connect with a site remotely and, where possible, carry out a remote fix, minimising downtime and lowering the carbon impact of engineer call-outs.

Moreover, in central Glasgow, the BT Hub is a digital information board and wireless zone which includes a monitor to check street levels of Co2 in real-time, giving instant feedback on air quality. This smart system can be rolled out if local councils across Scotland approve and are keen on its uptake.

When asked to identify the biggest challenges to the successful roll-out of smart cities, Mabey names the costs involved, legacy infrastructure and the need for data-sharing.

We're looking to deliver a more digitally-enabled proactive service to help make everyone's lives in the Capital better and improving wellbeing

Cammy Day, Edinburgh Council (above)

She says: "Data is the key to unlocking the potential of smart cities but it can be hard to get the quality of data you need. It can often require collaboration between different organisations - governments, local authorities, public sector and regulatory bodies, suppliers and the wider public - with all parties making sure they are on the right side of the latest data privacy laws. That can be challenging.

"However, I also think there are lots of reasons for Scotland to be optimistic about the future right now. The country has a huge heritage in offshore wind power and I think the idea of the coming shift to Electric Vehicles being powered by 'green' electricity is a really exciting prospect." ■

IN FOCUS: Capital Thinking

Edinburgh, Scotland's mediaeval Capital city with its Georgian New Town and peripheral housing estates, desperately needs to embrace smart cities technologies to handle its population growth and increasing demand for community services.

CGI is among the largest independent IT and business consulting services firms in the world and is the primary provider of managed IT services for City of Edinburgh Council, Scottish Borders Council and Glasgow City Council.

In October 2021, the company signed a five-year contract to support the City of Edinburgh Council's transformation into one of the world's leading Smart Cities. It is a big ask for a city contorted by traffic congestion, and when the closure of a main North to South arterial bridge can cause transport delays and extra pollution.

The Edinburgh agreement includes deployment of CGI's SensorInsights360 solution, a real-time data platform that delivers an end-to-end approach to the Internet of Things (IoT), asset data collection and asset management, which will be implemented through a centralised Smart City Operations Centre.

The promise is of proactive estate management, better services for citizens, healthier and safer social housing and improved waste collection through the utilisation of smart bins and recycling.

City of Edinburgh Council deputy leader Cammy Day says: "Edinburgh has big ambitions in becoming a world-leading Smart City – a digitally inclusive and sustainable city with services that are easily accessible by all of our residents. We're looking to deliver a more digitally-enabled service, making everyone's lives in the Capital better. Our partnership with CGI will help us achieve that ambition."

CGI is implementing Edinburgh Learns for Life, a digital solution to transform learning and teaching

in schools, providing equality of attainment in education. To this end, 39,000 iPads are being handed to 35,000 pupils and 4,000 teachers in over120 schools through a rollout of digital devices to every school pupil from P6 to S6.

Nicola Harvey, at City of Edinburgh Council, says: "Smart City sounds so grand but what we're trying to do is be more proactive in the way public services are delivered. Leveraging data allows us to take action to provide a better, more cost effective and sustainable range of services. We're starting with smart housing and waste management, but over time that can extrapolate to other areas such as smart building, traffic flows. I think we're at the beginning of a real journey."

A new BT Hub in central Glasgow

IN FOCUS: Data Projects

The name Bellrock is synonymous with making the supposedly impossible a reality – thanks to the Bell Rock Lighthouse, an engineering triumph built by Robert Stevenson on a treacherous North Sea reef off the Angus coast.

Likewise, founders Adam Brown and Professor Stephen McArthur have achieved the seeming impossible with their firm, Bellrock Technology, this time helping businesses and organisations navigate oceans of data to overcome challenges, operate more efficiently and trade more profitably.

Bellrock Technology is a data specialist based in Glasgow, made up of a team of experts who work with businesses from blue chips to start-ups. The company deploys its cloud software called Lumen, which makes it faster than ever to build tailor-made data products.

Together, Bellrock Technology and Lumen are a perfect fit for Smart City operations where data

Adam Brown

is collected and insights gathered to manage assets, resources and services efficiently.

Adam Brown, chief executive of Bellrock Technology, believes every sector of the economy now needs to find value from its data.

Energy, transport, healthcare, construction and manufacturing are where his company has credibility with the likes of EDF, SSE, Angel Trains and Commsworld.

Bellrock Technology also provides support to small businesses on their data projects. With around 90 per cent of all UK

businesses in the SMEs category, data insights into this market are proving invaluable in every city where Bellrock operates.

"Smart Cities is not just about driving value to the public sector and big firms, it is about providing support to smaller businesses so organisations regardless of size can exploit their data. Bellrock Technology recognises these challenges.

"Our team not only support companies on their data projects, and provide data insights, but also helps accelerate success through data by understanding the challenges. By using Lumen, they will then map a route to deliver success with your data at speed and at scale," says Brown.

"Through a combination of trust, knowledge and expertise coupled with our ground-breaking data-focused technology, Bellrock Technology can transform the landscape for anyone in any sector large or small."