MITSUBISHI ELECTRIC
Changes for the Better

Automating the World

FAULT DETECTION & DIAGNOSTICS (FDD) WITH GENESIS™

Actionable Insight for High-Performance Operations

KEY BENEFITS AT A GLANCE

- **Move beyond basic alarming to actionable diagnostic insight**
- **Focus maintenance effort on meaningful, high-impact issues**
- **Improve system reliability and operational stability**
- **Accelerate troubleshooting and decision-making**
- **Extend asset life while maintaining performance**

PERFORMANCE & CORE FEATURES

Fault Detection and Diagnostics (FDD) enables operations teams to extend traditional alarming with continuous, data-driven performance management. By evaluating system behavior against defined operational rules, FDD helps identify inefficiencies, emerging faults, and performance degradation early before issues escalate into failures, energy waste, or service disruption.

FDD capabilities complement the advanced alarm management available in the GENESIS platform. Alarm management provides immediate notification of abnormal conditions, while FDD adds deeper diagnostic context and performance insight. Used together, alarming and FDD capabilities within GENESIS enable more informed operations, faster incident response, and organizational adoption of conditioned-based maintenance practices.

ADVANTAGES OF FAULT-BASED DETECTION

- Fault detection incorporates multiple system parameters during an event, enabling clearer diagnosis and better operational insight
- Root causes become easier to identify through deeper analysis and contextual evaluation
- Tunable fault logic helps reduce fatigue commonly associated with large volumes of alarms
- Multi-variable analysis helps identify developing issues and costly conditions that simple alarm thresholds may not detect, including faults that accelerate asset wear

KEY CAPABILITIES AT A GLANCE

- Automated fault detection logic
- Centralized diagnostic rules and analytics
- Configurable evaluation criteria and thresholds
- Severity- and impact-based prioritization
- Diagnostic results integrated into alarms and notifications
- Dynamic cost impact calculations

HOW FDD DELIVERS PERFORMANCE INSIGHT

- Continuous evaluation of system behavior against defined performance rules
- Consistent diagnostic logic applied across similar assets and equipment types
- Early identification of abnormal behavior at scale
- Support for proactive operations and more efficient maintenance practices through continuous, data-driven performance insights

FDD ARCHITECTURE AND OPERATION

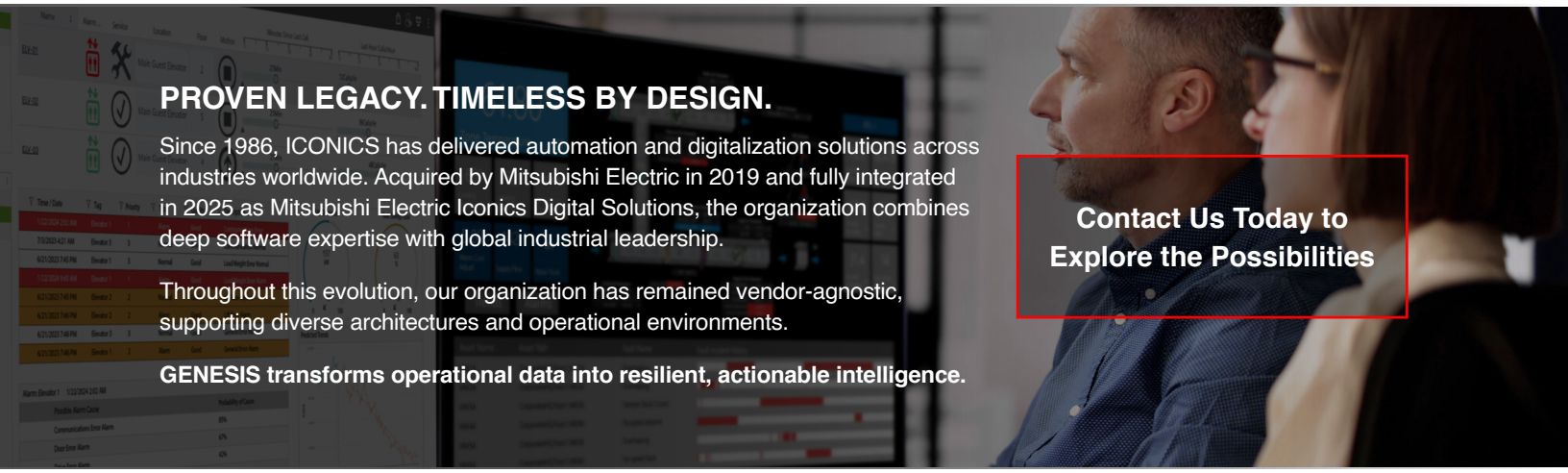
- Centralized library of fault rules defining expected system behavior
- Consistent rule application across assets, systems, and sites
- Import, export, and reuse of rule libraries to support standardization
- Early fault detection before issues escalate into failures

GENESIS CONTEXT

Fault Detection and Diagnostics operates on the same real-time and historical data infrastructure used by the GENESIS platform for monitoring, visualization, analytics, alarms, and reporting. This shared architecture ensures diagnostic insight remains consistent, scalable, and immediately usable across single sites or enterprise portfolios.

DETAILED CAPABILITIES

- Real-time performance analysis across asset-based systems
- Centralized diagnostic rule management
- Reusable rules across similar assets and applications
- Early fault detection to prevent degradation and disruption
- Diagnostic insight into likely root causes and operational impact
- Issue prioritization based on severity, persistence, and business relevance



PROVEN LEGACY. TIMELESS BY DESIGN.

Since 1986, ICONICS has delivered automation and digitalization solutions across industries worldwide. Acquired by Mitsubishi Electric in 2019 and fully integrated in 2025 as Mitsubishi Electric Iconics Digital Solutions, the organization combines deep software expertise with global industrial leadership.

Throughout this evolution, our organization has remained vendor-agnostic, supporting diverse architectures and operational environments.

GENESIS transforms operational data into resilient, actionable intelligence.

Contact Us Today to Explore the Possibilities

MITSUBISHI ELECTRIC ICONICS DIGITAL SOLUTIONS

HEAD OFFICE: 2 Hampshire Street, Suite 300, Foxborough, MA 02035

iconics.com

Copyright © Mitsubishi Electric Iconics Digital Solutions, Inc.
All rights reserved.

Specifications are subject to change without notice.

May 2026

All trademarks acknowledged.