



5G COUNTRY PROFILE



GEORGIA

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Version 1.1

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Note: Version 1.1 of this document is an advanced draft for possible additional inputs, comments, feedback. The final version of the document is planned to be released after the ITU Regional Forum for Europe.

1. ICT background and current status of broadband

Since 2010, Georgia has strengthened its support to ICTs through a variety of public-private partnerships and digital-related initiatives and programs such as zone tax exemption, foreign investments and projects to improve the labour force. The 2014 document “Georgia 2020—Social Economic Development Strategy” outlines several target areas to enhance the digital ecosystem, including high-speed broadband Internet for future development, e-literacy and capacity building, innovation and high-tech, and e-government.¹ With a competitive sector largely driven by private investments, the telecommunication market remains among the fastest growing and in 2017 represented between 5-7% of the country’s GDP.² In the 2017 ITU ICT Development Index (IDI), Georgia ranks 74th out of 176 countries.³

In 2014, the Georgian government announced its plans to provide high-speed Internet throughout the country through a program called “Broadband Internet to Every Citizen,” which was executed by the NNLP ‘OpenNet.’ Established by the government in 2015 as the National Program for Broadband Development as a non-entrepreneurial and non-commercial legal entity, OpenNet has performed its activities in accordance with previous development-related resolutions which was approved by the Georgian government on July 28, 2016.⁴

More recently, Georgia’s National Broadband Network Development Strategy for 2020-2025⁵ mandates that schools, highways and public facilities must be provided with Internet access at a download speed of 1 Gbps by 2025, in line with EU plans, and also aligned with plans for 5G development in the country.⁶ The strategy aims not only at creating infrastructure, but also establishing Georgia as a digital and information hub in the region between Europe and Asia while also upgrading knowledge and skills, leading to employment growth.⁷

Within the framework of the OpenNet project and the Georgia’s National Broadband Network Development Strategy for 2020-2025, the World Bank is supporting the development of broadband through the Log-in Georgia Project, a 32.7 EUR million support package⁸ which has the goal to expand access to affordable broadband in rural settlements and to support the development of Georgia’s digital economy.⁹ The three major project outcomes include: i) increasing access to affordable broadband internet; (ii) promoting the use of broadband-enabled digital services; and (iii) project implementation support.¹⁰ The project expects to connect up to 1,000 villages, including settlements in mountainous regions, to high-quality and affordable broadband service. Nearly 500,000 people, residing in locations

¹ See: <https://eufordigital.eu/countries/georgia/#events>

² See: <https://www.itu.int/en/ITU-D/Statistics/Documents/bigdata/Georgia.pdf>

³ See: <https://www.itu.int/net4/ITU-D/idi/2017/index.html>

⁴ See: <https://matsne.gov.ge/ka/document/view/3355632?publication=0>

⁵ See:

http://www.economy.ge/uploads/files/2017/legislation/sainformacio_teqnologiebi/fartozolovani_qselebis_ganvitarebis_strategia_da_misi_ga_nxorcielebis_gagma.pdf

⁶ See: <https://comcom.ge/uploads/other/3/3939.pdf>

⁷ See: <https://eufordigital.eu/georgia-approves-broadband-development-strategy-2020-2025/>

⁸ See: <https://www.worldbank.org/en/news/press-release/2020/08/28/1000-villages-to-get-better-internet-connectivity-as-part-of-world-bank-support-to-georgia-digital-transformation>

⁹ See: <http://www.opennet.ge/eng/list/show/50-World-Bank-will-co-finance-the-State-Program-of-the-broadband-infrastructure-development>

¹⁰ See: <http://documents1.worldbank.org/curated/en/316241571855041161/pdf/Concept-Project-Information-Documents-PID-Log-In-Georgia-P169698.pdf>

currently unserved by high-quality broadband services stand to benefit from deployment of the broadband infrastructure envisaged by the Log-in Georgia Project.¹¹

In the context of rural areas and under the project Harmonized Digital Market (HDM) EU4Digital “Eastern Partnership Countries (EaP) Broadband Infrastructure Development Strategy,” other development goals in Georgia focus on enhancing the relevant legal and regulatory framework for broadband development in line with the EU norms and overcoming the digital divide across the country’s regions.¹²

The urban-rural divides are intertwined with the development of ICT in the country. Approximately 83% of urban households benefit from fixed broadband services, while in rural areas the figure drops to 5%.¹³ Over the past years, growth in mobile broadband has been steady, supported by the auction of spectrum in the 800MHz and 2100MHz bands which has enabled the network operators to expand the reach and capabilities of LTE services, which now covers the vast majority of the population.¹⁴ On a regional level, the construction of the Black Sea and the Caspian Sea submarine fibre-optic cable backbone is currently under discussion by the Ministry of Economy and Sustainable Development.¹⁵

2. Broadband and mobile telecommunication sectors data

ITU data shows that 68.85% of individuals in the Democratic Republic of Georgia had access to the Internet in 2019.¹⁶ In 2010, the ITU data for the country was 26.90% and, in 2000, 0.48%. In 2019, the number of fixed-broadband subscriptions per 100 inhabitants was 23.56.¹⁷ ITU data also shows that 75.8% of households in Georgia had Internet access at home.¹⁸ Wireline broadband networks (using fibre-optic or cable networks) are limited in their reach outside of urban areas.¹⁹ The country’s data published by the Georgian National Communications Commission (GNCC) from May 2020 show that that the Tbilisi and Adjara are the regions with the highest Internet penetration in the country, while the north-western region of Abkhazia has the lowest penetration rate.²⁰ From the regional perspective, Europe’s average fixed-broadband basket cost was 1.5 percent of the GNI per capita in 2019 (and CIS 3.7 per cent), while Georgia’s corresponded to 3.1 per cent of the GNI per capita in 2019 for an unlimited Internet data cap.²¹

Since 2014, fibre infrastructure has been steadily expanding in the country while xDSL has been reducing. In 2018, 75% of total subscribers used FTTx technology, compared to only 31% in 2010 (when xDSL accounted for 59% of total subscribers). Nowadays, fibre is by far the most used technology in Georgia

¹¹ See: <https://www.worldbank.org/en/news/press-release/2020/08/28/1000-villages-to-get-better-internet-connectivity-as-part-of-world-bank-support-to-georgia-digital-transformation>

¹² See: <http://www.economy.ge/?page=projects&s=18&lang=en>

¹³ See: <http://documents1.worldbank.org/curated/en/316241571855041161/pdf/Concept-Project-Information-Documents-PID-Log-In-Georgia-P169698.pdf>

¹⁴ See: <https://www.budde.com.au/Research/Georgia-Telecoms-Mobile-and-Broadband-Statistics-and-Analyses>

¹⁵ See: <http://www.economy.ge/?page=projects&s=18&lang=en>

¹⁶ See: ITU World Telecommunication/ICT Indicators Database online (2020): <http://handle.itu.int/11.1002/pub/81550f97-en> (indicator “i99H”)

¹⁷ See: ITU World Telecommunication/ICT Indicators Database online (2020): <http://handle.itu.int/11.1002/pub/81550f97-en> (indicator “i992b”)

¹⁸ See: <https://www.itu.int/en/ITU-D/Statistics/Documents/statistics/2019/CoreHouseholdIndicators.xlsx>

¹⁹ See: <http://documents1.worldbank.org/curated/en/316241571855041161/pdf/Concept-Project-Information-Documents-PID-Log-In-Georgia-P169698.pdf>

²⁰ See: <https://analytics.comcom.ge/en/statistics/?c=internet&f=subscribers&exp=penetrationbyregion&sid=801631>

²¹ See: https://www.itu.int/en/ITU-D/Statistics/Documents/publications/prices2019/ITU_ICTpriceTrends_2019.pdf

and Wi-Fi the second most common, mostly in rural parts of Georgia, where FTTH connections are not available.²²

In 2019, the number of active mobile-cellular subscriptions per 100 inhabitants was of 134.72.²³ At this moment, there are three 5 MNOs operating in Georgia—Geocell, Magticom, Beeline (Veon Georgia), and Silknet—that currently have licenses for the use of radiofrequency for commercial use. The number of active mobile-broadband subscriptions per 100 inhabitants was 79.85 in 2019.²⁴ During the same year, Georgia’s mobile-data basket cost corresponded to 0.8% of the GNI per capita for a monthly allowance of 2.0 Gb,²⁵ which is the same as the European region’s average of 0.8 per cent, while the CIS region average is 2.2. per cent. With extremely low prices compared to many other regional and European countries, 2G and 3G networks cover approximately 99.98% of Georgia’s population,²⁶ while 4G/LTE covers 99.72%.²⁷ While all of the MNOs have been investing to expand the reach and capabilities of LTE infrastructures to areas outside of Tbilisi,²⁸ Magticom and Veon Georgia are the operators with most mobile Internet traffic in the country.²⁹

Due to the significant investments made by Georgian MNOs to improve telecom infrastructure and achieve higher coverage, Internet traffic has grown from 1.5 million Gb in 2013 to 63.7 million Gb in 2018.³⁰ In 2019, Georgia had 0.09 exabytes of mobile-Internet traffic.³¹

Although the majority of total mobile subscribers are individuals, data show that the number of corporate subscribers is growing.³² A nationally representative survey found that of the out 97.5% of firms in Georgia that had access to the internet in 2016, about 40% had broadband, 31% used DSL connections and the remainder access internet through their mobile phones (typically using a GSM connection)—although only 9.5% engaged in e-commerce.³³

3. Current progress on 5G: consultations and national strategies

Since 2016, Georgia has been actively involved in the work of the Spectrum Expert Working Group (SEWG) established within the EaPeReg network to advance implementation and harmonization of next generation networks. Regarding 5G progress in the country, GNCC acknowledges that the development of broadband services and 5G technology plays an important role in the further development of the

²² See: <https://analytics.comcom.ge/en/statistics/?c=internet&f=subscribers&exp=technologies&sid=801640>

²³ See: ITU World Telecommunication/ICT Indicators Database online (2020): <http://handle.itu.int/11.1002/pub/81550f97-en> (indicator “i911”)

²⁴ See: World Telecommunication/ICT Indicators Database online (2020): <http://handle.itu.int/11.1002/pub/81550f97-en> (indicator “i911mw”)

²⁵ See: https://www.itu.int/en/ITU-D/Statistics/Documents/publications/prices2019/ITU_ICTpriceTrends_2019.pdf

²⁶ See: ITU World Telecommunication/ICT Indicators Database online (2020): <http://handle.itu.int/11.1002/pub/81550f97-en> (indicator “i271G”)

²⁷ See: ITU World Telecommunication/ICT Indicators Database online (2020): <http://handle.itu.int/11.1002/pub/81550f97-en> (indicator “i271GA”)

²⁸ See: <https://www.itu.int/en/ITU-D/Statistics/Documents/bigdata/Georgia.pdf>

²⁹ See: <https://analytics.comcom.ge/en/statistics/?c=mobiles&sid=801641&f=mobinttraffic&exp=traffic>

³⁰ See: <https://galtandtaggart.com/upload/reports/11688.pdf>

³¹ See: ITU World Telecommunication/ICT Indicators Database online (2020): <http://handle.itu.int/11.1002/pub/81550f97-en> (indicator “i136mwi”)

³² See: <https://galtandtaggart.com/upload/reports/11688.pdf>

³³ See: <http://pubdocs.worldbank.org/en/352521517860642922/pdf/Broadband-for-Development-in-Georgia-clean.pdf>

country and has accordingly developed a strategy to introduce 5G, incorporating elements such as coverage obligations, network access, and the possibility of a joint ventures to build the network.³⁴

This initial plan seeks to achieve the following:³⁵

- By 2020, in case of adjustments by the operators, GNCC should have the opportunity to ensure the temporary use of the frequency spectrum allocated to 5G;
- By 2020, based on the strategy and action plan developed and approved, 5G-based services will be launched in test mode in at least one geographical area.

GNCC's preliminary strategy also include a list of industries that are likely to be impacted by 5G development in the country such as transportation, infrastructure management, media, energy, public safety, smart cities, and e-health.

In July 8, 2019, GNCC started a 5G consultation process with operators to obtain their views and plans on 5G. This document outlined a plan for frequency allocation for 5G and the regulation of related issues.³⁶ Two out of the three operators shared their position, all in favour of the development of 5G network to be a necessary factor in the country's telecommunication sectors—both in terms of technological progress of the country and the advancement of the digital economy.³⁷ Despite the plan, there is no clear roadmap for 5G frequency allocation.³⁸

According to private sector stakeholders, LTE technology will be enough for the foreseeable future in meeting the existing needs of the country. Operators also named a few existing obstacles such as the costs associated with deploying a new generation of telecommunications infrastructure, that need to be overcome in order to facilitate the introduction of 5G network in a relatively short time. To solve this problem, operators considered the possibility of non-discriminatory access to passive infrastructure to be used for state-owned (and not only) telecommunications purposes. GNCC notes that a legislative initiative has already been prepared to share the infrastructure used for telecommunications purposes, based on EU Directive 2014/61 / EU.³⁹

In December 2019, GNCC developed and published the "Strategy for Promoting the Development of 5G Network and Services."⁴⁰ The document contains information about the plans, vision and goals of the Commission, including: I) 5G Frequency Band Release, Coordination and Harmonization Plan; II) Expected sequence of transmission for temporary use of 5G frequency bands III) List of liabilities; IV) Plan for legislative changes that will affect 5G; V) On development in Georgia; and V) Examples of future use of 5G

³⁴ See: <https://www.budde.com.au/Research/Georgia-Telecoms-Mobile-and-Broadband-Statistics-and-Analyses>

³⁵ See all documents: <https://5g.gov.ge/>

³⁶ See: <https://5g.gov.ge/public-discussion-of-5g-development-support-document/>

³⁷ See: <http://5g.gov.ge/wp-content/uploads/2019/09/5G-%E1%83%99%E1%83%98%E1%83%97%E1%83%AE%E1%83%95%E1%83%90-%E1%83%9E%E1%83%90%E1%83%A1%E1%83%A3%E1%83%AE%E1%83%98-final.pdf>

³⁸ See: <https://5g.gov.ge/public-discussion-of-5g-development-support-document/>

³⁹ See: <https://5g.gov.ge/wp-content/uploads/2019/09/5G-%E1%83%99%E1%83%98%E1%83%97%E1%83%AE%E1%83%95%E1%83%90-%E1%83%9E%E1%83%90%E1%83%A1%E1%83%A3%E1%83%AE%E1%83%98-final.pdf>

⁴⁰ See: <https://5g.gov.ge/5g-sixshiruli-resursis-safasuris-gaangarishebis-sakonsultacio-dokumenti/>

in Georgia.⁴¹ This document has been created with the purpose of making the spectrum dedicated for mobile broadband services available for operators in the first half of 2020. This spectrum plan allows operators to develop and expand 5G networks and products for future commercial use.

In April 2020, GNCC published the “5G Frequency Resource Fee Consulting Document.” The regulator received questions regarding this document from MagtiCom Ltd and Silknet JSC. As part of the consulting regime, an online meeting was held to discuss questions related to the calculation of fees.⁴²

4. Spectrum assignment for 5G & market development

In 2014, Georgia agreed to gradually ensure the harmonization of the existing legislation in the field of electronic communications with the existing regulatory norms within the EU. With the assistance of the European Bank for Reconstruction and Development (EBRD), GNCC analysed the non-compliance of Georgian legislation and regulatory norms with European directives. As a result, a two-stage package of legislative changes for radio communication was developed: The first stage involves the introduction of general liberal fundamental approaches while the second involves individual licensing.⁴³

GNCC states that the main inconsistencies that hinder the rapid technological development of the country are:⁴⁴

- Lack of conceptual approaches to the use of frequency resources based on general permission and individual licensing;
- Inflexible regime for determining the licensing period;
- Freedom of choice of frequency resource use form and proportional selection criteria;
- Absence of a formal written consultation procedure for the allocation and issuance of frequency resources;
- Lack of opportunity to use frequency resources in test mode in a limited geographical area for a specified period on a non-commercial basis.

Due to the high importance given to 5G in the country, GNCC plans to hold an auction in 2020 to allocate the necessary spectrum. GNCC states that when determining the basic requirements for the 700 MHz and 3400-3800 MHz frequency spectrum, it is recommended for providers to make a specific coverage plan, which will include a specific list of cities and major roads to be covered under the 5G license. Besides, the regulator notes that the license should impose certain obligations regarding the coverage of specific settlements, as well as in terms of investments and network development.

Within the scope of auction, the regulator plans to make available following amount of spectrum in 700MHz, 800MHz, 3400-3800MHz frequency bands at the following auction prices in lari and approximate EUR conversions:⁴⁵

⁴¹ See: <https://comcom.ge/uploads/other/5/5671.pdf>

⁴² See: <https://5g.gov.ge/wp-content/uploads/2020/07/5G-Frequency-valuation-consultation-paper.pdf>

⁴³ See: <https://comcom.ge/uploads/other/3/3939.pdf>

⁴⁴ See: <https://comcom.ge/uploads/other/3/3939.pdf>

⁴⁵ See: <https://5g.gov.ge/wp-content/uploads/2020/07/5G-Frequency-valuation-consultation-paper.pdf>

- 20MHz in the 800MHz band (741,000 GEL/1MHz – 201,432 EUR /1MHz);
- 60MHz in the 700MHz band (363,000 GEL/1MHz – 98,677 EUR/1MHz);
- 20MHz in the 700 (SDL) MHz band (391,000 GEL/1MHz – 106,289 EUR/1MHz);
- 320MHz in the 3400-3800 MHz band (52,000 GEL/1MHz – 14,135 EUR/1MHz).

However, current Georgian legislation recognizes individual licensing through auctions as a preferred principle of frequency resource use. GNCC documents show that this often creates barriers to market access with new technologies, affects resource costs, and prevents the spread of new, diverse technologies and services across the country.

The law states that spectrum is an inexhaustible resource, which is fundamentally the opposite of EU approaches. According to this rationale, the resource is limited only in those ranges where there is an excess demand for individual licenses. This is largely because the Georgian market is not well saturated with the consumption of high-speed mobile broadband services and a certain part of the frequency bands for broadband services is untapped.⁴⁶

The regulator is working with different network operators to ensure network synchronization and eliminate potential risks such as error regarding data transmission in asynchronous network; the need for geographical division of neighbouring and the same channels; and a continuous mode of service delivery to subscribers using various wireless networks.

Accordingly, GNCC states that that synchronized operation eliminates any BS-BS and MS-MS interference, allowing neighbouring networks to coexist without additional filters and shielding frequency bands. This mode of operation facilitates the expansion of the mobile network at the expense of reducing interference.⁴⁷ GNCC considers it appropriate to impose⁴⁸ a network synchronization obligation as one of the conditions of the license to avoid undesired interference and to ensure the sustainability of the service.⁴⁸

5. Electromagnetic fields levels and the implementation dynamics

In the past, GNCC has studied the effects of mobile phone electromagnetic radiation.⁴⁹ The research aimed to advise the public about the harmful effects and permissible norms of mobile phone electromagnetic radiation, as well as to inform the population about measures to protect against electromagnetic radiation: <http://www.ena.ge/gncc-sar>. However, no further information is available in English regarding the EMF limits in Georgia more broadly considered.

6. Commercial launches: announcements, trail cities, and digital cross-border corridors

⁴⁶ See: <https://comcom.ge/uploads/other/3/3939.pdf>

⁴⁷ See: <https://comcom.ge/uploads/other/3/3939.pdf>

⁴⁸ See: <https://comcom.ge/uploads/other/3/3939.pdf>

⁴⁹ See: <https://comcom.ge/ge/momxmareblis-uflebebi/useful-infomation/mobile-informer>

In April 2020, GNCC informed the local press that it has already carried out large-scale work to install 5G internet infrastructure and soon will announce a tender for operators.⁵⁰

The Georgian Association of Small and Medium Operators indicated to local press that Internet tariffs will decline after 5G is introduced in the country, maintained that the GNCC sets optimal prices for operators leading up to the frequency spectrum auction in the country.⁵¹ As of August 2020, however, there has been no 5G-related testing or commercial launches in the country, although Beeline Georgia already indicated its interests in 5G networks.⁵²

⁵⁰ See: <https://agenda.ge/en/news/2020/1184>

⁵¹ See: <https://www.cbw.ge/economy/ucha-seturi-5g-establishment-will-lower-internet-tariffs>

⁵² See: <https://navigator.ge/2018/06/29/vioni-saqarthvelos-mekhuthe-thaobis-5g-kavshiris-danergvis-gegmebi/>