SATCOM EMPOWERS
EDUCATION
IN EAST AFRICA

East Africa is in the midst of an unprecedented economic growth, fuelled by digitalisation across all sectors. The key to ensuring continuous progress along this path is affordable satellite connectivity alongside terrestrial networks, and governments are working closely with solution providers to enable this and empower their people

East Africa is well primed for efficacious investments in the education sector, estimated at approximately USD 124m of capital expenditure funding and $67m of annual operating expenses. According to a study by Ernst & Young, 85% of the education deals in Africa have taken place in Kenya, Tanzania, and Egypt as well as South Africa, Morocco and Ghana.

The African Union's Digital Transformation Strategy 2020-2030 emphasises the importance of digitalising education and post-COVID-19 pandemic era efforts reflect the urgency to digitise education resources and processes in Tanzania, Ethiopia, Kenya, and Uganda, where digitalisation as a policy is high on the priority list for the government, teachers, and education sector professionals.

As a case in point, the Digital Literacy Programme (DLP) by the government of Kenya accentuates several key efforts being driven jointly by the Ministry of ICT and ICT Authority to provide digital devices to primary schools across the country. Currently, 1.2m digital

Alaa Alsadi is Business Development Director for MEA at IEC Telecom Group

devices have been distributed to Grades 1, 2, and 3. These efforts, however, need to be supplemented by affordable broadband connectivity because it is logistically difficult for the Ministry of Education to update device content regularly at 24,000 primary schools. With reliable internet access, learning materials can be updated from a centralised management system. This is where a reliable national communications infrastructure is indispensable.

Affordable satellite connectivity works alongside terrestrial networks

to empower and elevate access to much required resources for remote communities on par with urban areas. It serves the main goal of digitising East Africa with hybrid solutions and a seamless infrastructure, not just for schools, but the communities around the school. While students and education sector professionals can access the most up-to-date learning resources as well as collaborate seamlessly for a multitude of administrative purposes, adjacent remote or rural communities can enjoy the benefits of cost-effective broadband internet services. Satellite connectivity solutions enable integration of the latest technologies with existing government infrastructure, thus, allowing for the provision of e-learning services.

Today, 22.6% of Kenya's communities actively access mobile internet services while 70.7% are covered by 3G/4G, although they are not connected yet. This represents a significant area to increase affordability and digital literacy in East Africa's technology hub.

According to the International Finance Corporation (IFC), 230m jobs in Africa will require digital

skills by 2030. This translates to 650m potential education and training opportunities in an estimated $130bn market.

Kenya's Digital Literacy Programme, DigiSchool, is an excellent example of supporting students to be prepared for the current digital world. 99.6% of public primary schools in Kenya can now access digital devices. Additionally, Kenya's National Broadband Strategy aims to offer 100% connectivity to all schools at 10Mbps by 2030. This can lead to a potential GDP growth of $3.3bn.

Satellite communications technology empowers fully remote schools with cost-effective high-speed internet access. Current satcom connectivity solutions reduce the complexity, capital expenditure, and time usually needed to build a terrestrial infrastructure. With heavy investments in ICT and telecom infrastructure, government bodies are expected to save over $41m in capital. More significantly, it is possible to have active service at remote schools in one day.

Comprehensive school internet kits with value-added services, such as WiFi access points, a network management system, and solar power, create a sustainable, flexible, technological option for as many schools as needed.

Government authorities can remotely control the ICT infrastructure of far-away schools and ensure a better end-user experience across the network. Moreover, such centralised management over satellite technology offers significant resource cost optimisation as well as 24/7 visibility over connected schools and their data consumption. Education sector decision-makers can provide students with secured connectivity that aligns with standard regulations and educational sector policies.

Digital technologies and flexibility

According to reports, 99.6% of public primary schools in Kenya can now access digital devices.

in delivering cost-effective satcom services facilitates tailor-made solutions for the education sector and supports e-learning applications with high-speed internet access, a centralised management system, and videoconferencing. 56% of Kenya's population is young, lending itself to tech-savvy opportunities in e-learning. This is an excellent scenario because it is estimated that individual returns to education are 13.4% in Africa, significantly higher than the world average of approximately 10%.

These improvements in education contribute to significant increases in standards of living, gender parity, and critical social parameters. Remote communities around connected schools can now benefit from high-performance internet access after school hours and during weekends. This was not an easy task commercially and technically with existing plans being based on terrestrial and GSM networks. But, now, this can be achieved over satellite technology.

A school's connectivity services can be utilised as an internet hub for the whole area around the school via internet cafés or long-range WiFi access points. Such a communications infrastructure is critical to optimising commercial, social, and public processes in a community no matter how remote. While satellite connectivity enables educators to teach via videoconferencing and offers students in otherwise isolated communities with access to up-to-date learning materials, it allows remote workers and offices in these surrounding areas, usually with no GSM coverage, with the ability to access employment opportunities as well as the flexibility of continuing operations no matter where they're located.

On the one hand, offering such secure broadband access to just 23,300 schools in Kenya alone can connect 12.8m community members within a 1km radius of the schools. On the other, it can potentially lead to creating economic opportunities as well as increasing investments in innovative infrastructure and satellite communications in the East African market. **PRO**

Alaa Alsadi is Business Development Director – Middle East & Africa at IEC Telecom Group