

Satellite connectivity

Combatting the digital divide
to unlock long-term value



Building a better
working world

Improvements to the UK's digital infrastructure have never been more important. As businesses and consumers continue to adapt to the COVID-19 pandemic, and the UK enters a new era outside of the European Union, high-quality broadband connectivity is vital to economic growth and social cohesion. Gigabit Britain is already taking shape, supported by ongoing modernisation of fixed and mobile networks. This article explores how satellite connectivity can accelerate this transformation.

A digital divide remains pronounced, with users in remote areas lacking access to the fastest speeds and existing gigabit policies unable to guarantee network rollout in all sparsely populated areas. Looking ahead, a range of connectivity options will be essential to plugging this gap and increasing digital inclusion.

With this in mind, satellite connectivity has a critical role to play in increasing the reach and resilience of connectivity. Supported by improving technology credentials and greater levels of investment from a range of actors, satellite connectivity is well-positioned to take a central role in industry ecosystems designed to improve access to the online world.

EY's consumer and small to medium enterprise (SME) research underlines that satellite connectivity is now a credible alternative for demanding customers, whether consumers or businesses.

Using these insights, this report summarises the various actions operators can take to improve their value propositions and unlock long-term value.



1

Harness satellite as a tool to increase digital inclusion

Many customers view satellite as a viable primary connection

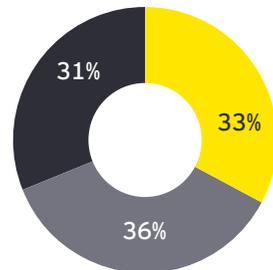
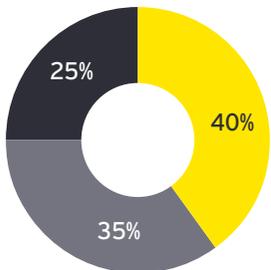
Our latest customer research shows that both consumers and SMEs are responsive to satellite broadband offers. Forty percent of households would be interested in taking a satellite package if it offered greater reliability compared with what they already have. This is startling, since satellite is not a mainstream connectivity option for consumers.

At the same time, 33% of SMEs nationwide would be open to considering satellite broadband as a primary connection – if full-fibre broadband was not available at their business site. This consistency of interest across consumers and enterprises underlines the breadth of the addressable market for satellite services. While full-fibre and 5G mobile are fuelling a new generation of digital infrastructure, the role of satellite cannot be ignored.

Figure 1: UK customer receptivity to satellite broadband

Consumers would be interested in taking a satellite broadband package if it offered more reliable connectivity than their current broadband package.

SMEs would be interested in exploring satellite broadband packages as a primary connection, if full-fibre broadband was not available at their business site.



■ Agree ■ Neither agree nor disagree ■ Disagree

2

Make the most of demand for resilient connectivity and business continuity

Satellite has key role to play in combating network outages

Our customer insights also highlight that back-up connectivity is much more than a nice-to-have. Thirty percent of households would be prepared to pay more for their broadband package if it offered back-up connectivity in the case of network outages. This appetite comes at a time when resilient connectivity is more important than ever: our consumer research also tells us that households tend to value reliable connectivity over the speed of the connection per se. Meanwhile, 31% of SMEs are keen to explore satellite broadband as a back-up connection in the case of network outages. Businesses in both urban and rural areas show heightened receptivity, with 33% citing interest respectively. Ultimately, satellite connectivity can play a key role in combating the downsides of network outages wherever customers are located.

Figure 2: UK SME interest in satellite as a back-up connectivity option

SMEs would be interested in exploring satellite broadband packages as a backup connection, for continuity of connection when their terrestrial internet goes down.

% agree



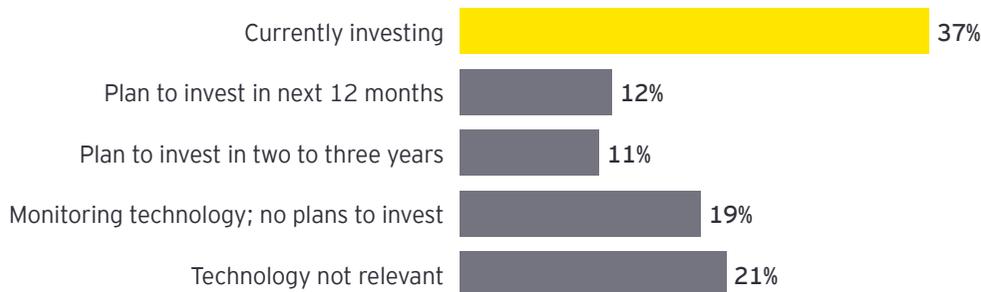
3

Supercharge the Internet of Things using satellite

There are specific Internet of Things (IoT) use cases where satellite can come to the forefront to drive growth

Much is made of the industrial opportunity in IoT: in our most recent survey of large UK enterprises, 60% across industries were either currently investing or planning to invest in IoT. At present, cellular technologies – from 5G to low-power wide-area (LPWA) networks – and fixed-line dominate the IoT landscape. Yet, use cases from pipeline gas monitoring to agribusiness solutions and marine traffic control could all benefit from the ubiquitous connectivity offered through satellites. Considering satellite's potential role in the IoT technology mix should be top of mind for fixed-line and mobile operators looking to in-fill coverage gaps and unlock new use cases. For satellite operators themselves, IoT use cases provide scope to develop new relationships with industry customers while deepening existing relationships in maritime and aviation segments. Opportunities to develop IoT platforms with analytics capabilities should be front of mind.

Figure 3: UK large enterprise investment in IoT



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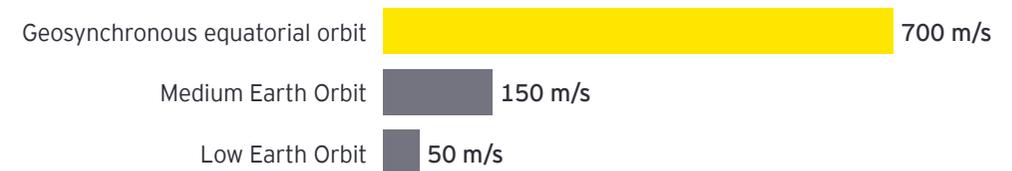
Take advantage of satellite's latest technology benefits

LEO capabilities provide a radical improvement in performance

The new breed of Low Earth Orbit (LEO) satellites offer significant advantages over traditional satellite communications. Faster speeds and lower latency, coupled with lower costs – whether relating to launch and constellation maintenance or ground system equipment – open the door to new terrestrial use cases. Mobile backhaul is an important example: LEO offers better performance than geosynchronous (GEO) links, without recourse to compression on transmission control protocol (TCP) acceleration, for example. As a result, LEO satellites can substantially improve the economics of wide area 4G and 5G coverage.

For mobile operators, this presents a compelling opportunity to work with satellite operators to bring down mobile network opex and capex, while maximising infrastructure coverage. And for satellite operators, this underlines the breadth of business model opportunities that are available. The ability to provide 'mobile backhaul-as-a-service' represents an important area for innovation going forward.

Figure 4: Indicative latency comparison of satellite by constellation type*



* Source: dgtlinfra.com

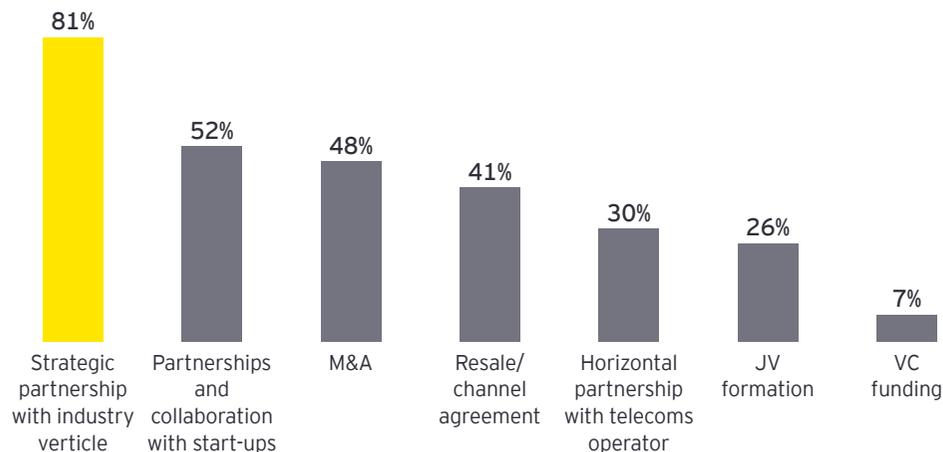
5

Reimagine your partnerships to make the most of the satellite opportunity

New alliances can help all service providers take advantage of satellite connectivity

Given satellite's burgeoning role as a tool to narrow the digital divide, improve backhaul economics or become part of the IoT business case, it is vital for operators to think how best to tap into its capabilities. In our most recent telecoms industry survey, channel partnerships, horizontal and vertical partnerships all figure prominently as key inorganic growth strategies. In this light, dialogue, discussion and collaboration between satellite connectivity providers and their fixed and mobile counterparts can help meet a growing number of strategic imperatives – from increasing customer stickiness to unlocking new IoT propositions and lowering the cost of rural network rollout. There is also plenty of scope for direct collaboration with industry verticals themselves in order to create new IoT use cases.

Figure 5: Priority inorganic growth drivers for global communications providers



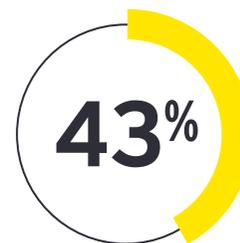
6

Keep the value proposition simple, make it persuasive

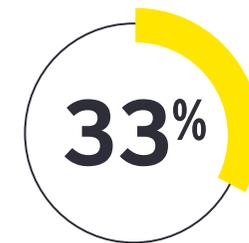
Positive customer perceptions are critical

The reach of satellite connectivity is unparalleled – and there are already encouraging signs that both consumers and businesses are receptive to what it can offer. Yet many end-users still lack awareness of what it can provide, not only in terms of 'always on' availability, but in terms of costs and customer service too. As service providers look to bring satellite connectivity options into their service portfolios, a relentless focus on customer experience is essential. Easy-to-use products and services, clear and compelling pricing, and simple installation processes are all vital, particularly if satellite options are made available through a partner ecosystem or as part of an integrated bundle of services. Ultimately, the customer journey – for consumer and business alike – needs to be simple and frictionless if satellite services are to maximise the critical role they can play.

Figure 6: Customer attitudes to telecommunications packages and service providers



of customers say easy to understand pricing is a top consideration when selecting a broadband provider.



of customers believe communications services are very difficult to understand and it is hard to choose a package that meets their needs.

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The new generation of satellites has the ability to transform the world of connectivity, from opening up brand new use cases to making the economics of terrestrial networks more viable.

Now is the time to reimagine the world of satellite, reevaluate it's place in the connectivity ecosystem and focus on making targeted solutions a reality.

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