

SUBMARINE TELECOMS FORUM

ISSUE 122 | JANUARY 2022



GLOBAL
OUTLOOK



DIGITISING AFRICA

A CONTINENT RICH IN ONLINE BUSINESS POTENTIAL

BY CHRIS WOOD

The ongoing digitisation of Africa presents a significant opportunity for all organisations involved with the transportation and utilisation of digital data – from submarine cable owners, fixed-line/mobile telcos, content providers, application developers and Internet Service Providers (ISPs), through to systems integrators, multinational corporations, enterprises and small businesses.

DEMOGRAPHICS

Africa is the second most populous continent in the world and has the fastest growing population, at 2.49%¹ per annum. Indeed, UNICEF² predicts that by 2050 a quarter of the world's population and 40% of the world's youth (those aged under 18), will be African.

1 Worldometer, 2021

2 UNICEF, August 2014. Generation 2030/Africa Report



Whilst currently only 43.2%³ of Africa's estimated 1.37 billion population use the internet (compared to 65.6% for the world as a whole), the number of users has grown by an eye-watering 13,058%⁴ since 2000.

Also, taking into account the greater propensity for internet usage among teenagers and younger adults, the use of internet-based services, applications and equipment is clearly set to continue to rise steeply - with more than 40% of sub-Saharan Africa's population under the age of 15.

INTERNET-BASED PRODUCTS AND SERVICES

Driven by improved access to reliable, lower-cost, high-speed bandwidth and cheaper, high-specification handsets, the use of internet-based social networking applications, music and video streaming, online gaming, etc. is on a steep upward curve.

Africa is seeing significant growth in global streaming services, such as Netflix and Amazon Prime Video, as well as in offerings from national/regional streaming companies like Showmax. This growth has been driven by a variety of factors, including improved accessibil-

ity, more African content and improved end-user experience resulting from the increasing migration of content to Africa.

Netflix is predicted to more than double its streaming subscribers in Africa to 5.84 million⁵ by 2026 - from an estimated 2.61 million at the end of 2021. The same research⁶ also fore-

cast that in the next five years the total number of subscription video-on-demand users in Africa would triple to 15.06 million, from the 5.11 million expected at the end of 2021.

Facebook provides a good insight into what is happening in the social networking sector, with 13.1 million subscribers added in Africa between December 2020 and June 2021, taking its total to 268.5 million⁷ subscribers.

There is also a wave of new high-speed, low latency, connectivity-dependent technology and services emerging onto the market which is further accelerating demand for high-quality, low latency bandwidth.

The Internet of Things (IoT) is a phrase that was largely unheard of a few years ago, but it is rapidly becoming a part of everyday conversation as more and more physical objects, such as multi-media entertainment centres, security cameras and heating/cooling systems, are embedded with sensors, processing ability, software and other technologies, communicating over the Internet or other communications networks.

There are now a myriad of drone applications - from mobility and transportation to security, exploration and photography - enabled by the more widespread accessibility of affordable, low latency connectivity.

Many other capabilities have also been made possible by improved connectivity, including e-health services and automated factory management.

These developments continue to enrich the lives of people throughout Africa, whilst underpinning ongoing increases in internet uptake and bandwidth utilisation across the continent.

MOBILE MARKETS

Mobile devices are by far the most popular way to access internet-based services and applications in Africa. As device costs and usage tariffs fall and average income levels rise, mobile service uptake - driven by the desire to connect to such applications - will continue its inexorable rise.

In 2020, the number of people in sub-Saharan Africa subscribing to mobile services increased by almost 20 million compared to 2019, to 495 million people⁸ (46% of the population).

The number of unique mobile subscribers in sub-Saharan Africa is expected to continue to rise, further and faster, to 615⁹ million by 2025 - an increase of 24.2% from 2020.

AFRICA'S CHANGING DIGITAL LANDSCAPE

There are a number of factors at play which are changing the nature of the digital landscape in Africa.

3 Internet World Stats, 2021

4 Internet World Stats, 2021

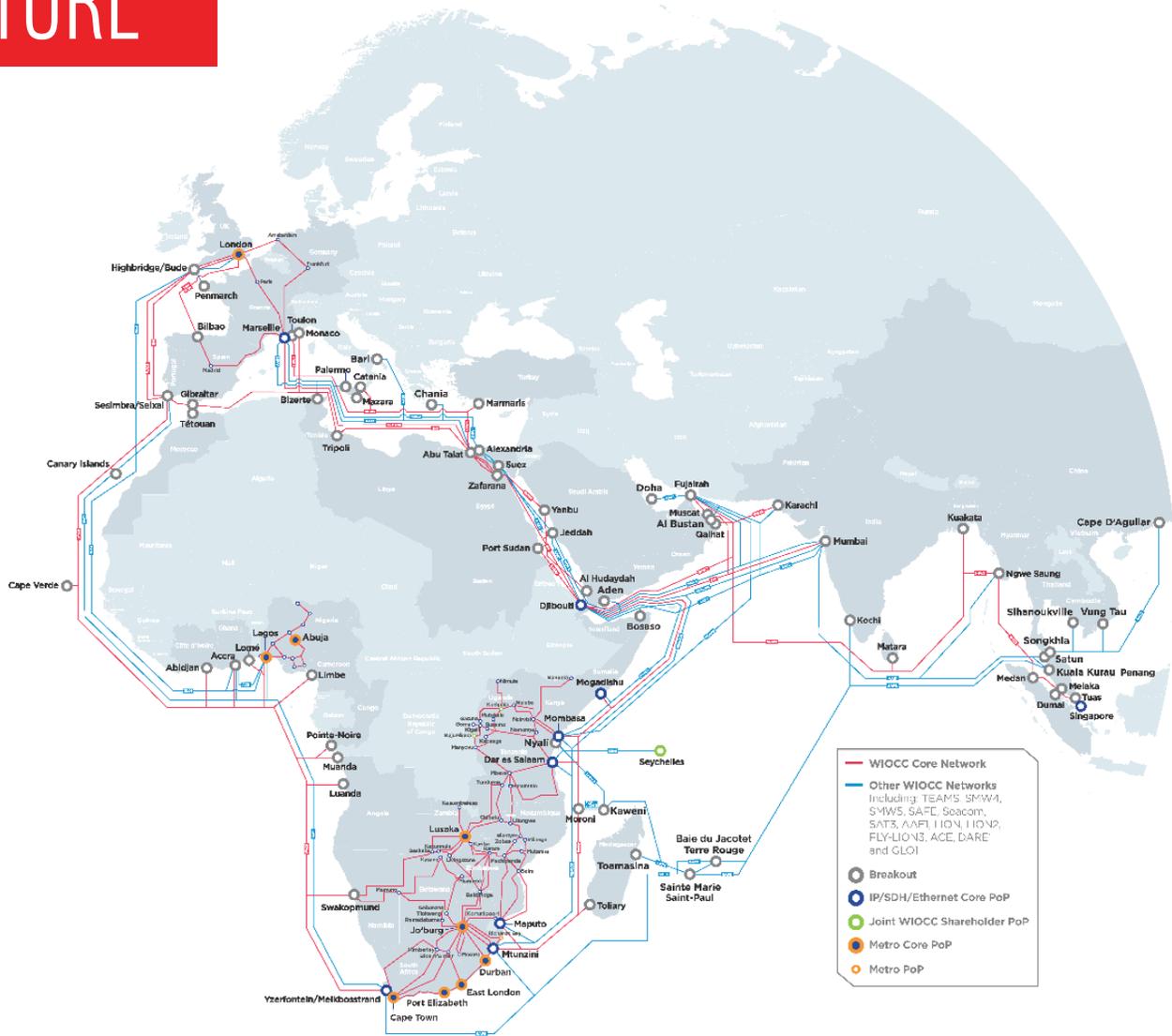
5 Digital TV Research, Africa SVOD Forecasts, August 2021

6 Digital TV Research, Africa SVOD Forecasts, August 2021

7 Internet World Stats, 2021

8 GSMA, The Mobile Economy, 2021

9 GSMA, The Mobile Economy, 2021



In addition to the fundamental, end-user driven rise in the popularity of internet-based applications and the increased number of digital products and services in use, Covid has recently forced many companies to provide employees with home working capabilities. The evolving deployment models of major content providers and cloud operators are driving change as they seek new opportunities on the continent, whilst greater regulation around data localisation and data residency/sovereignty is also impacting Africa's digital landscape, driving demand for more local data storage capabilities.

To keep pace with exponential increases in demand for high-quality, low latency service performance, companies throughout the international connectivity supply chain are investing heavily in subsea and terrestrial network infrastructure, and in data centre estate and services for the storage, processing and exchange of digital data.

SUBSEA

Subsea cables are the fundamental cornerstone for the international transit of digitised information into and out of Africa.

Africa's international subsea capacity is being boosted in two ways: through construction of new subsea cable systems and the technology-driven upgrade of existing cables.

A number of new cable systems are currently under construction, with new capacity scheduled to come online from mid-2022 onwards. In total, this will add more than 350 Tbps to the continent's subsea inventory, bring improved reliability - through the availability of new cable landing points and subsea routes - and reduce costs, through the increased application of open-access principles at landing stations.

1. The Google-led Equiano cable will run between Portugal and South Africa, landing at key points on Africa's western seaboard and with a design capacity of 144 Tbps.
2. The Facebook-supported 2Africa cable, which will interconnect 33 countries including 18 in Africa, will have a design capacity of 180 Tbps.
3. The PEACE cable, which will run along Africa's east coast and connect to Asia and Europe, will have a design capacity of up to 16 Tbps per fibre pair.

Further new cables planned for Africa over the next few years include SAEx, which will extend connectivity to South America from the west coast, and T3 which will improve connectivity on the east.

One of the key cable systems currently being upgraded is EASSy, which links South Africa with Sudan via landing points in Mozambique, Madagascar, the Comores, Tanzania, Kenya, Somalia and Djibouti. This latest upgrade is expected to be completed in Q1 2022 and will provide an additional 4Tbps of capacity on the system.

TERRESTRIAL

Deployment of terrestrial connectivity continues apace, extending coverage to an ever-wider range of locations and enhancing service performance through capacity increases and improved route diversity.

1. **Laying more terrestrial fibre and building hyperscale network infrastructure** which links directly to the international subsea cables. According to Africa Bandwidth Maps¹⁰, over 75,000 km of newly-operational terrestrial fibre-optic network entered service in the 12 months to June 2021 – a 7.2% increase on the 1,072,648.9 km in service in June 2020.
2. **Extending metro networks** into new, high-demand locations, bringing additional services into key conurbations where need is greatest.

DATA CENTRES

New data centre deployment continues in a growing range of countries, enabling the wholesale and enterprise community to house and process digital content in conveniently located, shared facilities.

A variety of businesses are deploying large-scale data centres into specific markets in Africa, both standalone and in small clusters, attracting to each facility an ecosystem of associated cloud, content and connectivity providers and enterprises across a range of industry segments. To date, these deployments have largely been confined to one or a small number of countries and with limited interconnectivity, making pan-African rollout across the resulting ecosystem islands a complex task.

OPPORTUNITY AFRICA

What is missing from Africa's digital ecosystem is a truly open-access, continent-wide digital infrastructure platform; one that encompasses centralised shared storage and processing facilities in key business hubs throughout the continent, interconnected over resilient hyperscale network

links to enable advanced capabilities such as dynamic storage and workload allocation, ecosystem extension, multi-site disaster recovery, etc.

The November 2021 launch of Open Access Data Centres, a transformational data centre provider promising an interconnected pan-African network of open-access, carrier-neutral data centres supporting interconnected, integrated ecosystems, will rapidly start to address this gap. The company, which will have three new Tier III data centres up and running during 2022, has a 20-plus site roadmap over the next five years.

Another eagerly anticipated next step in Africa's digital journey is the rollout of edge data centres; small facilities located closer to the network edge. Providing many of the same features as traditional data centres, they are contained in a smaller footprint, closer to end-users and devices, able to deliver cached content and cloud computing resources to these devices and support rapid and local processing of large quantities of data.

AN INTEGRATED DIGITAL BACKBONE THAT GIVES BUSINESSES THE EDGE

By bringing content closer to the user, closer to the network edge, content owners are able to reduce their transit costs and the latency experienced by their customers. Edge caching enables edge data centre users to optimise user experience by delivering high performance with low latency – critical for supporting the internet of things (IoT), 5G, big data, cloud and a variety of streaming services. Edge data centres are therefore expected to quickly become critical to Africa's continuing digitisation journey.

With so many elements in this journey now aligning favourably to expedite further growth of connectivity-dependent products, applications and services, the business opportunities for companies throughout the connectivity supply chain – from subsea cable owners to cloud and content providers, ISPs and data centre operators – continue to look extremely promising. **STF**



WIOCC CEO CHRIS WOOD has been instrumental in improving Africa's global connectivity and key elements of its digital infrastructure and capabilities.

Since WIOCC's founding in 2007, Chris has grown the company into Africa's digital backbone, the organisation responsible for the continent's first, truly hyperscale network infrastructure.

Chris's vision is driving WIOCC's strategic investments in major submarine cable systems serving Africa; deployment of a hyperscale terrestrial fibre infrastructure interconnecting key markets and international subsea cables; metropolitan network rollout; and the launch of a transformational data centre operator, promising a pan-African network of open-access, carrier-neutral data centres enabling interconnected, integrated ecosystems.

¹⁰ Africa Bandwidth Maps

submarine telecoms
FORUM