Snapshot of the Centre:

Offers a wide range of free services & facilities to organisations

Works with over 20+ partners

Access to Leading Industry & Innovation Experts

Currently working across 50+ Projects

Nationwide Innovation Hubs

Access to state-of-the-art 5G facilities

Scotland's National Centre for 5G

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www.scotland5gcentre.org

Issue 2

The Scotland 5G Centre

Realising Possibilities, Transforming Futures

Content

5G isn't just the next generation of mobile networks it's transforming how we work, study and connect with each other. So, in order to stay ahead of the curve, it's key that businesses understand the capabilities of 5G and the opportunities it enables.

If you are an organisation looking to transform your systems, operations, services and products, The Scotland 5G Centre is here to help you recognise the benefits of 5G and discover your 5G potential.

Our S5GC hubs are located in urban and rural locations throughout Scotland, giving you access to a wide range of support services and access to our cutting-edge facilities.

Services and Facilities

The Scotland 5G Centre is funded by the Scottish Government and provides a wide range of expert, impartial and transparent services free to all Scottish-based private and public sector organisations. We are offering you a unique opportunity to work with leading industry experts and use our private 5G testbed facilities to discover 5G solutions that could supercharge the success of your business and gain a real competitive edge.

Support

Take advantage of our impartial and expert advice - tailored to your business needs

- Access workshops and live demonstrations
- Find out more about how 5G can transform your business

Innovate

Work with us to develop 5G solutions to grow your business

- Work with our experts to look at solutions that will meet your needs, challenges and opportunities
- Test these solutions using our state-of-the-art private 5G testbeds
- Get access to the latest industry applications including sensing technology and robotics

Collaborate

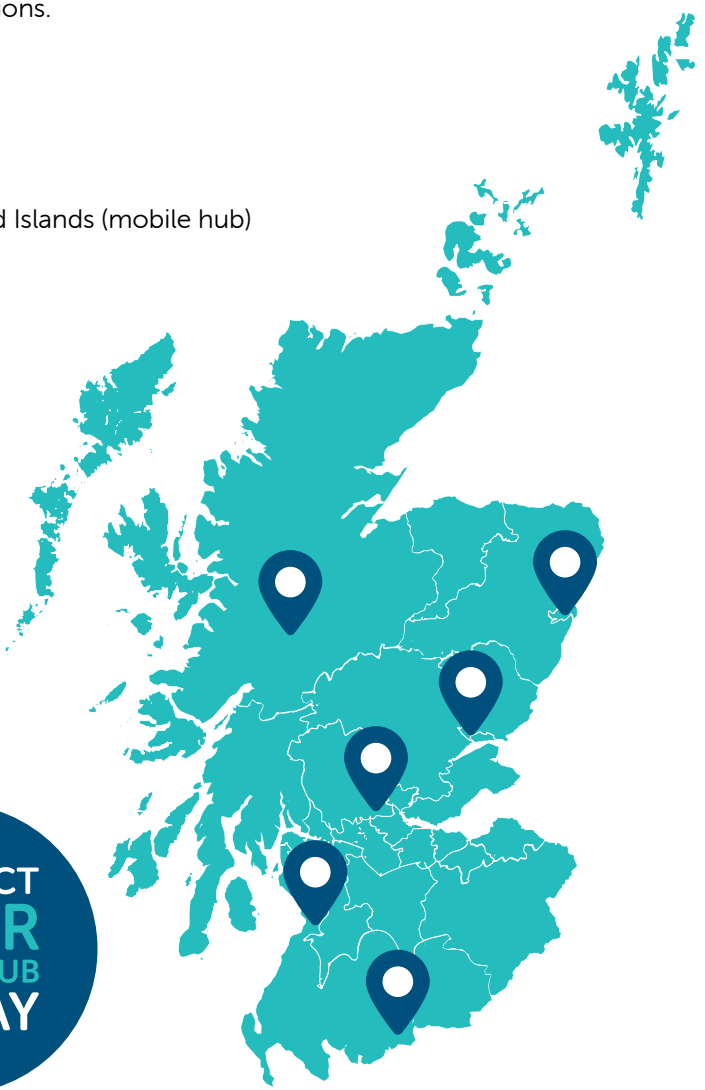
Work with us to put your ideas into practice

- We can connect your business to our extensive network of industry partners to deploy your 5G solution(s)
- Get advice from us on the range of funding opportunities available to support your digital transformation

Hub Locations

Each of our innovation hubs have their own state-of-the-art private 5G testbed, offering a secure environment for your business to meet with our experts and test your systems, operations, services and/or products using our network. Our hubs are located throughout Scotland and each offers a wide range of free services to nationwide private and public sector organisations.

- Aberdeen
- Dumfries
- Dundee
- Forth Valley
- Highlands and Islands (mobile hub)
- Kilmarnock

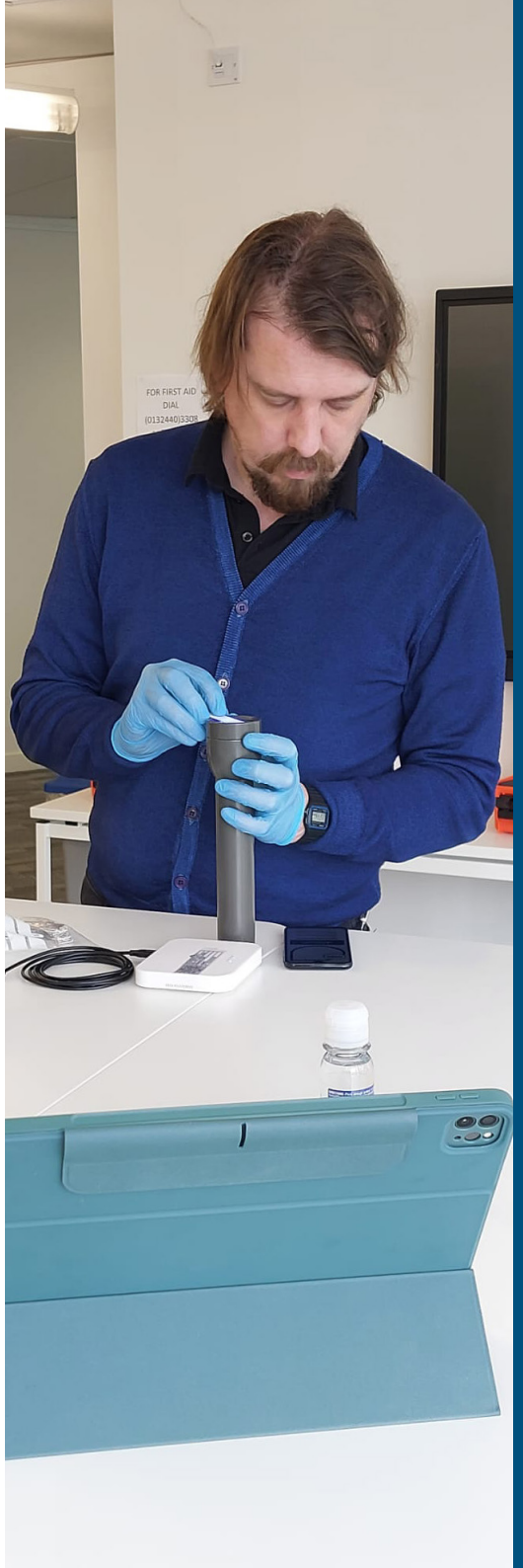


CONTACT YOUR LOCAL HUB TODAY

Start your 5G Journey Today

Submit your expression of interest

Visit one of our nationwide innovation hubs and receive tailored, impartial advice on how to futureproof your business with 5G. Get in touch with us today. All you need to do is fill in a short expression of interest form and we will be happy to arrange a visit with you.



“A lot of water sites that require monitoring, like reservoirs, lochs and rivers, are quite remote and quality testing can be infrequent, requiring operatives to travel long distances. With 5G, we can leave the sensors in-situ and, log-in to a secure website from anywhere in the world, check each sensor and gather data in real-time. We found the S5GC Forth Valley hub a welcoming place to test out our sensors, with the staff there all really helpful. We quickly managed to get our system onto the network, and we’re looking forward to conducting more tests.”

Dr Ross N Gillanders,
Founder

lightwater sensors

S5GC Objectives

- Transform industry
- Drive innovation and growth
- Accelerate the demand for 5G
- Create more products, skills, services and jobs
- Attract investment and deliver economic impact

> To grow the esports industry in Scotland we feel 5G could enable us to bring esports to areas in Scotland that have slow internet and a 5G pop-up network would be an ideal solution. Working at the S5GC Dundee hub is fantastic, the S5GC team have been so helpful in every aspect of the testing phase and it is certainly a research and development project we are excited to keep progressing with.
>
> **James Hood,**
> Founder & CEO

“Our applications and tools are web-based and therefore vulnerable to data connection outages and latency challenges. Proving consistent and reliable connectivity alternatives is fundamental. The security aspects of Private 5G would meet and exceed our Cyber Essentials accreditation criteria. The biggest advantage of working at the S5GC Kilmarnock hub is they are well-connected, so you get access to their wide range of innovation partners that provide valuable insight into this leading-edge technology.”

Malcolm MacLennan & John Dougan,
Co-Founders & Managing Partners

CADENCE

Who We Work With

We currently work with a diverse range of partners across our innovation hubs and projects, supporting businesses to develop their digital strategy and futureproof systems, operations, products and services.

Together we are:

- Pioneering the evolution of digital transformation to benefit the Scottish economy.
- Collaborating with technical specialists to provide expert advice.
- Supporting organisations to procure and deploy 5G networks.
- Fostering and exploring innovation for smarter solutions and connected sustainable environments.
- Championing digital education and upskilling, and demonstrating the value of 5G.

Our partners include some of the most well-known mobile network operators and telecommunications providers in the world who have been instrumental in helping businesses enter the new digital era and have a rich portfolio of work. Through our academic partnerships we have access to the latest 5G research, expertise and developing technologies. Each partnership is unique and valuable to our mission in supporting businesses.

We also collaborate with a wide range of organisation such as Ofcom, The Data Lab, CENSIS, BE-ST, UKTIN, CEED, ScotlandIS, and Digital Health and Care Innovation Centre, bringing our expertise together and utilising each others knowledge, skills and resources to achieve common goals.

Become a Partner

As Scotland’s national Centre, driving the education, awareness and adoption of 5G technology and applications, we are keen to build up clear access to innovators in this field. If you are an organisation eager to showcase your expertise or become a partner, then please connect with us.

info@scotland5gcentre.org

Our Delivery Partners

Our delivery partners play a key role in the development of S5GC Innovation Hubs across Scotland, bringing a wealth of experience from transforming the telecoms landscape. This long-term and impactful partnership with industry heavy-weights allows us to deliver real benefits to the organisations we support.

vodafone business

British multinational telecoms company, connecting people, businesses and devices to the benefits of digital innovation, across both public and private sectors. Key services: mobile, fixed-line, connections, home and office broadband, the Internet of Things (IoT).

ERICSSON

Swedish multinational networking and telecoms company and a leading provider of equipment and related services to mobile and fixed network operators. Key services: networks, cloud and software services, enterprise wireless solutions.

AWTG

British international end-to-end engineering services and technology solutions organisation who deployed the first 5G test bed in the UK, as well as the first 5G core network. Key services: mobile technology, IoT, immersive technologies, connectivity solutions and artificial intelligence.

Jacobs

American international technical professional services firm aiming to make the world smarter, more connected and more sustainable. Key services: end-to-end solutions for industries including energy, infrastructure, mobility, and cybersecurity, plus data analytics and software.

NOKIA

Finnish multinational telecoms, information technology, and consumer electronics corporation aiming to accelerate digital transformation. Key services: networks, cloud and software services, technology and R&D.

“Vodafone is delighted to partner with The Scotland 5G Centre, in Kilmarnock and Aberdeen. These testbeds will make sure Scottish businesses and public bodies have access to next-generation technologies, powered by state-of-the-art private 5G networks. It’s vital that leading-edge technologies are available to drive opportunity for both businesses and citizens and 5G is critical to deliver these opportunities, ensuring the benefits of digital reaches every community across Scotland.”

Kim Moran-Hogg,
Head of Scotland and Ireland
Vodafone Business

vodafone business

Our Innovation Partners

Our innovation partners have been instrumental in bringing businesses together by providing spaces, platforms and training to innovate, grow and share knowledge.

SCOTTISH FUTURES TRUST

A non-profit organisation established by the Scottish Government as a Centre of infrastructure expertise. They take a leadership role, providing additional skills, resources and knowledge to public sector organisations, supporting them plan, fund, deliver and manage their construction projects and buildings better.

The Crichton Trust

The Crichton is a business and academic community just outside Dumfries, cared for by The Crichton Trust. The site is home to the S5GC Dumfries hub, empowering and enabling new cross-generational business, academic and individual knowledge exchange community.

HALO URBAN REGENERATION

A digital, cyber and innovation park providing the Kilmarnock community with access to employment opportunities, clean energy and housing, as well as being home to the S5GC Kilmarnock hub.

ONE OPPORTUNITY NORTH EAST

A private sector economic development organisation for the North East, shaping the region's future low-carbon economy and creating high-skill, high-value jobs. Our S5GC Aberdeen hub is based within the ONE Tech Hub, an ambitious and fast-growing community of founders and businesses driving solutions of the future.

SOUTH of SCOTLAND ENTERPRISE

HIE
Highlands and Islands Enterprise
Iomairt na Gàidhealtachd 's nan Eilean

Economic and community development agencies for the regions of South of Scotland and Highlands and Islands. They help people and enterprises to fulfil their potential through the provision of training, advice and funding. Both these regions are home to S5GC Hubs: Dumfries and Highlands and Islands.

"This is a hugely exciting partnership which will have a significant impact on the South of Scotland. We believe that 5G connectivity will enable our rural communities to experience the power of fast connectivity and the opportunities this brings for innovation and the future economy, helping to generate the solutions and services we require to meet the challenges of our ageing society, the climate crisis and the fourth industrial revolution."

Gwilym Gibbons,
Chief Executive
The Crichton Trust

The Crichton Trust

Our Academic and Public Service Partners

Across Scotland we have partnered with top Universities and Colleges who are known for their world renowned research, providing our hubs insight, knowledge and state-of-the-art equipment and facilities nationwide.

University of Glasgow

The University of Glasgow's CSI team supports 5G solutions for urban and rural communities throughout Scotland. Learn more about S5GC's investment and the partnership on page 37.

University of Strathclyde Glasgow

The University of Strathclyde's StrathSDR team develops cost-effective connectivity solutions for remote areas and outside broadcasting. Learn more about S5GC's investment and the partnership on page 35.

Abertay University

Abertay University's cyberQuarter is a state-of-the-art research centre which houses our S5GC Dundee hub, allowing for collaboration between industry and academia, creating new solutions to local, national and international cybersecurity challenges.

SRUC

Scotland's Rural College is a public research institution, delivering education and business support to Scotland's land-based industries. Focusing on the sustainable natural economy, it is the largest organisation of its kind in Europe.

UNIVERSITY of STIRLING

The University of Stirling's Scotland's International Environment Centre is a pioneering collaboration to create an innovation community in the Forth Valley. The Centre is driving the creation of a net zero economy and acting as a global exemplar of low-carbon growth.

We have also partnered with local authorities such as Dundee City Council, Clackmannanshire Council and Aberdeen City Council.

> Through Scotland's International Environment Centre (SIEC), the University of Stirling is developing novel responses to the climate emergency, helping Scotland to make a just transition to becoming Net Zero by 2045. We're pleased to partner on this exciting initiative, which will provide a sound, digital foundation to the regional-scale innovations that we are pioneering in collaboration with industry, public services and communities.
>
> **Dr John Rogers,**
> Executive Director of Research,
> Innovation and Business Engagement
> University of Stirling (SIEC)

UNIVERSITY of STIRLING

Buildings

Wireless connectivity can enable sensor-based smart heating and cooling processes to reduce consumption, while smart appliances could automatically coordinate to optimise energy use.

Industry

Automated processes in sectors ranging from manufacturing to agriculture can increase efficiency, reducing energy and resource usage.

IT Systems

Although more connected devices and sensors could increase energy use, 5G is expected to support higher energy efficiency, and related technologies such as cloud can reduce emissions compared to legacy IT systems.

Energy grid

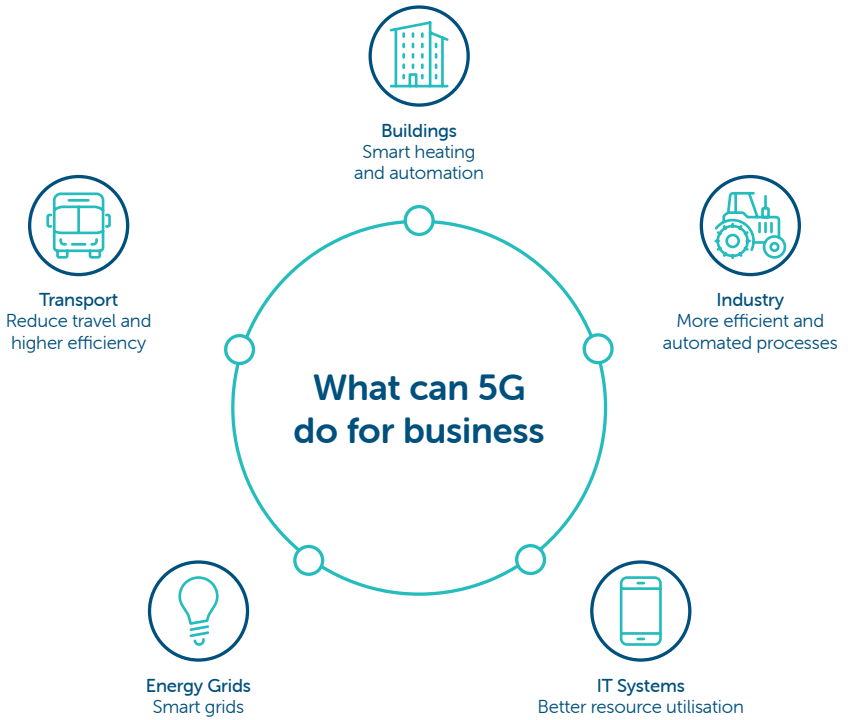
A smarter energy grid with wirelessly connected devices facilitates the integration of renewables and could allow real-time optimisation of demand and supply.

Transport

Wireless connectivity reduces the need for travel and it can support smart traffic management, connected and autonomous vehicles and ride-sharing, potentially reducing congestion.

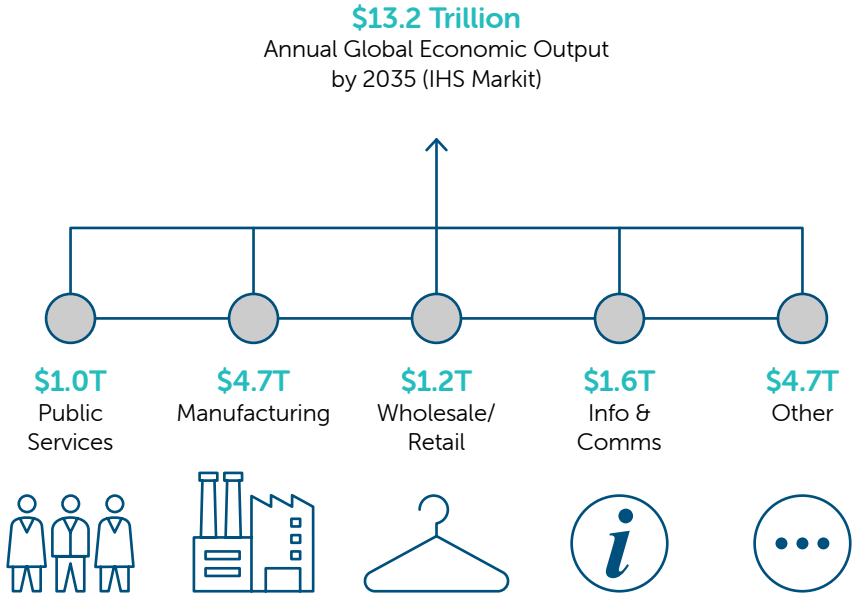
Source: Deloitte analysis of public sources

What can 5G do for business?



Economical Benefits of 5G

5G is the key to Scotland's economic recovery, boosting enterprise and providing opportunities for innovation across key industries including healthcare, energy, utilities, tourism and manufacturing. 5G technologies are expected to contribute $13.2 trillion to the global economy by 2035, according to industry analysts IHS Markit. Innovative use cases such as augmented reality and virtual reality, 5G enabled drones, factory automation and smart city ecosystems promise increased efficiency and productivity.



Source: IHS Markit, The 5G Economy: How 5G will contribute to the global economy, 2019

In 2021/22, **£15.4 billion** was spent on health service operating costs.

£3.6bn was spent on community services, constituting **23.4%** of all expenditure.

Scotland's population will see a **50% increase** in over '60s by 2033.

Over '60s make up **21% of the population** in rural Scotland.

Leading causes of death in Scotland in 2018 were heart disease and dementia.

www.publichealthscotland.scot/publications/scottish-health-service-costs/
https://www.gov.scot/publications/scotland-future-opportunities-challenges-scotlands-changing-population/

Healthcare

The healthcare sector is facing huge financial challenges with staff shortages, inflation, rising energy costs and the ongoing costs of the COVID pandemic. In addition to these pressures, with a dispersed population, Scotland's rural communities often have to travel long distances to receive medical advice and treatment. In rural Scotland, people over 60 make up 21% of the population, with the leading causes of death being long-term health conditions such as heart disease and dementia.

And as Scotland's population is due to see a 50% increase in over '60s by 2033, it's increasingly important that these challenges are addressed.

5G Impact and Results

With 5G, smart devices such as watches and wearables can support people living in rural areas to monitor and manage their conditions and alert healthcare professionals when further assistance is required. Applied to assisted living situations, 5G enabled devices can identify and prevent falls, send real-time data to care workers, tracking patients' heart rate, blood pressure, breathing and more, helping them to manage stress, sleep patterns and chronic conditions. This means carers can monitor patients with conditions such as dementia and ensure they are comfortable and well-looked after.

80% of Scotland's land mass is under agricultural production.

Scottish agriculture production outputs are worth **around £2.9 billion per year.**

Agriculture is the **third largest employer** in rural Scotland.

Agri-food sector is now the **UKs largest** manufacturing sector.

There is over **840 dairy farms** in Scotland producing **over 1.5 billion** litres of milk.

www.nfus.org.uk/farming-facts.aspx
https://food.ec.europa.eu/safety/food-waste_en

Agriculture

Agriculture is a fundamental part of Scotland's economy. Hugely dependent on manual labour, around 67,000 people are directly employed within the agriculture sector, making it the third largest employer in rural Scotland. Agriculture production outputs are worth around £2.9 billion per year however with the global population expected to increase to over 9 billion people by mid-century, there's a growing need to adequately feed people and produce even more.

In addition to this, food waste is a significant problem with 14% of food production being lost and not going to consumers. And with climate change affecting land and weather conditions, the industry needs a transformation.

5G Impact and Results

5G is poised to transform agriculture, enabling farmers to improve everyday operations and streamline production, allowing them to track crops, monitor soil moisture levels and control pests. Autonomous tractors and connected drones' free up farmers' time and ensure land conditions are maintained, spraying fertiliser on areas which need it while wearable devices on cows allow farmers to track eating patterns, rumination, fertility and day-to-day health.

Around **127 million passenger** journeys were made by bus in Scotland in 20-21.

25% of traffic on roads is light and heavy goods vehicles.

In 2020 an **estimated 93.3 million** tonnes of goods were lifted within Scotland.

In 2019 transport accounted for **36%** of Scotland's greenhouse gas emissions.

In 2020 the total number of vehicles licensed was **3.04 million.**

www.transport.gov.scot/publication/scottish-transport-statistics-2021/

Transport and Logistics

Covering road, sea, air and rail, the transport sector is the linchpin which keeps Scotland and the UK moving, connecting Britain with the rest of the world.

In 2019 alone, UK passengers travelled over 873 billion kilometres according to the Department of Transport so it's no surprise that the sector accounted for 36% of Scotland's greenhouse gas emissions in the same year.

5G Impact and Results

With a new climate strategy in place, the plan is to reduce transport emissions by 41%. This is where 5G comes in, providing insights which were not previously possible. On the road, 5G sensors can monitor vehicle count and traffic flow in real-time, reducing congestion, and detect the presence of smoke or obstacles, improving road safety and reducing negative effects on the environment.

On trains, 5G can connect passengers with fast, unrestricted internet access and enables the possibility for autonomous trains, allowing providers to increase the number of trains available each day, especially during peak times, to reduce road congestion.

UK is the **9th largest** manufacturing nation in the world.

£15.5 billion of output from the Scotland manufacturing sector.

2.5 million jobs provided by UK Manufacturing.

51% of the UK's total exports is goods.

In 2020, **177,000 people** in Scotland are employed in manufacturing.

www.makeuk.org/insights/publications/uk-manufacturing-the-facts--2022#/

Manufacturing

As the 9th largest manufacturing nation in the world, it's important to remain competitive within an ever changing and growing market and evolve into the new digital era.

Manufacturers are under constant pressure to produce quality products under short time frames with little to no allowances for any damages while addressing current net zero requirements and planning for the future. In addition to this, despite supporting 177,000 jobs in Scotland in 2020, manufacturers face a large skills gap due to the limited time to train staff over the course of the pandemic and the longstanding issues spurred on by shorter product lifecycles.

5G Impact and Results

Essentially, efficiency is everything in manufacturing and 5G offers businesses the chance to build a smarter, more connected future for the industry allowing them to truly take advantage of cutting-edge technologies such as automation. artificial intelligence, augmented reality and the Internet of Things (IoT). These 5G enabled technologies can sufficiently increase productivity, staff training, customer satisfaction, reduce down time, damage and improve safety and efficiency.

Smart factory technologies are already well embedded into most major manufacturers internal processes throughout the UK. In the Annual Manufacturing Report 2019, a whitepaper that was resourced by the team at "The Manufacturer", showed the following insightful results:

79% of manufacturers feel smart factory technologies will improve their supply chain relationships.

84% believe smart factory technologies will accelerate innovation, design and development.

91% feel that the technology will enable staff to work smarter.

89% said the technology will increase productivity levels per headcount.

www.themanufacturer.com/reports-whitepapers/manufacturer-annual-manufacturing-report-2019/

Scotland met **90%** electric consumption in renewables.

Oil and gas industry is worth **£18 billion**.

Renewable exports in Scotland are up **almost 50%** year on year.

Renewable industry supports more than **27,000 jobs** and is worth **£5.6 billion**.

51% of energy consumed by businesses is for heating, majority supplied by gas.

www.scotland's renewable energy industry: supply chain impact statement 2022/23 (scottishrenewables.com),
www.energyvoice.com/oilandgas/345637/

Energy

Scotland's energy sector is vital for both the UK and Scottish economies. The oil and gas extraction alone was worth an estimated £8.8 billion in GVA to Scotland's economy in 2019, representing 5% of total Scottish GDP. Globally there is a transition from fossil based systems of energy production and consumption to renewable sources and Scotland is leading the way with renewable exports up by almost 50% year on year.

Supporting more than 27,000 jobs and currently worth £5.6 billion, the renewables market is fast growing and evolving and it's crucial for Scotland to utilise this opportunity for further growth.

5G Impact and Results

Bringing the power of 5G to the energy sector means better connectivity, more data insights, increased security and smarter grids, helping to allocate resources more effectively. It's estimated that 5G connectivity could help save over 250 million tonnes in CO2 emissions globally by 2030 through accelerating the move to wind and solar energy. Businesses can contribute to the change with 5G enabled sensors, energy consumption and space occupancy can be monitored in real-time providing insight into how much heat, light and electrics are required each day allowing businesses to reassess energy usage behaviours.

Scottish Renewables carried out a short survey with 45 organisations featured in 2022/23 Supply Chain Impact Statement.

From this they found that:

89% **think renewable energy is the largest economic opportunity for Scotland.**

94% **have invested in upskilling as a result of clean power opportunities.**

83% **recruited new employees as a result of opportunities in the renewable energy industry.**

This document has highlighted how Scotland is a global leader in the renewable energy industry with more and more companies sharing their renewable energy expertise across the world. Investing in innovation, infrastructure and technology is vitally important to make the most of the opportunities that lie ahead within this field and ensure economic growth.

www.scotland's renewable energy industry: supply chain impact statement 2022/23 (scottishrenewables.com)

University of Strathclyde 5G Project
Strathclyde Software Defined Radio Lab (StrathSDR)

S5GC Investment: £1.9 million

Focus: Using 5G to develop cost effective connectivity solutions for remote and/or rural areas and outside broadcasting

Innovation: University of Strathclyde and spin out company Neutral Wireless developed a custom private 5G 'pop-up' network solution, bringing new opportunities to rural communities throughout Scotland and supporting a range of industries and services including energy management, fishing and tourism. The system uses 5G radio access networks (RAN) and software defined radio (SDR) capability across all UK shared bands, suitable for the operation of shared spectrum private networks over various use cases. From the initial investment, the University has been successful in attracting additional funding and new collaborative partnerships.

Broadcast: Most recently, the team designed and deployed the pioneering 'private 5G' network technology to connect cameras for international broadcast coverage of the King's Coronation and the late Queen Elizabeth II's final departure from Scotland. The network has also been used at various sporting events such as rugby, football, boxing, and racing (Monster Energy British Grand Prix and MotoGP, broadcasting to a worldwide audience from a 5G handheld camera). The team also broadcasted live footage of the 2022 Danish Elections.

Connecting Rural Communities: CloudNet-IT Solutions Ltd and StrathSDR both created a shared spectrum 5G radio access network on Orkney, to support the various needs of the community – connecting Westray and Flotta to a 5G Cisco Core.

5G Remote Production... in the middle of nowhere project: Showcasing the portability and flexibility of their private 5G 'Network in a Box' technology in remote global locations including Ireland, Kenya and New Zealand.

Find out more about this ground-breaking technology:
scotland5gcentre.org/s5gcprojectstrathclyde/
https://sdr.eee.strath.ac.uk/

Published Articles:
https://scotland5gcentre.org/loch-lomond-to-london
https://scotland5gcentre.org/5g-private-network
https://scotland5gcentre.org/5g-private-network-solution-developed

University of Strathclyde Glasgow

StrathSDR

University of Glasgow 5G Project
Communication, Sensing and Imaging (CSI)

S5GC Investment: £1.6 million

Focus: Bringing new 5G technological solutions to communities and organisations throughout Scotland

Innovation: Showing a £29 million return on investment so far, the University of Glasgow CSI team have researched and developed effective 5G solutions for issues across sectors and industries including healthcare, education and training.

5G-enabled Smart Campus: The team are currently developing a 5G-enabled Smart Campus offering sustainable, healthier and smart solutions to students, academics and the surrounding community. The campus is already attracting investment into the area, creating new jobs and leading the way for future smart cities while contributing to Glasgow's carbon neutral commitment by 2030.

Testbed network for robotics: A 5G testbed mobile network allows the University team to operate a robotic arm remotely, using a haptic feedback controller that permits the user to feel touch, motion and pressure. This emerging 5G technology can be applied to specialist care services such as orthodontics, allowing patients to access healthcare professionals remotely in real-time. This is especially relevant in Scotland, as more than 15% of the population live in rural and remote areas, where accessing professional healthcare services is difficult and includes travelling long distances.

Persuasive Energy Conscious Network (PECN): Most recently, the team have developed energy and environmental monitoring software. Their Persuasive Energy Conscious Network (PECN) allows businesses to assess energy usage, monitoring occupancy in real-time and provides accurate data to reduce costs. Carbon emissions would be reduced by using this technology, helping businesses and organisations to achieve Scotland's Net Zero targets.

Extended Reality (XR): This technology provides users with an immersive training environment delivered by a remote trainer. XR training increases memory recall and retention, allowing users to be more productive. Virtual training also cuts out long commute times and is more environmentally friendly and cost effective.

Find out more about this ground-breaking technology:

scotland5gcentre.org/s5gcprojectglasgow/

gla.ac.uk/research/az/csi/

University of Glasgow

CSI Communication Sensing & Imaging

Scottish Futures Trust 5G Projects
Infralink

The £3.9k investment made by the Centre to the Infralink has enabled the Infralink team to break down the complex processes and legislative barriers that have delayed the rollout of 4G and 5G infrastructure, by creating a new suite of tools that are balanced, transparent and work at a national level.

They are creating an impact in Scotland by eliminating barriers and enabling faster deployment and more investment in mobile connectivity.

It's recognised that improving mobile digital connectivity across Scotland will benefit everyone, but agreeing on where digital infrastructure should and can go, is a complicated process requiring a partnership between public bodies, mobile network operators and the community.

The project, funded by The Scotland 5G Centre, offers a credible option to current practice by establishing tools that are balanced and transparent and work at a national level. The tools build off existing operating leases, valuations, case law and data, so that they work in the real world.

Standard Document

A balanced starting point removes the need to negotiate standard terms, allowing the parties to focus on the nuances of deploying new sites or upgrading or relocating existing ones.

Payment Guidance

A recommended methodology and price structure to occupy/use the assets that builds upon the principles of the Electronic Communications Code and recognises the impact of digital infrastructure as a tenant.

Connectivity Marketplace

An online map based shop window for public sector bodies interested in discussing connectivity in their area, allowing them to set out the assets and terms up front and drive the discussions based on data.

Infralink-Exchange

Infralink-Exchange is a pathfinder project awarded £500k of funding from the UK government's Department for Digital, Culture, Media and Sport (DCMS) to explore how street furniture can be used to enhance significantly mobile digital connectivity.

Playbook

The Infralink Exchange Playbook is a 'how to' guide allowing public sector bodies to begin a project that improves mobile connectivity through commercial and GIS based transformation. This best practice guide including case studies, templates and points to note.

Find out more about this:

infralink.scottishfuturestrust.org.uk

scotland5gcentre.org/s5gcprojectsinfralink/

SCOTTISH FUTURES TRUST

infralink

FRANC 5G Du-Volution
Next Gen 5G Project

- Adtran successfully bid with S5GC and other partners for the UK Government's Future Radio Access Network Competition (FRANC), awarded by the Department of Science, Innovation and Technology.
- The Centre provides the Programme Management Office (PMO) function to facilitate the delivery of the "FRANC 5G DU-Volution" consortium, which received £4.6m funding to create a new 5G Open RAN Distribution Unit (DU).
- The project team, in conjunction with the industry, will prototype, benchmark, commercialise and prepare this cutting-edge product for release in the UK by 2025.

S5GC works closely with the Lead Partner: Adtran, and other stakeholders: AccelerComm, BT, Parallel Wireless and the University of York. The team will work on this UK-sourced DU and evaluate and integrate state-of-the-art hardware and software components. This standards-compliant 5G Open RAN DU will accelerate processor-intensive functions and support exciting new use cases.

A Private 5G wireless network can revolutionise Enterprise use-cases with low latency, ultra-reliability and high throughput for 5G network devices (UEs) and SIMs. The addition of edge-compute capability securely retains mission-critical sensitive data for on-site processing, e.g. smart manufacturing, warehouse logistics and mining/building excavations.

Neutral host mobile networks resolve coverage and capacity issues inside hotels, enterprises and rural locations. Mobile users can expect equivalent service levels as on macro mobile networks. UK operators agree on the security, safety standards and configuration settings with wholesale providers who build and operate these high-quality networks.

In today's 5G networks, Massive MIMO (multiple input, multiple outputs) helps align 5G coverage to the existing 4G footprint. Beyond 5G, as the industry explores future architectures, further advances could include 'Cell-free Massive MIMO', under academic study since 2017. The aim is to increase throughput and minimise interference and energy through the following steps:

- Deploy more antennas closer to users
- Reduce logical coverage cell boundary configurations
- Process signals system-wide, reducing interference

Find out more about this:

scotland5gcentre.org/dsit/

adtran.com/en/feature/2023/uk-5g-du-volution

Adtran

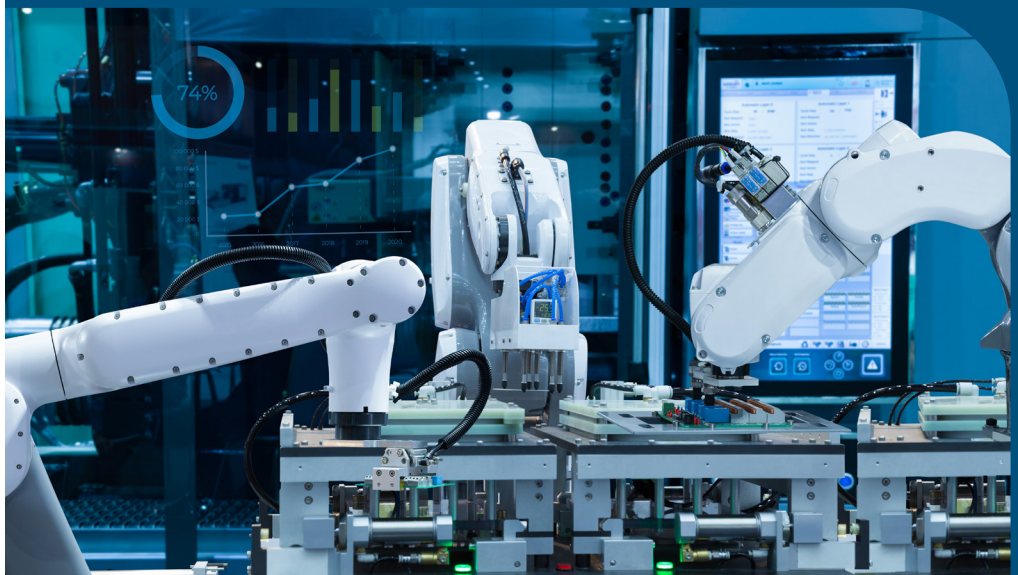
BT

ACCELERCOMM
SUPERCHARGED WIRELESS

Department for Science, Innovation & Technology

UNIVERSITY of York

Parallel WIRELESS



Events

Interested in finding out more about 5G and The Scotland 5G Centre? We host and speak at various internal and external events/workshops around the world, where we talk about how 5G can transform businesses, Industry 4.0 and how we can help. Find out more about our upcoming events, by visiting our website.

scotland5gcentre.org/events

Contact

This is a unique opportunity to work with leading industry experts within cutting edge facilities exclusively here in Scotland. Our S5GConnect hubs are located nationwide. Connect with your nearest hub now and our regional team will be happy to discuss the services and facilities available to you. All you need to do is fill out our expression of interested form.

scotland5gcentre.org/expression-of-interest/

Should you have a general enquiry, you can contact us by email. Your enquiry will be sent automatically to our team who will deal with your enquiry/request.

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