



ITU Multi-Country Workshop for National Focal Points on ICT Indicators and Measurements

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Telecommunication/ICT indicators (SHORT QUESTIONNAIRE)

Esperanza Magpantay
(ITU)

Koay Hoak Eng
(Consultant)



Outline

- Overview - ITU Handbook
- Fixed telephone subscriptions
- Mobile cellular indicators
 - Subscriptions
 - Population coverage
- Broadband indicators
 - Fixed-broadband subscriptions
 - Active mobile-broadband subscriptions
- International Internet bandwidth

Overview - ITU Handbook

ITU Handbook

- Covers **81 indicators** on telecommunication/ICT services
- Covers data collected from **administrative sources** (e.g. telecom operators)
- Discussed in the ITU Expert Group on Telecom/ICT Indicators (**EGTI**)
- Available at:
http://www.itu.int/pub/D-IND-ITC_IND_HBK-2011



ITU Handbook (cont.)

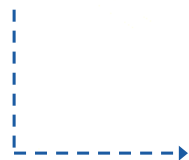
Groupings:

- Fixed-telephone networks
- Mobile-cellular networks
- Internet
- Traffic
- Tariffs
- Quality of service
- Persons employed
- Revenue
- Investment
- Public access
- Broadcasting and other indicators

- Definition
- Clarifications and scope
- Method of collection
- Relationship with other indicators
- Methodological issues
- Examples

ITU Handbook – additions

- Revision of revenue and investment indicators
- New indicators from administrative sources 2011-2013



- Fixed broadband and mobile QoS
- Broadband Internet traffic
- Pay-TV subscriptions
- Mobile-broadband prices

Latest ITU indicators

- New indicators from administrative data sources added in 2015:

- M2M mobile-network subscriptions
- Fixed-broadband subscriptions for organizations
- Percentage of the population covered by at least an LTE/WiMAX mobile network
- Subscriptions to bundled telecommunication services

- From 2016:

- Active subscriptions to LTE/WiMAX mobile-broadband networks
- Change in mobile-bb sub-categories

<http://www.itu.int/en/ITU-D/Statistics/Pages/datacollection/default.aspx#questionnaires>

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WTI Short questionnaire indicators

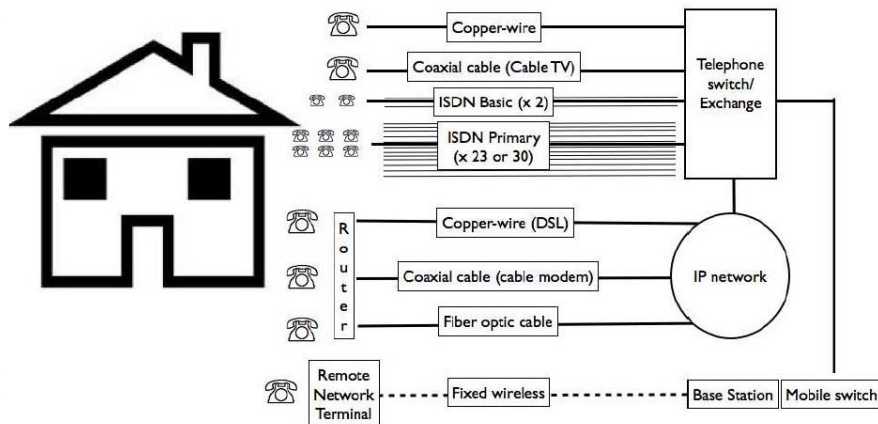
i112 - Fixed-telephone subscriptions

The sum of (active) number of:

- (i) **analogue fixed-telephone** lines
- (ii) Voice-over-IP (**VoIP**) subscriptions
- (iii) fixed wireless local loop (**WLL**) subscriptions
- (iv) integrated services digital network (**ISDN**) voice channel equivalents
- (v) fixed **public payphones**

This indicator was previously called Main telephone lines in operation.

Fixed-telephone subscriptions



Mobile cellular indicators

i271 - Mobile-cellular telephone subscriptions

Number of subscriptions to a public mobile telephone service that provide **access to the PSTN using cellular technology**.

The indicator includes:





- (i) postpaid subscriptions;** and
- (ii) prepaid accounts that are active,** i.e. 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 and **M2M**.

What do we actually measure?

Mobile-cellular...

- Subscriptions →  ✓ operator data
- Users →  household survey data
- Handsets →  ✗
- Subscribers →  ✗

Other mobile-cellular indicators

- i271pop - % of the population covered by a mobile-cellular telephone network
- i271G - % of the population covered by at least a 3G mobile network
 - i271GA - % of the population covered by at least an LTE/WiMAX mobile network



i271pop - Percentage of the population covered by a mobile-cellular network

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.

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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.

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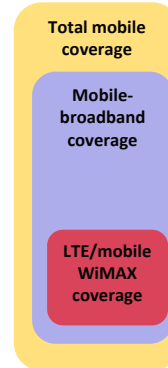


% of the population covered by at least an LTE/WiMAX mobile network

New indicator, collected from this year:

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.

It excludes people covered only by HSPA, UMTS, EV-DO and previous 3G technologies, and also excludes fixed WiMAX coverage.



i271GA - Percentage of the population covered by at least an LTE/WiMAX mobile network

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.

Broadband indicators

Classification of broadband subscriptions

Fixed
broadband

- (1) xDSL
- (2) Cable modem
- (3) FTTH/FTTB
- (4) Other fixed wired
-
- (5) Satellite broadband
- (6) Fixed wireless broadband

Fixed
wired



Fixed
wireless

Active mobile
broadband

- (1) Data and voice
- (2) Data only

Fixed broadband

Fixed (wired)-broadband subscriptions

Main features:

- advertised ≥ 256 kbit/s 

- wired 

Breakdowns:

- by speed
 - ≥ 10 Mbit/s
 - 2 – 10 Mbit/s
 - 0.256 – 2 Mbit/s
- by tech
 - DSL
 - cable
 - FTTH/B
 - other

Definition of fixed broadband

- International agreement to keep minimum speed at 256 kbit/s

→ importance of **breakdown by speed**

→ **Breakdown by technology** gives additional information on infrastructure

i4213tffb - Fixed-broadband subscriptions

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.



**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-broadband Internet subscriptions with advertised downstream speeds equal to, or **greater than, 10 Mbit/s.**



Mobile broadband

Active mobile-broadband subscriptions

Main features:

- advertised ≥ 256 kbit/s 
- active  GPRS and EDGE **excluded**
 1. Monthly fee paid only for Internet access
 - OR
 2. Accessed the Internet in the previous three months
- allows access to the open Internet

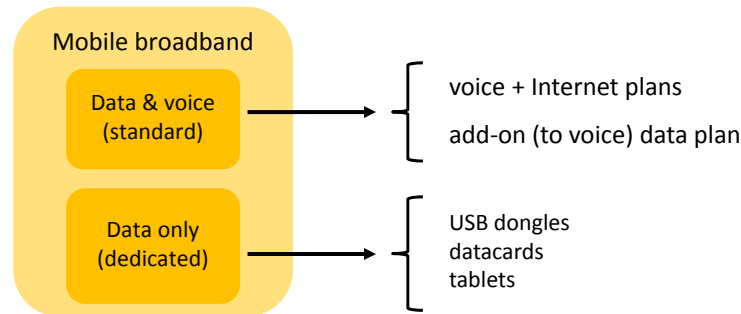
Mobile broadband methodology

- International agreement to collect data on active subscriptions to mobile broadband
- operators have these data in their systems
- Operators may need time to implement the new activity criteria

Important to work with operators for them to adjust to the activity criteria

Mobile broadband subcategories

Following the agreement in the 6th EGTI Meeting (September 2015, Geneva) mobile broadband subcategories will be adjusted as follows:



i271mw - Active mobile-broadband subscriptions

Active mobile-broadband subscriptions refers to the sum of **active handset-based** and **computer-based** (USB/dongles) mobile-broadband subscriptions to the public Internet.

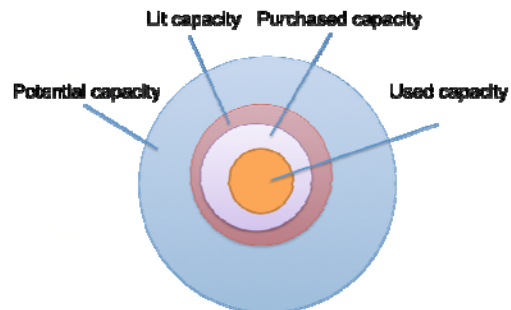
It covers actual subscribers, not potential subscribers, even though the latter may have broadband-enabled handsets.

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.

International Internet Bandwidth

International Internet bandwidth



ITU collects data on two indicators:

1. Lit/equipped capacity
2. Used capacity

Used international Internet bandwidth (traffic), in Mbit/s

Used international Internet bandwidth refers to **the average traffic load** (expressed in Mbit/s) of **international fibre-optic cables and radio links for carrying Internet traffic**.

The average should be calculated over the **12-month period** of the reference year, and should take into consideration the traffic of all international Internet links. If the traffic is asymmetric (i.e. more incoming (downlink) than outgoing (uplink) traffic), then the average incoming (downlink) traffic load should be provided.

The combined average traffic load of different international Internet links can be reported as the addition of the average traffic load of each link.

Lit/equipped international Internet bandwidth, in Mbit/s

Lit/equipped international Internet bandwidth refers to the **total lit capacity of international fibre-optic cables provisioned to carry Internet traffic, plus the equipped capacity of international radio links provisioned to carry Internet traffic**. It should be expressed in Mbit/s.

Lit/equipped international Internet bandwidth of transnational operators owning and operating international links should be included, as well as lit/equipped capacity of wholesalers leasing international Internet bandwidth to national Internet service providers.

If capacity is asymmetric (i.e. more incoming (downlink) than outgoing (uplink) capacity), then the incoming (downlink) capacity should be provided.

THANK YOU

More information

<http://www.itu.int/ict>
indicators@itu.int

