A year of accelerating transformation

2021 was another year of accelerating transformation for the global, regional and national satcom sector, with increasing investment, the emergence of new business models, and growing need for connectivity across all segments and geographies.

Large and Growing Market Opportunity

- The **global space economy totalled US$ 370 billion** over 2021 (up 6% vs. 2020), including both private and public expenditure in the industry. The space economy is expected to grow by 74% by 2030 to reach US$ 642 billion (6.3% CAGR)[1]
- Space sector has received **record government investment, totalling more than US$ 92 billion** in 2021, an 8% increase compared to 2020[1]
- **Space data traffic is expected to increase 14x** over the next ten years[2]
- **Fixed Satellite Services (FSS) revenues are forecast to grow** from US$ 19.1 billion in 2020 to US$ 30.8 billion in 2029 (5.5% CAGR)[2]
- **Mobile Satellite Services (MSS) revenues are forecast to grow** from an estimated US$ 4.4 billion in 2020 to **US$ 5.7 billion in 2029** (2.9% CAGR)[2]

1 Euroconsult – Annual Space Economy Report
2 NSR (Northern Sky Research)

Key Satellite Industry Trends

Universalisation of data

- Global connectivity needs accentuated during pandemic
- Increase of mobility use cases (~185k vessels and airplanes requiring satellite connectivity)[2]
- IoT (Internet of Things) revolution gaining traction – need for ubiquitous coverage
- Decline in broadcast – shifting the industry's focus from linear to Over-the-Top (OTT)

Technological acceleration

- Technology evolution improving satellite economics, reducing overall CAPEX requirements
- Low Earth Orbit (LEO) constellations gaining traction
- Next generation satellites with more flexibility and reconfigurability

Space back on national agendas

- Governments increasing defence budgets and satcom expenditure
- Universal coverage ambitions and fight against digital divide
- Increased government collaboration with private sector

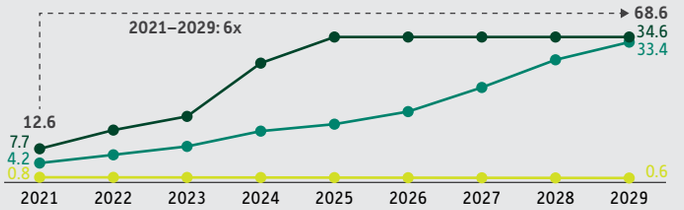
Shifting business landscape

- New applications and use-cases enabled: enterprise, tele-medicine, virtual education, etc.
- Consolidation and collaboration between industry players, both horizontally and vertically
- New business models emerging
- Growing interest and capital directed towards space sector (record +US$ 10 billion investment over 2021)

Industry outlook

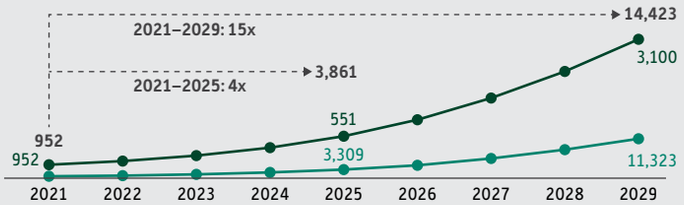
FSS capacity supply and demand expected to greatly increase in the coming years

FSS Capacity Supply (Gbps '000s)



CAGR 2021–2029
HTS Non-GEO: +20.8%
HTS GEO: +29.5%
Widebeam GEO: (3.2%)

FSS Capacity Demand (Gbps)



CAGR 2021–2029
HTS Non-GEO[1]: +80.1%
HTS GEO: +36.3%
Total: +40.5%

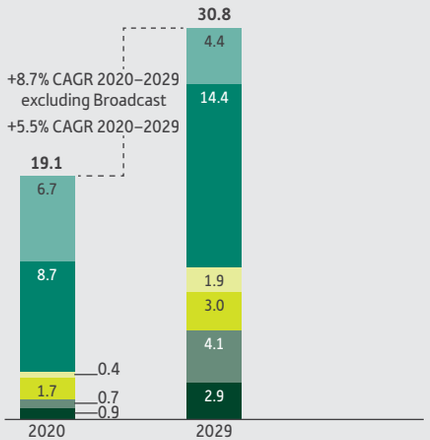
- Significant growth in new high-throughput capacity via GEO and non-GEO infrastructure
- Improved HTS economics stimulating uptake
- GEO HTS remains the dominant technology for the foreseeable future
- Government increasing the use of commercial satellite operator capacity given better economics
- Applications supported by FSS capacity diversifying from traditional uses

Source: NSR Industry Report
1 CAGR based on '22-'29
HTS = High-throughput satellite
Gbps = Gigabits per second
Widebeam is traditional capacity, typically over C- and Ku-bands

More information on the **satellite industry** is available on page **26**.

FSS market expected to grow strongly over the coming years

FSS Service Capacity Revenue by Market (US$b)



CAGR 2021–2029 by Market[1]

- Broadcast (4.4%)
- Broadband & Enterprise Data +5.8%
- Land Mobility[3] +17.7%
- Maritime +6.3%
- Aero +21.8%
- Government +14.2%

CAGR 2021–2029 by Region[2]

Latin America 9.3%

Europe 8.5%

MEA 15.8%

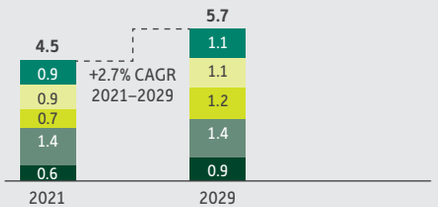
APAC 10.9%

- New connections and increased usage translating into strong growth of data service revenue, expected to grow at around 9% CAGR excluding broadcast (i.e. more than double) over 2020-2029
- Government revenues set to increase around three times over 2020-2029 driven by the fast development of data intensive applications
- Strong and sustained growth across B2C and B2B data verticals
- Particularly strong growth in emerging markets as HTS economics enable new verticals, in particular consumer broadband and hotspots
- Broadcast Service revenue expected to continue to decline around 4% per year due to continued shift towards IPTV and OTT

Note: Data not available for 2021.
Source: NSR Industry Report
1 CAGR based on FSS service capacity revenue
2 CAGR based on FSS service capacity revenue excluding Broadcast
3 Land mobility includes connected vehicles and temporary land-based locations (e.g. mining)

MSS markets continuing to grow healthily on the back of increasing mobility uses across markets

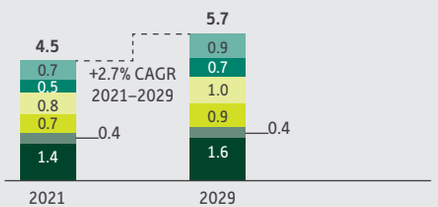
MSS Revenue by Market[1] (US$b)



CAGR 2021–2029 by Market[2]

- Land Mobility +1.8%
- Maritime +2.4%
- Aero +6.4%
- Government +0.3%
- M2M +4.4%

MSS Revenue by Geography (US$b)



CAGR 2021–2029 by Geography

- Other[4] +3.3%
- APAC +3.5%
- MEA +2.9%
- Europe +3.4%
- Latin America +2.6%
- North America +2.2%

- Government and Military, despite growing slower, remain the cornerstone end market for MSS operators
- Maritime growth spurred by offshore and smaller vessels (shipping, fishing, yachting)
- Regulations requiring usage of GMDSS[3] and cockpit safety services for more vessels and aircraft
- Continued strong growth of IoT and M2M (machine-to-machine) connected devices and revenue
- APAC and MEA, Yahsat's key regions of MSS operation, showing a stronger growth path

Source: NSR Industry Report
1 Including both MSS service and equipment revenue
2 CAGR based on MSS service capacity revenue
3 Global Maritime Distress and Safety System
4 Includes Arctic, Pacific Ocean Region, Indian Ocean Region, Atlantic Ocean Region