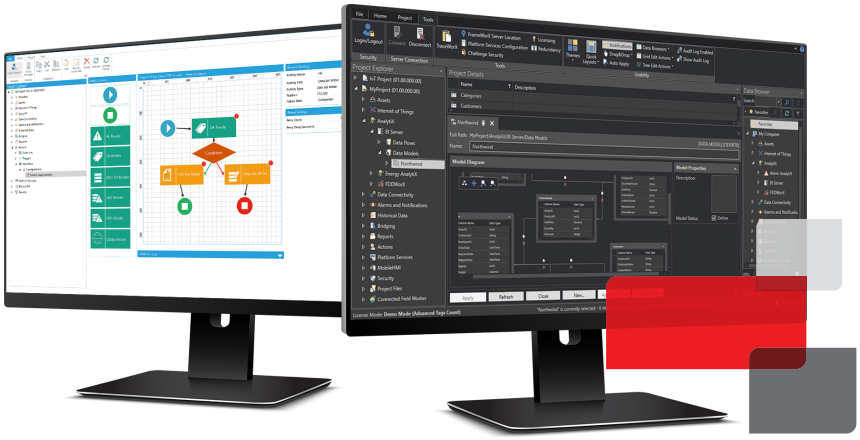
MITSUBISHI ELECTRIC
Changes for the Better

Automating the World

DATA BRIDGING WITH GENESIS™

A Modern Approach to Data Integration and Workflow Orchestration



KEY BENEFITS AT A GLANCE

- **Enable modern industrial information management**
- **Reduce integration complexity across OT and IT systems**
- **Deploy without custom coding**
- **Centralize data orchestration and business logic**
- **Secure, standards-based data exchange**

PERFORMANCE & CORE FEATURES

Modern industrial information management strategies depend on reliable data movement, transformation, and execution across systems, applications, and organizational boundaries. Traditional integration methods often depend on custom code, point-to-point connections, or fragile middleware, which limit scalability, increase maintenance effort and total cost of ownership, and elevate an organization's information security risk.

Data bridging capabilities in the GENESIS platform provide a no-code framework for connectivity, data transformation, and workflow orchestration. GENESIS offers templated, graphical configuration and centralized workflow management that reduces development effort while enabling enterprise scale and adhering to modern security standards. GENESIS integrates with existing data sources such as control systems, historians, databases, and web services to address the data management needs of modern industrial operations while meeting the expectations of Enterprise IT.

KEY FEATURES AT A GLANCE

- Standards-based connectivity across OT and IT sources
- Enterprise integration via databases and web services
- Graphical workflow design with no-code configuration
- Centralized management with distributed execution
- Event and time-based execution

CORE CAPABILITIES

- Connectivity to IIoT devices, control systems, and historians
- Integration with databases, APIs, and business systems
- Graphical, no-code data bridging and workflow configuration
- Visual design environment enabling simple logic to complex orchestration
- Support for scheduled and event-driven transactions
- Interoperability with GENESIS platform services
- Extensible architecture supporting .NET customization

CONNECT DISPARATE DATA. AUTOMATE WORKFLOW. ENABLE SMARTER OPERATIONS.

Bridging is one of several GENESIS platform capabilities used for automating activities within a project. Bridging executes user-defined workflows to sequence many individual actions together in a stepwise fashion. Bridging transactions can be used to import, export, transfer, or transform data and conditionally control data points. Transactions can be run automatically or using a number of different triggers such as alarms, database changes, tag values, date/time, file change, and system events.

Bridging transactions are applied to a wide range of use cases. Practical examples include sending notifications via email or SMS, interactions with enterprise systems such as Computerized Maintenance Management Systems (CMMS) to create work orders, executing data rollups to aggregate and send data to a destination used for reporting, or creating an instance of a report.

WORKFLOW EXECUTION AND ORCHESTRATION

- Visual representation of workflow logic for clarity and maintainability
- Predefined library of data management activities (logic blocks)
- Conditional logic supporting IF/THEN scenarios and multi-step decision paths
- Parameterized workflow execution to rapidly scale deployments
- Read and write access across real-time sources, historians, databases, and structured data files

ANALYTICS, MESSAGING, AND ENTERPRISE INTEGRATION

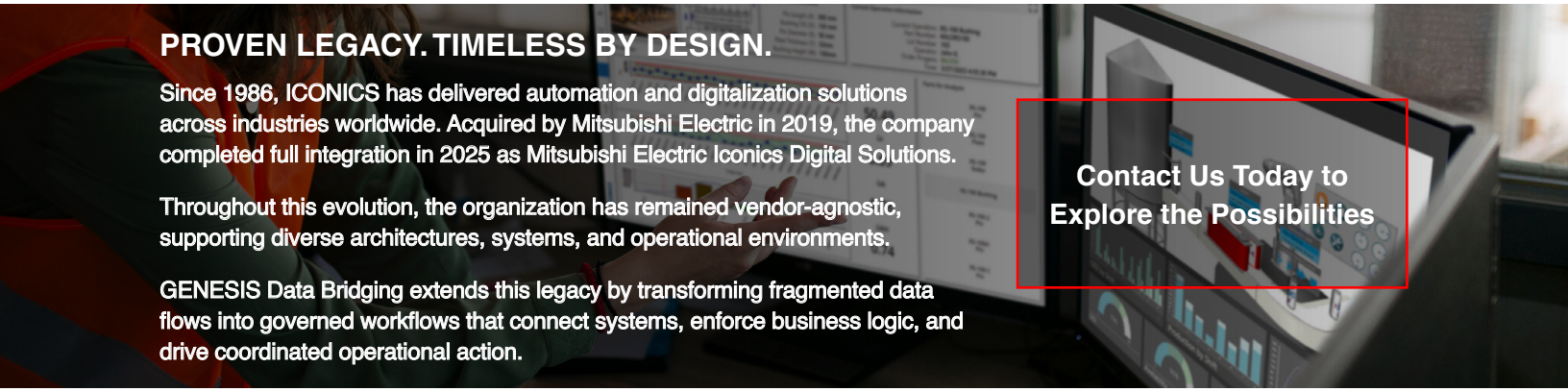
- Data exchange with enterprise databases including Microsoft SQL Server and Oracle
- Dataset handling for XML, CSV, and JSON sources and destinations
- Integration with message brokers and web services
- Notification and messaging support through cloud services such as Twilio, Vonage, Azure Communication Services, Teams, SendGrid, or Brevo
- Coordination with GENESIS visualization, alarming, and analytics capabilities

AUTOMATION INDUSTRY STANDARDS

- Alignment with widely adopted automation and integration standards
- Protocol support: OPC UA, BACnet, RESTful APIs, MQTT, AMQP, SparkPlug B, SNMP, Modbus
- Third-party protocols through Takebishi DeviceXPlorer OPC Server
- Database connectivity via OLE DB and ODBC
- Web services integration for enterprise and cloud-based systems

LOCAL AND ENTERPRISE SECURITY

- Centralized governance of workflows and data access
- Compatibility with GENESIS security models and enterprise authentication strategies
- Controlled execution of workflows based on user roles and system permissions
- Secure handling of data across operational and enterprise environments



PROVEN LEGACY. TIMELESS BY DESIGN.

Since 1986, ICONICS has delivered automation and digitalization solutions across industries worldwide. Acquired by Mitsubishi Electric in 2019, the company completed full integration in 2025 as Mitsubishi Electric Iconics Digital Solutions.

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

GENESIS Data Bridging extends this legacy by transforming fragmented data flows into governed workflows that connect systems, enforce business logic, and drive coordinated operational action.

Contact Us Today to Explore the Possibilities

MITSUBISHI ELECTRIC ICONICS DIGITAL SOLUTIONS

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