

# Edge-to-the-Enterprise Solutions

ORIGINAL EQUIPMENT MANUFACTURERS

*Accelerating Smart Equipment Environments*



Original Equipment Manufacturers (OEMs) are in a new era where producing and offering smart, connected products is paramount.



Advancements in technology for OEMs have fundamentally shifted the business landscape by providing new opportunities to create value and deliver business outcomes.

## Advancements in Technology

The Internet of Things (IoT) is raising a broad set of new strategic choices on how value is being created and captured. The advancement of equipment into intelligent, connected systems is reshaping OEMs' business models and service delivery.

Data from connected equipment is powering new innovative applications and remote access, data collection and the ability to turn it into actionable information. With this push comes the need for reliable, IoT hardware and software platforms.

Lynxspring understands the value of connecting equipment and the access/exchange of data for driving better performance, increased efficiency, innovative user experiences, brand differentiation, enhanced services and better business outcomes.

## E2E Solutions for OEMs

Lynxspring's edge technology and solutions enables control and command of equipment, system management and delivers data-driven insights and trends that help OEMs identify issues to optimize performance.

Our solutions deliver connectivity and analytics via a single platform. They support a variety of applications with the flexibility of common API's, development tools, open source access, an open hardware platform and the power of Cloud services.

*Lynxspring's edge-to-enterprise (E2E) solutions for OEMs is everything you need to enable smart equipment and provide enhanced service offerings to your customers.*

# Flexibility and Scalability



## Maximum Performance, Minimum Cost

Lynxspring's edge-to-enterprise technologies and solutions incorporate open, IP-enabled software frameworks and modular embedded platforms that support multiple protocols, data exchange and analytics, and two-way communication.

Also available are hardware, programming tools, applications, multiple connection options and Cloud services that enable OEMs to take full advantage of an IoT environment.

## Professional Services

Our highly skilled team of certified application engineers, developers and project managers utilize a combination of proven tools, best practices and domain knowledge to provide you with maximum value and a reduced time to deployment.

## E2E Solutions Enable OEM's to:

- ✓ Integrate into any Building Automation System
- ✓ Capitalize on Pre-Engineered Controls from Your Factory
- ✓ Deliver New and Enhanced Service Offerings such as Remote Diagnostics and Preventative Maintenance
- ✓ Increase Efficiency and Uptime by Receiving Direct Connections and Access to Real-Time Performance Data
- ✓ Deploy with Easy Plug and Play Controls
- ✓ Save Time on Integration of Building Controls Onsite
- ✓ Data Access/Analytics Sent Direct to a Cloud Environment
- ✓ Discover Faults and Anomalies

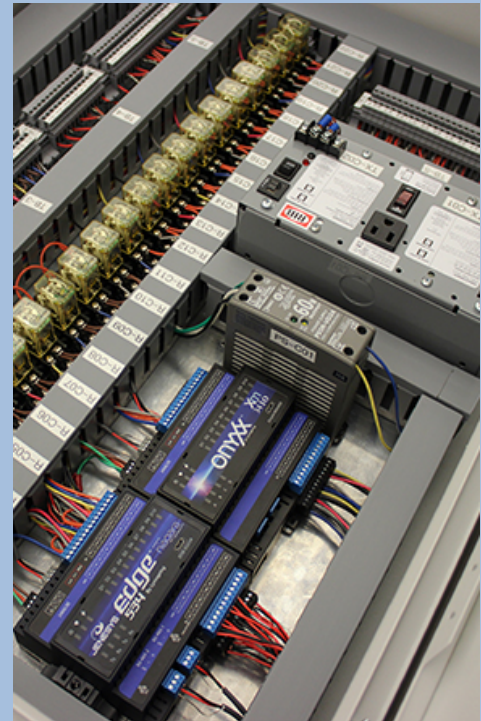
# Outcomes

## Operational Benefits

- ✓ IP-Based Control on a Ubiquitous and Proven Platform
- ✓ Scalability and Ease of Adoption
- ✓ Reliable and Flexible Technology
- ✓ Library of Drivers
- ✓ Protocol Agnostic and Multi-Protocol Support
- ✓ Application and Driver Development
- ✓ Easy Implementation, Reduce Complexity
- ✓ Remote Access and Programming of Your Equipment
- ✓ Designed to Meet Your Technical Specifications

## Business Value

- ✓ Reduce Upfront Capital Investment
- ✓ Competitive Pricing
- ✓ Quick-Time-to-Market
- ✓ Utilize an Open, Pre-Integrated and Fully Tested IoT Platform
- ✓ Ready-to-Use Components and Cloud Applications
- ✓ Avoid High Cost and Labor-Intensive Development
- ✓ Rapid and Easy Implementation of Project Requirements
- ✓ Add New Value to Your Equipment



## About Lynxspring

Embracing open software and hardware platforms, Lynxspring develops and manufactures edge-to-enterprise solutions and IoT technology to create intelligent buildings, better energy management systems, equipment control and specialty machine-to-machine and IoT applications.

Lynxspring technologies and solutions simplify integration, interoperability and connected data and analytics from the edge-to-the enterprise.

Lynxspring's technology and solutions are *deployed in billions of square feet of commercial buildings* in North America and selected international countries.

[www.lynxspring.com](http://www.lynxspring.com)

# Technologies



JENESYS®, powered by the Niagara Framework®, is an intelligent, open building operating system. It integrates commercial facility operations, energy management, and equipment control. JENESYS combines connectivity, control, interoperability, supervision, and data analytics into a single architecture delivering a proven and efficient building solution. JENESYS provides building owners and operators with freedom of choice and puts them in control of their facilities.



LynxSpring's JENESYS® Edge™ controllers take the Niagara Framework® to the edge with real-time control via LynxSpring's Onyx® platform. This family of controllers deliver edge connectivity, data access, control and data analytics for small- to mid-sized facilities, machine-to-machine, plant control and IoT applications. JENESYS Edge combines a controller, gateway and web server duties all into a single device.



Onyx® is an embedded edge platform consisting of modular, open, hardware, bridges and gateways supporting multiple devices across key market segments, edge-to-enterprise and Cloud applications. Designed for use in operations and IoT, easily implement device data collection, exchange and management capabilities, a rules engine, API management, event notification and data storage within a secured environment.



Connexion, is a real-time data management and visualization engine that combines edge and Cloud data extraction, aggregation, normalization, tagging, integration, rules and application management for operational and energy data analytics.

Connexion is an agnostic tool leveraging data from multiple sources into a single management and visualization platform, providing an aggregation point for data.

## niagara

The Niagara Framework® enables connection, normalization, integration and interoperability of diverse devices and equipment into a common environment—supporting multiple embedded platforms and merging multi-vendor systems and enterprise integration into one single, scalable, extensible platform.

# Use Cases

Lynxspring's E2E for OEM's is utilized by many leading manufacturers.

Here are a just few examples from our portfolio.



## Chiller Manufacturer

**Challenge:** A leading chiller manufacturer required custom control hardware for one of their lines of chillers. Wanting to use the features of from a 3<sup>rd</sup> party software application, they needed to integrate it into the chiller control. In addition, they were faced with time constraints, specific budget parameters and hardware platforms that did not meet their specifications.

**Solution:** Lynxspring working with the software provider, incorporated the application on to our Onyx hardware platform with the additional storage mandated, added advanced programming and assisted in successfully launching this to their market.



## Buildings Control, Elevator and HVAC Manufacturer

**Challenge:** For an international HVAC, buildings control and elevator manufacturer there was not an off-the-shelf solution that met their needs. They had requirements for a CANbus to Ethernet solution and integration of access control to their elevator destination dispatch. In addition, they faced a time constraint issue to offer a solution that enabled them to incorporate a leading middleware framework into their product portfolio.

**Solution:** Lynxspring wrote a custom application on custom hardware, integrating their solution to a 3<sup>rd</sup>-party product specific to North America. Code was also written for functionality and accessibility for the Americans with Disabilities Act, meeting all necessary ADA compliance.



## IAQ Products, Heat Pump and DDC Manufacturer

**Challenge:** A premier manufacturer of heat pumps for residential, commercial, industrial and institutional applications, and commercial equipment for indoor air quality products and DDC controls, needed to replace their aging controller. Using a PCB based firmware and a soon-to-be-discontinued controller, the company tried unsuccessfully to design their own in-house controller with updated features and programming capabilities.

**Solution:** Within six-months, Lynxspring was able to deliver a viable turnkey solution which is now used as the company's standard.



## HVAC Manufacturer

**Challenge:** For an American manufacturer of heating, cooling, plumbing, and irrigation products, they had a need to develop a controller that discovers their devices and adds to their Niagara station templates, graphics etc. and then auto connects to program logic, with the click of a button.

**Solution:** Lynxspring developed a self-configuring front end controller for their OEM field devices. During our seven-year relationship with this company, we continue to upgrade the controller with new features and add custom applications.