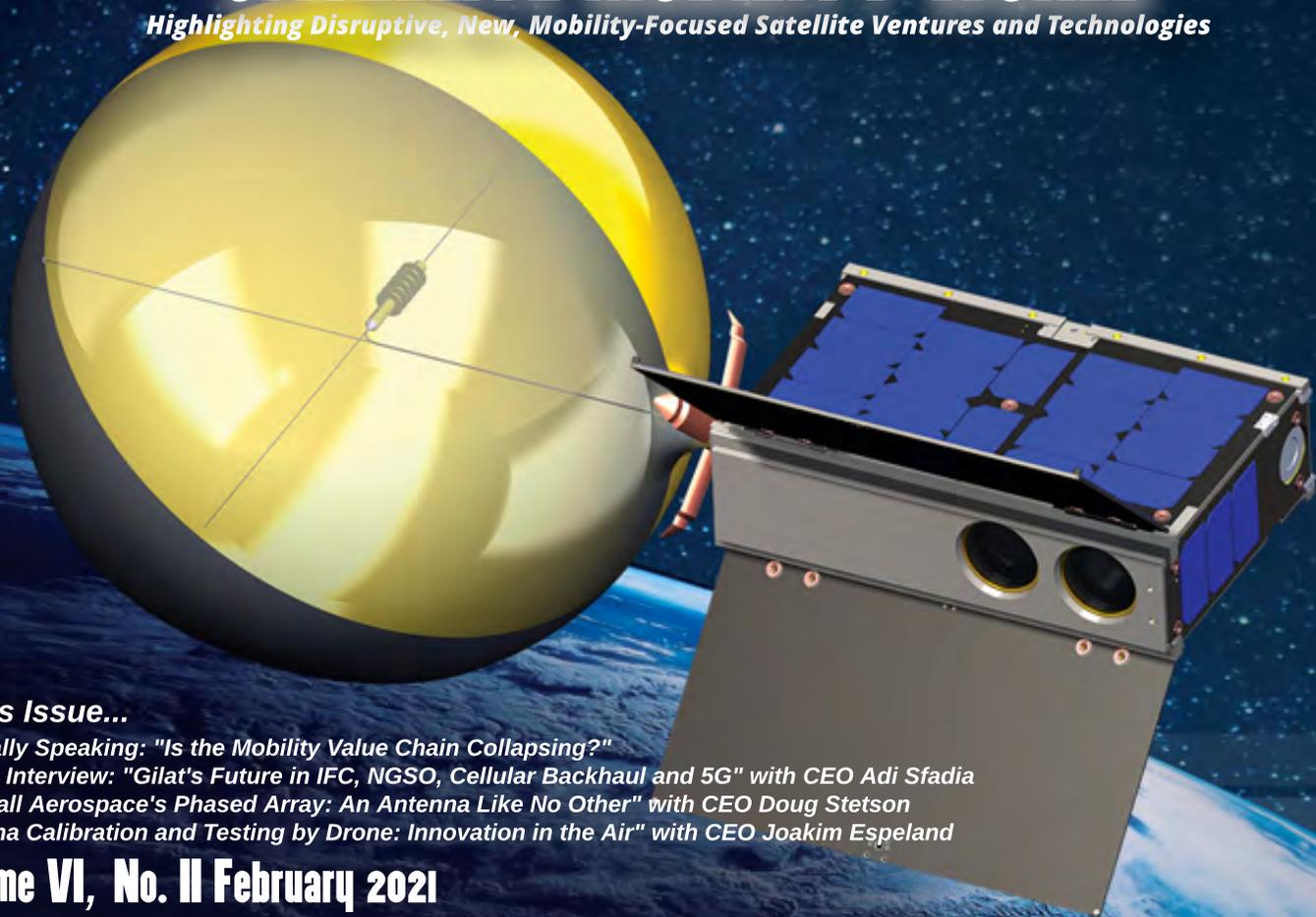


**Gottlieb's**

# **SATELLITE MOBILITY WORLD**<sup>sm</sup>

*Highlighting Disruptive, New, Mobility-Focused Satellite Ventures and Technologies*



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Cover: FreeFall Aerospace's All-Sky™ Antenna

## ***With its Newly Appointed CEO, Adi Sfadia Gilat's Future in IFC, NGSO, Cellular Backhaul & 5G***

Hit hard by the global pandemic and the associated decline in the inflight connectivity, Gilat, like many companies, has suffered through a wrenching decline. Yet, through the aero market contraction and the abandonment of its merger with Comtech, Gilat has endured. It's a smart company with tough, determined people and a portfolio of innovative communications technologies.

It's recently achieved some notable successes, winning Cellular Backhaul contracts in the United States, Mexico and the Philippines, advancing its 5G technology, strengthening its presence in the NGSO market, as well as proving its new phased array aero antenna.

To find out how Gilat has fared through this tumultuous time and how it sees its future and the industry's, we met with it's newly appointed CEO, Adi Sfadia.

***SMW: Adi, 2020 has been a difficult year for all. How has it affected the satellite industry and Gilat, in particular?***

2020 was a challenging and difficult year for the satellite industry. COVID's impact was severe and global yet varied depending on the industry segment.



The Mobility market was the most heavily hit as the world almost came to a stand-still. The consumer broadband market was hardly affected and grew in some geographies due to increased broadband usage from working, learning, and simply spending more time at home. As the reliance on the Internet increased, the lack of high-speed Internet in outlying areas accentuated the digital divide.

Not everyone in the rural areas can afford satellite broadband, but many have 4G smart phones that they can use to reach the Internet. Gilat is the world leader in mobile satellite Cellular Backhaul and continues to support Mobile Network Operators (MNOs) worldwide in their efforts to expand their networks to rural areas. We expect governments will continue to invest in mobile network expansions as well as broadband VSAT to deliver e-learning and e-health to all of their citizens, regardless of geography.

Gilat has entered the pandemic very strong financially but still got hurt as did most of the industry companies. However, we learned to conduct business during the pandemic and have seen some very significant accomplishments, especially in the second half of last year.

We landed multi-million-dollar contracts to expand cellular coverage in U.S., Mexico and the Philippines and the U.S. military Tactical Communications Program. We equipped hundreds of ships and cruise vessels with satellite communications, and just recently successfully tested our Electronically Steered Antenna (ESA) on Inmarsat's Global Xpress - all despite the restrictions imposed on us by the pandemic.

***SMW: The pandemic severely hit the mobility industry and especially inflight connectivity; How is IFC weathering this storm? When do you expect the business to recover?***

Inflight connectivity (IFC) was by far one of the satellite industry segments to suffer the most. So, naturally, we were affected. While COVID-19 has had a devastating impact on travel and aviation in the short-term, in the future, we expect it to grow in importance. Passengers will continue to demand reliable high-speed Internet connections during travel.

There are indications that inflight Wi-Fi will be free, resulting in increased take-up rates and providing a strong tailwind to the industry, and to Gilat.

Gilat is ready to address the expected surge in demand. We will continue to work with our customers, including Gogo Commercial Aviation (now part of Intelsat) and Honeywell, to help them meet the connectivity demands. Outside of the U.S. aviation markets, we are also committed to helping our partners grow their businesses.

On the China front, we achieved a promising milestone. Gilat's partners China Satcom and FTS, a leading Chinese system integrator, opened-up the Chinese Ka-band market for inflight entertainment and connectivity (IFEC).

Gilat's aero modem, Taurus, is powering IFEC service to China's Qingdao Airlines, the first to use the service. A Qingdao Airlines' A 320 aircraft is now providing SATCOM-based IFEC commercial service for the first time, after a very successful flight from Qingdao to Chengdu on July 7, 2020. This aircraft is the first one retrofitted with a Ka-band IFEC system, and we expect that the full, 35 aircraft fleet of Qingdao Airlines to be equipped by the end of 2021.



Due to the global population's vaccination, we are optimistic that the aviation business will resume later this year or early in 2022.

***SMW: We are seeing consolidation and teaming in the IFC market. Intelsat bought Gogo's commercial aviation business. Inmarsat and Hughes are partnering in North America. How does all this affect the industry and Gilat in particular?***

The consolidation and teaming trend in the IFC space has been ongoing, even before COVID-19. The market has been long due for consolidation given the challenging business cases it faces, stemming from passenger resistance to paying for low service quality on some existing

offerings. Ultimately, we believe consolidation will lower connectivity costs for the airlines and enable them to provide free Wi-Fi, which will drive-up usage and take-up rates.

As for Intelsat's acquisition of Gogo commercial aviation business, we have had strong relationships with both Gogo and Intelsat and

expect to continue working closely with Intelsat going forward.

As for the partnership in North America of Inmarsat and Hughes, it's been long awaited. Without U.S satellite capacity, Inmarsat could not realistically address the North American market with GX on its own. Given Hughes Ka-band capacity availability in North America, they are the natural partners. This cooperation, too, is in line with the ongoing industry consolidation.

***SMW: Do you see an interest in the use of NGSOs in the airline connectivity business?***

NGSOs bring several advantages to this industry, including a huge capacity influx that will lower bandwidth prices and can help catalyze IFC adoption.

In addition, NGSO satellite constellations introduce an advantage of operation at higher elevation angles.

Unlike GEOs, with LEOs aircraft can traverse polar routes without signal loss. At lower altitude, LEOs can close a satellite link to small business jets



equipped with small flat panel phased array terminals.

For thousands of smaller jets that cannot fit a tail-mounted antenna (TMA), NGSOs and phased array antennas together offer the promise of broadband connectivity.

While ESA terminal pricing may be a barrier for entry into the low-cost home market, that's not a major issue for aero terminals, since planes are already equipped with comparable priced tracking antennas for GEO satellite constellations.

***SMW: Can you update us on your new phased array aero antenna? When can we expect to see commercial installations? I understand the antenna is targeted at commercial jets. Will you also develop another antenna for business jets?***

Gilat's ESA technology enables modular building blocks to support larger antennas for commercial aviation and smaller antennas for Business Jets.

We are continuing to advance our new phased array aero antennas and recently completed a successful integration and live testing with

Inmarsat's operational Global Xpress (GX) network. This year, we will continue with flight testing demonstrations as part of the CleanSky2 development program and our partner Airbus DS.

We are currently pursuing several aero antenna business opportunities. Still, we estimate that commercial installations on narrow and wide-body aircraft will take a few more years to mature.

Therefore, most of our initial focus is shorter term business jet opportunities, which require a smaller form-factor ESA terminal and cannot fit tail mounted antennas.

***SMW: Gilat was chosen to be the provider of the ground segment for the O3b mPOWER constellation, how is that progressing? Are you engaged with the other NGSO players?***

The project is progressing according to schedule and we have expanded the partnership with SES with a follow-on multi-million dollar order for high-speed modems. The modems will deliver multi-gigabit throughput, targeting high-end services over the constellation.

We have enlarged our footprint in this market with a recently closed deal by our subsidiary

Wavestream. We received an award estimated at more than \$50 M from a leading satellite operator to support the gateways for a Low Earth Orbit (LEO) broadband satellite constellation.

Furthermore, we believe that we are well-positioned to win additional NGSO business as the opportunities mature.

***SMW: Gilat has just announced major Cellular Backhaul deals in the US, the Philippines and in Mexico. Can you tell us more about these projects?***

Gilat's strategy of providing the cellular backhaul over satellite solution as a managed service has proven successful and has brought substantial contract renewals, extensions, and expansions during 2020, in the United States, Mexico and the Philippines.

We base our success on offering complete managed service solutions, including satellite space segment, field installation & maintenance, and remote hub and network operation. An end-to-end managed-service solution allows the MNOs to focus on their core competency and leave the satellite transport to the satellite experts.

As an example, in the Philippines, Gilat was awarded a multi-million-dollar contract from Globe for a significant project expansion. Our robust end-to-end solution enables Globe to meet its goal of providing high-quality service throughout the country.

Gilat also works closely with its partners who deliver the service to the MNOs, and Gilat provides the network and VSATs. This was the case with the recent multi-million dollar awards by our partners Hispasat and AXESS, to enable them to provide service to Mexico's important MNOs.

***SMW: Do NGSO's have a role in Cellular Backhaul, or will it remain a GEO satellite market?***

Cellular Backhaul over satellite is a critical solution for mobile network operators, and we expect both GEO and NGSO solutions.

NGSO constellations, such as SES mPOWER bring abundant global capacity with lower latency, and they will play a role in Cellular Backhaul.



However, due to the initial higher cost of NGSO terminals, we anticipate that NGSO based Cellular Backhaul will be used first at aggregation points that require very high Gigabit connections. At the same time, GEO services will continue to be used at sites that need just hundreds of Megabits.

For example, we expect GEO services to continue to be an excellent choice for emergency and disaster recovery use cases, due to their ubiquity and simplicity of operation.

In addition, we are also working together with our satellite operator partners to leverage the new NGSO assets to deliver new additional services to our customers.

For example, Gilat's next-generation VSAT platform is multi-orbit and can enable mobile operators to utilize NGSO and GEO services.

Ultimately, we envision a hybrid service scenario comprised of satellite connectivity with NGSO as the primary connection and GEO as a backup. In

another scenario, we foresee NGSO used for data and GEO to deliver value-added services such as 5G TV.

***SMW: Other modem manufacturers are adapting their hub and modem infrastructures to run 5G protocols. What is Gilat doing to adapt its Sky Edge II infrastructure to the 5G world?***

Gilat is leading the Cellular Backhaul market with 80% market-share for 4G/LTE installation worldwide, and now paving the way with 5G. We divide our approach to 5G into two initiatives: supporting 5G high-rate traffic and adapting 5G technologies on the network level.

To support 5G high-rate traffic, Gilat recently released its flagship Capricorn PLUS VSAT, enabling half a Gigabit of concurrent speeds required for data-intensive applications such as 5G backhaul.

We have also demonstrated carrying 5G traffic with 400/100 Mbps with outstanding performance to and from a 5G handset. The live demonstration took place with two MNOs over Thaicom's IPSTAR GEO satellite.

Using a 5G handset, a large number of applications

were tested with excellent results including: Browsing, Speedtest, YouTube 4K, VoLTE, ViLTE, Virtual Reality, Augmented Reality, and even communication with a drone providing via a live video stream.

The tests were done with several 5G architecture options, including Standalone (SA) and Non-Standalone (NSA), using Gilat's Capricorn PLUS with an adaptation of Gilat's patented GTP acceleration, at times showing results better than the terrestrial connection.

To support high data rate 5G traffic at the network level, we offer a wide range of new technologies that can benefit the satellite world. Gilat is already supporting SDN capabilities and virtualization in our X-Architecture. We are also working on using 5G core technologies in our X-Architecture to improve user experience and network support for multiple verticals simultaneously.

***SMW: What are the implications of the failed merger with Comtech? How will the failure to merge affect Gilat's business in the future?***

We believed the merger between the companies would bring mutual benefits to Gilat and

Comtech. However, the COVID-19 pandemic made the timing of this merger agreement particularly challenging. As you stated, we reached a mutual agreement with Comtech to terminate the merger, which was the best outcome for both companies. Comtech paid us \$70 M for that cancellation, which, after deducting associated costs, was paid as a dividend to our shareholders.

During the merger negotiations, Gilat continued to operate as a standalone business as it had regulatory obligations to do so. Even though the merger required management's attention and a small number of employees to support the effort, most of the management and all of the R&D and sales employees continued their focus on driving the company's business forward.

As a result, we did not see any fall off of customers. On the contrary, in some parts of the world, the fact that we will not be a U.S. held company was welcomed by our customers, as that fact may have hurt their ability to do business with us going forward.

Today, following the merger's cancellation, all of the company's management is focused on growing our business, and I believe we have the right management and employees to do so.



**About Adi Sfadia:**

*Adi Sfadia serves as Gilat's Chief Executive Officer as of November 2020.*

*Prior to that Mr. Sfadia served as Gilat's Interim Chief Executive Officer as of July 2020 and before that, as Gilat's Chief Financial Officer since November 2015.*

*Prior to joining Gilat Mr. Sfadia served as CFO of Starhome Ltd., a wholly owned subsidiary of Fortissimo Capital, from January 2013.*

*From 2008 to 2013, Mr.*