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The New Space Race featuring Telstra

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Satellite connectivity is poised to completely transform the global telecommunications landscape, offering the potential for new business opportunities, revenue streams and audiences. With the technology now more attractively accessible to a wider range of companies, satellite operators are seeing opportunities to further disrupt the telecommunications sector by harnessing emerging technologies such as low-earth orbit (LEO) constellations to expand their global footprint in support of numerous applications.



So, how is it that telco providers can be a resource for satellite operators and service providers in their quest for a share of this market? And is it possible for them to coexist in a way that benefits each and the customers of such services? The short answer is, yes.

With their vast footprint and network presence, many telco providers are a natural fit for the satellite segment. Satellite services can rely on traditional telco providers for delivering ground stations and the network connectivity that is crucial for the space segment to succeed. Additionally, operators regularly face barriers to market entry—both technological and economical. These issues are often best addressed through mutually beneficial partnerships with traditional telco providers.

To fully realize the significant business potential, satellite operators must work together with traditional telcos to meet the growing need for global end-to-end data connectivity, especially as technology applications such as 5G, edge computing and the Internet of Things (IoT) continue to rise higher on companies' priority lists. The key is offering high-performance, reliable service and

a seamless user experience, bringing together the best of terrestrial, subsea and satellite connectivity.

For telcos, satellite technology presents opportunities for a wide array of use cases, including backhaul for 5G, autonomous vehicles, industrial offshore applications, sensors for telemedicine, maritime and disaster relief, smart cities, and even consumer services. As just one example, industry predictions suggest that about 20 million IoT connections will be made via satellite within the next five years.

Turnkey satellite gateway solutions

A key advantage for many telcos comes down to the existing terrestrial and subsea assets that they own and have already spent decades building up, including fiber networks, IP backbones, satellite teleports and data centers. These traditional telco options combined with strengths that some telcos have to support ground station build-outs all present a massively beneficial opportunity for satellite operators.

By partnering with one or more telcos and leveraging the benefits of such capabilities, satellite operators lacking that critical ground infrastructure can reduce the cost of and need for additional personnel required to develop, install, and maintain their own terrestrial infrastructure over the long term. Telcos in this instance may literally be able to provide a turnkey solution for satellite operators.

Viewing this from a telco lens, satellite technology should be seen as less of a competitive threat and more of a potentially significant business opportunity, for example opening the door to delivering new services including long-haul, backhaul or IP. The demand for data worldwide is only going to continue to increase. The combination of subsea cables and low-earth orbiting satellites is an excellent opportunity for satellite operators and telcos to form partnerships that can better serve both customer bases for the long term.

Markets where telecommunications are highly regulated can form another hurdle for a new satellite fleet's entry into a country. Satellite operators looking to ramp up a global presence quickly will in many cases encounter major regulatory setbacks if they don't have existing relationships with local governments. This is yet another area in which working with telcos to leverage existing government relationships becomes crucial.

A galaxy of applications

The applications of satellite technology are diverse and expanding and can often contribute to true enterprise transformation. The connectivity required in specific areas will dictate which of the satellite types are used: GEO, MEO or LEO.

LEO is likely to play a role in more densely populated areas as back-up alternatives for many situations including mobile backhaul. Also, each has its own pros and cons; major advantages of LEO over GEO are low latency and its ability to “self-heal” in the event of a satellite failure or a network attack. Conversely, GEO’s strength in “one point to many” connectivity makes it a better option for applications like broadcasting or direct consumer broadband.

While telcos are continually updating and expanding their terrestrial fiber and undersea networks—driven by increasing global bandwidth demands—in many areas, especially remote locations, it’s simply not scalable or economical for telcos to invest in high-speed fiber networks. Satellite technology can help fill in these gaps and the evidence supporting this is growing almost daily.

We’re also seeing new and emerging applications for satellite technology. It’s an interesting time to be in the satellite arena. Both new entrants and traditional players are modifying their fleets to serve end-user needs.

For example, following a natural disaster or emergency, a disaster relief organization could use a satellite to get the data needed for a period to understand the scope and plan out their response. Then they can shut it down and someone else uses that satellite.

While the use of satellite technology for remote services is still a big part of the telco industry, other opportunities are arising. Unlike a decade or two ago, as prices and latency drop, satellite services are becoming much more efficient, complementary and in some cases competitive to terrestrial telecommunications offerings such as those provided by subsea cable systems.

Although MEO and LEO deployments have different requirements to GEO constellations, such as a need for tracking antennas and a higher number of distributed teleports, colocating at facilities already owned by an existing company can be a big draw for new providers seeking to establish early points of presence in a market as a faster, lower-cost point of entry than building facilities themselves.

Assets from telcos could also support satellite operators’ efforts to open efficient, adaptive, and flexible transmission pathways to businesses and consumers alike for sending and receiving information and content around the world. In addition to traditional networks, many telcos have readily established relationships with large enterprises, international governments, major OTT providers, numerous Content Delivery Networks (CDNs) and cloud players.

These types of relationships are key elements most satellite operators currently lack, but they are potentially vital in supporting their efforts to establish disruptive commercial deals. It’s one more reason why working with a telco can open amazing possibilities and establish a foothold with large enterprises and content providers.

It is crucial and incredibly important to define the needs and capabilities of each technology and how to best put them to use. Every satellite provider has unique needs so together with telcos,

it's important to identify scalable solutions that are also mutually beneficial. Establishing this benchmark is key to developing an ecosystem of technologies that will succeed in the marketplace.

Terrestrial and satellite technologies will continue to advance and give rise to new connectivity models, infrastructures, and services. Yes, there are challenges for each, but also just as many business opportunities. By working together, telco and satellite providers can discover easier pathways into multiple markets worldwide to provide global coverage to more people faster. Telcos and satellite operators will over time gain economic efficiencies the more they collaborate, complement, and create an ecosystem that relies on one another.

Regardless of which technology is ultimately delivered to the end user, there will always be a need for collaboration. Embracing this reality rather than fighting it is the more logical path to long-term success.

Those organizations that can effectively combine the best of space-based platforms and software-defined terrestrial networks stand to benefit the most and will play a larger role in forming the network of tomorrow.