Cuba

While Cuba's internet penetration rate remains relatively low, the government has taken steps in recent years to improve infrastructure and increase access. The penetration rate reached 57.15 percent in 2017, according to the most recent figures from the International Telecommunication Union (ITU)—up from 42.98 percent in 2016 and 37.31 percent in 2015.1 However, these figures likely include users who can only access the government-controlled intranet on an irregular basis, such as from school or the workplace.2 According to the 2020 Inclusive Internet Index, only 18 percent of households had some form of internet access.3 Moreover, most Cubans access the internet through extremely slow connections.4

In December 2018, Cuba rolled out third-generation (3G) mobile service following a series of fitful trial periods in which authorities tested demand and performance.5 The development marked the government's most important action to date aimed at increasing internet access for the general population. Despite widespread complaints about the service's high cost and slow and unreliable connections, it quickly became the most popular alternative to previously available options.6 At the time of the launch, the state telecommunications provider, Telecommunications Company of Cuba SA (ETECSA), had enabled 789 of its roughly 1,800 mobile radio bases to handle 3G traffic, covering 66 percent of the island's population.7

ETECSA expanded 3G and introduced 4G access during the coverage period by setting up more radio bases. By May 2020 there were a total of 1,629 3G bases and 666 4G bases, according to the government, reaching a potential 85.5 percent of the population and 75.3 percent of the country's land area. Officials also reported that more than a million people were making use of the new 4G network.8 As of December 2019, Cuba had reached 5.7 million registered mobile phone accounts, 3.18 million (56 percent) of which were configured for internet data plans. During the month of November 2019, 2.29 million of the accounts made use of such plans.9

Nevertheless, Cuba still has the lowest mobile-phone penetration rate in Latin America, and complaints about the state company's high prices, unreliable service, and monopolistic and unresponsive business practices are common. In addition, based on June 2019 data, only 26 percent of users accessed mobile internet daily.10

The rollout of 3G and 4G service capped a six-year period that has featured the introduction of a variety of public access initiatives. These included the establishment of a fiber-optic cable that citizens have been able to access since 2013 at government-run *telepuntos* (cybercafés) and Wi-Fi hotspots usually set up in public parks. Reports from December 2019 indicate that by the end of the year, ETECSA had equipped 682 such cybercafés and 1,513 hotspots.11

ETECSA's home-based DSL (digital subscriber line) internet service, known as Nauta Hogar, has been available since late 2016; it began with fewer than 2,000 customers in Old Havana, but as of December 2019 ETECSA counted over 124,000 subscribers spread across all but one of Cuba's 168 municipalities.12

Devices that use Global Positioning System (GPS) technology or satellite connections are explicitly prohibited by Cuban customs regulations.13 Additional restrictions are placed on modems, wireless faxes, and satellite dishes, which require special permits to enter the country.14 However, in May 2019 the government announced that it would legalize router imports as well as private permits to access ETECSA's public Wi-Fi hotspots from homes and small businesses.

Larger local area networks such as Havana's SNET, a local private network, were unregulated and largely tolerated until new regulations took effect in July 2019. The rules allowed home-based networks but effectively outlawed the popular community networks, despite extensive attempts by their administrators to come to an agreement with authorities. Ultimately, officials took over the services and content offered by SNET, migrating them to ETECSA, with access to be provided through Youth Computer Clubs (JCCEs). This move cost SNET its hard-won ideological and administrative autonomy as a nonpolitical, community-based network and placed it under the direction of the Union of Communist Youth (UJC), which oversees the JCCEs. It remained to be seen how this change would affect the functionality, cost, and content that had been available on SNET; for instance, in the past JCCEs have offered limited access to the Cuban intranet, rather than the global internet.15

Restrictions on equipment have not completely stopped the entry of various devices into Cuba. NanoStations and other similar technologies allow users to amplify and share Wi-Fi signals from ETECSA hotspots; such technologies enable many Cubans to gain home or office access to the internet.16

Moreover, GPS use has grown despite its prohibition. Efforts to control its spread are effectively futile given the fact that most modern devices are already GPS enabled. There is a booming black market in preowned GPS devices, fueled by departing diplomats and business personnel who were legally authorized to purchase them, as well as by professional "mules" who specialize in importing hard-to-get consumer goods. On the demand side, taxi drivers, cyclists, and even potential rafters hoping to flee the country seek out the devices and are willing to pay high prices for them.17

Since 2014, Cuban authorities have worked to develop relationships with US information and communication technology (ICT) companies including Verizon, Google, and Sprint, which offer some services to the island.18 In October 2018, on the occasion of his attendance at the General Assembly of the United Nations in New York, President Miguel Díaz-Canel met with representatives of a dozen US-based technology companies to discuss their possible collaboration in the "computerization" of Cuban society.19 On the heels of this visit, the president announced that four key Cuban institutions had signed memorandums of understanding (MOUs) with Google. While the announcement did not include any details on the content of the MOUs, analysts speculated that Google would offer coding training, hosting services, and high-speed connectivity for Cuba's medical network, as well as for the Ministry of Culture.20 In March 2019, Google and Cuba made the joint announcement that they had signed a new MOU aimed at beginning negotiations and technical discussions toward "a service agreement for the exchange of internet traffic" in the form of a "peering" arrangement that would directly connect their networks, cost free, via an undersea fiber-optic cable.21

Separately, as part of a visit by Spanish prime minister Pedro Sánchez in November 2018, the Spanish

telecommunications giant Telefónica reportedly made an offer to the Cuban government aimed at connecting the island to its own network of undersea cables.22 An agreement had not been reached by the end of the coverage period.