



# The Scottish Edge

Regional innovation across  
gaming, oil and beyond

# From Highlands to High-Tech

The Scottish economy is incredibly diverse. From Nessie and the Munros, to the UK's first next-gen supercomputer<sup>1</sup> and the leading companies in the fight against cancer, Scotland's businesses span profound differences.

Embracing this array of opportunity, the Scottish government has sought to develop an aggressive technology investment programme that not only tackles rural connectivity challenges but also overcomes a historical deficit. The stated objective is to "[make Scotland a leading digital nation.](#)"

As a result, 53% of residential premises in Scotland now enjoy full-fibre connection. This is an increase of 13 percentage points since 2022<sup>2</sup>. Elsewhere, plans are underway to mandate that developers ensure all new build homes are installed with gigabit-ready infrastructure<sup>3</sup>.

This focus on connectivity is also critical for the diverse array of Scottish businesses, spanning industries from video games to oil extraction.

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<sup>1</sup> [Edinburgh to lead new era of UK supercomputing | The University of Edinburgh](#)

<sup>2</sup> [Connected-nations-2023-scotland.pdf \(ofcom.org.uk\)](#)

<sup>3</sup> [Project Gigabit progress update, December 2023 - GOV.UK \(www.gov.uk\)](#)



# Grand Tartan Auto: Software and Gaming

One of Scotland's fastest growing sectors is software and gaming. This field is remarkably diverse, containing developers as diverse as Rockstar North, publishers of the iconic Grand Theft Auto series of video games, enterprise stalwarts Adobe and Oracle, and an incredible breadth of biotech and clean energy technology start-ups.

**£661m**

investment from the  
Scottish government

Ambition for this sector is fervent. The Scottish government is investing £661m to position Edinburgh as the 'Data Capital of Europe'<sup>4</sup> and 2021 saw a record £454m worth of announced equity fundraisings<sup>5</sup>. At present, there are over 10,000 registered technology businesses employing more than 83,000 people<sup>6</sup>.

These companies – be they game developers, biotech start ups or AI-driven fintech challengers - all benefit from hosting huge workloads locally. Fast access to enormous amounts of compute power and keen control of changes, are not only essential infrastructure criteria, but sources of competitive advantage.

To borrow a term from the oil industry, it is worth 'drilling down' into what edge means for the Scottish game development industry. Scotland's digital future is keenly linked to the growth and success of the sector: from the UK's first Centre for Excellence in Computer Games Education at Abertay University, to the £4bn contribution to the Scottish economy that gaming helped to create<sup>7</sup>.

Edge data centres enable developers to efficiently scale during critical development and pilot phases. With infrastructure available during periods of high user activity, developers can ensure that players from different regions enjoy consistent high performance and the best possible gaming experience.

<sup>4</sup> [Edinburgh's path to data excellence | Accenture](#)

<sup>5</sup> [Scotland's Top Tech Startups | 2022 | Beauhurst](#)

<sup>6</sup> [Scotland's Economy Building Scotland's digital economy - Scotland's Economy \(blogs.gov.scot\)](#)

<sup>7</sup> [Creative Industries Growth Sector Briefing.docx \(live.com\)](#)



It is hard to overstate the importance of low latency for gaming, especially mobile gaming across various devices. As augmented reality (AR) is brought to bear on the sector, typified in the success of games such as Pokemon Go!, this 'lag' will remain a critical concern.

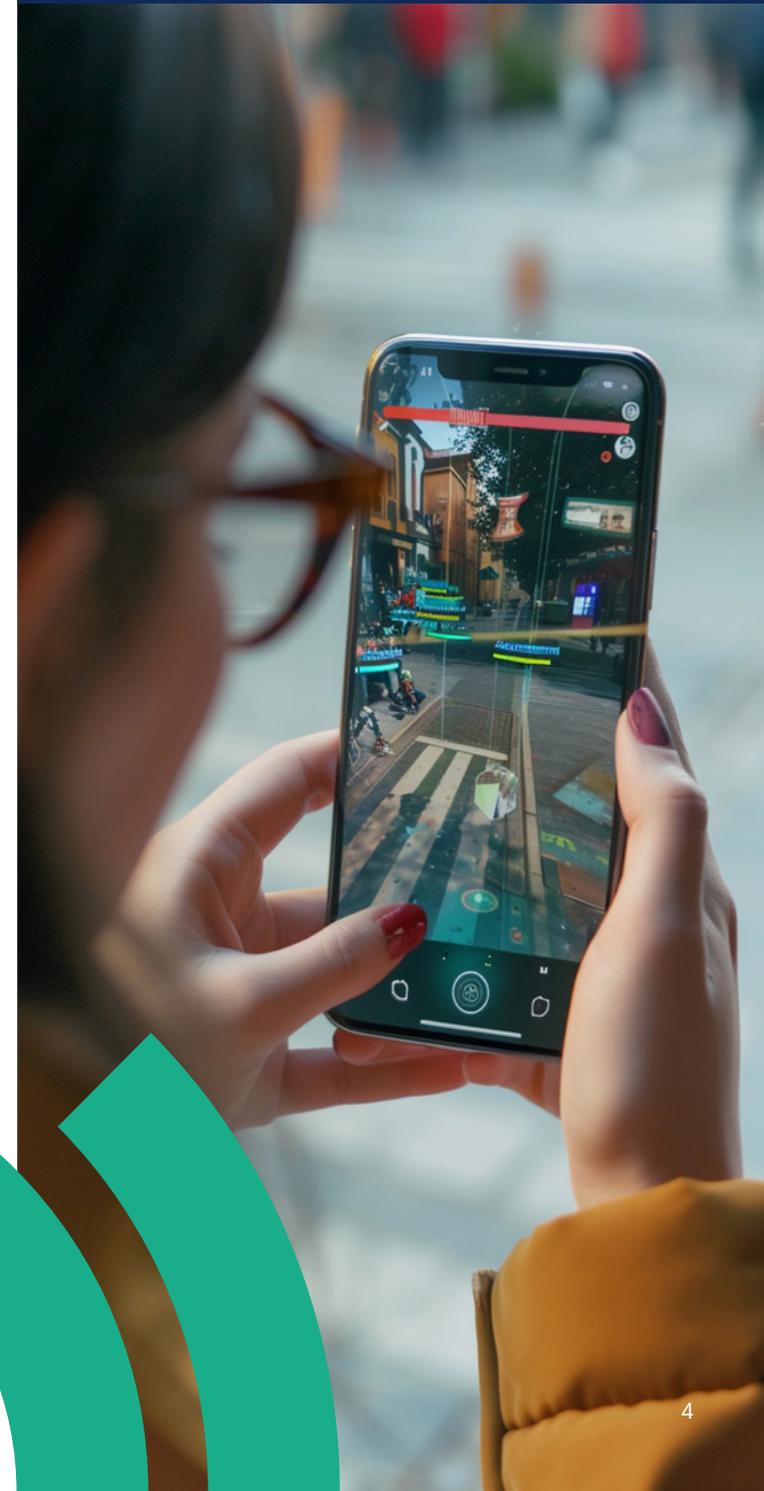
A better experience for these influential users, translates into vital, early, positive reception of the new title. In the case of feedback that demands the game is changed, edge computing means alterations and modifications can be made quickly and put out for re-testing.

Just like driving the cars in Grand Theft Auto, issues of agility and speed make game development a success or otherwise.

Applications such as early-stage scaling for the next big video game, show that a next generation technology infrastructure for Scotland is a critical part of economic growth for the region. This is precisely what Pulsant data centres deliver across Edinburgh and beyond - regional proximity and access to infrastructure that can power the next generation of Scottish businesses.

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# Edge and Oil Do Mix

Oil extraction alone employs more than 100,000 people in Scotland. As part of the wide oil and gas industry, the sector contributes to an estimated £25.2bn in gross value added (GVA) to the Scottish economy<sup>8</sup>.

**15 petabytes**

of data generated throughout the lifetime of an oil rig

Technology is critical to realising continued economic prosperity without sacrificing sustainability in the sector. The advent of artificial intelligence (AI), data analytics, and advanced machinery promises enhanced efficiency, reduced operational costs, and improved safety.

Crucially, these developments are not just for deployment within Scotland. There is a growing energy research and consultancy market, catering to international businesses looking to capitalise on Scottish know-how.

This expertise has demonstrated aspects of oil extraction that can benefit from edge computing as the industry has come to terms with Big Data. As far back as 2015, McKinsey undertook a study that found an oil rig will have approximately 30,000 data points – although they also identified a chronically low use of that data<sup>9</sup>. Elsewhere, some specialists have pointed out that a typical offshore drilling platform will carry 80,000 sensors, generating approximately 15 petabytes of data during the lifetime of the platform<sup>10</sup>.

<sup>8</sup> [Oil and gas - gov.scot \(www.gov.scot\)](http://oilandgas.gov.scot)

<sup>9</sup> [US energy industry collects a lot of operational data, but doesn't use it \(cnbc.com\)](http://www.cnbc.com)

<sup>10</sup> [Big data in oil and gas: How to make it work for you - N-i-X](http://www.n-i-x.com)



The consistent theme across these numbers is a vast amount of data demanding low latency and real-time processing capabilities to yield operational advantage. Which, in turn, demands an edge infrastructure.

The most immediate application of this improved processing is safety. Oil extraction is a very risky business and better preventative measures are always welcome. The faster an oil business turns data into intelligence, the safer it can make the operational environment.

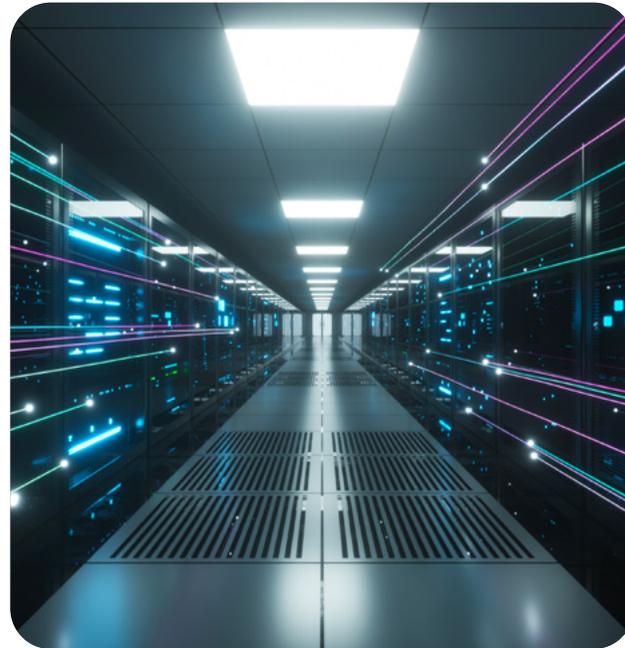
**25%**  
how much maintenance  
can lower costs

Edge also improves monitoring and maintenance. Immediate detection and analysis of anomalies means quicker intervention and a reduced impact of equipment failures.

Edge processing takes this one step further by strategically tracking, then predicting which components are likely to fail. Scheduled, preventative maintenance nips issues in the bud before they escalate, which reduces unplanned downtime.

At the zenith of this progression is maintenance fed by data from the equipment itself. A 2023 report by Deloitte estimates that predictive maintenance can lower costs by 25%, increase productivity by 25%, and reduce breakdowns by 70%<sup>11</sup>. This is an industry-changing potential.

<sup>11</sup> [Deloitte\\_Predictive-Maintenance\\_PositionPaper.pdf](#)



## About Pulsant

Scotland is home to some of the fastest-growing technology and financial organisations in the UK.

With three colocation facilities located on the outskirts of Edinburgh, Pulsant offer the most connected data centres in Scotland and north of London, with high-density rack solutions supported by a 100GB national network connecting to the rest of the UK.

Pulsant offers peering and interconnectivity via LINX Scotland to transfer data to and from Scottish organisations.

Pulsant's national colocation footprint enables businesses to expand reach geographically with access to an ecosystem of over 500 clients, partners and service providers.

Connected by a private, high speed network, Pulsant's data centres deliver ultimate flexibility in cost, scalability and performance, enabling Scottish businesses to deploy infrastructure at the network edge.



Find out more about  
Pulsant platformEDGE  
the UK's edge platform



# 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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