

Telecoms, transformed

By **PROFESSOR JOHN NKOMA**

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is Director General of the TCRA. As DG his responsibilities include the regulation of telecommunications, broadcasting, postal services, licensing, management of the radio frequency spectrum, numbering, electronic and other ICTs. Prior to joining TCRA he held posts as Professor of Physics, Dean of Science and Head of Department at the University of Botswana and Head of Physics at the University of Dar es Salaam. He holds BSc (UDSM), MSc (Essex) and PhD (Essex) degrees and certificates in telecommunications regulation, numbering, spectrum management and strategic management.

Established in 2003, the Tanzania Communications Regulatory Authority (TCRA) is the country's independent authority for the postal, broadcasting and electronic communications sectors.

Its strategic goal is to enhance the welfare of Tanzanians through an effective and efficient regulatory framework that ensures universal access to communications. The communications sector has now become a source of employment for communities and revenue generation for the Government.

Since the TCRA was set up, the number of telecom companies has increased to more than seven phone companies with about 28 million SIM Cards in use. Mobile telephony has changed the lives of Tanzanians by providing mobile money transfers, bill payments, as well as other services.

At the same time, there has also been tremendous growth in the broadcasting sector as well, from one radio station at independence to 93 to date, along with 28 television channels.

Similarly, the number of people using the internet has increased from about one million in 2005 to about eight million. In recent years, there has been a significant increase in the use of ICT and devices such as smartphones, laptops and tablets.

Internet services have been available since 1995, but there was no international fibre connectivity available until 2009. Before then, connectivity to the rest of the world, including to neighboring countries, was obtained using satellite networks. The SEACOM and Eastern Africa Submarine Cable System (EASSy) submarine fiber cable projects implemented in 2009 and 2010 respectively brought higher speed Internet connectivity to Tanzania with lower latency and lower cost. This resulted in more than an eight-fold improvement in download speeds.

In 2005, Tanzania, but not the semiautonomous Zanzibar archipelago, modified its licensing system for electronic communications, modeling it on the approach successfully pioneered in Malaysia in the late 1990s where traditional "vertical" licenses (the right to operate a telecom or a broadcasting network, and right to provide services on that network) were replaced by "horizontal" licenses (the right to operate telecom and broadcasting networks, with a separate license required to provide services on each network). Called the "Converged

Licensing Framework (CLF)", this reform was the first of its kind put into practice on the African continent, and allows investors to concentrate on their area of expertise across a larger number of previously separate sectors (i.e. telecommunications, broadcasting, Internet). This reform should, among other things, facilitate the arrival of telephone services over cable television networks, television services over telecommunications networks, and Internet services over all types of networks.

The regulatory framework has made this possible by allowing competition, which has played a great role in growth. Tanzania's communication framework is highly conducive to encouraging competition and our regulations highly detailed in terms of quality of service, consumer protection, and tariffs, among other considerations.

A key issue in the ICT sector is crosscutting. In education, students can use ICT to facilitate learning. In health, telemedicine is set to gain importance thanks to its capacity to enable a doctor to remotely direct an operation. In agriculture, it is also important, as it allows farmers to learn the price of goods electronically, and much more. There are a number of challenges facing ICT development in Tanzania. One of the challenges is cyber-security, which is a global dilemma. The Tanzania Communications Regulatory Authority has established the Computer Emergency Response Team a unit dedicated to tackling cyber threats to all major stakeholders, such as mobile companies, banks, the police, and critical infrastructure.

Another challenge is to combat the misuse of ICT, an example being individuals or companies generating unwanted SMS messages. To deal with this, TCRA introduced SIM registration. As a country we also need to be more vigilant in content regulation for radio and television. There is a need for balance between freedom of speech, privacy, and security. The internet is a good tool that can be used in education and many other fields, but one that can also be misused. This is true for all ICTs, and there is need to promote peaceful uses for social and economic development.

Today, Tanzania has greatly moved towards an open, converged, and competitive communications sector structure. It is placing great emphasis on attracting private investment to finance future network expansion, to improve the quality of communication services and to accelerate network infrastructure penetration to rural areas.