THE IOT CONNECTIVITY BLUEPRINT

High-Impact IOT Solutions for UK Industry

Presented by imobisoft

www.imobisoft.co.uk

01. The productivity gap: Combating data entropy

The UK industrial sector is currently stalled by a direct conflict between the necessity for digital output and the operational reality of established assets. For a CTO, transformation is a risk-management exercise. Your existing infrastructure is the primary revenue driver; it cannot be dismantled without risking catastrophic downtime or massive capital loss.

However, a "wait and see" strategy is now an expensive liability. Unplanned downtime is currently estimated to cost UK manufacturers up to **£736 million every week.**

This financial drain is caused by **Data Entropy**: the continuous loss of high-value industrial data points that are overwritten every second because no connectivity layer exists to capture them. With **84% of UK firms** reporting that legacy technology is their primary barrier to growth, the "Productivity Gap" has become a systemic threat to margins.

> *"The greatest waste in modern industry isn't old machines; it's silent ones. IoT solutions shouldn't require a total floor-plan rebuild; they should provide a digital nervous system that allows existing assets to report their own status before a failure occurs"*
>
> *— Atif Syed, CTO of Imobisoft*

The objective is to install the connectivity layer that prevents your operational intelligence from evaporating.

02. The framework: Edge-powered connectivity overlays

To bridge this gap, we focus on a **Connectivity Overlay**—a non-invasive "translator" layer that extracts real-time intelligence from legacy iron without rewriting original code.

By treating connectivity as a strategic asset, Imobisoft delivers IoT solutions built on edge processing. Data is analysed at the source, with only high-value events, exceptions, and trends transmitted to the cloud, reducing bandwidth costs, improving responsiveness, and increasing operational resilience.

1. **Passive observation**

   Secure, read-only data extraction from existing PLC and SCADA environments, enabling insight without disrupting critical control systems.

2 Active telemetry

Deployment of low-power, long-range sensor networks, including LoRaWAN, to extend visibility into assets and environments where traditional instrumentation is impractical or cost-prohibitive.

3 Actionable intelligence

Translation of operational signals into decision-ready KPIs aligned to financial performance, such as downtime reduction, energy efficiency, asset utilisation, and margin impact, supporting EBITDA-focused decision-making at the executive level.

With the architecture defined, we can now apply this connectivity overlay to the sectors where the "Productivity Gap" is currently most expensive.

03. Sector proof: Where connectivity becomes a solution

1 Utilities & the PR24 mandate

The UK water sector is under intense regulatory pressure to achieve a **17% reduction in leakage by 2030** under **Ofwat PR24.**

- **The technical challenge:** Traditional leak detection is reactive, often identifying bursts only after massive water loss and infrastructure damage.
- **The solution:** We deploy a **Narrowband IoT (NB-IoT)** connectivity layer. By installing acoustic sensors across the existing pipe network, we capture high-frequency vibration data to detect hairline fractures.
- **The Imobisoft impact:** As seen in our work with **The Water Retail Company**, digitising usage data transforms manual collection into a live, actionable stream that directly protects regulatory margins.

2 Logistics: Real-time monitoring

The UK cold chain logistics market is valued at over £9 billion, yet it suffers from significant spoilage in some temperature-sensitive supply chains due to visibility gaps during transit.

- **The technical challenge:** Standard temperature sensors only report failures after they occur, providing no time for intervention.
- **The solution:** We monitor the power draw of refrigeration units. A spike in electrical current, even with stable internal temperatures, indicates a compressor is struggling.
- **The Imobisoft impact:** Our integration for **Nyetimber** ensures high-value assets are tracked through every stage, moving the fleet from reactive replacement to predictive "health" monitoring.

3 Manufacturing: Asset visibility

Manual inventory management can consume a disproportionate share of staff time on specific data tasks, while asset shrinkage costs mid-market firms up to £200k annually.

- **The technical challenge:** Steel-heavy environments create "blind spots" for standard GPS, and large-scale facilities require low-power tracking for thousands of items.
- **The solution:** Our **Future Trak** solution uses a hybrid IoT approach, incorporating GPS, Wi-Fi based location signals, and Bluetooth, to map Returnable Transport Items (RTIs) in real-time.
- **The Imobisoft impact:** As detailed in our **Don't Waste Money** study, automating this visibility stops the financial drain of lost equipment and reclaims 15–20 hours of staff labour per week.

4 Healthcare: The "predict & prevent" model (COPD Predict)

Working with NHS University Hospitals North Midlands, we developed COPD Predict to automate patient monitoring and prevent avoidable hospital admissions.

- **The technical challenge:** Chronic conditions often lead to expensive emergency admissions because exacerbations are detected too late.
- **The solution:** A full-stack IoT ecosystem: Bluetooth-connected devices feeding data into native iOS/Android apps, managed by a robust backend.
- **The Imobisoft impact:** As detailed in the **MY IPF Case Study**, applying a real-time Machine Learning (ML) model to this telemetry allows clinicians to predict exacerbations before they happen, reducing operational costs while improving patient safety.

04. The connectivity audit: 4 questions for your engineering team

Before scaling any IoT solution, your technical team must resolve these four "Hidden Friction" points:

1 Data sovereignty

Can we guarantee that telemetry data remains within UK/EU borders for regulatory compliance?

2 Edge redundancy

If the primary network gateway loses power, do we have local data-logging to prevent a permanent loss of historical telemetry?

3 Legacy protocol translation

Can the overlay interface with decades-old SCADA protocols (e.g., Modbus, Profibus) without a firmware overhaul?

4 Signal persistence

How does the architecture handle "blind spots" in high-interference environments?

> Once these safeguards are in place, the only remaining barrier is the transition from a technical pilot to a proven business case.

05. The rapid validation roadmap: From pilot to production

To avoid “pilot purgatory,” we use a focused four-step cycle designed to validate operational and financial impact within 30 days.

1. **Isolate the “margin drain”**

   Identify the single process responsible for the highest rate of manual logging. In comparable UK mid-market operations, manager time leakage can exceed approximately £140,000 in annual EBITDA across a 20-unit estate.

2. **Establish the non-invasive bridge**

   Deploy the connectivity overlay to extract telemetry without interrupting or rewriting existing PLC logic.

3. **Translate raw signals into insight**

   Move beyond raw data to identify the signals that precede a failure. Capturing these indicators often reclaims a significant proportion of staff time currently lost to manual monitoring tasks.

4. **Quantify the business case**

   If the ROI, demonstrated through reclaimed staff time and a measurable reduction in annual asset losses, is not clear and defensible, the project should not scale.

> Before any commercial discussion, this process is designed to establish whether a connectivity overlay is technically and economically justified in your environment.

Ready to bridge your connectivity gap?

Contact us