

THE STATE POLICY ON THE DEVELOPMENT OF  
INFORMATION AND COMMUNICATIONS TECHNOLOGY  
(2017-2025)

**1. General Background**

1.1 Necessity for the Policy

*During the period of 1999 to 2016, the government of Mongolia has approved various development policies and strategic plans for the development of the information and communications technology (ICT) sector and has successfully implemented them, such as “Concept of ICT Development of Mongolia by year 2010” (1999-2010), “Mid-term Strategy Plan to Develop ICT” (2002-2006), “E-Mongolia” National Program (2005-2012), “E-Governance” National Program (2012-2016), “National Program on Information Security” (2010-2015), and “Program on High-speed Broadband Network” (2011-2015).*

*As a result, the ICT sector in Mongolia is dominated by private entities and the policies on privatization, market liberalization and competition have been steadily implemented, which led to growth in sector benefits and profits, increase in its national GDP share to 2.4%. Moreover, advanced technologies of ICT have become an integral part of daily needs and demands of all socio-economic sectors.*

*Looking forward, there are necessities to bring in hard and soft infrastructure, latest technologies and equipment, to develop innovation based manufacturing, to accelerate ICT R&D activities, to train highly skilled human resources, and to create information technology and software clusters.*

*Therefore, in the current environment, where the role of the ICT in the economy and in the multilateral relations with other social sectors is expanding, there is a proper need to define policies to further develop the ICT in relation with the real and positive impacts on daily lives of the people and international and regional development trends.*

*The specific objectives to develop information technology (IT) as outlined in the “Mongolia Sustainable Development Vision 2030”, “Action Plan of the Government of Mongolia for 2016-2020” and “Economic Recovery Program of Mongolia” serve as the main basis to develop this government policy.*

*Main expected outcomes from the implementation of the State Policy on Development of ICT are conforming the ICT development to the global trend, enhancing e-Governance, digitizing other sectors, and increasing the types of e-government services and its prompt delivery.*

1.2 Mongolia ICT sector Analysis

*Formation and implementation of the State Policy on Development of ICT are based on the following analysis carried out on the industry:*

### *1.2.1 Advantages*

- 1.2.1.1 ICT infrastructure is digitized as a whole;*
- 1.2.1.2 Has gateway to the world through fiber optic and satellite communications;*
- 1.2.1.3 ICT infrastructure can work independent of any other country;*
- 1.2.1.4 Communications market is competitive and liberalized;*
- 1.2.1.5 Legislative environment is built for the Universal Service Obligation Fund;*
- 1.2.1.6 Has its own orbital position to launch a satellite;*
- 1.2.1.7 National Data Center was built and is now in operation;*
- 1.2.1.8 Neighbor countries have large market capacity;*
- 1.2.1.9 Households receive television broadcasting by cable, wireless cable, free-to-air, satellite and Internet Protocol television networks.*

### *1.2.2 Disadvantages*

- 1.2.2.1 No factories exist for assembling the equipment and technologies of soft and hard infrastructure for ICT;*
- 1.2.2.2 No specialized research institutes for ICT;*
- 1.2.2.3 Not enough highly skilled human resources in ICT;*
- 1.2.2.4 Insufficient legal environment for e-commerce in domestic and international markets;*
- 1.2.2.5 Limited access and delivery of ICT services due to small local market capacity and high level of poverty.*

### *1.3 The Scope of the Policy*

*The State Policy on Development of ICT shall be implemented nationwide, covering all geographic areas of Mongolia, and the scope is defined to comprise the following:*

- 1.3.1 All-level state organizations;*
- 1.3.2 State owned and state joint entities;*
- 1.3.3 Private companies and organizations;*
- 1.3.4 Non-government and civil society organizations;*
- 1.3.5 Citizens*

### *1.4 Implementation principles of the Policy*

*The State Policy on Development of ICT shall be implemented on following principles:*

- 1.4.1 Must be in compliance with the national security and national interests of Mongolia;*
- 1.4.2 Shall be interrelated and integrated, and based on efficient cooperation among government, science and business sectors;*
- 1.4.3 Shall be environment friendly and harmless to human health;*
- 1.4.4 Support individual development by developing ICT that is accessible to all citizens of all regions and all socio-economic sectors;*
- 1.4.5 Shall be supportive to goods and services that are internationally competitive, export oriented, and of advanced technologies and innovation.*

## **2. Vision and Mission of the State Policy on Development of ICT**

### **2.1 Vision**

*Development of ICT is considered to be a major accelerator of the development of Mongolia.*

## **2.2 Mission**

*The main mission of this policy document is to accelerate the development of Mongolia by enabling public access to ICT advancements, developing knowledge based high technology and export oriented local manufacturing industry, supporting human capital development and enhancing competitiveness.*

2.3 In order to achieve with this mission, the following goals are defined:

2.3.1 *To foster favorable environment for ICT development by optimizing legal framework and structure of the sector;*

2.3.2 *To expand national broadband network and infrastructure of ICT with the support of government and private entities to meet the growing needs and demands of public ICT services;*

2.3.3 *To augment the type, accessibility and quality of the advanced ICT services;*

2.3.4 *To create integrated Innovation and R&D system in Mongolia by accelerating ICT R&D activities and undertaking measures to establish science and technology parks;*

2.3.5 *To increase competitiveness on global markets by developing ICT product industry, promoting national digital content and software development, and introducing ICT to industrial processes, controls, and monitoring;*

2.3.6 *To support PPP based investments in the building of pilot factory to produce final products and installation of high cost and high efficiency equipment;*

2.3.7 *To maintain information security by ensuring national interests and by ensuring integrity, authenticity, safety, accuracy, and accessibility of information for state, citizens and organizations;*

2.3.8 *To develop e-governance by increasing productivity and efficiency of public organizations, by enhancing democratic, open, non-bureaucratic, transparent and accountable status of governance, and by supporting innovation and improving e-government development.*

## **1. Implementation Process of State Policy on Development of ICT**

3.1 *Goals set on the State Policy on Development of ICT, will be focused following areas:*

3.1.1 *Legal framework and regulation of ICT;*

3.1.2 *ICT network and infrastructure;*

3.1.3 *ICT services;*

3.1.4 *ICT innovation and research;*

3.1.5 *ICT manufacturing;*

3.1.6 *ICT market, investment and competitive environment;*

3.1.7 *Information security;*

3.1.8 *E-Governance based on ICT.*

3.2 *ICT legal framework and regulation measures to achieve the goal of creating favorable environment for ICT development by optimizing legal system, structure and management of the sector:*

3.2.1 *To update the legislative documents of the ICT sector to comply with Mongolian laws and international treaties;*

3.2.2 *To provide coordination to support efficient business competitiveness and to improve competition environments;*

3.2.3 *To improve ICT standardization and certification in line with international advancement in technology.*

3.2.4 *To optimize governance, organization and activity correlation of ICT industry in Mongolia.*

3.3 *Within the scope of achieving the goal of expanding the national broadband network and infrastructure of ICT with government support and private partnership to meet the increasing needs and demands of universal ICT services, following works will be carried out:*

3.3.1 *To develop ICT network and infrastructure required to deliver ICT services of all types with government support and private partnership;*

3.3.2 *To establish ICT network and infrastructure conforming to the infrastructure plans for road, transportation, land relations, construction, urban development and energy, as well as with state defense interests, investments and developments;*

3.3.3 *To create more than two geographically separate international transit networks to pass through the territory of Mongolia with the support of PPP;*

3.3.4 *To expand and develop national transmission network that can deliver high-speed broadband service uniformly to all aimags, soums, settlements and tourist areas;*

3.3.5 *To expand ICT network and infrastructure within cities and settlements;*

3.3.6 *To create broadcasting back-up network;*

3.3.7 *To improve radio frequency coordination and planning for efficient spectrum allocation;*

3.3.8 *To expand and develop the postal network with government support and private partnership that can deliver postal services of all types uniformly to every Mongolian citizen, household, and organization;*

3.3.9 *To launch and exploit a National communications satellite;*

3.3.10 *To improve and integrate the existing address systems.*

3.4 *The following ICT service actions shall be completed to achieve the goal to increase the type, accessibility and quality of the ICT services based on advanced technologies;*

3.4.1 *To introduce next generation fixed and mobile telecommunication services;*

3.4.2 *To expand fixed and mobile bandwidth network services;*

3.4.3 *To enhance the quality and accessibility of radio and television broadcasting services;*

3.4.4 *To increase the type and accessibility of postal services based on the integrated addressing system;*

3.4.5 *To increase accessibility of ICT services for people with disabilities;*

3.4.6 *To ensure reliability and security of communications network and service during disaster and extreme weather conditions;*

3.4.7 *To provide favorable environment for value added ICT services;*

3.4.8 *To provide the public organizations and private citizens with the opportunity to carry out spatial analysis and smart planning based on accurate and precise data using geo-spatial information infrastructure.*

3.5 *The following ICT Innovation and R&D works shall be carried out to achieve the goal to create integrated Innovation and R&D system in Mongolia by accelerating ICT R&D activities and undertaking measures to establish science and technology parks:*

3.5.1 *To create favorable business and policy environment for ICT Innovation and R&D;*

3.5.2 *To stimulate cooperation between involving parties in innovation promotion and improve human resources capacity;*

3.5.3 *To develop Innovation and R&D infrastructure in an ecologically sustainable manner;*

3.5.4 *To increase investments to develop ICT Innovation and R&D;*

*3.5.5 To expand cooperation between university and industry research institutes and promote knowledge- based innovative products and services.*

*3.6 Following ICT product industry actions shall be completed to achieve the goal to increase competitiveness in global markets by developing ICT product industry, promoting national digital content and software development, and introducing ICT to industrial processes, controls, and monitoring:*

*3.6.1 To develop ecologically sustainable high technology industry;*

*3.6.2 To promote national digital content industry;*

*3.6.3 To develop national software industry;*

*3.6.4 To introduce and develop ICT to industrial processes, controls, and monitoring.*

*3.7 Following actions will be carried out to improve the market, investment and competitive environment of ICT to achieve the goal to support PPP based investments in the building of pilot factory to produce final products and installation of high cost and high efficiency equipment.*

*3.7.1 To create favorable environment for investments in the ICT sector;*

*3.7.2 To enable fair competition business environment of the ICT sector;*

*3.7.3 To create proper tax environment of the ICT Sector;*

*3.7.4 To increase the demands for ICT products and services;*

*3.8 Following information security actions shall be carried out to achieve the goal to maintain information security by ensuring national interests and by ensuring integrity, authenticity, safety, accuracy, and accessibility of information for state, citizens and organizations:*

*3.8.1 To foster legal environment for information security;*

*3.8.2 To build capacity to combat cyber-attacks to the national information infrastructure;*

*3.8.3 To cooperate with professional entities in order to ensure information security of the government and organizations with critical infrastructure;*

*3.8.4 To expand international cooperation on information security;*

*3.8.5 To enhance public awareness and education on information security and create polite and ethical usage.*

*3.9 Following ICT based e-Governance work shall be carried out to achieve the goal To develop e-governance by increasing productivity and efficiency of public organizations, by enhancing democratic, open, non-bureaucratic, transparent and accountable status of governance, and by supporting innovation and improving e-government development.*

*3.9.1 To help all citizens become digitally literate;*

*3.9.2 To create legal environment of e-governance;*

*3.9.3 To improve system for continuous development of e-Government and to develop hard and soft infrastructure, as well as government e-services with integrated policies;*

*3.9.4 To ensure safety, integrity and security of government database and develop single source information and open data policy;*

*3.9.5 To promote engagement and operations of national producers and service providers to deliver government e-services to citizens;*

- 3.9.6 *To develop e-participation, increase public participation in decision making process of the government and ensure its transparency;*
- 3.9.7 *To establish IT auditing system;*
- 3.9.8 *To ensure appropriate and ethical use of ICT by government organizations and officials at all levels;*
- 3.9.9 *To introduce ICT advancement and innovation into following socio-economic sectors to accelerate growth and increase productivity and to support development of Mongolia's human capital;*
- 3.9.9.1 *To promote human capital development, quality of life and social security of every individual of Mongolia, and to improve employment using IT advancement;*
- 3.9.9.2 *To deploy IT advancement in safeguard public health of people of Mongolia by means of developing safe and high quality medical treatment and diagnostic services.*
- 3.9.9.3 *To promote use of IT advancement to develop education, knowledge and capability of the Mongolian people;*
- 3.9.9.4 *To encourage banking and financial services through IT advancement;*
- 3.9.9.5 *To introduce IT advancement in order to intensify development of mining, geology and mineral sectors and to increase mineral resources.*
- 3.9.9.6 *To apply IT advancement in proper use of raw material reserves of the food, agriculture and agronomy sectors, increasing their economic growth and ensuring safe food supply for the population.*
- 3.9.9.7 *To utilize IT advancement in expanding road, transportation and logistics network and in creating economically efficient, safe and comfortable transportation service which meets user demands;*
- 3.9.9.8 *To support activities to maintain environmental and ecosystem balance, to stop resource depletion, to improve exploitation efficiency of forest, water and natural resources and to protect the nature through IT advancement;*
- 3.9.9.9 *To develop and introduce IT and innovation towards safe, reliable and efficient operation of energy sector, creation of new energy resources, support of renewable energy production and development of new energy technologies;*
- 3.9.9.10 *To support activities that prevent international terrorism, human trafficking, illicit drugs and illegal trade and to protect human rights and freedom through IT advancement;*
- 3.9.9.11 *To support improvement of living standard and poverty reduction through IT advancement;*
- 3.9.9.12 *To increase socio-economic productivity and efficiency by introducing IT advancement to other sectors;*

#### **4 Implementation terms of the State Policy on Development of ICT**

1.1 *The State Policy on Development of ICT will be implemented in two terms: mid-term and long-term.*

1.1.1 *Mid-term 2017-2020: In this phase, it is envisioned to enhance sector growth and create new market, products and services by improving the legal environment, expanding infrastructure capacity, building highly skilled human resources, and creating innovation and IT clusters for intensive development of ICT sector and promotion of an innovative, knowledge based and export oriented industry.*

1.1.2 *Long-term 2021-2025: In this phase, it is envisaged to ensure the growth of ICT, create new industry sectors that are economically efficient and based on high tech and innovation, foster the*

*environment for growing effectiveness of the economy, society and human capital development of the country. Measures will be taken to promote economic growth and development of citizens, organizations and ICT sector, to release new products and services and to enhance the share of digital economy and competitiveness by increasing the sector productivity and benefit and by expanding the number of technology to be introduced.*

## **5. Criteria indicators to monitor the implementation and expected outcomes of the State Policy on Development of ICT**

The expected outcomes will be evaluated by comparing implementation result against the baseline level and 2016 indicators.

#	Goal	Criteria	Unit	Baseline 2016	Targeted level 2020	Targeted level 2025	Information source
1	ICT network and infrastructure	Bandwidth of high speed network connecting Asia and Europe	Gbit/sec	120	10 times increase	80 times increase	Special sectorial study
		Capacity of the backbone network connection across all aimags	Gbit/sec	10	100	500	Special sectorial study
		High speed broadband network connection at aimag centers	Gbit/sec	1	10	20	Special sectorial study
		Capacity of soums and settlements	Mbit/sec	155	516	2048	Special sectorial study
2	Innovation, ICT R&D	A loan guaranteed by intellectual property and intangible capital	Number of loans granted	1	25	50	Bank
		Existence of technology experiments, testing and certification laboratory	Number	-	-	1	CITA
3	Smart governance based on ICT advancement	E-service index	Index indicator	0.51	0.57	0.7	UN e-government questionnaire
		E-participation index	Index indicator	0.71	0.74	0.8	UN e-government questionnaire
		Number of integrated database	Number	-	-	1	Policy study

		Population digital literacy	%	32	50	90	USOF study
4	ICT service	Percentage of households connected to broadband Internet	%	29	50	70	ITU
		Percentage of population who uses the Internet	%	27	60	90	ITU
		Percentage of active users of next generation mobile technology	%	4.53	40	70	CRC
5	ICT industry	Growth rate of High technology and telecommunication productions and products	%	0.02	25	50	National Development Authority
		Supply of branded products of national software companies	%	9	20	40	MOSA
		Supply of national digital content in Mongolian	%	9	25	50	MOSA
6	Enhance the environment of ICT markets, investment and competition	Investment growth rate of ICT sector	%	8	12	20	Special sectorial study
		Income growth rate of ICT sector	%	8	12	20	Special sectorial study
7	Information security	Cyber security technical index of ITU	Index indicator	0.83	0.9	1	Cyber security survey of ITU
		Cyber security cooperation index of ITU	Index indicator	0.63	0.7	0.83	Cyber security survey of ITU

## 6. Funding sources for implementation of the State Policy on Development of ICT

6.1. The Action plan of the State Policy on Development of ICT will be reflected in the Government Action Plan and in the Annual Economic and Social Development Guidelines of Mongolia.

6.2. Projects and Action plans of the State Policy on Development of ICT will be financed by the following sources of funding according to the Law on Development Policy Planning.

6.2.1. State and local budget;

6.2.2. Foreign loan and assistance;



- 6.2.3. External and internal investment;
- 6.2.4. Other sources.

## **7. Monitoring and evaluation of the State Policy on Development of ICT**

- 7.1. State administrative authority in charge of ICT shall conduct monitoring and evaluation of the policy implementation every two years, organize external auditing every four years and report to the Government.
- 7.2. All parties implementing the policy shall submit their reports within the indicated due date for each set criteria and indicators to the state administrative authority in charge of ICT.
- 7.3. State administrative authority in charge of ICT shall coordinate the policy implementation at the national level, and report accordingly.
- 7.4. Progress and results of the policy implementation shall be publicly announced and advertised.