



Avanti offers 5G services

**ASSURED, FLEXIBLE, HIGH CAPACITY
COMMUNICATIONS DELIVERED AT SPEED.**

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Overview

Avanti and 5G satellite connectivity:

- We offer 5G transport network services over our satellites today using the same satellite communications systems providing 2G/3G/4G satellite backhaul service;
- We support static slices carrying different 5G services, such as fixed wireless access and IoT, to be sent separately over the same satellite link;
- Avanti has led the way integrating satellite into 5G with projects such as the “Satellite and Terrestrial Network for 5G (SaT5G)” initiative that we coordinated.

5G backhaul services from Avanti

Avanti offers high-throughput satellite backhaul solutions to fixed and mobile operators across EMEA, allowing them to roll out their networks in rural areas, reduce black spots, and complement their networks when they are down or when there is a surge in demand. We were the first to deliver commercial 3G and 4G Ka-band backhaul services in EMEA and today we offer 5G backhaul connections using the same field-proven and reliable systems; the same VSATs, hubs and satellite gateways. These satellite connections act as a 3GPP transport network to link the 5G base stations with the 5G core. These 5G base stations may be collocated with the 2G/3G/4G base stations and share the same satellite connection.

Slice support available when needed

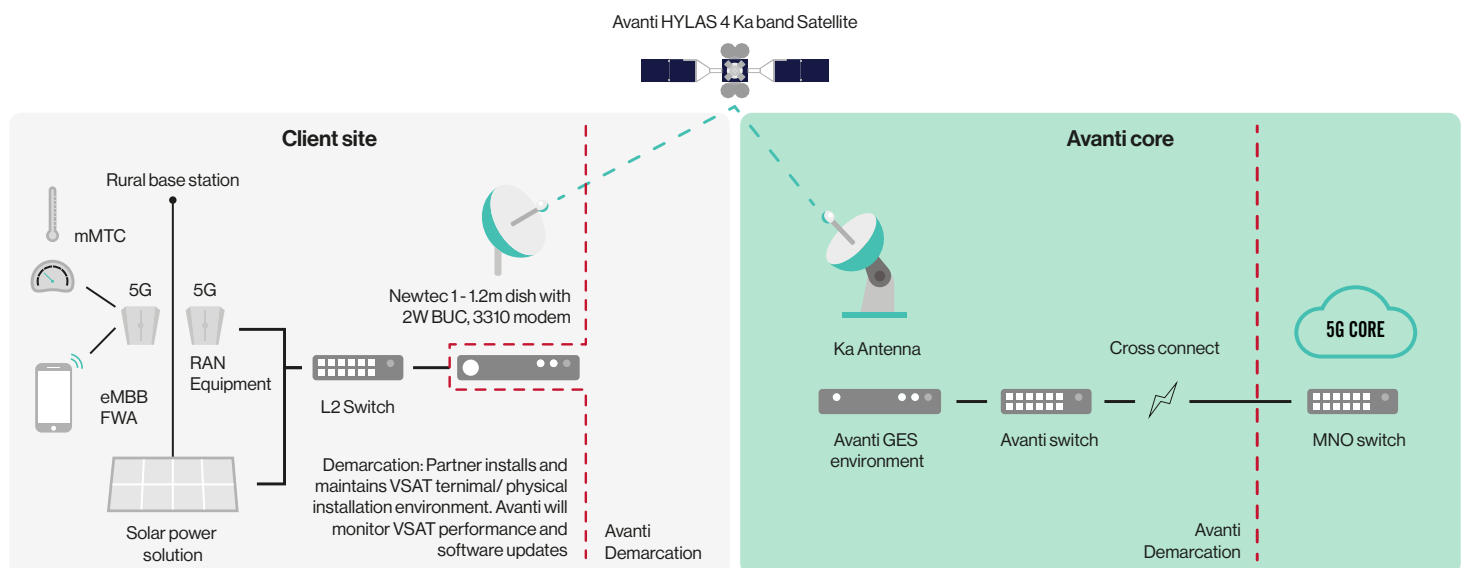
3GPP states¹ that “Network slicing is a key feature for 5G. Network slicing is a paradigm where logical networks/partitions are created, with appropriate isolation, resources and optimized topology to serve a purpose or service category (e.g. use case/traffic category, or for MNO internal reasons) or customers (logical system created “on demand”).”

Slices may be used to separate traffic between different customer groups such as those getting broadband using 5G to provide fixed wireless access from data aggregation from sensors monitoring some critical national infrastructure or resources. With our current VSAT systems we support static pre-defined slice separation and we have identified ways to allow these same systems to be upgraded to support dynamically created slices in accordance with the 3GPP specifications.

Avanti and 5G

We led the €8.3m SaT5G (an EC H2020² project) along with a group of blue-chip and expert partners in actively testing 5G applications over our satellite network. Amongst other things, this project provided significant inputs to 3GPP and other standards organisations to recognise the multiple roles for satellite integrated into 5G networks.

Avanti further developed this expertise in the €15.8m 5Genesis project (funded by the EU) where we developed and tested the ability to support 5G slices within the Avanti satellite systems. We have a potential roadmap to allow these systems to be controlled by the 5G core and related OSS/BSS/billing functions to support dynamic slicing when this will be needed.



¹ TS 28.530, Management and orchestration; Concepts, use cases and requirements,

<https://portal.3gpp.org/desktopmodules/Specifications/SpecificationDetails.aspx?specificationId=3273>

² Satellite and Terrestrial Network for 5G <https://cordis.europa.eu/project/id/761413>, including BT, Gilat, ST Engineering, Thales, and Airbus