



# Mission-Critical Power Solutions



imagination at work

# Protect against lost productivity and profitability

GE Intelligent Platforms' advanced technology solutions virtually eliminate downtime and ensure operational availability while minimizing costs.

Businesses that host critical data and services in industries such as data warehousing, medical care, and electronic commerce cannot afford downtime risk. The costly impact of an unplanned power outage can lead to lost productivity, profitability, and customer satisfaction, making it imperative to ensure the highest level of system reliability and availability at all times.

GE Intelligent Platforms understands the criticality of uptime. Combining innovative, advanced technologies and deep domain expertise in mission-critical power, we offer proven solutions that integrate high availability control, visualization, and analytics for your essential applications—enabling continuous operations.

Companies around the world have implemented GE's mission-critical power solutions to realize value-added results for a sustainable competitive advantage:

- **Maximized uptime** through reliable control and innovative redundancy capabilities
- **Increased system integrity** by eliminating multiple points of failure
- **Better, faster decision making** through powerful visualization, supervisory monitoring and proactive alarms, work process management, and remote connectivity
- **Increased productivity** due to fast, full system synchronization and the ability to maintain individual system components without interruption
- **Reduced total cost of ownership** with flexible, scalable, open architectures that protect your existing and future technology investments

GE is at the forefront of providing technology solutions that deliver "near-zero" downtime with unique and flexible capabilities for businesses that cannot afford any compromise in system performance.



# Expertise, experience and commitment

To meet increasing critical power demand, GE's innovative technologies and unique offerings include value-added specialized support and services that can help your business succeed.

## Product breadth and open platform

Our comprehensive suite of software and hardware products includes high availability control, HMI/SCADA, data collection, and work process management to help you achieve your mission-critical power applications with continuous system availability. Built on an open and layered platform, our products are modular, configurable and scalable—addressing today's needs and those of tomorrow.

## Reliable, innovative technologies

Our mission-critical power solutions leverage the latest technologies, expertise, and proven methodologies such as Six Sigma and Lean techniques. We are continually investing in our powerful product technologies to keep customers ahead of the curve with capabilities that deliver measurable results.

## Project and engineering services

Based on our proven methodology, we ensure rapid and high-quality implementation of our advanced technology solutions to maximize your return on investment. You can rely on our technical know-how, best practices, and innovation to successfully define, configure, and install our solutions in your mission-critical environment—for improved performance, efficiency, and availability.

## Global customer support

Starting from the moment we engage with your project to its successful completion and ongoing maintenance, we never forget that uptime is directly correlated to your profitability. With a global presence, our GlobalCare\* support provides local and prompt technical support and product expertise where and when you need it.

## OEM Edge Program

We offer an innovative program designed specifically for our OEM customers to help maximize productivity and grow their businesses. OEM Edge members have exclusive access to a wealth of proven solutions and custom tools such as development software, proof of concept hardware, conversion services, product rebranding capabilities, training, and more.

## Trusted GE brand

As one of the most trusted names in the world, GE is committed to partnering with you for the long term, providing the most advanced technology solutions to address your critical business needs.

"We prefer to use GE Intelligent Platforms and other GE solutions because over the broad spectrum of devices, the GE Family coordinates a package of power products and controls along with its software that meets our needs and the needs of our customers. Superior technical support has always been one of our requirements in vendor selection, and GE has never failed to perform in both site support and product selection assistance."

**Gary Butcher**  
President

Critical Power Consultants



# A comprehensive approach for continuous operations

Our tightly integrated mission-critical power solutions deliver robust backup power control with seamless connectivity and automated real-time information management to help you maximize uptime and productivity.

## High availability control

PACSystems\* programmable automation controllers are built on a scalable, synchronized, hot-standby redundancy control platform, ensuring uninterrupted control of your applications and processes with total transparency and seamless switchover control.

Both the VME-based PACSystems RX7i and the PCI-based PACSystems RX3i controllers provide powerful CPUs and high-bandwidth backplanes. They also enable connectivity to various I/O on a proven industrial network that provides real-time communications,

deterministic data transfers, and automatic switchover for continuous operations.

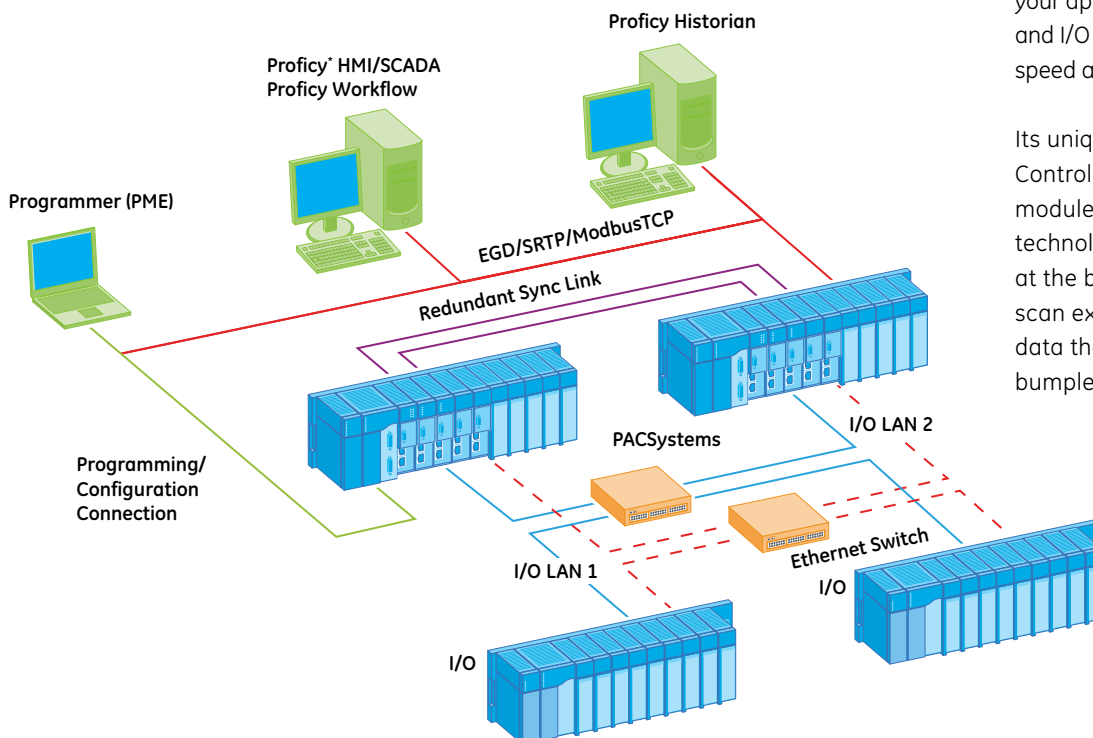
You can choose from our two high availability architectures to meet your needs:

→ Our **dual redundancy solution** consists of two physically independent PACSystems controllers (either RX3i or RX7i) that offer true dual redundancy data synchronization with dual modules.

The controllers have dedicated, redundant links to one another and operate synchronously with virtually no overhead added to the control application—transferring all of your application's variables, status, and I/O data on every scan with speed and transparency.

Its unique, patented redundancy Control Memory Xchange (CMX) module, based on reflective memory technology, synchronizes your systems at the beginning and end of each logic scan execution to keep all variable data the same—providing rapid and bumpless switchover.

With PACSystems High Availability, if any part of your control system fails, the backup counterpart automatically assumes control to ensure continuous operations.





With GE's open and scalable mission-critical power solutions, you can integrate flexibly with other systems and expand your solution in the future to meet changing business needs—without compromising high performance and availability.

→ Our **quad redundancy solution** is a revolutionary approach that offers all the capabilities of the dual redundancy solution, yet has four PACSystems RX7i redundant controllers—a Master Controller and three synchronized backup controllers. It leverages Ethernet-based I/O that can seamlessly arbitrate its I/O control from one of the four controllers.

If the Master Controller or any of the system components fail, the system leverages GE's patented predictive intelligence algorithm to identify the best backup controller to take over and provide the system with the most capability to withstand the next potential sequence of multiple or cascaded system failures.

## Visualization software

**Proficy\* HMI/SCADA** software provides superior process visualization, data acquisition, analytics and supervisory control of your operations. Known for its robust SCADA engine that allows implementation of complex applications, Proficy HMI/

SCADA enables you to precisely monitor and control the performance of your power distribution system. It includes alarm prioritization for critical events and enables remote connectivity with diagnostics and troubleshooting capabilities.

**Proficy Historian** provides a robust and effective data repository to collect, archive and distribute large volumes of real-time information quickly and easily. With the ability to read all types of data, Historian provides a window into your mission-critical operations across all key metrics.



## Work process management software

### Proficy Workflow

expands your mission-critical solution beyond the control layer

by providing work process management tools for day-to-day operations such as alarm/process exception handling and corrective actions, maintenance management, and system failover procedures.



Built on a service oriented architecture (SOA) platform, Proficy Workflow is a user-configurable, dynamic decision making engine for integrating automated and manual business and production processes across system and departmental boundaries—ensuring reliable, repeatable process execution, which is critical to continuous operations.

## We're committed to your success

We understand your mission-critical power needs, and we have a proven track record helping companies around the world ensure continuous operations with our innovative, proven, and reliable solutions for a sustainable competitive advantage.

For more information:

[www.ge-ip.com/mission\\_critical](http://www.ge-ip.com/mission_critical)

# Mission-Critical Power Solution

## Ensuring High Availability

GE's solutions for the control, monitoring and transfer of power to/from renewable energy sources enable clean power alternatives to help achieve sustainability goals.

### Alternative Energy

- Control
- SCADA
- Optimization

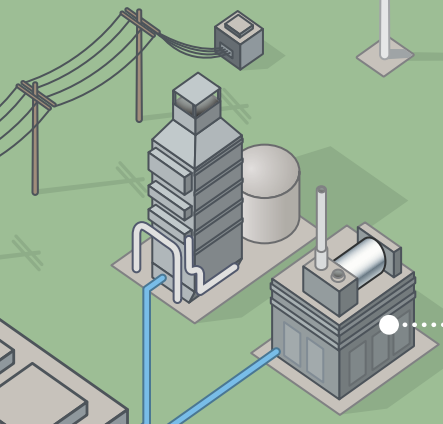
### Parallel Power Switching

- Control
- High Availability Control
- Local and Remote HMI
- Centralized SCADA
- Work Process Management

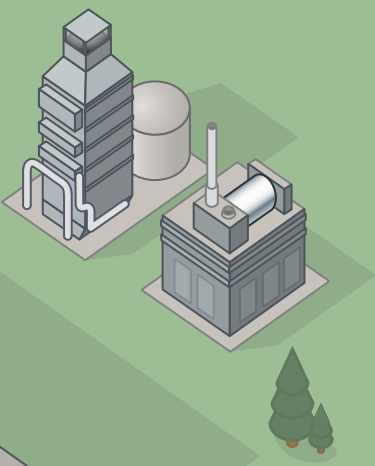
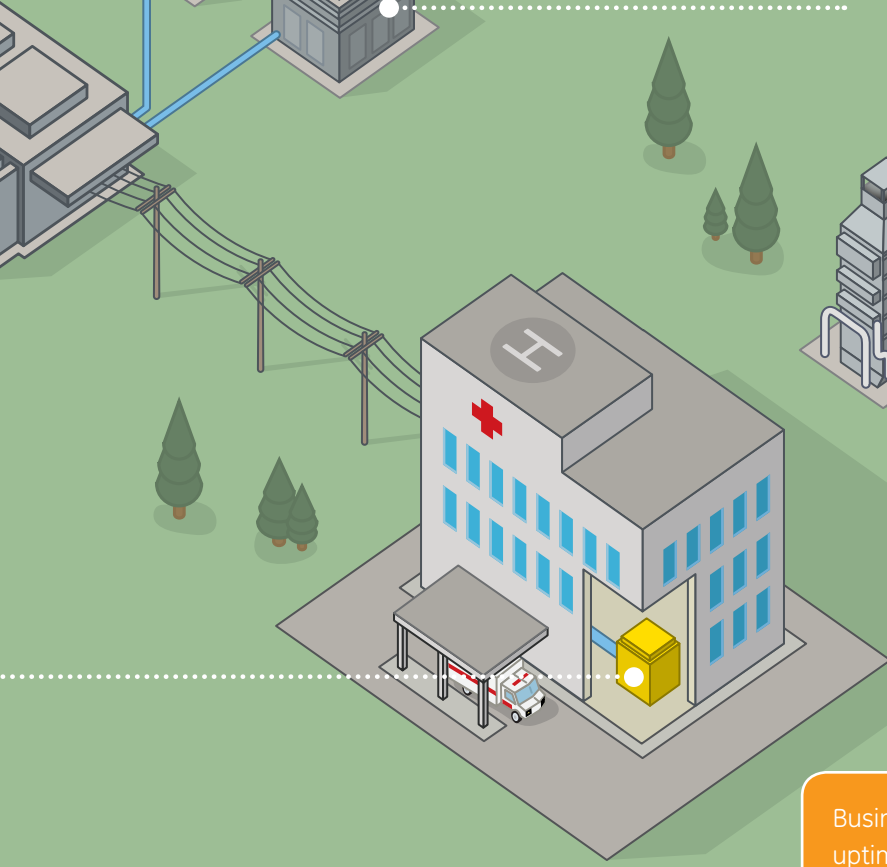
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Operations around the globe depend on GE's PACSystems controllers and Proficy software to deliver reliable backup power.



- Emergency - Standby Power**
- Control
  - Local Operator Interface
  - Centralized SCADA
  - Work Process Management



Businesses that require 100% uptime such as data centers, hospitals and casinos have turned to GE's high availability solutions to ensure continuous operations at all times.



### GE Intelligent Platforms Contact Information

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Global regional phone numbers are listed by location on our web site at [www.ge-ip.com/contact](http://www.ge-ip.com/contact)

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