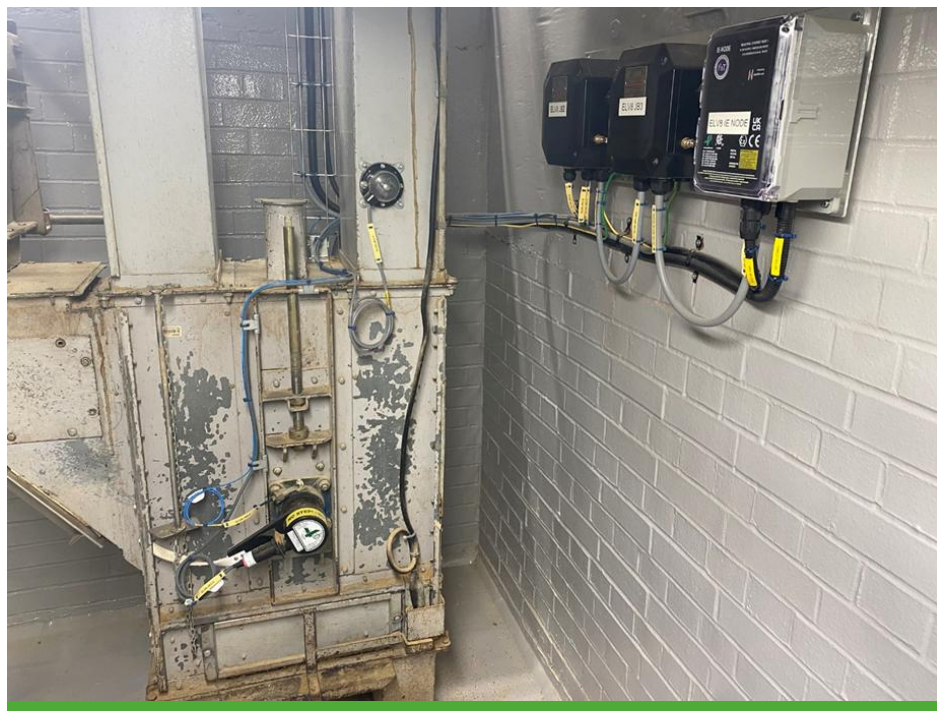




SMARTER SAFETY – SEAMLESS INTEGRATION

IE-Node Hazard Monitoring Upgrade for Leading Pet Food Manufacturer



DETAILS

Location

Suffolk
UK

Components

- IE-Nodes
- Junction Boxes
- P300 with WG4A-BR & MagCon
- ADB series bearing temperature sensors
- TS2 Touchswitches
- BSE15 Binswitches

Services

4B Installation &
Commissioning Services

INTRODUCTION

A major pet food manufacturer recently partnered with 4B Braime to upgrade the hazard monitoring systems on 16 bucket elevators at one of their facilities. The project aimed to address safety gaps created by existing non-functioning sensors, and to bring the plant up to modern safety and monitoring standards without replacing the existing PLC system. 4B was selected for its strong engineering expertise, integrated hazard monitoring technologies, and proven track record in delivering smart engineering solutions for the bulk handling industry.

CHALLENGE

The customer had previously installed hazard sensors on their bucket elevators, but over time, many had failed or been decommissioned without proper documentation. As a result, the facility lacked the ability to track critical hazards like belt misalignment, excessive temperature, or blockages - leaving both equipment and personnel at risk. The key challenges were:

- Non-functional and outdated sensors on all 16 elevators
- Integration with the facility's existing PLC for centralized data monitoring
- Minimizing operational disruption during system upgrades
- Ensuring a scalable, future-ready solution for safety compliance and performance monitoring

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Hazard Monitoring System Upgrade for Pet Food Manufacturer

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SOLUTION

After conducting a site assessment, 4B engineers recommended implementing their IE-Node hazard monitoring system, a powerful, Ethernet-ready node designed for efficient and flexible integration of safety sensors into industrial PLCs and SCADA systems.

Each IE-Node provides:

- Multiple sensor inputs (for speed, alignment, temperature, and level detection)
- Industrial Ethernet/IP connectivity
- Compact, panel-mountable form factor for easy installation

To ensure full coverage, each elevator was equipped with:

- 1x IE-Node to interface sensors with the PLC
- Junction boxes at both the head and tail of each elevator
- A central junction box for consolidating signal and power wiring

Sensors deployed included:

- Belt speed sensors
- Belt misalignment sensors
- Bearing, motor, and gearbox temperature sensors
- Blocked chute detectors

In addition to supplying the equipment, 4B delivered full installation and commissioning services. Their team of trained engineers handled:

- Sensor mounting and cabling
- IE-Node configuration and testing
- Integration with the facility's PLC
- On-site commissioning and system validation

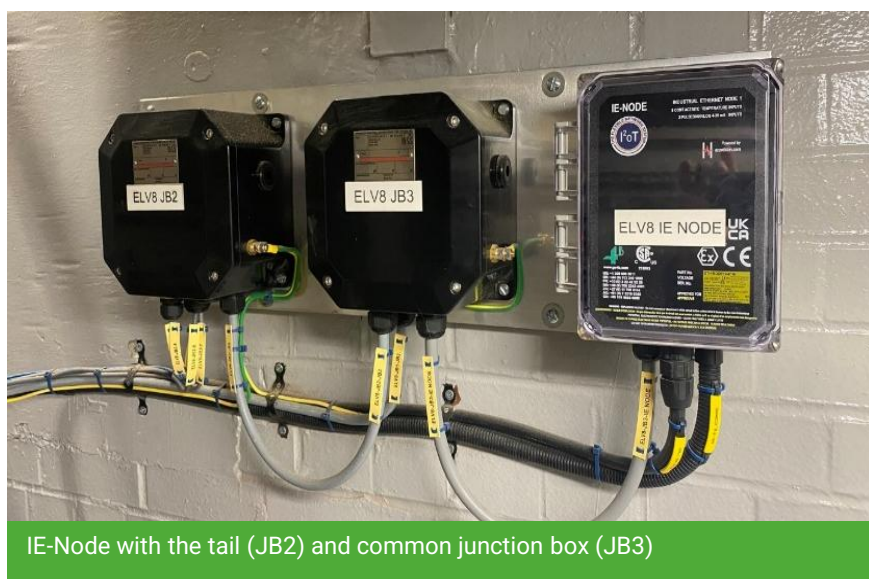
This turnkey approach ensured minimal downtime and a smooth transition from the outdated system to the new, fully functional monitoring infrastructure.



New speed, belt alignment, and bearing temperature sensors installed at the tail of an elevator



Head of an Elevator showing new belt alignment sensor, bearing temperature sensor, and junction box. You can see evidence of drum/belt rubbing causing scorch marks on the elevator casing.



IE-Node with the tail (JB2) and common junction box (JB3)

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Hazard Monitoring System Upgrade for Pet Food Manufacturer

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RESULTS

The plant now benefits from a modernized, reliable, and connected hazard monitoring system on all bucket elevators. Key results include:

- ✓ Restored full hazard detection and safety compliance
- ✓ Seamless communication with the plant's existing PLC via Ethernet/IP
- ✓ Improved equipment reliability through early fault detection
- ✓ Simplified maintenance and diagnostics using centralized data
- ✓ Future scalability, thanks to the modular nature of the IE-Node system

By choosing 4B's integrated approach—including engineering support, advanced technology, and full-service installation—the customer gained not just new hardware, but peace of mind and a foundation for long-term operational safety and efficiency.

"Working with 4B on this project from start to finish has gone very well! From the initial conception with prompt site visits and regular communication, to installation and commission, nothing was too much trouble for 4B. James' in-depth knowledge of the systems has allowed for a swift handover period to the factory and we can now monitor and track the ATEX risks efficiently and precisely on our priority areas in the factory! Thank you James and 4B!"

Lucy F - Project Engineer

PARTS PICTURES

- IE-Node
- BSE15 Binswitch
- ADB series bearing temperature sensor
- P300 with WG4A-BR & MagCon
- TS2 Touchswitch

