

GILAT BLOG

GILAT BLOG

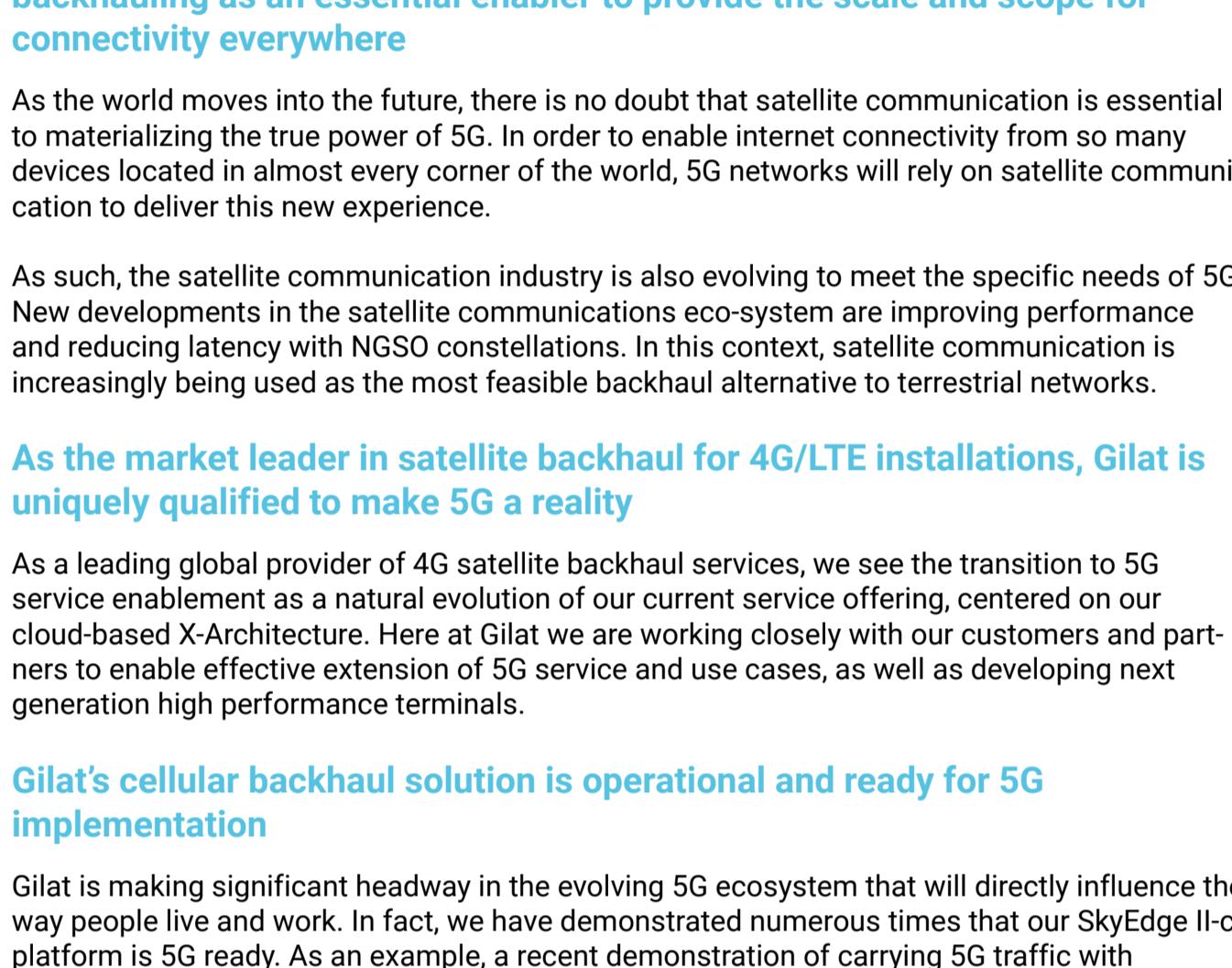
5G and Satellite Connectivity Go Hand in Hand

April 8, 2021

Asaf Jivilik, Head of Marketing and Business Development at Gilat

It seems that we were just getting excited about 4G, and now we are already well into implementing 5G. What's the big difference between 4G and 5G you ask? Well, 5G will exponentially increase the amount and speed of data that can be transmitted at the same time, as well as allow billions of devices to be connected to a single source. 5G is being looked at as a great enabler for the future IoT experience, taking the first steps to a fully online world. With 5G, it's the first time that many of the new applications and technologies (e.g., virtual and augmented reality) will have flexibility in how much data they can send and receive in real-time.

That said, as 5G networks are rolled out, user expectations also grow; there is a clear assumption that 5G service will have the same quality of internet experience anytime, anywhere. With 5G, wireless connectivity will expand beyond just people to support the connectivity for everything that may benefit from being connected.



The promise of 5G, ubiquitous connectivity, is dependent on satellite backhauling as an essential enabler to provide the scale and scope for connectivity everywhere

As the world moves into the future, there is no doubt that satellite communication is essential to materializing the true power of 5G. In order to enable internet connectivity from so many devices located in almost every corner of the world, 5G networks will rely on satellite communication to deliver this new experience.

As such, the satellite communication industry is also evolving to meet the specific needs of 5G. New developments in the satellite communications eco-system are improving performance and reducing latency with NGSO constellations. In this context, satellite communication is increasingly being used as the most feasible backhaul alternative to terrestrial networks.

As the market leader in satellite backhaul for 4G/LTE installations, Gilat is uniquely qualified to make 5G a reality

As a leading global provider of 4G satellite backhaul services, we see the transition to 5G service enablement as a natural evolution of our current service offering, centered on our cloud-based X-Architecture. Here at Gilat we are working closely with our customers and partners to enable effective extension of 5G service and use cases, as well as developing next generation high performance terminals.

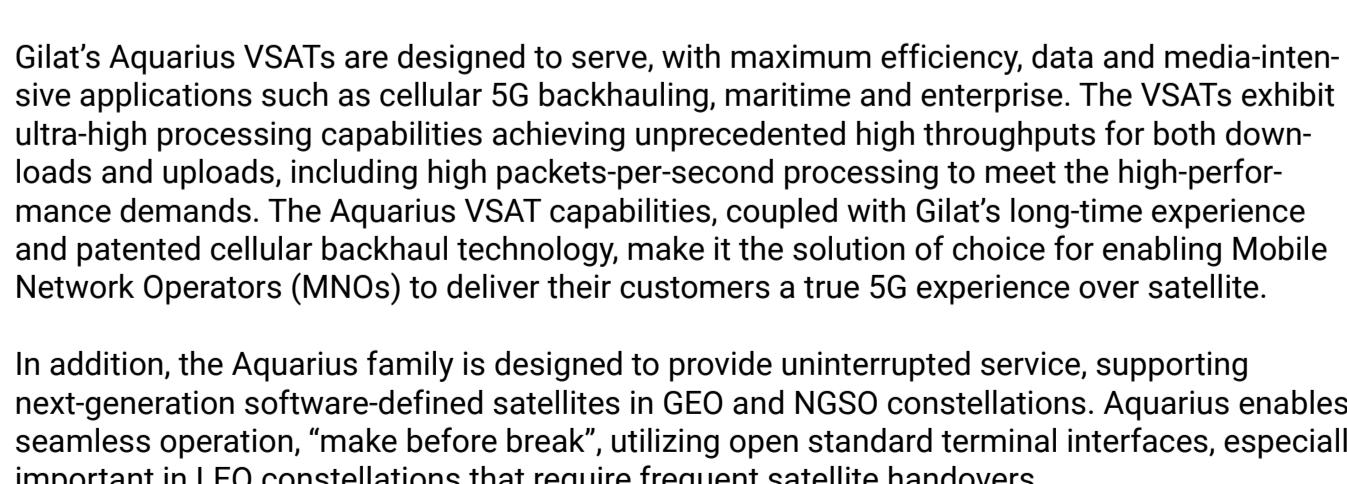
Gilat's cellular backhaul solution is operational and ready for 5G implementation

Gilat is making significant headway in the evolving 5G ecosystem that will directly influence the way people live and work. In fact, we have demonstrated numerous times that our SkyEdge II-c platform is 5G ready. As an example, a recent demonstration of carrying 5G traffic with outstanding performance took place in Thailand over Thaicom's IPSTAR GEO HTS Satellite.

These live tests with 5G handsets demonstrated unique speeds of 400 Mbps download and 100 Mbps upload, while running a large number of applications including Browsing, Speedtest, YouTube 4K, VoLTE, ViLTE, Virtual Reality, Augmented Reality, and even communication with a drone providing a live video stream. The superior user experience was at times even better than the terrestrial connection. The tests were done with several 5G architecture options, including Standalone (SA) and Non-Standalone (NSA), using Gilat's Capricorn PLUS VSAT with the adaptation of its patented GTP acceleration.

This demonstration was an important milestone in which Gilat declared its 5G backhauling operational and ready to go. Gilat's SkyEdge II-c platform and its' Capricorn PLUS VSAT are what is needed now to move on to 5G. We would like to invite MNOs to reach out to discuss integrating satellite connectivity into your 5G architecture.

Gilat has proven it provides the top 3 requirements of 5G networks:



Stronger Next Generation VSATs are needed to meet the challenges of deploying 5G

As the requirement for coverage anywhere/anytime continues to expand, the technology roadmap must meet the demand for more bandwidth at higher speeds and lower latency. The technology roadmap must also support technologies that will reduce cost and complexity to ensure the most efficient solution.

Leveraging our SkyEdge II-c platform, Gilat is developing efficient interfaces to 5G virtual network functions (VNFs) and implementation of full network orchestration, network slicing, service slicing, QoS, acceleration and security. Our networks bring together multiple satellites in multiple orbits with multiple beams and multiple bands; and we deliver connectivity and multi-connectivity for a 5G user experience with service flexibility and scalability.

To this end, Gilat recently launched its next-generation family of VSATs, Aquarius, supporting 5G Networks in both GEO and NGSO constellations. Gilat's Aquarius family of ultra-high-performance, multi-orbit VSATs provides over 2 Gbps of concurrent speeds and supports seamless satellite handover.

Gilat's Aquarius VSATs are designed to serve, with maximum efficiency, data and media-intensive applications such as cellular 5G backhauling, maritime and enterprise. The VSATs exhibit ultra-high processing capabilities achieving unprecedented high throughputs for both downloads and uploads, including high packets-per-second processing to meet the high-performance demands. The Aquarius VSAT capabilities, coupled with Gilat's long-time experience and patented cellular backhaul technology, make it the solution of choice for enabling Mobile Network Operators (MNOs) to deliver their customers a true 5G experience over satellite.

In addition, the Aquarius family is designed to provide uninterrupted service, supporting next-generation software-defined satellites in GEO and NGSO constellations. Aquarius enables seamless operation, "make before break", utilizing open standard terminal interfaces, especially important in LEO constellations that require frequent satellite handovers.

Looking Forward

Gilat has proven its superior satellite backhauling technology worldwide and is diligently at work on next generation solutions to meet the challenges still ahead.

5G adoption is already starting in urban areas. This will in turn push additional 4G over satellite deployments to suburban and rural areas, where terrestrial coverage is less feasible. As a next phase, 5G deployment over satellite will spread to rural areas as well, answering the promise of universal coverage. With 80% market share in the 4G/LTE satellite backhauling market, Gilat is more than ready to answer the 5G challenge.

For more information about Gilat's 5G solutions, please contact us at: info@gilat.com