

ITU World Telecommunication/ICT Indicators Long Questionnaire 2022

SAMPLE QUESTIONNAIRE

Please complete the Answer and Notes columns in the table below.

Black cells must NOT be completed. Please do NOT modify or delete any of the black cells.

All numerical data must be entered WITHOUT any punctuation, i.e. no apostrophes, commas, spaces, etc.

All financial data (tariffs, revenues, capital expenditure) should be provided in LOCAL currency.

Section	Question
CONTACT INFORMATION By providing us with your contact information (especially your email address), we will be able to inform you of future questionnaires, the questionnaire results, relevant publications, etc.	Is this the first time you complete the ITU World Telecommunication/ICT Indicators Survey? (Please complete the contact information below regardless of your answer to the above question.)
	Prefix (Mr, Mrs, etc)
	First name
	Last name
	Title
	Department
	Organization
	Address line 1
	Address line 2
	Postbox
	Post code
	City
	Phone
	Fax
Email	
Website	
FIXED TELEPHONE NETWORK	i112 - Fixed-telephone subscriptions Fixed-telephone subscriptions refers to the sum of active number of analogue fixed-telephone lines, voice-over-IP (VoIP) subscriptions, fixed wireless local loop (WLL) subscriptions, ISDN voice-channel equivalents and fixed public payphones. This indicator was previously called Main telephone lines in operation.
	i116 - Percentage of fixed-telephone subscriptions that are residential Percentage of fixed-telephone subscriptions that are residential refers to the percentage obtained by dividing the number of active fixed-telephone subscriptions serving households (i.e. lines that are not used for business, government or other professional purposes or as public telephone stations) by the number of fixed-telephone subscriptions (Indicator 2) and then multiplying by 100. A household is defined as consisting of one or more people, who may or may not be related to each other, who share accommodation and who make common provision for food. Active subscriptions include all postpaid subscriptions and those prepaid subscriptions that have registered an activity in the past three months.
FIXED TELEPHONE NETWORK	i112IP - VoIP subscriptions VoIP subscriptions refers to the number of voice-over-Internet protocol (VoIP) fixed-line subscriptions. It is also known as voice over broadband (VoB), and includes VoIP subscriptions through fixed wireless, DSL, cable, fibre optic and other fixed-broadband Internet platforms that provide fixed telephony using IP. It excludes software-based VoIP applications (e.g. VoIP with Skype using computer-to-computer or computer-to-telephone). Those VoIP subscriptions that do not imply a recurrent monthly fee should only be counted if they have generated inbound or outbound traffic within the past three months.

FIXED TELEPHONE NETWORK	<p>i112pt - Fixed-telephone numbers ported</p> <p>Fixed-telephone numbers ported refers to the number of porting transactions within the fixed-telephone line network that have been carried out for fixed-telephone numbers during the reference year.</p>
MOBILE CELLULAR NETWORK	<p>i271 - Mobile-cellular telephone subscriptions</p> <p>Mobile-cellular telephone subscriptions refers to the number of subscriptions to a public mobile-telephone service that provide access to the PSTN using cellular technology. The indicator includes (and is split into) the number of postpaid subscriptions, and the number of active prepaid accounts (i.e. that have been used during the last three months). The indicator applies to all mobile-cellular subscriptions that offer voice communications. It excludes subscriptions via data cards or USB modems, subscriptions to public mobile data services, private trunked mobile radio, telepoint, radio paging, M2M and telemetry services.</p> <p>i271p - Prepaid mobile-cellular telephone subscriptions</p> <p>Refers to the total number of mobile-cellular telephone subscriptions that use prepaid refills. These are subscriptions where, instead of paying an ongoing monthly fee, users purchase blocks of usage time. Only active subscriptions should be included (those used at least once in the last three months for making or receiving a call or carrying out a non-voice activity such as sending or reading an SMS or accessing the Internet).</p> <p>i271m2m - M2M mobile-network subscriptions</p> <p>M2M mobile-network subscriptions refers to the number of mobile-cellular machine-to-machine subscriptions that are assigned for use in machines and devices (cars, smart meters, consumer electronics) for the exchange of data between networked devices, and are not part of a consumer subscription. For instance, SIM-cards in personal navigation devices, smart meters, trains and automobiles should be included. Mobile dongles and tablet subscriptions should be excluded.</p> <p>i271pop - Percentage of the population covered by a mobile-cellular network</p> <p>Percentage of the population covered by a mobile-cellular network refers to the percentage of inhabitants within range of a mobile-cellular signal, irrespective of whether or not they are subscribers or users. This is calculated by dividing the number of inhabitants within range of a mobile-cellular signal by the total population and multiplying by 100.</p> <p>i271pt - Mobile-cellular numbers ported</p> <p>Mobile-cellular numbers ported refers to the number of mobile porting transactions that have been carried out during the reference year.</p> <p>i271_spec_a - Amount of spectrum offered for IMT systems, in MHz (new 2020)</p> <p>Amount of spectrum allocated for IMT systems refers to the total spectrum, in MHz, made available for use (i.e. allocated) through any formal national publication, such as a national frequency plan, for IMT systems, including any of the air interfaces in accordance with ITU-R Recommendations concerning these standards for mobile communications. This process, known as allocation of spectrum, is decided by the governmental agency responsible for spectrum management and defines a band and a specific capacity (in MHz) to be put for a specific commercial use. This stage does not assign the spectrum yet to any particular operator.</p> <p>i271_spec_a1 - Amount of spectrum offered for IMT systems in Block < 1GHz (new 2020)</p> <p>Amount of spectrum allocated for IMT systems refers to the spectrum block up to 1 GHz.</p>

MOBILE CELLULAR NETWORK	<p>i271_spec_a1to6 - Amount of spectrum offered for IMT systems in Block 1 GHz - 6 GHz (new 2020)</p> <p>Amount of spectrum allocated for IMT systems refers to the spectrum Block that is greater than 1 GHz and less than 6 GHz.</p>
	<p>i271_spec_aG6 - Amount of spectrum offered for IMT systems in Block > 6 GHz (new 2020)</p> <p>Amount of spectrum allocated for IMT systems refers to the spectrum block that is greater than 6 GHz.</p>
	<p>i271_spec_li - Amount of spectrum licensed for IMT systems, in MHz (new 2020)</p> <p>Amount of spectrum licensed for IMT systems refers to the total spectrum, in MHz, assigned nationally, including any of the air interfaces in accordance with ITU-R Recommendations concerning these standards for mobile communications. Assignment implies granting a specific block in a specific frequency band to a firm or institution (a licensee).</p>
	<p>i271_spec_li1 - Amount of spectrum licensed for IMT systems in Block < 1GHz (new 2020)</p> <p>Amount of spectrum licensed for IMT systems refers to the spectrum block up to 1 GHz.</p>
	<p>i271_spec_li1to6 - Amount of spectrum licensed for IMT systems in Block 1 GHz - 6 GHz (new 2020)</p> <p>Amount of spectrum licensed for IMT systems refers to the spectrum Block that is greater than 1 GHz and less than 6 GHz.</p>
	<p>i271_spec_liG6 - Amount of spectrum licensed for IMT systems in Block > 6 GHz (new 2020)</p> <p>Amount of spectrum licensed for IMT systems refers to the spectrum block that is greater than 6 GHz.</p>
INTERNET	<p>i4214u - International bandwidth usage, in Mbit/s (modified 2017)</p> <p>Average usage of all international links including fiber-optic cables, radio links and traffic processed by satellite ground stations and teleports to orbital satellites (expressed in Mbit/s). All international links used by all types of operators, namely fixed, mobile and satellite operators should be taken into account. The average should be calculated over the 12-month period of the reference year. For each individual international link, if the traffic is asymmetric, i.e. incoming traffic is not equal to outgoing traffic, then the higher value out of the two should be provided. The combined average usage of all international links can be reported as the sum of the average usage of each individual link.</p>
	<p>i4214I - Lit/equipped international bandwidth capacity, in Mbit/s (modified 2017)</p> <p>Total lit/equipped international bandwidth capacity refers to the total lit/equipped capacity of international links, namely fiber-optic cables, international radio links and satellite uplinks to orbital satellites in the end of the reference year (expressed in Mbit/s). If the traffic is asymmetric (i.e. incoming traffic and outgoing traffic is not equal), then the higher value out of the two should be provided.</p>

INTERNET	<p>i4213cv - Number of households covered by a fixed wired network (new 2018)</p> <p>The number of households covered by a fixed wired network, cabled households or homes passed denote the availability of but not necessarily the subscription to or usage of fixed network services. Households should be classified as covered, cabled or 'passed' if the network provider already provisions or could provision a 'last mile' connection to the fixed wired network within a short period of time (i.e. a few days) and without an extraordinary commitment of resources. An extraordinary commitment of resources involves any of the following: installing or extending cable from local switching center, a DSLAM, CMTS, OLT, fiber node, optical splitter, FTTC cabinet, HFC node, building a duct, installing poles, leasing a line. Fixed wireless networks, mobile networks, nomadic networks and satellite networks are excluded from this indicator. In the case of network overlap in a given geographical unit – i.e. several networks/operators covering the same locations –, perfect overlap should be assumed unless available information justifies a different conclusion.</p>
	<p>i4213cv_pstn - Number of households covered by the traditional public switched telephone network (new 2018)</p> <p>Refers to the number of households covered by the traditional public switched telephone network (PSTN), using copper wire in the "last mile". Excludes households covered by DSL-enhanced networks.</p>
	<p>i4213cv_dsl - Number of households covered by digital subscriber lines networks (excluding VDSL/VDSL vectoring) (new 2018)</p> <p>Refers to households covered by traditional public switched telephone networks (PSTN) which allow broadband access using digital subscriber line (DSL) technology. Asynchronous digital subscriber line technology (i.e. ADSL, ADSL2, ADSL2+) and other DSL technologies are included with the exception of very-high-bit-rate digital subscriber technology (VDSL/VDSL Vectoring).</p>
	<p>i4213cv_vdsl - Number of households covered by digital subscriber lines networks (VDSL/VDSL vectoring) (new 2018)</p> <p>Refers to households covered by traditional public switched telephone networks (PSTN) which allow broadband access using very-high-bit-rate digital subscriber technology (VDSL/VDSL Vectoring).</p>
	<p>i4213cv_cab - Number of households covered by cable TV networks (new 2018)</p> <p>Refers to the number of households covered by cable TV (CATV) networks using coaxial cable. Households covered by standard (i.e. DOC SIS 1) and advanced cable broadband standards (including DOCSIS 3.x) are included.</p>
	<p>i4213cv_fttp - Number of households covered by Fiber-to-the-premises networks (new 2018)</p> <p>Refers to the number of households covered by fibre-to-the-premises (FTTP) networks. This indicator includes the fiber-to-the-home (FTTH), fiber-to-the-building (FTTB) and Fiber-to-the-distribution point (FTTdp) network configurations. Fibre-to-the-cabinet and fibre-to-the-node are excluded.</p>
	<p>i4213cv_o - Number of households covered by other fixed-wired networks (new 2018)</p> <p>Refers to households covered by other fixed wired networks (other than copper/DSL, CATV, and FTTP).</p>

FIXED BROADBAND BY TECHNOLOGY/SPEED	<p>i4213tfbb - Fixed-broadband subscriptions (modified 2015)</p> <p>= previous indicator on fixed (wired)-broadband subscriptions + satellite broadband (i271s) + terrestrial fixed wireless broadband (i271fw)</p> <p>Fixed-broadband subscriptions refers to fixed subscriptions to high-speed access to the public Internet (a TCP/IP connection), at downstream speeds equal to, or greater than, 256 kbit/s. This includes cable modem, DSL, fibre-to-the-home/building, other fixed (wired)-broadband subscriptions, satellite broadband and terrestrial fixed wireless broadband. This total is measured irrespective of the method of payment. It excludes subscriptions that have access to data communications (including the Internet) via mobile-cellular networks. It should include fixed WiMAX and any other fixed wireless technologies. It includes both residential subscriptions and subscriptions for organizations.</p>
	<p>i4213tfb_o - Fixed-broadband subscriptions for organizations</p> <p>Fixed-broadband subscriptions for organizations refers to the total subscriptions contracted by public and private organizations (i.e. non-residential customers) to access the public Internet at a fixed location at downstream speeds greater than, or equal to, 256 kbit/s. This includes cable modem, DSL, fibre-to-the-home/building and fixed wireless broadband technologies. It excludes residential subscriptions and subscriptions that have access to data communications (including the Internet) via mobile networks.</p>
	<p>i4213cab - Cable modem Internet subscriptions</p> <p>Cable modem Internet subscriptions refers to the number of Internet subscriptions using a cable modem service to access the Internet, at downstream speeds greater than, or equal to, 256 kbit/s. Cable modem is a modem attached to a cable television network.</p>
	<p>i4213dsl - DSL Internet subscriptions</p> <p>DSL Internet subscriptions refers to the number of Internet subscriptions using digital subscriber line (DSL) services to access the Internet, at downstream speeds greater than or equal to 256 kbit/s. DSL is a technology for bringing high-bandwidth information to homes and small businesses over ordinary copper telephone lines. It should exclude very high-speed digital subscriber line (VDSL) subscriptions if these are provided using fibre directly to the premises.</p>
	<p>i4213ftth/b - Fibre-to-the-home/building Internet subscriptions</p> <p>Fibre-to-the-home/building Internet subscriptions refers to the number of Internet subscriptions using fibre-to-the-home or fibre-to-the-building, at downstream speeds equal to, or greater than, 256 kbit/s. This should include subscriptions where fibre goes directly to the subscriber's premises or fibre-to-the-building subscriptions that terminate no more than 2 metres from an external wall of the building. Fibre-to-the-cabinet and fibre-to-the-node are excluded.</p>
	<p>i4213ob - Other fixed (wired)-broadband subscriptions</p> <p>Other fixed (wired)-broadband subscriptions refers to Internet subscriptions using other fixed (wired)-broadband technologies to access the Internet (other than DSL, cable modem, and fibre), at downstream speeds equal to, or greater than, 256 kbit/s. This includes technologies such as ethernet LAN, and broadband-over-powerline (BPL) communications. Ethernet LAN subscriptions refer to subscriptions using IEEE 802.3 technology. BPL subscriptions refer to subscriptions using broadband-over-powerline services. Users of temporary broadband access (e.g. roaming between PWLAN hotspots), users of WiMAX and those with Internet access via mobile-cellular networks are excluded.</p>

FIXED BROADBAND BY TECHNOLOGY/SPEED	i271s - Satellite broadband subscriptions Satellite broadband subscriptions refers to the number of satellite Internet subscriptions with an advertised download speed of at least 256 kbit/s. It refers to the retail subscription technology and not to the backbone technology.
	i271fw - Terrestrial fixed wireless broadband subscriptions Terrestrial fixed wireless broadband subscriptions refers to the number of terrestrial fixed wireless Internet subscriptions with an advertised download speed of at least 256 kbit/s. This includes fixed WiMAX and fixed wireless subscriptions, but excludes occasional users at hotspots and Wi-Fi hotspot subscribers. It also excludes mobile-broadband subscriptions where users can access a service throughout the country wherever coverage is available.
	i4213_256to2 - 256 kbit/s to less than 2 Mbit/s subscriptions Refers to all fixed-broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 256 kbit/s and less than 2 Mbit/s.
	i4213_2to10 - 2 Mbit/s to less than 10 Mbit/s subscriptions Refers to all fixed-broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 2 Mbit/s and less than 10 Mbit/s.
	i4213_G10 - Equal to or above 10 Mbit/s subscriptions Refers to all fixed (wired)-broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 10 Mbit/s.
	i4213_10to30 - 10 Mbit/s to less than 30 Mbit/s subscriptions (new 2018) Refers to all fixed-broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 10 Mbit/s and less than 30 Mbit/s.
	i4213_30to100 - 30 Mbit/s to less than 100 Mbit/s subscriptions (new 2018) Refers to all fixed-broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 30 Mbit/s and less than 100 Mbit/s.
	i4213_G100 - Equal to or above 100 Mbit/s subscriptions (new 2018) Refers to all fixed-broadband Internet subscriptions with advertised downstream speeds equal to, or greater than, 100 Mbit/s.
MOBILE BROADBAND	i271G - Percentage of the population covered by at least a 3G mobile network Percentage of the population covered by at least a 3G mobile network refers to the percentage of inhabitants that are within range of at least a 3G mobile-cellular signal, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants that are covered by at least a 3G mobile-cellular signal by the total population and multiplying by 100. It excludes people covered only by GPRS, EDGE or CDMA 1xRTT.

MOBILE BROADBAND	<p>i271GA - Percentage of the population covered by at least an LTE/WiMAX mobile network</p> <p>Percentage of the population covered by at least an LTE/WiMAX mobile network refers to the percentage of inhabitants that live within range of LTE/LTE-Advanced, mobile WiMAX/WirelessMAN or other more advanced mobile-cellular networks, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants that are covered by the previously mentioned mobile-cellular technologies by the total population and multiplying by 100. It excludes people covered only by HSPA, UMTS, EV-DO and previous 3G technologies, and also excludes fixed WiMAX coverage.</p>
	<p>i271G5_pop - Percentage of the population covered by at least a 5G mobile network (new 2021)</p> <p>Percentage of the population covered by 5G mobile network refers to the percentage of inhabitants that are within range of at least a 5G mobile-cellular signal, irrespective of whether or not they are subscribers. This is calculated by dividing the number of inhabitants that are covered by a 5G mobile-cellular signal by the total population and multiplying by 100.</p>
	<p>i271mw - Active mobile-broadband subscriptions = i271mb_active + i271md</p> <p>Active mobile-broadband subscriptions refers to the sum of active handset-based and computer-based (USB/dongles) mobile-broadband subscriptions to the public Internet. It covers actual subscribers, not potential subscribers, even though the latter may have broadband-enabled handsets. Subscriptions must include a recurring subscription fee or pass a usage requirement – users must have accessed the Internet in the last three months. It includes subscriptions to mobile-broadband networks that provide download speeds of at least 256 kbit/s (e.g. WCDMA, HSPA, CDMA2000 1x EV-DO, WiMAX IEEE 802.16e and LTE), and excludes subscriptions that only have access to GPRS, EDGE and CDMA 1xRTT.</p>
	<p>i271mb_active - Data and voice mobile-broadband subscriptions (modified 2016)</p> <p>Data and voice mobile-broadband subscriptions refers to subscriptions to mobile-broadband services that allow access to the open Internet via HTTP and in which data services are contracted together with voice services (mobile voice and data plans) or as an add-on package to a voice plan. These are typically smartphone-based subscriptions with voice and data services used in the same terminal. Data and voice mobile-broadband subscriptions with specific recurring subscription fees for Internet access are included regardless of actual use. Prepaid and pay-per-use data and voice mobile-broadband subscriptions should only be counted if they have been used to access the Internet in the last three months. M2M subscriptions should be excluded. The indicator includes subscriptions to mobile networks that provide download speeds of at least 256 kbit/s (e.g. WCDMA, HSPA, CDMA2000 1x EV-DO, WiMAX IEEE 802.16e and LTE), and excludes lower-speed technologies such as GPRS, EDGE and CDMA 1xRTT.</p>

MOBILE BROADBAND	<p>i271md - Data-only mobile-broadband subscriptions (modified 2016)</p> <p>Data-only mobile-broadband subscriptions refers to subscriptions to mobile broadband services that allow access to the open Internet via HTTP and that do not include voice services, i.e. subscriptions that offer mobile broadband as a standalone service, such as mobile-broadband subscriptions for datacards, USB modem/dongle and tablets. Data-only mobile-broadband subscriptions with recurring subscription fees are included regardless of actual use. Prepaid and pay-per-use data-only mobile-broadband subscriptions should only be counted if they have been used to access the Internet in the last three months. M2M subscriptions should be excluded. The indicator includes subscriptions to mobile networks that provide download speeds of at least 256 kbit/s (e.g. WCDMA, HSPA, CDMA2000 1x EV-DO, WiMAX IEEE 802.16e and LTE), and excludes lower-speed technologies such as GPRS, EDGE and CDMA 1xRTT. It excludes data subscriptions that are contracted together with mobile voice services.</p>
	<p>i271mwa - Active subscriptions to LTE/WiMAX mobile-broadband networks (new 2016)</p> <p>Active subscriptions to LTE/WiMAX mobile-broadband networks refers to subscriptions that have generated Internet traffic in the last 90 days in LTE/mobile WiMAX and other advanced mobile-broadband networks, such as LTE-Advanced and WirelessMAN. It excludes subscriptions having generated Internet traffic only in HSPA, UMTS, EV-DO and previous 3G networks, and also excludes fixed WiMAX subscriptions.</p>
	<p>i271mw_5G - Active subscriptions to 5G/IMT-2020 mobile broadband (new 2022)</p> <p>Refers to subscriptions that have generated Internet traffic in the last 90 days in 5G/IMT-2020 mobile-broadband network. It includes data only, USB/dongle subscriptions, includes both postpaid and prepaid subscriptions, as well as both residential and business subscriptions. The indicator excludes subscriptions having generated Internet traffic only in LTE/4G, HSPA, UMTS, EV-DO and previous 3G networks, and also excludes fixed wireless subscriptions.</p> <p>This indicator aims at collecting all individual subscriptions to mobile broadband with 5G/IMT-2020, hence it excludes any other possible use of 5G/IMT-2020 networks as IoT, massive M2M or ultra-low latency reliable services.</p>
BUNDLED TELECOMMUNICATION SERVICES	<p>Definition of bundled telecommunication service: a bundled telecommunication services is defined as a prepaid or postpaid subscription meeting all of the following criteria:</p> <ol style="list-style-type: none"> 1. A commercial offer that includes two or more of the following services: fixed telephone, mobile voice, fixed broadband, mobile broadband, pay TV; 2. marketed as a single offer, with a single invoice and with a single price for the set of services included in the bundle; 3. subscribed under conditions that cannot be obtained by adding single play offers together.
	<p>- Subscriptions to mobile-voice and mobile-broadband bundles: to be reported in i271mb_active</p>
	<p>i4213_2x - Subscriptions to fixed-broadband and fixed-telephone bundles (new 2015)</p> <p>Subscriptions to fixed-broadband and fixed-telephone bundles refers to the number of bundled telecommunication subscriptions including fixed-broadband and fixed-telephone services. Only those subscriptions that meet the criteria established in the definition of bundled telecommunication services should be included. Subscriptions that include additional telecommunication services – such as triple play subscriptions including fixed telephony, fixed broadband and pay TV – should be excluded.</p>

BUNDLED TELECOMMUNICATION SERVICES	<p>i4213_3x - Subscriptions to fixed-broadband, fixed-telephone and pay-TV bundles (new 2015)</p> <p>Subscriptions to fixed-broadband, fixed-telephone and pay-TV bundles refers to the number of bundled telecommunication subscriptions including fixed-broadband, fixed-telephone and pay-TV services. Only those subscriptions that meet the criteria established in the definition of bundled telecommunication services should be included. Subscriptions that include additional telecommunication services – such as quadruple play subscriptions including fixed telephony, fixed broadband, pay TV and mobile voice/data – should not be counted under this indicator.</p>
QUALITY OF SERVICE	<p>i146u - Mobile-cellular unsuccessful call ratio (%)</p> <p>Mobile-cellular unsuccessful call ratio refers to the ratio of unsuccessful mobile-cellular calls to the total number of mobile-cellular call attempts in the given year. An unsuccessful call is a call attempt to a valid number, while in a coverage area, where neither the call is answered nor called party busy tone nor ringing tone, is recognized at the access of the calling user within 40 seconds from the instant when the last digit of the destination subscriber number is received by the network. The data should be expressed in per cent.</p> <p>i146d - Mobile-cellular dropped call ratio (%)</p> <p>Mobile-cellular dropped call ratio refers to the proportion of incoming and outgoing mobile-cellular calls which, once they have been correctly established and therefore have an assigned traffic channel, are dropped or interrupted prior to their normal completion by the user, the cause of the early termination being within the operator's network. The data should be expressed in per cent.</p> <p>i147t - Service activation time for fixed (wired)- broadband service (in days)</p> <p>Service activation time for fixed broadband service refers to the time from the date of application to date of service activation. The average service activation time of all new applications received within the 12 month reference period should be provided.</p> <p>i147dl - Average Download Throughput for Fixed Broadband, in bits (new 2021)</p> <p>The volume of data (in bits) downloaded in one second. Calculated as the total transferred data volume (in bits) divided by the total timeframe. The download throughput should be measured for all fixed network technologies, including xDSL, WFBB, GPON, DTH Satellite, etc.</p> <p>i147ul - Average upload Throughput for Fixed Broadband, in bits (new 2021)</p> <p>The volume of data (in bits) uploaded in one second. Calculated as the total transferred data volume (in bits) divided by the total timeframe. The download throughput should be measured for all fixed network technologies, including xDSL, WFBB, GPON, DTH Satellite, etc.</p> <p>i146mwdl - Average Download Throughput for Mobile Broadband, in bits (new 2021)</p> <p>The volume of data (in bits) uploaded and downloaded in one second. Calculated as the total transferred data volume (in bits) divided by the total timeframe. The download throughput should be measured for all technologies used to deliver mobile broadband service, i.e. GSM, UMTS, LTE, 5G, etc.</p> <p>i146mwul - Average Upload Throughput for Mobile Broadband, in bits (new 2021)</p> <p>The volume of data (in bits) uploaded in one second. Calculated as the total transferred data volume (in bits) divided by the total timeframe. The upload throughput should be measured for all technologies used to deliver mobile broadband service, i.e. GSM, UMTS, LTE, 5G, etc.</p>

QUALITY OF SERVICE	<p>i147i - Packet Latency for Fixed Broadband, in milliseconds (new 2021)</p> <p>The round trip time taken for a packet to reach its destination and return to the source (in milliseconds), within the country. It is calculated as the total packet latency measured in ms divided by the number of tests.</p> <p>i146mwl - Packet Latency for Mobile Broadband, in milliseconds (new 2021)</p> <p>The round trip time taken for a packet to reach its destination and return to the source (in milliseconds), within the country. It is calculated as the total packet latency measured in ms divided by the number of tests.</p> <p>i147f - Fault Resolution Period for Fixed Broadband Service, in hours (new 2021)</p> <p>The average time taken to clear customer fault reports for fixed broadband networks (in hours). Computed as the total number of working hours taken for all faults cleared by total the number of faults.</p>
TRAFFIC	<p>i131m - Domestic fixed-to-fixed telephone traffic, in minutes</p> <p>Domestic fixed-to-fixed telephone traffic refers to completed local and domestic long-distance fixed-telephone voice traffic. The indicator should be reported as the number of minutes of traffic during the reference year. This should exclude minutes used for dial-up Internet access.</p> <p>i1313wm - Fixed-to-mobile telephone traffic, in minutes</p> <p>Fixed-to-mobile telephone traffic refers to total traffic from all fixed-telephone networks to all mobile-cellular networks within the country. The indicator should be reported as the number of minutes of traffic during the reference year.</p> <p>i132m - International outgoing fixed-telephone traffic, in minutes</p> <p>Refers to effective (completed) fixed-telephone voice traffic originating in a given country to destinations outside that country. This should include traffic to mobile phones outside the country. The indicator should be reported in number of minutes of traffic. It excludes calls originating in other countries. It should include VoIP traffic.</p> <p>i132mi - International incoming fixed-telephone traffic, in minutes</p> <p>Refers to effective (completed) fixed-telephone voice traffic originating outside the country with a destination inside the country, irrespective of whether the call was from a fixed or mobile subscriber. It excludes minutes of calls terminating in other countries, but should include VoIP traffic.</p> <p>i133wm - Domestic mobile-telephone traffic, in minutes</p> <p>Domestic mobile-telephone traffic refers to the total number of minutes of calls made by mobile subscribers within a country (including minutes to fixed-telephone and minutes to mobile-phone subscribers).</p> <p>i1332wmf - Outgoing mobile traffic to fixed networks, in minutes</p> <p>Refers to the number of minutes of calls made from mobile-cellular networks to fixed-line telephone networks within the country. The indicator refers to the number of minutes originating on mobile networks and terminating on fixed-line telephone networks within the country.</p> <p>i1333wm - Outgoing mobile traffic to international, in minutes</p> <p>Outgoing mobile traffic to international refers to the number of mobile minutes originating in a country to any destinations outside that country.</p> <p>i1335wm - Incoming international traffic to mobile network, in minutes</p> <p>Incoming international traffic to mobile network refers to the number of incoming minutes (fixed and mobile) received by mobile networks originating in another country.</p>

TRAFFIC	<p>i133sms - SMS sent</p> <p>SMS sent refers to the total number of mobile short-message service (SMS) messages sent, both to national and international destinations. This should exclude messages sent from computers to mobile handsets or to other computers.</p>
	<p>i132t - Total international outgoing telephone traffic, in minutes =i1333wm+i132m</p> <p>Refers to effective (completed) international outgoing minutes of telephone traffic originating from national networks, fixed and mobile, including managed VoIP.</p>
	<p>i132ti - Total international incoming telephone traffic, in minutes =i1335wm+i132mi</p> <p>Refers to effective (completed) international incoming minutes of telephone traffic originating outside the country and terminating in national fixed and mobile networks without transit, including managed VoIP.</p>
	<p>i135tfb - Fixed-broadband Internet traffic (exabytes)</p> <p>Fixed-broadband Internet traffic (exabytes) refers to traffic generated by fixed-broadband subscribers measured at the end-user access point. It should be measured adding up download and upload traffic. This should exclude wholesale traffic, walled garden, IPTV and cable TV traffic. If the traffic is reported in a unit other than exabytes, the unit should be indicated in a note.</p>
	<p>i136mwi - Mobile-broadband Internet traffic (within the country)</p> <p>Mobile-broadband Internet traffic (within the country) refers to broadband traffic volumes originated within the country from 3G networks or other more advanced mobile networks, including 3G upgrades, evolutions or equivalent standards in terms of data transmission speeds. Traffic should be collected and aggregated at the country level for all 3G or more advanced mobile networks within the country. Download and upload traffic should be added up and reported together. Traffic should be measured at the end user access point. Wholesale and walled-garden traffic should be excluded. The traffic should be reported in exabytes. If the traffic is reported in a unit other than exabytes, the unit should be indicated in a note.</p>
INTERNATIONAL ROAMING	<p>i133rm - Number of countries with which there is an operator-level roaming agreement (new 2021)</p> <p>Total number of countries, with which there is a roaming agreement. If there are several operators with a different number of roaming agreements, the total number of countries with roaming agreement. For example, if operator 'A' has agreement with country '1', '2', '3', '4', and '5' where as operator 'B' has agreement with country '1', '6', and '7'. The total number of countries with which there is a roaming agreement should be '7'.</p>
	<p>i133crm - Number of countries with which there is a country-level roaming agreement (new 2021)</p> <p>Total number of countries, with which there is an agreement between the answering country and other countries securing a free or special roaming tariff approach in relation to existing national tariffs. An example is the roaming like at home initiative in EU.</p>

<p>INTERNATIONAL ROAMING</p>	<p>i136mwo - Mobile-broadband Internet traffic (outside the country, roaming out), in Exabytes</p> <p>Mobile-broadband Internet traffic (outside the country, roaming out) refers to broadband traffic volumes originated outside the country from 3G networks or other more advanced mobile-networks, including 3G upgrades, evolutions or equivalent standards in terms of data transmission speeds. Traffic should be collected and aggregated at the country level for all customers of domestic operators roaming outside the country and using 3G or more advanced mobile networks. Download and upload traffic should be added up and reported together. Traffic should be measured at the end-user access point. Wholesale and walled-garden traffic should be excluded. Traffic should be reported in exabytes.</p>
	<p>i136mwoa - Mobile-broadband Internet traffic (outside the country, roaming out on CLRAs), in Exabytes (new 2021)</p> <p>Mobile-broadband Internet traffic (outside the country, roaming out) refers to broadband traffic volumes originated by own customers in foreign networks in countries with which the focal country has a country-level roaming agreement (CLRA), from 3G networks or other more advanced mobile-networks, including 3G upgrades, evolutions or equivalent standards in terms of data transmission speeds. Download and upload traffic should be added up and reported together. Traffic should be measured at the end-user access point. Wholesale and walled-garden traffic should be excluded. Traffic should be reported in exabytes.</p>
	<p>i1336wm - Roaming by home subscribers abroad (outbound roaming), in minutes (new 2021)</p> <p>Roaming by home subscribers abroad (outbound roaming) refers to the total call minutes made and received by own customers in foreign networks (outbound roaming), i.e. retail international roaming minutes from own network subscribers roaming on foreign networks abroad. The indicator excludes minutes from users who are not subscribers to domestic mobile networks and are temporarily roaming on domestic mobile networks.</p>
	<p>i1334wma - Roaming by home subscribers abroad (outbound roaming on CLRAs), in minutes (new 2021)</p> <p>Roaming by home subscribers abroad (outbound roaming) refers to the total call minutes made and received by customers of the focal country in foreign networks (outbound roaming), i.e. retail international roaming minutes from own network subscribers roaming on foreign networks abroad in countries with which the focal country has country-level roaming agreement (CRLA). The indicator excludes minutes from users who are not subscribers to domestic mobile networks and are temporarily roaming on domestic mobile networks.</p>
<p>REVENUE</p> <p>(in local currency at current prices)</p>	<p>i75 - Revenue from all telecommunication services</p> <p>Revenue from all telecommunication services refers to revenue earned from retail fixed-telephone, mobile-cellular, Internet and data services offered by telecommunication operators (both network and virtual, including resellers) offering services within the country during the financial year under review. It includes retail revenues earned from the transmission of TV signals, but excludes revenues from TV content creation. Data reported should exclude: (i) wholesale revenues (e.g. termination rates), (ii) revenues from device sales and rents, (iii) VAT and excise taxes. Any deviation from the definition should be specified in a note, including clarifications on what TV revenues are included/excluded (e.g. IPTV, cable TV, pay satellite and free-to-air TV).</p>

REVENUE (in local currency at current prices)	i741 - Revenue from mobile networks Revenue from mobile networks refers to retail revenue earned from the provision of mobile-cellular communication services, including all voice, SMS and data (narrowband and broadband) services offered by mobile operators offering services within the country during the financial year under review. Revenues from value added services (e.g. premium SMS) should be included. Data reported should exclude: (i) wholesale revenues (e.g. termination rates), (ii) revenues from device sales and rents, (iii) VAT and excise taxes. Any deviation from the definition should be specified in a note.
INVESTMENT (in local currency at current prices)	i81 - Annual investment in telecommunication services Annual investment in telecommunication services refers to the investment during the financial year made by entities providing telecommunication networks and/or services (including fixed, mobile and Internet services, as well as the transmission of TV signals) for acquiring or upgrading fixed assets (usually referred to as CAPEX), less disinvestment owing to disposals of fixed assets. Fixed assets should include tangible assets, such as buildings and networks, and non-tangible assets, such as computer software and intellectual property. The definition closely corresponds to the concept of gross fixed capital formation, as defined in the System of National Accounts 2008. The indicator is a measure of investment made by entities providing telecommunication networks and/or services in the country, and includes expenditure on initial installations and additions to existing installations where the usage is expected to be over an extended period of time. It excludes expenditure on fees for operating licences and the use of radio spectrum. i841f - Annual foreign investment in telecommunications Annual foreign investment in telecommunications refers to investment during the financial year in telecommunication services (including fixed, mobile and Internet services) coming from foreign sources, also referred to as foreign direct investment (FDI).
PERSONS EMPLOYED	i51 - Persons employed in full-time equivalents Persons employed in full-time equivalents refers to the total number of persons, in full-time equivalent (FTE) units, employed by telecommunication operators in the country for the provision of telecommunication services, including fixed-telephone, mobile-cellular, Internet and data services. This indicator excludes staff working in broadcasting businesses that offer only traditional broadcasting services. Part-time staff should be expressed in terms of full-time staff equivalents (FTE). i51f - Persons employed by all telecommunication operators, female Refers to the total female, in full-time equivalent (FTE) units, employed by telecommunication operators in the country for the provision of telecommunication services, including fixed, mobile and Internet services. This indicator excludes staff working in broadcasting businesses that offer only traditional broadcasting services.
PAY TV	i965IP - IPTV subscriptions IPTV subscriptions refers to the number of subscriptions to Internet protocol television (IPTV), i.e. TV delivered over an IP-based network managed to support the required level of quality of service, quality of experience, security, interactivity and reliability. This does not include video accessed over the public Internet – for example, by streaming – and subscriptions to over-the-top audiovisual content providers. i965s - Satellite TV subscriptions Satellite TV subscriptions refers to the number of pay direct-to-home (DTH) satellite subscriptions, i.e. pay-TV received via a satellite dish capable of receiving satellite television broadcasts. This does not include free-to-air satellite TV.

PAY TV	<p>i965cab - Cable TV subscriptions</p> <p>Cable TV subscriptions refers to multichannel TV programming delivered over coaxial cable networks. It includes both analogue and digital cable TV subscriptions. If the breakdown of analogue/digital cable TV subscriptions is available, data for each type of cable TV subscriptions should be specified in a note. It excludes IPTV delivered over cable TV networks.</p>
	<p>i965oth - Other TV subscriptions</p> <p>Other TV subscriptions refers to pay-TV subscriptions other than IPTV, satellite TV and cable TV. This includes subscriptions to TV platforms such as microwave multipoint distribution systems (MMDS) and pay digital terrestrial television (pay DTT). Free-to-air TV should not be included. The TV platforms corresponding to the data reported should be indicated in a note.</p>