Uganda

The landlocked East African nation has a forward-looking regulatory framework, but faces challenges extending broadband coverage and services to the largely populated rural zones.

Mobile services: Uganda has one of the most crowded mobile markets in Africa, with eight active operators. However, two account for almost 90 per cent of subscriptions: MTN, a subsidiary of the South African mobile group; and AIRTEL, a subsidiary of the Indian mobile group. Other mobile operators include the incumbent Uganda Telecom Ltd. (UTL); Africell, subsidiary of a Lebanese mobile group that took over Orange's operations in 2014; Smile, a venture between Kenya's Industrial Promotion Services and a Cyprus-registered mobile group; Vodafone, a subsidiary of the United Kingdom mobile group; Sure Telecom, a Singaporean based Telecom; and K2, an indigenous Telecom Company. Despite the large number of operators, it has been a challenge to extend coverage to rural areas. According to the *2016–17 Uganda National Household Survey*, 68.6 per cent of households owned mobile phones, 61.8 percent in rural and 86.1 per cent in urban areas. All of the operators have deployed mobile-broadband networks, including the latest generation LTE by Smile in 2012, Africell and MTN in 2013, and Vodafone in 2015.

Fixed services: Incumbent UTL was privatized in 2000, when 51 per cent of its shares were sold. The Libyan Government investment arm purchased the stake of the original buyers as well as additional shares from the Government, resulting in a 69 per cent stake. UTL has faced operating challenges and, in 2017, the Government retook control of the company. UTL is the main provider of fixed-telephone service through copper lines and wireless local loop. On the fixed-broadband market, it offers fixed ADSL and fixed wireless broadband. It is joined by a number of ISPs offering fixed wireless broadband access. Tech giant Google has invested in the CSquared project, building metro fibre networks in Entebbe and Kampala. It offers wholesale Wi-Fi access as well as optical fibre to the premises for resale by ISPs. The first two phases of the Government's National Backbone Infrastructure have been completed, with 1 590 km of fibre-optic cable stretching to the Kenyan and South Sudan borders. Operators have also been deploying fibre-optic networks in the landlocked

Key indicators for Uganda (2017)		Africa	World
Fixed-telephone sub. per 100 inhab.	0.6	0.9	13.0
Mobile-cellular sub. per 100 inhab.	58.2	74.4	103.6
Active mobile-broadband sub. per 100 inhab.	23.4	24.8	61.9
3G coverage (% of population)	65.0	62.7	87.9
LTE/WiMAX coverage (% of population)	17.0	28.4	76.3
Individuals using the Internet (%)	*23.7*	22.1	48.6
Households with a computer (%)	*8.5*	8.9	47.1
Households with Internet access (%)	*10.8*	19.4	54.7
International bandwidth per Internet user (kbit/s)	7.5	11.2	76.6
Fixed-broadband sub. per 100 inhab.	0.3	0.6	13.6
Fixed-broadband sub. by speed tiers, % distribution			
-256 kbit/s to 2 Mbit/s	86.8	38.7	4.2
-2 to 10 Mbit/s	8.5	37.2	13.2
-equal to or above 10 Mbit/s	4.7	24.1	82.6

Note: Data in italics are ITU estimates. Source: ITU (as of June 2018).

country mainly to the Kenyan border for access to undersea cables and for those also operating in Rwanda, to that country. The Uganda IXP is one of the oldest in Africa, launched in 2001, and has more than two dozen members peering traffic.

Government policy: The Ministry of ICT and National Guidance is responsible for sector oversight. The Ministry's five-year sector *Strategic and Investment Plan* 2015/16-2019/20 guides ICT development in line with the Uganda Vision 2040 and the *National Development Plan*. The Plan covers 11 areas, such as infrastructure, human capacity, cybersecurity, e-government, and local content and services, and by its completion aims to increase ICT access and broadband speeds to 4 Mbit/s and 30 Mbit/s for rural and urban households respectively. The Uganda Communications Commission (UCC) is the sector regulator, formed in 1997 and responsible for telecommunications, broadcasting and posts. The Commission's Act of 2013 enabled the merger of the telecommunications regulator with the broadcasting regulator. UCC administers the Rural Communications Development Fund, which has provided funding for the extension of coverage to rural areas, development of ICT training centres, telecentres and other activities. It is also responsible for the country's Computer Emergency Response Team.

Conclusion: Uganda has one of the most progressive ICT sector policy and regulatory environments in Africa. However, the country faces large challenges to developing widespread infrastructure access, due to its sizeable large rural population and low disposable income.