

WHITE PAPER

SATELLITE BACKHAUL

FUTURE PROOFING
THE CUSTOMER EXPERIENCE



Quality. Flexibility.

Executive Summary

- ▶ Data demand is being driven by the increased popularity of connected devices, such as smartphones, tablets and laptops, as well as usage habits; most notably video content including HD streaming, Apps and Cloud services. Global mobile revenues are predicted to reach \$1,200tn¹ by 2020 driven by a sustained increase in global mobile data traffic, exceeding 68 Exabyte's (EB) per month in 2022². 70% of this revenue will be generated over 3G and 4G networks.
- ▶ As the demand for data grows, Mobile Network Operators (MNOs) with a strategy focusing on Quality of Service (QoS) will gain the competitive advantage, as this will include extending the networks reach, especially to rural and remote areas. In order to deliver the best QoS, MNOs will improve existing cell site capability and densify their networks through the addition of microcells and/or small cells. This QoS improvement will result in increased demand for backhaul and this requires a rethinking of the strategy and technologies used. To deliver a superior service experience, even in the most remote and rural locations, the blend of backhaul technologies should be flexible, highly scalable, cost-effective and most importantly, future proof.
- ▶ A key challenge for MNOs is how to identify a backhaul strategy to accommodate both traditional and new technologies. MNOs that utilise a full range of backhaul technologies, including Ka-band satellite, will be at an advantage as they will deliver high quality mobile broadband services through ubiquitous 4G coverage. The advantage of better coverage and network user experience, in turn, drives customer satisfaction, a decrease in churn and increase in revenues (through increased usage and customer acquisition).
- ▶ Getting the backhaul strategy right requires overcoming both commercial and practical challenges. Commercial challenges include securing highly reliable, flexible, scalable backhaul at commercially viable rates. Practical challenges concern the seamless integration of backhaul services into increasingly complex network management systems.
- ▶ Ka-band satellite backhaul technology is vital for MNOs looking to provide the coverage, capacity and resilience required to guarantee 4G service ubiquity. Avanti Communications not only provides ultra-fast speeds and the resiliency MNOs require, but also provides end-to-end network integration for 3G and 4G. In addition, our world leading High Throughput Satellite technology also ensures the MNO's network is future proofed, as we are 5G ready.

¹ GSMA, Global Mobile Economy 2016

² Ericsson, Mobility Report, 2016

³ Global Mobile Suppliers Association, June 2016.

⁴ (GSMA, Q2 2016).



Resolving the 4G Backhaul Challenges

Avanti is the world's first satellite operator to deliver 3G and 4G Satellite Backhaul services using Ka-band technology. Fundamental to the success of Avanti's Satellite Backhaul is the integration of Ka-band technology into MNOs' complex networks.



Vodafone 3G

Avanti is working with Vodafone to extend 3G mobile data connectivity to base stations that experience seasonal fluctuations in traffic. We deliver ultra-fast, ubiquitous coverage and provide flexible bandwidth capacity to meet the MNO's network demand, wherever it is.



EE

EE (part of the BT Group) was the first to launch 4G service in the UK in 2012. As part of its requirement to upgrade network resilience, reach and flexibility, EE has tasked Avanti to test, install and integrate a Satellite Backhaul service. This is the world's first major commercial deployment of 4G Satellite Cellular Backhaul. Avanti is providing backhaul to over 1,000 fixed base stations integrated into EE's national 4G network. The Avanti backhaul solution will provide management reports to ensure 4G network congestion and outage events are identified and resolved before a loss of customer experience can occur.

Mansoor Hanif, Director of Convergent Networks and Innovation at BT stated:

"We are delivering a highly resilient, truly nationwide 4G network and Avanti will play a key part in providing resilience and extending this network into rural areas"

Conclusion

MNOs across EMEA have begun the transition from 2G and 3G networks to 4G networks. Furthermore, BT, Orange, Telefonica, DT and Vodafone have signed MoUs to begin 5G trials. Having a proven backhaul service to underpin 4G QoS, coverage and capacity requirements become a powerful platform for retaining the existing base and acquiring new customer revenues. Satellite Backhaul is an essential component of any backhaul service for MNOs to successfully manage the complexities of multiple existing technologies and the future transition to 5G.

Avanti is the world leader in Satellite Mobile Backhaul. With a wholly owned satellite network and commercially proven backhaul propositions, Avanti offers the latest satellite technology and expertise to integrate backhaul into the most complex mobile networks. Importantly, our High Throughput Satellite technology is reliable, flexible, scalable and readily available for 5G.

Make Avanti your partner for today and tomorrow's backhaul requirements.

We'll be in touch in the next few days to provide the more detailed version of this whitepaper and answer any questions you might have about satellite backhaul. In the meantime, please visit our website [to find out more about our Smarter Backhaul](#).

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