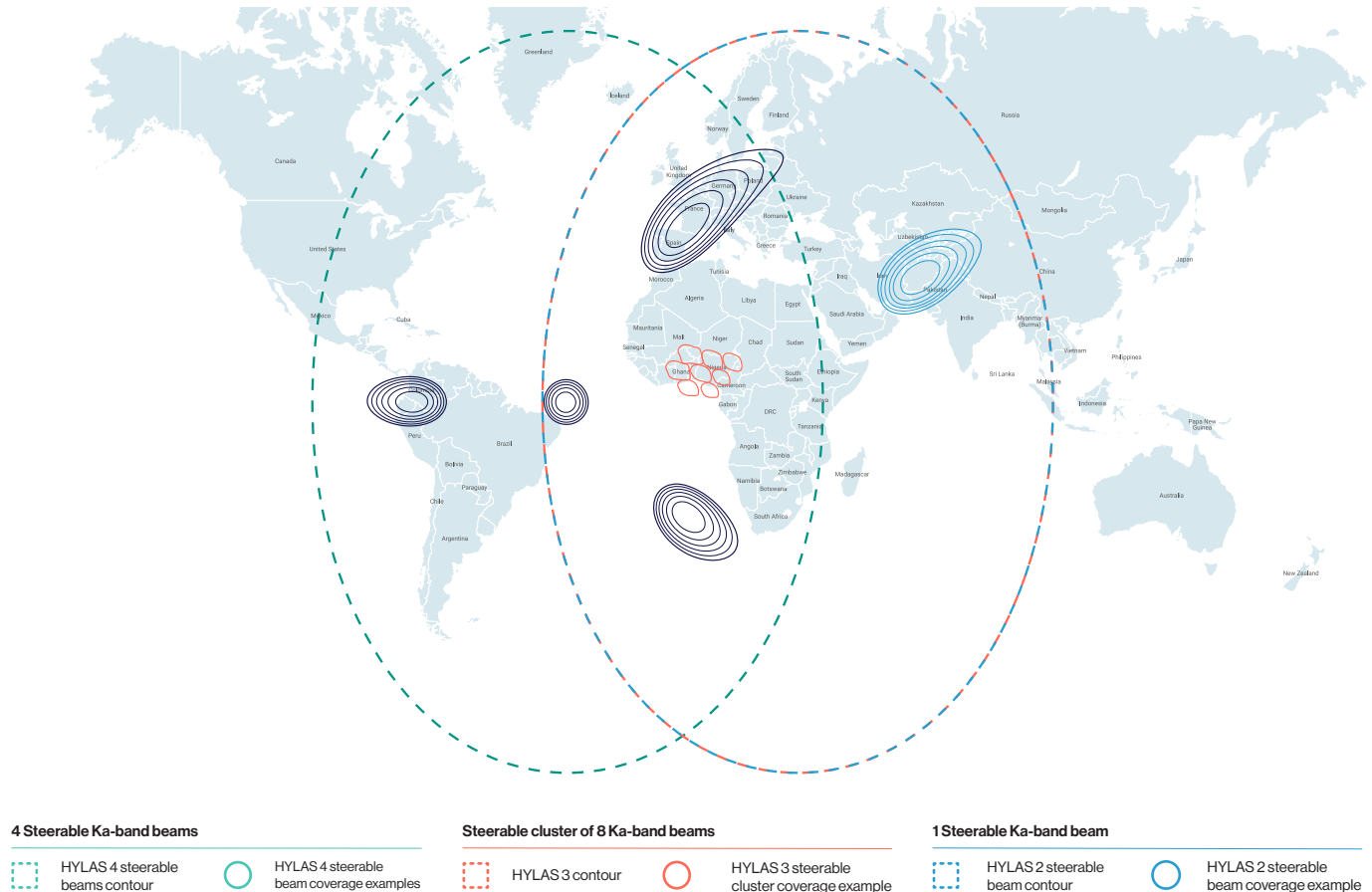




# Steerable Capability Specifications

# Steerable Capability Specifications

With 5 steerable beams and a steerable cluster of 8 beams, Avanti provides guaranteed and immediate high-throughput capacity and real-time tracking.



## Avanti Steerable beams brings unparalleled flexibility and security

### Guaranteed capacity anywhere & full control

Anywhere within the satellite visible earth disk.

Full steering rights on Mil band User control via secure API

- Rapid manual steerable control, as a service
- 2 minute SLA tracking at greater than MACH 1 speeds via API
- 20 minute SLA for cross continental moves via API

### Higher capacity

5-10 times more capacity than competing steerables on like-for-like terminals

### Real-time tracking

- MACH 1 speeds
- 10 minute SLA for cross continental moves

### Flexibility

- Option of gateway locations in the US and Europe
- Frequency switchable between civil and military Ka-band

### Assurance

- Highly secure and resilient communication networks.
- Sovereignty of data (landing directly into a Government GES in the USA) Obfuscated positioning
- MOD compliant

### Contingency

Primary bearers can be switched in extremis for contingent backhaul to provide operational resilience

### Low SWaP Terminals

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

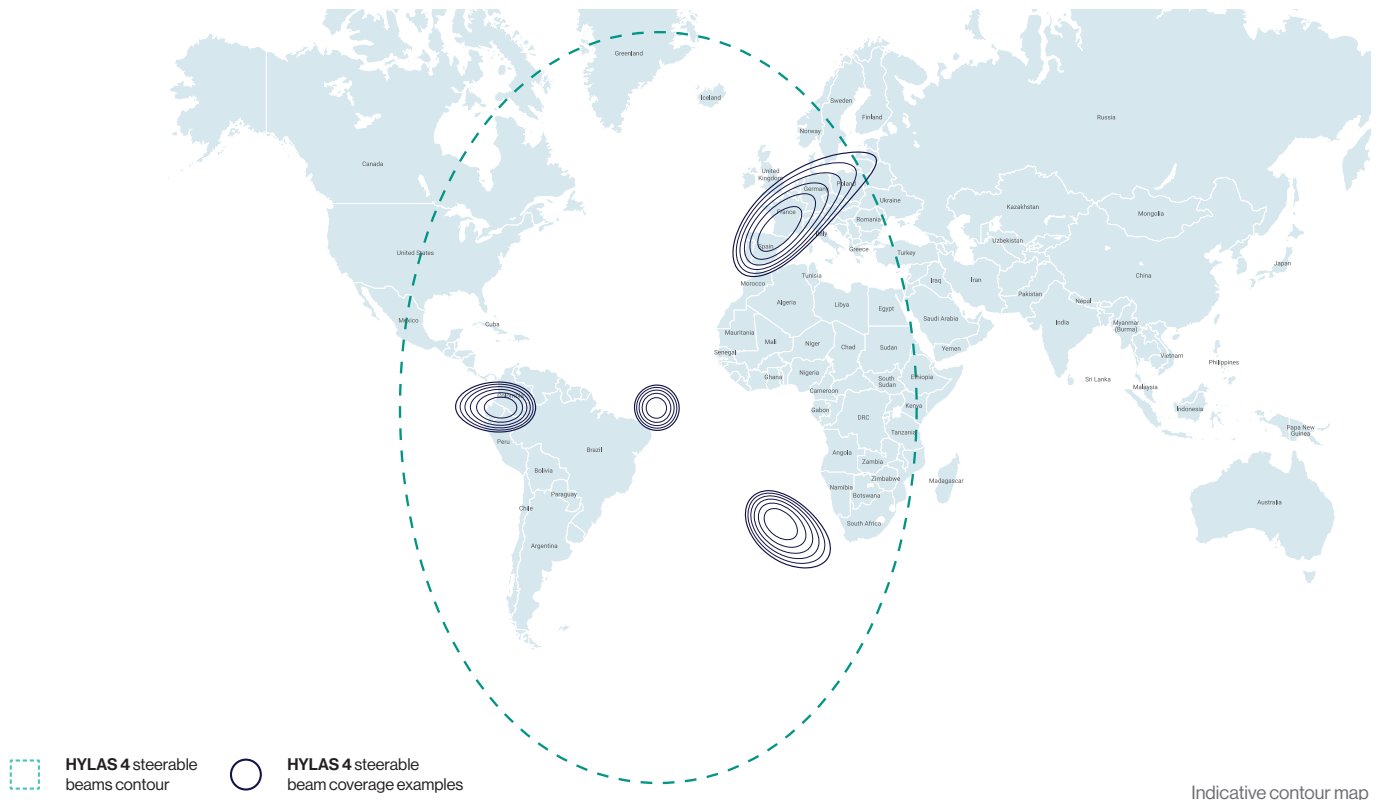
### Lower cost

Competitively priced military capability – Efficiency due to focused spot beams which concentrate power and re-use spectrum



# HYLAS 4 – Steerable Capabilities

HYLAS 4 has 4 steerable Ka-band beams that can be pointed independently anywhere on the Earth's surface, visible from 33.5° W, providing real-time tracking and full steering control. In addition, HYLAS 4 has BSS service capabilities.



## HYLAS 4 Real-time Steering

### Real-time tracking

- Maritime and airborne tracking with fully automated steering capability driven by the customer via API with 2min SLAs (up to the speed of Mach 1)
- Beams can be moved rapidly with a full horizontal and vertical traverse taking only 10 minutes for (inter-continental).

### Full communication and control

- Airborne data link for strategic command & control with assured high-data rate with the USA
- On-route mission & command control for mission update
- C4ISR datalink
- Sovereignty of data - capability to have data landing directly in the USA

## HYLAS 4 Steerable Beams Mission

### Steerable Beam Performance

EIRP (at edge of coverage)	> 54.0 dBW
G/T (at edge of coverage)	> 7.0 dB/K

### Steerable Beam Functionality

Mode of Operation	Gateway to User or Loopback
Steering Function	Steering to track objection in motion to Mack 1
Steering Commanding	Secure Customer Ticket or Secure API

# HYLAS 3 – Steerable Capabilities

Launched on July 2019, HYLAS 3 is the world's first Ka-band steerable cluster of 8 high throughput spot beams, providing a large steerable footprint of capacity that can be pointed anywhere on the Earth's surface, visible from 31° E.

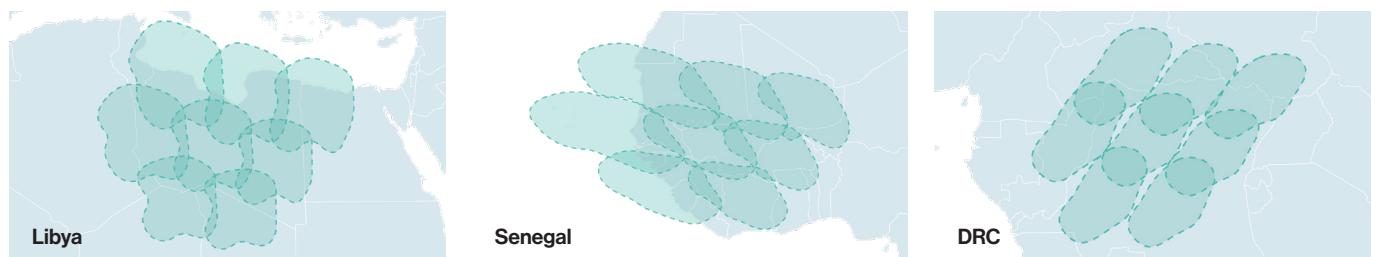


## Unique Capabilities

HYLAS 3 provides over 4GHz of high throughput ka-band spectrum split across 12 channels on 8 beams. These beams operate as a cluster, providing a very large footprint, anywhere from the eastern tip of Brazil to the Eastern edge of Vietnam. Of the 12 channels, 4 are dedicated to government and military communications. The remaining 8 are for civilian communications.

HYLAS 3 has a unique independently steerable gateway beam, meaning that end-users have the option to determine where gateway traffic can land.

### Cluster footprint examples:



## HYLAS 3 Steerable cluster Mission

### Beam Performance

EIRP (at edge of coverage)	> 58.0 dBW
G/T (at edge of coverage)	> 11.0 dB/K

### Steerable Beam Functionality

Mode of Operation	Gateway to User
Steering Function	Occasional Steering
Steering Commanding	Secure Customer Ticket

\*Four defined User Beams support Civil/Govt communications simultaneously or individually

# HYLAS 2 – Steerable Capabilities

HYLAS 2 has 1 steerable Ka-band beam that can be pointed independently anywhere on the Earth's surface, visible from 31° E.



 HYLAS 2 steerable beams contour

 HYLAS 2 steerable beam coverage example

Indicative contour map

## HYLAS 2 Steerable Beam Mission

### Beam Performance

EIRP (at edge of coverage)	> 54.0 dBW
G/T (at edge of coverage)	> 7.0 dB/K

### Steerable Beam Functionality

Mode of Operation	Gateway to User or Loopback
Steering Function	Frequent Steering
Steering Commanding	Secure Customer Ticket or Secure API



Be More.

# Contact

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