



# European Data Forum

**“Big Data: Satellites are a Key Piece of the Digital Highway”**

**Presented by**  
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**Presented on**  
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ASTRA 1A

SES-12

**x90** number of spots

**x3** launch mass

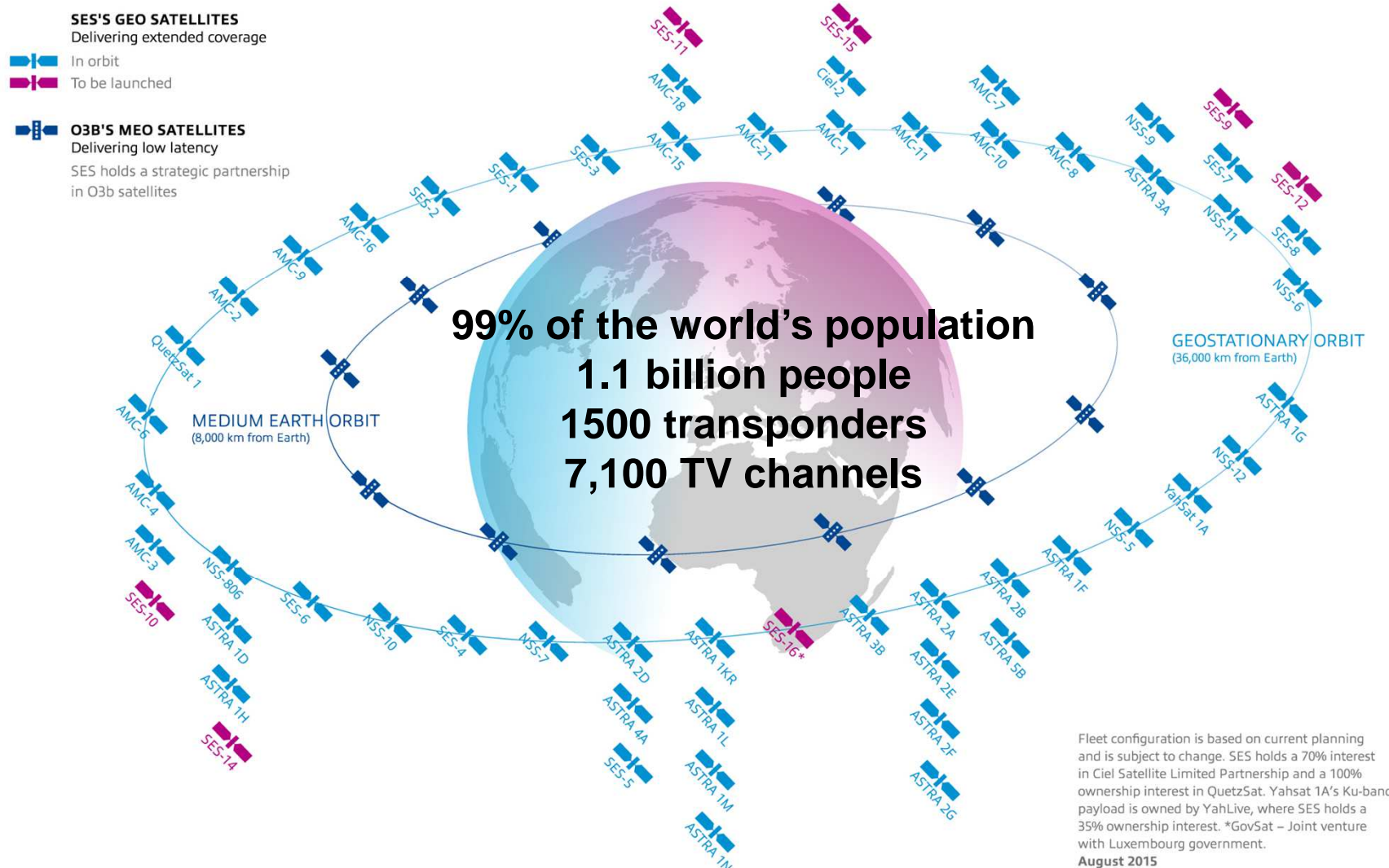
**x40** capacity

**x5** size

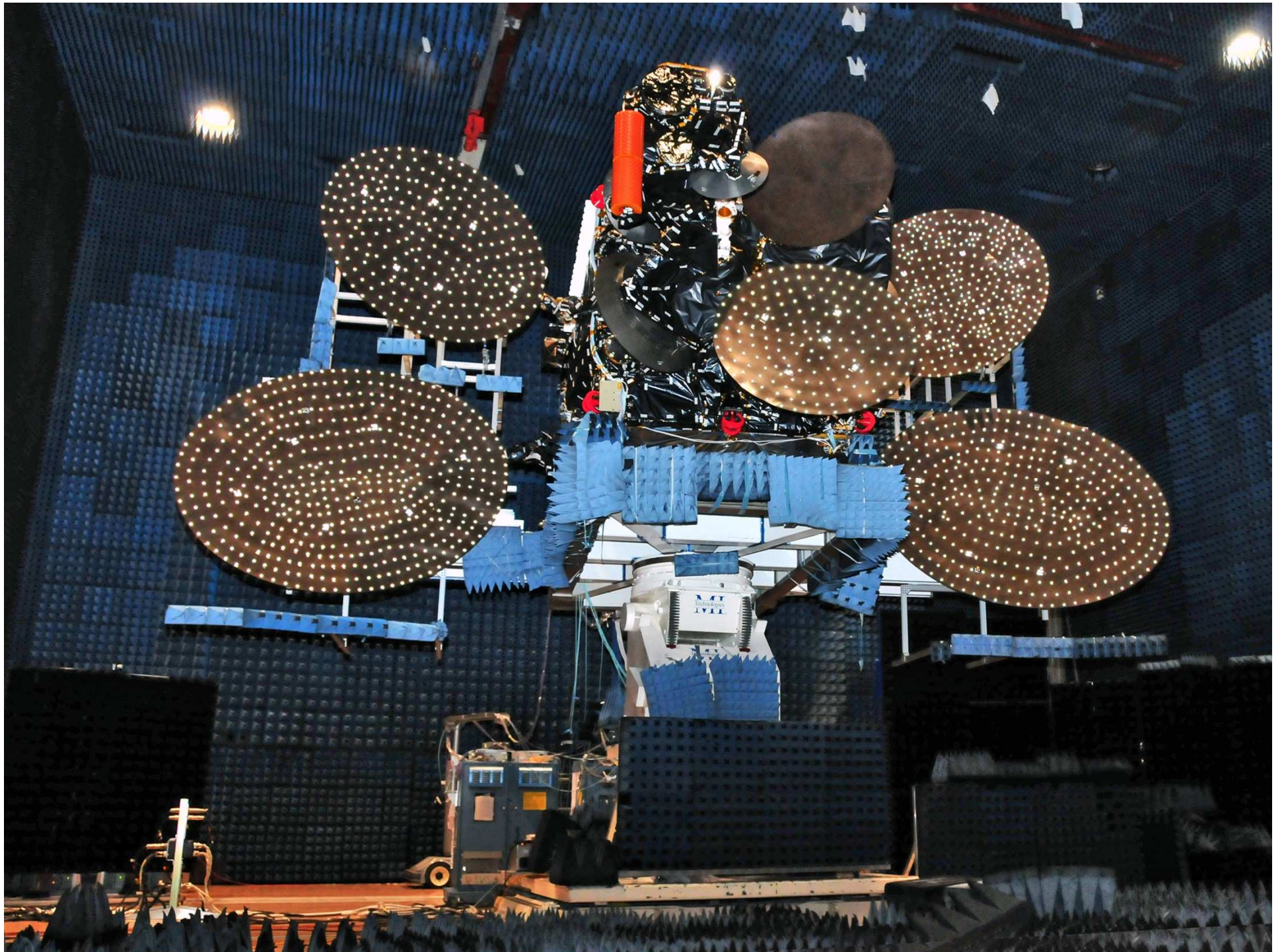
- ▲ 16 transponders
- ▲ 416 MHz of capacity
- ▲ 16 analogue channels
- ▲ 5.4 cubic meters
- ▲ wing span 19 meters
- ▲ 1.8 tons at launch

- ▲ 76 transponders
- ▲ 15,581 MHz of capacity
- ▲ 89 spot beams
- ▲ 26 cubic meters
- ▲ wing span 45 meters
- ▲ 5.5 tons at launch

# SES and O3b Fleet











# Satellite's essential role in communications networks



Satellite

**100%**

Coverage of Land, Sea,  
and Air via satellite

*Reach*

- ▲ Satellite covers virtually 100% of households with broadcast video capability, delivering flawless high quality (UD/UHD) media content
- ▲ Satellite remains the only architecture capable of delivering connectivity to aeronautical and maritime platforms



Terrestrial  
broadband

**29%** Developed<sup>(1)</sup>

**7%** Emerging<sup>(1)</sup>

**0%** Mobility

Broadband coverage

*Quality*

**99.99%**

Satellite availability

**4-5 Gbps**

Consistent broadcast  
bandwidth per satellite

- ▲ Satellites regularly broadcast directly to over 100 million homes in perfect HD quality
- ▲ Largest simultaneous audience attained and sustained over terrestrial network was 8 million SD viewers<sup>(3)</sup>

**Variable**

average end-to-end  
network availability

**5 Mbps<sup>(2)</sup>**

Average global  
broadband speed

<sup>1)</sup> Source: ITU (fixed broadband subscriptions per 100 inhabitants)

<sup>2)</sup> Source: Akamai

<sup>3)</sup> Source: Twitch

# Satellite's essential role in communications networks



**USD 15**

Cost to deliver HD movie  
to any number in footprint

**USD 2**

Fixed cost per household  
(Germany)

## Efficiency and scalability

- ▲ Satellite progressively more efficient for media content delivery as audience grows
- ▲ Satellite is also 25 times more efficient than International Mobile Telecommunications Standard in delivering broadcast video content (volume) per unit of spectrum



**USD 25,000<sup>(1)</sup>**

Cost to deliver HD movie  
to 2.5 million viewers

**USD 500<sup>(2)</sup>**

Fixed cost per household  
(Germany)

## Convergence

**~1ZB**

Broadcast video delivered  
by SES per year

- ▲ SES's fleet generates over 1 Zettabyte of broadcast video annually
- ▲ SES annually exchanges 57 Gbps of data traffic with the Internet, delivering around 22 TB of data to thousands of global Internet POPs

**~1 ZB<sup>(3)</sup>**

Total volume of internet  
traffic in 2015

1) Source: CDN delivery costs using Microsoft Azure

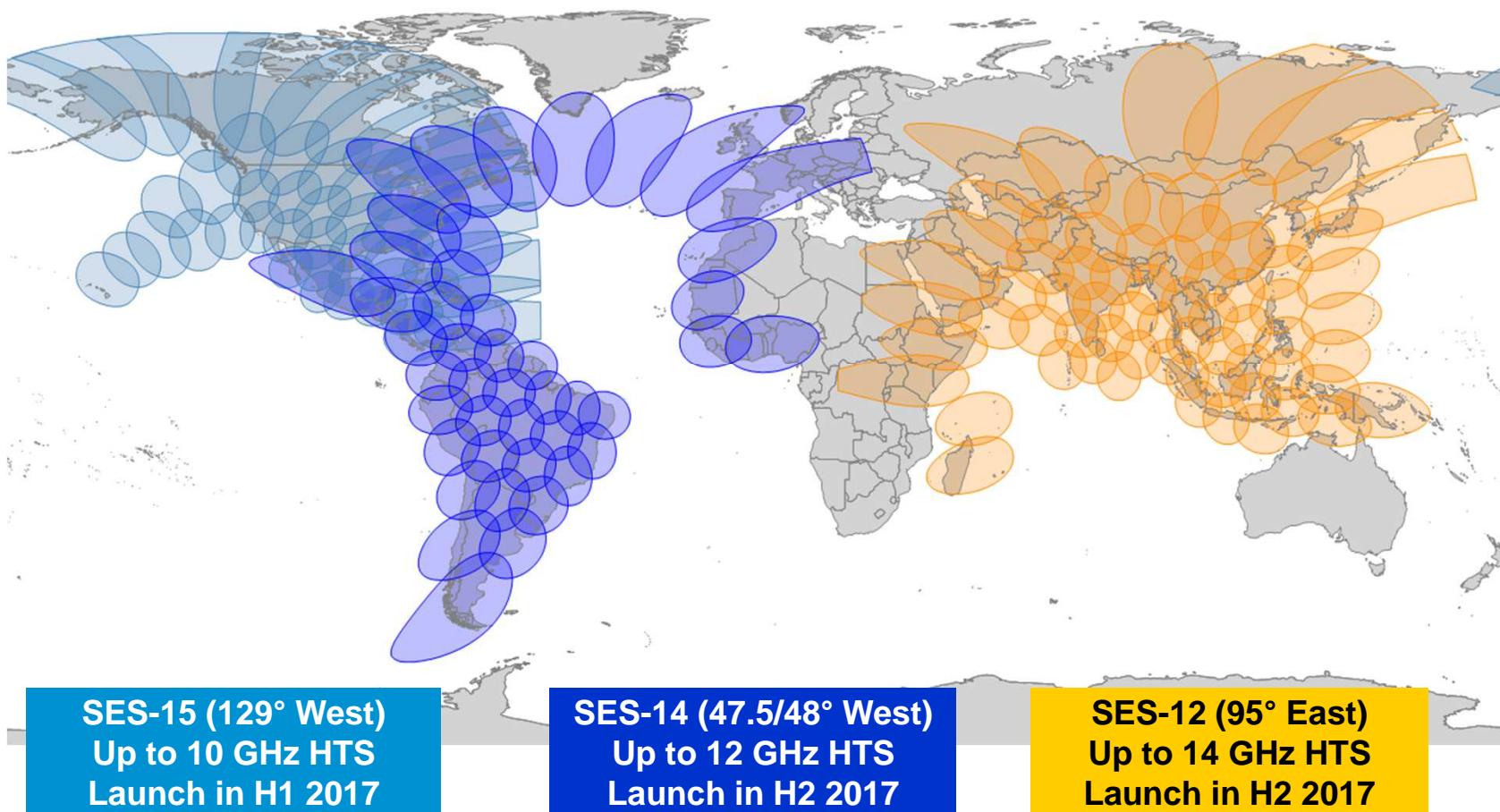
2) Source: BMVI

3) Source: Cisco



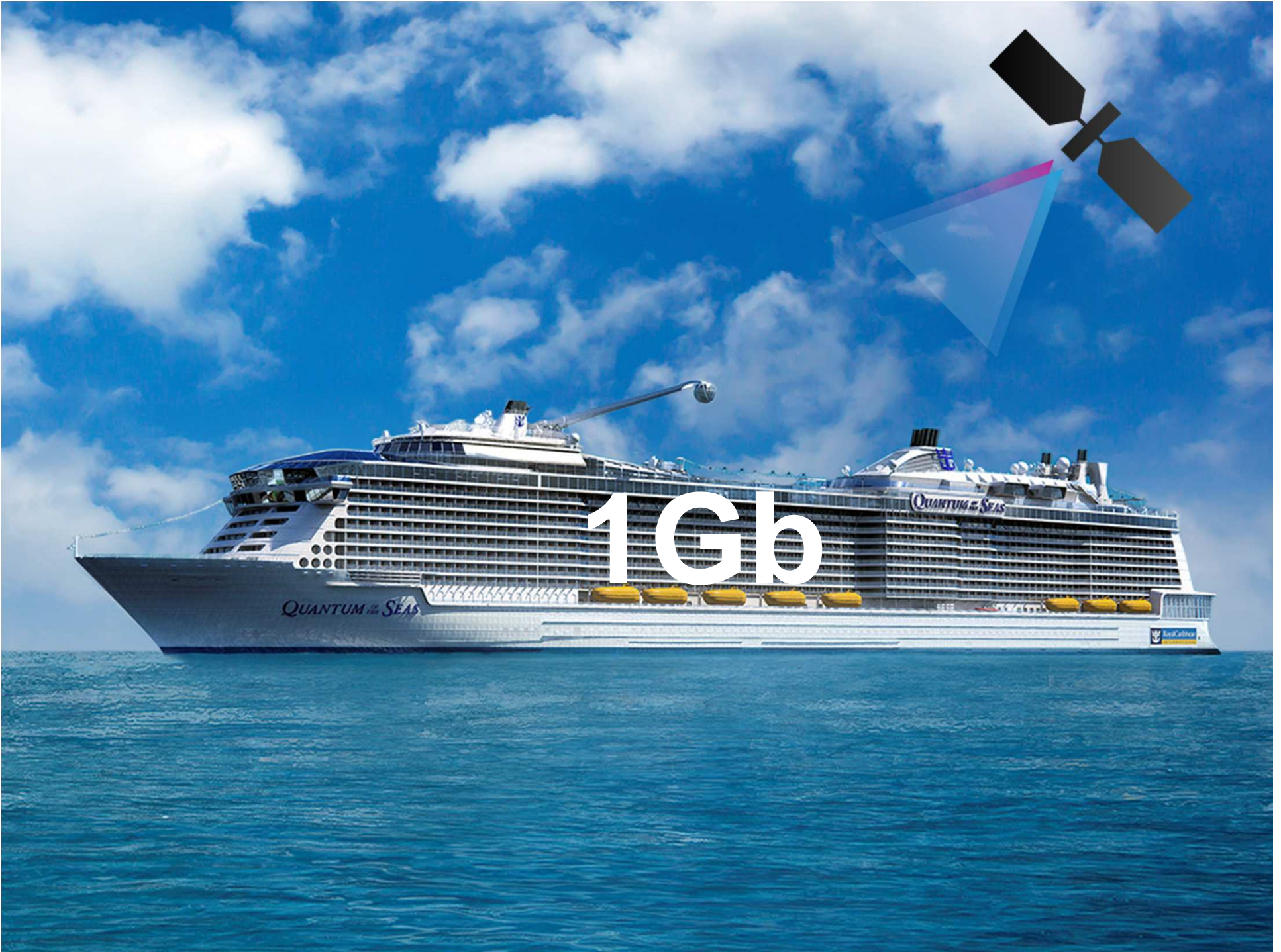
## Global Platform for Mobility

*SES-12, SES-14 and SES-15 HTS spot beam footprints*



















SES<sup>▲</sup>