

Beyond 5G Promoting Strategy (Overview)

[Tentative Translation (ver.1.0)]

Preface

- Mobile communications system has developed from an infrastructure for communications to that for people's daily lives. 5G, which is rolling out worldwide, will develop to even an infrastructure for our society. Beyond 5G, the next generation of 5G, is expected to be a backbone of Society 5.0 by integrating cyberspace with physical space.
- Amidst an explosive and global COVID-19 pandemic, there is no choice but to fully rely on ICT capabilities, such as telework, due to restrictive measures preventing people from traveling to work. However, within this situation it is becoming evident what ICT can and cannot do.
- To maintain people's daily lives and economic activities under these circumstances, it is essential to implement an environment in which ICT infrastructure such as 5G is fully utilized. In addition, it is also required to find solution by casting events in physical space into cyberspace with utilizing real-time big data in order to cope with COVID-19. These are exactly the right recipe for promoting Beyond 5G.
- Therefore, this Beyond 5G Promoting Strategy draft has been formulated with the recognition that it is a measure for constructing Society 5.0, a new social system, as well as emergency measures are needed against current global challenges, and a measure for our growth strategy after the COVID-19 disaster by backcasting the measures from Society 5.0. This strategy includes mid-long term measures until around 2030, although Japanese advanced achievements that should be presented to the world as a milestone at the Expo 2025 Osaka.

1. Expectations for Society in the 2030s

- Cyber-Physical Systems (CPSs), whereby cyberspace is integrated with physical space, will have come to fruition, alongside the widespread use of 5G in daily life, resulting in a transition to a data-driven society that utilizes data to the maximum extent possible. This will drive new forms of value creation through the use of big data, the new resource of the digital age, making it possible to render tacit knowledge concrete, to go from hindsight analysis to future forecasting, and to shift from partial to full optimization. This will be the realization of 'Society 5.0', a society that resolves a range of social problems, as well as generates economic growth by ensuring that needed products and services are provided as needed to the people who need them at exactly the right time.
- By the 2030s, CPSs will be advanced further. As a result, this will create a society which is both flexible and resilient, and where our daily lives and economic activities are fully maintained within cyberspace even if there are unexpected crises in the physical world. The advanced CPSs are expected not only to be able to further improve the resolution of social problems and generate economy growth in Japan, but also to greatly contribute to the formation of a sustainable global environment and the international community as the common foundation for mankind. More specifically, it is expected that society in the 2030s will be as follows:
 - ✓ An INCLUSIVE SOCIETY where anyone, including the elderly and those with disabilities, can live actively in any location, not just on land but in the sea, the sky and even outer space, without any barriers and differences, such as those between cities and the countryside, or over national borders;

*Such a society will be realized, for example, with **super telepresence technologies** that enable people to feel as though they are physically present anywhere in the world without having to leave their own home, and **super cybernetic technologies** that expand physical and cognitive abilities by real time support of cyberspace to people's thoughts and actions through wearable devices, etc.*

- ✓ A SUSTAINABLE SOCIETY that provides convenience without social losses, that develops sustainably; and

*Such a society will be realized, for example, with **super mutual-control network technologies** that make possible traffic systems without traffic jams or the need to wait for signals by allowing things to exercise mutual control, and **super real-time optimization technologies** that will reduce wastage of food products, for example, to zero by combining high-precision demand forecasting and real-time multi-location matching using AI.*

- ✓ A TRUSTFUL SOCIETY that is centered on people, and is built on an unshakeable foundation of trust based on the protection of safety and stability, even when unforeseeable crises develop.

*Such a society will be realized, for example, with **super-autonomous security technologies** that are able to protect security and privacy, without the user being aware of it, by utilizing AI for automatic detection, automatic defense and automatic restoration, and **super fail-safe network technologies** that do not lose connectivity even during disasters due to their ability to flexibly and autonomously change their network structures, and levels of power consumption and transmission methods.*

2. Objectives for Desirable Beyond 5G

- In order to realize the above vision for society in the 2030s, it will be essential to gather detailed data about trends in physical spaces, accumulate and analyze it in cyberspace, and achieve the “advanced synchronization” of CPSs to enable instantaneous feedback into physical space. Consequently, it is vital that even faster communications infrastructure, more so than even 5G, are developed that are able to safely and accurately transmit vast amounts of information across land, sea, sky, space and more.
- The new system also needs “structural reform” in order to make full use of real time data securely with less load to the environment, such as data locality that makes data flow more efficient and an flexible infrastructure that is modified by software on accordance with various purposes. Advanced optical network should be also developed nationwide as a nerve network of dataflow.
- Within communication networks in the future, the projected trend will be towards the acceleration of virtualization replacing specialized equipment with general-purpose devices (white boxes) controlled by software. By around the year 2030, not only core networks, but also base stations, will have been completely virtualized, and it will be possible for computing resources that are ubiquitous in networks to be managed, and controlled flexibly and autonomously, through AI technologies. In addition, this will allow the realization of cloud native environments even between different operators. It is also predicted that the external release of communication network functions through APIs, and so on, will increase.
- Beyond 5G will require the following improved or new features to be implemented in order for it to become the fundamental infrastructure for society that is needed in the 2030s:
 - ✓ **Upgrades of 5G's characteristic features (super eMBB, super URLLC and super mMTC)**
(*)
(*) In light of the expected data processing volumes and the number of communications devices that are expected to be deployed in the 2030s, the target for access speed and the number of simultaneous connections should be 10 times higher than that of 5G. The throughput in Beyond 5G's core network should be 100 times higher than at present. In addition, in order to realize the completely synchronized CPSs mentioned above, 1/10th of 5G's latency and a high level of synchronization between both systems will be required.
 - ✓ **Autonomy** allowing all devices to automatically coordinate without manual intervention, and the instant construction of networks optimized for the needs of users, regardless of whether the connection is wired or wireless, through AI technology.

- ✓ **Expandability** allowing devices to connect to each other, no matter where they are in the world, through seamless connectivity realized by satellites and High Altitude Platform Station (HAPS), and by using terminals and windows, etc., as “ubiquitous” base stations.
- ✓ **Super security and resiliency** through the continual guarantee of security and privacy, regardless of whether or not the user is aware, and services which remain connected and instantly self-restore even when there is a disaster or failure.
- ✓ **Super low energy consumption** allowing a response to sharp increases^(*) in data processing brought about by all of these developments.

(*) Energy consumption by IT equipment is essentially proportionate to data processing volume. It is calculated that in 2030 IP traffic worldwide will have increased to 36 times as much as in 2016, which means that without energy reduction strategies energy consumption by IT equipment will be 36 times higher (which would itself be 1.5 times the total of current energy consumption). In order to make it possible to retain capacity it will be necessary to reduce energy consumption to one per cent of what it is now.

3. Challenges to the Realization of Beyond 5G, and the Necessity of Strategic Activities

- In order to realize the vision of Beyond 5G that has been set out in the above sections, it will be essential to continue to strengthen research and development in the cutting-edge technologies which will be at its core. Network designs in themselves will need to be based on brand new ideas (for instance by basing it on all photonic networks). In addition, in accordance with CPSs develops, new social issues are emerging such as AI accountability and trust of information in cyberspace.
- Active efforts by the Government is indispensable in tackling these issues in order to effectively boost initiatives by the private sector.
- Even more so than for 5G, Beyond 5G will not only be utilized in all organizations and industrial sectors as a fundamental infrastructure for daily lives and economic activities, it will also have a deep impact on national security. Therefore, it is essential that efforts are made to transcend the barriers between government ministries in order to ensure its speedy and smooth introduction.
- Moreover, because of the hurdles and costs associated with the implementation of Beyond 5G, and taking into consideration trends in other countries, it will not be possible for Japan to achieve it by itself. Consequently, it will be necessary to create international collaboration frameworks with strategic partners with whom we can form productive synergies, and engage in shared research and development and international standardization in cutting-edge technologies towards Beyond 5G.
- This means that a national strategy must be formulated to aim for Beyond 5G, a strategy that brings together the government and private sectors, and emphasizes the importance of strategic efforts through international collaboration.

4. Beyond 5G Promotion Strategy

4-1. Basic Principle

- The goal of this strategy is to quickly and seamlessly implement Beyond 5G, especially because it is rapidly evolving and this could be disruptive innovation, and to strengthen Japan’s international competitiveness in Beyond 5G (with the aims of a Beyond 5G infrastructure market share of 30%, including software, and to strengthen international competitiveness in terms of the sectors for devices and Beyond 5G platform usage field).
- For this, it is important for Japan to become a cornerstone of the global open innovation ecosystem in the development and usage of Beyond 5G. From this perspective, a roadmap should be developed, and strategic activities undertaken, for research and development, intellectual property and standardization, and deployment under the following basic policies.

- ① **Global First:** To always having a global perspective, with recognition for the acceleration of cross-border activities in the Beyond 5G era, as well as considering our positioning under that perspective. Especially, beginning with the premise that the Japanese market is part of the global market. Also forwarding to bidirectionality, by making Japan a center of excellence where various talents and ideas gather from all over the world.
- ② **Building ecosystems to drive innovation:** To build ecosystems to drive innovation which are based on system designs that proactively support freedom and agility between different players, for example by reducing regulation as much as possible.
- ③ **Intensification of resources:** Under the premise that global collaboration is facilitated through the aggregation of each participants' strengths, the Government will intensify resources for fixed periods of time, focusing on policies that encourages Japanese players to participate effectively in those collaborations.

4-2. R&D Strategy

(1) Basic Concept

- In order to realize the functions required for the Beyond 5G model described above, it will be absolutely essential to develop, advance and standardize a range of technologies that encompass wireless, networks, low energy, and security, and in addition emerging technologies, such as terahertz waves and optics, quantum technology, and AI, etc., and the underlying software technologies them (detailed in the appendix).
- In order to maintain international competitiveness in the Beyond 5G future, it will be necessary to strengthen focus on the research development of technologies that play to Japanese strengths, and those which are essential for Japan. Therefore, it will also be important to implement focused support, through public expenditure, for emerging technologies at the stage that green shoots are emerging, and before R&D competition takes place between countries, however it must be limited to strategically important technologies*. In addition, international R&D projects in emerging technologies need to be promoted in cooperation with strategic partners such as the US and Europe, etc.

(*) Determined in light of the new Information and Communications Technology Strategy currently under review at the Information and Communication Council (due to be decided by summer 2020).
- In order to grow these green shoots, and operationalize them as global pioneers, it is important to proactively draw on venture capital and diverse human resources including from other fields, and maintain an environment in which R&D can be freely pursued and where leaders are cultivated.
- In this, it is necessary to learn from past examples where Japanese companies won technological races, but where this did not necessarily lead to victory in markets. Under the policy of Global First, particular in regard to R&D by the government, a system, plan and strategy for acquiring intellectual property, and dominating both domestic and overseas markets, must be set, and then followed through with.
- R&D projects implemented by the state must be subject to reformed operations so as to allow a more strategic and flexible implementation of those projects (increasing the scale of projects, making execution more flexible (flexible plan changes, and budget revision, etc.), strengthening support for activities associated with intellectual property, and international standardization strategies, etc.)

(2) Objectives

- For communications technologies required by domestic and international markets for Beyond 5G, the government of Japan must proactively support and implement R&D, and help communications

operators and manufacturers to launch Beyond 5G by around 2030 through establishing next-generation component technologies from 2025, and pushing for standardization at international forums like 3GPP, etc.

(3) Specific Policies

R&D for Emerging Technologies

- R&D for the emerging technologies which will be at the core of Beyond 5G, and which Japan needs to strengthen, should be given focused development in cooperation with associated government ministries, when needed and for as long as needed (for example, focused financial support, including for R&D platforms).

Building Beyond 5G R&D Platforms

- In order to effectively pursue R&D for emerging technologies, it will be necessary to construct Beyond 5G R&D ‘platforms’ (providing emulators and specific test beds, and implementing shared research, etc.), for instance within NICT (National Institute of Information and Communications Technology). These will need to allow diverse person or entity to participate, including highly skilled foreign human resources

* An electric wave emulator for 5G for European urban areas was developed within the German Fraunhofer-Gesellschaft, a research institute in Germany that acts as a bridge between academia and industry. DARPA in the USA is also developing an electric wave emulator allowing the setting up of various environments, including in cities and in deserts, etc., which they have called ‘colosseum’. They are both active in demonstrating new wireless systems.

Expansion of Special Tax Incentives for R&D

- In order to promote R&D in the private sector the implementation of special tax incentives is needed in coordination with associated ministries.

Opening up of Radio Frequencies

- A mechanism is being developed by which, as a general rule, the high frequency bandwidth spectrum, such as terahertz waves, can be easily used for a for fixed periods using a simple procedure.

* In March 2019, the FCC put in place a new licensing regime permitting usage in the 95GHz - 3 THz range for a maximum of 10 years (with part of the range being free to use without a license).

- Procedures for acquiring and amending licenses for experimental stations need to be greatly relaxed for experiments, etc., that meet certain set requirements (but with heavy penalties for breaches).

Creation of Disruptive Innovation and Cultivation of Human Resources

- It is important to find and support ideas, and the people behind them, that will give rise to disruptive innovation with an eye towards Beyond 5G, through for example prizes and public funding which create big incentives (such as the wireless challenge). We must expand the scope of Beyond 5G R&D by boosting its popularity.

* DARPA in the USA held a Spectrum Collaboration Challenge (SC2) to encourage the development of highly efficient and, high speed wireless communication technologies using Colosseum in September 2019.

4-3. Intellectual Property and Standardization Strategies

(1) Basic Concept

- Intellectual property, standardization, and subsequent efforts to gain market share in Japan and overseas, are basically left to the voluntary efforts of individual companies that have a direct interest in them. However, since Beyond 5G will be a fundamental infrastructure that supports people's lives and economic activities, and in light of the fact that intellectual property and standardization will

have ripple effects beyond individual companies, the government will make a medium to a long-term commitment from that perspective so that, (1) the technical requirements necessary to realize the Beyond 5G that Japan is aiming for will be adopted as an international standard, and (2) that they are beneficial to Japan's national security and industrial development.

- International standardization will focus on (1) the realization of all photonic networks; (2) the deployment of open architecture; (3) the virtualization by software to the greatest extent possible, (4) expansion to areas besides that of land, such as air and maritime environments; and (5) a fundamental emphasis on security.
- Activities aimed at standardization and implementation will be realized through close cooperation limited to those foreign states which are trustful. In this case, to secure Japan's influence, it is not enough simply to develop superior technologies; it is also vital that interested parties in Japan have a broad impact on standardization activities and that related intellectual property is protected. It is also necessary to radically review previous intellectual property and standardization strategies.

(2) Objectives

- Owing to the game-changing nature of Beyond 5G networks (reductions in supply chain risks and creation of new market entry opportunities), technical requirements in accordance with national interest will need to be reflected in ITU Recommendations and de facto standards in the 2030s. In order to achieve this goal, a framework for collaboration with strategic partners must be established as soon as possible, and from the perspective of ensuring international competitiveness and negotiating power, a share of 10% or more of the number of patents essential to Beyond 5G in 2030, as well as related patents, needs to be an objective. This figure is the same level as the world's top share of patents essential to 5G acquired by current top manufacturers, while also acquiring related patents.

* Top share of 5G-essential patents is Samsung at 8.9%, Huawei at 8.3%, and Qualcomm at 7.4% (according to the Cyber Creative Institute).

(3) Specific Measures

Determine strategic intellectual properties and standardization, and promote openness and *de facto* standards

- For technologies in which Japan has strength, it is essential to strategically identify the need for standardization and the acquisition of intellectual property, while also taking into account related product development and market trends. In particular, the setting of more strategic goals needs to be considered, and a revision of the tendency to evaluate national R&D projects based on their performance for standardization.
- In preparation for the game-changing nature of Beyond 5G networks, the government will establish testbeds for interconnectivity and interoperability between different vendor devices, as well as emulators that reproduce physical space in cyberspace^(*), which are open to domestic and foreign private corporations. In addition, the government is promoting standardization and implementation by reducing the time needed, and the financial burden needed, for developing equipment for open architecture and de facto standardization.
(*) The facilities of Beyond 5G R&D Platforms (tentative name) in 4-2.(3) will be utilized.
- The global development of private corporations (such as the O-RAN Alliance, the IOWN Global Forum, and the HAPS Alliance, etc.) which promote the implementation and standardization of open architecture, virtualization, and photonic networks, and so on for Beyond 5G, needs to be supported through intergovernmental consultations, and international foras, etc.

Creation of Frameworks for Cooperation with Strategic Partners

- International collaboration from the R&D phase towards international standardization needs to be strengthened by expanding international joint research and development with companies in partner countries.
- In order to strengthen cooperation with the EU, and the US, etc. on standardization, cooperation between standardization bodies leading implementation, such as ETSI and NIST/IEEE, and domestic private standardization bodies (ARIB/TTC, etc.), needs to be enhanced.
- In order to formulate international harmonious ITU-R Recommendations for Beyond 5G and the international allocation of frequencies in WRC (World Radiocommunication Conferences), industry, academia, and government must work together to promote cooperation with relevant countries.

Utilization of the Standardization Center and Strategic Promotion of Intellectual Property and Standardization Activities

- The Center for Intellectual Property and Standardization Strategy of Beyond 5G (provisional name) is to be established in order to strategically pursue standardization, etc., with the participation of key players from industry, academia, and government. The following initiatives will be promoted with the center forming its core:
 - ✓ The creation and provision of an effective Intellectual Property (IP) landscape (IP maps taking into account market trends and R&D trends in each country) to support corporate IP strategies.
 - ✓ Facilitation of standardization activities by teams, including not only technical and business experts but also personnel (including from overseas) with excellent diplomatic and coordination skills, for example in chairmanship, in order to lead discussions on areas of strategic importance to Japan in international standardization organizations.
 - ✓ Promotion of participation in standardization activities by new players, such as companies that could become major users of Beyond 5G and OTT ventures, etc., and the creation of forums for international discussions, etc.
 - ✓ Promotion of the utilization of the aforementioned interconnectivity and interoperability testbeds and emulators.
- The requirements for the adoption of telecommunication equipment based on open architecture standards, and the degree of contribution to international standardization and intellectual property strategies, (e.g., efforts to form standard-essential patents and IP portfolio) and so on, will affect the adoption of R&D projects and the allocation of new spectrum to telecommunication carriers (e.g., approval of base station establishment plans).
- The effective use of IP lawyers and strategic planners in the field of ICT needs to be considered alongside mid to long term human resource development measures.

4-4. Development Strategies

(1) Basic Concept

- In order for Beyond 5G to be introduced quickly and seamlessly, as an initial premise, it will be necessary for 5G to permeate all fields and regions and to be absolutely utilized. This will result in the early realization of a ‘Beyond 5G ready’ environment (meaning an environment in which everybody has the necessary ICT literacy to enable them to enjoy the benefits of Society 5.0). This will require strongly promoting the early holistic development of 5G and expansion of its usage across industrial and public spheres.

- The objective must be for the early realization of a society that has mastered 5G, without being a prisoner to the established ways of doing things, through the wide scale relaxing of regulations and the deployment of the capabilities of universities and private companies, etc. This will need to be done to the greatest extent possible, while bearing in mind from the outset that in expanding the usage of 5G across industrial and public spheres it will also be used overseas, and being aware that everything should be based on the principle of ‘security by design’, ‘privacy by design’ and universal design.

(2) Objectives

- In order to realize a Beyond 5G ready environment by 2030, it is essential to carry out the focused implementation (within five years) of the environmental improvements needed for formulating and expanding cases studies for problem-solving, alongside the promotion of the urgent holistic development of 5G. This needs to be complemented by establishing and disseminating impactful case studies from Japan and overseas. It is expected that this will create 44 trillion yen (400,000 million USD) of added value by FY2030.

*It is forecast that the dynamic effect of activities for the improvement of productivity associated with utilization of wireless technology will add 44 trillion yen (+7%) to quantitative GDP growth (source: Strategic Commission on Growth through Effective Utilization of Radio Wave Technology, August 2018).

(3) Specific Policies

Holistic Expansion of Networks

- The utilization of public policy tools, such as maintaining 5G investment tax incentives and subsidies, and promotion for the expansion of improvements to 5G base stations and the introduction of local 5G. The number of 5G base stations is expected to increase three fold (to 210,000 stations) by the end of FY2023 in order to expand the area of coverage over cities, towns and villages.
- Infrastructure sharing for base stations will need to be developed to promote the holistic streamlining of 5G. Alongside installing signal devices within base stations and promoting the activities of private sharing business operators under tunnel screening measures, etc., the streamlining of systems allowing the activation as base stations of individual terminals and vehicles, smart poles, hoardings, manholes and so on, will be implemented.

Realization of Continuous Cybersecurity Functionality

- In order to maintain cybersecurity for 5G and Beyond 5G, standards based on the principle of ‘security by design’, ‘privacy by design’ and need to be pursued alongside the introduction of technologies for automated detection for tampering and vulnerability by telecommunications operators and device vendors. The social implementation of robust public key cryptography and quantum cryptography systems for the quantum computing era needs to be developed. In particular, the provision of features enabling users to safely use communications services, even when cyber-attacks, etc., have occurred needs to be promoted for applications where there is a priority on ensuring ultra-security and trust.

Formulation and Expansion of Case Studies to Support Problem-solving

- In order to assemble case studies to properly support the resolution of problems in Japanese society diversity will be ensured and regional problem resolution demonstration projects implemented with a user-oriented approach. Demonstration projects for each solution, in particular for remote medicine, remote education, disaster prevention, infrastructure management, and policies regarding population ageing, etc., need focused implementation over the next five years in cooperation with countries with similar urgent requirements in order to establish reference models for 5G solutions needed in other countries.

- Demonstration projects will be carried out in such a form that they can be connected to shared cloud platforms. In addition, frameworks based on regional universities and other educational institutions, including human resource education and development when introducing new services, and post-project business development support, will need to be organized alongside this. These frameworks will lay the foundations for rolling out similar business models and for sustainable self-propelled businesses.
- In addition, in judiciously promoting cooperation with other countries, it will be necessary to develop and activate personnel able to propose solutions that match needs through an understanding of the circumstances in each country. As such overseas consulting functions in the ICT field, and the implementation of support for startups, etc. that interact with BOP businesses (*), will need to be strengthened.

(*) Meaning a business which provides valuable products or services for the Base of the Economic Pyramid, which is the lowest income bracket, having an annual income of \$3,000 or less based on PPP, and which sustainably contributes to improving living standards in the relevant country and to expanding enterprises.

- It is necessary to utilize the data based on the principle of ‘security by design’ and ‘privacy by design’, which is produced by the use of 5G in industry and the public sphere. To that end, it is necessary to build and maintain a system that enables businesses to seamlessly develop, in addition to the necessary human resource education and development and the streamlining of bases, etc.. Furthermore, models need to be built to provide benefits to stakeholders involved in data dissemination, beginning with data providers.
- Alongside the construction of each type of model, the modulization of each type of function, etc., in data utilization smart cities needs to be developed, and to be provided as simulation models in cloud-based sharing platforms (SaaS) in the form of a 5G Solution Provision Centre (provisional name). Through this, the number of hurdles preventing the starting of usage by mainstay companies, small and medium sized enterprises, and local public bodies and so on, will be greatly reduced, and it will promote horizontal development.
- In order to give effect to this series of activities, there should not be any imposed limits of space or time such as with the Osaka Expo, one city in its entirety should be selected to act as a living testbed(*) to create an environment in which large-scale and bold demonstrations of Beyond 5G can be implemented freely and flexibly (proactively utilizing National Strategic Special Zones such as the Super City concept)

(*) This means utilizing a place where residents actually live, and in which social and economic activities take place. Unlike a demonstration taking place in a laboratory or similar, it is possible to demonstrate something close to what the actual services would look like in actual life.

- In addition, in order to realize a society in which the lifestyle of the population and economic activities are maintained seamlessly through ICT, including 5G/Beyond 5G, even during a crisis situations, the entire government needs to promote the necessary system reviews without delay.
- Furthermore, improvement of the human interface of ICT devices and services, and create an easy accessible environment to them, as well as an environment in which senior citizens can learn how to use ICT devices and services, and ask for advice in places near to them, needs to be further implemented and developed so that the whole of Japanese society, can experience the benefits of Society 5.0.

5. Policies for Driving Strategy

- These strategies will be clearly established at the center of a national growth strategy, and a Beyond 5G Promotion Consortium (provisional name) where industry, academia and government can coordinate and strategically engage, will be established and strongly and proactively promoted. In particular, a Beyond 5G International Conference (provisional name) will be held each financial

year, with the aim of accelerating activities across industry, academia and government, and to promote international cooperation towards Beyond 5G. Information about efforts in Japan need to be publicized internationally, and this needs to be alongside information gathering activities on international trends with respect to R&D, etc.

- In order to support the activities of the aforementioned consortium, a cross-sectional Beyond 5G Strategic Promotion Task Force (provisional name) will be established within the Ministry of Internal Affairs and Communications. This will coordinate with the Council for Science, Technology and Innovation, the IT Strategic Headquarters, and the Cybersecurity Strategic Headquarters, in managing the progress of the promotional roadmap for these strategies, and publish a progress report every year. The strategy will be revised on the report.

* International cooperation policies will be given effect based on the Ministry of Internal Affairs and Communication's Overseas Development Activity Plan (due to be created in May 2020).