Declaration to be the World's Most Advanced IT Nation

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Strategic Headquarters for the Promotion of an Advanced Information and Telecommunications Network Society

Contents

I. Basic Principles

1. The Use of Information Technology, the Key to Japan's Rejuvenation

Japan has now come back track for its revival.

On June 2013, the "Declaration to be the World's Most Advanced IT Nation" i.e. the IT Declaration was adapted, pushing Japan become a country that utilize IT at the world's highest level. In this declaration, the government positioned information technology (IT) as a pillar of its future-strategy and an engine of economic growth. Also, the government intended to utilize IT for breaking silos and driving the rejuvenation of Japan.

All of Ministries and Agencies began working together to carry out the IT Declaration by breaking silos and taking cross-divisional and inter-disciplinary initiatives centered on the Deputy Chief Cabinet Secretariat for Information Technology (the "Government CIO"), who was appointed also on June 2013.

Through the efforts made over these two years, significant results have been achieved, and Japan is now ready to deepen the utilization of IT in many areas for further development.

Representative Results

- In the e-government field, the number of information systems would be reduced by approximately 60% by the end of FY 2018 (the target was set to 50%), besides the operating costs would be reduced by approximately 20% by the end of 2021 (the target was set to 30%).
- In the agricultural field, it has been developed as the basis for reinforcing agricultural production capacity targeting ¥1 trillion exports. For example, the Agricultural Information Strategy - Creation, Distribution and Promotion, the roadmap for standardization as well as some guidelines were developed and delivered..
- Regarding open data, full-scale operation of data catalog site "DATA.GO.JP" started as the governmental platform of open data utilization. Ministries and agencies have already registered 13,038 data sets on this platform.
- The social security and tax number system i.e. "My Number" system would be released in the latter half of 2015. Many projects such as maintenance of information systems, design of the interface and functions of the Disclosure System of Personal Information Cooperation Record have been executed.
- A bill to revise the act on the protection of personal information (Act No. 57 of 2003; the "Personal Information Protection Act"), as the basis for encouraging the use of anonymized personal data while protecting personal information, was submitted to the Diet in 2015.

Those actions are highly regarded from global IT society. As for the e-government, among 193 member countries on the United Nations e-Government Survey 2014, Japan has jumped up to 6th place from 18th place three years ago. On the World Economic Forum 2015 Global Competitiveness Report, Japan took 10th place among 143 countries and territories, up from 16th place last year. On this report Japan has made great strides also on the government category, jumping up from 22nd to 7th.

However, our challenge to establish the world's most advanced IT nation have only just begun. Even with the achievement on these two years, there are still many issues ahead to be addressed while activating use of the IT in order to make our people realize the true value of IT utilization.

2. Pursuit of "True Affluence" with the World`s Leading Problem-Solving IT Utilization

(1) Using IT as the key driver for the reform of industry and social structures

With rapid development on information technology, industrial structures relating to IT are drastically changing. "Data" is now seen as the key player in economic growth following "people", "goods" and "money" with its problem-solving ability. The cross-border process consist from collection, accumulation, integration, analysis and usage of data is expected to create new added values, to accelerate the pace of reforms and to develop societies filled with innovations both in industries and in lifestyles.

Playing a crucial role on driving reforms on industrial and social structures, Big Data is now the core element for future society. The transition is ongoing, from the data made by human by inputting within PCs to the data automatically created by Internet of Things (IoT) in which massive volumes of data gathered by sensors embedded in various items. This transition would make most of all our socio-economical activities become digitized and networked, leading to the era that the status of all socio-economic activities can be seen in Big Data. In addition, analyzing with AI: Artificial Intelligence technology, Big Data could lead the "Hyper-Smart Society" that highly specialized and efficient activities are possible. This Hyper-Smart Society could be expanded not only to the specific fields such as road transport, agriculture, and energy, but in a wide range of fields in the future.

Becoming the world's most advanced IT nation, we accelerate the growth of the economy and society thorough deepening and spreading the IT utilization. In this action we have to keep the vision in our mind that could be realized through IT Utilization adapting new technological and institutional environment such as the Social Security and Tax Number System.

(2) Achieving True Affluence for Every Person, solving social problems

As Japan's birthrate declines and its aging populations, we are facing unprecedented issues. Japan must address numerous issues such as the aging of society, the decrease in the labor force, rising social security cost, the natural mega disasters, the obsolescence of social infrastructure, unstable energy supplies and sluggish growth of the food self-sufficiency rate. It can be said that Japan stands out as a country with emerging issues, among most of all developed countries.

Especially in local communities, declining population poses a substantial risk of falling into a vicious spiral where falling populations cause contraction of local economies, and the shrinking economies accelerate the decline in population. There are concerns that the weakening of local communities will lead to a decline in the vitality of Japanese society as a whole.

IT is not only a multi-purpose tool that can be utilized in many fields and an engine of economic growth, it also holds the potential for flexible and powerful solutions to these issues. As Japan strives to become the world's most advanced IT nation, it will need not simply to deepen the usage of IT, but to pursue true affluence by developing problem-solving IT utilization models that can be applied globally to solve these types of problems.

This true affluence to be pursued is not physical and economic prosperity that can be obtained by efficiency. True affluence must be perceived by every person in Japan with establishing diverse and forward-looking lifestyles, creating new services and securing safety, fairness and convenience through active and bold IT utilization.

We believe that developing this type of society is the future that Japan should pursue.

3. Four Pillars of Problem-Solving through IT Utilization

Based on this new awareness, we revise the IT Declaration positioning IT as the key driver of problem-solving for emerging issues as well as the engine of economic revival.

The new IT Declaration provides for the creating an IT society at the world's highest levels and deploying the achievements internationally over the next five years (by 2020). While these actions are taken, highest consideration will be given to the safety and security of the public and maximum use will be made of the opportunities presented by the 2020 Tokyo Olympic and Paralympic games.

In addition, the IT society at the world's highest levels to be pursued will include active use of existing IT utilization schemes including the Social Security and Tax Number System as well as the development of problem-solving IT use models in advance of the rest of the world while keeping in mind the creation of industry and social reforms in future society. Also, priority will be placed on achieving true prosperity that members of the public can perceive.

When implementing actions concerning the use of IT in order to achieve these targets, action will be taken while keeping in mind two key features of IT use: (i) IT as a foundation for the innovations brought about by reforming business processes throughout society and creating new business models, and (ii) general applicability and continuity through standardization that encourages efficient inter-disciplinary use of data, software, and information systems throughout society.

The new IT Declaration has the following four pillars for responding effectively and efficiently to numerous issues from these perspectives. Based on these pillars, the form of society that should be pursued will be clarified and actions necessary to achieve that will be taken.

(1) A society that grows toward the future through more intensive by utilizing IT
(2) A dynamic society that invigorates communities, people, and jobs by utilizing IT
(3) A society where people experience safety, security, and prosperity by utilizing IT
(4) A society where one-stop public services are available by utilizing IT

When implementing these types of actions, active efforts should be taken breaking the silos between government ministries and agencies down with the government CIO acting as a guide based on the CIO's authority to coordinate high-level policy among ministries and agencies and authority to formulate inter-ministry plans and expense budgets.

When implementing these government-wide policies relating to IT, considering that IT is at the core of social reforms, bodies such as the Cyber Security Strategic Headquarters, Intellectual Property Strategic Headquarters, Headquarter for Overcoming Population Decline and Vitalizing Local Economy, Strategic Headquarters for Space Development, Headquarters for Healthcare and Medical Strategy Promotion, Council on Economic and Fiscal Policy, Industrial Competitiveness Council, Council for Regulatory Reform, and the Council for Science and Technology Policy will engage in even closer collaboration than in the past.

Quantitative key performance indicators (KPI) are specified whenever possible to enable assessment of the progress and results of actions taken (KPI will be continuously improved throughout the process of implementing the strategy to establish more appropriate indicators).

To carry out this strategy, a separate roadmap identifying the specifics of who (responsible government ministries) will do what (actions) by when (schedule), and the PDCA cycle will be applied continuously and without interruption to the policy to achieve continuous deepening and development.

Through this process, considering that the Japan revitalization strategy will be revised as a "constantly evolving growth strategy" by adding and deepening policies, this new IT strategy, as a pillar of the revitalization strategy, will also be revised to enrich and accelerate it by

applying results based on implementation management of the PDCA cycle at the Specialized Committee on New IT Strategy Promotion, where the government CIO plays a leading role.

II. The Society that Japan Should Seek to become

1. A society that grows toward the future through more intensive by utilizing IT

Through implementation of this strategy, the schemes for IT utilization in Japan are being established and a period of major innovation has arrived. Some examples include the advent of the IoT era, establishment of the public data catalog site (data.go.jp), the submission in 2015 to the ordinary session of the Diet of a bill for amending the Personal Information Protection Act and the Act on the Use of Numbers for Identification of Specific Individuals in Administrative Procedures, and enforcement of the Act on the Use of Numbers for Identification of Specific Individuals in Administrative Procedures.

On this occasion, growth will be achieved towards Japan's future by investigating the adoption of new laws and taking statutory actions relating to the development of structures in conjunction with the development of systems and the technological environment in order to sharply accelerate the use of IT throughout society.

Furthermore, in light of the arrival of the IoT era, the potential capabilities of industry will be reinforced, new jobs will be created, and a growing society will be developed by, for example, creating new business models that utilized big data.

2. A dynamic society that invigorates communities, people, and jobs by utilizing IT

By developing social environments that create jobs in local communities, attract people, and build the communities that support them, the decline in populations will be stopped and diverse local communities will be formed. The strengths of local communities and the Tokyo Metropolitan District will be used to develop a vigorous Japanese society in the future.

Based on the Local Community Creative IT Use Promotion Plan (Adopted by the Advanced Information Technology Network Society Promotion Strategic Headquarters (IT Comprehensive Strategic Headquarters) in June 2015), information sharing platforms will be developed and human resource and industry rejuvenation support will be provided to local governments in order to encourage the use of IT by local governments and other bodies. In addition, open innovation including the emergence of entrepreneurship and startup companies and small and medium businesses will be encouraged, the diversification of working formats

and maintaining a good work-life balance will be supported, and support will be provided for streamlining administrative systems of local governments.

3. A society where people experience safety, security, and prosperity by utilizing IT

Japan is currently facing numerous social issues such as the aging of society, the decrease in the labor force, rising social security cost, the natural mega disasters, the obsolescence of social infrastructure, unstable energy supplies and sluggish growth of the food self-sufficiency rate.

Regarding this circumstance, the integration of new technologies made possible through the use of IT with technologies for analyzing large volumes of data will make it possible to establish the world's most disaster-resilient society where people can enjoy healthy, secure, and comfortable lives. This will be achieved through the development of new universal social systems that support healthy, safe, and secure lifestyles by all members of the public including disadvantaged persons such as the disabled and senior citizens, concrete demonstration that various social issues can be solved, and the creation of highly economic and convenient new services by tackling the challenges of corporate business reform and commercialization.

Specific actions will include nationwide development of the regional medical information networks needed for health care and nursing care to create a society where appropriate health care and nursing care can be obtained when needed, creation of the world's safest road transport society that is both environmentally friendly and prevents the dangers of traffic accidents and traffic congestion, development of the world's safest and economical social infrastructure, a society where anyone can receive needed information during normal times and the emergencies, and a society where efficient and stable energy management is performed.

In conjunction with these actions, growth industries will be reinforced through the active use of IT in agricultural fields, development of self-driving systems will be encouraged, and international competitiveness will be enhanced in the video industry fields by creating next-generation transmission and distribution services. In addition, the 2020 Tokyo electric and Paralympic games will be used as an opportunity to convey Japan's hospitality to the world through the use of state-of-the-art IT.

4. A society where one-stop public services are available by utilizing IT

Earlier e-government service initiatives produced some results in establishing electronic and one-stop services, but in many cases, procedures are generally performed in person and in writing, and online or in electronic procedures are no more than supplementary means. In

addition, services are not necessarily easy to use by the public as a result of vertically divided structures between government ministries and agencies and within government organizations.

At the same time, recent advances in technology have given rise to calls for aggressive use of cloud-based services from the perspective of efficiency

Furthermore, measures are being taken for introduction of the social security and tax number system, which will provide crucial infrastructure for encouraging the use of IT in various situations and fields in the future through the Individual Number Card, which will provide a means of identification in both the real and online worlds and will be a foundation for the safe and secure use of online services, and the Disclosure System of Personal Information Cooperation Record, which will enable members of the public to access of their own information and will provide highly convenient public and private sector online services useful for day-to-day life. As a result, the system will enhance safety, security, fairness, and prosperity in the lives of the public.

Going forward, the principal will be performing all administrative procedures electronically. Open and highly convenient public services will be provided through use of the cloud and the social security and tax number system, establishing a convenient society where one-stop e-government services can be obtained on any terminal.

In addition to these measures, efforts will be made to implement data-driven administrative operations and to create an innovative and transparent eat government. In the future, the government will reinforce administrative operations using data including use of data from different fields to break down barriers between organizations and operations to enhance policy planning and assessment, improve service quality, and increase the efficiency of administrative operations.

III. Measures for Achieving the Society that Japan Should Seek to become

To achieve the society that Japan should seek to become described in II, the following measures will be taken through active inter-disciplinary means to address inter-agency issues. When undertaking specific measures, KPI will be set to the fullest extent possible and progress management will be conducted by the IT Strategic Headquarters.
When carrying out measures, regulations, systems, and rules that act as impediments will be actively reviewed and relevant ministries and agencies will collaborate on priority issues to focus investment of policy resources and carry out projects to verify successful models in order to achieve the society that Japan should seek as set forth in this strategy.

1. A Society that Grows toward the Future through more Intensive by utilizing IT

(1) Development of new IT utilization Environments

While IT utilization foundation is developed in various fields through reconsideration of legislations relating to the Social Security and Tax Number System and personal data, to maximize the utilization of these foundations and accelerate the IT utilization in every aspects of life we review framework of the current situation drastically and promote realizing of safety, security, fairness and affluence of national life and industrial development. For this, will we review measures to vitalize new market that establishing “Agency Service Institutions” (tentative name) that will bear the task of circulating safe and reliable information, increasing the number of one-stop services and the digitization of applications, etc. in response to various life events using the Social Security and Tax Number System, etc. and sharing economy with fundamental principles that electronic processing and ensuring advanced circulation of information. And we will start on taking necessary legislative measures sequentially from the next ordinary Diet session.

We also review legislative measures and take necessary measures successively in order to establish new business models by data utilization and to develop environments that encourage security management on businesses.

In addition, we review necessary legislative measures. "the Regulatory and System Reform Intensive Action Plan for Expanding the Scope of IT utilization" was adopted by the IT Strategic Headquarters in December 2013 and "the basic guideline for IT utilization -based on a balance between safety/security and utilization" was adopted at the IT Communications Use Promotion Strategic Meeting held in June 2015, these prescribe that we should convert the fundamental principles of face-to-face or in writing processing to the fundamental principle of

electronic processing and ensuring advanced circulation of information and instruct to proceed reconsideration of a system that promote IT utilization to fullest, for that reason
In particular, with regard to the appropriate state of authentication in e-government services, we classifying in patterns with the regulations of identity confirmation procedure with IT utilization through smartphones, tablet devices, televisions and other devices in mind, and we promote consideration to reconsideration of identify confirmation procedures on the premise of online utilization that achieve both improvement of convenience as well as privacy protection pertaining to conclusion of a contract or utilize service and accuracy of identity confirmation.

Furthermore, the bills for the partial revision of the Act on the Protection of Personal Information and the Law on the Use of Numbers to Identify a Specific Individual in the Administrative Procedure were submitted to the Diet in 2015. Since we intended to develop the data use environment for the purpose of encouraging the use of big data, the bills clarify rules about the use of big data taking into consideration the balance between data use and the personal information protection as well as the privacy protection, which was investigated by an investigatory body established under the IT Strategic Headquarters and other bodies. The bills also include the establishment of the Personal Information Protection Commission (privacy commissioner) as a third-party organization which the expansion of functions and authority of the Specific Personal Information Protection Commission in the social security and tax number system. Moreover, the bills include a provision on ensuring the privacy protection regarding personal data processed with little probability of identifying specific individuals.

Starting in 2015, we will steadily adopt new Commission’s rules and guidelines on the protection of personal information, encourage measures to standardize procedures for the acquisition of consent, reinforce systems of the Personal Information Protection Commission and encourage the use of IT, and take other measures to steadily develop the personal data use environment and promote the use personal data.

With regard to systems for the use of personal data held by government agencies, incorporated administrative agencies, and other bodies, we will conduct investigations based on the intent of the amended provisions of the Law on the Protection of Personal Information and take necessary measures based on the results of those investigations by the date that the amended law goes into effect.

KPI

- Number of systems or forms reconsidered

(2) Supporting the creation of new businesses and services through the use of big data

Data concerning individuals, devices, and infrastructure conduct and status is being distributed and accumulated using IT day by day and minute by minute, and strong encouragement will be provided to the creation of new businesses and new services that can generate added-value through the use of this “big data.”

To achieve this, business environments that are compatible with the protection of personal information and privacy will be created to facilitate the efficient use of big data with respect to the handling of personal data including information concerning individual conduct and status, an area that is expected to produce particularly high use value. When developing such an environment, standardization of rules concerning privacy and information security as well as increasing convenience and effective international flows of information through international systems will be essential, and international collaboration will be promoted through international negotiations in forums such as the OECD.

In areas where advanced rules are already being adopted such as rules concerning the handling of user information by smart phones, the expansion of such measures will be encouraged.
In conjunction with these measures, to encourage the use of big data, shared technologies will be quickly established to raise the safety and reliability of data and networks, ensure interoperability, and raise the level of technologies for the collection, accumulation, and processing of large volumes of data. Research and improvement of new technologies for the use of data that lead to the creation of new businesses and new services and their use will also be encouraged. As a part of these efforts, we will coordinate with the efforts of the Space Development Strategic Headquarters relating to encouraging the technologies for the use of space-related big data.

In addition, with advances in the Internet of Things (IoT) and artificial intelligence (AI), we anticipate that cyber-physical systems connecting the real world with the cyber world will be created and that business models centered on data will be reformed in all industries.
In light of this, we will adopt inter-industry rules based on the optimal status of future business models such as the creation of data circulation markets to promote the distribution of data possessed by administration, private enterprises, and others across fields. We will also build systems for stock markets to evaluate the active use of IT and data by businesses, create conferences through collaboration among industry, academia, and government to encourage collaboration among companies, encourage measures in individual fields, and take other measures for development environments where data-driven innovation is created.

In conjunction with these efforts, from the perspective of contributing to the use of bid data we will encourage making public data available to the private sector (open data) including information in the possession of the government such as geospatial information, remote sensing

data from satellites (such as the status of coastal regions), disaster prevention and mitigation information, procurement information, and statistical data. By interlinking and using customer information in the possession of companies, the life logs of individuals, and various other large volumes of data present in society and markets, it will be possible to create new services and new public-private sector collaboration services, leading to the creation of a society that fosters innovation in corporate activities, consumer conduct, and social lifestyles.

KPI

- Degree of attainment of review of systems relating to the use of personal data
- Total value of new businesses and new services created through the use of big data

(3) Making Public Data Available to the Private Sector (Open Data)

Until now, environments have been developed with a focus on making data available to the public sector based on the Electronic Government Open Data Strategy and other policies. However, going forward, it will be necessary to take action with an awareness of encouraging the use of data while maintaining existing initiatives based on the significance and purposes of open data set forth in that strategy.

Considering that open data is expected to lead to the identification (making visible) and resolution of problems faced by local residents, communities, and regional public bodies as well as to the identification and resolution of issues faced by Japan is a whole has it becomes a super-aging society.

It is with this awareness that government ministries and agencies will identify (make visible) issues by encouraging open data and will investigate the feasibility of responses through the use of open data has one means of resolution when investigating responses to various issues in their respective areas of responsibility including priority policies (building investigations into responses by using open data in the process of determining the policies of government ministries and agencies). In addition, information regarding best practices will be disseminated. With regards to making data available to the private sector, we will encourage making available data that is not included on the websites of government ministries and agencies, consider making a transition from standard government use provisions to licenses that are internationally open, and encourage incorporated administrative agencies, public utilities, and other bodies to undertake open data measures.

We will continue to release data in machine-readable formats on government data download sites and will increase data available in English and other languages.

With regard to the standardization of the structure of data made available to the private sector by government ministries and agencies, we will continue efforts to disseminate existing guidelines while building platforms for common vocabularies that facilitate data combinations and inter-disciplinary use, developing API functions for databases provided on government ministry and agency websites, and providing comprehensive API catalogs.

In the area of open data initiatives by regional public bodies, we will work to disseminate the Regional Public Body Open Data Promotion Guidelines while standardizing data formats unique to regional public bodies at a means of promoting and supporting those guidelines (methods of classifying data, applying tags, and so on). In addition, we will support the dispatch of human resources such as private sector experts who can support solutions to regional problems through community activities relating to open data and data analysis as well as inter-disciplinary deployment of successful examples from regional public bodies that have already been implemented.

Other initiatives regarding private sector access to data in the position of regional public bodies will include development and verification of technologies for effective circulation, integration, and use of that data and development of infrastructure that centralizes and makes available tourism and other public data.

With regard to encouraging the use of data, we will make it possible to make anonymous submissions through data catalog and other sites so that we can understand and identify needs regarding open data. We will also undertake new measures such as gathering information on needs by creating developer forms and providing feedback.

We will strive to develop human resources who can use IT by encouraging the use of open data based on the degree of attainment at universities as well as at elementary, junior high, and senior high schools.

We will collaborate with private sector organizations that disseminate and raise awareness concerning open data as a means of disseminating and raising awareness with a focus on the use of open data. In addition, we will create structures for the collection, classification, and provision of information regarding success stories from typical use.

Moreover, we will share information on policies and case studies from governments, organizations, NP, and other bodies in various foreign countries that are promoting open data and a means of encouraging the international deployment of open data. At the same time, we will encourage the proposal and announcement of new systems and businesses as an approach to open data including the packaging of applications, systems, and know-how relating to the use of open data as a means of implementing active overseas deployment.

We will undertake active measures with an awareness of those areas in which Japan has superiority and announce them internationally with the aim of creating international standards (global indexes) for objectively evaluating measures regarding the use of data.

KPI

- Degree of attainment regarding open data by individual government ministries and agencies (status of making open data available by government ministries and agencies with a focus on priority policy issues)
- Number of data sets included in catalogs (number of registrations of machine-readable file format data, number of registrations of data in foreign languages (in both cases, by individual ministries and agencies), etc.), number of accesses, number of downloads
- Status of open data undertakings by regional public bodies, incorporated administrative agencies, public utilities, and so on
- Status of the spread of data format standards relating to the open data of regional public bodies
- Number of times human resource support is provided to regional public bodies
- Number of applications developed by using open data
- Number of cases of provision of information in examples of success

2. A Dynamic Society that Invigorates Communities, People, and jobs by Utilizing IT

(1) Implementation of “IT utilization plan for regional revitalization”

Based on an awareness that IT is an effective means of solving the problems faced by local communities, we will undertake challenging initiatives for the use of IT in regions throughout Japan and expand deployment of the results, creating a virtuous cycle of “regional revitalization.” This will invigorate regional industry, improve living conditions, and achieve “regional revitalization that can be personally experienced” by 2020. It will also contribute to the economic rejuvenation of Japan.

To achieve this, we will develop information sharing platforms, guidelines, and so on to encourage the use of IT by local governments and other bodies, implement measures targeting businesses to invigorate human resources and industry, take measures to eliminate the barriers to IT use, and implement other comprehensive and wide-ranging priority measures based on “IT utilization plan for regional revitalization”. This plan sets forth effective IT introduction policies and national support policies necessary for local governments to formulate and implement Regional Comprehensive Strategies.

To develop information sharing platforms that promote the use of IT by local governments and other bodies, guidelines on administration and open data will be prepared and collection of best practices and guidelines in the fields such as agriculture, forestry, fisheries, and tourism will be investigated. In addition, information including these best practices and guidelines relating to individual fields and measures will be shared between the national and local governments as well as between local governments, and the development of platforms for exchanging opinions and so on will be investigated. Extensive measures will be taken to reform administrative systems and operations such as the use of common systems. Big data will be collected on industrial structures, population dynamics, flows of people, and so on, and investigations will be conducted regarding support for the use of the "Regional Economy (and) Society Analyzing System(RESAS)" and “Chart for Creation of Regional Industry and Employment” that make it possible to see the identification of core industries with strengths in individual municipalities as well as the organization and provision of use and analysis methods of information using social network systems and other means. Furthermore, widespread adoption of results obtained from ICT Smart Town Project and other demonstration projects and advanced examples (success models) of advanced regional computerization that contributes to community formation in (i) areas where concrete results have been achieved and (ii) areas where widespread deployment is expected in the future will be promoted with priority taking into consideration the scope of the beneficiaries and the feasibility of the project. Public Personal Identification Service made possible by the introduction of the social security and tax number system will be used with the aim of achieving autonomous and sustainable business operations (commercialization).

In addition, investigations will be conducted on providing human resource support and building consultation systems by the government CIO and persons who have experienced success to local governments that seek to reform in order to promote enhancement of public services and so on through the use of IT in conjunction with operational reforms by local governments in relation to support for the rejuvenation of human resources and industry by local governments and other bodies. In addition, collaboration with existing human resource dispatch systems and so on will be considered and investigated with regard to systems for dispatching enthusiastic human resources who are familiar with IT to local governments and other bodies. Support will also be provided to startup companies and small and medium businesses and for measures to support local industry by using the business infrastructure of local governments, maintaining a good work-life balance will be encouraged through reform of working methods that employee women and senior citizens, and support will be provided for community invigoration through monitoring using IT and other means.

To break down the barriers to IT use, reviews of systems will be encouraged to accelerate IT use and maximum use will be made of special zone systems (national strategic special zones

relating to near future technology demonstrations and so on) that contribute to community formation in order to respond to new business models that use IT.

KPI

- Number of quotations in Regional Comprehensive Strategies
- Number of references to successful case studies and so on
- Status of use of the human resource support
- Effectiveness of measures (industry ripple effects and so on)
- Economic autonomy and continuity of demonstration projects and their deployment models

(2) Emergence of entrepreneurship and encouraging interdisciplinary open innovation

A society where many people can show their entrepreneurship will be constructed by utilizing IT actively and creation of IT start-up companies which create new business and new services will be promoted, and groups of specialized companies that are globally competitive will be established by engaging in "open innovation".

In addition, the use of IT will be encouraged by service related and other small and medium businesses and measures will be taken to reinvigorate Japan’s regional areas. Proactive measures will be taken to enhance Japan’s competitiveness by responding promptly to a new era of digital manufacturing.

To achieve these objectives, in addition existing measures implemented on an ongoing basis to support start-up companies, enhancement of intermediary functions for supplying risk money including encouraging the use of innovative financing methods that employ IT such as crowd funding and establishing collaborative associations to develop environments that support startup companies including the creation of IT startup funds as well as the introduction of new human resource development format that use financial methods for promoting efforts to support the emergence of entrepreneurship will be promoted. Moreover the digging out and support for talented human resources, businesses, ideas and so on with future potential through contests and other means, the provision of necessary knowledge and data, the support by specialists will be encouraged. In addition, measures will be taken to improve environments where skilled persons and entities, including active use of start-up companies in IT procurement by the government, and to accelerate collaboration among skilled individuals and businesses including collaboration with Silicon Valley.

In order to promote the use of IT including the cloud by small and medium businesses, measures will be taken to raise the quality of local IT consulting human resources and networks

will be created among consulting human resources and small and medium business support organizations to establish systems that can broadly identify burgeoning IT use including the cloud by small and medium businesses. These systems will be used to deploy IT use best practices among small and medium businesses and to develop support systems for spreading cloud and other IT use through the participation of cloud business operators and broadband service providers with a target of 2015.

Furthermore, tools will be developed and deployed to enable evaluation of the status of use of IT by small and medium businesses and small and medium business support organizations. The entrepreneurship IT related measures package (subtitled the “Entrepreneurship by IT Package”) that organizes these types of measures that should be integrated and implemented will be comprehensively reviewed to facilitate use in regional settings, and this package shall be further promoted widely in society.

Through these measures, high service levels and effective corporate management achieved by the use of IT and data will be promoted, leading to higher competitiveness and greater activity by small and medium business enterprises including start-up companies.

KPI

- Number of new companies established
- Status of utilization of support programs
- Number of users of the entrepreneurship IT related measures package

(3) Diversifying types of employment and achieving a good life-work balance

Cloud computing and other IT services will be employed to enable work that is not tied to a specific locations such as outside the office, at home, and in remote areas including mountainous regions according to the circumstances of various persons including youth, women, senior citizens, caregivers, and handicapped persons and the content of their work. This will lead to the development of a society where people can choose from among various and flexible types of employment. Also, efforts will be made to expand the adoption of telework to help workers maintain a good life-work balance and invigorate local communities.

To these ends, government will collaborate with industry to support employment models for teleworking from home that allow workers to spend at least one full workday per week at home targeting women engaged in child raising, who find it particularly difficult to continue working, as well as men participating in childcare, and caregivers. The target is full development and widespread adoption of such models by 2016 to encourage greater social participation by

women, secure labor during a time of low birth rates and an again population, support greater participation by men in childcare, and achieve balance between work and care giving.

As a part of these efforts, flows of people to local regions will be encouraged by encouraging telework (*furusato* telework) including work at satellite offices that enable people to perform their jobs while living in such regions.

Furthermore, it is also important that government agencies continue to encourage changes in work styles such as by supporting telework. For this purpose, measures will be taken by individual ministries based on the the telework roadmap for national government employees, and efforts will be made to expand telework throughout society as a whole.

As a result of these initiatives, the number of companies that have introduced telework will increase threefold by 2020 compared to 2012 and the percentage of workers who telework and work from home at least one day per week will reach at least 10%. Measures to support the employment of women including the above will raise the percentage of women who continue working before and after having their first child to 55% (compared to 38.0% in 2009) and the employment rate of women aged 25 to 44 years to 73% (compared to 66.8% in 2011).

In addition, employment matching will be conducted, the shifts to high-growth fields and from urban areas to rural areas will be encouraged, and employment of persons who want jobs will be supported by using IT to reinforce employment support functions such as the HelloWork Internet job search service to facilitate the employment of unemployed youth, job-seeking women who are raising children, have left work, or retired, middle-aged and senior workers, and others in jobs that suite their circumstances or make use of their specialized knowledge and experience as well as employment that eliminates the gap in various working conditions including skills and treatment between employed persons and job seekers.

KPI

- Number of companies that have introduced telework
- Percentage of workers who telework from home at least one full day per week (number of workers who telework from home at least one full day per week)
- Reinforcement of job search support functions using IT such as HelloWork

3. A Society where People Experience Safety, Security, and Prosperity by Utilizing IT

(1) Creating a healthy society of longevity through the provision of appropriate local healthcare and nursing care and promotion of good health

In light of the significant issues that Japan is facing in healthcare including shortages and uneven distribution of doctors in local areas, higher burdens on healthcare workers, and rising demand for healthcare and nursing care as a result of the coming extreme aging of Japan's population, systems will be created to improve and manage health and prevent disease by gaining the understanding of all members of the public about the effectiveness of using data, leading to autonomous use by the public. Sustainable structures that facilitate the acceptance with peace of mind of effective and efficient healthcare and nursing care and livelihood support services when needed will also be created. Through various policies that include these measures, a society where people can live long, healthy, and independent lives (a healthy society of longevity) will be established and corresponding new services and new industries will be created, achieving an increase in healthy life spans of at least one year by 2020 (compared to 2010). To carry out these objectives, the following two measures will be implemented.

(a) Expansion of effective, efficient, and high-quality healthcare and nursing care services

Structures will be created to facilitate the sharing of information concerning healthcare, nursing care, and health and collaboration among healthcare institutions and providers of remote healthcare, home-based healthcare and nursing care, and livelihood support services. Also, systems will be developed for the provision of effective and efficient healthcare and nursing care.

To carry this out, the cost effectiveness of the regional medical information networks will be improved by establishing standards for data and system specifications, investigating operating rules, and drastically reducing system-related costs with the aim of building infrastructure for the use of healthcare information that supports the provision of healthcare services to citizens in different regions. These programs will be expanded and deployed nationwide by FY 2018.

To provide appropriate healthcare, nursing care, and livelihood support services tailored to user circumstances, various bodies involved in comprehensive regional care will share information and collaborate, and considering that that provision of appropriate nursing care services will lead to improvements in the need for those services by users, measures will be taken to improve the objective assessment of these services and their content, and investigations will be conducted to formulate specific policies for verifying effects and expanding and developing effective and efficient nursing care services.

The social security and tax number system infrastructure will be used and systems that can confirm health insurance qualifications online will be developed in healthcare institution contact points to establish systems that enable the use of individual number cards as health insurance cards. In addition, online qualification confirmation infrastructure will be used and numbers used in healthcare and other fields will be introduced at an early stage.

Furthermore, development, trials, and practical application of sensor and robotic technologies relating to healthcare, nursing care, and livelihood support services will be carried out to encourage autonomous living and social participation by senior citizens and to contribute to improving quality of life.

In conjunction with these measures, systems will be created for the centralized and continuous management and utilization by patients and individuals of their own healthcare and health information and personal management of lifestyle-related disease. Investigations will also be conducted into improving the functions of electronic medicine notebooks so that patients can obtain medication information at any time from anywhere and obtain appropriate guidance from pharmacists and others. The regional medical information networks will be expanded to all regions nationwide and their use by the public encouraged with a target of FY 2018.

(b) Enhancing the use of various types of data such as healthcare and health information including measures for improving health conditions for the working ages

Measures will be taken for appropriate and continuous improvements in health according to individual lifestyles and to prevent the occurrence of disease and serious conditions by using various types of medical, healthcare and related data while working to raise understanding concerning the effectiveness of preventing the incidence of lifestyle-related diseases and serious conditions in individual members of the public.

To carry this out, insurers, local governmental bodies, and companies will use medical checkup data, medical insurance claim data, and other information to determine and analyze the health status of insured, local residents, and employees and use the results to provide specific health guidance and promote good health with the participation of the individuals. By FY 2016, effective policies will be established for improving and managing the health of citizens in local communities and companies, and based on the results, the policies will be expanded nationwide. In addition, healthcare information databases will be developed to standardize and collect electronic health record data and other information and measures will be taken with regard to safety measures concerning pharmaceutical products and so on using large-scale healthcare information. Also, by making further use of IT in medical insurance claim data reviews, the efficiency and effectiveness of such reviews will be increased, and the use of medical insurance claim data by insurers and local governments will be increased to support measures for the provision of appropriate healthcare.

Systems will also be created to gather, assemble, analyze, and use various types of medical, healthcare and related information that will contribute to these measures.

Also, considering that verification of the health enhancement of effects of agricultural work by senior citizens and existing measures for promoting good health through diet have indicated

substantial health benefits of exercise and diet, models for improving health including diverse styles of working in different regions and Japan’s unique dietary practices will be investigated and created and methods of spreading those models will be actively examined.

KPI

- Nationwide expansion and deployment of the regional medical information networks based on the cost effectiveness and sustainability of introduced systems
- Spread of systems that enable information sharing and collaboration by diverse organizations involved in healthcare and nursing care
- Extension of healthy life spans (or extension of healthy life spans beyond increases in average life span)
- Maintenance of healthy life spans at the world’s highest levels

(2) Achieving advances in Japanese agriculture and peripheral industries, converting them into intelligent industries through the use of IT, and deployed business models internationally (Made by Japan Agriculture)

While the efforts of information utilization in the agricultural sector is being developed globally, we will enhance dramatically the industrial competitiveness and international competitiveness in its agricultural area by accelerating the creation and distribution of agricultural information and achieving the world's most advanced IT utilization in the agriculture field and contributing to regional development in Japan.

To achieve this, on the basis of the agriculture information creation and distribution promotion strategy adopted in 2014 as a basic concept on the handling of information and the standardization to ensure interoperability of the agriculture information, we are formalizing individual guidelines sequentially starting with those that need to be prioritized. At the end of FY 2014, we adopted two different individual guidelines (provisional versions) and a roadmap that indicates the progress of standardization and targets.

These guidelines will be deployed among persons involved in agriculture and persons involved in agricultural IT, and based on their opinions, the provisional versions will be revised and complete operational versions will be adopted. We will formalize individual guidelines relating to remaining fields and investigate the direction of handling of agricultural information will be investigated. In addition, rapid and stable improvement of the added value of agricultural products and productivity of agriculture in Japan will be achieved, and through all of these efforts, we will achieve 1-trillion-yen of export of agricultural and marine products in FY2020,

which is our target. These efforts will also contribute to addressing regional issues by securing employment and incomes.

(a) Enhance of industrial competitiveness of agriculture

Measures concerning agri-informatics (AI) are being taken in Japanese agriculture, which produces high-quality agricultural products, and in the peripheral industries that support agriculture for the advanced use of various types of data including knowledge from outstanding farmers. Based on the results, agricultural business models will be created to transform agriculture into an intelligent industry, and the business models will be deployed overseas to establish “Made by Japan Agriculture.”

Specifically, large volumes of data obtained through measurements at agricultural sites will be accumulated, analyzed, and understood for multiple applications such as distributing the knowledge of outstanding farmers with high production technologies for human resource development and the sharing and use of information by numerous operators including small-scale farmers to raise profitability. Measures will be taken to create intelligent intensive production methods by 2016 and the resulting business models will use to invigorate local regions and will transform agriculture into knowledge industry by deploying overseas. In addition, encourage corporation to enter agriculture and the incorporation of agricultural operations and environmental improvement of the development of the farmland information, and promote new entry into agricultural management, ensure smooth successor, and encourage larger scale operations during FY 2015.

(b) Advancement of related industries

In related industries of agricultural materials, equipment, etc., in addition to the use of Agricultural Information, which contains “Agri Informatics”, efforts called smart agriculture, such as granular fertilizer application in the each field that used the field data by sensor deployment to the agricultural machinery and collecting data relating to the harvest and productivity improvement by cooperative driving agricultural machinery utilizing the automatic driving system based on GPS and a quasi-zenith satellites have been considered and implemented. By ensuring information security and the safety of these technologies and adding to the utilization of the information, realize solution deployments which utilize distribution information and know-how of a wide variety of agriculture-related to grow to one of the main sources of revenue of the agriculture industry by 2018.

(c) Strengthening of market development and management

To accelerate the distribution of information from the farm to the table, efforts are being made through collaboration by individual ministries to take measures that will contribute to the creation of a value chain. In particular, we will improve the evaluation of agricultural products by the distribution of value-added information which made from information distribution, including the traceability system described above and promote the utilization and construction of objective criteria of producers and/or production organization through the distribution of shipping information. We aim to establish a safe and secure Japan brand by synergistic effect of higher value as a result. Then, put the overseas development of the technology and agricultural products produced by the use of IT technology on a growth track from FY 2017 and realize the creation of new business through the utilization of shipping information.

KPI

- Status of practical application of the results of past research and demonstration projects by each ministry, technology transfers, and deployment
- Quantitative status relating to the providers of agricultural IT equipment and services and users of such equipment and services (market scale, sales, penetration rates, etc.)
- Status of guideline preparation in light of the agriculture information creation and distribution promotion strategy and status of deployment
- Status of overseas adoption of Japanese-style agriculture service solutions

(3) The world's safest, environmentally-friendly, and economical road transportation

Intelligent Transport System (ITS) technologies including map information, geospatial data such as position data for vehicles and individuals, and accumulated data will be used to enable the timely exchange of information among vehicles, between the road and vehicles, and between vehicles and individuals. This will reduce the risks of traffic accidents, alleviate traffic congestion, and contribute to the establishment of safe, environmentally-friendly, and economical road transportation.

Mobility support systems will be created to enable safe, secure, and efficient mobility by persons with restricted mobility such as senior citizens and disabled individuals. Also, systems will be built to make suggestions concerning optimal methods and transport combining cars with public transportation based on accurate determination of needs when people travel.

To carry out these measures, based on an inter-ministerial roadmap "Future Design of ITS by Public-Private and its Roadmap 2015", safe driving support and automated driving systems will be developed and put into practical use and the use of traffic data will be encouraged. Through

this process, toward 2020 Tokyo Olympic and Paralympic Games , the world's most advanced ITS will be created disseminated worldwide.

Specifically, infrastructure will be developed at major intersections nationwide, compatible onboard devices and pedestrian terminals that take into consideration senior citizens and children will be developed and put into use and measures taken to support their introduction to accelerate the rapid practical application of safe driving support systems currently being undertaken through collaboration by the public and private sectors. Automotive autonomous systems and collaborative systems (vehicle-to-vehicle communications, infrastructure-to-vehicle communications, etc.) will be combined with satellite positioning and other technologies to advance driving support technologies. Trials will be conducted on public roads for future practical application including implementation of leading demonstration projects in model regions premised on actual adoption in society, and in the early 2020's, semi-autonomous driving systems (level 3) will be marketed, with provisional operation of fully autonomous systems (level 4) to begin in the late 2020's. In addition, ultra-compact mobility devices (ultra-compact vehicles that can accommodate one to two passengers) using mobility support robotic technology will be developed and their adoption encouraged.

Environments will be created that allow the use of ET C and other IT S technologies at parking facilities and other facilities other than highways to increase their convenience. Measures will be taken concerning the collection and distribution of traffic information that is useful for safe driving support, traffic congestion countermeasures, disaster countermeasures, and so on and environments will be developed for using automobile related information. Also, measures will be taken for the creation of specific new services and industrial innovation such as new insurance services that make use of telematics and so on and traceability services that collect and use historical automobile information.

Information concerning these ITS technologies developed in Japan will continue to be disseminated in Japan and to other countries at the ITS World Congress and at other forums.

As a result of these measures, the number of traffic accident fatalities will be reduced to less than 2,500 by about 2018. Also, the world's safest road transportation will be created (the world's lowest rate of traffic fatalities compared to population) and traffic congestion will be greatly reduced by 2020 with the aim of establishing the world's safest and most efficient road traffic society by 2030.

KPI

- Number of traffic fatalities
- Status of traffic congestion
- Mobility support for senior citizens and others

(4) Creating the world's safest and most disaster-resilient society

Disaster response and damage reduction information infrastructure will be built to enable all members of the public to obtain accurate disaster-related information through various reliable means during an emergency. A disaster-resilient society, where we can find the maximization of rescued lives even when a major disaster strikes, is established by the use of IT for life-saving, firefighting, and other operations to support any of those activities efficiently, and for estimating damages precisely using simulation functionality.

Also, sensors, robots, nondestructive testing, computer aided construction, and other technologies will be used to accurately determine the status of social infrastructure, accumulate information, and use that information to extend the safe life of social infrastructure, contributing to the development of the world's safest and most economical social infrastructure.

(a) Building disaster response and damage reduction systems including systems for the provision of disaster-related information to protect lives

Robust communications and broadcasting infrastructure and other systems will be built to enable the public to obtain accurate disaster-related information by various reliable means during emergencies. When major disaster strikes, the effective actions are taken because established disaster-resilient society, where we can maximize the rescued lives, is equipped with highly-precise position information and message communication functionalities by the use of Quasi-Zenith Satellite System, clear grasp of damaged status by using IT, the use of remote operation for saving lives and firefighting, and computer aided construction for quick recovery from disaster. Also, the society will have accurate earthquake and tsunami predictions by advanced simulation functionalities through development of state-of-the-art supercomputer.

For that purpose, the public and private sectors will cooperate to encourage the use of geospatial information, sharing of the disaster prevention and mitigation information among many entities will be promoted by using non-government information compensating information collection by government and the Internet will be used to provide disaster-related information from comprehensive disaster response information systems shared by some government ministries and agencies from the perspective of encouraging open data to make it possible for anyone to rapidly access and use geospatial information and disaster-related information.

In addition, systems will be created for the collection and dissemination of multifaceted information using diverse media including establishing redundancies and diversification of

means of instant information dissemination using J-Alert, encouraging nationwide operation of L- Alert for centralized dissemination of disaster information to various devices, and deployment of telecommunications terminals that can provide disaster response and damage reduction information even during normal times. This will enable all members of the public to obtain accurate disaster-related information using public and private sector services.
By implementing these measures, multifaceted systems for collecting and disseminating information using various media will be created by FY 2015 and information on the results will be broadly disseminated to the public to empower.

Furthermore, disaster response robots and other devices that can be operated remotely using IT will be introduced by FY 2018 for use during large-scale disasters and unique accidents where a site cannot be approached. Continued advances in these devices will be made and geospatial information will be used to guide people to evacuation sites, and introduction for firefighting measures will be investigated by FY 2016 with introduction in FY 2020.

(b) Establishing the world's safest and most economical social infrastructure through the use of IT

Managers of social infrastructure will make use of data concerning the status of various facilities necessary for the maintenance and management of social infrastructure and data from computer aided construction and rapidly identify and respond to irregularities to prevent accidents. In addition, social infrastructure will be made safer and its lifespan extended, national resilience enhanced, and total lifecycle costs relating to maintenance, management, and updating reduced by rapidly discovering damage and implementing preventing measures before large-scale repairs are needed.

To do this, a database will be created concerning the status of various facilities starting in FY 2013 so that social infrastructure managers can identify data necessary for maintaining, managing, and updating social infrastructure. A platform will be created for integrated handling of the data, with partial operations to start in FY 2014 and a transition towards full-scale operation in FY 2015 while bolstering functionality. In conjunction with these measures, utilization of various facilities by managers will be encouraged and that utilization will be made visible to the public.

In addition, research and development as well as the introduction of sensors, robots, nondestructive testing, and ultra low power consumption telecommunication that can lead to the early identification of deterioration and damage and higher efficiency maintenance and management operations will be encouraged. Research and development will include examination of future expansion including full consideration will be given to needs, reliability, and economics to facilitate introduction of the developed technology at use sites.

Industry, academia, and government will collaborate to introduce at use sites low-cost technologies relating to the determining the status of deterioration of social infrastructure that is tailored to specific use sites by combining sensor, robotic, nondestructive testing, and other technologies with large-scale data processing technology by FY 2020 to establish the world's most advanced high-precision analysis techniques.

As a result of these measures, new industries relating to the maintenance and management of social infrastructure will be created. Also, inspections and repairs of 20 percent of key and aging infrastructure in Japan will be conducted using sensors and other technologies, and successful models for countermeasures to aging social infrastructure, which may become a common issue around the world, will be developed and deployed internationally to position Japan as a frontrunner in this field.

KPI

- Diffusion rate of communication tools available at the time of deserter
- Number of incidents involving social infrastructure

(5) Efficient and stable energy management in homes and communities

Achieving reductions in peak energy consumption, which has been a major issue since the Great East Japan Earthquake, will require responses on the supply side as well as energy management that can intelligently control demand.

Until now, energy demand has been treated as a given and supply and demand has been managed primarily by electric power companies adjusting supply. In contrast to this, systems will be created to enable users to actively participate in management of energy including electricity such as demand responses that enable users to make demand choices based on the status of supply.

In the private sector, the roles of aggregators that use IT and cloud computing technologies to bundle small-scale users and provide effective energy management services will become increasingly important. The establishment of aggregators as a new business sector will lead to efficient energy management.

To carry out these measures, a demonstration project relating to "negawatt power transactions" involving trade in household demand reductions will be conducted in FY 2015 to verify the effectiveness of the Negawatt Trading Guidelines formulated in FY 2014 and develop environments for conducting negawatt power transactions by focusing on the potential of such transactions. Furthermore, in conjunction with changes to legal systems including the

liberalization of entry into the retail electric power business, which is scheduled for 2016, nationwide deployment of smart meters and the spread of efficient and stable energy demand using demand response will be promoted, and the environmental improvement will be promoted to create life support services using power use data obtained from HEMS (home energy management systems).

KPI

- Status of spread of demand response

(6) Creating new business and reinforcing international competitiveness in the imaging industry through the creation of next-generation broadcasting and telecommunication services

New markets will be created through 4K and 8K broadcasting services, which offer ultra-high-resolution and a sense of 'being there', and by Japan being among the first in the world to create next-generation broadcasting services such as distribution of contents and application use via smart televisions that completely integrate digital signage, broadcast program and the internet. The targets for the start of practical 4K broadcasts and 8K broadcasts are 2015 and 2018, respectively.

To achieve these objectives, an environment will be developed for the creation of systems for businesses involved in broadcasting to share and execute targets and action plans and an environment will be developed to facilitate the adoption and public announcement of technical and organizational rules necessary for practical application, international standardization, and verification of technologies. In addition, new open media spaces will be created to allow participation by anyone with the desire to provide programming or applications. An environment will be developed and 4K and 8K broadcasts will be expanded to enable numerous viewers to enjoy 4K and 8K programming and smart television compatible services on market television sets by 2020.

Based on the results of introduction, Japan's next-generation broadcasting and telecommunication services will be packaged for international adoption.

KPI

- Status of achievement of establishing environments for starting 4K and 8K broadcasting and other services.
- Degree of enhancement of broadcasting and communications collaborative services for resolving social issues

(7) Presenting “Omotenashi” using the most advanced IT at the opportunity of Tokyo 2020 Olympic and Paralympic Games and other events

In 2020, a target year for this strategy, Tokyo 2020 Olympic and Paralympic Games will be held, and considering that many domestic travelers and travelers from abroad are expected to visit Japan, seamless and integrated action will be supported from entry into the country, travel, lodging, and departure.

Creation of environments to provide various services tailored to individual attributes, promotion of use of open data including tourism information, and so on, next-generation broadcasting and telecommunication services using 4K and 8K, digital signage, road transport services via world most advanced ITS, promotion of low cost and comfortably usable telecommunication network infrastructure for such as charge-free public wireless LAN, advancement of multilingual speech translation systems eliminating verbal barrier, establishment of fifth generation mobile communications systems (5G) and more will be required. Under these situations, the use of IT throughout society will be promoted, the range of IT use will be expanded, and industrial competitiveness will be enhanced by presenting “Omotenashi” worldwide by use of the most advanced IT with ensuring security and safety including cyber security.

4. A society where one-stop public services are available by utilizing IT

(1) Utilization of the Social Security and Tax Number System with the promise of safety and security

It is important to promise the sufficient level of information security measures in order to reduce anxiety among the public. Without promising that, utilization of Individual Number cannot be positively accepted and promoted as one of key elements for economic growth.

When introducing the Social Security and Tax Number System, various security management measures are taken in terms of both institution and computer system. For example, the basic management of personal data has not changed. The different governmental agencies are responsible for taking control over personal data management. The Social Security and Tax Number System does not mean the data is centralized and controlled.

In addition, Individual Number itself is not going to be used as a matching key among all concerning governmental agencies. When data transmission action among certain governmental

agencies is taken place through the Cooperation Network System for Personal Information, the network system generates a different code for each agency and uses it as a coordination key, shutting out other administrative agencies. Moreover, Specific Personnel Information Protection Commission, the independent third party organization, is responsible for inspection and supervision for the utilization of Individual Number among all concerning agencies. In case of letting personal data file with Individual Number itself circulate without any clear reasons, the data provider is heavily punished.

The necessary measures, such as review and improvement of current guidelines, are continuously discussed to strengthen further security for achieving full utilization of Individual Number.

(a) Expanding the scope of use of utilization of social security and tax numbers

The study group of experts, organized to discuss administrative procedures for family registration and its computer system, has been identifying and organizing necessary discussion points and is aiming at submitting their inquiry to Legislative Council of Ministry of Justice sometime after February 2016. The topic is a part of discussion about how the utilization of Individual Number should be, including its merits and further concerns. After the submission of inquiry, specific measures will be discussed based on extracted major concerns, and the necessary legislative measures will be taken by the time of ordinary session of the Diet in 2019.

Regarding administrative procedure for passport issue, the necessary legislative measures will be also taken by the time of ordinary session of the Diet in 2019 while referring the status of discussion on that for family registration.

Additionally, further study about how Individual Number utilization should be, including its merits and further concerns will be held in the area of information management operation about overseas notice for Japanese resident abroad, securities and other fields of work which have public nature. Based on the results of study, the necessary legislative measures and others will be also taken by the time of ordinary session of the Diet in 2019.

(b) Promoting the widespread adoption and utilization of Individual Number Card

The unification of Individual Number Cards and ID cards of national public officers will be started from January 2016. It will be also encouraged for local government offices, incorporated administrative agencies, national universities, and private sectors to utilize Individual Number Cards as their ID cards for staff members. In addition, it is considered to use Individual Number Cards as cash cards, debit cards, and credit cards, as well as to make the use of the Disclosure System of Personal Information Cooperation Record through ATMs starting in FY 2017. In order to realize that, the discussion with private sectors will be taken place. For such promotion,

it is necessary to ensure the security of personal data and the prevention of financial crimes. As online confirmation system for health insurance qualification is developed shortly after July 2017, Individual Number Cards will be expected to be used as health insurance cards. Moreover, it will be also considered to unify Individual Number Cards with other governmental cards, such as seal impression registration identification cards. It will be gradually realized to add more functionalities based on the discussion about how far Individual Number Cards can take the role of public certification or permission confirmation of every kind.

The discussion is taken place between all concerning stakeholders about necessary technology development to make the functionality of the public key infrastructure available in smartphone. One, planned to develop in 2017, is for reading application format, and the other, in 2019, is for downloading of user confirmation functions.

In FY 2017, one stop services will be extensively expanded in the area of Motor vehicle inspection and registration work. In order to realize that, it is concerned to utilize the public key infrastructure functions of Individual Number Cards, as well as rationalization of document submission process.

The public services provided by the Social Security and Tax Number System will be diversified with the realization of certain public services available by using Individual Number Cards at convenience store. The scope of available public service by using Individual Number Cards in convenience store is to obtain copies of residence certificates, personal seal registration certificates, family register copies, and so on. With such approach, the government is aiming at increasing the service users as 60 million and over in FY 2016. Furthermore, it is considered to start issuing Individual Number Cards for Japanese residents in other countries who do not have residence certificates, and making continuous use of the public key infrastructure services for those who have submitted overseas moving-out notification, in FY 2019.

(c) Development of the Disclosure System of Personal Information Cooperation Record and its utilization

In line with starting the Disclosure System of Personal Information Cooperation Record and its use in January 2017, submission of the public and the private certificates through use of electronic lockbox functions, and one stop services for certain life events such as house-moving notice, obituary notice will be possible. It is also considered the service accessibility to such administrative procedure is available with various kinds of digital devices, such as TV, and smartphones. In order to realize such environment, the government and the private sector will strengthen their collaboration to develop the system with the positive use of the public key infrastructure functions of Individual Number Cards.

(d) Increasing the efficiency of governmental procurement procedure by taking full advantage of Individual Number Card and Corporate Number

The institutional measures and its computer system development is considered further in depth in order for those who obtain delegation of authority from corporate representative to be able to handle application submission and contract exchange digitally without conducting face-to-face communication nor paper based documents. Based on the considered measures and its computer system, the entire governmental procurement from examine bid participation qualification to exchanging contract agreement will be gradually shifted to digitalization with promoting the use of Individual Number Card and Corporate Number. The first step of starting the system is targeted in FY 2017.

Information about bid participation qualification and procurement is shared among the national and local governmental agencies. Having such shared data base contributes to make accessibility to procurement information simple and easy. Moreover, it is expected that more private sector companies participate in the governmental procurements. The use of this regarding computer system will be available to local governmental agencies starting from FY 2017.

(e) Promoting the utilization of Corporate Number

Regarding the use of Corporate Number, increase of the utility value and use required business scene is the key. The examples of use required business scene are putting the Number in the reports issued by governmental agencies, and promotion to set the linkage between the current or existing corporate number to search Corporate Number information easily.

KPI

- Number of issued Individual Number Cards, etc.

(2) Provision of highly convenient electronic government services

Functions for the provision of services that were previously undertaken by government will be opened to the private sector and highly convenient services will be created through collaboration by the public and private sectors. Open user environments that utilize cloud computing are being developed through the standardization and sharing of data format, terminologies, codes, and characters and the public release of application interfaces (API) to facilitate active participation by members of the public as stakeholders. With regard to the

standardization and sharing of characters in particular, information systems developed in the future will in principle use character data platforms that conform to international standards.

When designing online services, the objective will be to digitalize the entire service value chain with the aim of increasing convenience and raising overall efficiency. Marketing techniques will be employed for the design of user-centric services and services will be provided through appropriate channels such as smartphone and tablet terminals.

Efforts will be made based on “Policy for Improving Convenience of Online Procedures” (decided in a liaison committee of ministry CIOs on April 1, 2014) and “Action Plan for Development of Disclosed IT Utilization Environment in the field of Administration” (decided in a liaison committee of ministry CIOs on April 25, 2014). With regard to government websites, measures will be taken pursuant to the “Basic Policy on the Provision and Promotion of Use of Government Information the a Websites and Other Means” (decided in a liaison committee of ministry CIOs on March 27, 2015) and websites will be updated to create sites that are more convenient from users’ perspectives by progressively publicly disclosing API for government websites and taking other measures.

In preparation for the utilization of cloud computing and the Social Security and Tax Number System, operational reforms will be systematically implemented, security measures will be implemented to properly manage important information including personal information, and highly convenient online services including the one-stop services that users want and customizable services that can be accessed via mobile terminals will be provided, and efficient administrative operations will be conducted.

KPI

- Degree of satisfaction with services by users, number of website hits, number of APIs released

(3) Reforming government information systems on the national and local levels

Comprehensive reforms will be implemented when investing in IT. When updating individual information systems, individual governmental ministries and agencies will adopt detailed reform plans that specify their vision for improving services and streamlining and raising the efficiency of operations, the details of necessary reforms to legal, organizational and operational systems, and the effects of investment. Operational and system reforms will be implemented systemically based on these plans.

In addition, extensive use of cloud computing will lead to higher efficiencies on larger scales, seamless collaboration that eliminates vertical organizational divisions, improved ability to

respond rapidly and flexibly to change, and substantial cost reductions through more efficient administrative operations.

To carry out these measures, portfolio management relating to government investment in IT will be introduced, individual investment effects will be verified, and effects results will be determined each fiscal year. Based on the verification of investment effects, the roadmap related to government information system reforms will be reviewed as necessary, redundant information systems and networks will be consolidated, and systems for which there is little need will be reviewed under the direction of the government CIO and the transition to a common government platform will be implemented. At the same time, environment and functions of the government common platform as government private clouds including development environment and remote desktop functions will be improved and enriched. As for the review of the government information system, the government common platform will be utilized and use of package software will be promoted.

Also, the digitization of information (going paperless and digital archive) and higher productivity will be achieved through the use of mobile terminals and other means, and reforms will be implemented with regard to employee work styles taking into consideration the work-life balance and the ability to continue operations during emergencies.

As a result of these initiatives, the number of information systems in use will be reduced by nearly half the current number (approximately 1,500 in FY 2012) by FY 2018. With the exception of systems that require special consideration such as those in need of large-scale updating based on reviews of operations, in principle, all government systems will the shifted to cloud-based systems with a target of FY 2012, and a disaster-resilient and highly-secure government platform will be created and operating costs reduced (with a target of approximately 30%) while achieving distribution of operating sites.

Especially, as for large systems, operational cost will be reduced drastically through the reviews by the government CIO, and strategic measures will be taken to rebuild the system to one having higher added value based on the users' viewpoints and business process reform (BPR).

For the regional and local government information systems whose contents are nationwide uniform services and system, efficiency improvement of system development and operation will be promoted, for enabling unified development and procurement by each ministry and agency with reasonable cost sharing, and nationwide common use of the system.

With regard to the local government cloud, the period until FY 2017 will be positioned as a period for intensive action concerning local government cloud computing, and measures by local public bodies will be accelerated by introducing shared operations and standardization (aiming at the doubling of the number of local governments adopting cloud computing with a

focus on the local government cloud). Moreover, the reform of local government information systems will be promoted according to the progress of “government information system reform roadmap.” Through these efforts, the operation cost of local government’s information system will be reduced (seeking a 30 percent reduction in cost).

In order to provide beneficial and highly convenient administrative services to the public and promote economic growth, the National and Regional IT Adoption and BPR Promotion Team led by the Government CIO was established under the IT Strategic Headquarters e-Government Ministerial Conference in April 2015 and adopted the “e-Government Ministerial Conference National and Local IT Adoption and BPR Promotion Team first report” (June 2015 national and regional IT adoption and BPR promotion team), and the measures described above will be implemented based on this report.

Specifically, following the start of operation of the regional information sharing network system in July 2017, investigations will be conducted on childcare one-stop services using the Social Security and Tax Number System and other measures will be taken to reform online administrative services. In addition, operations will be reformed by reviewing administrative processes premised on appearing in sight and submitting paper documents and implementing inter-organizational service designs to increase efficiency, reduce labor, and improve administrative services within individual ministerial operations. Measures will be taken to reduce government information system operating costs will be reduced and raise the efficiency of public administration.

In addition, reform of local government information systems will be encouraged, and sharing and standardization of operations will be implemented at those bodies that have not yet implemented the local government cloud while accelerating measures for the introduction of the local government cloud in order to reduce the costs of those information systems. In addition, further enhancement of cloud quality will be achieved through means such as expanding the scope of cloud operations by further sharing and standardization of operations at those bodies that have introduced the local government cloud. Through these measures, operating costs for local government information systems will be reduced (30% reduction). Investigations will also be conducted and a conclusion will be made in the summer of 2016 regarding measures to further reduce costs and raise quality.

KPI

- Reduction in the number of government information systems and reduction in system operating costs
- Targets for going paperless (electronic payment rate, etc.)

(4) Reinforcing IT governance in government

IT governance by the government CIO will be reinforced and strategic IT investment management will be conducted throughout the government to engage in aggressive IT investment and completely eliminate waste.

To achieve this, an investment plan for government information systems will be adopted and implemented under the leadership of the government CIO in conjunction with preparation of budgets to steadily implement the roadmap for reforming government information systems. Also, improvements will be made to the Japanese “IT dashboard” (a structure that enables members of the public to confirm at a glance via the Internet the status of IT investment by individual government ministries and agencies), operations of which began in FY 2014.

Based on the “Government Information System Development and Management Standardization Guidelines” (decided in a liaison committee of ministry CIOs on December 3, 2014), low cost and high quality projects will be implemented and system management will be firmly established. In addition, operation of a pool system for government CIO aides, databases for managing government information system assets and review systems will be firmly established while reinforcing monitoring functions for large-scale and high-risk projects.

Moreover, to foster IT human resources within government, training programs will be reviewed and across-the-board measures taken to improve those programs. Ministries and agencies will implement personnel exchanges with government CIO staff organizations and organizations that carry out large-scale projects involving multiple agencies such as shared government platforms to systematically train IT personnel and clarify career paths. Also, innovations will be implemented with regard to personnel rotations to ensure that core personnel working on ministry and agency projects are retained in their posts until appropriate stages of the project life cycle are reached.

In conjunction with these measures, measures will be taken to address procurement of government information systems including ending vender lock in to reduce costs and taking action with the aim of conducting strategic procurement for establish a more transparent and competitive market. Then, for procurement and others of common inter-ministry systems, under the responsibility of the government CIO, system improvement will be implemented for examination of specifications. Moreover, preparation and clarification of the system required specifications at the side of government, ministries and agencies, encouraging the utilization of open source software, standardization, and shared use, and by conducting procurement that makes use of economies of scale throughout the entire government through consolidation and

integration and the introduction of government licenses for necessary operating systems and other software.

IV. Strengthening socio-economic infrastructure through promoting IT utilization

1. Human Resource Development and Education

To be the nation with “rich information resources” through establishing the world’s top level society with full utilization of IT, it is necessary to develop human resources who can drive, support, and enjoy this transformation to gain the best benefits to enrich their daily life. Additionally, it is necessary to investigate and develop policies based on our globally recognized sense of ethics and moral as well as initiatives to maintain and enhance Japan’s safe and secure living environment.

In order to realize the enhancement of IT utilization capability for all the people, it will be necessary to prepare information education in accordance with developmental stages and to investigate the digitalization of the educational environment (infrastructure including software and hardware).

Measures will be formulated in order to strengthen and promote to enrich educational program about “Programming” at the early stage, such as elementary and secondary school. So that children can increase their interest in IT and to strengthen educational program which is aiming at developing individual capacity to solve any complicated social issues and problems with IT.

As for measures for globalization, further collaboration among industry, universities and government is necessary in order to accelerate the progress of required skills and capacities of communication skill with English and other foreign language, as well as problem solving skills with full utilization of IT, as learning skills and capacities required for the newly coming era.

Speaking of progress and achievement status about any measures for human resource development and education, it is important to set appropriate indicators (KPI) for monitoring the changes in IT utilization capability for each generation. When setting up the KPIs, any international indicators such as OECD investigation will be studied and considered. The results of each measure need to be reviewed and evaluated from time to time in order to modify and accelerate the progress.

In order to realize the above mentioned concerns, the following two particular measures are expected to promptly carry out. Those measures are prepared based on "The Strategy for Developing Human Resources with IT Engagement (PEOPLE)" (decided in a liaison committee of ministries ministry CIOs in December 2013).

(1) Creation of a society and improvement of the environment for enjoying benefits of IT

Considering the increase of opportunities for the public to be exposed to IT as a result of expansion of internet as well as rapid growth in the use of smart phones, the IT utilization capability of the public as a whole including awareness of information morals and information security needs to be increased.

In order for anyone from children to senior citizens to live comfortably, measures to obtain skills and knowledge about IT will be more promoted. At the same time, understanding the current status of IT utilization capability level for the public is considering.

To accelerate this policy, activities led by business sectors and NPOs are also significantly important. Therefore, appropriate supporting measures for those activities will be concerned in order to bring more effectiveness with more effort. Additionally speaking, all citizens, no matter where they are, will be able to enjoy their educational opportunity by overcoming geographical, temporal, and economic restrictions with the full utilization of IT as supporting tools for distance learning. Issues regarding the copyright system as it concerns the use of the Internet in education will be studied in depth for taking necessary measures. It is also important to increase the attractiveness of the IT industry as well as creating and promoting various environments and opportunities through which human resource exchanges and job switches can take place more freely among industries without barriers.

Academic ability and IT literacy for children and students are expected to be enhanced and increased as their educational environment is more in touch with IT from primary education. Such an educational environment is equipped by high-speed broadband, one computer per student, electronic blackboards, wireless LAN, digital textbooks and other educational materials. In conjunction with preparing IT equipped educational environments, it is necessary to develop teachers' capacity to take the full advantage of such an educational environment for each student's levels. In addition, training, recruiting, and appointing teaching assistants will be encouraged for the effective use of IT. The teacher's training model is going to be developed in order to build the standardized approach and contents as well as enhancing the teaching skills of, for, and with IT. To actively support teacher capacity enhancement, databases of teaching plans and materials will be prepared and available to all teachers. The database even includes teaching materials which are developed from existing governmental websites for children. For enrichment of such contents and services, it is important to promote cooperation and collaboration from private companies and sectors. Positioning of digital text books and educational materials as well as issues regarding systems including copyrights will be studied for taking necessary measures. The increase of efficiency in school administration will also be encouraged.

Through these measures, educational environments will be digitalized at all elementary, secondary, high, and special support schools in the 2010s. The seamless educational and

learning environment between schools and home will be realized by the digitalization of the school environment and teaching methods based on pre-learning at home will be enhanced.

In addition to digitalization of educational environments, the environment which supports enabling students and others to acquire skills that hold promise for the future such as new technology including digital fabrication as well as robotics, programming, and digital contents development will be established.

(2) Bringing up world highly qualified IT human resources who can lead Japan's IT society

Human resources are the key to innovation. It is necessary to discover and bring up talented human resources who can solve socio-economic issues with IT. It is required that highly qualified IT human resources have problem solving designing capabilities as well as leading abilities using IT utilization.

To bring up such IT human resources with advanced skills and capabilities, it will be necessary to offer practical environments to strengthen said abilities.

To achieve this, it is important to develop an environment where IT human resource can continuously brush up their skills and knowledge. To create such continuous educational environments and opportunities, IT education, for example programming and information security, is considered to be included in school curriculums starting from primary and secondary educational levels. Moreover, the development of educational environment is actively supported for individuals to learn and experience in the cutting edge of technology and knowledge including the IoT and data science. It is expected to realize strengthening the collaboration between industry and institution of higher education From the perspective of raising awareness of learning about IT, promoting competitions such as programming contests is important. Therefore, concerning ministries and agencies are encouraged to support national and regional programming contests through providing support and grant minister's awards.

Strengthening networks and collaboration between industry and higher educational institutes is encouraged to reinforce the development of IT human resources. With such strengthening networks, it is expected to develop practical and specialized educational programs including interdisciplinary nationwide practical educational networks and internships. Additionally, the communication is strengthened in order for industry to increase the awareness about IT driven management reforms and business innovation among top management and business managers. It also is necessary to create attractive role models who have been brought up with practical educational career paths as well as acquire human resources with expected skills.

Moreover, sufficient development and diffusion of IT skill standard in line with technological evolution is important because it contributes to the visibility of status of IT human resources and

their competitiveness. For expanding IT skill standard throughout society, it is encouraged for industry to utilize it as a part of recruiting and internal evaluations. Simultaneously, establishment of supportive working environment is very much concerned to lead individual career shift.

It is also encouraged to discover and support cutting-edge individuals who are responsible for promotion of innovative research utilizing big data, and creation of business and new services through events and projects that encourage entrepreneurship, training courses related to analysis integration of large amount of diverse data, and network formation relevant organizations.

KPI

- Coverage of digital teaching materials
- Level of teaching skills with ICT
- Cumulative total number of people who pass Information Technology Passport Examination

Number of accesses to educational on-line contents and web sites prepared by the government and governmental agencies, and number of attendees for those on-line courses.

2. Securing IT Infrastructure Environments at the World's Highest Levels

With regard to IT infrastructure, the improvement of broadband environments in Japan has advanced in areas such as mobile communications and optical fiber as a result of policies undertaken by the national government since 2000. Going forward, it will be necessary to establish broadband environments at the world's highest levels and appropriately and safely develop IPv6 and the IoT in Japan has advanced in areas such as mobile communications and optical fiber as a result of policies undertaken by the national government since 2000. Going forward, it will be necessary to establish broadband environments at the world's highest levels and appropriately and safely develop IPv6 compatible environments to allow for the utilization of massive volumes of data including accurate position and time information.

From the perspectives of disaster resistance, efficiency, convenience, and redundancy, it is necessary to create a national broadband environment that encompasses all regions including remote islands to will created and the world's most robust broadband environment using satellite broadband and other means to contribute to searching for and safely securing resources not only on land but at sea as well. Capitol will also be necessary to create highly reliable and stable broadband infrastructure to connect Japan to the rest of the world.

The following efforts will be made for this purpose;

(1) With regard to communications network infrastructure, competitive policies will be maintained including policies for securing fair competition among businesses to enable the use of low-cost, high-speed broadband environments. In unprofitable regions such as remote islands, high-speed broadband environments will be developed and secured taking into consideration regional characteristics. In addition, for Tokyo 2020 Olympic and Paralympic Games, the environment of smooth telecommunication at low cost will be sought, such as improving free public wireless LAN environments with high usability for foreigners who will visit Japan. Then, IT infrastructure will be secured to respond to increases in traffic volumes in the era of big data and the IoT.

(2) From the perspective of using IT during a large-scale disaster, redundancy in international IT infrastructure including undersea cables, regional distribution of data centers, which are currently concentrated in the Tokyo region, and regional collaboration, as well as regional distribution of Internet exchanges will be encouraged and backup systems will be built with the aim of establishing resilient and redundant IT infrastructure.

KPI

- Number of ultra-high-speed broadband foundations and zero local governments
- Connectivity rates during disasters
- System restoration time

3. Cyber Security

Risks in cyberspace including cyber attacks are becoming increasingly serious, and this is having an impact on national security and crisis management. These risks can also threaten international competitiveness and give rise to a sense of insecurity among the public.

Under the circumstances, as Japan strives to become the world's highest level IT-based society, reinforcing cyber security will be imperative not only for national security and crisis management, but also for bolstering Japan's industrial competitiveness through the use of IT and data.

Accordingly, specific policies will be implemented through close collaboration between the IT Strategic Headquarters and the Cyber Security Strategy based on the Cyber Security Strategy and the annual action plan. Through these efforts, free, fair, and safe cyberspaces will be created and deployed, contributing to the creation of a society where people can live in safety and security and to ensuring the peace and stability of international society and the security of Japan.

From the perspective of protecting the cyber security of the people and society, the National Center of Incident Readiness and Strategy for Cyber Security (NISC) will expand the scope of monitoring and supervision and enhance monitoring techniques to fundamentally reinforce the response capabilities of government agencies. When undertaking this reinforcement of capabilities, necessary budget will be provided and measures will be taken. Specifically, additional expenses necessary for implementing cyber security policies will be provided from cost savings achieved through increases in administrative efficiency by reforming operations and information systems and reviewing other policies.

Also, functions will be created for intensive security monitoring of the large government wide area network (LGWAN) and other measures will be taken for information collaboration with GSOC to build comprehensive monitoring and detections systems for national and local the Social Security and Tax Number System, ensuring the security of the Social Security and Tax Number System.

4. Encouraging Research and Development and Collaboration among the Results of Research and Development

Continuous cutting-edge technology research and development is crucial for using IT and data in ways that leads to the improvement of society and industry, and how to put this into practice in society is central.

In order to create the world's most advanced IT-based society and maintain and further its development, it will be necessary to conduct research and development and seek creative human resources while monitoring developments in the telecommunications-based society. Cutting-edge international network bases will be created to foster collaboration among cutting-edge international research communities in various world-leading fields of science and technology for cutting-edge technologies that will lead to innovation. For example, through advances in the IoT and IA, world cutting-edge research and development will be conducted on the ultra-high-speed network transmission, recognition, data processing and analysis, high-performance computing software development, nondestructive testing, device, sensor, robotics, and security technologies that will be necessary for the formation of a society that supports mutual collaboration between the real world and cyberspace. Also, highly-developed multilingual speech translation systems eliminating verbal barriers with IT strategies will be needed to promptly and accurately link the results of research with IT strategies..

To achieve this, research and development and social implementation will be encouraged in collaboration with the Council for Science, Technology and Innovation Policy and measures

will be taken to establish the results as international standards and gain widespread international acceptance.

V. Structures for Implementing This Strategy and Implementation Policies

1. PDCA Cycle for the Strategy and Other Implementation Structures

In order to create the world's most advanced IT-based society, the Government CIO will play a central role in overseeing and directly participating in inter-ministerial coordination so that the measures of each ministry and agency can be intertwined and strong efforts will be made towards achieving targets with the aim of implementing the PDCA cycle in a timely and appropriate matter and spiraling up efforts.

(1) Exercise of the government CIO's guidance functions

The government CIO will act in a guiding capacity with respect to the following four points to ensure the strong and steady implementation of this Strategy.

(a) Close collaboration among relevant ministries will be conducted to address high-priority issues such as rejuvenation of local communities, increasing the efficiency of government, geospatial information, primary industries such as agriculture, tourism healthcare and health, resources and energy disaster response and damage mitigation, road transportation, and education, and the government CIO will prepare an inter-ministerial plan for effective and efficient implementation of each policy.

(b) When carrying out the Strategy, the government CIO will adopt government policies (expense estimate policies) for achieving overall optimization through prioritization of and higher efficiency in IT investment (securing collaboration among relevant ministries and agencies and prioritization of investment in specific fields).

(c) The government CIO will prepare policies (guidelines) setting forth technical and specialized matters for government ministries to carry out uniform and specific measures relating to this Strategy;

(d) The government CIO will make assessments relating to the implementation of policies (investment effects, progress, etc.) for each stage of the PDCA cycle.

(2) Implementation and management structures within the IT Strategic Headquarters

A specialized investigation body centered on the government CIO will be created under the IT Strategic Headquarters to serve as the implementing and managing body for the PDCA cycle of this Strategy.

In addition, subcommittees will be formed under the specialized investigation body to address priority issues such as increasing the efficiency of government, geospatial information, primary industries such as agriculture, tourism, healthcare and health, resources and energy, disaster response and damage mitigation, road transportation, and education. The subcommittees will investigate the specific policies and assessment guidelines necessary for carrying out the strategies relating to each field, adopt and review roadmaps, and assess the status of measures.

Furthermore, investigation will be conducted concerning further reinforcement of the systems for implementing the PDCA cycle with respect to IT strategies centered on the government CIO. At the same time, the ministerial level system to strongly and expeditiously implement digitalization of administration and business reform to effectively carry out the above measures will be created.

2. Assessment Indicators for Target and Progress Management

To confirm the progress and results of the specified measures implemented pursuant to this Strategy, it is important that KPI be set as indices for quantitative measurement of whether the targets are being achieved and actions are being taken to achieve those targets according to plan.

Accordingly, quantitative KPI will be set to the extent possible and managed, and the specialized investigation body established under the IT Strategic Headquarters will investigate the setting and review of new assessment indicators within the process of carrying out strategies with the aim of becoming the world's most advanced IT use-based society.

At the same time, to become the world's most advanced IT-based society, it will be important to set indices that reflect the society sought by this Strategy and are fair, objective, easy to understand, gain global acceptance, and are suitable for general application. It will also be important to measure and manage progress towards achieving targets.

In particular, when using indices that have already been publicly disclosed, it is necessary to understand the elements that make up those indices and the assessment items and to set and utilize indices taking into consideration advances in technology and market developments.

3. Analysis and Deployment of Successful Models

To steadily implement this Strategy, create innovative new industries and services, and establish a society that supports safe, secure, and convenient lifestyles, relevant ministries will

collaborate and implement projects by integrating fields to devise comprehensive solutions through the use of IT in priority areas including the rejuvenation of local communities, raising efficiency in government, geospatial information, primary industries such as agriculture, tourism, healthcare and health, resources and energy, disaster response and damage mitigation, road transportation, and education.

When deploying successful models, conditions will vary depending on the region, and individual analyses will be necessary. It is necessary, therefore, that a successful model based on the circumstances and conditions of its region cannot necessarily be used as a model and deployed in other regions without making necessary modifications.

4. International Contributions and Reinforcing Global Competitiveness

Fundamental measures related to global competitiveness must be implemented immediately, sharing a sense of crisis that our nation is on the historical turning point of sustainable growth and development.

Also, it is a new frontier for exporting infrastructure to use IT to address priority issues rejuvenating local communities, raising efficiency in government, geospatial information, primary industries such as agriculture, tourism, healthcare, resources and energy, disaster response and damage mitigation, road transportation, and education. International contribution and reinforcement of Japan’s competitiveness will be realized through connecting domestic strategy to global strategy, establishing new mechanisms through public and private sector investment, developing private-public collaboration systems with flexibility and effectiveness that can be used to dispatch public and private sector missions, establishing models for success in those areas mentioned above, and comprehensively utilizing Japan’s knowledge in a package based on the needs of each country respectively.