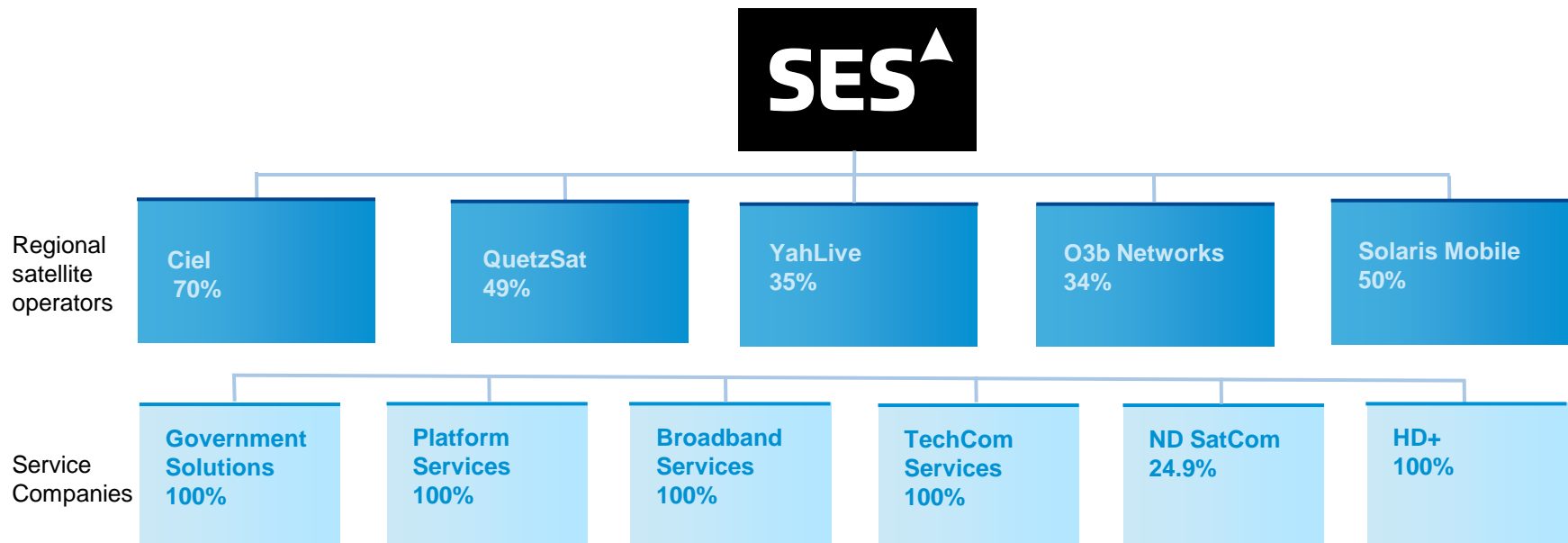


WBU-ISOG NYC FORUM

Ka Update

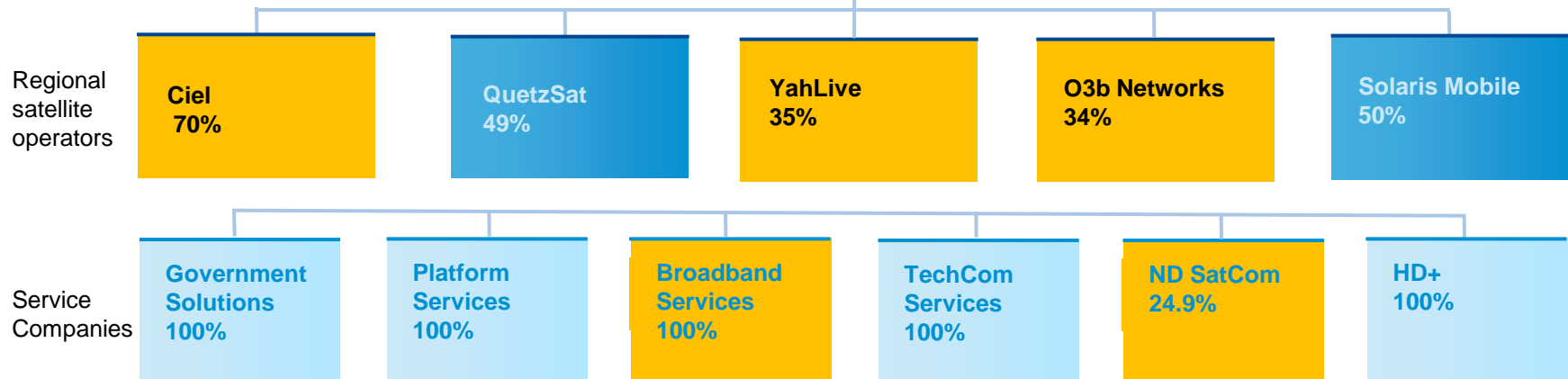
May 2012 - Richard Lamb

Our organisational structure



Our organisational structure

Ka



Strategy

Ka is seen as opportunistic to the entire satellite mission. The satellites primary mission will remain Ku.

These keeps the costs down for Ka

Why Ka ?

- ❖ **Spectrum - Limited new Ku freqs. available**
- ❖ **Orbital Congestion - +/- 2 degree spacing**

- ✓ **500 MHz of new capacity**
- ✓ **More efficient – smaller beams / freq. reuse**
- ✓ **Better regulatory framework – 29.5 to 30GHz**
- ✓ **Smaller lighter dishes**
- ✓ **Lower cost per Mb**

Show me the Satellites!

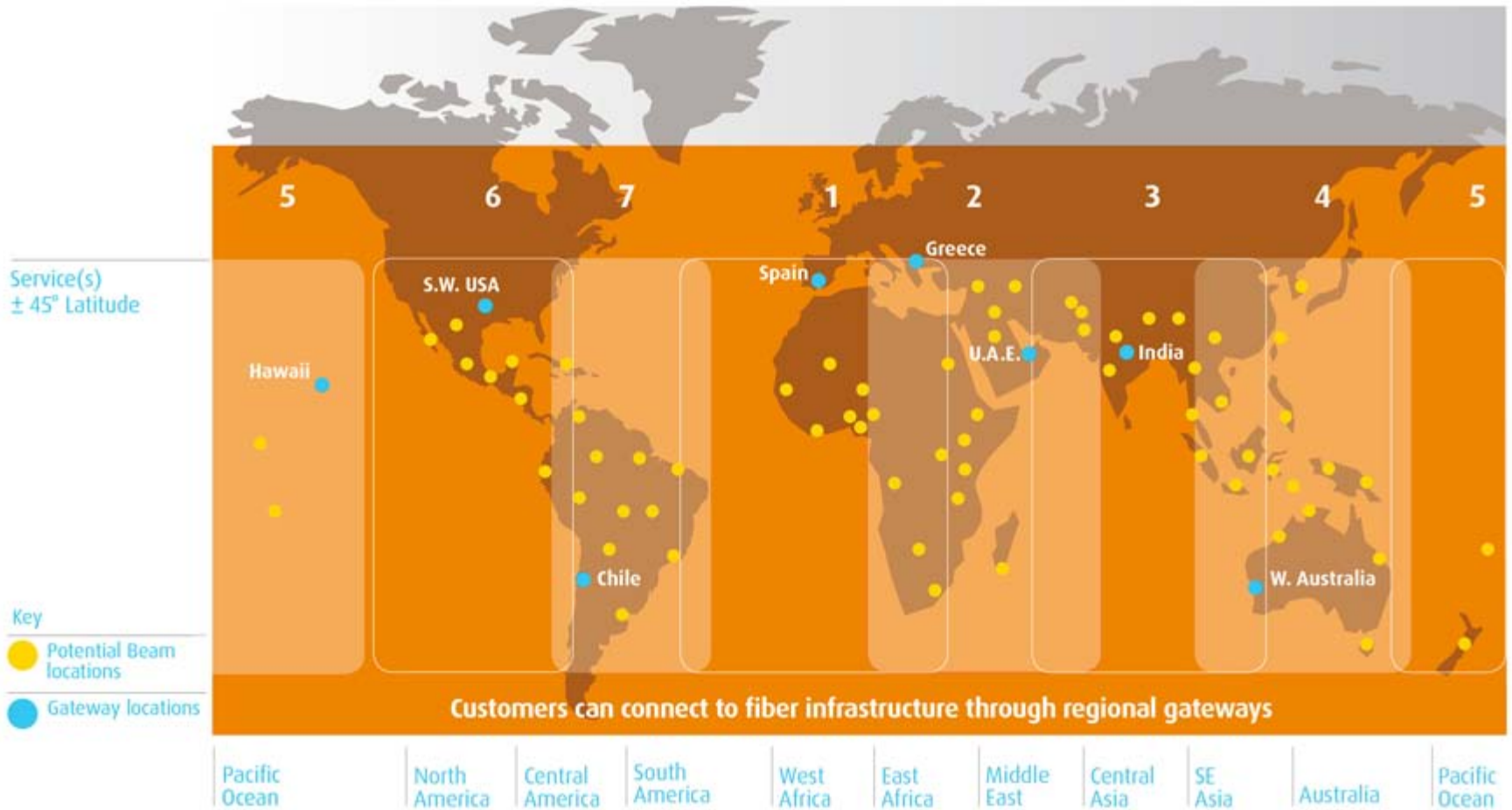
- **200 filings for Ka satellites**
- **50 at the Notification stage**
- **33 Ka satellites within the next three years.**

33 Ka Satellites in the next three years!

2012	Yahsat 1B	EchoStar 17	Hylas 2	Hispasat 2A	
	G-Sat 14	TDRS K	Badr 7	Astra 2F	
2013	Express AM5	Amazonas 3	ABS 2	Eutelsat 25B	Amos 4
	Express AM8	Express AM6	Astra 2E	Astra 5B	TDRS L
	Express AT1	Express AT2	Canuk 1	Türksat 4A	Thor 7
2014	Türksat 4B	Astra 2G	Eutelsat 3B	AsiaSat 8	AMOS 6
	DirecTV 14	ViaSat 2	Express AM7	Express AM4R	Jaibru 1

....and another 8 for O3b

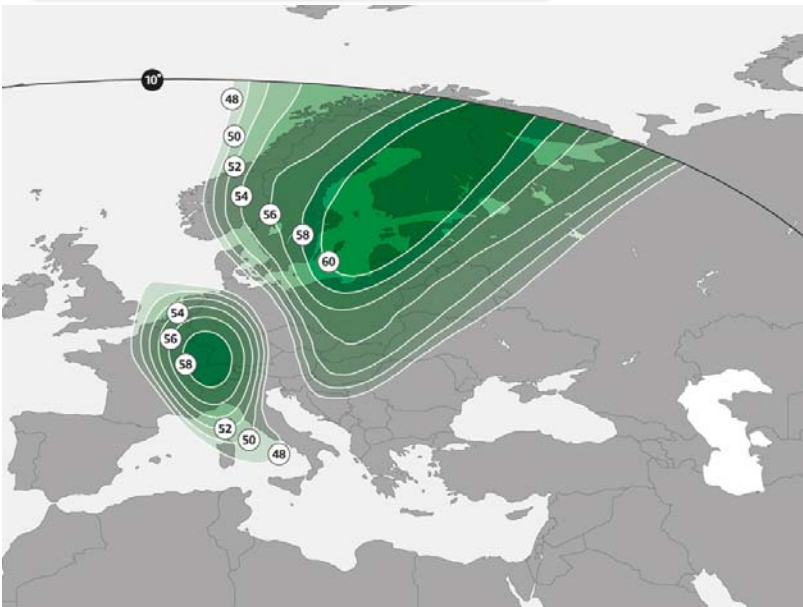
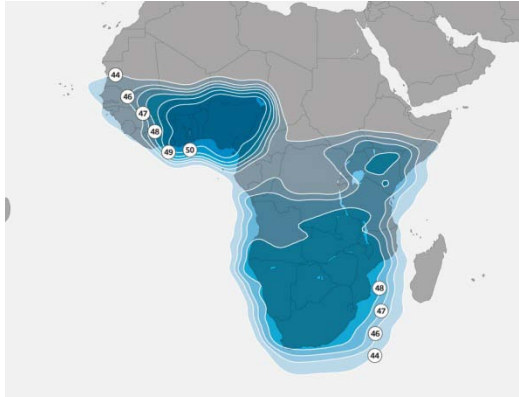
Coverage map



Three year Ka outlook at SES

Satellite	Frequency Bands	Orbital Location	Polarity	Coverage	Launch Date	Notes
CURRENT						
Astra 4A	Ku, Ka	5E	Linear	S.Africa, Europe & Russia	2007	Xstrap Ku <> Ka
Astra 1L	Ku, Ka	19.2E	Circular	Europe	2007	Spot to beam
Astra 3B	Ku, Ka	23.5E	Linear	N.Africa, Europe & Russia	2010	15 Years
Yahsat 1B	Ka	52.5E		Middle East / Africa	Apr 2012	Spot (61), Global & Regional beams
FUTURE						
Astra 5B	Ku, Ka	31.5E	Circular	Europe, Russia	2013	15 Years
O3b	Ka	ALL!		+/- 45° Latitude	2013	80 steerable
Astra 2E	Ku, Ka	28.2E	Circular	N.Africa, S.Africa & Europe	2013	15 Years
Astra 2F	Ku, Ka	28.2E	Circular	N.Africa, S.Africa & Europe	2012	15 Years
Astra 2G	Ku, Ka	28.2E	Circular	N.Africa, S.Africa & Europe	2014	15 Years

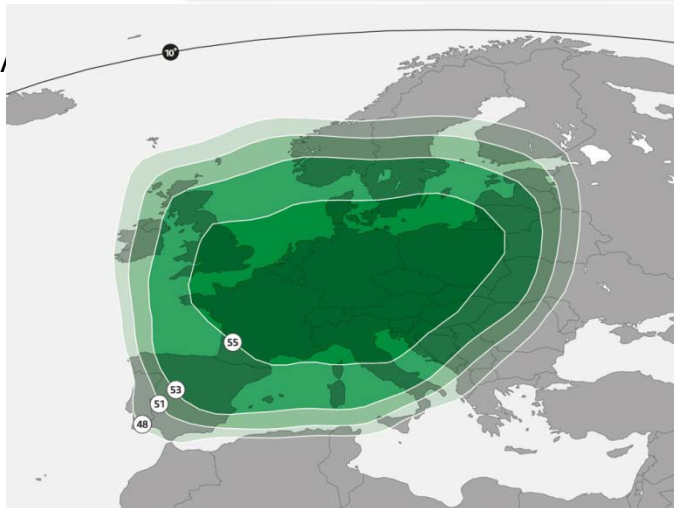
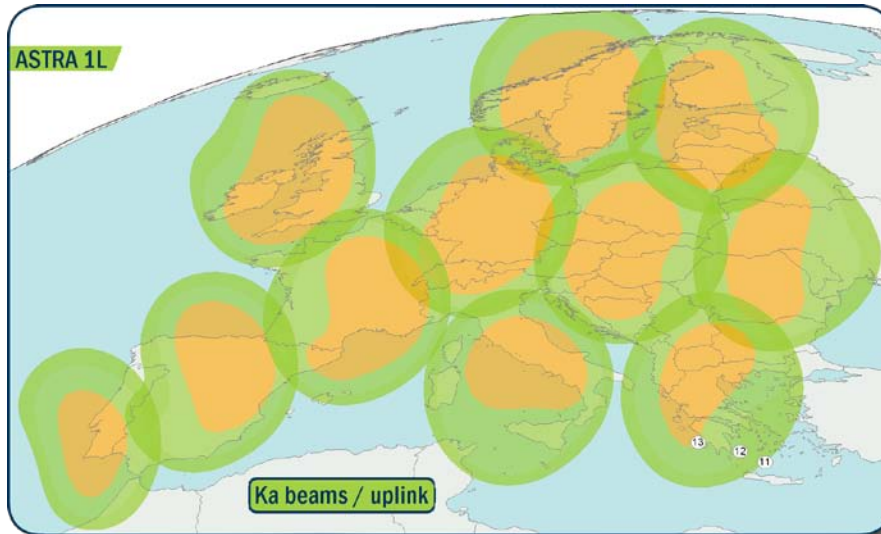
ASTRA 4A for Occasional Use / Africa → Europe



ASTRA 4A Europe Interactive Ka-band beam

- 4 FSS transponders in the Africa (Ku) → Europe (Ka) configuration available for occasional use.
- 36 MHz channels divisible in slots of 4.5, 6, 9, 18, 27 and 36 MHz.
- The transponders are operated in back-off mode in order to provide linear characteristics for multi-carrier operation.
- The ASTRA Access Center provides a 24 hours monitor and control network reporting point for service quality monitoring and problem resolution for satellites.

Ka SNG



Google Earth footprints: apps.ses.com

Online bookings: bookings.ses.com

Bookings: intlbookings@ses.com

US bookings: usbookings@ses.com

Thank you!



Supporting & promoting the common industry Carrier ID initiative