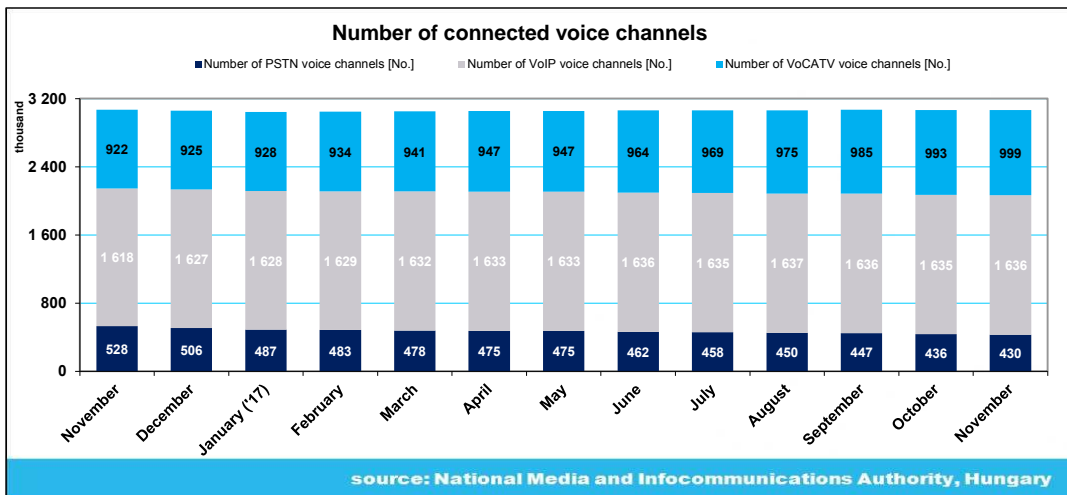# Flash report on landline services for November 2017

Data suppliers: Magyar Telekom Nyrt., Invitel Zrt., Invitech Megoldások Zrt., UPC Magyarország Kft., DIGI Kft., PR-TELEKOM Zrt, Tarr Kft, ViDaNet Zrt, PARISAT Kft
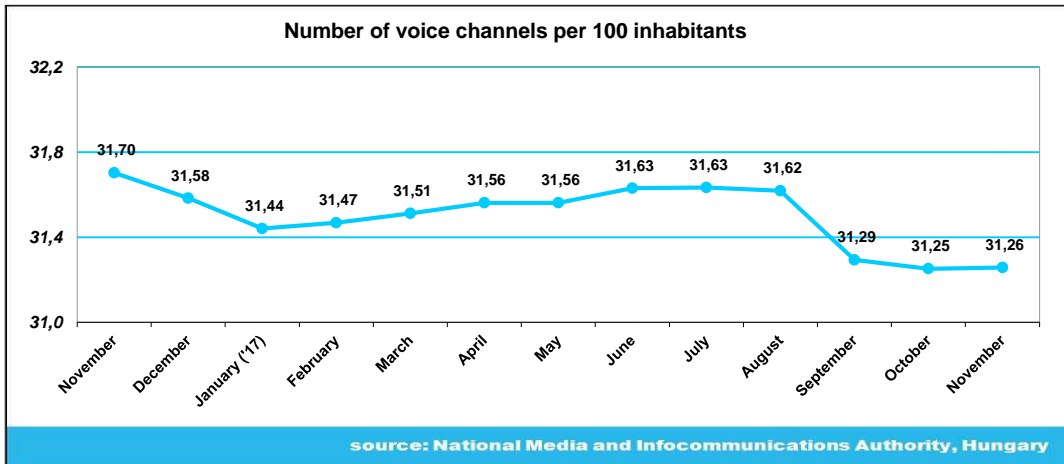
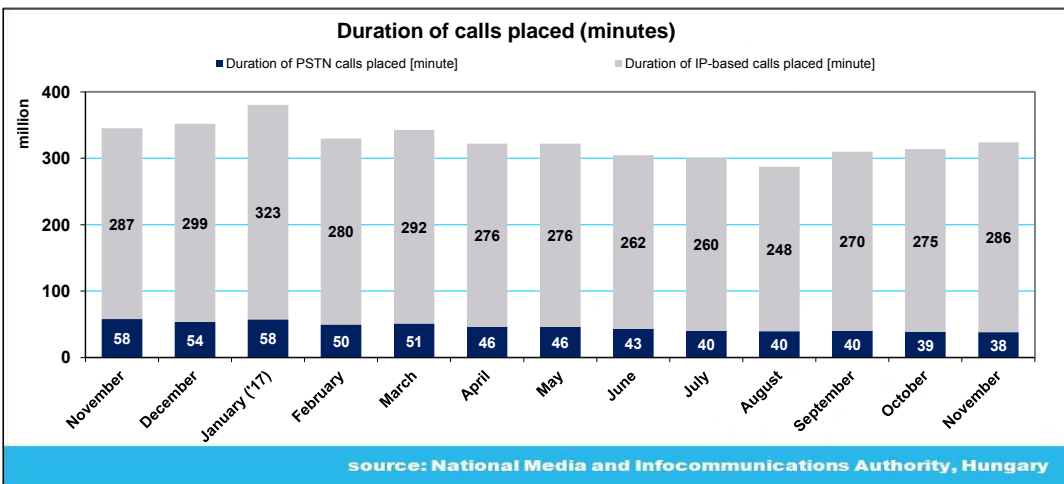| Summary data of landline (fixed) voice services		
Number of switched (PSTN) voice channels [No.]	429 963	Number of voice channels within conventional, twisted copper wire networks
Number of VoIP voice channels [No.]	1 635 701	Number of voice channels within IP-based (e.g.: xDSL, leased line, Ethernet, ATM, fibre-optic) networks
Number of VoCATV voice channels [No.]	998 845	Number of voice channels within cable television networks
Total number of voice channels (est.) [No.]	3 127 000	Includes estimates of PSTN, VoIP and VoCATV voice channels for the total market.
Number of voice channels per 100 inhabitants [No.]	0,00	As per the latest figures made available by the Central Statistical Office (KSH), Hungary has a population of 9,804,000.
Telephone penetration rate of households [%]	64,39%	Percentage refers to the number of voice channels versus number of households. According to the latest figures made available by the (KSH), the number of households is 4,021,000.
Duration of PSTN calls placed [minute]	38 269 734	The duration of calls with carrier selection is also included.
Duration of IP-based calls placed [minute]	285 894 026	Includes the duration of calls placed within VoIP and VoCATV networks.
Duration of calls placed per voice channel [minute]	105,8	Figure shows the total duration of calls placed in the period under review divided by the number of voice channels connected at the end of the period.
Number geographic numbers ported at the end of the month [No.]	819 920	Based on data obtained from the Central Reference Database since 1 January 2004.
Number of broadband Internet subscriptions		
Number of xDSL subscriptions [No.]	753 305	Based on data obtained from the above-mentioned market leader data suppliers, covering almost 98% of all xDSL subscriptions.
Number of subscriptions for broadband via cable [No.]	1 203 160	Based on data obtained from the above-mentioned market leader cable providers, covering 82,8% of all cable modem subscriptions.
Of which: number of broadband subscriptions via Docsis 3.0 [No.]	1 075 818	Number of cable modem subscriptions where the terminal equipment (modem) has been replaced.
Number of broadband subscriptions via FTTx [No.]	608 676	Based on data obtained from the above-mentioned service providers, covering 99% of all FTTx subscriptions.
Total number of fixed-access broadband subscriptions (est.) [No.]	2 831 000	Estimation pertaining to the total market. Includes estimates of xDSL, cable modem and FTTx subscriptions for the total market.

Number of connected voice channels

■ Number of PSTN voice channels [No.] ■ Number of VoIP voice channels [No.] ■ Number of VoCATV voice channels [No.]

	November	December	January ('17)	February	March	April	May	June	July	August	September	October	November
VoCATV	922	925	928	934	941	947	947	964	969	975	985	993	999
VoIP	1 618	1 627	1 628	1 629	1 632	1 633	1 633	1 636	1 635	1 637	1 636	1 635	1 636
PSTN	528	506	487	483	478	475	475	462	458	450	447	436	430

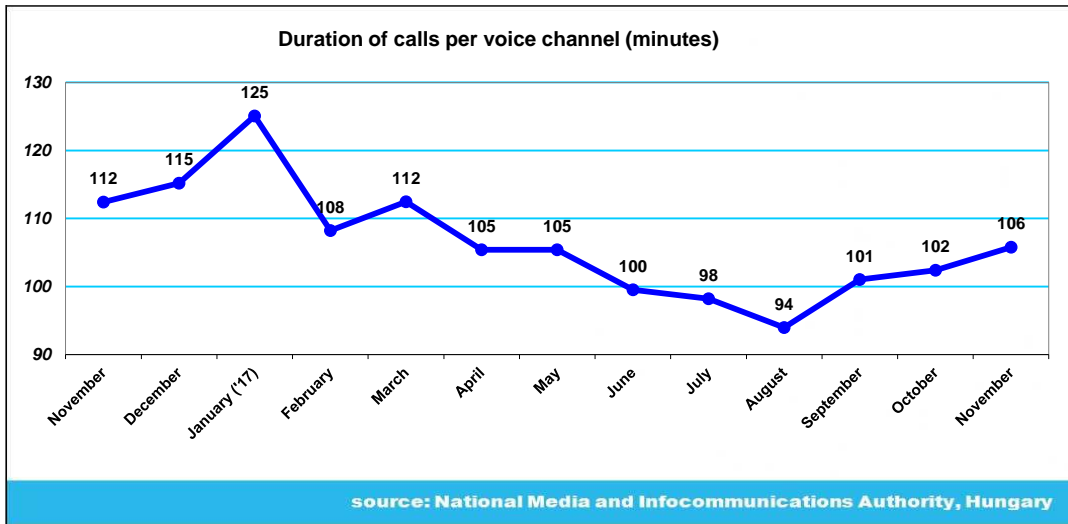source: National Media and Infocommunications Authority, Hungary

Note: based on data obtained from the above-referenced service providers, covering 98% of the landline voice market.

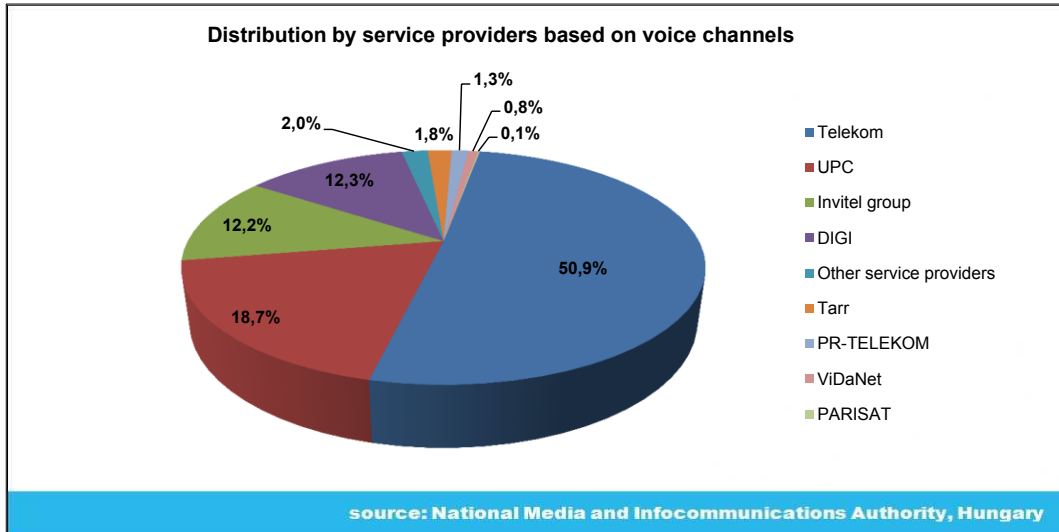(number of connected voice channels/number of population)*100

Number of voice channels per 100 inhabitants

Month	Value
November	31,70
December	31,58
January ('17)	31,44
February	31,47
March	31,51
April	31,56
May	31,56
June	31,63
July	31,63
August	31,62
September	31,29
October	31,25
November	31,26

Note: based on data obtained from the above-referenced service providers, covering 98% of the landline voice market.

Duration of calls placed (minutes)

■ Duration of PSTN calls placed [minute]   ▪ Duration of IP-based calls placed [minute]

million

Month	IP-based	PSTN
November	287	58
December	299	54
January ('17)	323	58
February	280	50
March	292	51
April	276	46
May	276	46
June	262	43
July	260	40
August	248	40
September	270	40
October	275	39
November	286	38

Note: based on data obtained from the above-referenced service providers, covering 98% of the landline voice market.

Duration of calls per voice channel (minutes)

source: National Media and Infocommunications Authority, Hungary
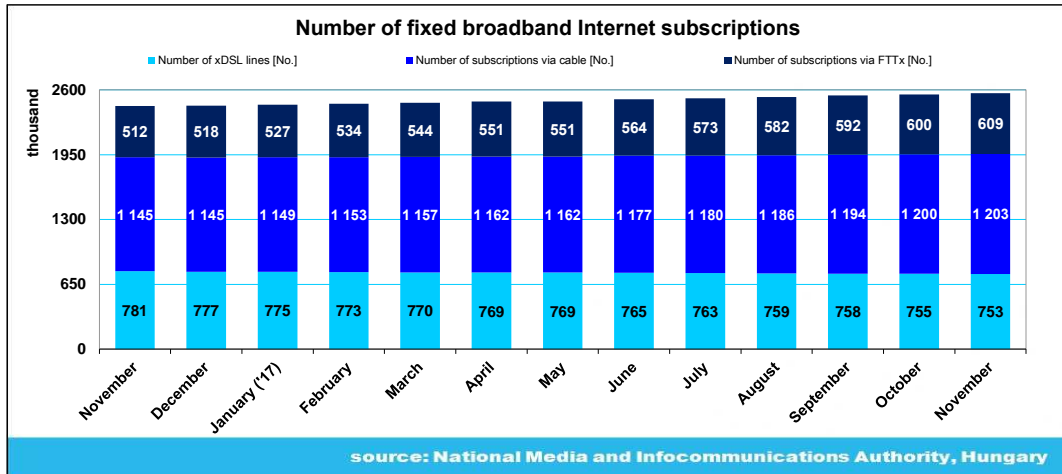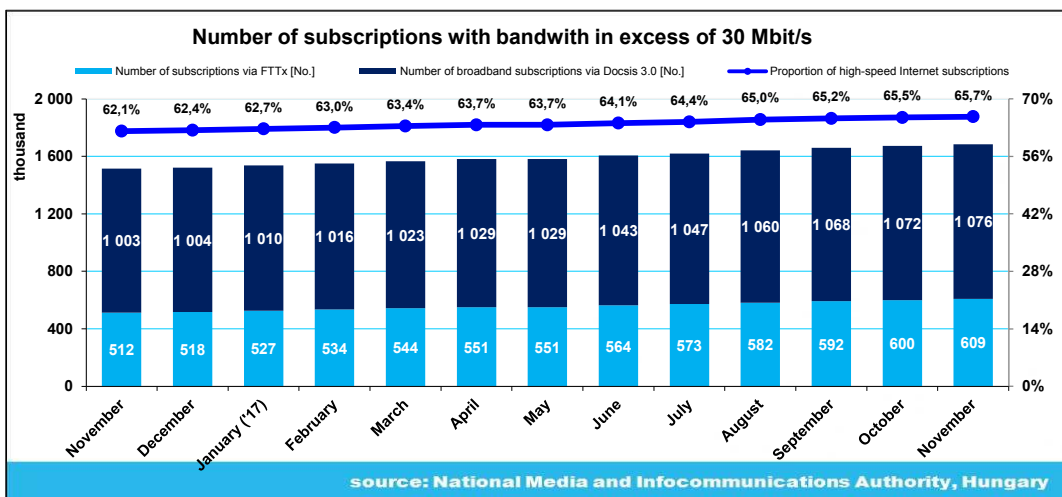
Note: based on data obtained from the above-referenced service providers, covering 98% of the landline voice market.
(duration of calls placed / number of connected voice channels)

Distribution by service providers based on voice channels

- Telekom
- UPC
- Invitel group
- DIGI
- Other service providers
- Tarr
- PR-TELEKOM
- ViDaNet
- PARISAT
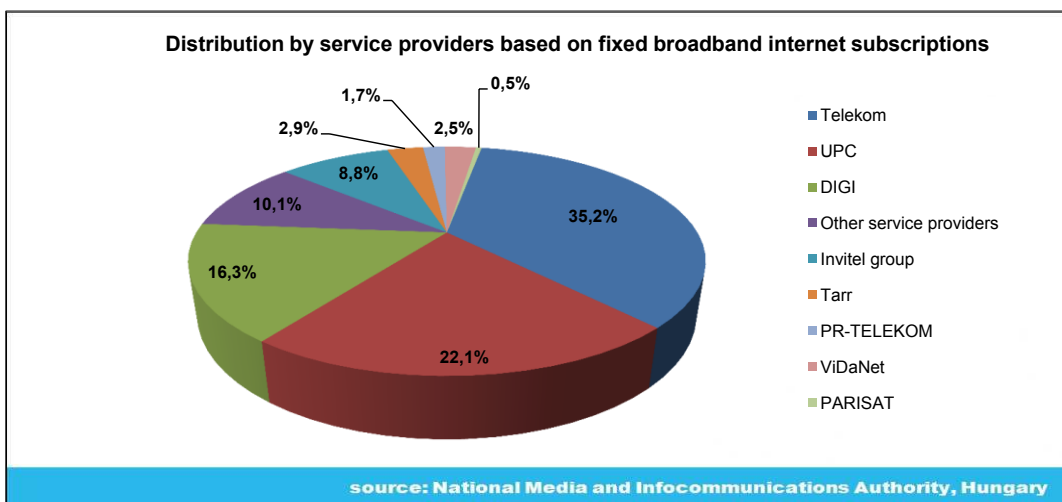
source: National Media and Infocommunications Authority, Hungary

Note: The market shares were defined based on the total market's estimated values and technologically neutrally.

Number of fixed broadband Internet subscriptions

Legend: Number of xDSL lines [No.] | Number of subscriptions via cable [No.] | Number of subscriptions via FTTx [No.]

thousand	November	December	January ('17)	February	March	April	May	June	July	August	September	October	November
FTTx	512	518	527	534	544	551	551	564	573	582	592	600	609
cable	1 145	1 145	1 149	1 153	1 157	1 162	1 162	1 177	1 180	1 186	1 194	1 200	1 203
xDSL	781	777	775	773	770	769	769	765	763	759	758	755	753

source: National Media and Infocommunications Authority, Hungary

Note: based on data obtained from the above-referenced service providers that cover 92% of the fixed broadband market. Other (i.e. wireless) broadband technologies are excluded.

Number of subscriptions with bandwith in excess of 30 Mbit/s

Legend: Number of subscriptions via FTTx [No.] | Number of broadband subscriptions via Docsis 3.0 [No.] | Proportion of high-speed Internet subscriptions

thousand	November	December	January ('17)	February	March	April	May	June	July	August	September	October	November
Proportion	62,1%	62,4%	62,7%	63,0%	63,4%	63,7%	63,7%	64,1%	64,4%	65,0%	65,2%	65,5%	65,7%
Docsis 3.0	1 003	1 004	1 010	1 016	1 023	1 029	1 029	1 043	1 047	1 060	1 068	1 072	1 076
FTTx	512	518	527	534	544	551	551	564	573	582	592	600	609

source: National Media and Infocommunications Authority, Hungary

Note: based on data obtained from the above-referenced service providers that cover 95% of the fixed broadband market. The number of those subscriptions, where the network and the terminal equipment are capable over 30 Mbit/s access, the number of the actual high-speed subscriptions is significantly less than this. There are further more cca. 400 thousand subscriptions on DOCIS 3.0 networks, where in case of the terminal equipment (modem)' change above 30 Mbit/s access could be reached .

Distribution by service providers based on fixed broadband internet subscriptions

Pie chart values:
- Telekom: 35,2%
- UPC: 22,1%
- DIGI: 16,3%
- Other service providers: 10,1%
- Invitel group: 8,8%
- Tarr: 2,9%
- PR-TELEKOM: 1,7%
- ViDaNet: 2,5%
- PARISAT: 0,5%

source: National Media and Infocommunications Authority, Hungary

Note: The market shares were defined based on the total market's estimated values and technologically neutrally.

Definition of terms used in the report:

Number of switched (PSTN) voice channels: The number of connections suitable for voice transmission at the end of the examined period, linking subscriber access points with remote subsrciber stages or local exchanges (including lines established by means of radio equipment and copper wire cables and the number of B Channel-specific ISDN main lines, but excluding connections established as part of a location-independent electronic telecommunication service, mobile telephone services, as well as voice transmission via CATV and IP-based networks). Lines used for public payphones are also considered voice channels. [number]

Number of VoIP voice channels: number of voice channels implemented on broadband (e.g.: xDSL, leased line, Ethernet, ATM, fibre-optic) networks. Subscriptions using IP-based networks and possessing geographic numbers as per the Hungarian Plan for National Identifiers should be considered. [number]

Number of VoCATV voice channels: number of voice channels implemented on networks with coaxial subscriber endpoints (cable television networks). [number]

Total number of connected voice channels: aggregate number of PSTN, VoIP, and VoCATV voice channels. [number]

Duration of IP-based calls placed: overall duration of calls placed by subscribers using the service provider's IP technologies (VoIP, VoCATV) in a given month [minutes]

Duration of PSTN calls placed: overall duration of calls placed by subscribers of the service provider in the given month. Traffic generated with carrier selection is also shown here. [minute]

Number of residential voice channels: Based on service provider records, the number of voice channels where the subscriber is a natural person. [number]

Number of customers using carrier selection: Number of active customers making use of carrier preselection and call by call carrier selection. Customers who have used some type of carrier selection minimum once in the given month are to be considered as active ones. [number]

xDSL: Technology applied on local loops, making metallic twisted wire pairs constructed as part of the traditional fixed telephone network suitable for high-speed digital data transmission. In current domestic practices, xDSL practically means ADSL (an acronym for Asymmetric Digital Suscriber Line). [number]

Cable modem: a modem, connected to networks with coaxial subscriber endpoints (coaxial HFC networks), which is able to send and receive digital signals within the CATV network. [number]

Number of broadband Internet subscriptions via Docsis 3.0: number of subscribers in CATV networks operating under the Docsis 3.0 standard. Refers to the number of subscribers where the replacement of terminal equipment (modem) has taken place. [number]

Number of broadband Internet subscriptions via FTTx: refers to the number of subscriptions for broadband via FTTH and FTTB. [number]

Number of broadband Internet subscriptions via FTTH: refers to the number of subscriptions where fibre reaches actual subscriber premises (home/office). [number]

Number of broadband Internet subscriptions via FTTB: refers to the number of subscriptions where fibre reaches the building of the subscriber, inside the building to the subscriber premises (home/office) copper cable forming a structured network. [number]

Geographic numbers: subscriber numbers used for landline telephone services. [number]

Estimate for the entire market: is based on expert estimation that refers to the National Media and Infocommunications Authority's other data collections and market research information concerning the market as a whole. [number]