



Michael Weixler, Head of Product Management and Marketing ●●●

With over three decades of experience, ND SatCom is the premier supplier of and integrator for innovative satellite communication equipment systems and solutions to support customers with critical operations anywhere in the world. Customers in more than 130 countries have chosen ND SatCom as a trusted and reliable source of high-quality and secure turnkey and custom system-engineered communication solutions. The company's products and solutions are used in more than 200 transnational networks in government, military, telecom and broadcast environments.

ND SatCom's flagship product, the SKYWAN platform, enables international users to communicate securely, effectively and quickly over satellite.

Premium supplier of modem equipment

ND SatCom has more than 30 years of experience as a premier supplier of and integrator for innovative satellite communication equipment systems, supporting critical operations throughout the world. ND SatCom has customers in more than 130 countries, and delivers efficient and secure turnkey and custom communications solutions from its base in Immenstaad, Germany. Amy Saunders spoke with Michael Weixler, Head of Product Management and Marketing at ND SatCom to find out more about the company's presence and capabilities, and market expectations in the near future.

Question: Can you provide a brief overview of ND SatCom's development to date, including key milestones achieved throughout its history?

Michael Weixler: Over the years, ND SatCom has successfully established itself as a premium supplier of modem technology being the world market leader in the ATC business and the provisioning of services to highly demanding customers in the defence and governmental sector.

This is the basis that we build on – ND SatCom is more than just a modem supplier - we are a solution provider that has the ability to expand its current portfolio in adjacent markets and regions to diversify our offering.

A few key milestones in our recent history include:

Winning the German Armed Forces ground segment jointly with AIRBUS Defence & Space back in 2006. SKYWAN 5000 Series VSAT terminals had been offered, our then 3rd generation of meshed TDMA modems. Since that time, satellite terminals are serviced and evolved by ND SatCom personnel.

In March 2014, ND SatCom got new shareholders. As a contractual partner we continue to cooperate with AIRBUS Defence & Space. As a company we are open to shape our future. All the hard work that has been invested in the last years has shown its positive results in the performance of the business. We are focused on continuing the positive development in 2018 using the momentum to grow in all our verticals.

Another key milestone is 2017, where ND SatCom won several projects with SKYWAN for regional and trans-continental ATC networks. This results in safe flights over the African continent. A recent success is the ATC project with Atech, a member of the Embraer Group in Brazil. Another success is a project win with Thales S.A. to deploy an ATC solution using SKYWAN in South America.

Question: What can you tell us about the range of products and solutions in ND SatCom's portfolio, and the company's capabilities for custom requests?

Michael Weixler: We introduced the



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SKYWAN 5000 Series of MF-TDMA modems in 2002, which paved the way for the modular SKYWAN 7000 Series and the new SKYWAN 5G in 2015 – our latest modem product open for partner solutions and integrated terminals from small manpacks to flyaways and up to large hub-like stations.

The second product pillar is our antenna family, SKYRAY, consists of the smaller SKYRAY Light up to the robust SKYRAY MAS. The Ka2Go is a subsystem initially designed for the EUTELSAT NewsSpotter service with high quality antenna technology from ND SatCom. A key differentiator is the quality and robustness, as well as the extreme pointing accuracy to acquire Eutelsat approvals.

Very often, a combination of our core products requires tailored M&C solutions. ND SatCom has a sound base of M&C solutions ranging from local M&C element managers up to the Media Fleet Manager application managing bookings of satellite capacity and vehicle usage for complete SNG fleets. All software solutions are designed and maintained by ND SatCom personnel – giving the customer confidence to get updates when new components become

available or new features are needed.

Last but not least, ND SatCom is a servicing company for ground stations in governmental and military networks. A large portion of staff and infrastructure is dedicated to this. Integrated logistics and support is only one aspect, evolution of living networks is another one – highest recognition characterizes ND SatCom from the customer's perspective.

Question: Which geographic and vertical markets are key to ND SatCom's business, and how do you expect them to develop in the near future?

Michael Weixler: ND SatCom's home base is the governmental and military business, including Air Traffic Control networks. Our customers run ATC networks all over Africa; our footprint is still increasing there. We expanded in 2017 into South America with our reliable IATA proven solution.

In 2017, we won orders for military networks using SKYWAN 5G. A first reaction was to integrate our VSAT router with security appliances, and in a second step, to offer an encryption hardware plug-in for the SKYWAN 5G modems in the field early 2018. That

new component is targeted to military, governmental and also security-aware enterprise networks. Customers upgrading the existing SKYWAN 5G networks will significantly improve security with no penalties on traffic throughput or QoE.

Throughout Europe, ND SatCom solutions can be found with basically all TV broadcasters. Combining our traditional broadcast business including SNG vehicles with VSA technology enables media people to deliver content via COTM faster to the playout centres. We promoted this new solution at IBC Amsterdam in September this year with very positive response from potential users.

Question: The satellite industry is in a major state of flux with new technologies and trends causing a major impact on companies around the world. Which recent innovations do you feel have been the most disruptive, and what affect will they have on ND SatCom's business?

Michael Weixler: High Throughput Satellites (HTS) is the major trend. End users expect higher throughput – which we can achieve with SKYWAN 5G and the DVB-S2 functionality. In 2017, we



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addressed this market trend on-time when attractive HTS satellite resources became available by doubling the DVB-S2 throughput per SKYWAN 5G remote terminal and added special modes to run SKYWAN 5G on spot beams like those available on Intelsat EPIC satellites. With cascading and N+M redundancy combined, we cover small to medium sized star-type networks quite well with our hub-less modem technology - an attractive approach for service providers or enterprise customers that plan to extend their service over time.

Question: In March 2017, ND SatCom launched its latest plug and play Ka-band satcom terminal, the Ka2Go, with Eutelsat approval. How does this new iteration improve upon older versions, and what are the implications for potential users?

Michael Weixler: The Ka2Go antenna system is a combination of third party modem technology and our antenna design to build a reliable terminal for the Eutelsat service. In 2017, the new RF module eTRIA, where motors are no longer required for polarization changes, was released providing higher system reliability. Other improvements are the thermal design and integrated Encoder/GSM options, plus the new user-friendly operations application designed for tablet or smartphone use.

Existing Ka2Go customers benefit from new features and can use the migration kit for an upgrade.

Question: April 2017 saw ND SatCom and RUAG Defense present a jointly-developed mobile tactical communication solution, which will provide users with a highly flexible connection technology for missions. What can you tell us about this solution, and the increasing demand for short term communication solutions from military and government customers?

Michael Weixler: ND SatCom is adding the satcom subsystem to such tactical network solutions. RUAG chose SKYWAN 5G as the sole VSAT modem technology to interconnect deployable and mobile cells for ad-hoc networks. SKYWAN 5G modem with its routing capabilities and security mechanisms fits to such applications. RUAG integrated the SKYWAN 5G modem into

the ARANEA. New solution packages are expected in spring 2018, as a result of this cooperation with RUAG.

Question: In August 2017, ND SatCom's SKYWAN was announced as being fully interoperable with General Dynamics Mission Systems Fortress LTE Solutions. With mobile and fixed LTE networks proving increasingly popular among military, tactical and public safety users, how will this new development benefit end users?

Michael Weixler: This LTE solution has two aspects for the end users: Firstly, it is the only LTE solution in the market benefiting from direct cell-to-cell single hop communication in a tested and field demonstrated package of two well-known partners in the world. At Pacific Endeavour in Autumn 2017, several representatives of countries from the Pacific region were trained to deploy terminals using this solution bundle. Secondly, by combining the strength of General Dynamics with its rapid deployable terminal family and LTE Fortress tactical communication system for military and security-aware enterprises, combined with our

SKYWAN 5G modem, provides a very complex solution which is available by the joint force of GD and ND SatCom.

In addition to the OpEx savings due to MF-TDMA mesh technology in SKYWAN 5G, the single hop communication reduces delays for both voice calls and urgent data transfers to 50 percent. End users honour the brilliant quality of voice calls via the SKYWAN 5G modems.

Question: What do you expect ND SatCom to achieve in 2018?

Michael Weixler: 2017 has been a success story for ND SatCom. All the hard work that has been invested has now shown its positive results in the performance of the business. We are focused on continuing the positive development in 2018 using the momentum to grow in all our verticals through our existing customer base and generating new leads. We will look to expand our business into new regions and markets that are well suited for our business model – always remembering our core competencies and the value add they bring to the market. In summary, we want to take ND SatCom to the next level.



SNG with SKYRAY antenna ●●●



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