

Signed, WACS and delivered - now what? The opportunity for West and Central Africa



By [Eckart Zollner](#)

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Construction of the USD650 million West Africa Cable System (WACS) began in 2009 and was completed in April 2011. On target, a little over a year later (11 May, 2012) the first traffic ran over the cable - from South Africa and Namibia, two countries that probably have the most advanced terrestrial fibre network in sub-Saharan Africa and the highest rates of Internet connectivity and most smartphones.

Botswana and Zambia now also have connectivity from the WACS (via Namibia's terrestrial backbone), but elsewhere in West and Central Africa, connectivity is likely only to arrive in 2013 - and only for some. The missing link: terrestrial backbone networks.

Of course, there are other considerations, like licensing, frequency allocation for microwave backbone connections, the business case to launch ISP and effective 3G cellular network services - i.e., capital cost, time to return on investment, average revenue per user and affordability. And there are other more basic challenges. Building the enabling environment, both physical and regulatory, cannot be "leapfrogged". Happily, there are big drivers, interesting and lucrative business models to choose from, and alliances forming to speed the process.

Benefits with greater access

Tremendous benefits come with greater access to communication and global connectivity. Access to information and communication enhances business interactions, quality of life (e-health and e-learning), improves livelihoods (access to mobile financial services), opens up new employment opportunities for individuals and stimulates greater investment in the country. But to realise these benefits, other enabling factors such as road, rail and air transport infrastructure is needed. Still top of the list for some governments is reliable access to utilities like water and energy, the networks and facilities necessary to exploit e-health and e-learning applications, and the regulatory frameworks for empowering services, like access to banking and financial services.

The cost of connectivity will undoubtedly drop as cable landings in countries like Namibia, the DRC, Congo and Togo provide the first direct connections for these countries to the global submarine cable network and direct fibre links to international bandwidth. Until now, these countries have had to make use of cross-regional backhaul provision, third-party providers and overseas operators that all charge a premium for the copper and/or satellite connectivity they provided. In total, there are 15 cable landing points on the WACS cable route, boosting bandwidth availability and setting the scene for price reductions.

Dropping bandwidth costs

For example, in South Africa, bandwidth costs dropped to about 15 percent of what they were within three years of the arrival of the Seacom cable system. The WACS cable, which has much higher capacity than Seacom, will boost bandwidth access by a further 40 percent in the country. Within a month of being tied into WACS connectivity, wholesale prices to telecommunication providers are again dropping in South Africa.

And as the cost of a smartphone drops beneath R1000 in South Africa, the 3G connectivity that local network providers are building out will be put to good use. The business case is very different in the rest of Africa.

Africa's challenges need to be understood. In Africa, the majority of people cannot rely on copper cable for that matter (because there is very little). Nor do many have access to the Internet. Business communication often only takes place through face-to-face meetings. There are very few company websites and where these do exist they are hosted overseas - and the existing links to the world via third-party carriers and service providers are expensive and offer limited speeds.

While South African's cannot imagine life without their mobile phones or the Internet, in Africa demand for broadband is not yet being driven by consumers. The majority of projects are being driven by governments and network providers who want better electronic communication and international connectivity. There is also a lot of pressure from multinational companies (particularly those in the mining and oil industries) who have, typically, had to build their own communications links. This makes expanding into Africa an expensive proposition, something governments want to address to make foreign investment more attractive.

The way forward and challenges

The way forward is to accelerate the completion of the landing stations for the submarine cables and then build out the terrestrial broadband networks. This is, typically, controlled and managed by governments where countries have not liberalised their telecommunication sector and have not yet an effective telecommunication regulator. The challenges include rights allocation for the laying of fibre, as well as licensing and spectrum allocation for wireless backhaul links. The licensing process in some environments can easily take between six to 12 months.

As things stand, cellular network service providers in African countries rolling out new services may have already overplayed their hands. In anticipation of global bandwidth availability, which could be some way off, they aggressively launched and marketed 3G services that now do not live up to expectations due to very limited international backhaul capacity. There is some relief on the horizon, however.

Pan African carriers such as Gateway Communications and Liquid Telecom are building out fibre and microwave networks aggressively along main transport routes and into key urban centres throughout East, West and Central Africa. There is also the hope that new wireless technologies, as well as new infrastructure sharing and leasing models, will rapidly increase connectivity and access to bandwidth.

Telecommunication is a big revenue generator

Infrastructure build-out is very capital intensive and, typically, has a long payback period. Nonetheless, telecommunication is a big revenue generator. Governments know this and so do network and service providers. With the high cost of infrastructure construction in remote parts of Africa, infrastructure sharing has happened much more quickly than in South Africa. Multi-party relationships and infrastructure outsourced models are springing up, and to ensure payback through usage, "open access fibre" strategies in Africa see leasing of infrastructure to multiple service providers.

There is also an opportunity for a lower cost green-fields roll-out of all-IP Long Term Evolution (LTE) technologies, the next-generation evolution of 3G. LTE offers a massive boost in capacity and high-speed data throughput over older 2G and 3G technologies.

Carrier-neutral data centres for the hosting of cloud services are among the infrastructure components African countries would do well to invest in. Software as a Service (SaaS) is likely to be a big seller in Africa, where the cost of software for the individual or even individual company is likely to be prohibitive. These per user, per month software models will lower barriers to entry, stimulating entrepreneurship, the growth of SMEs and national economic growth - and eventually inclusion in the global economy.

The lure of multimedia

With greater broadband availability and throughput there is also the lure of multimedia for media distribution and broadcasting. There is poor penetration of broadcast services in Africa because satellite-based transmission is not cheap - wireless broadband and fibre-based IP networks offer new opportunities to these market segments. It's a revenue opportunity and again, something governments would want to support as a platform for health, governance and other public service messaging.

An important, empowering aspect of bandwidth availability is the multitude of mobile applications that will for the first time make services, like cellphone banking (mobile money transfer, e-wallets), available to low-income earners. This will drive uptake and see new alliances formed between sectors - i.e., network service providers will need to partner with banks or obtain their own banking licences.

For new applications to become successful they need a strong commercial engine and penetration into Africa's large mass markets is something many organisations are seeking. Mobile players could act as pathfinders; with their growing knowledge of local requirements they could present interesting partnership opportunities.

There's no doubting the evolution and empowerment that broadband connectivity brings. For African countries there are many models to choose from and commercial opportunities abound. But the government and business will need to work together to scale the opportunities and make them viable. At present, doing business in Africa is expensive and risky - with the right policy and regulatory environment, and with the right government strategies and support in place for the development of a communications backbone, much can change in five years. There are likely to be some quick wins, but there are no quick answers.

ABOUT ECKART ZOLLNER

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