

A group of soldiers in camouflage uniforms and helmets are positioned in a dusty, arid environment. In the background, a large military helicopter is visible, partially obscured by the dust. The scene is hazy and has a warm, orange-brown color palette.

Avanti Communications:

**WE CONNECT
THOSE WHO PROTECT**



We are a trusted provider of high throughput satellite capacity in EMEA



Donald Walker

Senior Vice President Government & Defence

Avanti is a trusted, high-performance partner to governments, agencies and militaries across EMEA. Our Ka-band high-throughput satellite capacity guarantees secure and resilient connectivity providing rapidly deployable, critical communications and information advantage for the widest range of mission requirements.

Our dedicated Government & Defence division delivers agile, robust and user-focussed solutions. We understand the military environment and we share the imperative to deliver success to our front-line customers.

Our beams are optimised to support the smallest antenna and to deliver the highest throughputs required for large capacity ISR dissemination – on land, sea and in the air. Capabilities and requirements that are equally applicable to non-military organisations promoting peace and security through soft power activities, such as peacekeepers, first responders and emergency services.

This report contains key information and case-studies illustrating how Avanti has evolved to be a strategic partner to global defence and military organisations, and a credible and effective contributor to forces engaging in peace-keeping and disaster relief efforts. We are proud of the work we do in this area and are pleased to share how we are striving for excellence in all areas of our defence and military support services.

We have a unique set of assets delivering secure communications for every mission type

Avanti operates a fleet of 4 satellites delivering 50GHz of Ka-band capacity. Positioned and operating from our own prime orbital positions, we have the ability to connect users across EMEA with our fixed beams and have the reach to connect customers from the Americas to the Far East with our steerable beams.

We are proud of our reputation of driving innovation – we were the first commercial operator and provider of HTS Ka-band satellite connectivity; we are at the forefront of providing satellite-based educational connectivity across Africa and, in December 2019, Avanti's HYLAS 3 satellite capability became the world's first Ka-band steerable cluster of high throughput spot beams.

At the core of our capability are our very high-throughput satellites that provide exceptional capacity; but these are so much more than just providers of exceptional capacity. Our technological capabilities also include steerable

beams that can switch between Civilian or Military frequencies, military grade encryption, end user beam steering controls and the ability to provide obfuscated beam positioning - all features that are ideally suited to the needs of the military and government agencies.

Most users understand that the space segment (the satellites) delivers only 50% of the connectivity continuum. The rest of the service is made up of the ground segment. At Avanti we own our own ground segment, delivering a fully diverse and secure ground network of Gateway Earth Stations in the UK, Germany, Turkey, Cyprus, South Africa, Nigeria and Senegal, all connected by a private fiber ring-main. This ensures we can control and safeguard our customers' data traffic up to the point of hand-over into their secure networks.



A resilient ground network

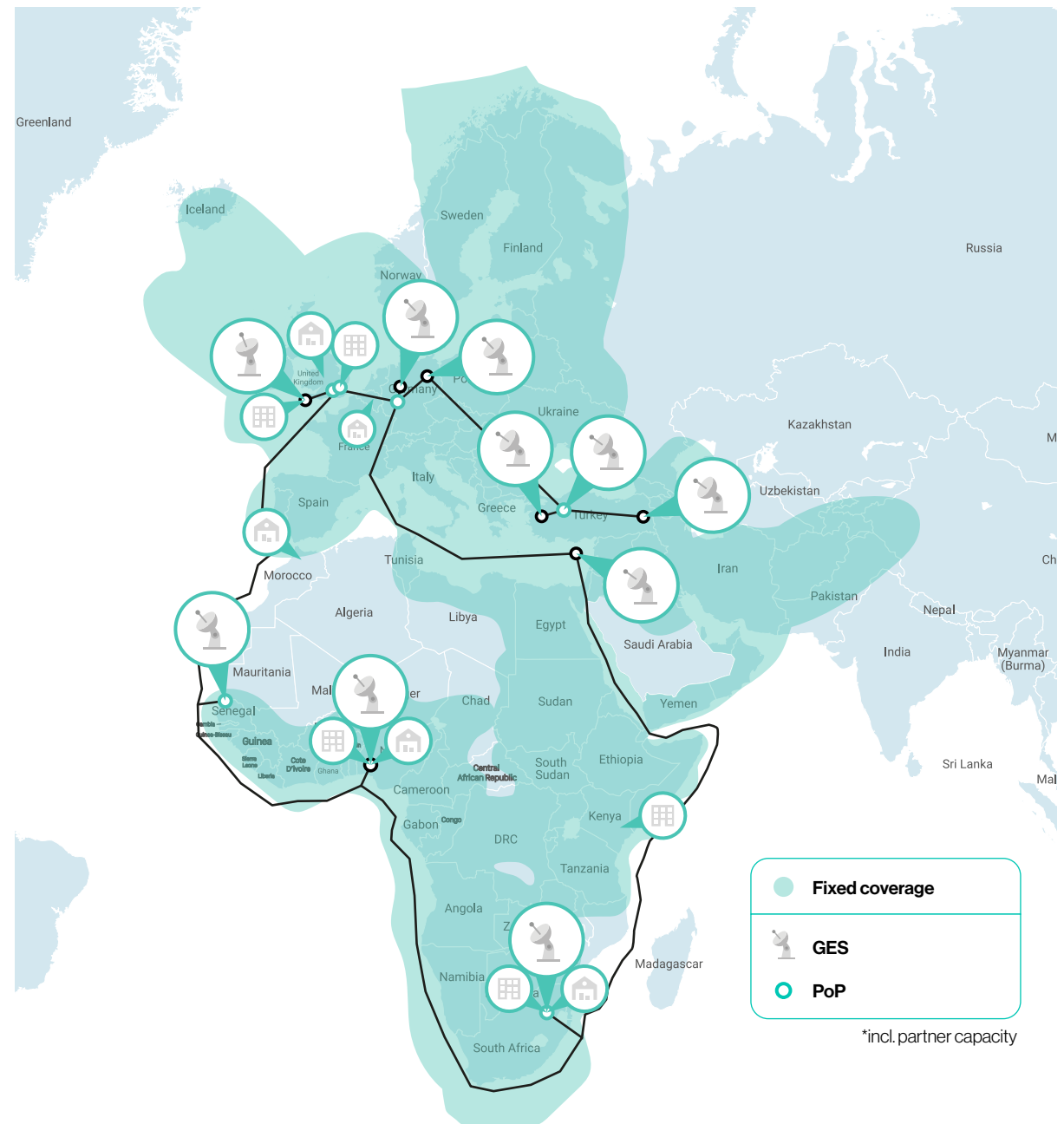
1 Fully operational and fully regulatory approved ground network

2 Interconnected via redundant fiber links

3 Fully authorized operations in Africa

4 Dual redundant antennas serving all satellites from geographically diverse ground stations

5 99.9% + SLA



A proven record of supporting government operations

Avanti has delivered continuous, high capacity connectivity to government operations since 2017. We have provided this to a wide range of military and government users, delivering a flexible portfolio of solutions tailored to the end users' specific requirements and ranging from pure space segment capacity to fully-managed end-to-end services.

Our high throughput Ka-band satellites are designed to deliver very large capacities. The power and focus of our beams also makes them particularly well suited to connect the very smallest satellite antennas. This makes Avanti's connectivity the perfect solution for early entry forces travelling quickly and lightly with very small man-portable terminals or for users seeking communications on the move.

Our connectivity supports genuine scalability, providing high capacity throughput to single users with a deployed back-pack terminal all the way to delivering Gbps backhaul on large fixed antennas for ISR backhaul. With Avanti, users can exploit the latest C4ISR tools and applications to gain information advantage.



We help military forces enhance their operational capability by extending their information reach

Military forces trust us to provide fast, secure, satellite services that deliver reliable, affordable communications beyond the reach of traditional wired connections. In addition to delivering battle-proven solutions and capability today, we are also leading the way in helping Governments identify and deliver the solutions of tomorrow. Working closely with the leading providers of Satellite Communications on the Move terminals – for ground, maritime and air vehicles – we are pushing the boundaries on mobile connectivity. We are also leading or supporting R&D in: 5G from space, flexible modem interfaces, commercial SATCOM pooling and sharing, tactical RF communications over satellite and a host of other Government-focused applications.

Higher capacity

10 to 20 times more capacity than Ku satellites, and 5-10 times more capacity than other commercial operators on like-for-like terminals

Interoperability

Widest range of in-use terminals accredited for use on Avanti network, and a rapid on-boarding process for new equipment certification

Resilience

Overlapping matrix of fixed and steerable beams offering resilience and contingent capability through beam duplication

Low SWaP dishes

High power, high efficiency beams generating the greatest capacity to the smallest terminals

Agility

Ability to stand up new operations in new beams in hours, not weeks

Sophisticated service offering

Flexible contracting geared to the tempo and nature of military operations (switch-on/switch-off; portability of airtime bundles between theatres; operational pauses, etc.)

Lower cost

The most competitively priced military capability on the market due to efficiencies generated by use of tightly focused spot beams which concentrate power and spectrum re-use

We are transforming the way military forces use COMSATCOM and enhancing their C4ISR capabilities

Our fleet of high throughput satellites and state-of-the-art ground network provide fibre-like throughputs at a price point that is transforming the utilisation of commercial SATCOM. Avanti's technology can provide military commanders with highly secure and resilient communication at a price that allows them to permanently stream data, without constraint or data caps, allowing users to exploit the latest C4ISR tools.



From manpack communications to maritime or land-based Comms-on-the-Move



From rapidly established communications on the pause to very high capacity fixed base backhaul requirements



From manned and unmanned airborne surveillance to covert vehicle mounted antennas



From strategic-level intelligence and data dissemination to morale, welfare & recreation



We help military and government users win information advantage – in all theatres of operation

We have proven, enduring experience supporting special and early entry operators in some of the most arduous and critical operational theatres. Utilising fixed beams with rapidly accessible coverage or steerable beams with secure, obfuscated steering control, Avanti's capacity and mode of operation has been designed around the military end users' specific needs.

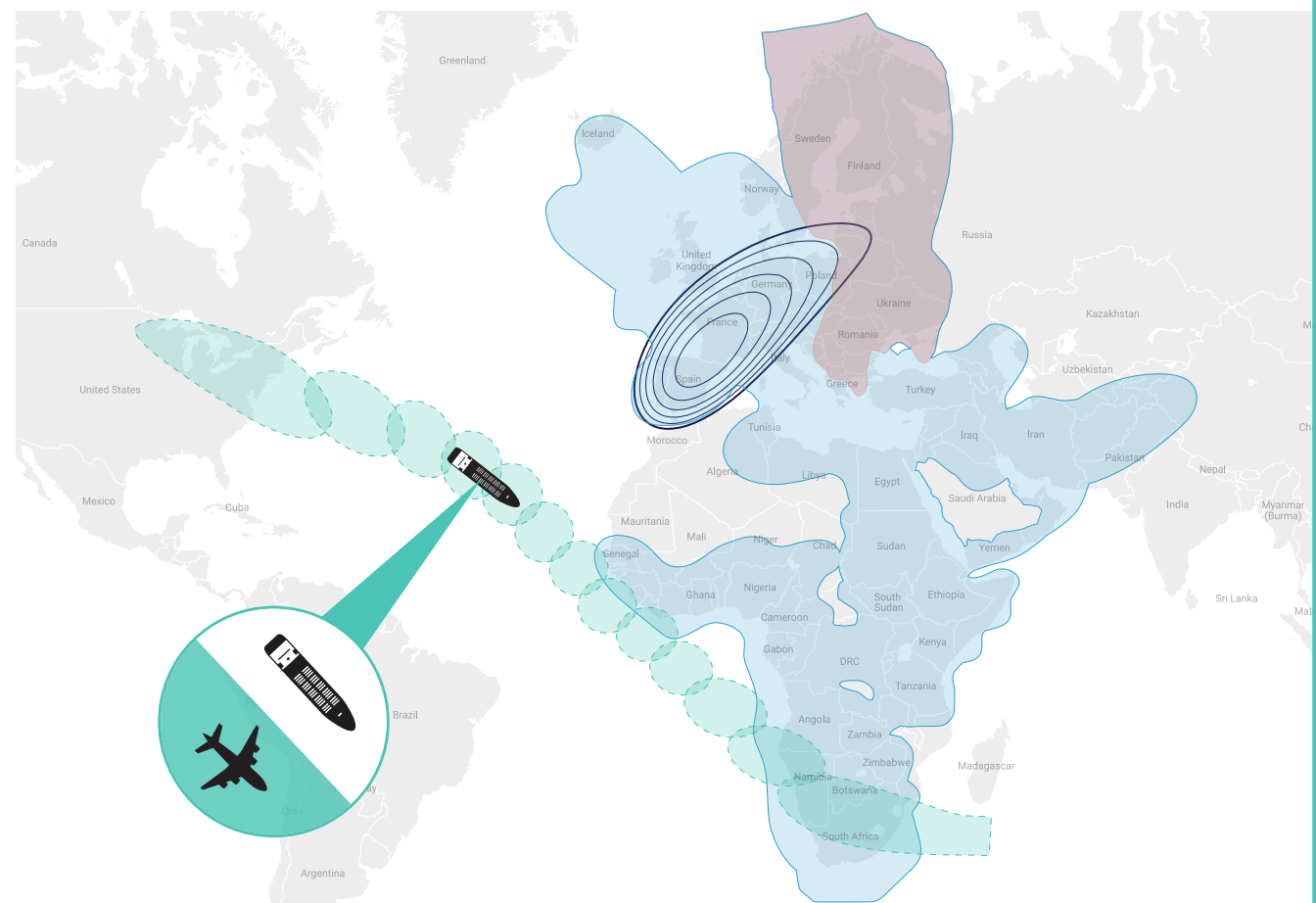
We provide high capacity, focused communication capabilities across Europe the Middle East and Africa. We are able to respond rapidly to emergent or contingent missions or provide resilience and enduring capability to more sustaining operations.

Our satellite capacity, capabilities and affordability is changing the way the military uses satellite communications. It gives war-fighters and commanders the necessary bandwidth to access and share intelligence from anywhere, exploit the technology and tools at their fingertips and is helping them make better decisions faster.

By providing underpinning capacity and connectivity Avanti is helping to enable the realisation of the US DoD's and NATO's digital transformation agendas, including Joint Domain Command and Control (JDAC2), Advanced Battlespace Management Systems (ABMS), Distributed Maritime Operations (DMO) and wider

programs for distributed, networked connectivity – on the move, on the pause and on the halt. With Avanti's connectivity military commanders

can enhance the processing and dissemination of intelligence and exploit the value of AI and Machine Learning to speed up decision making in the field.



Steerable Tracking Capabilities HYLAS 3 Steerable Example HYLAS 4 Steerable Example

We deliver resilience to critical infrastructure and connectivity in the wake of disasters

Drawing on the experience of supporting military forces, we have developed the skills and capabilities to assist non-military organisations who promote peace and security through soft power activities, such as peacekeepers, first responders and emergency services.

When disasters strike, lines of communication need to remain open. Satellite communication plays a crucial role in providing reliable and secure connectivity when and where it matters the most, for first responders, government bodies and health organisations.

Effective, well-organised and pre-prepared responses help mitigate the effects of disasters. Avanti's satellite systems provide secure, resilient and cost-effective connectivity in disaster situations, providing critical tools for emergency communications and situational awareness.

We can also support disaster recovery using our steerable beams. At very short notice we were able to move one of our beams over Mozambique to provide vital connectivity for rescuers when Cyclone Idai hit the country in March 2019.

How we supported Niger's response to COVID-19

Using HYLAS 4 capacity, Avanti provided resilient and secure satellite connectivity and equipment to 10 government sites across Niger, keeping lines of communication open for key government bodies. We collaborated with the National Agency of Information Society (ANSI), the technical arm of the government of Niger that was responsible for coordinating ICT solutions in the Covid-19 response in Niger.



We make it easy for government users to get access to our satellite capacity

We have established partnerships with a wide range of integrators and operators who have direct contractual frameworks with governments to provide capacity and capability across EMEA.

We have the fastest process of new terminal accreditation and on-boarding in the industry, ensuring customers and end-users can bring their own devices into the Avanti network quickly and effectively, whilst meeting all international regulatory obligations.

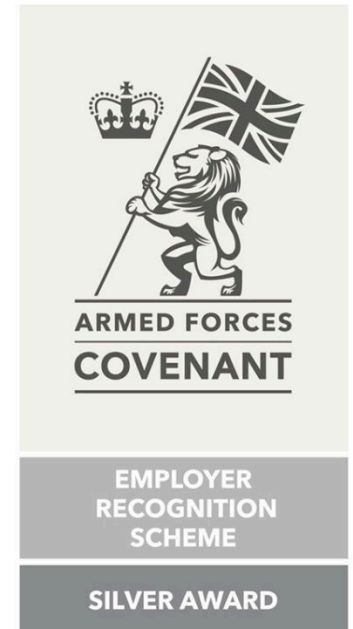


Our partnership with those who serve goes beyond the frontline

We understand that government and national services are more than a job. We value the sacrifices that military and emergency service personnel make and we recognise the skills and contribution they can offer outside of government service. We are a corporate partner of the military charity, Walking With the Wounded and are proud to support their aim of ensuring disadvantaged veterans who have served in the Armed Forces and their families are empowered, to regain their independence, thrive and contribute to our communities.

"As a company that works closely with governments and peacekeeping forces around the world, we are keen to show our thanks and respect for those who put themselves on the frontline to protect others. Walking With The Wounded is a fantastic charity that highlights the resilience and strength of the men and women who have been wounded at war."

Kyle Whitehill, CEO, Avanti Communications





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