



The African Satellite Market

by Virgil Labrador

Last April 22nd, Arianespace successfully launched two satellites that will serve the Middle East/ Africa regions: Intelsat's New Dawn Satellite and UAE-based Yahsat's Y1A satellite. If you viewed the live streaming video of the launch, you can see the palpable elation of the senior executives of Yahsat when their satellite was successfully launched. It was, after all, their first satellite and the first from the UAE—a tiny country composed of seven emirates in the Arabian peninsula. The Middle East and Africa has been a hotbed of activity recently for the satellite industry and operators are scrambling to launch satellites and get a piece of the potentially lucrative markets in those regions. So, you can see how relieved Yahsat's executives were upon launching their first satellite, as any failure would mean costly delays in entering a market where more and more players are coming in.

In contrast, Intelsat officials present at the launch were more subdued. They have after all launched over fifty satellite successfully and was the first to launch a satellite covering the African market way back in 1969. The launch of New Dawn satellite, a partnership with South African investment firm Convergence Partners, was positioned to "herald the dawn of a new era where

Africans enjoy far greater involvement in the space communications industry," according to Andile Ngcaba, Chairman of Convergence Partners in a pre-launch press release. However, the New Dawn satellite wasn't able to avoid the quirky fortunes of home-grown satellites from Africa like Nigeria's Nigcomsat-1 and Mauritius' RASCOM-QAF1 both launched in 2007 and subsequently had problems that eventually put them out of service.

New Dawn had problems with deploying its C-Band reflector after launch. As of this writing, Intelsat has exhausted most options for deploying New Dawn's reflector and will most likely be unable to provide the much needed C-Band services for the region.



Applications such as cellular backhaul are driving demand for satellite services in Africa.

A Market Full of Potential

The second largest continent in the world after Asia, Africa is no longer viewed as a backwater for telecommunication services. More open regulatory regimes have opened up markets in Africa that previously provided

great challenges for operators and service providers. Fast growing economies and an upwardly mobile population of over a billion, has made Africa a potentially lucrative market for telecommunication services.

Just a few years ago, the African continent, home to over a Bil-

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lion people, was seen as backwater for telecommunications services. Teledensity, a key indicator showing the number of telephones per 100 population were the lowest in the world at less than one percent on average.

Poor regulatory frameworks, political instability and sluggish economic growth due to widespread poverty contributed to Africa's image as the extreme example of the digital divide.

The situation led to an shortage of satellite capacity for basic services which pushed the price of transponders to astronomical heights of up to US \$ 6,000.00 per MHz.

What a difference a few years make. Today, Africa is one of the fastest growing markets for telecommunications and satellite services. The African satellite market is estimated to have grown in the last few years as much as twice more than the global average of 6-7 percent and looks to accelerate that growth in this decade.

One major shift in African economies is the change in emphasis on building more sustainable economic models based on developing local economies and lessening dependence on foreign aid. "Trade not Aid" is the new mantra in Africa.

Despite the phenomenal rate of media adoption in Africa, there is still a lot of potential for growth. Access to telecommunication services stands at around 40 percent; only three-fourths of households own a TV set and about 20 percent have access to a computer at home.

Demand Drivers

Driving demand for satellite services are growing demand for cellular backhaul, internet connectivity and enterprise and government markets. Africa's population is concentrated in major cities with very sparsely populated and dispersed rural areas—an ideal environment for satellite solutions.

A study called "Balancing Act's African Satellite Markets" revealed that 29 out of 55 African countries and territories get more than 80% of their total international

internet bandwidth by satellite, and many fixed and mobile operators in the region are also dependent on satellite for their domestic communications.

Africa's mobile telephony market is the most promising market in the region, having reach the milestone 500 million subscribers in 2010. Yet, this is still only 41 percent penetration of the market, compared to 78% globally and 68 percent in the Asia-pacific region, according to the International Telecommunications Union (ITU).



Africa has been portrayed as poster child of the Digital Divide as this cover from the Economist so graphically illustrated six years ago. However, recent developments might be shedding this unflattering image of the region. Africa is one of the fastest growing regions for telecommunications and broadband services with an annual growth rate twice as much as the rest of the world.

Growth in the market for cellular backhaul services provided by satellite is being driven as a result of the rapid roll-out by mobile operators of coverage to secondary urban and rural areas beyond the reach of terrestrial networks. Mobile operators often have to build transmission networks spanning large distances over challenging terrain in order to reach major towns or cities, and in addition often also have to build their own transmission and associated infrastructure such as power and roads to service base stations.

Base stations are often deployed which connected by VSAT, then as the microwave network being built by the operator catches up, VSATs are then moved to new base stations and so on in a leap-frog fashion. VSAT is used to connect base stations in remote or hard to reach locations, where satellite-based backhaul remains the most practical and economically feasible means of connecting cell sites.

VSATs in Africa now connect enterprises and several vertical markets such as oil and gas, and support applications such as distance learning, telemedicine, emergency management, disaster recovery, internet access and e-government projects.

The Global VSAT Forum (GVF) is closely supporting the ITU's "Connect Africa" Initiative which aims to double the availability of VSAT earth station terminals by 2012 from its 2008 levels. GVF Secretary-General David Hartshorn said that progress has been made in terms of liberalization, transparency and a commitment to satellite regulatory harmonization in the region and is cautiously optimistic that Africa will reach the goal set by the ITU.

Bridging the Digital Divide

Internet users in Africa only account for 9.6 % penetration rate compared to 21% average in developing countries and 71% in industrialized countries. In Africa, there is only one fixed broadband subscriber for every 1,000 people, while in Europe there are 200 subscribers for 1,000 people.

Only a very small percentage of internet subscribers in Africa access what would be considered as a broadband connection, which is defined as a minimum 1 MB download speed.

With rising incomes and more liberalized societies, Direct-to-Home (DTH) and Pay-TV services are poised to take off in Africa. Out of some 55 million TV homes in the continent, only 8.5 million are pay TV homes, mainly concentrated in developed markets such as South Africa and Egypt.

"Over the next five years, as regulatory changes introduce more competition into

the sector and technology platforms advance, we expect the region to begin to overcome the many obstacles that have inhibited its growth in the past, specifically the high cost and limited reach of pay-TV platforms," said Dearbhla McHenry, senior analyst of Pyramid Research, wrote in a recent report about the pay TV business in Africa and the Middle East (AME). "Thanks to rising incomes and greater competition in many markets, the pay TV market in AME will enjoy the world's highest growth rate over the next five years."

Last year's Soccer World Cup held in South Africa put the African broadcast market in the spotlight. Most of the matches were broadcast in High Definition (HD) and some in 3D, highlighting the potential for premium services for the African market.

The New Gold Rush

The opportunities are not lost on satellite companies, who are always looking for new and emerging markets and have been slowly expanding into the potentially lucrative African market.

One of the first companies to see the potential in the African market was Malaysian satellite operator MEASAT, which moved its MEASAT-1 satellite in 2007 from the crowded South East Asian market to the 46° E location to serve the African market. It later renamed the satellite "Africasat-1" and moved its MEASAT-2 satellite in similar fashion in 2010 and renamed it Africasat-2.

Almost all the major satellite operators have staked their claim on the African continent. An estimated 20 new satellites with coverage in Africa will be launched in the next five years, which should address the current capacity shortage. Among these are Ka-Band systems such as the O3B Networks constellation which aims to serve underdeveloped regions in Africa, Asia and Latin America. Most of the pre-launch contracts announced by O3B in were aimed at services for African countries such as their deals with Vizada Networks, Intersat Africa and the Congo's leading ISP, Global Broadband Solution. The world's second largest operator, SES,

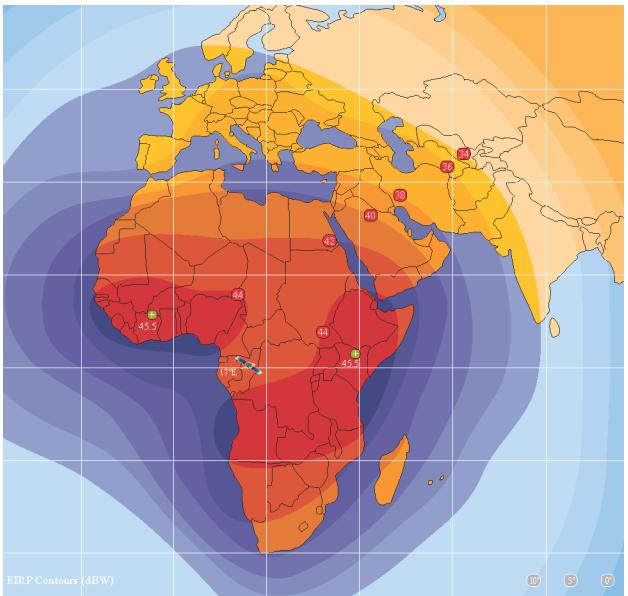
launched NSS-12 satellite in the 57° E location to service Europe, Africa and the Middle East and has nine other satellites serving the region. SES also signed an agreement with Intersat Africa to bring its ASTRA2Connect satellite broadband internet service to the African continent.

Israel-based satellite operator Spacecom has also expanded its fleet to cover most of Africa with its Amos-5 satellite scheduled for launch in the third quarter of 2011. Spacecom's CEO David Pollack said that they are very optimistic of the potentials of the African satellite market. He said that they are seeing a shift in demand from basic telecommunication services to more sophisticated applications. "With cable starting to be introduced in the major African centers, there is a need for more broadcast distribution throughout Africa and we aim to provide these with our satellites," said Pollack.

Middle East-based satellite operators Arabsat and Al Yahsat have aggressive plans for the African market. Arabsat's Badr series of satellites (Badr-4, -5 and -6) have extensive coverage of Africa. While Al Yahsat's Yahsat-1A, launched last month, and the upcoming Yahsat-1B scheduled for launch later this year, will specifically target the provision of broadband services for the Middle East and most of Africa.

There are also a number of Africa-based satellite operators, the most developed of which is Egypt-based Nilesat with four satellites operating in the region. Nilesat provides transmission services for over 600 TV and 100 radio channels, 24 of which are in HD.

Nigeria, the largest country in Africa in terms of population with some 150 million, has one satellite operator—Nigcomsat. The company is planning to



Scheduled for launch in the third quarter of 2011, Amos Spacecom's AMOS-5 satellite will establish a new orbital position for Spacecom at 17°E, providing a full range of satellite services over Africa. Pictured here is Amos-5's C-band coverage. Together with AMOS-2 and AMOS-3, co-located at 4° W orbital "Hot-Spot", and AMOS-4 scheduled for launch in 2012 to serve Asia and Russia, AMOS-5 will enhance Spacecom's satellite coverage over the Middle East and Europe, while adding the emerging African markets to its service portfolio.

replace its failed Nigcomsat-1 satellite with Nigcomsat-1R in the fourth quarter of 2011.

Mauritius-based operator RascomStar-QAF successfully launched RASCOM-QAF1R satellite in August 2010 after the failure of its previous RASCOM-QAF1 launched in 2007.

Market Prospects

The influx of new satellites serving the African market will help meet the growing demands of the region and address the Digital Divide. However, more still needs to be done in liberalizing the markets and implementing rational regulatory frameworks in many countries. "Indeed, the digital divide between the African region and the rest of the world is much more pronounced than the divide within the region, with very few countries reaching ICT levels comparable to global averages," according to an recent ITU report.

The ITU research shows that African countries are facing a number of challenges in increasing ICT levels. These include the lack of full liberalization of markets and the limited availability of infrastructure, such as shortage of international Internet bandwidth. "In addition, prices for ICT services remain very high compared to income levels," according to the report.

With so many new satellites coming up in the region, there is also the danger of oversupply which can lead to transponder lease prices falling. As more African countries develop, there is always the urge for every country to operate their own satellites—which can only close certain markets and intensify competition.

Competition to satellite services

is also growing from terrestrial telecommunications services, the demand for these types of services as in many other regions will only continue to rise.

There are obviously many regulatory, economic and even social and political issues that need to be addressed more aggressively in this new decade in order for Africa to meet its full potential.

One thing is certain, though—after the dramatic progress made by Africa in the last ten years in terms of broadening access to telecommunications services, the demand for these types of services as in many other regions will only continue to rise.



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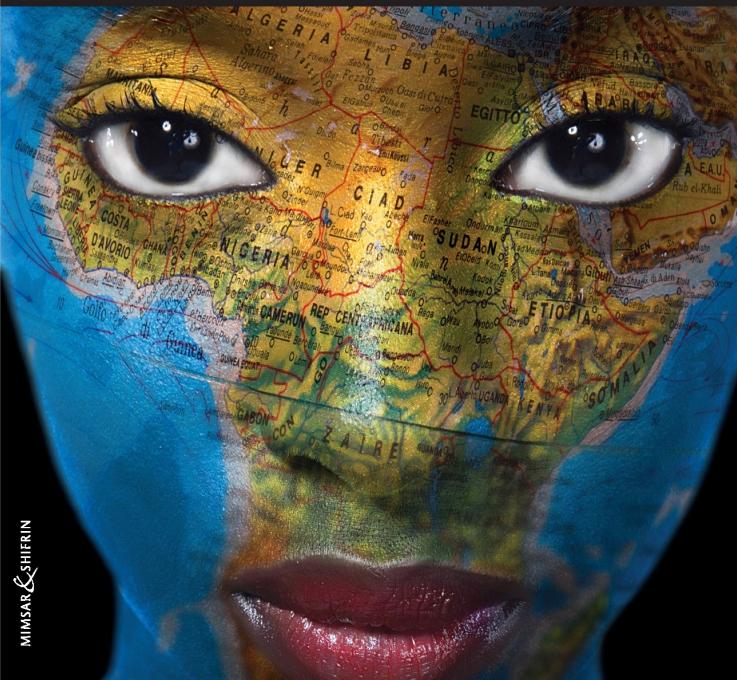
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