and it is very much about working with the governments and convincing them that facilitating connectivity is important for their communities. If these challenges can be overcome then Africa is a very vibrant market and the potential for growth is huge."

Looking at the capacity available from existing satellite operators or new ones coming to the continent for the first time, Mumford says it's clear that the majority of it will be used for data. He says Liquid will be able to support this because the company's core belief is that everybody on the continent has the right to be connected

and its goal is to do just that.

"With our fibre network growing at a rate of 100km per week and the continued growth plans for the satellite operation, our ambitions are clear. We will continue to invest in and build out our fibre network, and once the Newtec Broadband hub is filled, we'll be looking at the next step in satellite - the Newtec Dialog multiservice platform and its capabilities. With enterprise customers you have to be very flexible in what you can offer. Our approach is to build solutions which fit their requirements rather than trying to fit their specification into a product that already exists. Dialog will help us build on that approach and enable us to go after all market verticals across the continent while offering increased efficiency."

Mumford continues by saying Liquid is constantly looking to improve network uptime and the reliability of its fibre network, which he described as the largest independent international fibre network across Africa.

"The network is already combined with a VSAT system to improve uptime and reliability and, again, this is where Newtec's technology comes in. In traditional systems, you have to choose to operate between SCPC and MF-TDMA, making it a one-time choice. Newtec has three different technologies available that can be dynamically selected to offer

optimal performance for a given service and user profile." (Also see Pieter-Paul Mooijman, Newtec, below)."

Mumford says that in order to achieve the goal of connecting every person in Africa, what's needed is the right technology and also the demand which he predicts will come from two areas.

"Firstly, schools in rural areas connecting for e-learning; secondly, as our customers grow their businesses, their connectivity demands will also increase. Both of these factors will result in a requirement for additional VSAT hubs."

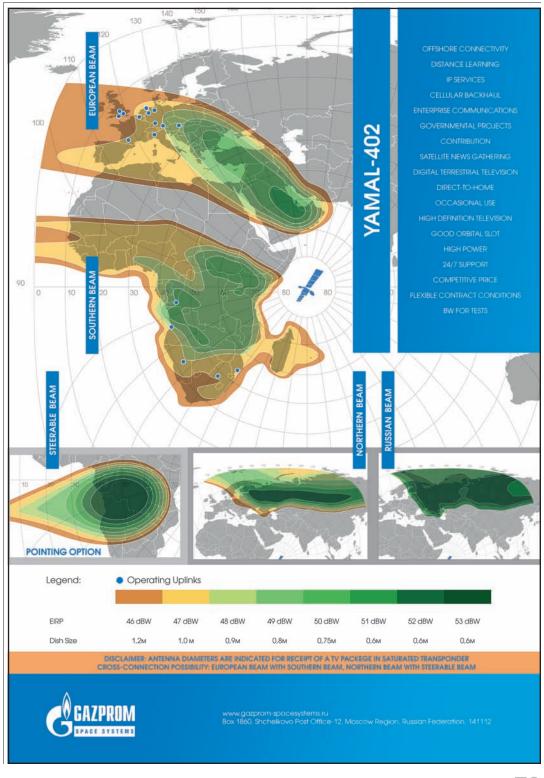


Raj Malik, SVP of sales & marketing, **MEASAT Satellite Systems**

ver the last 12 months, MEASAT has continued to focus its efforts on establishing its presence in the African market and growing the customer base on Africasat-1a which was launched to 46°E in February 2013.

Raj Malik says the company has done this in three ways: firstly, by

increasing its sales coverage in the region;



secondly, by working with leading teleport operators in Germany, Luxembourg, Switzerland, Greece and the UK to ensure "best in class" connectivity between Africa and Europe; and thirdly, by tailoring its offerings to the requirements of the African market.

Malik admits whilst 2014 was a challenging year in the African satellite industry, there were some very positive developments.

"In a key development late last year, we demonstrated that *Africasat-1a* was capable of supporting 64 APSK modulation. This was a key result and allows customers to benefit from a 20 to 50 per cent increase in spectral efficiency leading to higher transponder throughput and thereby reducing cost."

He says that satellite services also showed growth across a number of segments, such as: video distribution and contribution to DTH platforms; remote area connectivity following investments in the oil and gas, and mining sectors; and VSAT services for the financial sector (banking) and MNCs setting up base in high growth markets.

But whilst demand for satellite capacity across these segments has been growing, Malik says overall satellite demand has also been impacted negatively by the continued investment into submarine cable systems. "The migration of services from trunking to point-to-multipoint applications is a natural evolution of the industry given the continued economic development in the region."

So what does he perceive to be the obstacles that MEASAT needs to overcome in 2015? He says the challenges for this year are similar to those experienced in 2014.

"Specifically, managing the migration of services from backhaul connectivity to the traditional VSAT and distribution services.

"With the fall in the oil price that began at the end of 2014, and the general softness of the commodities markets, it is not clear whether some of the sectors that have shown strong growth recently will continue to show the same growth in 2015. The industry needs to ensure that it is supporting these sectors with cost-effective solutions in the more challenging economic environment."

Furthermore, he says that given the fact that networks are increasingly adopting a hybrid solution using both satellite and terrestrial connectivity, there is an increasing challenge in supporting these applications given local infrastructure and logistics.

Within all this, MEASAT's vision is to be a provider of core communication services in Africa. "The company's focus over the next 12 months will be to continue to establish *Africasat-1a* as one of the continent's premier satellites; raise

awareness of 46°E as the ideal location for pan-African coverage (given its excellent look angles across the entire continent and island nations); and offer customers customised and flexible solutions in support of their business plans. MEASAT stands committed to developing its understanding of this region, and to building a strong network of winning partnerships."



Pieter-Paul Mooijman, Regional sales director Africa, Newtec

and connecting schools.

ewtec celebrates its 30th anniversary in 2015. During that time, the Belgianheadquartered company has been setting standards and developing satcoms equipment and technologies for broadcast, consumer and enterprise VSATs, government and defence, backhaul and trunking. Regional sales director

Pieter-Paul Mooijman says that after multiple successful installations of the company's *Sat3Play* satellite broadband hubs over the past few years in Africa *(such as with Liquid Telecom – see above)*, the service has proven to be reliable and popular with a variety of customers. These range from home users and enterprise customers, to government projects, such as those involving e-learning

"One of the latest *Sat3Play* hubs to be installed is based on Ka-band and was deployed for a Nigerian satellite operator. We also have a number of restoration projects which are extremely important as the reliability and availability of fibre networks, even in major cities, remains inconsistent, meaning communities are unable to rely entirely on it.

"In Mozambique for example, there is redundant fibre throughout cities nationwide. When the country suffered from major flooding, most of the fibre links were affected, leaving a large areas without any form of connectivity. This lasted for more than a week. For this reason, having satellite connectivity in place as a backup is vital, particularly for the continuity of government and business operations."

Like all his peers and industry colleagues, Mooijman agrees that Africa's wireless communications market has grown rapidly over the past year. He believes that one of the main reasons for this is the size of the continent and its huge number of rural communities.

"The wide spread of these communities means it is not economically viable or even humanly possible to connect each rural community via terrestrial means. The wireless communications industry has played an important role in connecting the African population and will no doubt continue to evolve throughout the continent in the near future.

"Alongside the standard connectivity projects, the other significant development over the past year is the migration from analogue to digital broadcasting. Newtec is heavily involved in this ongoing project to improve spectral efficiency and reach across the continent."

But of course, none of this will be easy, and there are a number of obstacles in the region that continue to hinder connectivity.

"Power supply reliability and efficiency is something that will carry on affecting a number of countries. There has been a lot of investment in sustainable and reliable ways of supplying power, such as building hydro-electric power plants, wind and solar farms across Africa. Newtec has a significant role in monitoring these power supplies using its low-power consumption satellite terminal.

"Another significant hurdle is the regulatory and political landscape. Many companies have difficulties importing satellite equipment and struggle to obtain a communication license to be allowed to operate locally. In terms of the political landscape you can see the effect of postponed elections, such as those now taking place in Nigeria, resulting in a number of companies not investing in new technology due to potential political instability.

"Further, due to pricing in the oil industry, we are finding that in countries like Angola, Nigeria and Ghana, government income has dropped dramatically. This has reduced the amount of money available to invest in new technologies and connectivity improvements.

"We are actively trying to overcome these investment hurdles for the end customer by developing new technologies and platforms like *Dialog*, our multiservice satcoms platform that allows the customer to operate different technologies like MF-TDMA, Mx-DMA and SCPC on a single platform. This improves the efficiency of space segment utilisation up to 52 per cent, increasing capacity or reducing the monthly recurring charges from the satellite operator. This allows the customer to see a return on investment in a matter of months."

Mooijman says that Newtec's aim today is the same as it was 30 years ago – to make sure people are connected. "Everybody deserves the same opportunities in life as one another and good connectivity contributes greatly to that. We will therefore continue to work with our customers across Africa to ensure the ongoing development of connectivity infrastructures across the continent.

"We want to continue to be an enabler for businesses and communities alike, bringing a greater level of consistency and reliability to communities' connectivity.