersecurity, in compliance with the latest NERC CIP requirements as well as other national requirements and international certifications. Plus, with the flexibility to easily add or modify solutions, MHPS-TOMONI is a highly cost-effective way to make significant upgrades to your plant as needed or when your budget allows.
Optimizing your assets

New realities in the power industry drive a need for better performance and flexibility to be profitable, while maintaining environmental compliance. MHPS-TOMONI asset optimization provides digital control advancements and logic enhancements that allow your plant to improve performance and be dispatched more flexibly. These upgrades help your plant compete with newer plants and enable you to take advantage of new revenue streams.

Analytics for more productive O&M

An essential element of a profitable power plant is its operation and maintenance. MHPS-TOMONI includes a growing suite of O&M solutions, including KPI visibility, rapid alarm response, anomaly detection, cybersecurity and predictive maintenance planning. We always look for simpler, more actionable ways to visualize, analyze and use the large amount of big data that is available to your plant staff. Our goal is to make your O&M staff more effective by giving them knowledge derived from real-time plant data, so they can be proactive.

We can also analyze your plant’s data in real time from our monitoring and diagnostics centers around the world. MHPS-TOMONI unlocks the advantages of automated real-time predictive analytics and power plant performance monitoring. We have the ability to apply lessons learned from millions of actual operating hours from the entire MHPS fleet. We provide expert recommendations from this knowledge, which can help you make smarter, more informed decisions. The result is more effective maintenance planning and improved total plant reliability and uptime.

We continue to build our database of learnings and correlation patterns to help customers transform their plants into the digital power plants of the future—plants that harness all their data as well as fleet-wide learning to improve their competitiveness and profitability.

Artificial intelligence for greater autonomy

As technologies advance, so does MHPS-TOMONI. One of those technologies is artificial intelligence (AI) for power plants. We create machine learning and other models to develop AI solutions that will drive power generation forward toward autonomous operation.

With the increasing amount of big data in a power plant, human experts are unable to process everything in real time. That’s where AI comes in. It can analyze data, identify correlations and subtle pattern changes, and present recommendations for operator action. As the digital power plant evolves, it will increasingly be able to take autonomous action to protect itself, optimize performance and emissions, and optimally interact with its environment, the grid and energy markets.

We are currently developing the next-generation power plant in Takasago, Japan. Using the most advanced technology, machine learning and artificial intelligence, this facility is intended to be the first autonomous power plant in the world.

Always collaborating to keep you ahead of the curve

As the energy market evolves, power generators need greater availability, flexibility and total plant reliability. Whether you’re a GTCC, geothermal or conventional steam power plant, our mission is to equip you with what it takes to meet the changing landscape. Though your needs may vary, our approach remains the same: MHPS-TOMONI is rooted in collaboration. With the ability to choose solutions that will make the most impact on your plant, it’s the perfect tool for you to make timely business decisions in today’s competitive market.
As the industry transitions to increasingly competitive wholesale power markets, improved dispatchability is pivotal in your power plant performance. Total plant solutions help increase your output and efficiency, which benefits your business and boosts your profits.

SOLUTION CATEGORIES:
• Performance Diagnosis
• Thermal Performance Improvement
• Power Augmentation

Our Flexible Operation solutions equip you to nimbly meet the changing demands of the market, including new grid support requirements and less predictable fuel characteristics—and can also lead to new revenue streams in ancillary service markets.

SOLUTION CATEGORIES:
• Operation Flexibility
• Cyclic Operation Reliability
• Fuel Flexibility

We leverage decades of O&M experience to create asset-management solutions that directly improve your power plant’s operation and maintenance and increase plant personnel effectiveness and productivity.

SOLUTION CATEGORIES:
• O&M Guidance
• Monitoring & Predictive Analytics
• O&M Reliability Improvement

Learn more at changeinpower.com/tomoni
MHPS-TOMONI™
MHPS is leading the development of the digital power plant of the future with MHPS-TOMONI, a suite of digital solutions enabled by decades of O&M and plant knowledge. Our solutions are driven by customer collaboration and use advanced analytics and adaptive control to lower the cost of electricity and achieve environmental and business goals.

For more information about the MHPS-TOMONI suite of digital solutions, visit changeinpower.com/tomoni or contact your MHPS representative.

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