



ND SATCOM – Year in Review 2021

Pandemic-related crises and challenges continued to reverberate across the world in 2021, and industries continued to adapt to varying external factors ranging from unprecedented supply chain interruptions to the multitude of changing governmental regulations affecting borders and commerce. In addition, the ongoing safety and health measures for both employees and customers were universal issues.

The enormous degree of flexibility, agility, and commitment required – under the circumstances – defined those companies that will conclude the year with an improved bottom line. ND SATCOM was amongst them. Its stable leadership prevailed as it pursued the path of investment in new technologies and new market opportunities. As well, ND SATCOM advanced its digitalisation plan by securely connecting its worldwide network of offices, partners, and customers with the company headquarters.

ND SATCOM launched a variety of innovative products that exceeded customer expectations and extended its outstanding SKYWAN 5G solution with a new and very exciting military application. In addition, ND SATCOM countered the pandemic's effects on traditional B2B interactions (trade fairs and direct customer visits) by introducing new communication channels for its partners and customers via social media and its own interactive platform, which securely hosts live meetings, demos, and trainings. ND SATCOM's virtual activities successfully closed the pandemic-driven distance and learning gaps by providing the forum for group meetings and one-on-one sessions customers requested.

Through resilience, dedication, and creativity, the entire ND SATCOM family came together to support its global network and achieve its 2021 goals.

Fostering stability and growth

In 2021, ND SATCOM's sales volume showed a very positive development, far exceeding the planned revenue with the defence market as a strong driver. Growth was also sustained by the successful installation of SKYWAN 5G solution across multiple governmental customers worldwide as the core component within most projects. The human factor was integral to this performance with the entire team's outstanding experience and customer engagement reflecting the brand quality and reliability our customers expect.

That combination of growth and stability form the basis for our ongoing success story.

Serving existing customers and developing new markets

ND SATCOM has been very successful in positioning the SKYWAN 5G as the standard modem and core element among defence customers. Our performance has proven itself time and again, and the extremely flexible network topology and sophisticated network management are strong selling points.

ND SATCOM extended support of tactical applications for military customers by developing customised and rugged versions of the modem with regard to size and weight but also to encryption. With the fast-growing SatCom-On-The-Move market for defence, ND SATCOM is now ready and experienced to serve customer needs in this field after completing extensive tests with different antennas together with a German research institute.



ND SATCOM continues to grow globally: in Asia, close cooperation with government key players convinced the end customers to order complex networks with stringent requirements for resilience and geo-diversity. The combination of mesh network capabilities with additional geo-redundant DVB-S2 out-bounds to interconnect sites was already adopted for several networks and more will follow. To support this growth we increased our regional expert team in several Asian countries. A “multi-station network in a 4U rack” was used to demonstrate SKYWAN technology in both theoretical courses and real operations. It can be shipped worldwide to support our partners and customers on all continents.

ND SATCOM not only builds excellent components “Made in Germany”, it designs and delivers turnkey solutions that comprise complete networks.

In 2021, ND SATCOM won a huge project in the Americas to deliver SKYWAN 5G modems with release 2.0 that comes with True-Mesh ACM. The key factors for success were not only the modem and other components developed in-house, but also the strong local support and the customer’s trust in ND SATCOM’s service organisation during the solution’s lifetime.

Extending the portfolio of solutions and products

At the German AFCEA conference in Bonn in September 2021, ND SATCOM presented the new Multi-band FlyAway Terminal (MFT) family and showed the X-band version of the MFT 1500 at its booth. One advantage that sets this new terminal apart is its operational wind resiliency: it can withstand and function in very high wind speeds and during severe storms. Customers value the proven high reliability and security that SKYWAN represents. The bar was raised by integrating the pioneering innovation of Adaptive Coding and Modulation (ACM) for Mesh TDMA, thus permitting transmission during heavy rains with adaptive bandwidth control. Dirk Walther, head of the defence business unit, presented the new MFT to the audience consisting of both military personnel and members of the industry.

The evolution of ND SATCOM’s flagship product, the SKYWAN 5G modem, was of course one of the main core tasks of the R&D team. After the SKYWAN release 2.0 launched in 2020, an updated and extended version of the software was released end of 2021. Main new features are a customisable dashboard for the network management software (NMS) and the support of the MFT. As always, the updated software is now available for all platforms featuring backward compatibility with the SKYWAN release 2.0.

Two more launches took place in 2021: the HPA 4-Series, the latest version of high power amplifiers, marks the next generation of TWTA with its power and performance. Highlights include improved usability through a new intuitive WebUI and simplified Automatic Level Control (ALC), enhanced performance through reduced intermodulation and halved warm-up time, easy maintenance through firmware upgrades via LAN, and consistent M&C and dimensions to its legacy series. The other launch, the redundancy controller RCU 6000 released in April 2021, covers the range from single HPA control up to the management of six active transmission chains. It offers a highly intuitive user interface to manage all functionalities: various base band encoders, modulator to upconverters, and multiple HPAs with all switch elements. The RCU 6000's exceptional quality and higher temperature range are what customers seek for failsafe operations.

Usability, performance, and monitoring highlights include 6 waveguide switch interfaces, ultra-fast multi-core CPU and 8 fast Ethernet ports, and dual 1-Gbit/s LAN for remote access.



ND SATCOM developed and built a live demonstrator together with a German governmental customer: the installed secure network with ad-hoc WIFI technology to seamlessly interconnect police stations with police cars or other terminals proved itself with superior performance and stability. The same core technology was used to the customer's utmost satisfaction by monitoring a sensitive operation with video data from a helicopter.

ND SATCOM Outlook: Shaping the future

ND SATCOM started in 2021 with a new activity to enhance the core product SKYWAN 5G by enabling proprietary waveforms for special platforms to integrate with Ku and Ka-band antenna subsystems for high speed communication links. After many hours of simulations, this new market will be addressed in 2022. Also, ND SATCOM will complete its Multi-band FlyAway Terminal (MFT family) to cover the mid-size range from 1.5m up to 2.4m with many RF and power combinations. The MFTs will be verified to comply the MIL standards. On the one hand, the tight integration of our SKYWAN modem will provide perfect extension of existing VSAT networks. On the other hand, totally new scenarios and customer problems will be addressed.

With the recently launched HPA 4-series and the new RCU 6000 controllers, the next generation of uplink components have been successfully brought to the market to continue the long and ongoing success story of ND SATCOM in the field of uplink devices. Finally, the next generation of the antenna control units - the ACU 6000 – will be ready and launched in 2022 to complete the portfolio. We look forward to serving our customers in the Broadcast, Enterprise and Government markets to contribute to their success.

In October 2021, ND SATCOM CEO Alexander Mueller-Gastell took part on a panel at the Satellite Innovation 2021 conference to discuss with other industry leaders "Terrestrial Infrastructure Enablers for Advanced Space Systems". With more trade shows and travel possible again, ND SATCOM will strengthen existing relations to customers and partners – and build new ones – using our global network of offices and partners. We look forward to installing reliability in 2022 and beyond!