

The UK's Smartest City

City of **Smart**
Sunderland

No One
and Nowhere
Left Behind



Riverside Sunderland, the UK's most ambitious regeneration programme

Sunderland - the UK's Smartest City

Sunderland's proud history of innovation and industry forms the bedrock of its ambitious transformation into the UK's Smartest City—a vision already celebrated in *The Sunday Times' The Future of Cities*.

As a recognised leader in smart city innovation, Sunderland is harnessing advanced technology to enrich the lives of its residents, boost economic growth, and pave the way for a smarter, more connected future.

Sunderland's Smart City journey

Sunderland's success is built on a clear vision and strong partnerships. In 2019, the city convened leaders from across public and private sector to identify the opportunities for a digital strategy to underpin Sunderland's ambitious growth, best support its communities and aid innovation in the running of a sustainable metropolitan area, home to some 280,000 people.

What emerged was a set of challenges for Sunderland's people, businesses and environment that were more than matched by the commitment of those round the table to joint working to solve the city's wicked problems and create a solid platform of innovation on which to build.

That partnership approach runs through the core of Sunderland's Smart City work and is evident in the many examples of collaboration and multi-organisation use cases that have since brought the 2018 vision to life, with far reaching impact across the city.

Sunderland's Smart Impact

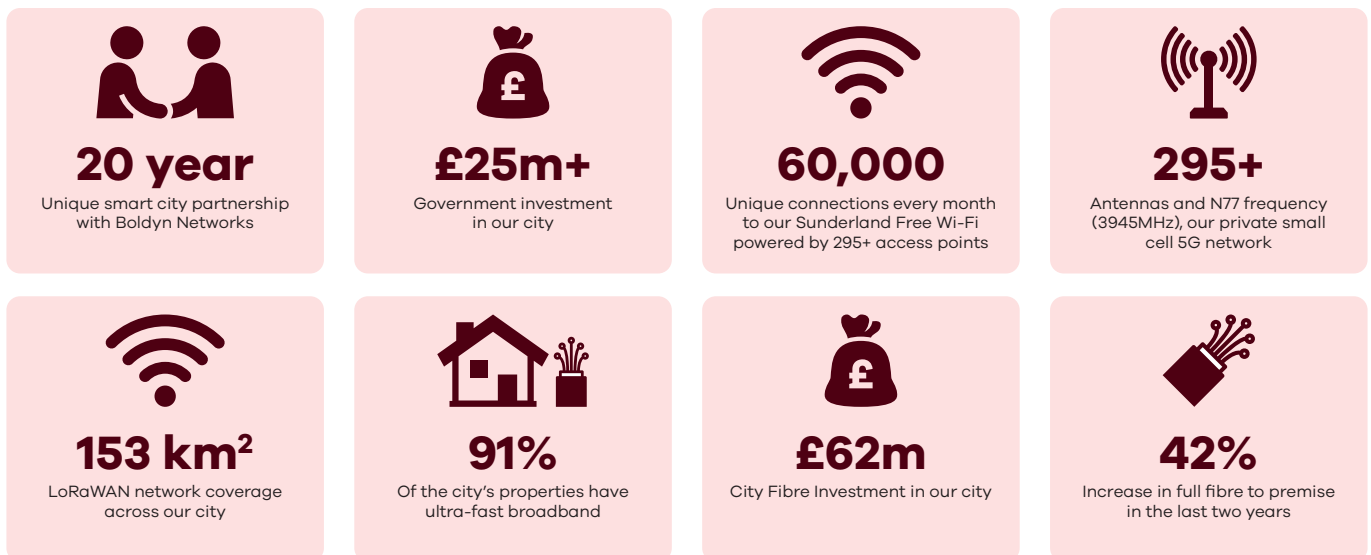
Sunderland's journey as a smart city is driving remarkable change, delivering tangible benefits that enrich the lives of its residents, businesses, and visitors.

This section highlights some of the key statistics and initiatives that exemplify the city's progress, showcasing innovative solutions and collaborative efforts that are making Sunderland a beacon of smart city success.

From ground-breaking infrastructure and efficiency solutions to transformative community programs, these achievements showcase the city's dedication to innovation and progress.

By leveraging cutting-edge technology and fostering leading partnerships across key industry sectors, Sunderland is enhancing digital inclusion, boosting economic growth, and creating a sustainable environment that benefits everyone - leaving no one and nowhere behind.

Infrastructure





Smart bin fill sensors are in place across the city



Smart play equipment installed in two key locations in city parks

IoT solutions



Air quality

Sensors managing pollution levels across our city



Winter gritting

Road temperature sensors keeping our roads safe



Mould and damp

Sensors and window openers keeping our homes safe



Smart bins

Bin fill and temperature sensors optimising waste collection



Urban mobility

Traffic and pedestrian sensors monitoring flow and improving urban planning



Lifebuoy

Sensors ensuring the safety and maintenance of life-saving equipment



Legionella

Sensors monitor water systems for legionella ensuring public health safety



Rainfall

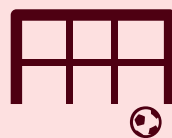
Smart buckets using solar power to monitor rainfall and assist with flood management

Digital solutions



Energy efficiency

Smart energy solutions driving energy savings and decarbonisation



Smart play

1,200+ hours of playtime enjoyed in our city parks



Assistive technologies

5,200+ homes benefitting from technologies to help keep vulnerable people safe



Stadium

State of the art X-RAN transforming the fan and visitor experience



Autonomous mobility

Trialling autonomous logistics and passenger transport in our city



Creative arts

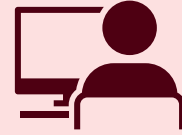
5G enabled art transmissions and 360-degree broadcasting delivering immersive content

Data



Smart City data platform

Securely and ethically harnessing data to manage our city, support our residents and plan for our long-term sustainability and success



Digital Twin

Technologies providing simulations and visualisation to aid decision making and long-term planning



Open data hub

Publishing accurate sources of data for our residents and businesses



Social Care

Aggregation of data to support our social care delivery, statutory returns and predictive modelling



Financial exclusion

Modelling of data to identify and support our residents at risk of financial exclusion



Multi-agency working

Aggregation of data sources to support communities and improve neighbourhoods



City planning & events

Visualisation of multiple data sources to provide real-time movement, travel, spend and Wi-Fi usage

Leaving no one and nowhere behind



23

Digital Hubs providing digital inclusion services in the heart of communities



126

Tech Mate volunteers supporting people to go online



359

Digital Inclusion Network members



28

Databanks distributing free data sims in our city



3,436

People attending digital events



6

Community Sports Hubs



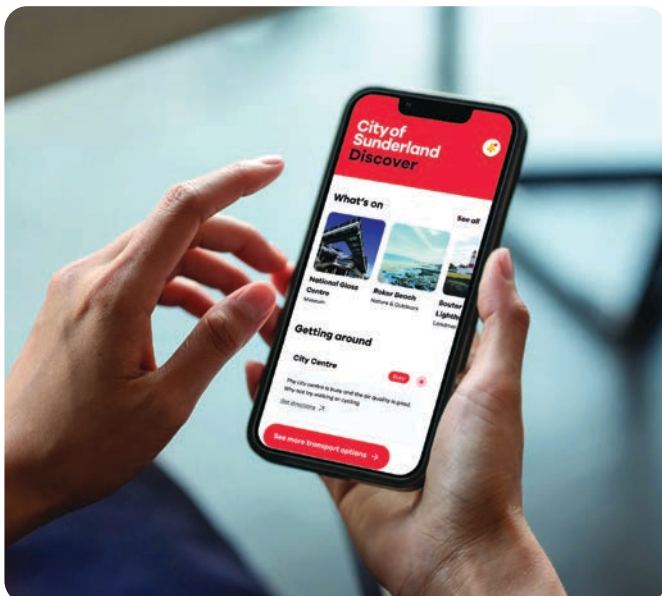
30,795

Residents engaged in Social Tariff Broadband campaign



21

Device Donation Hubs operating in our city



The Sunderland App launched this summer. A smart solution to what's on in the city



23 Digital Health Hubs across the city give residents access to support on their doorstep

Future of sports and Esports experiences with ground-breaking X-RAN technology

Overview

Sunderland's SONET project is at the forefront of innovation, transforming live sports and esports experiences through cutting-edge technology. As part of Sunderland's ambitious Smart City initiative, SONET is leveraging the power of X-RAN (Extended Radio Access Network) technology - an industry first - to revolutionise connectivity and enhance spectator engagement.



The SONET project team implementing leading technology to enhance spectator engagement

The technology

At the heart of SONET is X-RAN, a groundbreaking solution developed in partnership with industry leaders. X-RAN utilises advanced 5G infrastructure to deliver ultra-low latency and high-speed connectivity in dense environments like stadiums and the British Esports arena. This ensures seamless access to real-time data, immersive content and interactive experiences for fans.

The impact

Though still in its early stages, SONET will redefine audience interaction. Key benefits include:

- Enhanced fan experience: Viewers can access live stats, multiple camera angles and augmented reality (AR) overlays via their devices.
- Boosted community engagement: By integrating SONET technology into high usage sports and esports venues, Sunderland is fostering a more connected and digitally inclusive community.
- Economic growth: SONET positions Sunderland as a hub for innovation, attracting investment and creating opportunities in the digital economy.

Future focus

As the first of its kind, SONET demonstrates Sunderland's commitment to pioneering smart technology. It exemplifies how strategic partnerships and innovative solutions can drive growth, strengthen communities and position the city as a global leader in smart urban development.

Through projects like SONET, Sunderland continues to build on its legacy of innovation, paving the way for a smarter, more connected future.

Transforming the lives of residents and their families with assistive technology

Overview

In Sunderland, technology is more than a tool, it's a lifeline. Thanks to the city's leading work in assistive technology, over 5,500 homes are now equipped with cutting-edge solutions that empower residents to live safely and independently for longer.

This initiative is part of Sunderland's bold vision to create a smart city where technology works for everyone, improving lives and supporting the most vulnerable members of the community.

The impact

Enhancing independence and providing peace of mind: As more and more residents are introduced to a suite of assistive technologies - including motion sensors and personal alarm systems – these innovations are proven to be game changers for some of the city's most vulnerable residents and their families.

Technology for good: This assistive technology initiative doesn't just support older adults; it also protects vulnerable residents with a wide range of needs. From people with disabilities to those recovering from serious illnesses, the technology provides a vital safety net.

A smarter, more caring Sunderland: Sunderland's assistive technology is a shining example of how innovation can drive social good. By leveraging smart technology, the city is not only enhancing the quality of life for residents but also easing the burden on families and healthcare services.

Future focus

As Sunderland continues its journey as a leader in smart city innovation, a commitment to protecting and empowering residents remains at the heart of its mission.

The city is proving that when technology meets compassion, the result is a community where everyone can thrive, and no one and nowhere is left behind.



Inside our Smart City House, packed with empowering assistive technology

Driving innovation in Sunderland - 5G powered autonomous vehicles

Overview

Sunderland is leading the charge in revolutionising urban mobility and industrial operations. Through the SAMS (Sunderland Advanced Mobility Shuttle) and 5G CAL (Connected and Automated Logistics) pilots, the city is harnessing the power of 5G technology to transform transportation for residents and businesses alike.

These initiatives are a testament to Sunderland's vision of a smarter, more connected city, delivering solutions that enhance safety, efficiency and sustainability.

The impact

Pioneering urban mobility: SAMS introduces Sunderland to a new era of transportation with the city's first self-driving shuttle service. Designed to operate seamlessly on public roads, the autonomous shuttle connects key sites, such as Sunderland Interchange and Sunderland Royal Hospital, offering residents a glimpse into the future of urban mobility.

Enabled by 5G connectivity: Both the SAMS shuttle and 5G CAL truck use cutting-edge sensors and cameras to detect and respond to their surroundings, while 5G connectivity ensures real-time data processing for smooth operation.

Transforming industrial operations: 5G CAL delivered a working proof-of-concept demonstration of the teleoperation of a 40-tonne truck, with live loads delivered from Vantec to Nissan Motor Manufacturing UK fully autonomously. Phase two, entitled V-CAL, is now underway, seeking to scale and expand the deployment of Connected and Autonomous Logistics (CAL) to future-proof commercial opportunities and drive significant UK growth in this sector.

Future focus

The success of both SAMS and 5G CAL is built on the foundation of 5G connectivity. This next-generation network offers ultra-low latency and high bandwidth, crucial for the real-time decision-making required by autonomous vehicles. These pilots are already providing insights to tackle tomorrow's complex logistics and urban transportation challenges.



5GCAL trials successfully demonstrated autonomous solutions to last mile logistics at Vantec

An award-winning approach to digital inclusion

Overview

In a world where access to digital services is increasingly essential, Sunderland is a frontrunner in tackling digital exclusion and health inequalities. Through a network of 23 Digital Health Hubs, the city is not only improving health outcomes but also empowering residents with the digital skills they need to thrive.



Tech Mate volunteers are on hand to assist residents at our Digital Health Hubs

The impact

- **Connecting and upskilling residents**

The Digital Health Hubs are about more than just connectivity, they are transforming lives by building knowledge, confidence and skills. The Hubs are supported by a team of dedicated volunteers called TechMates, who provide one-on-one assistance and guide visitors using digital tools. These volunteers are instrumental in helping residents build confidence in navigating the digital world.

- **Tackling digital exclusion**

The Hubs are part of Sunderland's broader Digital Inclusion Programme, addressing the digital divide by providing residents with access to technology, affordable internet through social tariffs and digital skills training. The city's innovative approach extends to its esports community hubs, believed to be the first of their kind in the UK. These six Hubs are designed to engage young people in deprived areas, offering a fun and interactive way to develop digital skills and experience the esports industry.

- Located at the heart of some of Sunderland's most deprived communities, these hubs have already made a significant impact. With over 23,000 Wi-Fi sessions supported to date, they provide a lifeline for those who might otherwise be left behind. Six esports hubs are engaging young people in digital skills and a world of career opportunities, and countless residents are now equipped with the skills to access digital services, apply for jobs and connect with loved ones online.

Future focus

Looking ahead, Sunderland aims to expand its digital inclusion efforts, ensuring that no one is left behind in the digital age. The Digital Health Hubs are a cornerstone of this mission, demonstrating the transformative power of technology when it's accessible to all.



Crown Works Studios – a £450m film studio complex

Transforming Sunderland

The transformation of Sunderland isn't limited to just Smart City innovations, with over £4bn of private and public sector investment changing the skyline too.

The UK's most ambitious urban regeneration programme, Riverside Sunderland, is breathing new life into the city centre, a programme of change that will bring 10,000 new jobs and 2,500 new residents to the area.

World-class leisure destinations are taking shape too, creating exciting new places for residents and visitors to enjoy. This once in a generation transformation is underpinned by high quality retail, hospitality and leisure experiences as dynamic, forward-thinking retailers take the opportunity to become the driving force behind our retail ambition.

Elsewhere in the city, some 7,000 new homes will be built, creating high-quality accommodation for families of all sizes, and more and better student accommodation is ensuring that the 11,000 students who choose the University of Sunderland each year are given the best possible learning experience.

A £450m film studio complex, two EV battery plants, building on the existing automotive supply chain to Nissan, and numerous Grade A office and industrial developments, including the International Advanced Manufacturing Park, will also see tens of thousands of skilled jobs created, bringing about the most significant economic shift the city's population has witnessed in decades and creating demand for a vibrant city centre, day and night.



Riverside Sunderland - bringing new attractions, homes and businesses to the city centre



A changing city

The pace of change in Sunderland is unrivalled and the opportunity it presents to investors and partners is phenomenal. The city is living up to its reputation as a bold and ambitious place through clear progress and delivery against its plans.

The true digital leadership that exists in Sunderland is what has attracted some of world's most prominent and leading digital brands to invest here and to commit to the city in the long term.