Consistent Quality In Any Environment

Pentair invents and manufactures solutions that address some of the world’s toughest challenges, with over 75 percent of their products, services, and technologies related to food, water, or energy. Collaborating with industrial partners, government, non-governmental organizations, and other companies, Pentair serves a wide variety of customers in the food and beverage, residential and commercial, industrial, infrastructure, and energy verticals.

To expand their competitive advantage in commercial aquaculture, Pentair needed an IoT-enabled Sea Pen Monitoring solution that would deliver their customers superior performance, insights, and automation for optimizing production yields and increasing revenue throughout the value chain. For their global brewing customers, Pentair needed a reliable method of ensuring consistent water quality around the globe, even when a reliable method of consistent cloud connectivity was not an option.

Connected Systems Shouldn’t Be So Complicated

With many of its products installed in relatively remote locations, Pentair knew the challenges of developing connected systems. Unfortunately, previous solutions were typically custom-built, leading to long development times, a mismatch of different technologies, and an inability to reuse existing solution components and skill sets across the company’s areas of business. The team came to Bright Wolf with two key goals.

• Standardize on a common set of technologies for building connected products
• Help line-of-business managers across the company understand potential new opportunities and business models

Reliable Delivery of Customer Value & Cost Savings

• Rapid time to market for value-added services
  With a reusable architecture for both the edge and the cloud, Pentair can rapidly deliver new connected solutions, and easily integrate new services and products to create new revenue opportunities

• Lower hardware costs, increased flexibility at the edge
  Pentair replaced expensive PLC hardware with lower cost gateways for dramatic savings and modernization of their Beer Membrane Filtration solutions

• Adaptable cloud architecture
  By leveraging the public cloud rather than a proprietary service, Pentair keeps control of their solution without the infrastructure complexity

“Bright Wolf’s connected product systems expertise has been critical for several of our solution groups. From the edge to data management, Bright Wolf has been a great partner for our IoT initiatives.”

- Brian Boothe
  Engineering Manager
Decision Making at the Edge, Continuous Learning in the Cloud

Pentair’s customers, both the sea pen operators and brewery managers, had widely distributed locations around the world. Cloud connectivity could be unreliable, yet data could not be lost during an outage. Bandwidth was frequently limited, and transmission costs were a concern. How could they ensure reliable, cost-effective system operation?

A Common Edge Platform for On-Premise Intelligence and Smart Connectivity

- Connect a wide variety of facility equipment across multiple protocols without hardware vendor lock-in, including flexible HMI screens and a local data historian
- Robust and secure data management, including buffering, filtering, and integration with edge analytics tools for consistent operation with or without connectivity to the cloud

Multi-Source Data Collection and Aggregation for Unified Monitoring & Analytics

- Flexible cloud architecture and dashboards for a unified, multi-site monitoring system
- Integrate with enterprise applications, machine learning tools, and visualizations to provide real-time and historic insights into operations and service issues

Increased Productivity and Consistent Quality

Optimize the Process, Maximize the Throughput

- Higher yields through shorter harvest times and proactive avoidance of failure events
- Real-time local monitoring and business logic for consistency under any condition
- Continuous learning loops for finding bottlenecks and improving customer operations

The Most Important Equipment in the Facility

- Open architecture enabling connectivity and monitoring for other vendor’s equipment creates elevated customer relationships and increased equipment sales over time
- Condition-based monitoring and alerts drive proactive service and customer confidence

Bright Wolf helped Pentair build the systems and internal capabilities to deliver more value for their customers across their global markets and business divisions.