BROADBAND INFRASTRUCTURE DEVELOPMENT IN MONGOLIA

ITU workshop on "Universal Service and ICT for Poverty Alleviation"

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COUNTRY PROFILE

|	
GEOGRAPHY	1,564,116 square kilometer Mountains, forest, steppe, desert
POPULATION	Total 3.2 Mln, 1.4 Mln In UB
CAPITAL	Ulaanbaatar city
ADMINISTRATION	21 Provinces, 331 counties
CLIMATE	Continental, marked by 4 seasons, with sharp variations, Average Temperature : summer 22C, winter -25C
POLIITICAL SYSTEM	Parliamentary
ECONOMY	Traditional livestock, mining, agriculture
GDP (nominal)	Total $11.5 billion Per capita $3.7
LANGUAGE	Mongolian

TECHNOLOGIES for MONGOLAN BROADBAND NETWORK

Overland backbone networks
(Optic fiber and Copper cable)

Satellite network

Terrestrial Microwave

Point to Point Microwave
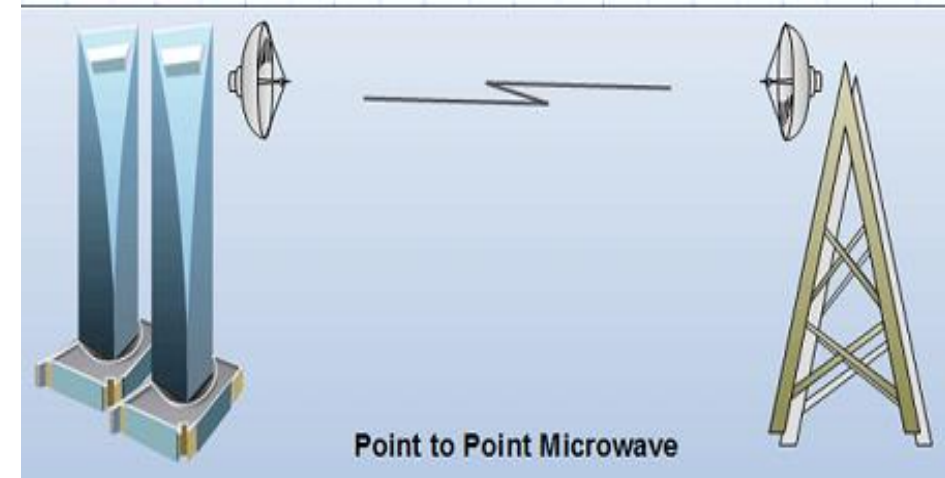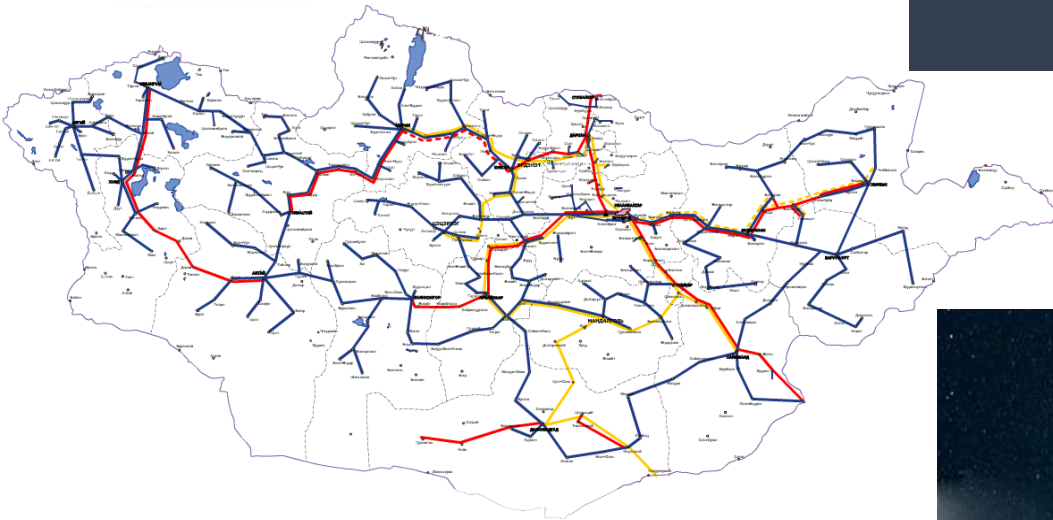
STATE POLICY DOCUMENTS

Communications law, approved by the Parliament in 1995, amended in 2001, 2019.

Mongolian Sustainable Development Vision up to 2030, approved by the Parliament in 2016;

The Action Plan of the Government of Mongolia 2016-2020, approved by the Parliament in 2016;

State policy on the development of ICT up to 2025 approved by the Government in 2017;

Objective 7. Expand information technology and telecommunications coverage, install and increase the use of high-speed networks in rural areas, and launch a national satellite.

- Phase I - (2016-2020): Provide high-speed internet connection for 70 percent of the population, enforce the same price/tariff across all territories, and increase the information flow speed running through the high-speed network connecting Asia and Europe by 10 times.

- Phase II - (2021-2025): Provide high-speed Internet connection for 90 percent of the populatin, ensure that at least 70 percent of the rural populations use broadband Internet services, and digitize no less than 50 percent of public services.

- Phase III - (2026-2030): Provide high-speed Internet connection for 95 percent of the total population, digitize no less than 85 percent of public services, and launch and use a national satellite.

STATE POLICY ON THE DEVELOPMENT OF ICT UP TO 2025

1. Legal environment

2. Network, infrastructure

3. Services

4. Research, innovation

5. ICT industry

6. Investment

7. Information security

8. eGovernance

- Ensuring benefits of advancement of information and communications to the public
- Giving priority to knowledge intensive high technologies and development of export oriented national industry

- 67th decision "To decrease tariff of internet service in rural area" approved by the Government in 2012

- 6th decision "To eliminate the duplication of information communication network" approved by the Government in 2013

- 123th Resolution "To enforce the same price/tariff for internet service across all territories"

- The Universal Service Obligation Fund (USOF) was legally created by Law of Mongolia on Communications in 2001.
- "Regulation on Accumulation and Use of the USOF Resources" has been approved by the Government Resolution No.151 of 2009.

Mission

- To provide citizens with the most common ICT services at real cost regardless their residing locations and living standards within the framework of the state policy.
- To create environment to deliver ICT services to rural areas through establishing, fixing, expanding and using the broadband networks.

USOF has been implemented over 100 projects and programmes from 2007-2018.

Most of the projects focused on the creation favorable environment to deliver ICT services to rural areas, establish and expand broadband networks as well as to improve ICT skills for rural population.
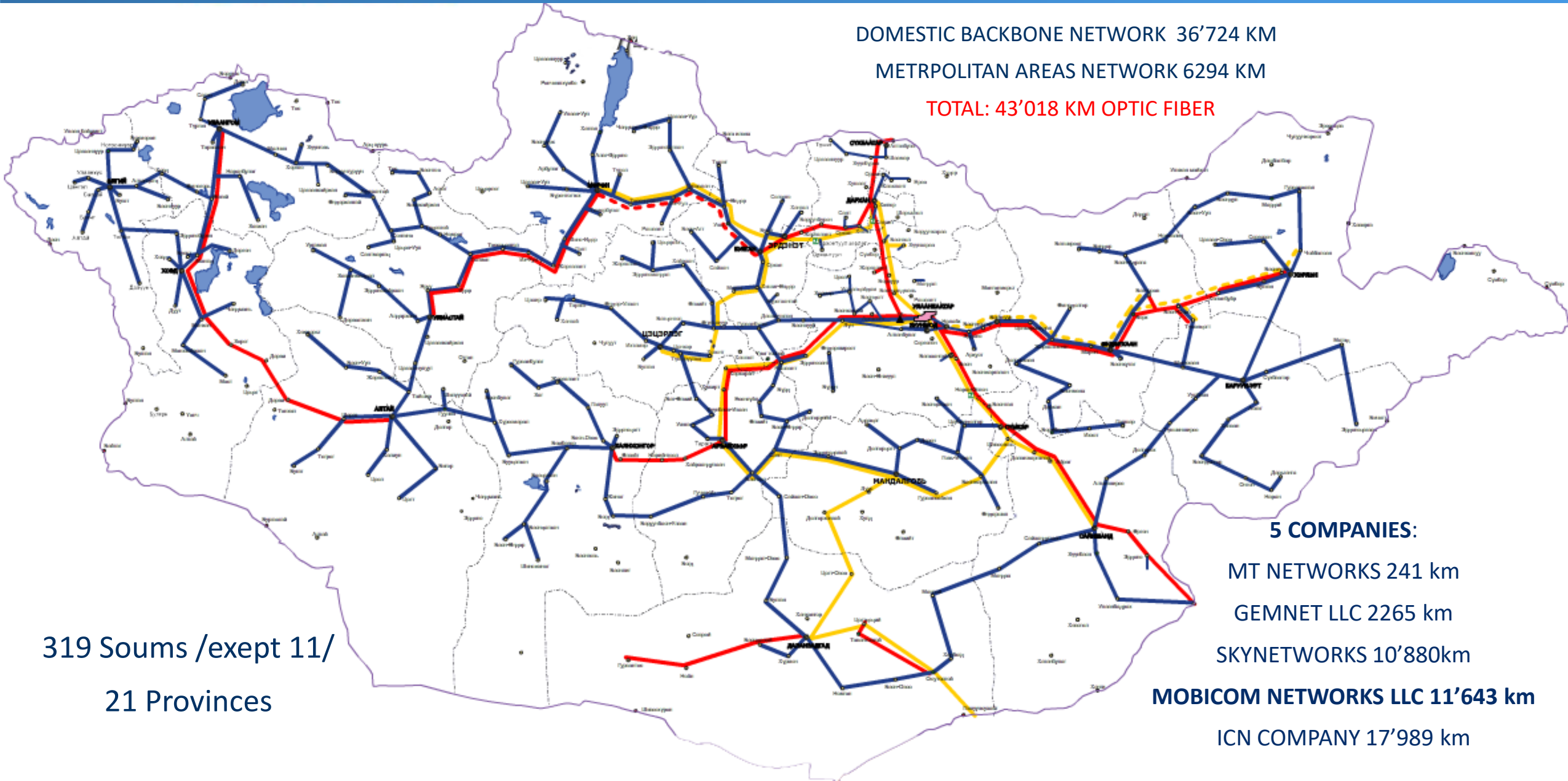
NATIONAL BACKBONE NETWORK

DOMESTIC BACKBONE NETWORK 36'724 KM

METRPOLITAN AREAS NETWORK 6294 KM

TOTAL: 43'018 KM OPTIC FIBER

5 COMPANIES:

MT NETWORKS 241 km

GEMNET LLC 2265 km

SKYNETWORKS 10'880km

MOBICOM NETWORKS LLC 11'643 km

ICN COMPANY 17'989 km

319 Soums /exept 11/

21 Provinces

Mongolia can become a major part of the transit network between Asia and Europe as a result of a geographic advantage. The fiber optic network is 1000 kilometers long from the southern to the northern border.
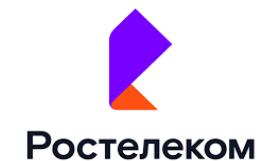
Russia

China

4 **COMPANIES**:

INFORMATION COMMUNICATIONS NETWORK COMPANY

GEMNET LLC

MOBICOM NETWORKS LLC

MT NETWORKS LLC

Capacity of wholesale internet service 140 Gbps
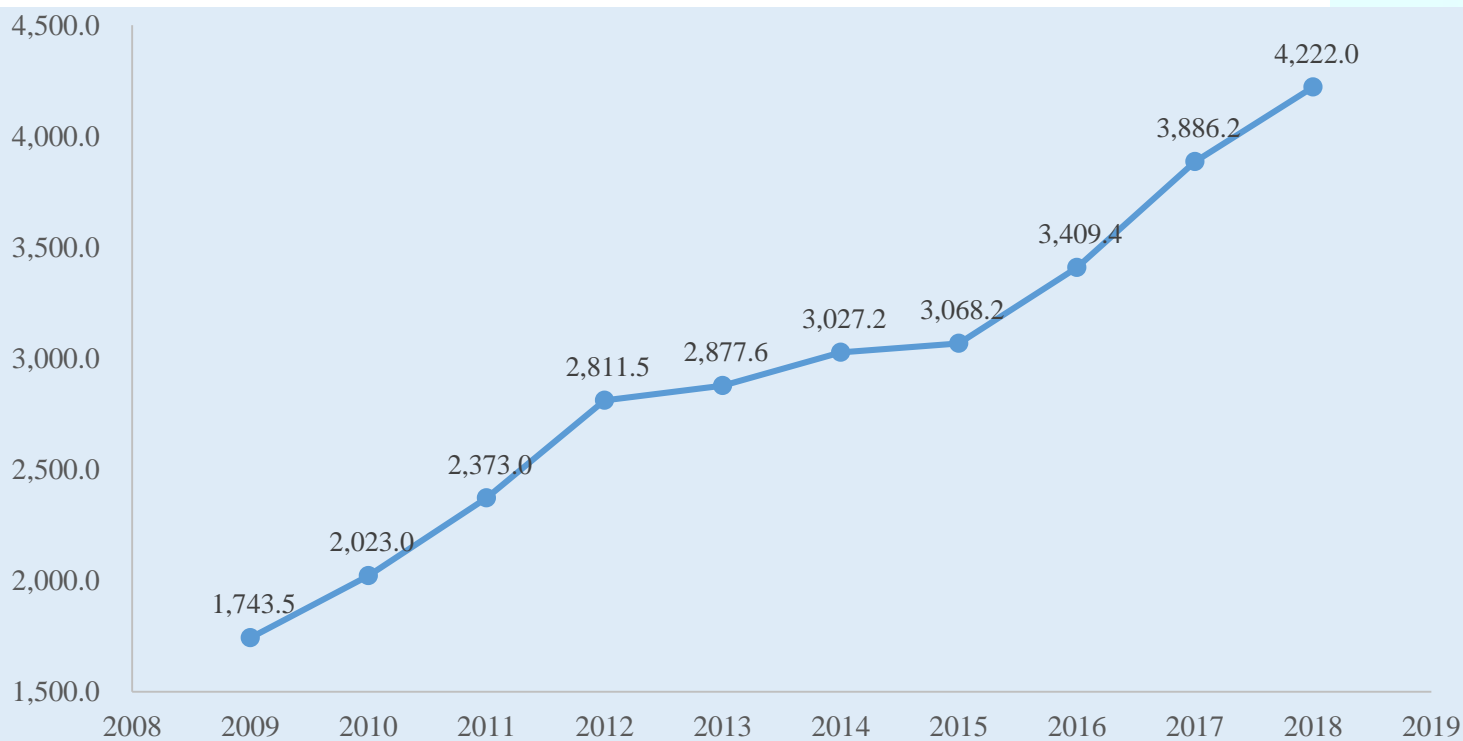
MOBILE OPERATORS & MOBILE SUBSCRIBERS

OPERATORS	MobiCom	SKYTEL	UNITEL	G MOBILE
Established year	1996	1999	2005	2006
Allowed Technologies	GSM 3G, 4G/LTE	CDMA 2000 3G, 4G/LTE	GSM 3G, 4G/LTE	CDMA 1x EVDO 3G, 4G/LTE
Market share	37.80	16.51	34.03	11.66

Ухаалаг утас - **3,302,052**

Android – 2,174,853

IOS (Apple) – 646,365

Microsoft Windows Mobile – 2,947

Research motion -3,421

BADA OS – 338

Yunos – 616

Nokia software platform – 3,451

Linux - 38

Бусад OS – 470,023

3G Subscribers 2'515'900
4G Subscribers 1'473'400

Mobile data usage

Mobile Data Usage in year

Terabyte=[TB]=Терабайт

FIXED BROADBAND SUBSCRIBERS

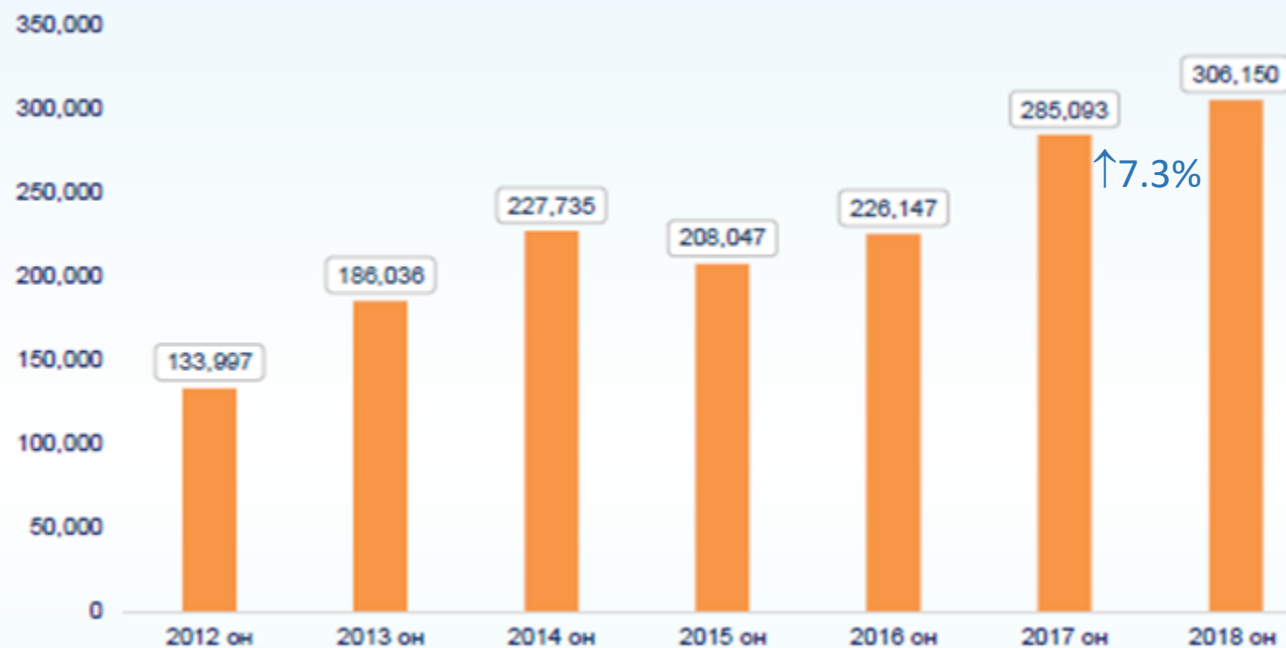| Speed	2017	2018
256 Kbit/s	289	99
256-512 Kbit/s	3,451	884
512-1024 Kbit/s	16,218	11,831
1-2 Mbit/s	56,973	68,260
2 Mbit/s-5 Mbit/s	197,222	212,314
5-10 Mbit/s	8,799	10,987
10 Mbit/s дээш	2,141	1,775
	285,093	306,150

Technology	2012	2013	2014	2015	2016	2017	2018
DSL	36,695	40,684	29,244	24,123	24,842	20,251	20,038
Fiber optic	65,256	107,886	168,003	157,244	179,662	247,164	275,078
Wi-Fi	5,281	10,444	11,700	16,413	10,643	13,957	10,607
Wimax	24,587	24,322	16,394	10,265	8,673	1,469	427
Other	2,178	2,700	2,394	2	2,327	2,252	-
	133,997	186,036	227,735	208,047	226,147	285,093	306,150

INTERNATIONNAL RANKING ICT DEVELOPMENT

ICT Development Index

Indicators	World average	Asia Pacific average	Mongolia	
			2017	2016
Development priorities			**91**	90
ICT development index	5.11	4.83	**4.96**	4.95
IDI Access sub-index	5.59	5.27	**4.74**	5.12
Fixed-telephone subscriptions per 100 inhabitants	13.57	10.00	**7.60**	8.75
Mobile-cellular telephone subscriptions per 100	101.53	98.90	**113.63**	104.96
International internet bandwidth per Internet user	74.464	48.000	**166.055**	159.595
Percentage of households with computer	46.61	37.80	**23.59**	42.60
Percentage of households with Internet access	51.46	45.50	**23.57**	24.50
IDI use sub-index	4.26	3.99	**3.90**	3.64
Percentage of individuals using the Internet	45.91	41.50	**22.27**	21.44
Fixed (wired)-broadband subscriptions per 100 Inhabitants	12.39	11.30	**7.63**	7.12
Active mobile-broadband subscriptions per 100 inhabitants	52.23	47.40	**82.00**	76.02
IDI skills sub-index	5.85	5.65	**7.51**	7.23
Mean years of schooling	8.52	8.15	**9.80**	9.28
Secondary gross enrolment ratio	84.00	83.06	**91.46**	90.72
Tertiary gross enrolment ratio	38.69	34.65	**68.57**	64.27

Source: https://www.itu.int/net4/ITU-D/idi/2017/index.html

INTERNATIONNAL RANKING ICT DEVELOPMENT

Comparison of ICT development index of Mongolia with worldwide and regional average

*Source: https://www.itu.int/net4/ITU-D/idi/2017/index.html*

INTERNATIONNAL RANKING ICT DEVELOPMENT
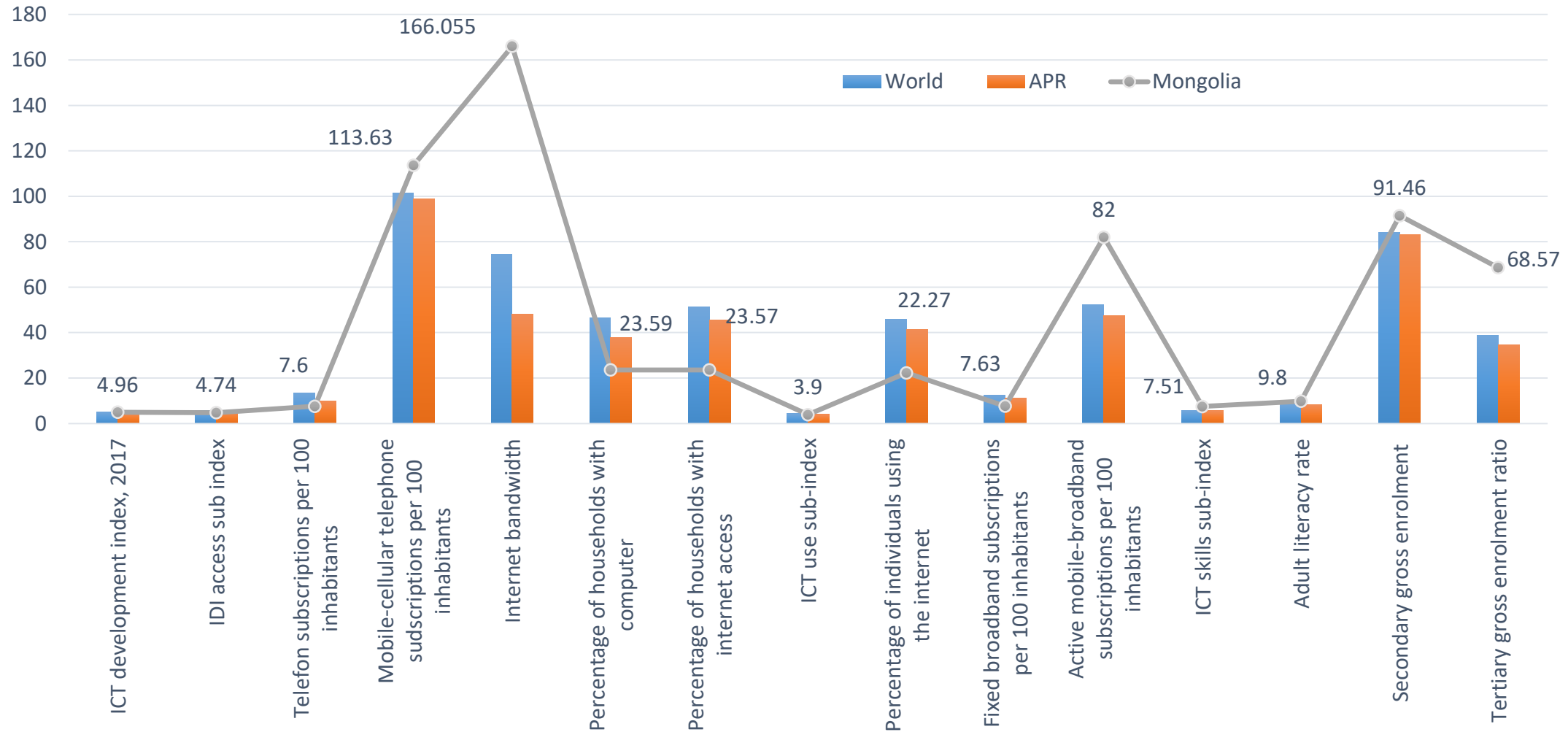
Networked Readiness Index

Mongolia

	Rank (out of 139)	Value (1–7)
Networked Readiness Index	**57**	**4.3**
Networked Readiness Index 2015 (out of 143)	61	4.2
Networked Readiness Index 2014 (out of 148)	61	4.1
Networked Readiness Index 2013 (out of 144)	59	4.0
A. Environment subindex	**58**	**4.1**
1st pillar: Political and regulatory environment	81	3.6
2nd pillar: Business and innovation environment	52	4.6
B. Readiness subindex	**44**	**5.3**
3rd pillar: Infrastructure	79	4.0
4th pillar: Affordability	4	6.7
5th pillar: Skills	62	5.2
C. Usage subindex	**71**	**3.9**
6th pillar: Individual usage	82	3.7
7th pillar: Business usage	61	3.7
8th pillar: Government usage	51	4.2
D. Impact subindex	**60**	**3.8**
9th pillar: Economic impacts	82	3.1
10th pillar: Social impacts	49	4.5
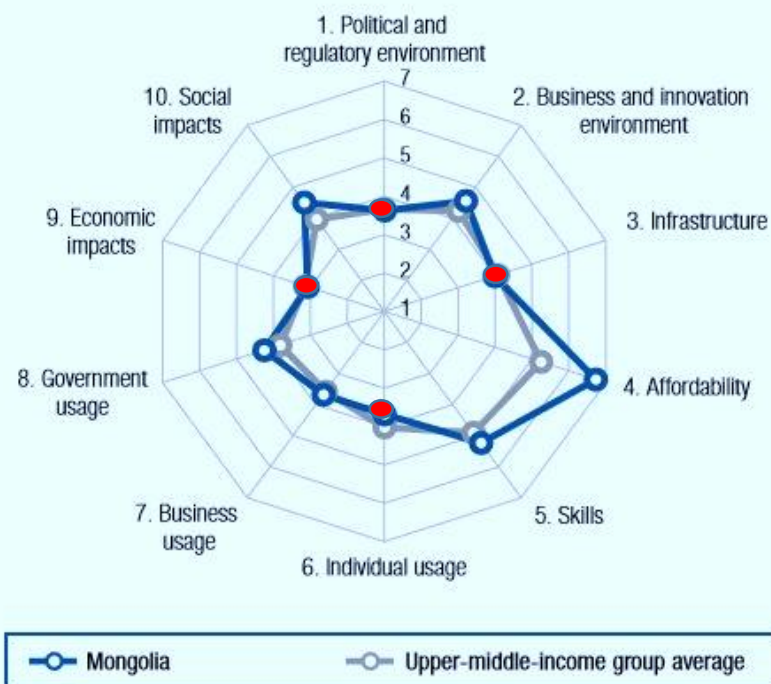
Indicator	Rank	Point
Networked Readiness Index	57	4.3
Environment sub index	58	4.1
Readiness sub index	44	5.3
Usage sub index	71	3.9
Impact sub index	60	3.8

Source: Global information Technology Report 2016

Broadband Commission targets
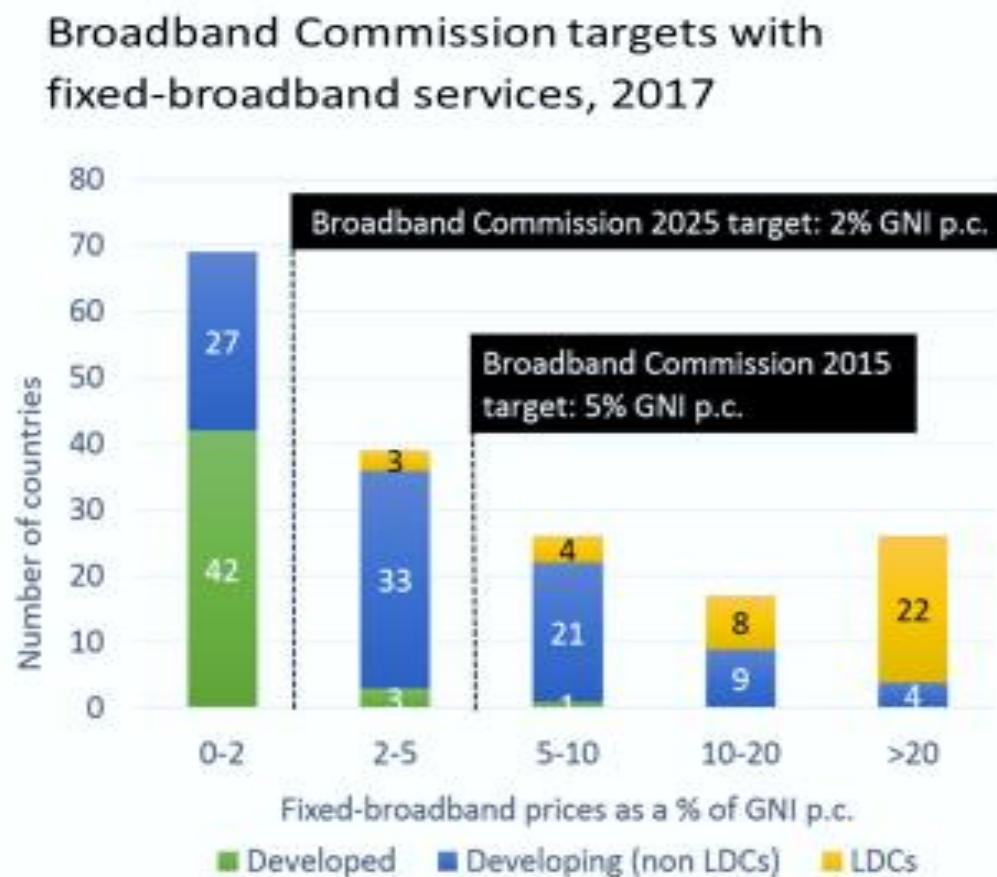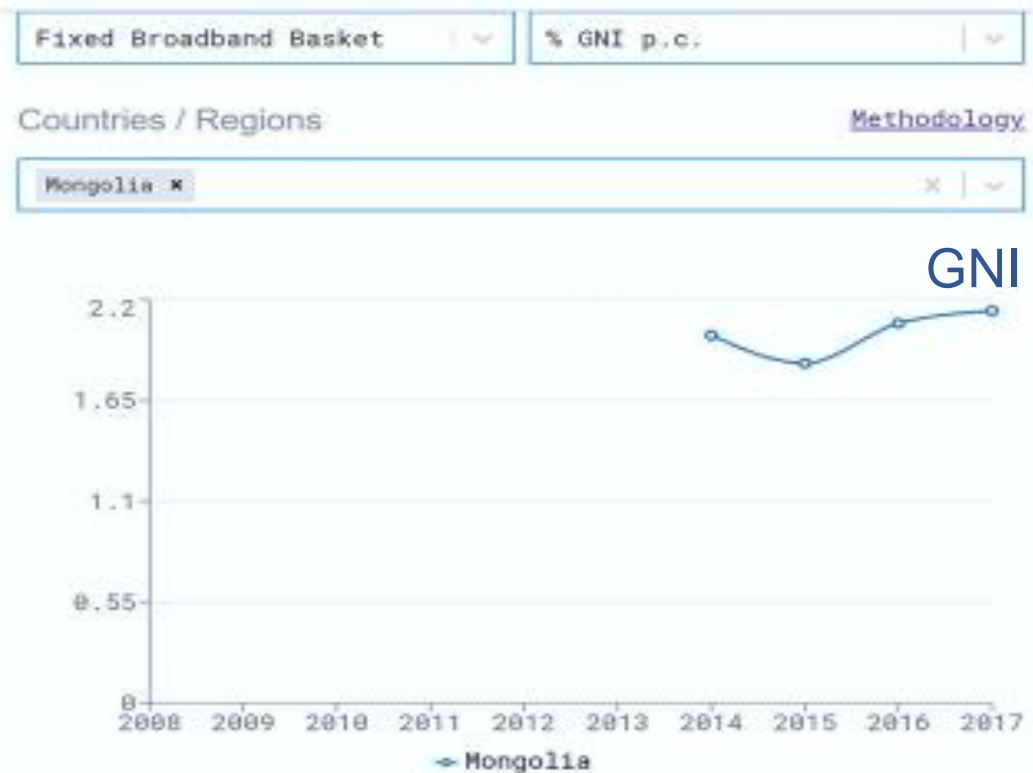
GNI 2.1%

Source: ITU/Measuring the Information Society Report 2018

THANK YOU FOR YOUR ATTENTION

ANY QUESTION?

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