



● ● Steve Mills, Newtec's new Global VP of Sales



● ● Koen Willems, Newtec's Market Director Government, Humanitarian and Defence Satcom

# GMC Q&A

## Engaging with Government and Defence ● ●

Newtec, a specialist in designing, developing and manufacturing equipment and technologies for satellite communications, is reporting record year-on-year growth of 10 to 20 percent in a sector facing many challenges. The company is currently looking to expand its base in the government and commercial markets alike following a strong year in the mobile backhaul and mobility segments. Amy Saunders met with Steve Mills, Newtec's new Global VP of Sales, and Koen Willems, Newtec's Market Director Government, Humanitarian and Defence Satcom, to discuss their vision for the company's Government & Defence sector, and the latest market trends.

### **GMC: What is your vision for the industry, and Newtec's place within it?**

**Steve Mills:** The industry is equally growing and changing in direction; it's getting an awful lot of attention and investment which, of course, has stimulated a huge expectation from the service providers and user community of enhanced connectivity. Existing satellite network operators and new entrants are making significant decisions, particularly around High Throughput Satellites (HTS), Low and Medium Earth Orbit (LEO/MEO) constellations. These large-scale investments are refreshing for the industry as it moves away from the piecemeal fleet refresh. Satellite access for mission critical, high availability and resilient systems is now expected rather than being on the wish list. As technology advances and the larger, more capable and agile constellations appear, the network operators are ever hungry to prove themselves as the provider of choice and look to create a portfolio that will service the entire rainbow of user demand in all the traditional markets and the growing need for mobility, including maritime and In-Flight Connectivity (IFC).

With the introduction of new spectrum capacity comes the need for highly efficient, reliable and easy access and this is where Newtec comes in. Remember, now more than ever, exploitation of satellite connectivity is a team sport. With Newtec's multiservice VSAT platform Newtec Dialog® and highly efficient waveforms, like the dynamic Mx-DMA® bandwidth allocation, our open partnership approach and ability to drive mutually beneficial value propositions, it is no wonder we are being engaged to answer this calling.

### **GMC: How will you help expand Newtec's presence in the government and military market segments?**

**Steve Mills:** I have gained a wealth of experience in the industry, starting some years ago as a UK Military end-user. Over the next decades, I continued to specialise in satellite communications and associated mission communications networks. Therefore, I understand the user concept of operations, the need for resilience and always-on communications, whether it be tactical or strategic. It is key to drive network operators and service providers to focus on the global military markets and develop offers that are fit for purpose. Newtec is not a new player in the government and defence market with significant networks being used across many different scenarios. We are continuing to build on this and working hard to ensure we are providing the right solutions. Clearly these are exciting times!

**Koen Willems:** From a product development point of view, our Newtec Dialog product line will be extended with the XIF hub, fit for upcoming HTS constellations, and a range of modems able to demodulate widebeam carriers of up to 500 Mbaud. Furthermore, government and military on-the-move platforms will be able to switch transparently from one satellite beam to another while also protecting the confidentiality of their operations. More exciting developments will be revealed during SATELLITE 2018, in Washington DC, in March, so keep a close eye on Newtec in the coming months.

### **GMC: What would you say is the biggest challenge faced by governments right now regarding their communications capabilities?**

**Steve Mills:** National or sovereign bespoke Milstar networks are always the first choice, but they come at a price. WGS, Skynet, Syracuse, and SICRAL, to name a few, are mature and existing networks for nations which have had the initiative to fund and maintain such systems. But, as we all know, the barrier of entry



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remains restrictively high for many who have no choice but to piggy back these networks, invest in hosted payloads or use a broad spectrum of commercially available systems to get resilience through diversity. There is growing support from waveform designers such as Newtec with strengthening and protected waveforms adding an additional layer onto commercial networks. We have seen increased interest in this even from the core defence user community as their networks reach the point for a technology refresh and their user demand grows. This means more and more augmented services from commercial providers.

Memorandums of Understandings (MoUs) between governments continue to drive collaboration and mitigation of the enormous whole-life costs of X-band programmes. This is evident from the take up of WGS in Europe, Skynet in the US and the NATO CP130 initiative. More targeted discussions have seen this in different modes from full delivery of sovereign capability to carved out and guaranteed use of already available systems. Skynet, for example, moved SN5A to South East Asia to address the demand for military networks through commercially available contracts.

**GMC: How big a challenge is legacy technology and compatibility?**

**Steve Mills:** Government procurement agencies are getting very clever now in the way that they write their requirements and drive both innovation and value. In the last few years, the majority of requirements we have seen do have a real vision and expectation for both backwards compatibility, as well as future-proofing for forwards capability. The need for concepts and thought leadership is certainly playing a large part in system design requirements. More and more, we see common language for ‘open architectures’ and ‘open standards’ with as much exploitation of commercially available equipment but with the ability to integrate sovereign eyes-only encryption. This is absolutely in our Newtec DNA.

**Koen Willems:** The vast experience in the broadcast market has taught us to deal with legacy technology and compatibility. Newtec has contributed to a number of DVB standards including the latest DVB-S2X version. Interoperability is key for

broadcasters to exchange and distribute content. The same can be said about government and defence applications. Mission critical information needs to be relayed, exchanged and distributed in order to increase the efficiency of operations and improve decision making. Interoperability or compatibility can happen on the level of the IP layers or on the level of waveforms such as DVB-S2X. In this latest standard, some MODCODs are integrated to be compatible with DVB-S2-based equipment. Critical network transitions demand smooth transition ongoing operations are not disturbed.

**GMC: Cybersecurity is a pressing problem for governments and commercial entities alike. How can Newtec help ensure mission critical communications in the face of this threat?**

**Koen Willems:** There is a European initiative now which says that governments and critical infrastructures must be secured. There is definitely attention being paid to this, not only from the defence side, but also on the government front. If you look at the solutions we have at Newtec, we already offer a level of security which fits to applications. Sure, you can over-spec and over-secure, but that comes with a cost of both efficiency and price. That’s always the trade-off. The real winner here is the one that achieves secure communications, but is still very efficient.

There are initiatives that we’re looking at and some that we are already embedded in. For example, there’s the European GovSatcom programme, which looks primarily at efficiency and affordability, but also at resilience and security. We are working with partners towards this initiative. In this situation, you are working in a context where there is a need to adapt to national encryption or national security, and as a system or a platform operator, you can offer transparent and secure communications.

We work with external encryption, and as part of the GovSatcom initiative, we also secure our platforms. It’s not only about the security of the link, but also the resilience of the link. Today at Newtec, we have the dynamic Mx-DMA bandwidth allocation, with the Newtec Dialog platform, which inherently houses a government-grade frequency hopping scheme, a technique which ensures greater resilience to rain fade, eavesdropping and jammers at an affordable level which is still efficient. There is not one solution which fits all, there must be a

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solution that fits the application(s). That's something that we look at on a daily basis.

As satellite networks become more hybrid and an extension of terrestrial networks, cyber security is very important to fend off any network intrusions or attacks. Currently, we are adding extra security and high-level encryption layers to the Newtec Dialog VSAT platform to prevent third party entities intruding into other parts of the networks when multiple Virtual Network Operators (VNOs) are connected to a shared VSAT platform.

**Steve Mills:** Let me share one example to illustrate that point: I was fortunate enough this year to be given the opportunity to explore the cyber requirements arena and spent some quality time with capability leaders in the UK Government and defence. These sessions were a complete step change in engagement between industry and government for transparency and the hunger for mutually beneficial partnerships. Certainly, the UK is open for business for industry thought leaders, with the offer to explore hand-in-hand this growing threat.

A known starting point is awarding industry experts with cyber vulnerability investigations (CVIs) to understand fully what is known and, of course, what is yet to understand. But, the question which remains and which needs much deeper thought is "What does life look like after the CVI?" This is where partnerships within the industry are essential and not perhaps with single primes, but small, bespoke subject matter experts to build a stable of excellence and focus in a unique ecosystem of protection.

**GMC: We're hearing a lot about 5G and spectrum sharing for C-band right now. What's your take on this challenge?**

**Koen Willems:** 5G is poised to radically change the connectivity and service landscape in the coming years. If you look at the Internet of Things (IoT), connected cars, etc., 5G will be in the midst and will be influencing what happens next. If you look at satellite communications, it will be part of that suite of communications connecting everything. Being part of that from day one is very important to understand what the future requirements and future technologies will be, so we can connect the dots and react quickly.

As such, we are already part of some initiatives, including a consortium that we signed with partners in order to explore 5G

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and future technologies. We feel it is key to be an active player in that ecosystem.

**Steve Mills:** 5G is certainly a hot topic with it being more than a new emergence of spectral efficiency, but a drive towards multi-spectrum terrestrial and satellite-based technologies. Ultimately the user community simply wants a service regardless of how they are connected or routed. With this drive comes a new era and a need for network orchestration, bearers of opportunity, low cost routing and service prioritisation. Whilst the industry works hard to provide this transparent capability, the challenges of network access, user authentication with PKI adds an additional layer that must be simultaneously addressed as devices connect in and out of these ambiguous networks.

**GMC: What expectations do you have for 2018 and beyond?**

**Steve Mills:** The government and defence space is a serious and addressable market for Newtec. The Newtec Dialog multiservice platform is becoming ever-increasingly relevant, providing service providers and operators with flexibility across different markets to serve a wide range of customers and applications, including government and defence, but also broadcast, consumer and enterprise VSAT, and especially in mobile backhaul and mobility, including IFC and maritime communications.

The need for data to be delivered everywhere will see 'Communications On The Move' become an increasingly key market.

Newtec is already making great strides here, with the first commercial flights featuring Panasonic Avionics' Newtec-designed modem for IFC taking place.

It's key to address not only technical innovation, but also business innovation and as such we will be working through 2018 with our partner and customer community to develop advanced value propositions and value creation techniques to drive opportunities that truly benefit the end-user. **GMC**



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