40 Years

brainboxes

industrial connectivity for the automation market

- ✓ Lifetime guarantee & tech support
- ✓ Open-source options
- ✓ UK manufacturing
- ✓ Free product evaluation programme

Your **Resources**

Dedicated Account Manager

3D CAD files
Software/Drivers

FAQs, Whitepapers
Video Tutorials

Case Studies
Applications

SCAN ME

Factory Monitoring Playbook

a gameplan for digital transformation

brainboxes

Product **Portfolio**

USB to serial

Reliable serial port connectivity for PC/Laptop

Ethernet to Serial

Access serial devices over an IT network

Network Switches

Industrial spec solutions for high-speed data transfer, extended network reach, and robust reliability

IOT Solutions Remote IO / Industrial Gateway

Monitor and control applications and processes from any location

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2025 Product **Roadmap**

- ✓ PoE input Gigabit switch range
- ✓ Managed network switch range
- ✓ Rackmount network switch range

Q3

Q4

brainboxes

2025 Product **Roadmap**

PoE input Gigabit switch range

Extra network ports from a single connection:

Plug in a PoE input switch to a PoE-enabled wall port: it powers itself via the same cable and provides additional ports

— no external power supply needed

Q1

Q2

brainboxes

2025 Product **Roadmap**

Managed network switch range: PoE | Gigabit | SFP

Brand new powerful features:

- ✓ VLAN
- ✓ QoS
- ✓ Traffic shaping
- ✓ Power cycling PoE ports

Q3

Q4

brainboxes

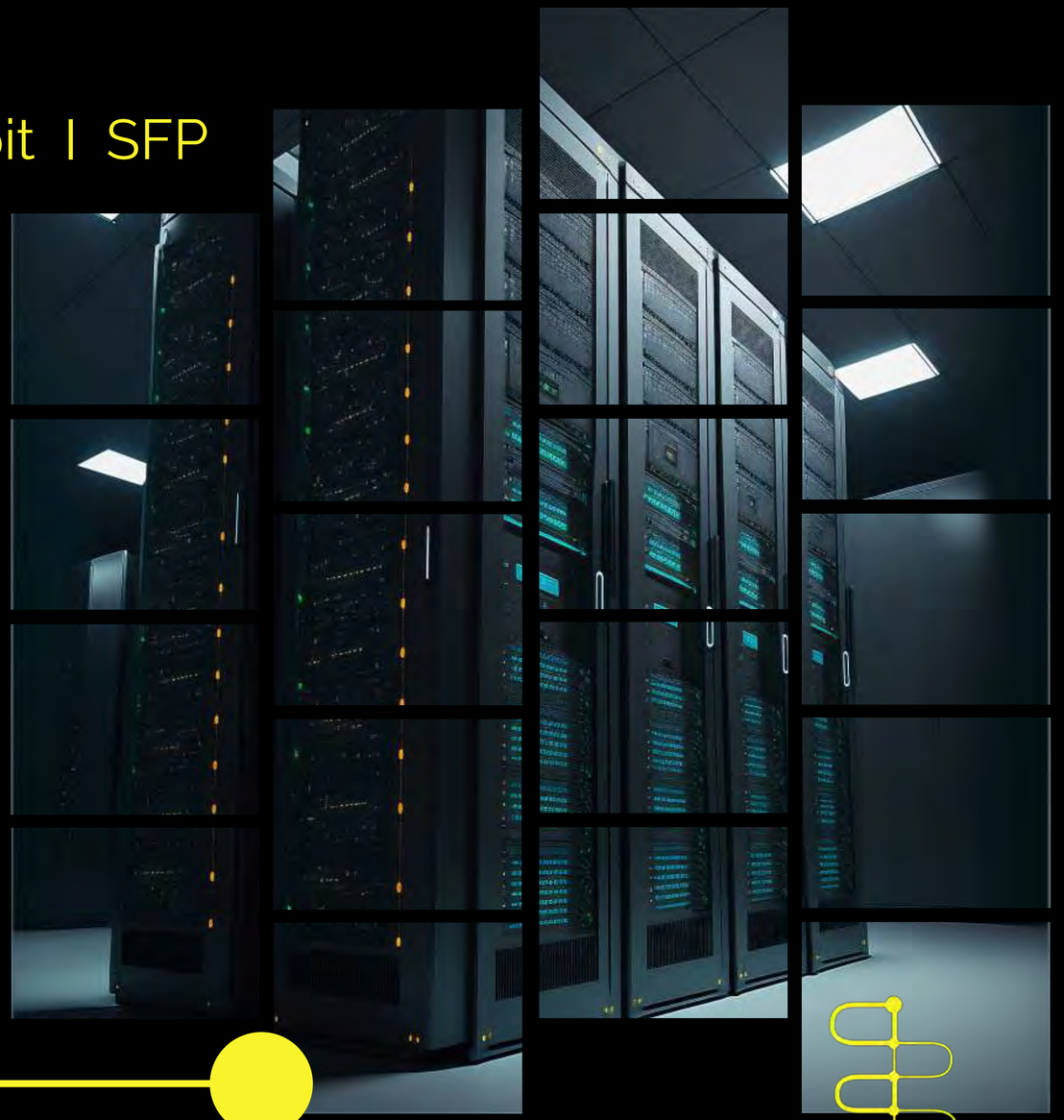
2025 Product **Roadmap**

Rackmount network switch range: PoE I Gigabit I SFP

Designed for:

Factory Floor 19” cabinets I SMB server rooms

- ✓ Up to 24 ports
- ✓ AC & DC power
- ✓ Industrial spec



Q3

Q4

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USB to SERIAL

Proven performance where others fail

brainboxes

USB to Serial: Send RS232 or RS422/485 serial data over the network

USB to Serial

USB-C to Serial

- ✓ 1, 2, 4 or 8 ports
- ✓ High retention USB/USB-C connector with 1m cable
- ✓ Local COM ports with in-house designed drivers
- ✓ Robust software for excellent application compatibility

brainboxes

US SERIES FOR EFFICIENT DIAGNOSTICS

> ***"Some off the shelf USB to Serial adapters break easily, others only work some of the time. Brainboxes devices install in seconds and communicate with anything, I would recommend them to anyone***
>
> – Colin Young, Nutek Europe

brainboxes

Brainboxes USB to Serial adaptors empower maintenance engineers across industries, including global leaders like Coca-Cola and Bosch, by bridging the gap between modern computing devices and legacy serial equipment.

- ✓ **Versatility:** Works with various operating systems and devices, making it a flexible tool for engineers.
- ✓ **Simplicity:** Easy plug-and-play installation, reducing setup time and training needs.
- ✓ **Reliability**: Provides robust connectivity for critical maintenance tasks

ETHERNET to SERIAL

Securely communicate serial data anywhere in the world

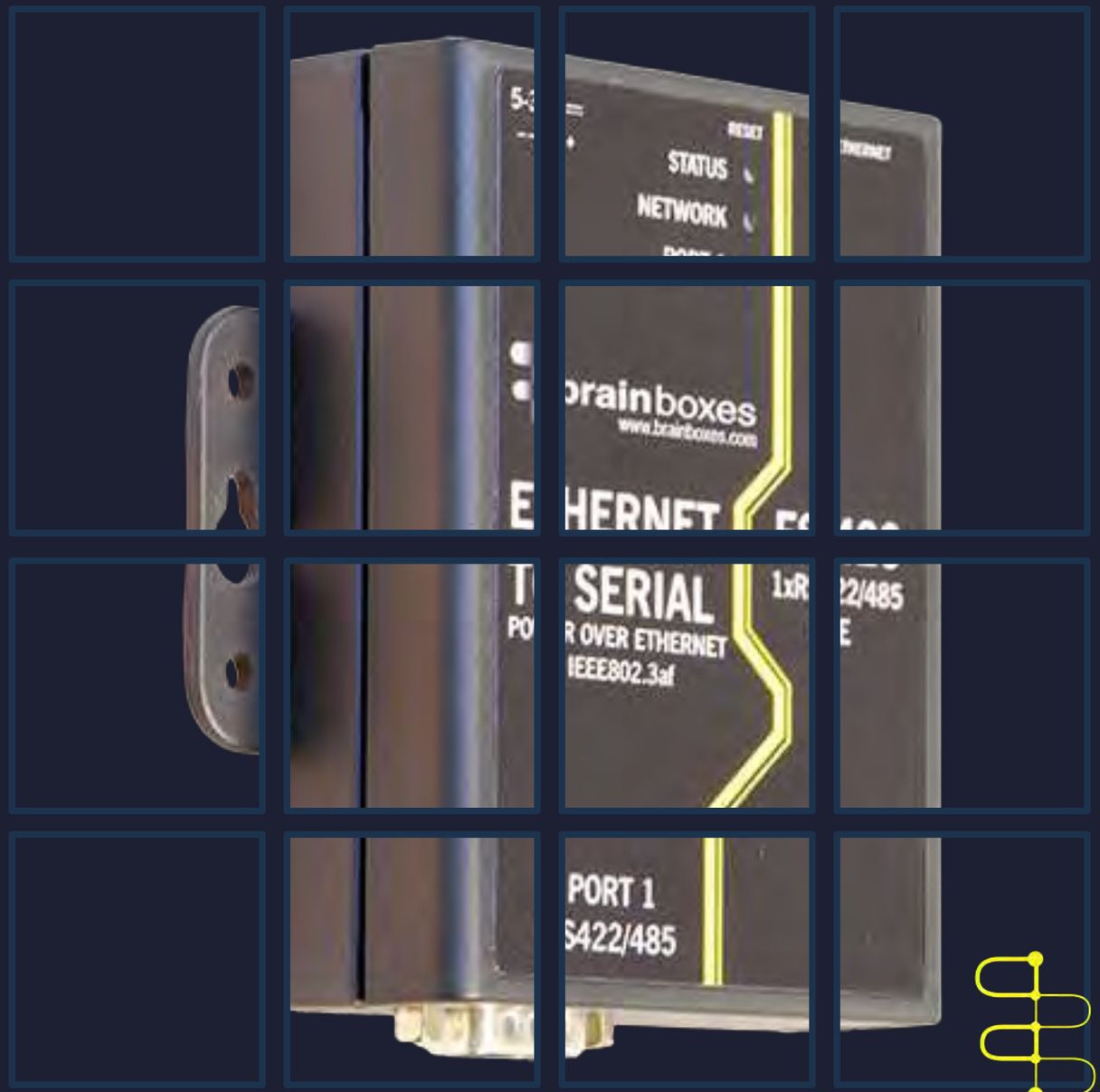
brainboxes

Ethernet to Serial:

Power over Ethernet

Connect to power & network through a single cable

- ✓ Use existing network cable
- ✓ Quick, safe and simple to install
- ✓ Convenience of multiple power options



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MEDICAL MONITORING

> ***State-of-the-art software solutions at no extra cost gave us a direct device driver interface and complete communication control***
>
> – Phil Ames, Kinetic Decision Solutions

Brainboxes Ethernet to Serial devices have transformed how medical professionals monitor patient data, eliminating the need for manual data entry.

Data from dialysis equipment is automatically transmitted over the network, allowing consultants to review patient information remotely, and in real-time.

This solution improves efficiency, reduces errors, and allows hospital staff to focus on patient care rather than data collection.

Ethernet to Serial:

DB9 Connector

- ✓ 1, 2, 4 or 8 ports
- ✓ Retain existing software applications
- ✓ Connect to remote devices as if they were attached locally

Industrial

- ✓ Wide range input power supply +5VDC to +30VDC
- ✓ Quick and easy installation with removable screw terminal blocks
- ✓ Redundant Dual Power Input
- ✓ Extended operating temperature range

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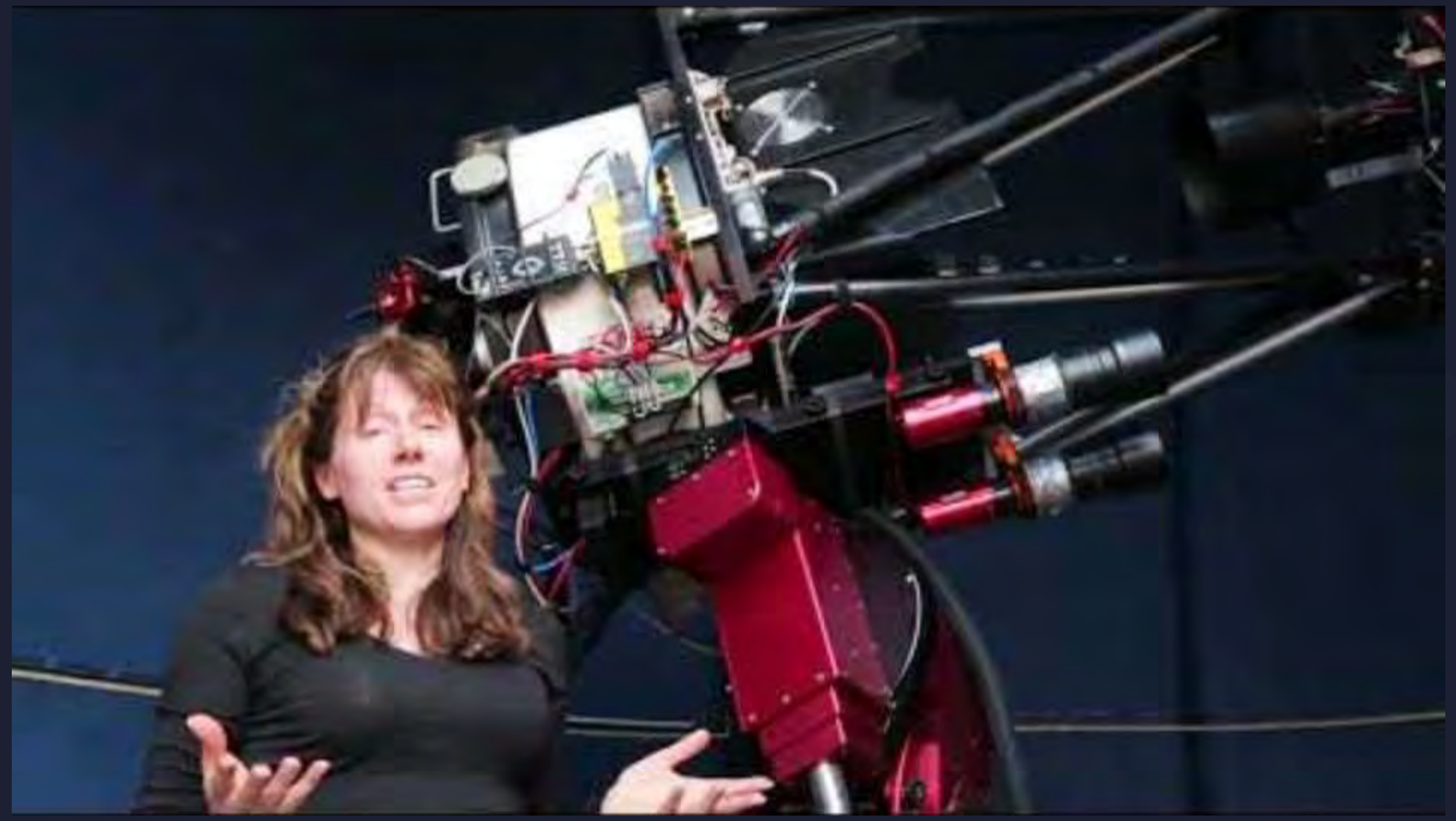
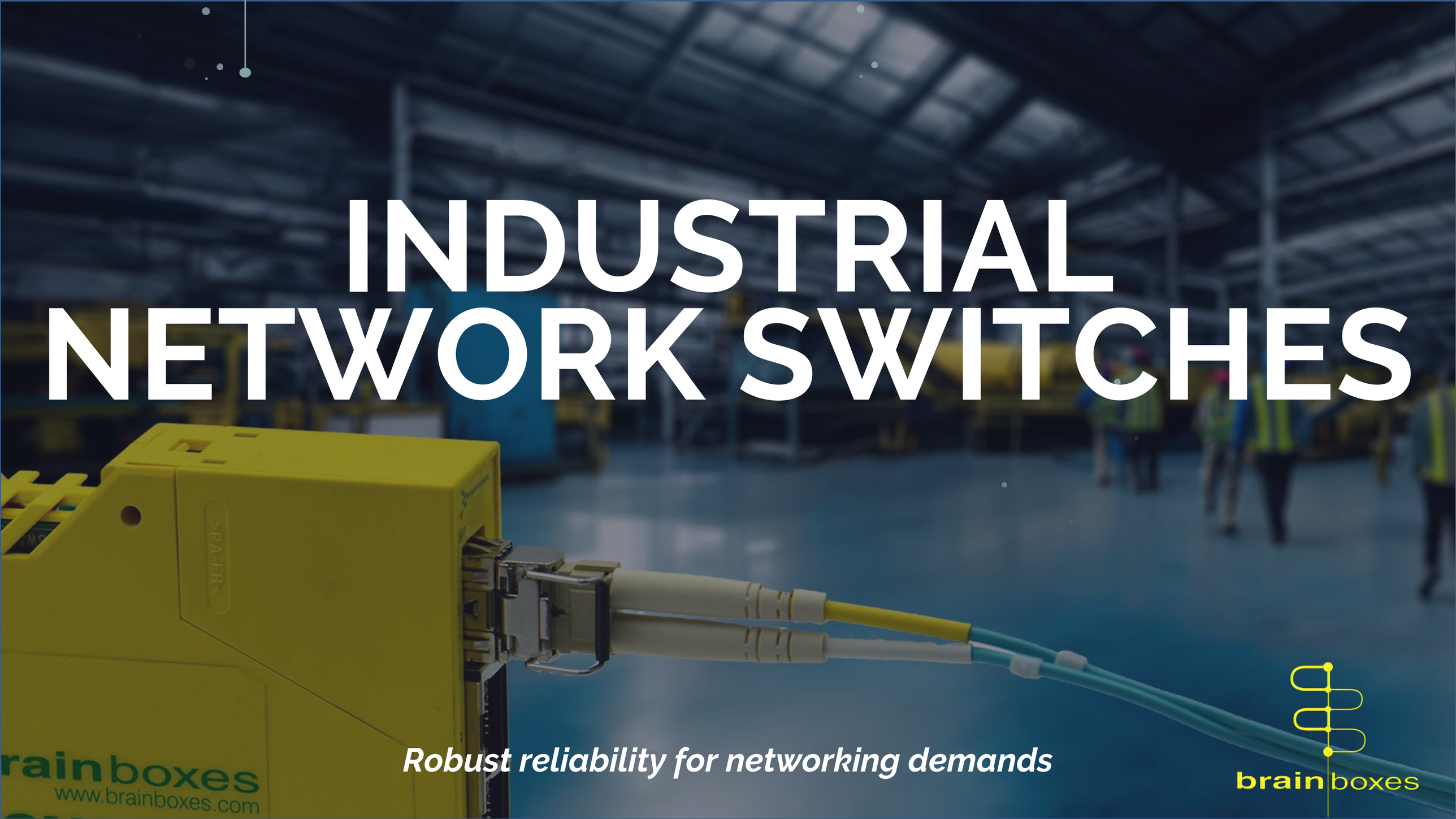
Remote Access to Extreme Environments: The Global Jet Watch Observatory



> ***What massively helps our digital signal infrastructure are the products made by Brainboxes. Utterly rugged, they survive extremely high temperatures such as we have in Southern India***

– Katherine Blundell, OBE,
Global Jet Watch

INDUSTRIAL NETWORK SWITCHES



Robust reliability for networking demands

brainboxes

Industrial Network Switches: Enclosure options

Embedded – 4, 5, 8 ports

Light Industrial – 5, 8 ports

Industrial – 4, 5, 8 ports

Hardened – 5, 8, 16 ports

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Industrial Network Switches: Ethernet speed

Fast Ethernet

- ✓ Plug-and-play connectivity: Simple, setup no configuration required
- ✓ Reliable 10/100 Mbps performance: Provides fast and stable data transmission for basic networking needs

Gigabit Ethernet

- ✓ Backwards compatible with 10Mbps and 100Mbps devices
- ✓ The perfect fit where more network throughput is key
- ✓ Gigabit speeds for faster data transmission
- ✓ Auto-detects and adjusts to the fastest speed

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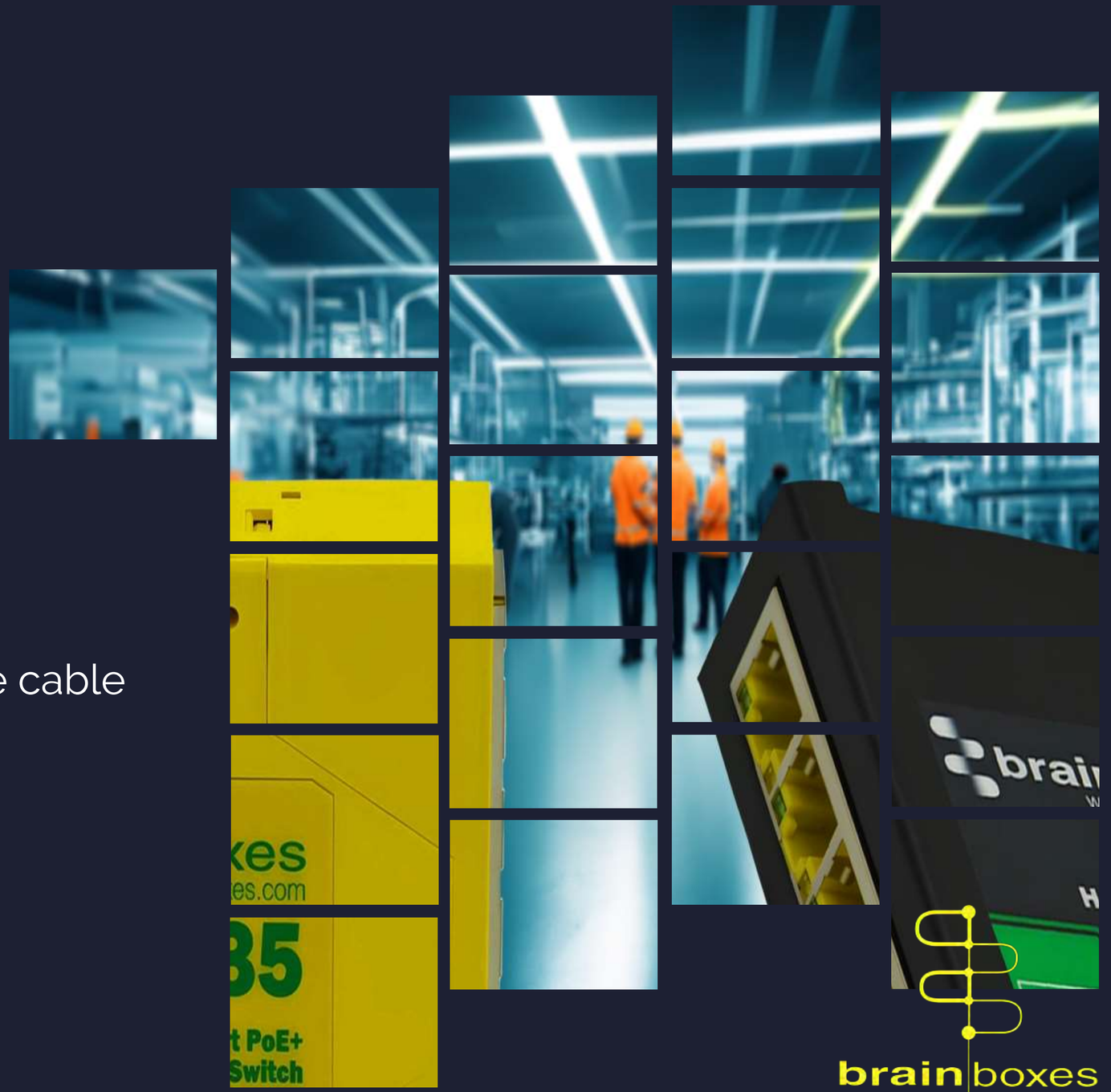
Industrial Network Switches:

PoE+

Power and data on a single cable

- ✓ Simplified installation and maintenance
- ✓ Flexible deployment
- ✓ Cost savings: power and data on a single cable
- ✓ Easy addition of new devices
- ✓ Compatibility across devices
- ✓ Energy efficiency

Simplified, streamlined, scalable



PoE+ Fast Ethernet Switch

SW-125 I SW-525 I SW-725

PoE+ Gigabit Ethernet Switch

SW-135 I SW-535 I SW-735

All Brainboxes PoE+ switches are simple to install and enable versatile device placement without the constraint of power outlet proximity

PoE+ Gigabit SFP Ethernet Switch

SW-195 I SW-595

Complete networking solution: all the features of SW-X35 with the added benefits of SFP

STREAMLINED POWER: ENHANCED VISION

Brainboxes PoE Gigabit Ethernet switches advancing vision systems in biotech manufacturing - cost-effective, reliable power management, minimising downtime and maintenance.

Streamlined network infrastructure is critical for vision systems which handle quality control and product inspection.

High-speed data transfer supports real-time decision-making, improving accuracy and operational efficiency while ensuring scalability for future growth.

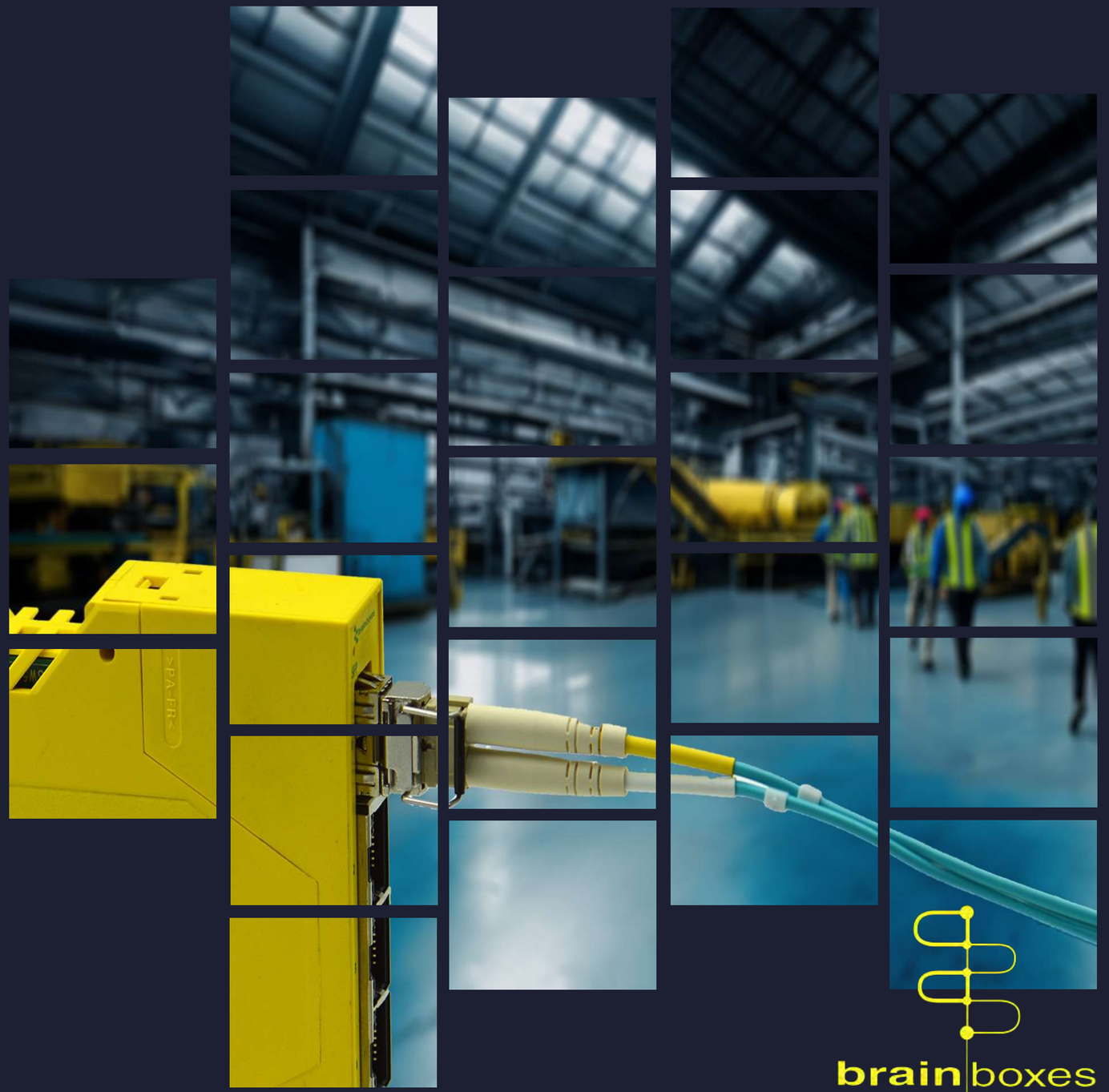
Industrial Network Switches:

SFP

Fibre optic uplinks extend network reach and reliability

- ✓ Longer transmission distances
- ✓ Higher data transfer speeds
- ✓ Greater bandwidth capacity
- ✓ Immunity to EMI
- ✓ Versatile connectivity
- ✓ Network resilience & security

Scalable, versatile, futureproof



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1 SFP & 4 Port Gigabit Ethernet Switch

SW-084 I SW-584

- High-speed data connection over extended distances
- Reduce EMI susceptibility
- Wide temperature range - works in extreme conditions

Gigabit SFP Media Converter

SW-581

- Simple plug-and-play integration
- Bridge legacy devices with fibre optics

SUSTAINABLE ENERGY

Reliable data communication for a remote eco-resort's smart microgrid with Brainboxes SFP Gigabit Ethernet switch.

Integrating versatile SFP technology and fibre optics with Gigabit Ethernet has significantly transformed industrial networking infrastructure, offering high-speed data transmission over long distances, seamless connectivity, and improved network reliability.

Businesses benefit from enhanced efficiency, productivity, and resilience

Industrial Network Switches:

16 Port

Cost-effective multi-port switches with Gigabit and SFP options

- ✓ Streamline installations
- ✓ Scalability - future expansion
- ✓ Flexible network layout and device placement
- ✓ Easy integration
- ✓ Reduce potential points of failure and cable clutter
- ✓ Cost-effective

Discover your networking hero

brainboxes

SW-7016: FAST ETHERNET

Real-time communication

Streamline operations - improve efficiency & productivity

SW-7416: FAST ETHERNET with 2X GIGABIT

Rapid data exchange

Optimise high-speed operations

SW-7617: FAST ETHERNET with SFP UPLINK

Extend network reach

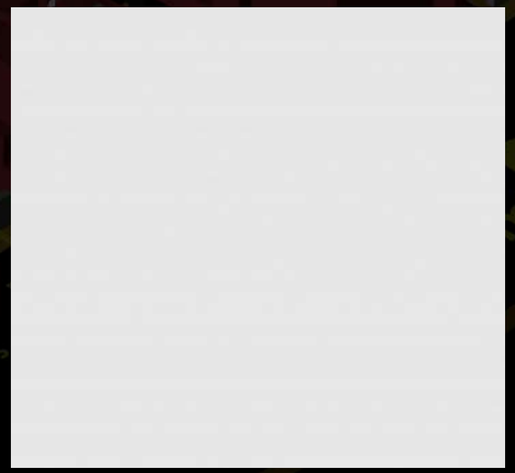
Improve line efficiency, accuracy & traceability

SW-7717: FAST ETHERNET, 2X GIGABIT & SFP UPLINK

High-speed, long-distance, versatile connectivity options

brainboxes

PURE EMBEDDED ETHERNET SWITCHES



Pure compatibility, pure stability, pure design

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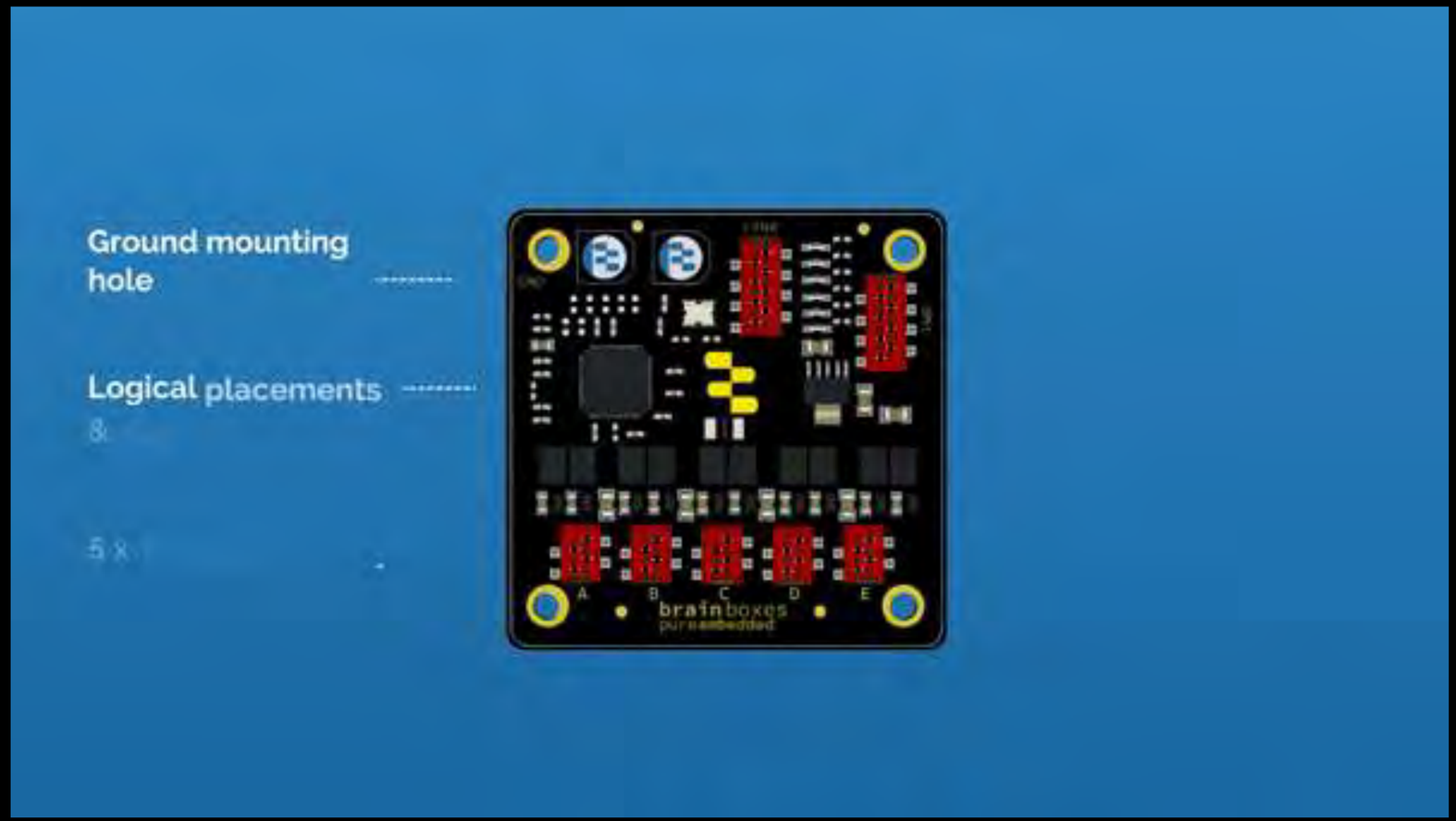
Pure Embedded Ethernet Switches: Fast & Gigabit

PE-505 I PE-405
PE-515 I PE-415



The compact, lightweight design of the Pure Embedded range makes it perfect for applications where every millimetre and ounce matter.

Versatile connectors ensure seamless integration, maximising space efficiency without compromising Ethernet connectivity.

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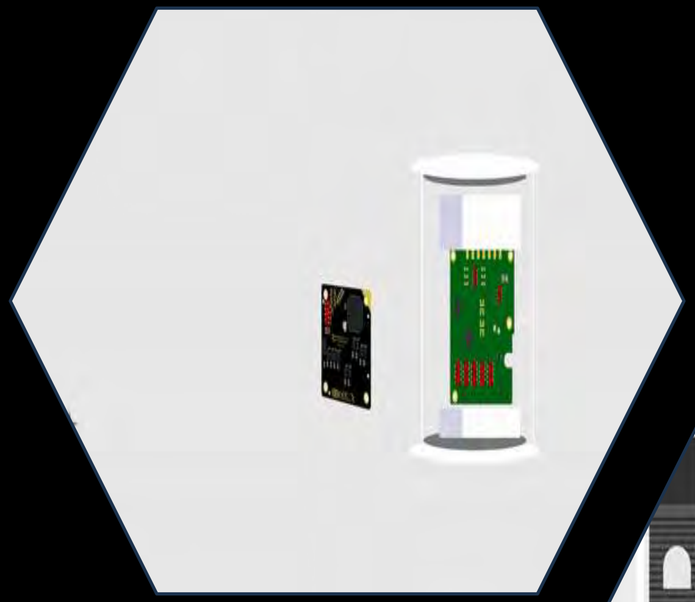
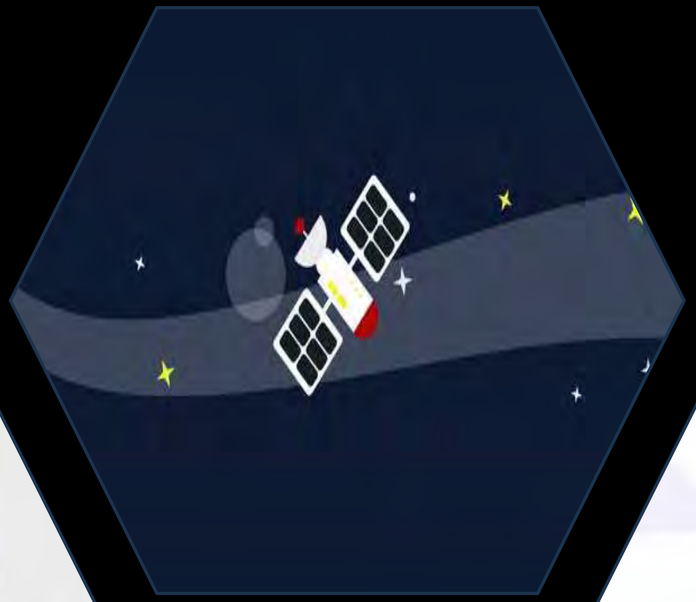
Pure Embedded Ethernet Switches:

From CCTV systems to space rockets. Robotic arms to drones. Satellites to underwater vehicles and even F1 cars…





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REVOLUTIONISING CHIP MANUFACTURING

> ***We knew it had to pass the oven test, we checked the connection again and again, and it works!***
>
> – Igal Sokolov, Pivotal Systems Principle Systems Engineer

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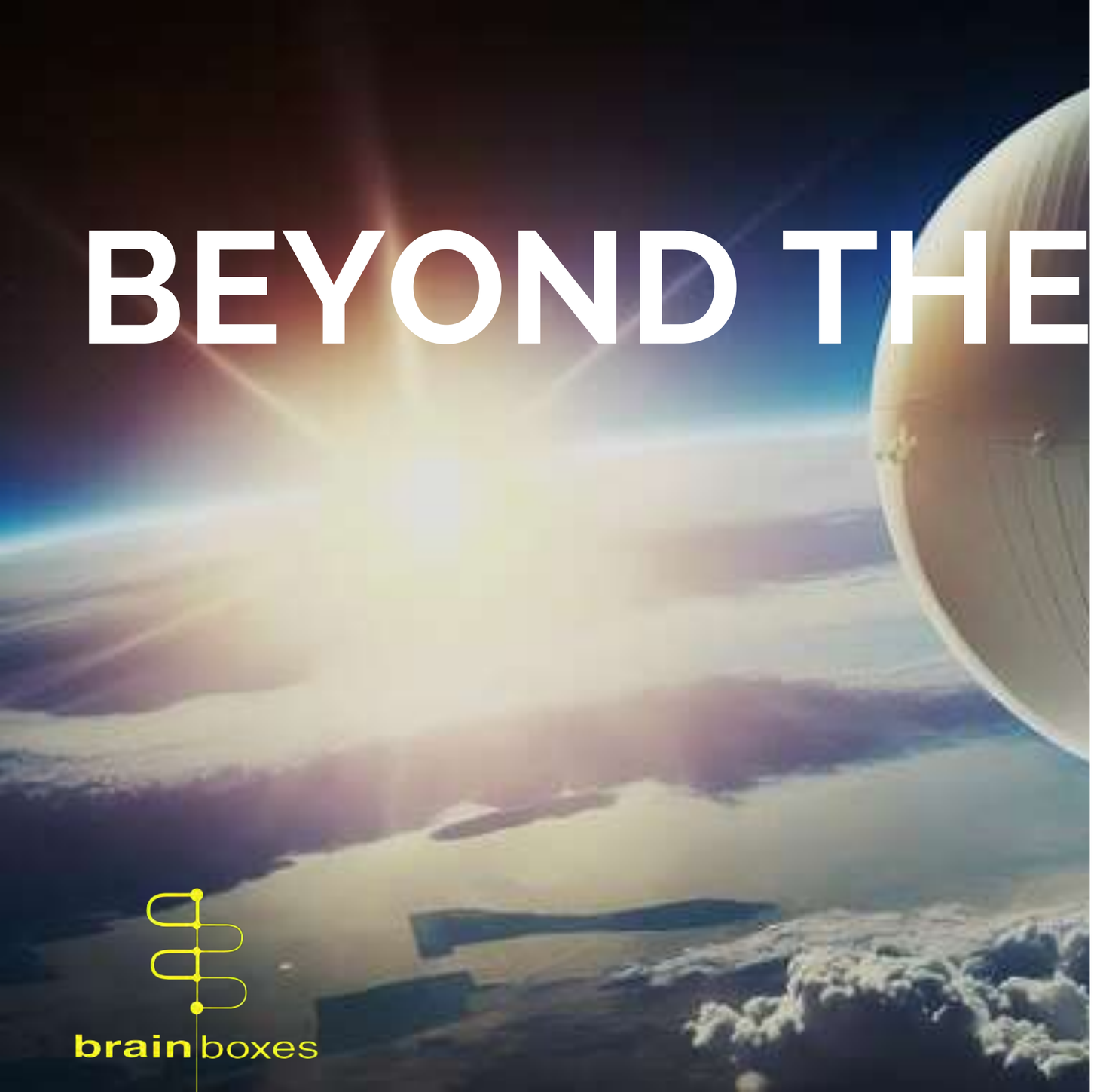
Brainboxes Pure Embedded Ethernet switches enhance Pivotal Systems' gas flow control solutions in semiconductor manufacturing.

Efficient network communication is crucial for managing critical parameters, ensuring uniformity and maximising chip yield.

Seamless data transfer enables real-time control and monitoring, improving production accuracy and reliability while supporting future scalability in industrial automation.



BEYOND THE HORIZON

Brainboxes compact, lightweight and high-performance Pure Embedded Ethernet switches transmit data more reliably, in real-time, while significantly minimising impact on payload weights and sizes.

The perfect fit for weather balloon telemetry and beyond – compact and lightweight design, robust performance, and long-term stability make the Pure Embedded range the ideal solution for applications where space is limited but data transmission demands are high.

IOT SOLUTIONS: REMOTE IO

Industrial IO designed for the factory floor

brainboxes

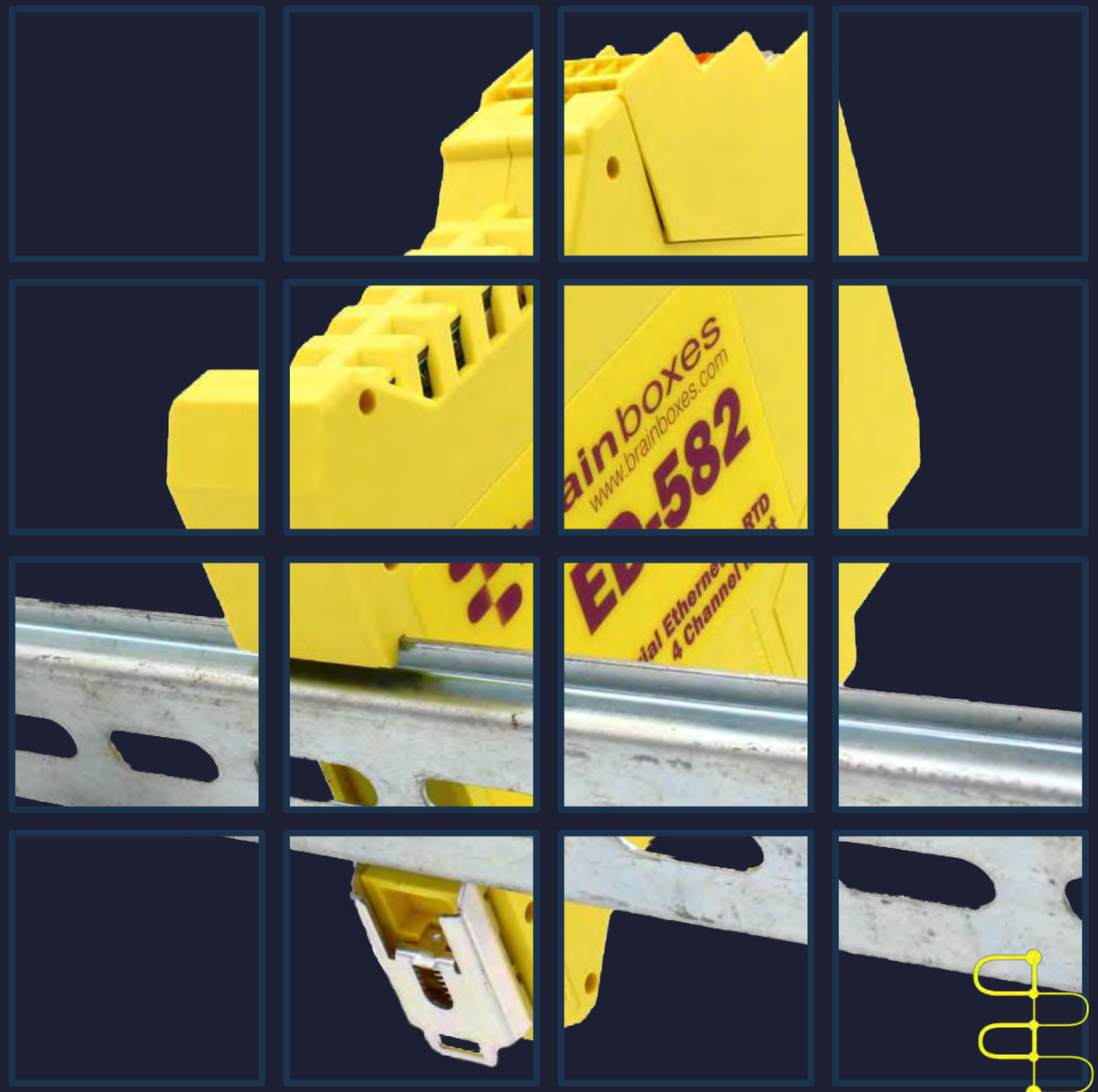
IoT Solutions: Remote IO

Temperature

ED-582 | ED-593

Thermocouple & RTD inputs: built for temperature sensitive processes

- ✓ Repeatable accuracy
- ✓ Individually configurable inputs
- ✓ Monitor inputs and control outputs instantly from any web-browser
- ✓ Deliver industrial data exactly where you need it; smartphone, tablet or PC



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IoT Solutions: Remote IO

Analog

Connect real-world field devices over Ethernet to automate process control, data collection, food preparation, packaging, warehousing and industrial manufacturing.

Digital

- ✓ Light industrial & industrial enclosure options
- ✓ Connect digital sensors to bring data onto the network
- ✓ Monitor inputs and control outputs from anywhere
- ✓ Know the status of mission critical processes at any time

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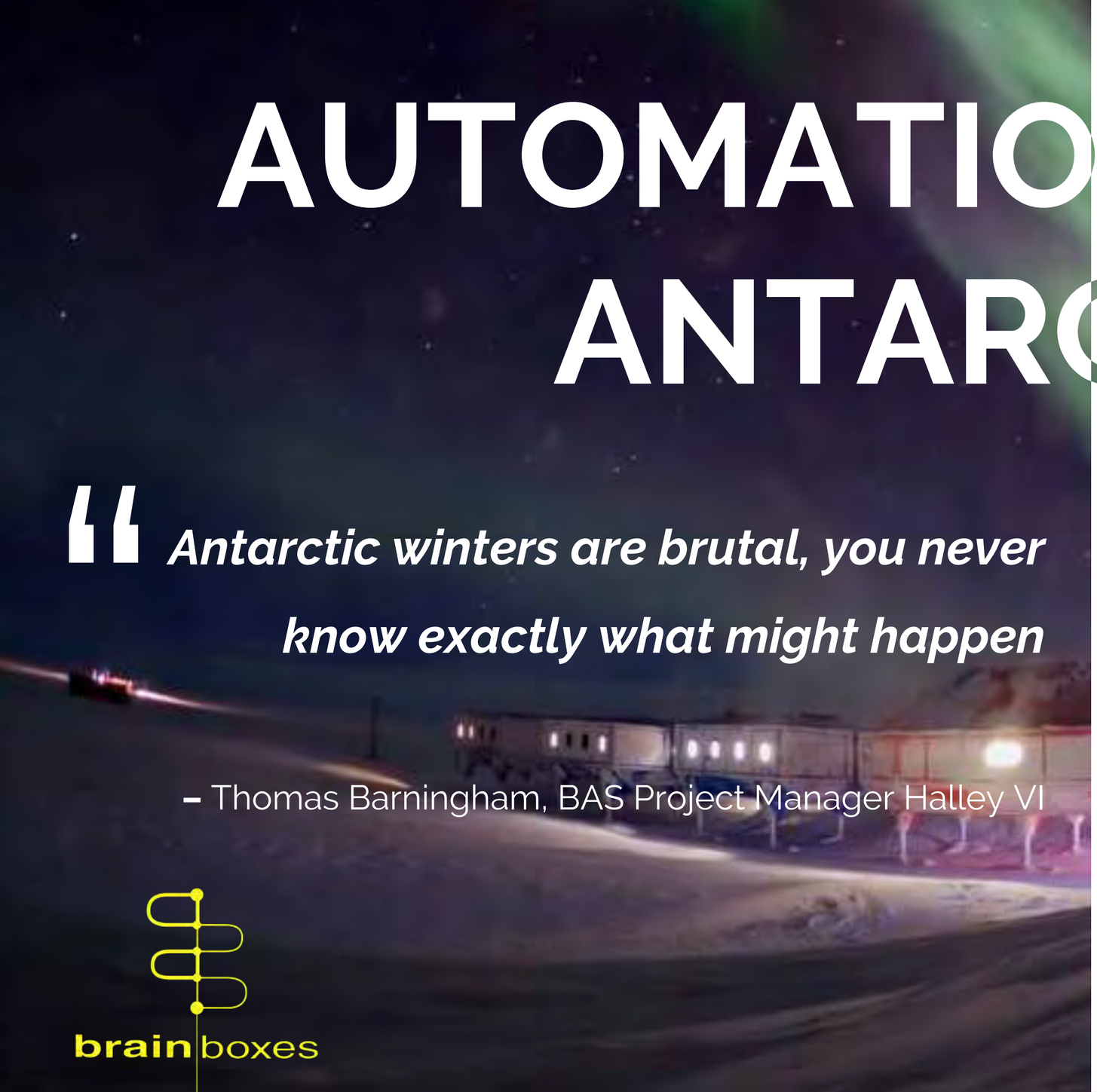
AUTOMATION IN THE ANTARCTIC



> ***"Antarctic winters are brutal, you never know exactly what might happen***
>
> – Thomas Barningham, BAS Project Manager Halley VI

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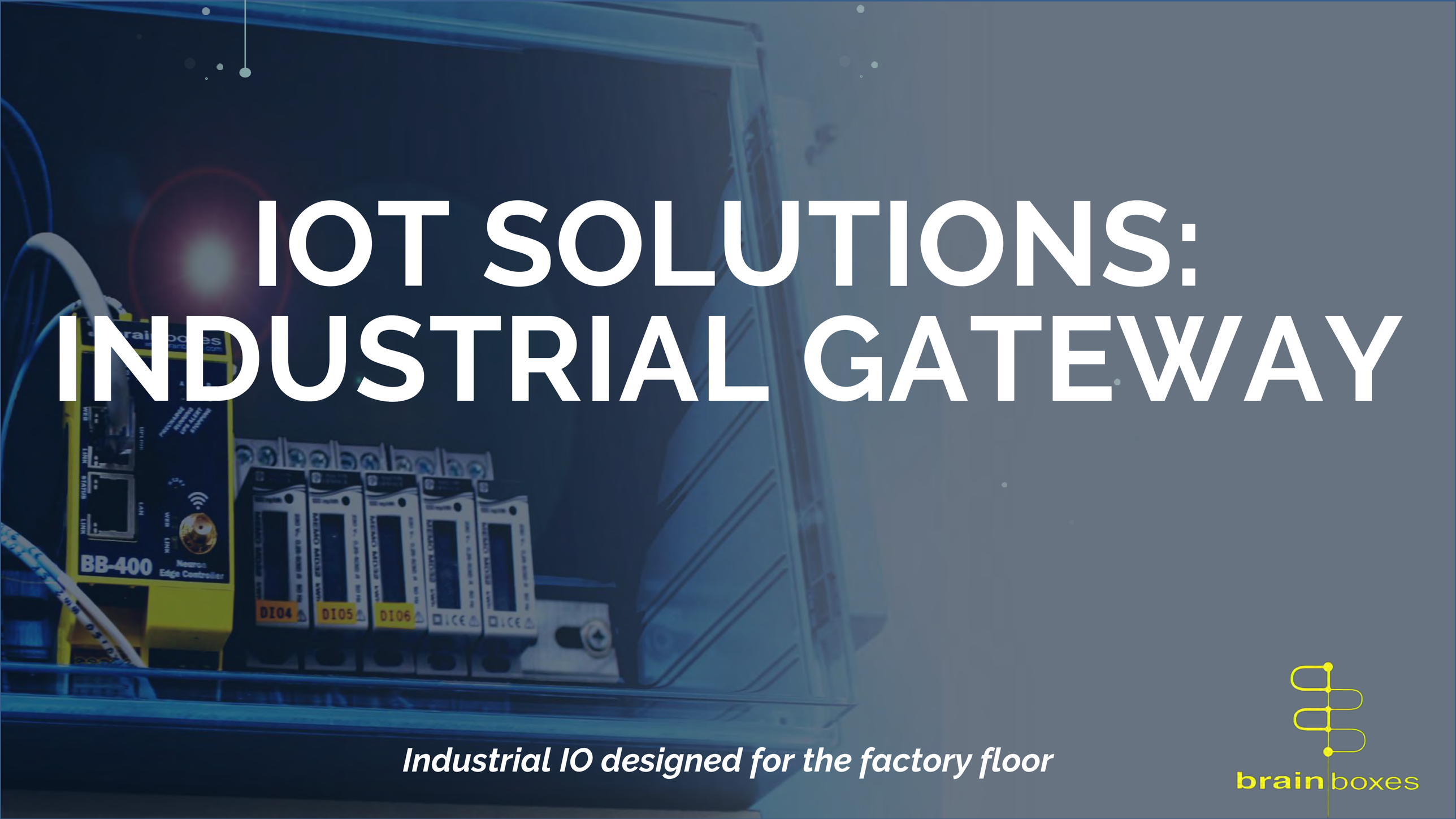
BAS Halley VI Research Station, located on an Antarctic ice shelf, uses Brainboxes Analog Input modules to remotely collect climate, weather, and space data all year-round.

An autonomous power system with a Microturbine generator enables operation even during harsh winter months – temperatures as low as – 55°C and wind speeds up to 70 knots.

Remote IO modules monitor critical systems like fuel levels and pump pressure, ensuring continuous, real-time data transmission to engineers over 10,000 miles away.



IOT SOLUTIONS: INDUSTRIAL GATEWAY

Industrial IO designed for the factory floor

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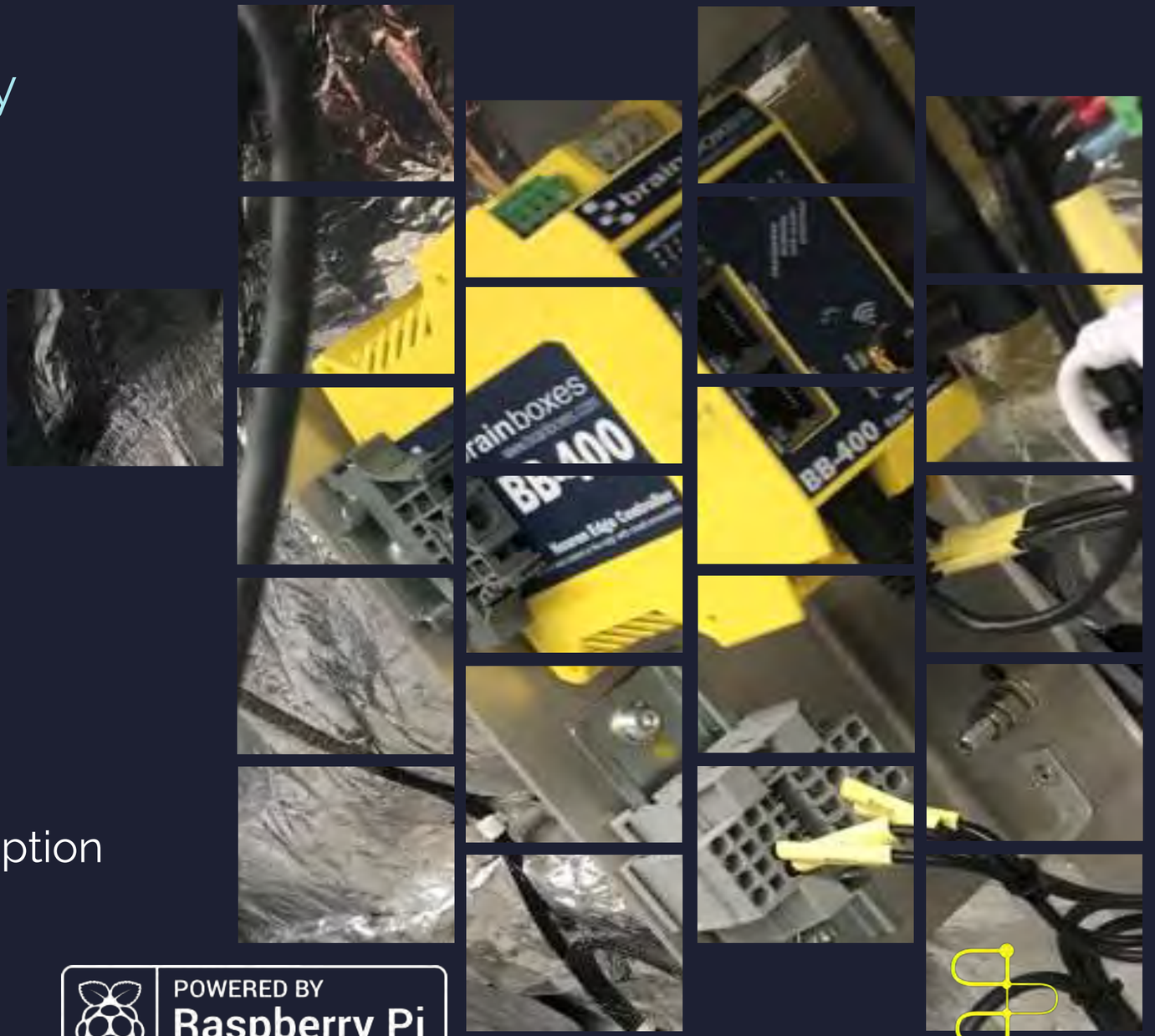
IoT Solutions: Industrial Gateway

BB-400

Edge processing with Raspberry Pi



- ✓ Hardware built for industry
- ✓ 8 digital IO lines & Serial
- ✓ Bluetooth for wireless sensors
- ✓ UPS power management prevents corruption
- ✓ Multiple ways to connect

POWERED BY Raspberry Pi

Deploy straight to industry

brainboxes

Real world sensor data

Devices (HMIs)

Interface between
real & digital worlds

Grafana

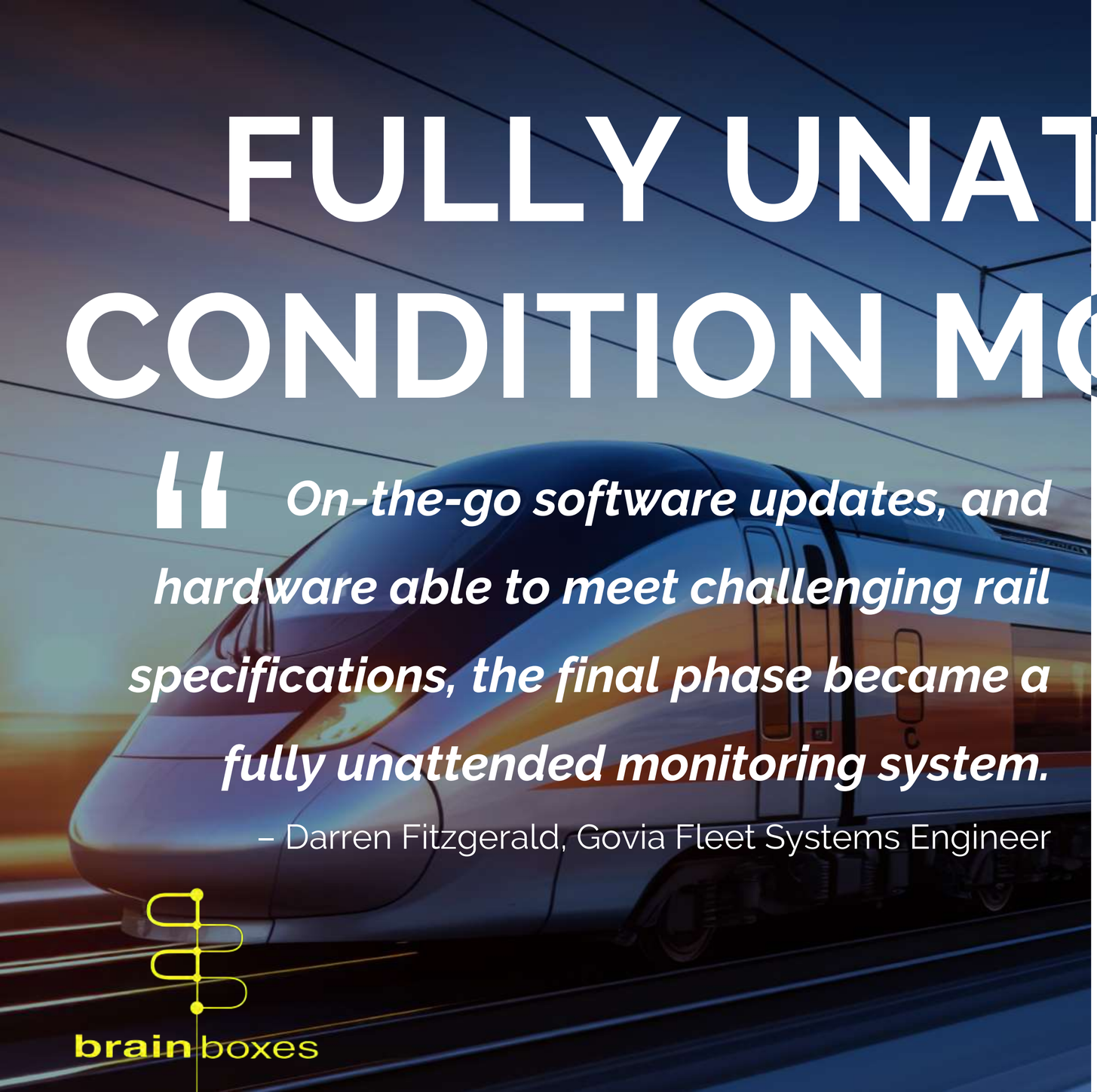
Data visualisation

Node-RED

Data manipulation

influxdb

Data storage



FULLY UNATTENDED CONDITION MONITORING

> ***"On-the-go software updates, and hardware able to meet challenging rail specifications, the final phase became a fully unattended monitoring system.***
>
> – Darren Fitzgerald, Govia Fleet Systems Engineer

Condition monitoring allows engineers to understand the health of key assets; whether that's machines in a factory, or for Govia, the UK's largest railway franchise, the trains in their fleet.

Brainboxes BB-400 Industrial Gateway gathers data from vibration sensors and GPS systems on trains, sending continuous updates to the cloud for analysis.

This allows Govia to detect and resolve issues faster, improving both passenger experience and operational efficiency by minimising delays and maintenance costs.

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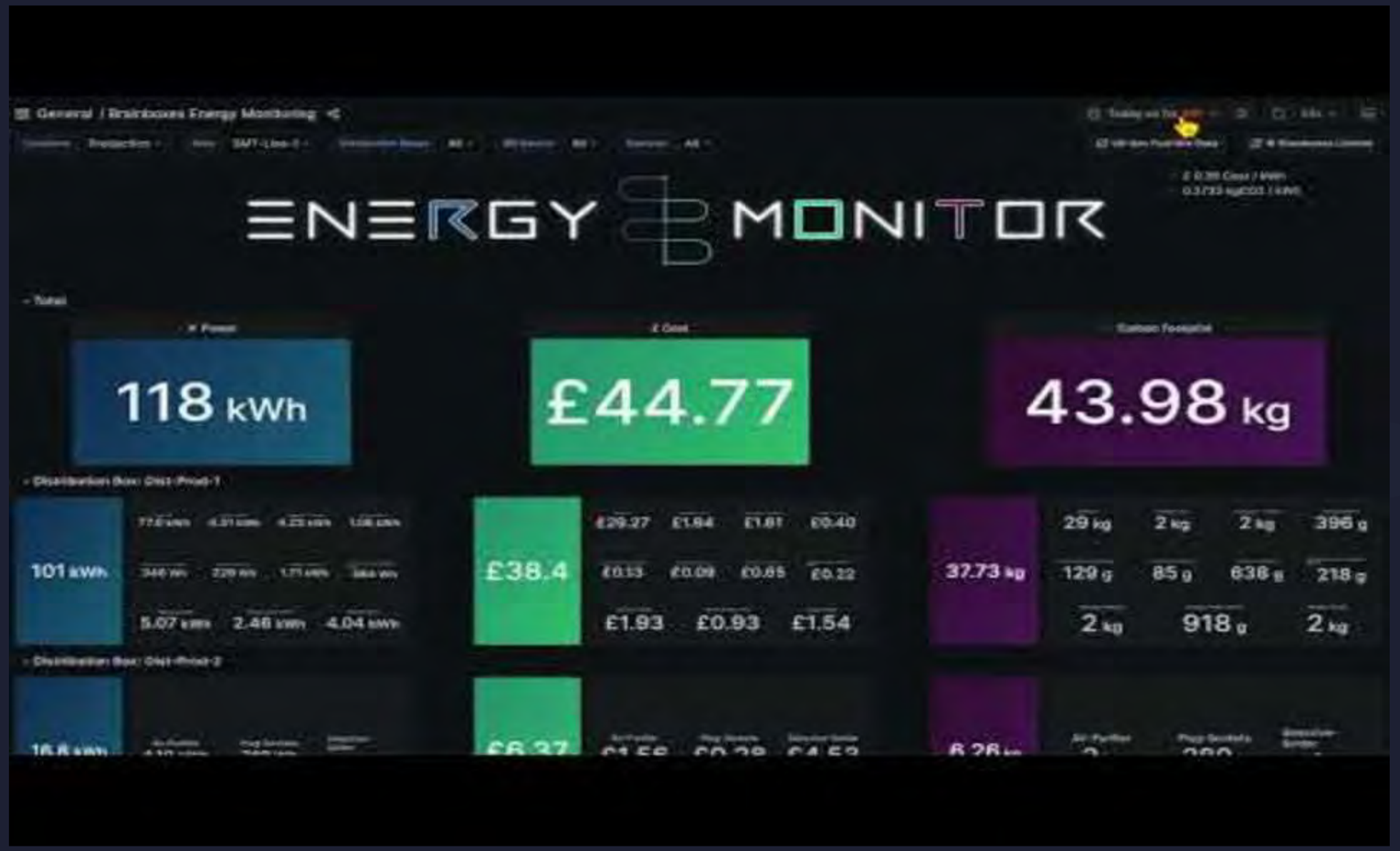
BB400 Industrial Gateway:
Smart Energy Monitoring



> ***If a business can't express at least a desire to become more sustainable, I won't be interested***

– Deborah Meaden,
Dragon's Den Investor

SUSTAINING SMILES WITH ENERGY MONITORING

A low-cost, reliable solution to industrial sub-metering

Brainboxes Industrial Gateway provided Rose Lane Dental Practice with a customised energy monitoring solution that optimises energy consumption, ultimately minimising wait times for restorative dentistry procedures.

By integrating sub-meters with the BB-400 and using open-source software tools like Grafana, the practice can monitor real-time and historical energy usage, enhancing efficiency, reducing costs, and supporting sustainability goals.

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