



The Northern Edge

Regional revolutions across
manufacturing, new agriculture
and beyond

Revolutions in the Powerhouse

Since the dawn of 'The Northern Powerhouse' under the 2010—2015 coalition government, there has been a keen focus on driving economic growth throughout the eleven Local Economic Partnerships of the Northeast, Northwest and Yorkshire and Humber.

The connection between these regions and the cities of Manchester, Liverpool, Hull, Sheffield, Leeds and Newcastle has become a vital component in driving economic growth in the UK. The Powerhouse now accounts for approximately 16.7% of the UK population and contributes 13.3% of the UK Gross Value Added (GVA).¹

Technology has been a critical pillar to spur this growth. There has been undeniable progress: the most significant regional growth of Project Gigabit between September and December 2023 was the Northeast. An additional 5% of premises were connected, moving the Northeast from the eighth to sixth most gigabit-capable region within the UK.

Elsewhere, a delegation of thirty digital and technology leaders from the North of England visited San Francisco to embed best practices on their return. Part of this benchmarking has focussed on the alignment of technology such as edge computing, to the specific industries of local areas.

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¹ [Deloitte-uk-northern-powerhouse-factsheet.pdf](#)



Edge and Next Industrial Revolution

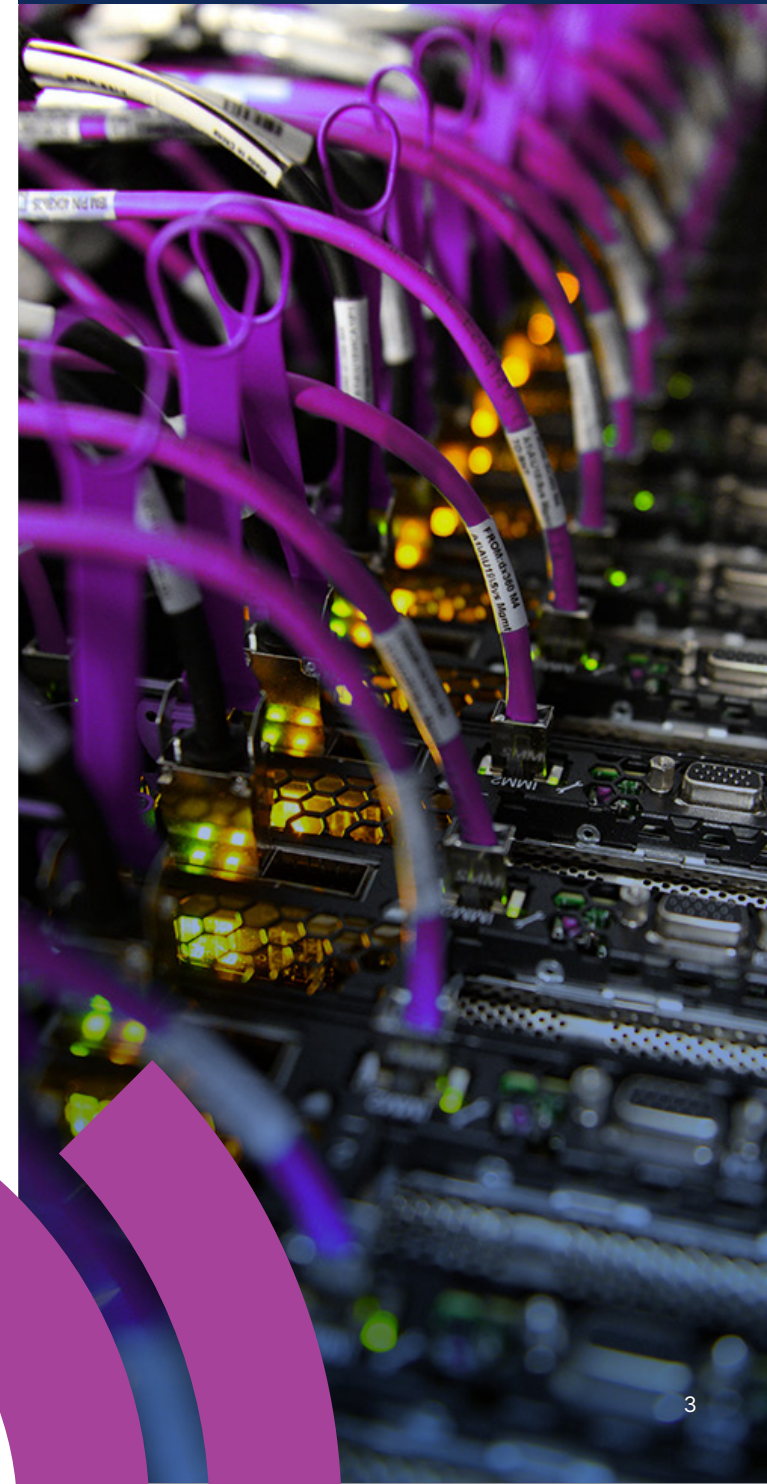
To accelerate growth in the North, partnerships with major employers in this region—notably within manufacturing—have focused attention on addressing productivity concerns, acute downtime costs and a constant search for efficiencies.

80%

of manufacturers believe industrial digital technologies will be a reality in their business by 2025

Unsurprisingly, technology has been at the forefront of this charge. Under the auspices of the 'fourth industrial revolution', manufacturers have amassed vast experience in trying to derive value from the data produced by their machines. Make UK research has shown that 80% of manufacturers believe industrial digital technologies will be a reality in their business by 2025.²

One issue that has arisen repeatedly is that much of this operational technology (OT) data is either left unanalysed or only processed in batch intervals. This renders insights late at best, and at worst, useless. The proximity of edge computing enables real-time processing, bringing much needed agility to manufacturers looking to address the often-conflicting priorities of efficiency and productivity.



² [Where are we with the digitalisation of UK manufacturing? | Make UK](#)

Edge also maintains the stringent security that manufacturers demand when it comes to intellectual property, such as designs, specifications, and processes. And as an added bonus, costs are cut as businesses no longer need to transfer enormous amounts of data to the cloud.

Manufacturing is a natural home for IoT-enabled machines and sensors that can not only yield this data but—combined with edge infrastructure and AI—drive automation. With typical applications spanning real-time hazard detection, autonomous operations, high-volume quality control and preventative maintenance, it is small wonder that more than two-thirds of UK manufacturers have begun a journey to automation.³

The connection of IoT devices (as opposed to just sensors) to powerful artificial intelligence (AI) forms the backbones of digital twin capabilities. These continually refine conditions to maximise operations in line with objectives, be they productivity, efficiency or output. But all of this depends on overcoming the need for real-time processing of vast amounts of data. In recent research, Make UK found that data challenges were the second biggest barrier to adopting automation—second only to a lack of technical skills.⁴

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³ <https://www.makeuk.org/-/media/eef/files/reports/manufacturing-and-automation-report-2023.pdf>

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Edge and the New Agricultural Revolution

The Northeast of England has been an agricultural powerhouse for centuries. And perhaps surprisingly, the sector is growing: total income from farming in the region reached £258m in 2022, an increase of 76% since 2018.⁵

76%

income growth from farming since 2018

As an industry, agriculture has enthusiastically embraced technological innovation. Edge computing—built on the principle of distributed infrastructure—has immense potential to reach farmers in remote locations and enable them to embrace artificial intelligence, data analytics and the Internet of Things. Early attempts to explore the use of these technologies have been plagued by limited, unreliable connectivity and delays arising from geographically distant facilities.

By bringing processing power and storage closer to where data is generated, edge could empower farmers in these regions to use advanced technologies for improved efficiency, productivity, and sustainability.

For example, IoT devices have become a critical tool in collecting data such as soil temperature, moisture levels, air pressure, weather patterns, greenhouse functioning and the presence of specific chemicals.

However, storing and processing all this data is expensive, and agriculture works on razor-thin margins. As a result, these initiatives often stall. As a strategy to reduce these costs, edge can equip farmers with these insights to make precise, site-specific decisions.

A report from the United Nations Development Programme has shown that precision agriculture can contribute towards 20% increases in crop yields.⁶ At the same time, it can cut water waste, fertiliser use, and reduce carbon footprints, addressing environmental and sustainability concerns.

To overcome these barriers in the North, and complete the revolutions in agriculture and manufacturing alike, businesses need access to a regional edge presence throughout the likes of Manchester, Newcastle and Sheffield—which is where Pulsant are ready to step in and support.

⁵ [regional-profiles-stats-north_east-19oct23.pdf \(publishing.service.gov.uk\)](#)

⁶ [UNDP-Precision-Agriculture-for-Smallholder-Farmers-V2.pdf](#)

About Pulsant

Pulsant is an edge infrastructure platform provider with a unique multi-regional presence across the UK.

Our infrastructure helps businesses capitalise on the potential of edge computing to improve application performance, embrace 5G and IoT use cases, comply with data protection regulations and become more sustainable.

We offer a national network of 12 data centres where clients can colocate servers, access high-speed networks and connect to service providers, cloud providers and system integrators. In short, enterprises can locate workloads and data precisely where they need to, adapt capabilities on the fly and scale as they grow.

No other organisation offers the same blend of services that we deliver: a unique range of connectivity options and a private, highly-resilient data centre network with a nationwide footprint, all accessible through our integrated solution—platformEDGE™.



[Find out more about
platformEDGE](#)



National Edge Report in Partnership With STL Partners

Edge computing brings processing closer to the data source and stands as a catalyst for significant improvements in economic and social outlook across the UK.

Explore the diverse use cases driving demand for edge computing in different regions of the UK in our co-partnered national report "The State of Edge Across The UK" available now.

[Download the Full Report](#)



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