Safeguarding the evolving satellite solution

The 3rd Annual West Africa Satellite Communications Summit (WASCS3) has been confirmed for 20-21 November 2007 and will take place at The Protea Hotel Oakwood Park in Lagos, the commercial capital and heart of Nigeria. Martin Jarrold, Chief of International Programme Development, GVF, reports.

Approximately one year ago, in an article entitled 'Evolving New Satellite Connections for West Africa', I wrote of West Africa's command of centre-stage position in the rapid development of the African continent's telecoms arena, pointing out that this had resulted very largely from unprecedented levels of private sector demand for satellite-based voice, data and video solutions. Well, I am pleased to be able to report one year later-on that the trend continues, and that this is the reason why the GVF will be further expanding its activities in the region in the fourth quarter of 2007.

The 3rd Annual West Africa Satellite Communications Summit (WASCS3) has been confirmed for 20-21 November 2007 and will take place at The Protea Hotel Oakwood Park in Lagos, the commercial capital and heart of Nigeria. Following on from the success of the first two events in this annual series, WASCS3 will again be jointly organised by GVF and UK-EMP, and will focus-in on the latest developments in the evolutionary deployment of satellite broadband networking to serve the leading commercial and enterprise verticals of the region.

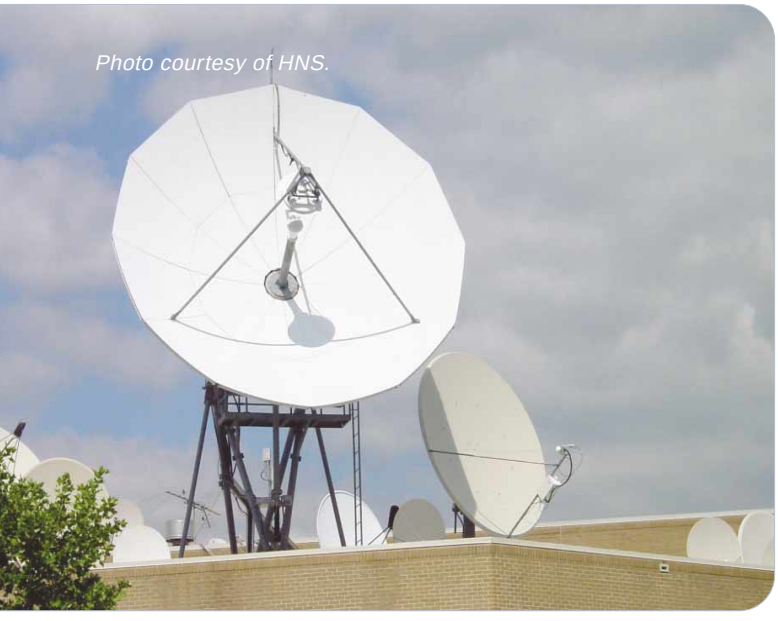

Photo courtesy of HNS.

As a surge of new satellite capacity stimulates market growth on the continent as a whole – particularly after the successful launch of the Nigerian owned and operated NigComSat-1 geostationary satellite in May 2007, and in anticipation of the results of the recent acceleration of the RASCOM satellite programme – the West Africa region is increasingly at the focus of state-of-the-art satellite-based communications, with broadband satellite services assuming an even stronger leading role in the regional socio-economic development agenda.

As the West African private sector, in general, continues to seize upon the strategic ICT efficiencies afforded by satellite-based solutions – and whilst the public sector has been moving to facilitate service providers' efforts through market liberalisation and regulatory advances – such leading regional verticals as the oil & gas industry and the banking sector will be given particular focus at WASCS3.

WASCS3 will provide an unparalleled networking opportunity for global and regional satellite communications providers to meet with the ever-expanding community of decision-makers from these various vertical market satellite communications end-users, as well as from other key user groups which have come to rely upon this Nigeria-based conference as a means of meeting suppliers of satcom products and services.

Since its inception in 2005, this series of GVF Satellite Communications Summits has generated widespread regional interest and high-level executive participation, from both end-users across the region and from satellite service providers globally. The 2007 Summit in Nigeria's commercial Capital follows on the success of the 1st and 2nd Summits, in 2005 and 2006, held in the Administrative Capital of Abuja.

Taking the example of just one of these verticals, and recognising the fact that the oil & gas industry grows ever more reliant on satellite delivered ICT applications, the WASCS3 programme will include a range of themed discussion on such exploration & production sector ICT imperatives as:

- Broadband satellite: enhancing oil & gas sector vertical communications;
- Enabling the digital oilfield;
- Planning & implementing roadmap operation support centres;
- OSC for drilling operations;
- Collaborative visualization environments;
- Remote collaboration solutions;
- Global connectivity – reliability for operations support; and
- Wireless connectivity solutions – real world implementation.

The original commissioning of the NigComSat-1 spacecraft to service the now rapidly accelerating requirement for cost-effective connectivity within the West Africa region and the continent as a whole, as well as between Africa and Europe, reflects a universal recognition that access to information and knowledge through affordable communications represents a significant opportunity for social and economic development, for regional cooperation and integration, and for increasing the participation of people in the emerging global information society. Across all regions of Africa, the imperative of overcoming the barriers to, and fixing the manifold current deficiencies in, the means of access to low-cost communication services is top of the agenda for not only improving the quality of life in African countries, but for significantly enhancing the mission-criti-

cal, productivity capabilities of a range of African vertical markets – including oil and gas.

More and more African administrations are beginning to implement policies and regulations that seek to open telecommunication markets to varying degrees of competition. In addition, studies of various African telecommunications marketplaces clearly show that different countries across the Continent occupy a range of different positions on what has been coined as the "ICT Development Curve". Those countries that can demonstrate the most advanced markets are those with the most effective policy and regulatory environments, particularly in the satellite communications field.

There's always a however…

Now, just as these evolutionary trends are combining to create a communications marketplace that brings satellite-based solutions even more into their own, a new and potentially very damaging development has arisen – parts of the radio communications spectrum that are an essential resource in continuing to challenge Africa's digital divide and provide its key verticals with imperative communications solutions are under threat.

All around the world, the 'standard' (3.7 to 4.2 GHz) and 'extended' (3.4 to 3.7 GHz) C-band frequencies have been identified for use by new terrestrial broadband wireless services, as well as for the deployment of next generation terrestrial mobile.

Satellite systems that operate in these frequency ranges are suffering substantial interference, sometimes to the point of system failure, in places where national administrations are allowing broadband wireless access systems like Wi-Fi and Wi-Max to share the same spectrum bands already being used to provide satellite services. The same will happen if 3G and the planned 4G mobile systems (also referred to as IMT systems) are allowed to use the frequencies used in the C-band for satellite downlink services.

Antennas which receive satellite downlink signals in the C-band are by necessity extremely sensitive devices. They are designed to receive a low-power signal emitted by small transmitters located in orbit 36,000 km above the equator. In the C-band, satellite services have co-existed with domestic microwave links and radar for many years, because the latter systems operate via tightly focused beams from fixed points, and de-confliction can take place when necessary.

By contrast, terrestrial wireless applications are by definition ubiquitous and increasingly mobile/nomadic. Mobile and base stations for terrestrial wireless applications emit signals from many locations, in all directions, simultaneously, and are powerful enough to saturate the sensitive C-band satellite receiving systems, causing a potential for total loss of service.

> "More and more African Administrations are beginning to implement policies and regulations..."

However, government administrations across the continent are in a powerful position to counter this development, and to guarantee continued access to a multitude of satellite-based applications that are the key to the continued economic advance of millions of people.

Efforts are being coordinated and escalated to safeguard the threatened frequency ranges for satellite-based services and for the essential development related applications (e.g. distance learning and telemedicine), and aid and humanitarian applications, which are carried over them. Not to mention the core communications requirements of the enterprise sector in Africa's emergent economies. GVF and a growing number of supporting organisations have responded boldly to this problem of terrestrial wireless interference, and have developed a global satellite-industry position paper which both describes the problem and – importantly – proposes viable solutions.

It is critical for Africa, as well as elsewhere, that governments and spectrum management authorities recognise the very real damage caused, and tremendous threat posed, to satellite services by use of the Standard C and Extended C-bands for terrestrial wireless systems. Now, in the build-up to the World Radiocommunication Conference (WRC-07) soon to take place in Geneva, the satellite industry is keenly focused on influencing the opinion and positions of the governments of Africa, and elsewhere, which will determine the future viability of satellite C-band.

To obtain a copy of the position paper please contact Matt Botwin at the GVF Regulatory Working Group:
mbotwin@regentsquaregroup.com