

Follow-up on the Growth Strategy

June 21, 2019

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I. Realization of Society 5.0

1. Development of Rules for the Digital Market

(1) Major progress of KPI

[KPI] Create 20 unlisted venture companies (unicorn) or listed venture companies with more than \$1 billion in corporate value or market capitalization by 2023.

[Reference value]

- Unlisted venture companies: 2 (JAPAN STARTUP FINANCE REPORT 2018) (as of February 2019)
- Listed venture companies: 5 (data by Cabinet Office) (as of April 2019)

[KPI] (New) Launch 5G services in all prefectures by the end of FY2020.

[KPI] Create 30 projects for cross-industrial/operators data sharing by FY 2020.

⇒ 25 cases (March 2019)

(2) New specific measures to be taken

i) Development of rules for the digital market

The data, which is also referred to as new petroleum on the Internet or a new currency in the digital world, is attracting attention. Digital platform companies utilize this in a sophisticated way to provide beneficial services and access to global markets to users and service providers, and has become indispensable in the digital era.

Meanwhile, digital platform companies have the characteristics to progress in monopolization or oligopolization. Therefore, it is required to promote fair and free competitions for securing transparency and fairness in the transaction environment. Efforts for development of the transaction environment related to digital platform companies is being advanced internationally. Japan intends to show its standpoint as soon as possible to work on the development of rules for the digital market, while also providing support for the growth of next generation digital platform companies as the driving force for the country. In doing so, it is important to promote the revision of outdated existing rules and regulations to make them more rational to suite the digital era.

(i) Response to digital platform companies

- The government plans to establish an expert organization on domestic and overseas data and digital markets (Digital Market Competition Headquarters (provisional name)) comprised of experts with diverse and high-level knowledge across ministries and agencies in order to conduct evaluations of market competition in the global and radically changing digital market. This organization will be given authority to promote innovation through responses to a variety of issues related to certain data usage, including data portability and API disclosure, authority to obtain survey results and other reports based on the Act on

Prohibition of Private Monopolization and Maintenance of Fair Trade (Antimonopoly Act), and other related laws and regulations from the standpoint of overseeing and assessing the digital market where global digital platform companies compete and promote competition and innovation, authority to plan and handle overall coordination of fundamental policies on the digital market, and authority to cooperate and collaborate with competition authorities of other countries.

Specific tasks include (a) assessing the competition situation in digital markets, (b) preparing rules for a variety of platform businesses, and conducting surveys and making recommendations on issues related to the Antimonopoly Act, protection of personal information, and other matters, (c) Issuing recommendation on stimulation of the digital market, including SMEs and venture companies, and (d) participating in rule formation related to competition assessment in the digital market handled by the G7, G20, and other international frameworks.

The expert organization will bring together specialists from law, economics, information engineering, systems theory, and other fields. The secretariat will broadly recruit knowledgeable administrative officials from the Japan Fair Trade Commission General Secretariat, the Ministry of Economy, Trade and Industry, the Ministry of International Affairs and Communications, and other ministries in charge of digital-related policies.

The Digital Market Competition Headquarters (provisional name) will build a strategic framework for a data-driven society through close collaboration with the IT Strategic Headquarters, the Cybersecurity Strategic Headquarters, and various ministries and agencies.

- In light of the possibility of data accumulation in the digital market posing a threat of hindering competition, even if a company's sales only hold a small share of the market, the government will review the ideas of business combination assessment related to assessment points, considering data accumulation in the digital market, revise the said assessment criteria within FY2019, and consider the ideal form of notification criteria based on sales within FY 2019 in order to prevent competitive inhibition caused by data accumulation by corporate acquisition.
- Digital platform companies dramatically improve potential access to global and other markets for SMEs, venture companies, and freelancers (Gig Economy). However, transactions between digital platform companies and users also face potential problems, such as: (a) one-sided application of contract terms and rules, (b) service additions and success cost burden, and (c) excessive restrictions on access to data.

The government hence needs to prepare legislation and guidelines to ensure transparency and fairness of transaction practices and other unique relationships formed in the digital market, and aims to submit a bill to the National Diet's 2020 Ordinary Session (Act on

Improving Transparency of Digital Platformer Transactions (provisional name)).

Meanwhile, review will be given in preparing rules that respect autonomy with a “comply or explain” approach (comply or explain the reasons for not complying), initially for the purpose of avoiding interference with digital innovation for the Fourth Industrial Revolution.

Specifically, items to be considered will be clarification and disclosure of contract terms and transaction rejection reasons, clarification of rankings (order of presentation for product search results), disclosure in cases of digital platform companies giving preference to their own products and services, disclosure of requests for most-favored-treatment clauses (such as clauses requesting the best terms among business partners), and an obligation to arrange a complaint processing system.

- Regarding the Act on the Protection of Personal Information, the government aims to take preventative measures of inappropriate use of personal information, including the adoption of a framework that lets individuals request companies and others to stop the usage of their data, and measures of applying no discrimination policy to domestic and foreign companies, while considering to adjust the framework to promote more utilization of anonymized information not sufficiently employed up to now and submitting a revisions bill to the National Diet’s 2020 Ordinary Session.
- Issues for realizing data portability with which users and user companies can transfer themselves from digital platform companies anytime and API disclosure that can be connected openly will be addressed within FY 2019. In addition, with respect to individual fields such as medicine, finance, and cloud, the government will also advance consideration by the addressing the above issues, while paying careful attention to issues unique to each field.
- The government will address the approach for applying the regulation on abusing the dominant bargaining position of the Act on Prohibition of Private Monopolization and Maintenance of Fair Trade (Antimonopoly Act) to business-to-consumer transactions by digital platform companies before the summer of 2019 and develop an enforceable system.
- Along with this, the development and enhancement of the structure of the Japan Fair Trade Commission and its infrastructure improvement will be addressed to appropriately respond to the age of digital capitalism, enhance international cooperation, and realize a fair and transparent competition environment.
- Furthermore, from the viewpoint of ensuring the transparency and fairness in the relationship between digital platform companies and consumers, the government will start considering ways to address applying laws and regulations related to consumer protection, ensure the transparency and fairness of the terms of use, and determine the state of disciplines related to external application to overseas operators and other consumer protection within FY2019,

taking necessary measures.

- In order to ensure appropriate handling of user information, the government intends to arrange the ways of applying the provision to protect communication secrets of the Telecommunication Business Act within FY 2019, in the case of both domestic and foreign digital platform companies providing communication services to the users in Japan, with a view to submit a bill to the next National Diet's Ordinary Session.
- With regard to the ways of external application of the Travel Agency Act to overseas business operators in cases where foreign digital platform companies provide travel services to the users in Japan, the government will address the issue from the viewpoint of consumer protection within FY2019 and receive the conclusion concerning effective measures.

(ii) Regulatory review of the digital age

- For accelerating the sharing of awareness and formation of consensus among the involved party in the realization of “Society 5.0,” the structure for designing and reviewing “architecture,” which serves as a reference for the industrial world to ensure interoperability and reliability between different systems to determine the standard of the data linkage format, etc., will be constructed within FY 2019. With this structure at the core, and in collaboration with the Cross-ministerial Strategic Innovation Promotion (SIP) program and initiatives conducted by each ministry, designing “architecture” will commence in FY2019 for the areas of mobility, drones, and plant security.
- While the cyber space and physical space merge together at a high degree due to data collaboration, by utilizing digital technology such as AI, IoT, and big data (permanent monitoring data), the Growth Strategy Council – Investing for the Future and the Council for Regulatory Reform will, in cooperation, start a government wide review of regulatory reforms that promote companies' rational responses using joint regulation and other various methods, without compromising interests protected by law such as security guaranteed by existing regulations. In doing so, use of architecture will be reviewed from the perspective of realizing regulations suitable for the digital era, and a review of regulations utilizing digital technology and data will be considered within FY2019 in the fields of consumer protection and ensuring security regarding credit, etc.
- The government will advance the systematization of major legal procedure concerning industrial security and product safety. While utilizing data from such a move, it will also demonstrate the use of AI in the extraction of effective information and initiatives for enhancing safety, horizontal development, and prevention of accidents from FY2020, and will conduct reviews to realize efficient regulations based on the data.

ii) Promotion of data distribution

Further promotion of initiatives utilizing data is necessary for further economic development through sophisticated collaboration between cyber space and physical space and the realization of resolving social issues that Society 5.0 aims for. To achieve this, a basic approach to international and domestic distribution of data should be established as soon as possible to promote safe and secure data distribution and utilization.

The government is also required to promote the digital transformation of companies to beat the global competition and strongly advance the securing of the world's most advanced infrastructure, which supports the society as a whole in the era of 5G. Moreover, improvement of security levels in both cyber and physical spaces will be further improved to realize a safe and secure data-driven society.

(i) Establishment of a fundamental approach in data distribution

a) International data distribution

- It is necessary to seek promotion of free data flow internationally, which facilitate unfettered flow of data, that is beneficial to resolving business and social issues without national border concerns, while ensuring reliability related to privacy, security, and intellectual property rights. To this end, Japan aims to lead international discussions utilizing the G20 and other opportunities based on the “Data Free Flow Trust (DFFT)” concept.

Furthermore, Japan intends to promote formation of an international consensus for development of high-level rules with as many member countries as possible in negotiations on rules related to electronic commerce transactions at the WTO, including data free flow.

- From the standpoint of having promoted the framework of mutual transfer of personal data between Japan and the EU, and the APEC's Cross Boarder Privacy Rules (CBPR), Japan will lead discussions related to frameworks at country and company levels using the international conference and bilateral frameworks to ensure the international distribution of personal data be safe and smooth, as well as improving interoperability of personal information protection rules among any relevant countries.

b) Smooth distribution of personal data

- Regarding the Act on the Protection of Personal Information, the government aims to take preventative measures of inappropriate use of personal information, including adoption of a framework that lets individuals request companies and others to stop the usage of their data and measures of applying no discrimination policy to domestic and foreign companies. While considering to adjust the framework to promote more utilization of anonymized information not sufficiently employed up to now and submitting a revisions bill to the National Diet's 2020 Ordinary Session. (Repeat)
- To realize smooth distribution of personal data, the government aims to prepare the architecture of functions to be implemented by each player (data holders, individuals, data

users, etc.) in the data distribution market through demonstration experiments and other methods. In particular, a review of accreditation rules concerning “information bank,” which provides personal data to the third party, an anticipation of its diversification is planned in the summer 2019. The government aims to accelerate accreditation based on this review, while also considering the construction of the platform for realizing collaboration between information banks and prepare the results within FY2019.

- Amidst further integration of communication and broadcasting, the government intends to promote creation and development of new service businesses utilizing broadcasting data such as a viewing history, and aims to accumulate cases (actual practices) of using broadcasting data and the development of rules regarding the third-party provision by FY2020.

c) Creation of new businesses through data collaboration and distribution

- For the realization of the “Connected Industries,” that aims for creating added value and resolving social issues utilizing real data, the government aims to share the industrial data in the cooperation area and expand collaborative cases, while advancing the certification of the specified innovative use of data for industrial activities based on the the Act on Special Measures for Productivity Improvement. At the same time, in an anticipation of full-fledged operation of mainly the five priority areas (autonomous driving and mobility services, manufacturing and robotics, bio and materials, plant and infrastructure security, and smart life) from FY2020, the government intends to provide support for the development of the standard architecture, and a platform to share data as well as the development of an AI system that creates services on the basis of the said shared data from FY2019.
- For the strengthening of regional capacity in the era of Society 5.0, in the areas familiar in our lives such as health promotion, education, agriculture, and disaster prevention, the government will provide support for formulating an implementation plan of regional IoT, the implementation project of models with established introduction effects, and implement promotion for developing towns, which are cross-disciplinary and based on utilizing data, in cooperation with ministries and agencies relevant to the area of city OS construction for local governments aiming to resolve regional issues. Relevant initiatives using IoT will be created at 800 local governments by the end of 2020.
- To encourage the use of ICT by the elders and disabled people, regarding ICT equipment and services, the government will realize as soon as possible the construction of a shared platform for disability-related data, which promotes development through the participation of people with disabilities themselves, and the introduction of self-diagnosis and disclosure schemes for ensuring accessibility. Along with this, it will also work on the development of mechanisms concerning digital use support staff, such as specific details of the activities of support staff and an ideal way of providing support for the support staff (e.g. division of

roles among the national government, local government, and NPO organizations).

- For the efficient use of an enormous amount of information increased due to the advent of data society, some technology developments will be established – computing technology regarding innovative AI aimed by 2022 and the next generation computing technology (quantum computer, brain-like computer, etc.), which achieves both high speed and low power consumption due to new principles, by 2027. In addition, towards social implementation of these technological developments, the government will also work on human resources development, focusing on young people through the implementation of competitions related to software development that operate on AI chips and cultivation of use cases for the next generation computing technology.

(Promotion of sharing economy)

- Dissemination and promotion of sharing economy will be carried out from the viewpoint of promoting the creation of innovation and new businesses, while protecting the safety of consumers and others.
- For further safety and reliability of sharing economy, the government, in cooperation with industry groups, will review a mechanism to certify share workers who have acquired a certain level of skills. Work to crystalize the system within FY2019, and implement it from FY2020.
- In light of the revised model guideline, the share worker certification system, and model initiatives aiming to resolve regional issues conducted by local governments, a sharing economy model with the advantages of mutual assistance and value co-creation from Japan will be constructed and unified. Public-private social implementation will be promoted. Japan will take a leading role in establishing international rules at the International Organization for Standardization (ISO) and promote international standardization with the market creation in mind.

(Dissemination and promotion of open data)

- To accelerate the process of disclosing open data in line with private needs, the government will focus on advancing the open architecture in the areas of “health, medical care, nursing care, and parenting” and “education” through holding public-private round table, while conducting follow-ups on the initiatives by each ministry and agency, and promote disclosure of concrete data. Furthermore, ministries and agencies will proactively hold open data public-private round table to promote further data disclosure.
- Training, through which participants can acquire knowledge and skills necessary for solving regional issues and contributing to economic revitalization, will be implemented about 40 times within FY2020 in order to achieve 100% of open data engagement rate at local governments, and expansion of the recommended data set will be promoted.
- In order to contribute to resolving social issues utilizing data based on the centralized

provision of open data, the integration of the government's data catalogue website with e-Gov (the official web portal of the Government of Japan) will be realized.

(Smooth distribution of contents)

- The government will carry out demonstrations in FY2019 regarding the distribution of contents utilizing blockchain technologies, etc. And based on the results of the demonstrations, conduct a review of ways to handle rights and share profit concerning new business creation and copyrighted work, putting together the outcome within FY2020. In addition, to advance the dissemination and rolling out of simultaneous internet distribution service of broadcasting contents, mechanisms for more smooth and efficient rights handling using the rights information database and blockchain technologies in the area of music will be developed by FY2021.
- The government will promote the realization of contents platform, which enables creation of new services and an environment in which over 50 broadcasters and production companies nationwide, including local broadcasters, to efficiently and steadily distribute diverse and quality contents online.

(ii) Development of distribution and utilization environment

a) Aggressive system reform

- The government will consider the formulation of the criteria (digital governance code) for objectively evaluating digital transformation (DX) and digital governance at companies, and the establishment of the DX rating system conducted based on the results of the said evaluation including legal measures, and based on the conclusion reached during the FY2019 and institutionalize them in order. In addition, to ensure the progress of system development in a smooth cooperation relationship between IT vendor operators and user operators, ways to have an ideal contract between the two parties will be reviewed and a contract model will be formulated during FY2019.
- For the use of data in social infrastructure, reduction of the renovation cost of legacy systems, and improved business cost efficiency, the government intends to promote a common systematization in the non-competitive area including the embedded software field. Specifically, system construction of a common platform for business management and the data distribution in water supply businesses will be conducted within FY2019, and it will start operation from FY2020. The obtained results will be considered in terms of their expansion to other social infrastructure.

b) Promotion of further enhancement and advancement of network

- As part of efforts for realizing Society 5.0, the government will provide necessary support for the deployment of 5G base stations, optical fiber, and other information and

communications infrastructure by telecom carriers and others nationwide, and accelerate the 5G development plan by the end of FY2024 and promote cable television networks to adapt optical fiber. In addition, it is aimed that the condition of tunnel sections of the Shinkansen with no mobile phone connection will be resolved by 2020. Regarding other existing train lines, the government will consider measures to promote the development of an environment where mobile phones can be used regarding tunnels in the route sections, which occupy 90% of transit, by FY2022, based on the business situations of private business operators, and will reach a conclusion by summer 2019.

- As a response to the expansion of radio use needs going forward, the government intends to promote a test environment that reproduces element technologies of Beyond 5G and radio wave propagation in the real world as a simulation required for their smooth and quick introduction, and the research and development of a communication system utilizing HAPS (High-Altitude Platform Station). It will also carry out the construction of a system for enabling dynamic frequency sharing with existing systems by the end of FY2020.
- To promote smooth introduction of wireless communication for the purpose of enhanced productivity at automobile assembly plants, three-dimensional automobile warehouse, and other similar locations, technologies for optimal control of wireless communication in the plants and technologies for improved reliability of wireless communication in the plants will be established by FY2020 and 2021 respectively, while also realizing the international standardization of each technology.

c) Establishment of Use Case based on new technologies

- The government will steadily promote the nationwide development of 5G services by launching the services in all prefectures before the end of FY2020. At the same time, it will also implement demonstrative experiments of verification of the technology and system relating to the resolution of regional issues utilizing ICT such as 5G in cooperation with relevant ministries and agencies, local governments, local residents and groups. In addition, part of the necessary system development for local 5G to deal with resolving issues closely linked to each region will be launched in advance in autumn 2019 and will be in full operation by 2020.
- For more advancement of 4K and 8K broadcasting in cooperation with communication technologies and nationwide dissemination of advanced video distribution services, verification of technical issues and formulation of technical specification will be conducted by FY2021 to realize further dissemination of 4K and 8K and the creation of new services. In addition to the 4K and 8K broadcasting and video distribution, the government will develop systems that will enable the use of endoscopes utilizing 8K technology in telemedicine by FY2021 and will establish the cross industrial foundation by making use of medicine in a wide range of fields.

d) Disaster response using ICT

- For traffic congestion mitigation and risk aversion in the event of a large-scale disaster in urban areas, the government will collect and understand actual traffic conditions with cooperation from relevant business operators and disclose objective data. It will also form a council involving relevant parties from broad business areas such as telecommunications carriers and content providers, etc. within 2019 and advance the transition to regionally distributed network composition utilizing region IX¹ and CDN².
- To enable public organizations to use multilingual translation cloud services during FY2019, any necessary environmental development such as the formulation of the security privacy guideline for introducing the multilingual translation cloud will be carried out. Efficient provision of evacuation information for foreigners visiting Japan and new foreign human resources in multi-languages will be realized.
- For smooth transmission of disaster related information by L-Alert and further expansion of the use, the government will build a system to confirm and amend information distributed by L-Alert to improve the promptness and accuracy of L-Alert information.

(iii) Ensuring cybersecurity

- In accordance with the Cyber Security Strategy (Cabinet decision on July 27, 2018), which serves as the basic plan for three years from 2018, the government will steadily promote initiatives based on the new annual plan while understanding actual situations of damage related to cyberattacks. Following this, to ensure the cyber security in an anticipation of the Tokyo 2020 Olympic and Paralympic Games and the period afterwards, the government will promote active measures for the following areas: advanced collaboration in prevention and detection at the government organizations by introducing and utilizing new technologies; construction of information sharing systems beyond existing frameworks; development of a technology verification system to deal with supply chain risks; promotion of research and technology development; development of handling arrangement; awareness reform at the management level; securing and developing human resources; vulnerable IoT equipment.
- Aiming to activate the approach of incorporating market needs into Japanese security products and verification businesses in Japan, the government will advance the establishment of evaluation mechanisms, preparation of relevant guidelines, and the construction of verification foundation from FY2019, in order to realize the “Proven in Japan,” a framework comprehensively used in conducting performance evaluation, reliability evaluation security products, and verification of real attack by white hacker.

¹ IX (Internet eXchange): Traffic exchange base on the Internet.

² CDN (Content Delivery Network): Distributed information distribution system to deliver contents to users efficiently.

- The government will advance the technical development and verification to efficiently detect fraudulent functions incorporated into systems containing 5G and vulnerability roughly by FY2020 to deal with supply chain risks, and will work to disseminate countermeasures based on the results of this to critical infrastructure business operators. It will also develop an environment in which procurement can be carried out from supply chains with secured trust, mainly for semiconductor responsible for data management and processing.
- For ensuring the security of the entire society in the age of Society 5.0 and reliability, the government will promote the implementation and embodiment of the Cyber/Physical Security Framework (CPSF), which is a framework based on a compiled risk sources faced by the entire supply chain including business partners and response policies, not security measures by each company. To that end, guidelines by the industrial field based on various characteristics of industrial structure and business practices in the smart home field and other industrial fields will be formulated in order from FY2019.

In addition, in order to organize ideas regarding security measures for data and IoT equipment and software management measures that require cross-sectoral, consideration will be conducted in FY2019 and preparation for guidelines, etc. will be advanced by FY2020.

- Aiming for the creation of simple and inexpensive cybersecurity insurance and accompanying services available for SMEs during FY2020, demonstration concerning a consultation desk for the security at SMEs and the mechanism for providing support such as post-consultation support will be conducted in every region nationwide from FY2019.
- As a foundation to support free, safe, and secure data distribution in cyberspace, the government aims to reach a conclusion during 2019 and realize swift institutionalization of the way for the mechanism to prevent (trust service) falsification of data and spoofing of sources, in light of the perspective of international interoperability.

2. Fintech/Finance

(1) Major progress of KPI

[KPI] Implement open APIs at least in 80 banks (by June 2020).

⇒ As of March 2019, 130 out of all of 138 Japanese banks (excluding Japanese branches of foreign banks) have announced plans to implement open APIs. 124 out of the 130 banks have announced plans to implement open APIs by June 2020.

[KPI] Double the percentage of cashless transactions to about 40 %.

⇒ In 2018: 24.1%

* The numerator is the sum of payments made by credit cards, debit cards, and electronic money in 2018. The denominator is the private final consumption expenditure in 2018 (in nominal terms, second preliminary figure).

(2) New specific measures to be taken

i) Review of the legal systems based on the advancement of innovation

- The government plans to revise the relevant legal framework divided by business categories and to pursue realization of a function-based, cross-sectoral framework that applies the same rules to the same functions and risks. In particular, the government plans to adopt a cross-sectoral and flexible structural framework in the field of payments, that has been cited as an area in which the vertical structure by business segment under current laws interferes with free selection of business models and services by service providers. In order to realize flexible, highly convenient cashless payment methods through this initiative, the government plans to submit necessary bills for these changes to the 2020 ordinary session of the National Diet.
- The government intends to review measures for realization of cross-sectoral financial services, brokering legal framework that will enable provision of a highly convenient one-stop channel, which meets the needs of individual users utilizing smartphones and other devices, and aims to prepare its fundamental approach for this initiative during 2019.
- The government intends to review implementation support for an innovative identity confirmation system by private business operators and utilization of the identity confirmation between other specific business operators including credit card companies, thereby promoting the sophistication and speeding-up of identity confirmation.
- The government plans to deal with the issues related to crypto-assets (virtual currency) exchange service providers and the emergence of new transactions using crypto-assets by steadily implementing the partial revision of the Payment Services Act and the Financial Instruments and Exchange Act, ensuring user protection, and promoting necessary environmental development such as clarification of relevant rules.

ii) Accelerating initiatives to realize a cashless society

- In the Point Reward Project for Consumers using Cashless Payment implemented in October 2019, the government intends to provide various supports including payment terminal installment assistance and service fees reduction measures to prepare an environment that will make it easier for SMEs and small businesses to introduce cashless payment in their

businesses. At the same time, the government will also provide support for the point reward project for consumers who will choose a cashless payment at an SME or small business shop in order to create an opportunity for consumers to experience convenience of cashless payment.

- The Cashless Payments Association of Japan where all relevant people of the industry, government and academia gather will consider how to handle business operators to realize cashless payments based on the guideline of unified QR code payment which was published in March 2019. The government also intends to promote cashless payment through the entire communities by utilizing the Point Reward Project for Consumers using Cashless Payment to support initiatives for introducing cashless payment in every shopping district and community to cover a multi-spectrum.

iii) Promotion of innovations such as commercialization of FinTech

- The number of banks implementing open APIs and the connection status and condition between the banks and electronic payment agencies will be followed and disclosed as necessary, while excellent examples of the services using APIs are also shared. With regard to the conditions of connection through APIs, the API collaboration will be promoted in light of the fact that it is a contract between private companies, while encouraging that it will generate a Win-Win relationship for both the banks and FinTech companies.
- In addition to those measures taken with banks, the government will promote information provision and collaboration using electronic methods that can more easily make use of FinTech with securities companies and insurance companies, and actively work on the development of the conditions in which Japanese citizens can engage in economic activities and asset formation such as asset management and maintenance under more rational choices.
- As part of the initiative to disseminate blockchain technology in the area of finance, the government will sort out the issues related to the conversion of the procedures in trade finance into electronic forms using the blockchain technology and consider measures to resolve the issues.
- Initiatives for facilitating responses to effective and efficient regulation and supervision in collaboration with the public and private sectors (RegTech, etc.) will be promoted by conducting reviews concerning sharing of the risk management system of anti-money laundering and counter-financing of terrorism and utilization of the information provided by public organizations and agencies in customer management at a study group in the Japanese Bankers Association. In addition, development of market monitoring systems to extract cases where unfair trading in the market is suspected utilizing AI will be promoted.

iv) Infrastructure development for finance and commercial distribution collaboration

- Aiming at steadily realize the full shift to using XML formats in remittance telegram by 2020, the finance and industrial groups such as the Japanese Bankers Association and the Japan

Chamber of Commerce and Industry and relevant ministries and agencies will, in cooperation, promote activities to widely disseminate this matter, sharing of good examples of utilizing the Zengin EDI system (ZEDI), and other initiatives.

- Concerning the digitization of bill and check functions, the finance and industrial groups, relevant ministries and agencies will cooperatively advance the initiatives to enhance productivity as a whole society, with a view to realizing full digitization and setting an interim target to make approximately 60% of the number of bills exchanged nationwide in electronic methods in five years, while paying due attention to variety of users.
- The following initiatives will be implemented concerning the cashless payment of tax and public fund.
 - With respect to the promotion of electronic filing of local taxes, the common electronic local tax payment system for local corporate income taxes and other taxes will start operation from October 2019. At the same time, paying attention to advancing the system while gaining an understanding of the local government, issues and countermeasures regarding further utilization of the system, including its expansion to tax items with many requests from taxpayers will be considered to draw a road map for its implementation.
 - Regarding tax, government funds receipt and payment, at the “Workshop on Streaming Payments of Taxes and Public Charges”, which is jointly supported by financial institutions, related ministries and agencies, local governments, and others, we will examine the issues of improving convenience and efficiency using IT, and draw conclusions during FY 2019.
- As for wage payment, to consider to make a system to enable wage payment to an account of a worker in fund transfer business operators, in condition that a system of insurance etc. to secure sufficient amount to be paid promptly to the workers in case fund transfer business operator goes bankrupt to secure worker protection such as secure payment of wages and to consider the request for realization of payees’ needs and to realize a cashless society, as soon as possible in FY2019 in consultation with labor unions and business management organizations. Simultaneously, to implement risk-based monitoring of relevant risks such as that of money laundering while referencing cases in foreign countries.
- To promote data lending loans to SMEs and small businesses such as short-term and small-lot loan utilizing transaction data, operation methods of relevant credit guarantee systems will be reviewed to reach a conclusion within FY2019.

3. Mobility

(1) Major progress of KPI

[KPI] The launch of unmanned automated driving transport services on the public roads in limited areas is planned for 2020.

[KPI] Unmanned automated driving transport services in limited areas will be implemented in 100 locations nationwide by 2030.

[KPI] By 2020, over 90% of new passenger vehicles sold in Japan will be fitted with automatic braking system.

⇒ Installation rate for new passenger vehicles sold in Japan: 77.8% (2017)

[KPI] By 2020, safe driving support equipment and system will be installed in 20% of domestic vehicles (stock based), which will account for 30% of the global market.

⇒ Installation rate for domestic vehicles: 14.1% (2017)

Substitution rate for gaining the global market: 16.2% (2016)

[KPI] By 2030, safe driving support equipment and system will be installed in all of the new domestic vehicles sold in Japan, also covering almost all of the vehicles even on a stock basis.

⇒ Installation rate for new passenger vehicles sold in Japan: 68.7% (2017)

Installation rate for domestic vehicles: 14.1% (2017)

(2) New specific measures to be taken

Amid the declining birthrate and an aging population, securing means of transportation in regional areas and alleviating traffic congestion in urban areas are social issues. In particular, securing means of transportation for the elderly has become an urgent issue to be addressed. With the increasing inbound individual travelers to Japan, securing smooth transportation for tourists, in addition to local residents, also needs to be addressed. Japan is facing an issue of a lack of drivers not only for the flow of people but also for the distribution of goods.

Meanwhile, in the global context, a new service called Mobility-as-a-Service (MaaS), which instantly connects various transportation facilities using data, enables the use of limited transportation facilities in the most optimal way, and can be arranged and settled easily by using a smartphone. It is expected that the social issues mentioned earlier will be resolved by making MaaS more sophisticated through integrating the automated driving technology, which shows a remarkable progress, and a wide variety of new mobility. In the medium term, these approaches will change the form of urban spaces and lead to the creation of a smart city in which a city itself will function as a highly sophisticated service.

Japan intends to promote various types of mobility including necessary institutional reforms, realization of data collaboration, and automated driving in order to resolve social issues through these new transportation services.

In light of the recent situation regarding traffic accidents caused by elderly drivers, the government will promote relevant safety measures.

i) Promotion of the Japanese version of Mobility-as-a-Service (MaaS)

- For securing the transportation of the elderly in regions, the government, under an agreement between each region, will conduct the following reviews from the perspective to improve the usability of paid passenger transportation, which is mainly run by municipalities as a transport entity and approved by the Road Transportation Act, in so-called the “traffic blank area,”
 - Transportation business operators (taxi business operators, etc.) should cooperate with paid passenger transportation in a personal-use vehicle through their own know-how. Specifically, the government will develop laws and regulations covering the case where transportation business operators receive a commission or they participate in the implementing body. Since this case is based on the premise that the business operators will participate, it is aimed to simplify the procedure for forming consensus at the regional level, thereby promoting the provision of secure and safe transportation services and reducing the burden of the implementing body. Any necessary bills are aimed to be submitted to the National Diet’s 2020 Ordinary Session.
 - Attracting inbound travelers to Japan is an important viewpoint vital for regional vitalization. This also applies to paid passenger transportation in a personal-use vehicle, which is required to address tourism needs. Therefore, it should be specified in the law that paid passenger transportation in a personal-use vehicle covers not only local residents but also visitors, as with the case of bus and taxi.
 - In the current situation, approaches to the paid passenger transportation in personal-use vehicles in targeted regions vary. Thus, local governments are required to specify the approach to be referenced when local governments consider introducing the system. Based on the actual condition of life, the government intends to investigate and analyze existing cases of introducing the system, indicate a certain standard, and formulate guidelines for the framework of judgment to simplify the consensus formation at the regional level.
 - The government needs to simplify procedures for cases of adopting paid passenger transportation in a personal-use vehicle in the Regional Public Transport Network Plan (prepared autonomously or jointly by prefectures and municipalities based on the Act on Revitalization and Rehabilitation of Local Public Transportation Systems), its

procedure will be simplified.

- In order to enable as many people as possible to move inexpensively using limited transportation, introduction of shared ride of taxi will be implemented generally without setting any regional or conditional limitations. Specifically, the government aims to improve the circumstance of notifications, etc. under the Road Transportation Act during FY2019.
- To realize flexible fare systems, the government intends to approve pre-determined taxi fare by the end of FY2019. In addition, for the subscription service (flat rate service) and dynamic pricing service (price fluctuation system) to dig up potential demands, flat rate taxi fare and taxi's picking up fee will be considered.
- Regarding regional transportation, various entities will cooperate and collaborate, consider approaches to planning and supporting systems to promote regional efforts based on the progress of new technologies, such as AI, and services, and discuss the review of the Act on Revitalization and Rehabilitation of Local Public Transportation Systems aiming for the National Diet's 2020 Ordinary Session.
- During FY2019, review meetings between the public and private sector will formulate guidelines concerning compiling open data in the cooperation area and API, which can be linked to the system to have various transportations in the regions to link with each other using smartphones and realize new mobility services for achieving efficient and smooth transport. Simultaneously, reviews to realize shared data platform, which makes data linkage with transport business operators easier and various service operators will be advanced.
- For the promotion of open data in the field of public transportation, with a view to its use in indoor navigation and other systems, the government aims to promote new open data initiatives concerning positioning information at major stations by private business operators during FY2019.
- With regard to MaaS in which travel to tourist areas of the region is considered as one service and which provides integral services for searching, booking, and settling relating to railway and bus using a smartphone, the government will promote the implementation of multi-language services, subscription services (flat rate service) and other useful services from the perspective of foreigners, aim to promote online booking and settlement at tourist facilities, and intend to realize tourism-type MaaS provided in the way of being integrated with transportation services.
- In FY2019, the Ministry of Land, Infrastructure, Transport and Tourism and the Ministry of Economy, Trade and Industry, in cooperation, are starting a comprehensive support for regions working hard to introduce new mobility services (Smart Mobility Challenge Project). Furthermore, the Ministry of Land, Infrastructure, Transport and Tourism will

establish models to match the characteristics of each region including the introduction of new transportation services and develop rules to resolve issues that might become obstacles. Through these activities, the initiatives concerning new mobility services will be expanded nationwide.

- While working on the introduction of transportation IC card, which are mutually usable in all of the prefectures, by FY2020, the government will support the effort for cashless payment services such as boarding confirmation by using cloud and QR code that regional transportation operators can adopt at a low cost.
- The government will support service efforts offered through MaaS by operators, which comprehensively provide various transportation services with flexible fees, and work on the ease of relevant systems and operation, as required. Furthermore, it will also make efforts with a view to creating new mechanisms for necessary environmental improvement
- The government intends to strategically launch the “Busta Project” nationwide to develop integrated transport terminals such as Busta (Bus Terminal) Shinjuku, Shinagawa, and Kobe Sannomiya. In doing so, it is ensured that the facilities are capable of supporting new mobility services including MaaS. At the same time, an expert committee will consider systems for making the most of private sector’s technology and vitality concerning maintenance and operation management, and report the results during FY2019.
- To rebuild road space from the vehicle centered to people centered space including the utilization of new mobility, the government intends to examine the necessity of the revision of laws and regulations during FY2019 and create a roadmap.

ii) Acceleration of efforts for the social implementation of automated driving

- For the realization of the unmanned automated driving transport services by FY2020, the government intends to conduct national public road demonstration experiments focusing on the areas with high possibility in relation to the services and implement long-term demonstrations, while also supporting initiatives for revitalizing regional transportation services incorporating automated driving.
- With regard to high-precision 3D maps, which will serve as the foundation of automated driving, the government will start working on the mapping of general roads with a focus on prioritized areas, following the completion of expressways mapping, while working to advance the international standardization of the service in collaboration with North America.
- Development of systems based on the Outline of the development of systems concerning automated driving will be steadily promoted, and the studies for system development toward Level 4 will be commenced.

- Concerning truck platooning, while advancing the development of manned truck platooning which can reduce the burden of following truck drivers for market launch and data verification, Japanese government intends to conduct demonstrations of truck platooning without driver (unmanned) in follower trucks on expressways in FY2020. Additionally, in anticipation of realizing truck platooning on an expressway, stability and efficiency of the double network connecting the major three metropolitan areas will be further enhanced by upgrading the number of lanes at the Shin-Tomei Expressway and the Shin-Meishin Expressway to six, and practical measures for the use of highway infrastructure such as installing rest facilities and disconnection base mainly at the Shin-Tomei Expressway will be considered.
- For strengthening the international competitiveness of the automotive industry, Japan will take a leading role in the discussion toward formulating international standards for automated driving technologies based on Japanese technologies at the World Forum for Harmonization of Vehicle Regulations (WP29).
- Taking the Tokyo 2020 Olympic and Paralympic Games as the opportunity to disseminate the most advanced technologies, the government will implement the development of traffic infrastructure through which traffic signal information and junction section support information on highways are sent to vehicles, and demonstrations of automated driving technology will be commenced by private business operators at the Tokyo waterfront area from October 2019.
- The government will consider the infrastructure necessary for automated driving such as exclusive spaces for automated driving vehicles, and road-vehicle collaboration technology for electromagnetic induction wire to be laid on roads, and examine the positioning, and development and management methods of them under the Road Act, and compile the results during FY2019.
- In order to deal with the expansion of aviation demand and the shortage of providers, and for the implementation of labor saving technology by 2020, the government will significantly expand the target of automated driving vehicles for which demonstration has started within the restricted areas of the airport, while installing necessary equipment for charging and location estimation as well as conducting necessary revisions of business guidelines within the airport.
- Anticipating human resources shortage in the future, to reduce the cost of regional railway facing particularly severe management conditions, the government will consider introducing new technologies that contribute to the enhancement of productivity such as automated driving system at general railway routes with railroad crossing and the location detection system with high accuracy using the Quasi-Zenith Satellite System, and prepare the results within FY2019.

iii) Promotion of various mobility on land, sea, and air , and logistics reform

(i) Construction of the next generation air mobility system

- The government plans to promote operation management system and technology development of collision avoidance utilizing Fukushima Robot Test Field in order to allow drones to conduct flights beyond the visual line of sight in populated areas to provide businesses providing cargo transportation services aiming for FY2022. It will also decide the basic policy of designing the system for securing the security of aircraft such as a certification system, system for securing the skills of pilots and operation managers, system for operation management of multiple drones, registration system for aircraft and owner's information, and systems including the ideal ways of victim relief during FY2019.
- By FY2021, the government will establish drone technology capable for social implementation to enable flights beyond the visual line of sight in populated areas. Furthermore, based on the basic policy of the said system design, necessary system upgrading will be advanced towards FY2021. The government must also pay attention to the promotion of new service creation and simplification of procedures of various system.
- To promote the use of drones in various fields such as logistics, agriculture, forestry and fishery, infrastructure maintenance management and disaster response, the government intends to advance efforts such as technology development and demonstration experiments corresponding to the use in each field, and formulation and dissemination of guidelines, based on individual field sections in the roadmap formulated by the public-private council for improving the environmental concerning drones.
- The government aims to implement the introduction of automated inspection using drones in the maintenance management of erosion management facilities located in a steep mountainous area and requiring high-place work, and in disaster responses such as landslide in FY2020 by revising inspection procedures according to demonstration experiments.
- Concerning the expansion of radio wave use by drones, their flight will be made possible by applying online to mobile phone operators through their website during 2020 at the latest. Until the date above, with respect to the Development Test Station license, the government intends to construct a new mechanism that enables drones for agricultural use and other drones to conduct low flights utilize mobile phone radio wave through simple procedures, and determine that the period from application to approval including procedures by mobile phone operators be within one month in principle.
- Particularly in the fields of agriculture, forestry and fishery, drones are planned to be actively used for crop spraying and fertilizer distribution, sowing seeds, pollination, harvest transportation, sensing, maintenance and management of farmland and agriculture water use facilities, and measures against wildlife damage. For that purpose, based on the

popularization plan of drones for agricultural use and through the public-private council for expanded utilization of drones for agricultural use, the government will conduct technology development and demonstration including initiatives for expanding flights beyond the visual line of sight, while advancing dissemination of advanced cases and a review of rules.

- Based on the “Roadmap toward Air Mobility Revolution” for the realization of “flying vehicles,” with the goal of starting business in 2023, necessary technology development by the targeted year and the improvement of systems such as aircraft’s safety standards will be advanced.

(ii) Promotion of various land mobility and logistics reform

- The government will implement demonstrations dealing with regional issues in relation to green slow mobility is law speed electric mobility that supports last one mile transportation, and aims to implement green slow mobility in 50 areas by FY2020 while conducting demonstration experiments according to local issues.
- Aiming for. The social implementation of automated driving robot, which is expected to be used for delivery and other services, the government will construct a framework for demonstration by formulating the standard of handling application for road use permission during FY2019 and conduct the demonstration of an automated driving robot on public roads. In addition, the government will establish a public-private council for full-scale social implementation during FY2019 and start an examination of necessary measures for the formulation of roadmap and improvement of social acceptance, the ways that necessary rules should be, and required safety also in light of discussions by the council.
- With regard to depopulated areas where freight transportation can be carried out using taxi vehicles by obtaining permission for the general motor truck transportation business, based on the policy dealing with proposals from local regions in 2017 (Cabinet decision on December 26, 2017), the government will conduct demonstration of implementation situations in the said area from the perspective of ensuring transportation safety and protecting users’ interest. At the same time, in light of the opinions of involved parties such as local governments and motor truck transportation business operators, expansion of the scope of targeted depopulated areas will be considered, a conclusion will be reached during 2019, and based on the conclusion necessary measures will be taken.
- A council will be formed during FY2019 with the aim to standardize slips, exterior packages, and data specification to promote joint logistics beyond the boundary of each company in response to labor shortage at logistics business operators, while an action plan will be formulated and demonstration experiments for sharing logistics and commercial distribution data with the entire supply chain will be started during 2019.
- Aiming to reduce the re-delivery rate to approximately 13% during FY2020 (15% in

FY2018), relevant issues will be reviewed and measures will be considered regarding the delivery method to a place designated by users to allow further diversification of receiving methods, and a conclusion will be reached during 2019.

- Based on the Action Plan for the Realization of Work Style Reform for Automobile Carriers, the government intends to strongly promote the improvement of labor productivity and optimization of trade environment such as the development of “white logistics” promotion movement for improved efficiency of logistics, and the reduction of loading time and improved cargo handling work.

(iii) Development of new maritime system

- Toward the practical use of Maritime Autonomous Surface Ship (MASS) by 2025, the government aims to reach an international agreement during FY2023. To that end, while advancing technical development (e.g. system integration) and demonstrations by coastal shipping, the government will formulate safety design guidelines of MASS during FY2019, ahead of the world, and prepare types of information and specification draft during FY2019 to enhance the productivity in the supply chains through sharing information related to the designing of ships and marine equipment.
- Responding to the increasingly serious issue of insufficient truck drivers and strengthening the transportation capability of ferries and RORO ships³, the government aims to prepare the following comprehensive measures during FY2019 and promote them: measures for making intermodal transport smart by 2030, sharing chassis using ICT and advancing management, introducing cashless payment for toll collection, and introducing automatic docking/undocking mechanism and the automatic temperature management system.

iv) Ensuring road traffic safe responding to the recent traffic accidents

In response to the recent accidents caused by elderly drivers and traffic accidents involving little children as victims occurred in succession, the government aims to realize a society with no traffic accidents by aspiring to develop measures to prevent accidents caused by the elderly, ensure safety of the daily group walking routes mainly for pre-school children, and take other necessary measures.

- While actively adopting the advancement of new technology for the measures to support safe driving among the elderly, mainly the following measures will be strongly promoted. At the same time, the above mentioned i) and ii) as well as initiatives for maintaining and revitalizing regional public transport network will be implemented to promote measures for ensuring the means of transportation for the elderly.

³ An operation form in which trucks and trailers loaded with cargo can get on and off themselves and shift to land transportation seamlessly. RORO=Roll On/Roll Off

- In response to the international standard of Advanced Emergency Braking System (AEBS), which is expected to enter into force in January 2020, the domestic standard of AEBS will be formulated. Aiming for the period before the end of 2019, the government intends to reach a conclusion regarding the mandatory AEBS for new vehicles. In addition to AEBS, a conclusion will also be reached within 2019 for the introduction of a performance certification system for the acceleration control device involving accelerator and brake pedal misapplication.
- On the premise of automobile with safe driving support function, relevant ministries and agencies will, in cooperation, discuss ideal ways of the system to be operated, the scope and requirements of safe driving support function necessary for automobiles appropriate for the license system, that allows the elderly to drive safely and of confirming compatibility, and measures to popularize the said automobile for the establishment of that license system, and determine the direction during FY2019.
- Development of safe driving support equipment to be installed to already sold vehicles will be promoted, while the establishment of the performance certification system of the equipment and its implementation from FY2020 will also be considered.
- Development of new advanced safety technology will be promoted. In particular, guidelines for technical requirement concerning Intelligent Speed Assistance (ISA) will be formulated.
- Consultation for driving aptitude will be further enhanced during FY2019 by placing more specialist officials and improving the environment for consultation.
- To deal with driving in the wrong direction on highway, new technologies concerning the wrong-way-driving measures, which were publicly sought and selected from private companies in FY2018, will be actively implemented.
- To protect precious lives of children who are responsible for the next generation in the whole society, the government will work to ensure safety of the routes that mainly pre-school children use in a group on a daily basis as soon as possible.
- Under the cooperation of relevant ministries and agencies, the government will implement emergency inspections of “roads that children (at kindergarten or nurseries) use in a group on a daily basis,” and compile the results aiming for autumn.
- Based on the results of emergency inspections, the government will reinforce the traffic safety facility maintenance including the establishment of the Zone 30 (areas with 30km/h speed limit) and other measures focusing on the whole area, while promoting the establishment of safe and secure walking space by implementing separation of space used by pedestrians, automobiles, and bicycles, expansion of side walk, elimination of electric poles, measures for railroad crossing, and installing guard fences. In addition, effective speed control measures within the area of community road using data from ETC2.0, and functional differentiation of residential and arterial roads based on arterial road measures such as

intersection improvement will be promoted.

- Promotion of establishing a school zone, and measures for establishing a kids zone (provisional name) and will be developed with details as soon as possible.

4. Corporate Governance

(1) Major progress of KPI

[KPI] Improve ROA of large Japanese companies (TOPIX500) to the level which is comparable to those of US and Europe by 2025.

⇒ Japan (TOPIX500): 4.0%

U.S. (S&P500): 6.2%

EU (BE500): 4.2%

*These numbers are calculated in late May 2019 based on yearly financial results of the companies between April 2018 and March 2019.

(2) New specific measures to be taken

i) Corporate governance reform

Based on the revision of the Corporate Governance Code in June 2018, the government aims to promote initiatives for enhancing the quality of dialogues between investors and companies, from the perspective of further advancing the responses to some issues such as business management conscious of capital cost by companies, cross-shareholdings, exercising functions of the board of directors. On the other hand, further enforcement of corporate governance is required in accordance with the global standard in order to upgrading the competitiveness and reliability of Japanese companies. Responding to these situations, the government intends to advance the following initiatives to progress Japan's corporate governance reform for realizing medium- and long-term improvement of corporate value in expert meetings of relevant ministries and agencies such as follow-up meetings of the Stewardship Code and the Corporate Governance Code.

- The government intends to formulate rules on governance at listed subsidiaries, requiring parent companies to explain the significance of having listed subsidiaries in reorganization of business portfolios and clarifying an appropriate governance format to boost utilization in the practice at listed subsidiaries.

- The government plans to newly formulate “Practical guidelines on the group governance system” that present a listed-subsiary governance format and encourage compliance by companies.

[Requirements for listed subsidiaries]

- Support a core role for independent outside directors in protection of general shareholders and ensuring autonomous decisions

- Given the importance of independence from the controlling shareholders to ensure the efficacy of governance at the listed subsidiary, at least include not selecting a person with ties to the controlling shareholder (person who worked at the controlling

shareholder over the past decade) in criteria for determining the autonomy of independent outside directors.

-Aim to increase the percentage of independent outside directors on the board of the listed subsidiary (at least one-third or a majority).

-In specific cases of transactions with conflicts of interests, investigate and review from the standpoint of protecting the interests of general shareholders via a committee comprised of only or a majority of independent outside directors (or independent outside auditors) and built a board framework that respects investigation results.

-Disclose information to investors, etc. on the type of governance framework built by the listed subsidiary to ensure the interests of general shareholders

[Requirements for parent company response]

-The parent company should provide a good reason for maintaining the subsidiary as a listed entity from the standpoint of maximizing group enterprise value. It should also exercise rights to select and remove directors of the listed subsidiary as the controlling shareholder in a manner that protects the efficacy of subsidiary governance and fulfill an obligation to explain the suitability of actions to investors, etc. through disclosure of information.

- The Tokyo Stock Exchange should take additional measures to enhance the independence of listed subsidiaries from the controlling shareholder, such as revising its autonomy standards in accordance with the direction of the guidelines in order to raise the efficacy of “Practical guidelines on the group governance system.”
- The government aims to formulate “Practical guidelines on the group governance system,” which shows an ideal form of optimizing business portfolio and effective subsidiary management in group management, and nomination of the subsidiary management team and decision on their pay to enhance the corporate value for the entire company group, widely disseminate the guidelines, and promote and steadily implement practices in line with the guidelines.
- For the improvement of the effectiveness of corporate governance reform through substantiating a dialogue between investors and companies, the government aims to conduct discussions for promoting constructive dialogues and carry out further revision of the Stewardship Code in FY2020.
- Aiming to enhance the reliability of the capital market in Japan and promote M&A that contributes to improving corporate value, in the summer of 2019 the government will newly formulate “Guidelines on approaches to fair M&A,” which present fair procedures to secure general shareholders’ profit in Management Buyout (MBO) in which the issue of structural conflict of interest exists and acquisition of a listed subsidiary by its parent company (becoming a wholly-owned subsidiary), widely disseminate the guideline, and promote and

steadily implement practices in line with the guidelines.

- The government will encourage the use of special measures concerning the tax system and the Companies Act established based on the Revised Act on Strengthening Industrial Competitiveness (enacted in July 2018) to promote M&A in consideration for company's own share, and consider further institutional response to promote its use, in light of the following proposed revision of the Companies Act and the situation of the system development overseas.
- Based on the report by the Legislative Council of the Ministry of Justice, the government aims to realize early establishment of the proposed revision of the Companies Act, which includes mandatory appointment of outside directors, establishment of the share delivery system to enhance and expand the methods of M&A in consideration for company's own share, and the establishment of the system of electronic provision of materials related to shareholder meetings.
- Aiming to develop the most ideal dialogue environment from the global point of view, the government intends to compile the results of discussions on the new ways to use electronic means on the day of shareholders meetings by the autumn 2019, while continuing to review the situations of the ways in which dialogues are conducted through the year in foreign countries.

ii) Improving the quality of information disclosure and the quality of accounting and audit for constructive dialogues

Based on the perspective of sustainable improvement of corporate value, the government intends to develop the environment in which companies and auditors mutually cooperate to deepen their understanding of the management environment and risks surrounding the companies and information for enabling investors to make appropriate judgment. To this end, relevant ministries and agencies will promote the following initiatives.

- Initiatives for improving descriptive information such as business strategy and risk information that appropriately reflect the management's idea will continue to be conducted in order to facilitate constructive dialogues between companies and investors for the improvement of medium- and long-term corporate value.
- Based on the described examples in the report "In support of initiatives for integrated disclosure of business report and securities report" (formulated on December 28, 2018, by the Cabinet Office, the Financial Services Agency, the Ministry of Justice, and the Ministry of Economy, Trade and Industry, relevant ministries and agencies will support initiatives and collaboration by the companies that intend to make an integrated disclosure.
- By advancing further initiatives to facilitate the shift to International Financial Reporting Standards (IFRS), in collaboration with relevant organizations and agencies, the

government will promote the expansion of voluntary application of IFRS to companies. Meanwhile, the government also intends to advance initiatives to make measures for enhancing information provision concerning accounting audit including improved transparency of audit report effective from the viewpoint of ensuring the credibility of accounting audits, while also conducting survey research on the forms of the audit market including overseas trends.

iii) Promotion of smooth financing through the realization of vibrant financial and capital markets

Entering the age of 100-year life, it is important that financial assets are transferred to a balanced portfolio depending on the risk preference, while improving the financial literacy of the citizens in order for them to realize asset formation required for their own life plan and lead it to economic growth.

In this situation, for each entity involved in the investment chain, which starts from the household economy which is the source of funds to domestic and foreign fund demanders via financial and capital markets, to be able to bring more appropriate return, and for strengthening such functions, the following initiatives will be promoted comprehensively.

- For each citizen to realize stable asset formation, the government intends to promote efforts to improve financial literacy, in cooperation with relevant parties including teachers and schools, and also conduct discussions on the spread of NISA system and for its improvement. Since the reserve-style NISA, in particular, contributes to the improvement of financial literacy through the stabilization of long-term, funded, and diversified investment, as well as investment experiences, its dissemination will be actively promoted. Meanwhile, in relation to the prolonged period of securing income in old age, the government intends to consider simplifying procedures regarding the raising of possible enrollment age in private pension such as iDeCo (Individual-type Defined Contribution pension plan), and based on the discussion in the social security council, the government will consider a review of the system. Additionally, in the context of promoting further spread of the private pension system, a review will be conducted toward the iDeCo's online enrollment procedures and the simplification of procedures. Regarding various tax systems that support asset formation in preparation of life after retirement including the private tax system such as the NISA system and iDeCo, the government intends to advance comprehensive reviews based on the perspective of building a fair system to ensure that no advantage or disadvantage occurs depending on different working styles.
- For the establishment and building of Fiduciary Duties, further improvement in the effort of financial institutions will be promoted by utilizing excellent examples at sales companies of investment trusts, etc., results of analyzing customer awareness surveys, and shared KPI

announced by companies in the dialogues with financial institutions.

- Based on the basic agreement concluded in March 2019 between Japan Exchange Group and the Tokyo Stock Exchange, the government aims to actively work on the development of necessary environment in order to realize comprehensive exchange with high levels of international competitiveness. In addition, the government intends to continue actively working on the opening of an electricity futures market.
- The government intends to discuss the form of the Tokyo Stock Exchange's market structure from the perspective to develop an environment where various investors both in and outside of Japan can invest easily and to promote attractiveness of listed companies themselves as investment target.
- From the perspective of reinforcing the function of Japan's financial market, the government, in cooperation with the Tokyo Metropolitan Government, intends to promote further accumulation of financial business operators in Japan through invitation activities for overseas asset management operators, preparation of a guidebook to support registration application for the financial industry, and utilization of the Financial Market Entry Consultation Desk. At the same time, innovation in the financial industry will be promoted by using FinTech Support Desk and FinTech PoC (Proof-of-Concept) Hub.
- As the host country, Japan will support the Secretariat of the International Forum of Independent Audit Regulators (IFIAR) in running smooth operation and expanding the member countries.
- To promote risk money supply by the private sector for strengthening growth potential, further utilization of the investment function of the Development Bank of Japan and others will be planned by using government investment (industrial investment). Along with this, the government will implement efficient and effective utilization of public-private fund, and intends to steadily advance specific initiatives in accordance with formulated improvement goals and plans, based on the New Economic and FY Revitalization Plan Reform Roadmap 2018.

5. Smart Public Services

(1) Major progress of KPI

[KPI] (New) The government aims to lower system upgrading-related expenses out of the government information system operating expenses and maintenance expenses by 30% by FY2025.

[KPI] To be within the top 3 developed countries of the World Bank's business environment ranking by 2020.

⇒ Ranked 25th as of the announcement in October 2018 (ranked 24th in 2017)

[KPI] Reduce the administrative costs in priority areas * by 20% or more by March 2020.

(*Refers to the 9 priority areas indicated in the "Administrative Procedure Group Summary" (29 March, 2017 Decision on Regulatory Reform Promotion Committee Administrative Procedure Subcommittee). Certain areas may be given more time until March 2022, with the exception of national and local taxes that have separate targets, such as increasing the usage of the online tax payment system by large corporations to 100%.).

(2) New specific measures to be taken

The paradigm of public services is undergoing a shift from the legacy system by operations or organization to the mechanism in which various services on the cloud that are open based on loose coupling design philosophy are connected via APIs and processed through mutual data collaboration, and then they are automated by AI. In addition, one of the emerging global trends is seen as Civic Tech that the government work together with the private sector to develop applications using the cloud, rather than the government providing services alone.

Meanwhile, digital transformation in the public administration covers more than simple digitization of paper-based procedures or improved efficiency through sharing data within the administrative bodies. Having users as a starting point, it is necessary that the public and private sectors, in cooperation, advance digital transformation in which the public administration and private services mutually connect their data so that the public administration procedures and the private transactions are linked seamlessly to make complicated processes themselves unnecessary. New quality services will be generated through data cooperation.

Based on these concepts, the government intends to address in sequence the redesigning of the public administration services linked to private digital services, offered in back offices and other various fields on the cloud, in the fields of child rearing and cooperate proceedings. In addition, as a foundation of these efforts, it also intends to work on the utilization of AI and RPA as well as the use of the public cloud at the national and local governments, and make

efforts in the environmental development for data cooperation.

i) Procedure automation by individuals and corporations

(i) Procedure automation by individuals

- Reducing the burden of the household with young children is an urgent issue to be addressed in Japan. As some examples with respect to child rearing – for the alleviation of the burden and the enhancement of convenience involved in the procedures of various services – it is required to realize that users are informed at the most appropriate timing of various public and private services provided for the period from pregnancy until before the first school year, such as vaccination, child allowance, insurance, and housework services, which can be applied with the push of a single button. To this end, the government aims to design the service architecture needed for system and information cooperation, such as services by the private sector, local government’s system, and Mynaportal, and review individual administrative procedures and formulate a roadmap during FY2019. In light of this situation, some local governments will begin providing specific services in FY2020, and the national government intends to deploy this service nationwide from FY 2023.
- The government will implement the following to promote a one-stop services for the administrative procedures for individuals, which are deemed to have significant influence on the lives of many Japanese citizens.
 - With regard to “moving,” the government intends to prepare guidelines for promoting the introduction of the services by local governments during FY2019. It will also start the services for application procedures in sequence through the Moving Portal site (procedures by local governments will be conducted via Mynaportal), while a full-fledged operation will be implemented in FY2020 by further expanding the adoption of the services by many local governments and private companies and procedures by the private sector.
 - With regard to “death and inheritance,” local governments plan to prepare guidelines for introducing a general counter to deal with death-related procedures taken by bereaved families during FY2019, and aims to start providing the services at the local government level. In addition, from FY2019, the government intends to undertake a review of administrative procedures conducted by bereaved families and a mechanism to electronically inherit information during decedent’s lifetime, and aims to realize the system, which can complete all the necessary procedures online after FY2021.
 - With regard to “nursing care,” in FY2018 the government started to provide the service for reducing burdens related to application procedures carried out by people who are in need of nursing care or their agent. After FY2019, the government aims to promote the

services at many local governments by making effort to realize improved efficiency in the municipal services related to electronic applications, while also discussing further initiatives to contribute to the alleviation of the burden by local governments and business operators, such as presenting an application format in electronic application for local governments during FY2019, and implementing them in sequence.

-With regard to “automobile,” the government intends to develop measures during FY2019 to further expand one-stop services for the procedure related to owning mini vehicles launched in May 2019, and realize an early implementation of them. It also plans to review the form of collaboration with the one-stop moving services and other services and the private use of free space in a vehicle inspection certificate in the form of an IC card, in order to draw a certain direction to proceed during FY2019.

(ii) Realization of one-stop service for corporation

- The government intends to proceed with the online one-stop service for the procedure of corporation establishment to realize the business environment at the world’s highest standard. It will also regularly verify the status of efforts, conduct a review by the end of FY2021, and take necessary measures, while also working on the following matters.

- One-stop service for the procedure after registration will commence by January 2020, while the following services will be started by February 2021: one-stop services for all of the procedures including articles of incorporation certificate and corporation establishment registration, voluntary registration of seal for corporation establishment registration, an initiative for completing corporation establishment registration within 24 hours covering simultaneous online application of articles of incorporation certificate nationwide and corporation establishment registration under certain conditions, and.Launch an online complete service that eliminates the need for attached documents.At the same time, online registration of the seal will be considered.

- The government intends to work on revising the Commercial Registration Act during FY2019 to realize voluntary seal registration, while also considering the issues and policies for generalizing the acquisition and retaining of the future corporate commercial registration electronic certificate, and reach a conclusion during FY2019.

- As a system response for implementing online and one-stop services for registration, social insurance, and tax filing procedures in cases of changes in corporate addresses and changes in executive officers, the use of one-stop service through Mynaportal API is planned to start during FY2020.

- The government will conduct the following initiatives to alleviate the burden of SMEs.

- Regarding the procedures of social insurances at the time of recruitment and retirement,

the government works to realize early collaboration with Mynaportal API and aims to introduce the ID and password method using a Corporate Authentication System from April 2020.

- The government intends to start operating a subsidy request system with the ID and password method using a common authentication infrastructure for companies during FY2019 using subsidies for major SMEs, and aims to introduce subsidies associated with ministries and agencies and voluntary local governments from April 2020.
- For social insurance and tax filing procedures accompanying the life events of employees, online one-stop services using Mynaportal API will be started roughly from November 2020 and subjected procedures will be gradually expanded. In addition, procedures requiring Labor and Social Security Attorney's electronic signature will also be included in the service during FY2020 so that the procedure can be carried out through Mynaportal.

(iii) Digitization and automation of tax and social insurance procedure

- From the year-end tax adjustment and income tax return filed in 2020, batch acquisition of life insurance premium reduction certificate, etc and input and attachment to various kinds of tax returns will be automated through data linkage using Mynaportal. With regard to the said certificate issued by insurance companies, etc, it will be electronically issued, in principle, depending on the relevant system response situations.
- Concerning the automation of tax and social insurance procedures, the government intends to start using the system for a new method of submitting information regarding the submission of legal documents pertaining to financial institutions held by companies using cloud computing after FY2021 to reduce the burden of office work at business operators. For other procedures that are expected to receive a reduction of burden by Japanese citizens and business operators, it also plans to consider the expansion of the items covered after FY2022 and reach a conclusion during FY2020. Furthermore, the government will also discuss issues and measures such as those related to pension-related documents etc for the digitization of the notice of decision from administrative bodies to business operators, and aim to address them in order after FY2021 while considering the expansion of use.
- With regard to the notification of the Special Levy Amount (for tax payers), while giving attention to obtaining the understanding of local governments and special collection agents in the process to consider, the government intends to conduct a review for the realization of electronic notification in all municipalities and promptly reach a conclusion.
- The government plans to conduct the following initiatives regarding cashless payment of

taxes and public funds.

- With respect to the promotion of electronic filing of local taxes, the common local tax payment system for corporate inhabitants taxes and other taxes will start operation from October 2019. At the same time, while giving attention to obtaining the understanding of local government, issues and countermeasures regarding further utilization of the system, including its expansion to tax items with many requests from taxpayers, will be considered to conclude a road map for its implementation. (Repeat)
- Regarding tax, government funds receipt, and payment, at the "Workshop on Streamlining Payments of Taxes and Public Charges", which is jointly supported by financial institutions, related ministries and agencies, local governments, and others, we will examine the issues of improving convenience and efficiency using IT, and draw conclusions during FY 2019. (Repeat)
- For the realization of making back-office operations more efficient by digitizing and automating accounting and tax filing procedures of business operators, the government plans to further advance online electronic storage of billing, payment, receipt and relevant documents, as well as electronic tax return and tax payment, including the promotion of SME's use of online banking and electronic invoice, and receipts. It will also discuss issues and measures for promoting SMEs shift to become a smart business and reach a conclusion during FY2019.

(iv) Strengthening of the centralized project management of information system related budget

- The government intends to partially start the project management, which is conscious of Business Process Re-engineering (BPR) with the perspective of services throughout the year concerning the government information system under the Cabinet Secretariat from FY2019, and expand it in sequence. From FY2020, it will also utilize cloud services and other services, and sequentially start a centralized request and accounting of budget related to the development and operation of digital infrastructure in order to advance the building and utilization of systems, foundations and functions (digital infrastructure) for the shared government-wide use.
- In the procurement of the government information system, in FY2020 the government plans to start a trial of procurement and contract methods, which will enable a technical dialogue with multiple business operators regarding proposed contents prior to concluding a contract to make contributions to the dynamic, efficient, and effective system development.

(v) Promotion of the spread and use of my number card

- The government aims to build a cashless payment foundation for joint use by administrative services and private-sector services, and enhance cloud services utilizing the individual authentication function of My Number cards from the standpoint of extending the use of My Number cards, while rigorously protecting personal information, as a shared national platform for Society 5.0.

Specifically, it hopes to utilize the platform for My Key that contains a user ID obtained through strict personal authentication and local government point management clouds in public and private scenarios. It also intends to harness private-sector dynamism to the greatest extent possible and enable resident use of local public entity points in cashless purchases, and plans to consider exchanges with private-sector points in the future. Through these initiatives, the government will allow use of local public entity points in local mobility assistance, shopping assistance, care support, and other applications and facilitate policies that contribute to stimulation of local shopping districts.

Furthermore, the government aims to achieve effective policy execution by enabling detailed responses that truly address citizens' needs, prevent improper receipt, and lower administrative costs through reviews with related ministries and agencies and local public entities and with a future vision of supplying child-rearing assistance and other cash benefits implemented by the national government and local public entities via points.

The government plans to review a detailed approach to consumption standardization measures for the consumption tax hike in light of progress with measures, such as formation of a task force of public- and private-sector members, aimed at achieving a foundation as a national system with future expandability after implementation, and compatibility from the perspective described above after progress in preparations to issue local public entity points utilizing the My Number card.

- Additionally, the government is targeting the full-fledged usage of the My Number card as a health insurance card in March 2021 with the aim of boosting efficiency of medical insurance administration and enhancing patient convenience through definite confirmation of personal identity and insurance qualifications when giving treatment. It intends to provide sufficient assistance for prompt deployment of reading terminals and systems at medical entities and related locations, with a goal of coverage at almost all medical entities and related locations to ensure the quickest and smoothest response possible at medical entities and related locations nationwide. It also intends to formulate specific My Number card acquisition promotion measures by insurance recipients for the respective insurance providers and promote the acquisition of the My Number card by national and regional civil servants during FY2019.
- The government envisions almost all residents having My Number cards during FY2022

from the perspective of realizing a digital society that is safe, reliable, and highly convenient, as quickly as possible, and plans to strongly promote the proliferation of My Number cards by promoting the formulation of My Number card transfer facilitation plans at each municipality, periodically following-up and giving necessary assistance. It also aims to improve the My Number card convenience and further promote expansion of usage scenes. The underlying goal is increased utilization of My Number to realize fairness in social guarantees and enhance the convenience of public administration and operating efficiency.

- Furthermore, the government intends to execute the following measures utilizing My Number and Mynportal in sequence to promote the enhancement of the convenience of the card and expand its usage scenes: (i) Promotion of online application for the Education and Training Benefit System by HelloWork Internet Service, simplification of required documents for application; (ii) Promotion of digitization at universities through Digital Campus concept, use of My Number card for teacher's license management; (iii) Digitization of tax payment procedure (batch acquisition of data required for year-end adjustment and tax return procedures, automated input and attachment to various application forms, etc.); (iv) Cooperation with the Construction CareerUp System.
- The government intends to examine technical issues in light of market and technology trends concerning methods that enable as many residents as possible to use the public personal identification service inexpensively using a smartphone, including loading of electronic certificate for user identification on smartphones, by the end of FY2019, and based on the results it will swiftly take necessary legal and operational measures. Furthermore, installment of My Number functions into smartphones will also be discussed based on necessary security measures.

ii) Promotion of digital transformation (DX) at administrative bodies

(i) Realization of digital first

- The government intends to conduct the following initiatives to realize digital first, after reviewing from the perspective of the regulatory and administrative reforms.
 - The government intends to formulate information system development plans (including online public administration procedures, matters subject to elimination of attached documents and its implementation period) under the Act of Digital Procedures, and a Cabinet Order and Ministerial Ordinance of the Act within this year.
 - In doing so, the government intends to review the issues and promotion measures regarding the utilization of information and communication technology in public administrative procedures and private sector procedures related to the national and local governments for the full digitization of the administrative services, and set goals for the alleviation of users' burden, improved efficiency of the administrative

- operation, and the usage rate of online procedures by administrative procedural units.
- Meanwhile, in FY2020, development of the corporate data exchange platform will be advanced to enable the attachment to financial statements unnecessary.
 - Development of information system must follow the guideline group, which serves as the basis for promoting the digitization of the public administration such as the “guidelines for digital government promotion standard,” and the situation will be announced at the end of each FY. In particular, it is decided that the government should develop an environment that enables improved public administrative procedures, using the services provided by private business operators. For that, when conducting system collaboration and data collaboration, in principle, API based on the “API introduction and practice guidebook” and other appropriate guidelines must be introduced.
 - With regard to the certificate of employment to be submitted when applying to a nursery, the government plans to expand the spreading rate of the standard form, aiming to achieve the target of 70% spreading rate (for the FY2020 entrance) by introducing a form for large cities with high competition rate to complete the preparation of digital procedures. It will also consider and prepare a standard format draft for the application form for competitive bidding participation qualification, based on the report by a study group of the Ministry of Internal Affairs and Communications, and reflect it to the electronic application system at local governments by FY2019.

(ii) Further utilization of advanced technology at governmental organizations and agencies

- For the improved quality of public administrative services and efficiency of the operations, the national administrative bodies will implement Business Process Re-engineering (BPR) mainly in the areas with significant influence on the citizens and companies, and then promote the introduction of AI and RPA on a preferential basis in the works with which such an introduction is expected to bring more effects such as examinations, research, and enquiry responses.
- The government intends to revise the “Digital Government Execution Plan” during 2019 and arrange basic approaches in the promotion of using AI and RPA based on BPR at the national administrative bodies, while also clarifying tasks that should be addressed with priority. In addition, based on the revision of this plan, each ministry and agency will revise its “Digital Government Medium to Long-Term Plan of Individual Ministries” and clarify specific procedures of the operations to be prioritized.
- The government plans to advance system improvement from the viewpoint of human resource support to promote BPR at the ministries and agencies and the use of AI and RPA,

and compile the know-how and issues involved in the accumulation and development of good examples as well as the introduction and operation of them.

- The government plans to review the “Basic policy on the use of cloud services in government information systems” (decided by the liaison conference of Chief Information Officer (CIO) of each ministry on June 7, 2018) in order to ensure consistency with safety evaluation systems for cloud services, which is scheduled to start operation in autumn 2020. In introducing an information system, the principle of cloud by default at each ministry and agency, which considers the use of public cloud services as the first choice must be clarified and established.
- For both the public and private sectors to employ cloud services more securely and safely and to use them continuously, the government intends to conduct demonstrations of a safety evaluation system for cloud services during FY2019 and establish evaluation criteria, and a system aiming for the start of use at all government organizations and agencies in autumn 2020.

(iii) Further utilization of advanced technology at local governmental organizations and agencies

- For the promotion of the secure use of the public cloud by the local governments, technical requirements according to operations will be arranged and disseminated promptly. In addition, based on the national principle of cloud by default and the review results of the safety evaluation system for cloud services, contents will be added concerning the said requirements as required.
- The government intends to advance the standardization of municipal information systems, such as the resident record system and the construction of a standardized model through the comparison of operations between municipalities from FY2019 for further improving the local government’s operation and the shared use of ICT systems AI and RPA. At the same time, the government intends to strongly promote the standardization of AI and assist in the introduction of RPA, and aims to realize the provision of the standard systems and AI and RPA services in each administrative area nationwide in the 2020s at the latest, as well as implementing electronic and paper-free approaches for all procedures at local governments.
- With the participation of a wide range of parties involved, such as local governments, business operators, and relevant organizations, the government intends to prepare a review policy of expansion and enhancement of data items that should be collaborated between the core operation systems concerning standard specifications for regional information platforms that determine the data collaboration standard of the municipal operation systems during FY2019, and implement a radical review based on the said policy from FY2020.
- For maximizing the effectiveness of data utilization and providing support for resolving

regional issues, the government aims to expand the quality, quantity, and regions of regional informatization advisors during FY2019 by newly commissioning AI and RPA experts and local human resources, while also reviewing and improving “local government CIO training” to become an opportunity for practical learning of AI and RPA.

- For enabling local governments to effectively and efficiently make use of the information systems utilizing the advanced technology, the government plans to implement a “public pitch,” which proposes specific systems with a premise of shared use from 2019, based on the needs of local governments, through the dialogues between multiple local governments and developers conducted all the way from the designing stage.
- The government plans to start adjusting a marketplace with useful digital services and applications for the government and citizens centralized in one place, developed by startup companies and NPOs, from FY2019, and advance its full-fledged introduction after FY2020, enabling efficient horizontal development of best practices by the local government.

iii) Realization of the world’s best country for companies to engage their business

(i) Promotion of applying ICT to court proceedings, etc.

- While respecting the autonomous judgment by the judicial branch and considering the discussions at the Liaison Conference for Relevant Ministries and Agencies on the promotion of the civil justice system reform, the government tries to implement the following initiatives in stages with the aim to realize full digitization of court proceedings on civil litigation.

-Under the current law, the government expects the judicial branch to swiftly start new operations to arrange issues and evidence actively using ICT tools, such as web conferencing at some large-scale courts nationwide and expand courts exercising the said new operations nationwide sequentially after FY2020.

-The government will make efforts with a view to consulting the Legislative Council of the Ministry of Justice during FY2019 and revising the Code of Civil Procedure during 2022, with the aim to realize online filing, digitization of the record of litigation, electronic payment of fees etc., and online conference without appearance at courts. The government will consider comprehensive measures with the cooperation of the judicial branch to ensure the right of access to the courts, particularly by those who are not familiar with ICT, so they are not harmed due to the digitization of the court proceedings. Accordingly, the judicial branch will be expected to conduct swift initiatives aiming for the realization of new systems, while the executive branch will take necessary measures.

-New operations and systems utilizing ICT will be adopted swiftly in stages based on

discussions and initiatives for the improvement of the environment of the judicial branch, while initiatives requiring legal revisions will be adopted sequentially from around 2023. The government plans to consider the schedule for adopting new systems during FY2019.

- As Japan's business environment develops, which addresses diversification of conflicts, the government intends to review the utilization expansion and functional enhancement of Alternative Dispute Resolution (ADR) and other civil dispute resolutions using IT and AI, such as Online Dispute Resolution (ODR), and draw a conclusion on the basic policy during FY2019.

(ii) Digitalization of port logistics

- The government establish a "Port Data Collaboration Platform" by 2020. This Platform digitize paper-based transactions related to port logistics among private companies and administrative agencies. The information of port facilities is also digitized. Through facilitating the use of electronic information, the productivity of port logistics should be improved.

(iii) Digitization of real estate related information and services

a) Elimination of attached documents (certificate of registered seal of the seller) at the time of registration

- During FY2019, attachment of corporate certificate of registered seal between different Legal Affairs Bureaus will be made unnecessary for the real property registration procedure.

b) Promotion of online real estate transaction

- Ensuring the security of real estate transaction as the major premise, for the promotion of online transaction of real estate transaction, the government intends to flexibly advance system infrastructure development compatible with new technology, while considering to incorporate demonstration experiment processes, adopt explanation of important matters using IT in selling and buying, and digitize explanatory documentation of important matters in leasing, and will reach a conclusion during FY2019.

c) Open information related to real estate

- For the promotion of further utilization of information separately possessed by the public and private sectors, the government intends to carry out discussions on the transaction prices and usage conditions of buildings and open information concerning the regional security and infrastructure, and reach a conclusion during FY2019.

d) Realization of information infrastructure regarding land

- The government intends to discuss advanced cooperation between real property registry,

family register book, fixed asset tax ledger, Croplandledger, and forest land ledger to realize information infrastructure regarding land, and reach a conclusion about the direction going forward during FY2019.

(iv) Development of a legal framework of movable collateral and its registration system

- Based on the needs of companies and financial institutions, the government intends to review the development of a legal framework of movable collateral and its registration system, taking future legal amendments into consideration, while also continuing surveys on the needs in practical operations and discussions concerning relevant legal issues started in March 2019. The intermediate review of discussions will be carried out during FY2019.

6. Next Generation Infrastructure

(1) Major progress of KPI

[KPI] Goal of 20% improvement in construction site productivity by FY 2025

[KPI] For businesses engaged in inspection and diagnosis of domestic critical infrastructure & aging infrastructure, the proportion of facility managers who are adopting new technologies, such as robots and sensors that achieve a certain level of technological capability, to reach 20% by around 2020 & 100% by 2030.

[KPI] By 2020, Tokyo to come within the top 3 in city comprehensive strength rankings.

⇒ 2018: 3rd place (2012: 4th place)

[KPI] Expand the PPP/PFI business scale to 21 trillion yen over the next ten years (from FY2013 to FY2022). Out of which, 7 trillion yen will come from PFI business that utilize the concession-method.

⇒ FY 2013-FY 2017 business scale

- PPP/PFI business: About 13.8 trillion yen
- PFI business using the concession-method: About 5.7 trillion yen

(2) New specific measures to be taken

i) Improvement of productivity in the infrastructure field, and resolving of issues related to disaster prevention, transportation, logistics and cities

In order to strengthen Japan's international competitiveness and promote economic growth, Japan will strengthen industrial infrastructure functions through the prompt deployment and utilization of high-speed traffic networks such as high-standard trunk highways, projected Shinkansen lines and Linear Chuo Shinkansen, international hub airports and international container/bulk strategic ports, as well as develop a robust infrastructure that is resilient to disasters so that the industrial supply chain will not be interrupted. In addition, Japan will advance "smart investment and smart use" strategic infrastructure management and compact plus network efforts by utilizing new technologies from the Fourth Industrial Revolution, such as AI, IoT, robots, big data and autonomous driving. It will also promote efforts to maximize infrastructure stock effects, such as by improving productivity, increasing convenience and encouraging private sector investment.

(i) Development and maintenance of infrastructure

- 10 i-Construction model offices around the country will intensively utilize new technologies such as 3-dimensional data and ICT to handle tasks ranging from surveying

& inspections to maintenance management, so as to to put into effect i-Construction to drive forward the full utilization of ICT in the construction process. In addition, during 2019 the introduction of ICT to ground improvement engineering and ancillary structure installation engineering will be expanded and "ICT-Full use construction" using ICT will be implemented at 53 i-Construction support offices across the country for the majority of construction work. Also, ICT will be disseminated to and expanded among local public entities and local companies.

- A roadmap will be created during FY 2019 to link together infrastructure and data platforms that consolidate and share structure data and ground data obtained in the entire construction production process from surveying & inspection to design, construction and maintenance with data platforms for traffic & distribution, weather and disaster information. The aim is to establish an integrated data platform for land and traffic that will facilitate cyberspace simulations by FY 2022.
- Prompt support for computerization of certification application by designated certification inspection organizations handling most of the certification applications will be supported to encourage the dissemination of BIM building certification applications. Also, computerization at local public entities that serve as designated administrative agencies will be studied. In order to strategically promote the introduction of BIM, during FY 2019 sites will be established for consultation with a wide range of stakeholders such as national and local public entities, builders, designers and building owners, and the policies and roles shared between the public and private sectors given challenging issues, timetables and further actions will be organized.
- An ICT database system that works in conjunction with tablets and other devices to centrally manage data, such as inspections and maintenance repair data, and that will upgrade and streamline the infrastructure maintenance management work of local public entities, will be introduced nationwide utilizing local financial measures. In addition, Japan will standardize data items at each ministry responsible for infrastructure and facilitate an environment for shared use, such as by using cloud computing.
- In order to steadily advance the maintenance cycle, Japan will accelerate the field implementation of new technologies, such as in regard to bridge inspections, through a framework of having companies that place orders approve the use of new technologies, such as the drones proposed by the inspection service contractors. This will be based on the inspection procedures for bridges and other infrastructure that were revised in February 2019 and a performance catalog that organizes new technologies identified in previous field demonstrations. Similarly, in other infrastructure fields, Japan is quickly proceeding to, for example, revise procedures that incorporate the results of field tests.
- Also, Japan will undertake horizontal development of efforts and implementation cases

using local financial measures when local public entities introduce new technologies recommended by ministries responsible for infrastructure, as well as enhance target infrastructure fields and new technologies, such as by establishing procedures in each infrastructure ministry.

- For sewerage facilities such as pipelines buried underground, Japan will implement cloud storage of operational information gathered from sensors installed in manholes, detection of abnormal locations by AI, failure prediction and remote-control demonstration projects from FY 2019 and formulate guidelines by FY 2021.
- For local public entities that have a shortage of technical staff, a system will be studied that can proactively recruit mid-career personnel capable of becoming have an immediate effect in infrastructure management that includes the introduction of new technologies and data utilization, and a conclusion will be reached in FY 2019. A prompt examination will also be made of the qualification system for engineers performing inspections and the certification system for new technologies.
- Japan will study the reasons why the use of PPP/PFI is not progressing with respect to infrastructure that has difficulty generating cash flow along with effective dissemination measures. Also, the introduction of private sector technology and know-how through use of multi-year and wide-area package contracts will be encouraged.

(ii) Disaster prevention, disaster response

- Based on the experience of heavy rain in July 2018, low-cost crisis management-type water indicators and simple river surveillance cameras will be promptly deployed nationwide to enable residents to choose their own action to save lives and information content will be enhanced to convey in an easy-to-understand manner the impending situation using real-time water level indicators and live images. Also, effective information dissemination and transmission efforts in which government administration offices and various media cooperate will proceed, such as through the use of SNS and smartphone applications.
- Detailed flood, storm surge and high wave forecast information utilizing crisis management-type water level indicators will be provided by FY 2020. In addition, where labor shortages and the safety of observers are problems, equipment development and on-site demonstration will be implemented in FY 2019 in order to fully automate by FY 2021 through innovative river technology projects for flow rate monitoring.
- Meso-ensemble weather forecasting announcements and AI will be used from 2019 to cope with increased flooding risk due to more powerful typhoons. Also, evaluations of the applicability of predicted rainfall to dam operations at test dams will begin in FY 2020 in order to implement technologies to maximize the flood control capability of

dams through integrated management of multiple existing dams by FY 2023.

- The government aims to implement the introduction of automated inspection using drones in the maintenance management of erosion management facilities located in a steep mountainous area and requiring high-place work, and in disaster responses such as landslide in FY2020 by revising inspection procedures according to demonstration experiments. (Repeat)
- In order to make possible recovery from landslides and other disasters through the remote operation of construction machinery from locations far from the afflicted area using 5G, a demonstration test will be started in FY 2019, with a goal of implementing 5G communications in coverage areas from around the summer of 2020.
- A system developed by a strategic innovation creation program will be used in FY 2019 to facilitate creation of a database of reservoirs nationwide, sharing maintenance management information and water level data and providing crisis management information to local governments and reservoir managers.

(iii) Resolving transportation issues

In addition to promoting the Japanese version of MaaS by implementing open data and smart mobility challenges, utilizing new mobility and autonomous driving technologies and examining necessary systems, there will be other initiatives as described below.

- The government will implement demonstrations dealing with regional issues in relation to green slow mobility is law speed electric mobility that supports last one mile transportation, and aims to implement green slow mobility in 50 areas by FY2020 while conducting demonstration experiments according to local issues. (Repeat)
- To rebuild road space from the vehicle centered to people centered space including the utilization of new mobility, the government intends to examine the necessity of the revision of laws and regulations during FY2019 and create a roadmap. (Repeat)
- A demonstration test will be launched in summer 2019 to efficiently collect walking space data using sensing technology for the purpose of eliminating step height differentials along walkways that prove troublesome for users of baby strollers near nursery schools, train stations and other locations, and guidelines will be formulated by FY 2020.
- In FY 2019 around 20 demonstration test projects will be implemented in order to promote the creation of new services that combine traffic data, such as vehicle speed and route data from ETC 2.0 systems, and private data.
- Concerning truck platooning, while advancing the development of following vehicle manned platooning for market launch and data verification, he government intends to conduct demonstrations of following vehicle manned platooning on a highway by the end of FY2020. Additionally, in anticipation of realizing truck platooning on a highway,

stability and efficiency of the double network connecting the major three metropolitan areas will be further enhanced by upgrading the number of lanes at the Shin-Tomei Expressway and the Shin-Meishin Expressway to six, and practical measures for the use of highway infrastructure such as installing rest facilities and disconnection base mainly at the Shin-Tomei Expressway will be considered. (Repeat)

- Maintenance will be performed on the three major metropolitan area ring roads, including the Three Ring Expressways of the Tokyo capitol region, in order to maximize the stock effect of the road network, to achieve quick and smooth distribution and reduce traffic congestion. In central western Japan, a new toll system will be introduced by the end of FY 2020 in conjunction with the opening of all lanes of the Mei-Nikan Expressway.
- In order to deal with the expansion of aviation demand and shortage of providers, and for the implementation of labor saving technology by 2020, the government will significantly expand the targeted automated driving vehicles for which demonstration has started within the restricted areas of the airport, while installing necessary equipment for charging and location estimation as well as conducting necessary revisions of business guidelines within the airport. (Repeat)
- In addition to high-speed transportation networks such as high-standard trunk highways and the Linear Chuo Shinkansen, the current low-interest rate conditions will be utilized to facilitate prompt development of major urban railway networks and distribution facilities that access international airports, smaller airports and other key hubs. The necessary groundwork for accomplishing this will be considered by the end of FY 2019.

(iv) Resolving logistics issues

- A council will be formed during FY2019 with the aim to standardize slips, exterior packages, and data specification to promote joint logistics beyond the boundary of each company in response to labor shortage at logistics business operators, while an action plan will be formulated and demonstration experiments for sharing logistics and commercial distribution data with the entire supply chain will be started during 2019. (Repeat)
- Aiming to reduce the re-delivery rate to approximately 13% during FY2020 (15% in FY2018), relevant issues will be reviewed and measures will be considered regarding the delivery method to a place designated by users to allow further diversification of receiving methods, and a conclusion will be reached during 2019. (Repeat)
- In order to reduce the average number of examination days for special vehicle permits from the current period of around one month to around ten days by 2020, the computerization of road structure utilizing sensing technology etc. will be accelerated in FY 2019 and zones will be designated where applications for permission is unnecessary

for international marine containers (40 feet tall) operating along important distribution routes.

- To strengthen the international competitiveness of the maritime industry, which serves to support regional employment and economies, safety design guidelines for "autonomous shipping vessels" will be formulated during FY 2019 to help realize autonomous vessel operations by 2025.
- In order to realize an AI terminal with the world's highest level of productivity, a demonstration test project related to the automation of container damage checking using AI and operational support for cargo handling equipment will begin in FY 2019, and needed systems will be created by 2022.
- Efforts will be made to establish LNG bunkering facilities at two locations in Japan and achieve international standardization of safety standards necessary for bunkering in cooperation with Singapore and other countries by FY 2020.

(v) Enhancing the competitiveness of cities

- Efforts will be accelerated to position smart cities that use new technology and data such as AI and IoT as the basic concept of urban development for the purpose of achieving Society 5.0, a strong fusion of cyberspace and physical space. From FY 2019, a base will be established, supported by know-how and human resources, for cross-cutting efforts in areas such as traffic, disaster prevention, environment and tourism through cooperation between local governments, the private sector, universities and other institutions, and successful smart city models will be created and horizontally deployed through hosting model projects, creating public-private partnership platforms and formulating guidelines.
- In remote islands with limited area and such problems as insufficient/inconvenient public transportation, lifeline support, education, medical treatment and underutilized tourism resources, solutions to common problems in less favored locations will be obtained and results-based horizontal development undertaken by making pioneering efforts toward the realization of smart islands that introduce advanced technologies such as analysis of human flow data, drone distribution and high-resolution image transmission.
- To accelerate Compact Plus Network activities, measures such as promoting the location of facilities providing convenient living in residence guidance zones under urban facility location plans and restricting the location of houses in hazardous districts will be investigated and necessary system measures will be taken in 2020.
- To create comfortable walking areas that encourage encounters and exchanges that stimulate new businesses and innovations, new mechanisms for restoring and utilizing valuable urban space will be introduced by FY 2020, public-private councils in unit areas

will be instituted and urban development will be intensively promoted.

- In order to promote green infrastructure efforts to encourage creation of urban spaces that utilize greenery and water and attract new investment and human resources, a public-private partnership platform will be built and leading projects will be supported in summer 2019, and land-use measures will be amended as necessary during FY 2019.
- In order to promote appropriate real estate investment, including the perspective of ESG, system reforms for securing greater governance in real estate specified joint enterprises will be considered and necessary systematic measures will be taken in FY 2020. Also, a survey of the real estate management business for rental housing will be conducted by about summer 2019 and its applicability will be studied.
- Ideal ways of handling public-private data linkages of real estate information will be examined and in FY 2020 the number of real estate market indicators will be expanded, such as the volume of existing home transactions. Also, investment in local areas will be encouraged by, for example, enhancing dissemination of regional land value information.
- To make effective use of condominium stock and condominium building sites, mechanisms to promote appropriate maintenance and management by management associations and mechanisms to facilitate renewal by rebuilding and sales will be considered, the direction to take will be coordinated in 2019 and necessary measures will be instituted.
- A new legal system will be smoothly implemented based on, for example, the "Basic policy on promotion of measures such as the properties of unknown owners" (a June 14, 2019 decision made at a Japanese ministerial conference for the purpose of promoting land-use measures, such as collecting information on properties of unknown owners), which is intended to eliminate the properties of unknown owners and promote effective land utilization basic policy. Also, system revisions will be enacted by 2020 in regard to measures for smoothly and rapidly proceeding with securing appropriate land use & management and clarifying property ownership, mechanisms for preventing occurrences of unknown land ownership and mechanisms for smoothly and appropriately using the properties of unknown owners, and to set deadlines for policy promotion. In addition, new utilization measures for Japan's property parcel boundary demarcation system will be considered, such as allowing local governments and local organizations that conduct land ownership surveys to apply for parcel boundary demarcations, in order to proceed with the smooth operation of inheritance documents record-keeping systems and supporting the maintenance of property registry maps.
- High-demand information, such as forecasts of meteorological phenomena and global warming, will be made available in cloud computing services during 2019, so that analysis based on AI utilization of meteorological data can be easily performed for urban management and industrial activities. Also, mechanisms for training and securing

weather engineers who will make recommendations or advise on data utilization will be considered with support from the Weather Business Consortium and final conclusions will be reached during FY 2019.

ii) Accelerating the introduction of PPP/PFI approaches

Achieving numerical goals will be promoted in regard to the "PPP/PFI Promotion Action Plan (2019 revised version)" (decided by the Office of the Cabinet's Public Private Partnership/Private Finance Initiative Promotion Office on June 21, 2019) concession-style priority projects for airports, water supplies, sewerage, roads, educational facilities, public housing, terminal facilities for passenger ships, MICE facilities, public hydroelectric power and industrial waterworks.

Results-based private-sector consignment contracts methods, which are mechanisms for achieving solutions to social problems and improving the efficiency of government administration by utilizing private sector know-how and other knowledge sources while containing the financial cost of government administration, will be used and expanded.

(i) Promotion of efforts in concession-style priority projects

- In order to achieve continual improvement of the operating rights system, such as in regard to public facilities, operating rights guidelines will undergo review based on the results of interviews with domestic and foreign companies that have operating rights in public and other kinds of facilities. Also, the latest efforts in developed countries (utilization methods, fields of utilization, etc.) will be comprehensively gathered and documented, the differences between global trends and efforts in Japan will be ascertained and necessary future measures in Japan will be organized.
- Easy-to-understand explanation materials on operating rights system for public facilities will be created and used based on the past results of utilization of the operating rights system for public and other facilities in Japan and foreign country examples.
- The relevant ministries and agencies will assemble their suggestions for Japan in regard to rights that are similar to public facility operating rights in other countries, based on case studies of tax exemption measures, such as corporate taxes on the holding entity. Based on this, the Cabinet Office will confirm the needs of private enterprise operators within 2019 and determine the necessity of system development.

(ii) Promotion of the spread of Pay for Success contract format

- The Cabinet Office, in cooperation with relevant ministries and agencies, will make specific action plans from 2019 through FY 2022 that focus on priority areas for advancing Pay for Success, which are three fields in which Japan is already formulating concrete initiatives:

medical care/healthcare, long-term care and preventing crime recidivism. The relevant government agencies will promote the diffusion of Pay for Success in the three key areas based on the action plan. The results will be further expanded horizontally outside the three priority areas.

- Based on input from local government officials, private business operators, evaluation experts and others engaged in leading practices, the action plan will establish concrete procedures for preparing guidelines related to results indicators, evaluation methods, payment terms etc. and formats for how to construct evidence to serve as the basis for results-based evaluations.
- The Cabinet Office will examine and collect leading examples in Japan and overseas during FY 2019. Based on these efforts, it will build a website to disseminate and provide education about Pay for Success.
- The Cabinet Office will conduct surveys to support the introduction of Pay for Success and collect examples, so as to boost creation of further examples by local governments in a cross-cutting manner.
- The Ministry of Health, Labor and Welfare will consider the introduction of Pay for Success in existing institutional frameworks, such as in regard to grants and subsidies in the fields of medical care/health care and nursing care. At the same time, the Ministry will consider measures to promote the conclusion of consignment contracts that cover multiple fiscal years.
- The Cabinet Office will examine subsidy mechanisms for Pay for Success during FY 2019 after studying overseas cases such as UK/US outcome funds.

7. Aiming for realization of a decarbonized society

(1) Major progress of KPI

[KPI] On April 1, 2020 implement the legal separation of the power transmission and distribution sectors, which is the final stage of power system reforms.

⇒ An organization for cross-regional coordination of transmission operators was created on April 1, 2015. Full liberalization of electricity retail sales was implemented on April 1, 2016.

[KPI] Aim to have 50%-70% of new car sales of passenger cars be next-generation vehicles by 2030.

⇒ Next-generation vehicles account for 36.7% of new car sales (FY 2017)

[KPI] Have about 160 commercial hydrogen stations by FY 2020, 320 stations by 2025.

⇒ 103 stations are already operating (end March 2019)

(2) New specific measures to be taken

Proclaim a decarbonized society as an ultimate goal based on "The Long-term Strategy under the Paris Agreement (Cabinet decision on June 11, 2019)" that was formulated to take advantage of Japan's presidency of the 2019 G20 summit, Japan aims to accomplish this goal ambitiously as early as possible in the second half of this century. Also, Japan will boldly work to reduce GHGs emissions by 80% by 2050, realize a virtuous cycle of environment and growth through business-led disruptive innovation, generate a paradigm shift in global environmental policy and promote domestic and international initiatives. Investment in energy and the environment will be expanded and the results of innovation will be used to promote the advancement of energy and environmental measures and related industries.

i) Promotion of innovation

- Formulate a Progressive Environment Innovation Strategy during 2019 that includes a specific detailed road map for reducing hydrogen production costs to less than one-tenth of the current level by 2050 and commercialization of CCU technology, for effective use of utilize carbon dioxide such as, artificial photosynthesis.
- In autumn 2019 Japan will host RD20 (Research and Development 20 for clean energy technologies), in collaboration with ICEF (Innovation for Cool Earth Forum), to bring together leaders from G20 member country research institutes in order to apply global wisdom to accelerating innovation in the clean energy field.
- In order to realize the hydrogen society, establish mass production technology and execute comprehensive regulatory reform in order to significantly reduce costs for the full-scale

implementation period starting from 2025, in accordance with the strategic road map for hydrogen and fuel cells and other guiding measures.

- Make good use of the Greenhouse gases Observing SATellite-2 (GOSAT-2) to estimate greenhouse gas emissions from human activities, and contribute to enhancing the transparency of climate change countermeasures introduced in each country.
- Promote decarbonization of information and communication field through development and demonstrations of data server power supplies etc. that minimize power loss by employing gallium nitride (GaN) based semiconductors.
- Promote R&D and test demonstrations of new materials, such as cellulose nanofibers, in order to facilitate lighter weight automobiles and improve the heat insulation performance of building materials.
- Promote R&D and international collaboration on Carbon Recycling that can reduce emissions to the atmosphere in an economically rational manner, by treating CO₂ as a resource and using it as a fuel and raw material.
- Encourage the dissemination of energy management using digital technology and, in line with establishing innovative energy management systems (Reform 2020 projects), expand useable energy resources, hold demonstration tests of advances in control technology and promote system maintenance for the purpose of commercializing a virtual power plant in FY 2021.

ii) Promotion of green finance

- To promote constructive dialogue through the disclosure of corporate information and transparency of the methods of investors and evaluation institutions, further encourage the spread, penetration and utilization of Guidance for Integrated Corporate Disclosure and Company-Investor Dialogue for Collaborative Value Creation in Japan and overseas through international information dissemination.
- Actively boost the efforts of companies. Seeing SDGs as opportunities and exploring economic rationality and link those efforts to investment. Based on this viewpoint, in addition to promoting the incorporation of SDGs into company business strategies the Guide for SDGs Business Management guides, which summarize the perspectives and messages of companies doing advanced work on SDGs, will be disseminated and communicated widely in Japan and internationally via outreach to the G20 and other opportunities.
- Promote the spread of ESG regional finance through such support measures as loans based on business evaluations that take into account ESG factors at regional financial institutions. Also, improve ESG financial literacy by training ESG financial experts and maintain and generate momentum for ESG finance by financial institutions etc. through

ESG Finance High-Level Panel.

- In order to disclose information on corporate climate change related risks and opportunities and to promote dialogue between operating companies, financial institutions and other businesses, the TCFD Consortium inaugurated in May 2019 in response to a report by Task Force on Climate-related Financial Disclosures (TCFD), an organization established by the Financial Stability Board (FSB), will formulate guidance on green investment for financial institutions and revise TCFD guidance (guidance on climate-related financial information disclosures). The full-scale operation of environmental information disclosure services is set for FY 2021. Also, support will be expanded for companies responding to scenario analysis in line with TCFD recommendations and a guide will be created in FY 2019 to help companies formulate decarbonization management strategies using knowledge gained from providing support. In addition, in order to move toward a virtuous circle of the environment and growth, information will be disseminated internationally at the TCFD summit scheduled for autumn 2019.
- Promote green bond issuance and establish a green finance website to facilitate changes in corporate behavior and business through ESG finance. In addition, support the construction and commercialization of project schemes that incorporate environmental considerations into decisions on investments decisions and loans.

iii) Business-led global expansion and international cooperation

- Create new businesses by leveraging Japan's strengths in technology, promote international development of technologies and products with high levels of environmental performance and have Japan lead the world as much as possible in contributing to the reduction of global emissions.
- Working with partner countries, contribute to the realization of a global-scale decarbonized society by creating markets for decarbonized products, services and technologies suited to those partner countries and spurring innovation (co-innovation).
- Japan will take the lead in setting up a framework in which ASEAN countries cooperate with the public and private sectors in order to spread the results of innovation to the world through business environment improvements and market creation.
- Based on the experience of the Joint Crediting Mechanism (JCM), take the initiative in developing international rules and create an appropriate framework for utilizing market-based mechanisms.
- Develop a road map during FY 2019 for achieving sustainable development of international maritime transport and zero greenhouse gas emissions and begin implementing it at an early stage, as well as establish a new international system to

promote switching to energy-saving vessels within five years.

- Structure world leading low-GWP and non-fluorocarbon refrigerant technologies to be used instead of HFCs and reliable fluorocarbons recovery schemes, and promote their international application.
- Support export of environmental infrastructure in such fields as waste treatment, recycling and domestic wastewater treatment and support system construction and technology introduction in the accepting countries.

iv) Efforts in the energy field

- While utilizing market mechanisms such as development & activation of non-fossil fuel pricing transactions including post-FIT energy sources from FY 2019 and creating capacity markets and supply & demand adjustment markets possibly by FY 2021, design and build a system for the technology development of and investment in energy conversion and decarbonization.
- In order to make renewable energy the main energy source as well as strengthen cost competitiveness & industrial competitiveness and integrate renewable energy into the energy market as a self-supporting energy source, proceed with a fundamental review of the fixed-price purchase system. Also, promote investment environment improvements, such as creation of a new system for the base ports that are essential for offshore wind-power generation, and create technology development and safety guidelines for overcoming location restrictions. Encourage innovative technology developments so as to support Japanese companies that have a technological edge in the renewable energy field or other energy fields. In addition, in order to overcome general system constraints, at first make full use of existing systems.
- Strengthen local revitalization and resilience through genuine local energy production for local consumption in cooperation with local governments and through the introduction of renewable energy in ways that synergize with areas that have specific local renewable energy sources such as offshore wind power generation or geothermal power generation.
- In order to both toughen the power grid to make it responsive to large-scale disasters and introduce a large volume of renewable energy, as well as to respond to new technologies such as IoT and AI, promote power network reforms, including upgrading interregional interconnection lines and system improvements, and establish a mechanism for securing power generation investment together with the development of necessary supply capacity and coordination capabilities. In addition, promote high-performance/low-cost storage technologies, such as storage batteries and hydrogen, and the development and testing of next-generation power control technology.
- In order to expand and revitalize the movement toward hydrogen use in the world,

strengthen international cooperation on hydrogen through actions at such venues as The Hydrogen Ministerial Meetings.

- Promote efficient use of energy by businesses through cooperation among multiple operators, supporting the efficient operation of facilities via use of IoT and AI, and establishment of a system that links regulation and support measures while setting goals based on international and other standards regarding the energy consumption per unit of GDP in each industry.
- Disseminate self-consumption-type ZEHs by 2030 to achieve equivalence to ZEH/ZEB on average for new houses and buildings. At the same time, new ZEH and ZEB models based on community cooperation will be studied.
- In the case of nuclear power, promote safety as the first priority. While working to re-establish social trust through measures to improve disaster-prevention measures and voluntary safety upgrades, start strengthening human resources, technology and the industrial base, advocate for nuclear power plants with excellent levels of safety, develop technology that resolves backend problems including decommissioning and support human resource development and international collaboration. In addition, promote future R&D, such as using experimental breeder reactors, high-temperature gas reactors and other test research reactors.
- Realize and grow a highly flexible and transparent LNG market centered on Asia, streamline and strengthen financial support for LNG-related projects and formulate systems & plans as well as develop human resources.
- Start projects for commercialization led by private company consortiums by 2027 and promote technological development related to methane hydrates etc.
- Strengthen efforts in regard to resource diplomacy and acquiring resource interests in order to secure a steady and stable supply of mineral resources and energy resources necessary for manufacturing battery materials.
- Aim to acquire the world's most advanced resource exploration capabilities by utilizing new geophysical survey vessels and promote the application of IoT and AI technologies at development sites.
- Strengthen the competitiveness of petroleum refineries so as to upgrade the fuel supply infrastructure and transition to next-generation solutions, expand overseas to establish a global fuel supply network, improve productivity by digitizing SS and create new fuel supply systems.

v) Efforts in the industry and transportation fields

- Promote the establishment of goals consistent with the Paris Agreement that includes

small and medium-sized enterprises and facilitate wide acceptance in the society to incorporate decarbonization into corporate management.

- Establish a platform to realize the international valuation of Japan's low-carbon products and to attract investment to companies through visualization of the size of the contribution to reduction of greenhouse gases through product and other kinds of global value chains.
- In order to meet the challenge of realizing zero carbon steel through utilizing CO₂-free hydrogen as a part of a long-term process, research and development, such as the COURSE 50 project, will be conducted as the first step.
- In regard to CCUS, host commercial-scale demonstration projects, develop technology, promote carbon cycle utilization businesses and accelerate efforts toward early social implementation in line with the "Basic Energy Plan (Cabinet decision on July 3, 2018)" and the "Basic Environment Plan (Cabinet decision on April 17, 2018)."
- Promote R&D and demonstration tests of practical uses of fuel production technology based on microalgae etc.
- Organize the "Council for Electrified Vehicle Society" by the summer of 2019, proceed with test demonstrations of the integration of electrified vehicles and energy systems and infrastructure development, and create an automobile & energy integrated society that utilizes electrified vehicle electricity storage & power supply functions.
- To promote energy saving in the transportation sector, proliferate next-generation vehicles, create new fuel-efficiency standards, utilize electrified vehicles as commercial vehicles, promote test demonstrations of new mobility services linked to public transportation and develop & commercialize more efficient vehicle storage batteries.

vi) Efforts in regions, life areas, and other environmental protection

(i) Creation of regional circulation, symbiotic area, and lifestyle conversion

- Support efforts to create Circulating and Ecological Economy that aims to form a self-reliant and decentralized society through use of regional resources in a sustainable manner, while complementing and supporting each other among regions, in order to develop energy and environmental industries that revitalize local economies, build decentralized energy systems using regional renewable energy sources, and continue to promote the Satoyama Initiative internationally.
- Study innovative uses of energy by new forms of business and social systems that utilize IoT, AI, sharing and digitalization, taking into account a review of energy - efficiency related systems.
- By integrating behavioral insights (nudge, boost etc.) and advanced technologies such as IoT, AI etc. (BI-Tech), expand the market for products, services and lifestyle services

that encourage behavioral changes, such as greater environmental awareness, through work that aligns with personal values.

- Promote the practical application and commercialization of advanced technologies by building a platform for trading CO₂ reduction values derived from the self-consumption of renewable energy and demonstrate it using blockchain technology.

(ii) Material circulation in regions, etc.

- Based on the "Fundamental Plan for Establishing a Sound Material-Cycle Society (Cabinet decision on June 19, 2018)", efforts will be made to create and disseminate innovative resource circulation businesses utilizing IoT, AI and other digital technologies, reduce food loss and demonstrate and diffuse unused circulative resources.
- Promote the Circular Economy Challenge Project, which promotes the activities of companies with ambitious goals related to the circular economy, based on the internationally advocated concept of the circular economy (CE).
- Improve and disseminate the “urban mining” system, by developing advanced recycling technology such as automatic selection systems ~~utilizing~~ using AI and robots, and by utilizing the legacies of the “Tokyo 2020 Medal Project” such as intensified recovery routes.
- Promote renovation of sewage treatment by planning wide-area and joint treatment use, utilization of sewage heat, conversion of old-type Johkasou (decentralized domestic wastewater treatment system handling black water only) and construction of municipality-based Johkasou database system.
- Based on the National Action Plan for Marine Plastic Litter formulated in May 2019 as well as the Resource Circulation Strategy for Plastics and the "Basic Policy based on the Act on Promoting the Treatment of Marine Debris (Cabinet decision on May 31, 2019)," Japan will aim to achieve a world without additional pollution through intensive collection and appropriate treatment of plastic waste, the 3Rs, innovative development of alternative materials such as marine biodegradable plastics, capacity building of developing countries, and understanding of actual conditions and accumulation of scientific knowledge.
- Promote the utilization of digital technologies to realize a virtuous circle of promoting tourism and conserving nature environment in the national parks and World Natural Heritage Sites.

(iii) Promotion of “The Fukushima Plan for a New Energy Society”

- Based on the Fukushima new energy society concept, promote various measures such as reinforcement of power transmission lines for the purpose of introducing and

expanding renewable energy.

- Use CO₂ free hydrogen derived from renewable energy (Reform 2020 projects) to produce hydrogen on a large scale from renewable energy in Fukushima Prefecture, and use it at the Tokyo 2020 Olympic and Paralympic Games. In preparation for the start of demonstration tests from July 2020, promote the steady construction and trial operation of demonstration equipment.

(iv) Promotion of adaptation to climate change

- Under the "National Adaptation Plan (Cabinet decision on November 27, 2018)" that is based on Climate Change Adaptation Act, enhance the information infrastructure related to adaptation and work with stakeholders to promote adaptation measures related to agriculture, forestry and fisheries, disaster prevention and heat illness. Also, adaptation efforts will lead to resilient regions and the development of adaptation businesses.

8. Construction of Innovation Ecosystem for Realizing Society

(1) Major progress of KPI

[KPI] By 2025 triple corporate investment in universities and national research institutes etc.

⇒ 136.1 billion yen (FY 2017 actual results)

[KPI] By FY 2020, combined public-private R&D investment that is 4% or more of GDP

⇒ 3.48% (FY 2017 actual results)

[KPI] Create 20 unlisted venture companies (unicorn) or listed venture companies with more than \$1 billion in corporate value or market capitalization by 2023. (Repeat)

[KPI] In the next ten years (ending in 2023), the time required for the acquisition of right will be halved to an average of 14 months.

⇒ FY 2017 actual average: 14.1 months

[KPI] Improve labor productivity in the manufacturing industry to more than 2% annually

⇒ 2017: 1.9% (2016: 1.8%)

[KPI] More than 2% annual improvement in the labor productivity of the manufacturing industry

⇒ 2017: 1.9% (2016: 1.8%)

[KPI] By 2020, achieving 80% of companies to collect data at their factories, and 40% of them to link their collected data to solving specific management issues.

⇒ 2018: Each was 58% & 26% (2017: Each was 68% & 22%)

[KPI] In 2020, achieving the size of the domestic robot production in the manufacturing area to 1.2 trillion yen and in the non-manufacturing areas such as services to 1.2 trillion yen.

⇒ 2017: Manufacturing sector: approx. 900 billion yen, non-manufacturing: approx. 180 billion yen

(2016: Manufacturing sector: approx. 720 billion yen, non-manufacturing: approx. 140 billion yen)

(2) New specific measures to be taken

i) Construction of an autonomous innovation ecosystem

With the paradigm shift to Society 5.0 rapidly advancing, creating innovation that can compete with the world requires mobilizing the power of "production" (namely, large companies and start-ups), "science" and "government" to focus on open innovation. In

Japan, the reform of its universities is underway, but industry-academia-government collaboration remains small and entrepreneurial activity is weak compared to other countries. In addition, large companies have a management system & organization suited to the efficient operation of their existing businesses and face the challenge of falling into self-sufficiency traps and losing flexibility.

Under these circumstances, universities and national research and development institutions (national research institutes), which are the sources of innovation, will work on innovation creation together with industry based on setting challenges that envision the future. As for the startups that promote industry revitalization and structural change and drive the implementation of Society 5.0, the public and private sectors will work as one to mobilize policies that create and nurture globally active start-ups. In addition, the introduction of different organizational forms and culture in the form of business operations that are independent from the main company, and "bilateral management" that promotes new businesses with new management methods together with existing businesses will accelerate new management challenges at large companies.

(i) Promotion of open innovation through the cooperation among industry, academia, and government

a) Efforts to integrate industry, academia and government

- In 2019, examine a system to effectively carry out large-scale joint research and development by companies, universities and national research institutes in order to promote social implementation of the research results coming from universities and national research institutes and to further diversify financial resources.
- The "Leader's Forum on Promoting the Evolution of Academia for Knowledge Society (PEAKS)" established in FY 2019 brings together university personnel and representatives from industry and government to concretely discuss university management issues and solutions and share and analyze good cases that lead to the creation of innovation. In addition, study policies in FY 2019 to make the "Guideline for Enhancing Industry-Academia-Government Collaboration Activities" (Industry-academia-government dialogue on promotion of innovation on November 30, 2016) more effective.
- Develop a new system by FY 2020 to allow the public and private sectors to work together to find promising research seed projects and foster young researchers to work on these projects.
- By FY 2020 study creating new industry-academia fusion models and strengthening the National Institute of Advanced Industrial Science and Technology (AIST) framework for providing support based on the specific technology needs of regions in collaboration

with public research institutes.

b) Creation and fostering of startups that are active worldwide

- Provide intensive support for the formation of urban bases in order to establish a start-up ecosystem. Also, strengthen entrepreneurial education with a focus on universities, world-ranked acceleration functions, support for research and development in fund allocation institutions and the building of networks related to start-up support. In addition, promote start-up participation in public procurement and the mobility of R&D personnel. Also, utilize gap funds.
- The J-Startup program will make additional selections until the summer of 2019 in order to discover local promising startups and startups aiming to tap overseas markets from the time they are established (born global), while promoting open innovation with large companies. Selected companies will see promotion of overseas development in collaboration with government ministries and stronger centralized support, such as public relations assistance for start-ups with limited management resources. In addition, in FY 2020 create an environment that aims to hold internationally acclaimed start-up conferences and domestic start-up related events, known as "Global Venture Summits (provisional name)," as part of the effort to create an eco-system.
- In regard to support for R&D-type start-ups that receive venture capital (VC) or other funding commitments, focus on & strengthen support fields and stages through review of accredited VC and verification of the cost-effectiveness of previous efforts. Also, aim in FY 2020 to consider effective support for start-ups that solve social issues or are market game changers in advanced technology fields, such as AI, where they can be expected to be active globally. In addition, work through the Japan Open Innovation Council (JOIC) to strengthen promotion of open innovation between ventures and large companies, universities and others, such as holding pitch events focused on university-led ventures.
- In order to promote innovation by SMEs and venture companies so as to be able to consistently and efficiently support moving from feasibility studies to R&D and commercialization, evaluate & verify the existing SME technology innovation system (Japanese SBIR system) via the relevant government ministries and reach conclusions on changes in the direction of this system in 2019. Thereafter, quickly take necessary measures.

c) Promotion of innovation at large companies

- Formulate guidelines for promoting innovation management around the summer of 2019, taking into consideration the movement toward the international standardization of innovation management systems. Based on these guidelines, encourage information disclosure at large companies. Also, in cooperation with economic organizations and

market participants, in FY 2019 consider a framework, such as a public offering of stock, in order for large companies that meet the challenge of innovation management to be evaluated by capital markets, and aim for near-future realization.

- In FY 2019, implement a joint survey of business resource utilization based on the Industrial Competitiveness Enhancement Act. Using the results of the survey and under the concept of "emphasizing intrinsic motivation and accepting new values," establish an environment at large companies that brings together business resources that goes beyond the framework of organizations and fields, such as accepting the use of management resources, etc. at start-up companies. To accomplish the foregoing, study the best way of managing company personnel, intellectual property and investments, and formulate necessary measures.
- Support utilization of technology research associations to promote open innovation, such as joint research by large companies and universities, by gathering examples of realizing newly created companies using technology research associations along with successful examples of collaboration between companies and universities by the fall of 2019. Also, formulate, disseminate and disseminate guidance that outlines the essentials of creation and utilization.
- In order to promote investment by private financial institutions, encourage efforts from FY 2019 to utilize funding practices related to supplying risk money based on the investment business of the Development Bank of Japan (DBJ). In addition, to promote investment in open innovation between large companies and venture companies from FY 2020, explore financing that uses industrial investment tied to bottlenecks at the stages of growth.

(ii) Higher education and research reform

a) Strengthen the university's function as a hub of knowledge and human resources through university reform

- Based on the Fourth Industrial Revolution, the source of added value shifts to "knowledge." The human resources who create "knowledge" and the places that create added value through exchanges of "knowledge" are of vital importance. Work should be done on measures to expand the functions of universities and other educational research institutes, from the viewpoint of having places that create added value functioning as organizations.
- During FY 2019 formulate a national university governance code for improving the university management environment and explore creating a University Promotion Corporation (provisional name) system to promote collaboration and sharing of functions among universities etc. that reaches beyond the framework of national, local

and private institutions.

- In regard to the annual allocation of national university operating expense subsidies, gradually increase the target amount of allocations and range of variation based on results-specific actual conditions from the FY 2020 budget. Also, by the summer of 2019, examine objective & common indicators and evaluators that reflect the character of each field of academic study and education & research and apply the results of the examination in FY 2020 or later.
- Regarding national university corporations and national research institutes, examine necessary measures for correctly evaluating the value of intangible "knowledge," reducing the dependency on operating expense subsidies by increasing the proportion of external funding, such as acquiring funds through promotion of large-scale joint research and expanded donations, and strengthening the financial base. At the same time, consider the establishment of a mechanism for joint operation of surplus funds at national universities and the deregulation of tuition fees etc. for foreign students.

b) Enhancement of research capacity

- Expand reforms of research "human resources", "funds" and the "environment", under the auspices of industry-university-government cooperation, in tandem with university reforms and implement " reforms for the enhancement of research capacity 2019."

-Promote well-known examples of graduate-level education as part of industry-academia collaborations and doctoral program for world-leading innovative and smart. In addition, review the research funding system such as by exploring extending the appointments of young researchers, alleviating full-time project duties and making it possible to spend the research representative's personnel expenses from direct expenses, and make changes from FY 2020 onward.

-Promote the internationalization of universities that includes the horizontal development of advanced efforts inside and outside the organization toward establishing global hubs, expand international joint research programs and use domestic research funds for international joint research. In addition, during FY 2019 examine the strengthening of international and interdisciplinary research systems for the sustainable development of global research centers.

Focus on and strengthen the support for young researchers and research that contributes to the cultivation of emerging and convergence field through research funding programs such as Grants-in-Aid for Scientific Research and Strategic Basic Research Programs. Also, strengthen joint usage/ research systems through globalization and networking and enhance diverse, challenging and outstanding research with dual support for fundamental funds and competitive funding.

-Strategic utilization of advanced large-scale research facilities, equipment and research equipment, creating smart laboratories through utilization of AI and robot technology, aggressively promote strategic renovation of research facilities and carry out "laboratory reforms" aimed at a research environment appropriate to the era of Society 5.0.

- In order to comprehensively and fundamentally strengthen Japan's research capabilities, formulate a "Stronger R&D & young researchers support comprehensive package" (tentative name) by the end of 2019.
- To promote the use of cross-appointment systems based on professional fields, proactively disseminate guidance and good practices and encourage various career paths. In addition, along with other measures to improve the mobility of researchers, undertake a study of the ideal ways of dealing with cross-appointment systems by FY 2020.
- Provide training for women researchers who will be leaders in industry-academia collaborations in order to ensure diversity at research centers and stimulate innovation during 2019 and start new efforts to promote activities in society. Also, based on surveys and analysis of overseas cases, study appropriate work environment improvements and support measures by FY 2020 and incorporate study results in new measures.
- Based on the Cross-Ministerial Research and Development Management System (e-Rad), which manages R&D work data through a competitive funding system, strengthen the functions of the public funds offering process and expand the scope of managed data for all public research funding, etc., in order to visualize the relationship between national research expenses and the output of research papers and patents. Use this information to examine policy, such as more effective ways of distributing funding.

c) Promotion of strategic research and development

- Start creating architecture in 2019 that contributes to data linkages across fields and businesses for the purpose of realizing smart cities and super cities that serve as places to demonstrate Society 5.0. Also, study and demonstrate urban OS, standard API and data structures etc. through intensive government ministry investment in existing businesses. Further, in anticipation of international standardization, advocate a Global Smart Cities Alliance at the G20 to promote a common understanding that contributes to mutual learning between smart cities and sharing and utilization of successful cases.
- Promote challenging R&D with the aim of creating disruptive innovation. The Moonshot R&D system will be launched in the near future under a promotional arrangement that brings together all relevant government agencies.
- Promote human resource development, research and development and activities for social implementation based on "AI Strategy 2019" (decided by the Integrated Innovation Strategy Promotion Council on June 11, 2019).

- Based on “Bio Strategy 2019” (decided by the Integrated Innovation Strategy Promotion Council on June 11, 2011), create industry promotion data bases, form international bases, host regional demonstration and research projects and encourage visualization of the value and safety of bio products, along with promoting the realization of new functional food labeling based on scientific knowledge and the development of an investment environment for bio-ventures.

In particular, create important large-scale integrated cohorts⁴ & bio banks as personalized healthcare infrastructure.

Steadily promote the Tohoku Medical Mega bank Project etc. for the cohort of healthy individuals and seek to build a human data integrated platform while verifying the scale sufficient to support international competitiveness. Also, in regard to the cohort of those who are ill, incorporate entire genome analysis and strengthen & accelerate related efforts so that comparative analysis with the cohort of healthy individuals can be performed.

- Focus on and strengthen funding in the main technology areas related to quantum science and the efforts of national and other research institutes taking into consideration the study of the “quantum technology innovation strategy” formulated at the end of 2019, promote international research and development bases and encourage the development of quantum technology-related native human resources that includes upgrades to science and mathematics education.
- Start early access of the supercomputer "Fugaku" (post "K-computer") from FY 2020 in order to achieve the creation of results in the near future and promote applications related to AI and data science. Also, create a flexible use environment for the Science Information NETWORK (SINET) and combine data science and computational science based on a high-performance computing environment to collect, analyze and provide various real world and real time data utilizing SINET. In addition, open this data to companies and promote accelerated industry-academia joint use in anticipation of Society 5.0.
- **Promote comprehensively those which efforts toward sustainable use of the Northern Sea Route, R&D addressing global issues such as consideration on a next research project of Arctic Challenge for Sustainability (ArCS) project and efforts related to Arctic research vessel, and international cooperation including holding Arctic Science Ministerial in Japan in 2020.**
- Promote next-generation synchrotron radiation facilities through public-private regional partnerships that share the financial burden.
- FY 2020 fully promote the development & sharing of smart research environments and cutting-edge research infrastructure in order to advance and streamline new materials

⁴ Long-term follow-up studies of health & disease conditions in certain populations.

development through industry-academia-government collaborations.

- In order to integrate standardization activities from the early stages of R&D, including in areas of cross-industry fields such as IoT, consider enhancing standard experts' supports for researchers at the National Institute of Advanced Industrial Science and Technology (AIST) and strengthening a function of providing consultations to requests from outside the organization that relates to its research areas by the end of FY 2020. In addition, share methods and examples of standardization activities, such as the "Standardized Management Guidelines" developed by the New Energy and Industrial Technology Development Organization (NEDO), among national research institutes in collaboration with relevant government ministries and agencies.

(iii) Intellectual property and standardization strategy

- Promote measures to realize a value design society based on an intellectual property promotion plan.
- In order to accelerate design for business management and open-innovation creating social impact, promote utilization of "business management design sheet" and the use of diagnostic items lists to elucidate the frame of mind required for managers and individuals engaging in open innovation.
- In order to promote intellectual property creativity education that fosters the creativity of children and students in primary and secondary education, this year the collection and creation of teaching materials for newly targeted high schools and other schools will begin and demonstration lessons utilizing those materials will be held around the country.
- In order to promote the use of trademark rights to strengthen local branding power, strengthen efforts starting in FY 2019 to use regional collective trademarks and at SMEs, etc. and take measures to shorten the trademark examination period, which tends to be prolonged as the number of applications increases.
- Study specific measures for strengthening the functions of the intellectual property litigation system so that intellectual property rights cannot be "profitable for infringers".
- Regarding the import of counterfeit goods for the purpose of personal use, which has been seeing a remarkable increase, study the direction to be taken of specific responses and immediately reach a conclusion, taking into account the damage to right holders etc. and the operating conditions, including how the system is maintained, in foreign countries.
- To establish a system to prevent the outflow of technology and other important information in overseas locations, implement development support for trade secret management systems for Japanese companies overseas, such as in Asian countries.
- In regard to pirated editions distributed over the Internet, take comprehensive measures such as promoting the distribution of legitimate versions, strengthening international

collaboration & international implementation and studying needed systems.

- In fields such as autonomous driving, sharing economy, smart cities, data exchange markets, AI and IoT technologies, actively make proposals at the international standardization organizations in regard to the data architecture that embodies the concept of Society 5.0.

ii) Next generation industrial system

(i) Promotion of data linkage in the supply chain

- In order to make the most of the valuable data generated from manufacturing floors, the system to distribute data across company boundaries will be established in FY 2019, cooperating with domestic organizations, companies, and other countries.
- In order to upgrade Japan's "Coordination" throughout the supply chain, EV-related virtual simulation models will be built in FY 2019 aiming for improved development efficiency through digitalization of automobile design and development, in addition to the fuel efficiency, heat and movement performance models built by FY 2018.

(ii) Social implementation of robotic technology.

- In order to carry out robot development and introduction in the service field based on the user's point of view, forums for robot users and manufacturers to meet will be held in the fields of facility management, nursing care, and food & drink. In the forums, issues with introducing robots will be reviewed, and the best new business models to standardize business processes, data linkages and communication will be organized in FY 2019.
- In order to broadly train robot developers and robot system integrators, a system of academia-industry collaboration to encourage the development of teaching materials, the dispatch of lecturers in cooperation with industry and on-site training will be established by the summer of 2020, with a view toward introducing robot education programs in industrial high schools and technical colleges.
- The government examines the state of national qualification system (skills certification system) that evaluates the skills of robot system integrators in 2019. Also, in order to raise social interest and encourage young people to become robot system integrators or other robotics-related professionals, we review the introduction of competitive events using "industrial robots" at World Skills International in FY 2019.
- In preparation for the World Robot Summit's 2020 event (held at Aichi Sky Expo and the Fukushima Robot Test Field), an awards competition promoting social implementation and R&D that brings together the world's robot technology, the rules of the competition will be published and the recruitment of competition participants will start in the summer of 2019. Also, based on the Fukushima Innovation Coast concept which has the Fukushima Robot Test Field as one base, the government plans industrial clusters and

promote environmental improvements to achieve self-supporting and sustainable industrial development in cooperation with companies that have advanced overseas and local companies.

- In addition to "smart manufacturing support teams" promoting the introduction of IoT and robots through specialist training and the dispatch of experts, we create "supplier support teams" that support autonomous driving technology and new technologies such as motorization. The government expands support bases for small and medium-sized manufacturing companies in combination with these teams to about 40 locations nationwide in FY 2019.

(iii) Expansion of the space business

- In connection with the navigation services provided by the quasi-zenith satellite "Michibiki," make steady progress while also improving efficiency in establishing & improving the functions and performance of seven aircraft systems along with developing and maintaining corresponding ground facilities by around FY 2023. Also, expand use in various fields by, for example, supporting demonstration projects and the proliferation of compatible receivers and make efforts to expand overseas. In addition, promote the G space project that facilitates social implementation of advanced technologies using G space information, centering on the G space information center. Furthermore, in order to achieve sequential social implementation of the common infrastructure that can be positioned to a high degree of accuracy from FY 2020, clarify the specifications for 3D maps consistent with positioning by electronic reference points etc. in the same fiscal year.
- Launch two H3 rockets in FY 2020 and 2021, and launch advanced optical and radar satellites in FY 2020. Increase the number of information gathering satellites, strengthen functional guarantees and develop technical test satellites.
- Undertake full-scale development and improvement of Tellus to provide satellite data in conjunction with data from local public entities. Also, use satellite data in various fields, such as in regard to expanding the S-Booster business contest to the Asian region.
- With regard to space ventures, expand the supply of risk money, using for example the Development Bank of Japan (DBJ), and enhance overseas investment. Also, full-scale operation of a specialized human resources platform will start in FY 2019.
- Promote business creation through collaboration between the Japan Aerospace Exploration Agency (JAXA) and the private sector. In addition, in regard to parts and components for competitive small satellites & small rockets, start support for in-orbit demonstrations by FY 2020 based on, for example, using domestic civilian rockets.
- With regard to reducing space debris, rapidly encourage R&D that utilizes the vitality of the private sector, and based on the "Future Efforts on Space Debris" (May 31, 2019 agreement

of ministers on the Task Force involving relevant ministries related to space debris) compiled in May 2019, study specific efforts along a time axis and participate in discussions of an international framework.

- With respect to international space exploration, study a policy on participation in the Lunar Orbital Platform–Gateway that the United States envisions and make a decision in 2019 in cooperation with private operators, from the viewpoint of utilizing Japan's technology strengths. Also, promote space exploration projects such as to the moon and Mars.

(iv) Expansion of the aircraft industry

- To capture growing global demand for aircraft, expand the supply of risk money through DBJ and other financial institutions and support R&D that promotes the development of next- generation aircraft that utilize cutting-edge technologies, such as motorization, composite materials and automation.
- In regard to the future of the space jets business and other completed aircraft, establish a sales support system after development completion and a system for maintaining the safe operation of mass production aircraft by the time space jets enter into service, while conducting appropriate safety reviews.
- From the viewpoint of fostering internationally competitive aircraft parts companies and clusters, promote capital investment that contributes to productivity improvements and support collaboration and new entries for the purpose of expanding business through the national aircraft cluster network.
- In order to strengthen the aircraft supply chain in the fast-growing Asia market, make use of such opportunities as domestic and international exhibitions and conventions and promote collaboration between the public and private sectors of relevant parties in Japan and the rest of Asia.

9. Human Resources Development for the Society 5.0 era

(1) Major progress of KPI

[KPI] Have wireless LAN be standard in 100% of classrooms by FY 2020.

⇒FY 2017: 38.3%

[KPI] Have computers for student learners in 1 of every 3 classes by FY 2020.

⇒FY 2017: 1 for every 5.6 child students

[KPI] Have new IT passports tests for exam takers reach 500,000 people by FY 2023.

⇒Plan new tests (to start in FY 2019)

[KPI] Certiify 100 courses as Fourth Industrial Revolution skill acquisition coursesby FY 2020

⇒April 2019: 54 courses

[KPI] Have the no. of adult students in universities and professional schools etc. reach 1 million people by FY 2022.

⇒FY 2016: Approx. 500,000 people

(2) New specific measures to be taken

i) Human resource development in universities, etc.

- In creating added value through data & AI, there is a need for human resources who have both expertise in each field, data science, and AI literacy to understand the meaning of data and can make use of it. To this end, universities will develop standard curricula and teaching materials for beginners in mathematics, data science and AI in FY 2019 and proliferate this to universities and higher vocational schools across the country. Also, in order to acquire the basic ability to apply mathematics, data science and AI to one's special field in both the humanities and science, develop standard curricula and teaching materials at the applied basic level by FY 2020. In addition, actively and intensively support universities that introduce mathematics, data science and AI education into their curricula. Further, develop a training program for doctoral student and doctoral degree holder to acquire advanced data science and other skills in collaboration with industry, overseas universities and other institutions, and build and expand a national network in FY 2019.
- To establish a system to certify high-quality educational programs in mathematics, data science and AI at universities and technical colleges based on the needs of industry, study policies for using certification standards and industry hiring and compensation practices and start certification in FY 2020.
- Promote active use of a degree program system that can set curriculums beyond the framework of faculty and department schools. Also, by constructing multiple new types of educational programs (such as the “Late Specialization Program”) that balance the

breadth and depth of universal common education to graduate school education utilizing this system, achieve a broad realization of liberal arts education across the humanities and science in university education. Also, in order to foster top human resources who can lead the world, construct a program to identify "nails that stick out" that can be nurtured from an early stage through early admissions etc.

- Establish guidelines for the management of academics by 2019 and promote the visualization of academic results at universities through the guidelines. Also, in FY 2019 create good examples of methods for utilizing learning achievements and history in company recruitment activities & further learning and expand the approach to universities around the country.
- Make preparations for steadily carrying out a common university entrance examination to assess academic ability such as thinking ability, judgment ability and expressive ability needed in the Society 5.0 era in FY 2020. Also, make a study that includes using CBT of inserting "Information I" from FY 2024 in this examination. Further, provide support for radically expanding the number of universities that will adopt Information I in the entrance examination irrespective of the undergraduate field.
- Develop industry-academia collaboration programs centered on mathematics and data science fields at universities, specialized vocational schools, etc., and expand the utilization of MOOCS and the Open University of Japan. Also, to foster career practitioners in universities, develop training programs from FY 2019 and deploy them nationally. In addition, establish a system for introducing human resources that matches practitioners, and construct a portal site to provide course information for lifelong education.

ii) Human resource development at the primary and secondary education stages

- To realize the world's most advanced high-quality education using the latest technology for all students, introduce the use of digital technologies in all elementary, middle and high schools as soon as possible within 5 years and implement comprehensive measures to maximize the educational impact. As for having needed ICT environments in elementary schools, junior high schools and high schools, eventually achieve an environment in which each student has his/her own computer and can fully utilize it by setting goals and developing a roadmap in FY 2019. At the same time, examine the use of BYOD (Bring Your Own Device) and demonstrate specific kinds of usage. Also, in order to be able to procure an ICT environment as quickly as at the lowest possible cost, show examples of ICT equipment standard specifications by summer 2019. Further, revise the "Guidelines Concerning Education Information Security Policy" by the summer of 2019 in regard to using cloud services.

- On the assumption that clouds are used in schools, make public policies for the efficient and effective introduction of cloud services. Also, in regard to connection methods that will allow schools to easily introduce clouds from a cost aspect, model and exemplify various options such as public clouds via public networks and "SINET". In addition, make preparations so that all local governments and schools that want to can use SINET utilizing educational resources such as universities in primary and secondary education as well as leveraging the educational and academic research of universities etc., and conduct trial implementations in FY 2020.
- Because digital textbooks are new teaching materials that have great potential to enhance student learning and reduce the level of learning difficulties due to disabilities, promote their effective use in educational settings. In addition, while verifying the benefits and effects of digital textbooks, consider an optimum system for their use taking into account international competitiveness, and take necessary measures.
- To provide programming education with the introduction of elementary school programming education from FY 2020, provide opportunities for experiential learning and training to enable all teachers. Also, augment available programming learning information such as by providing teaching examples at websites. Develop educational materials etc. that contribute to training junior high school and high school teachers in FY 2019. Further, based on a study of the status of teacher education, training and licensing, employ at least one person with knowledge of ICT in high schools by FY 2024, taking into account diverse human resources in society.
- Create teaching materials to achieve a solid understanding of such subjects as probability, statistics and linear algebra at the high school level bearing in mind the connections to mathematics and data science education at universities and other education institutions, and provide guidance mainly to those who wish to enter university from FY 2020.
- To improve the productivity and quality of learning, develop EdTech to realize effective AI learning. And in order for the learning portfolios of accumulated educational logs to be used for student learning and teacher guidance, promote practices related to the standardization and utilization of collected data and create and collect good examples for development throughout the country. Also, organize basic ideas concerning the use of advanced technology that will enable teachers to use advanced technology and ICT, including EdTech. Further, enhance training through the creation of "guidelines on computerization of education" (provisional name) and the dissemination & development of teaching examples.
- Regarding distance education, in order that schools can obtain matching connections, guidance and technical advice, organize various related organizations that have a desire to cooperate in FY 2019 and start presentations. Also, create and develop examples that include flexible implementation in junior high schools and create an environment in which distance

education can be implemented in all schools that desire such programs by FY 2023.

- In regard to STEAM education, which is cross-disciplinary education to apply learning in multiple subject areas to solving actual social problems, create and collect good examples of industry-academia collaboration and local collaboration by FY 2020, present model plans and develop these plans for schools nationwide. Also, create a STEAM online library of educational content by FY 2020.

iii) Human resource development and utilization in the industrial world

- In order to identify and solve management problems at SMEs by applying data science & AI, AI Quest (Problem Solving AI Human Resources Development), which provides opportunities for companies etc. to engage in practical learning centered on problem-solving learning, will conduct demonstrations from FY 2019 and develop results for Japan and overseas. Also, study creating an accreditation system for companies that will engage in AI Quest and implement it from FY 2020.
- In the "unexplored IT human resource discovery and development business," identify individuals with high mathematical ability and in FY 2019 begin studying new methods for developing individuals who create information processing technology including AI technology and carry out implementation from FY 2020.
- Review the "INNO-vation program," find challenges that lead to disruptive innovation and support those challenges. Also, disseminate this internationally, including the results of previous efforts, and provide new support for business development such as development and matching with companies.
- Create guidelines for the operation of "local ICT clubs," which become local places of activity where children, working people, disabled people, elderly people etc. learn such ICT skills as programming from each other, and implement them nationwide.
- In order to promote matching between companies and cyber security human resources, coordinate duties and roles with skills and qualifications, commonize languages and more. Also, undertake local development of core human resources in regard to important infrastructure and industrial infrastructure who are familiar with information systems and control systems. Further, build bases for training security personnel autonomously in areas such as Okinawa and implement "Practical Cyber Defense Exercises" intended for government agency etc. information system personnel.

10. Taking in Overseas Growing Markets

(1) Major progress of KPI

[KPI] Aim to promptly conclude RCEP negotiations, upon which the FTA ratio will exceed 70%.

⇒As of end FY 2018: the FTA ratio 51.6%

*The ratio of the amount of trade with countries with which EPAs & FTAs are in effect and signed as of the end of FY 2018 in proportion to Japan's total amount of trade (based on the amount of trade in 2018)

*The KPI was reassessed based on the status of implementation of economic partnership negotiations.

*The FTA ratio reaches 78.7% (based on the amount of trade in 2018) when the current RCEP under negotiation is signed

[KPI] Double the inward foreign direct investment (FDI) stocks to 35 trillion yen by 2020.

⇒As of end 2018: 30.7 trillion yen

[KPI] Double the value of export and overseas subsidiary sales by SMEs by 2020 compared with the level of 2010.

⇒FY 2016: 20.6 trillion yen (FY 2010: 12.8 trillion yen)

[KPI] Achieve infrastructure system orders of approx. 30 trillion yen in 2020 (2010: approx. 10 trillion yen).

⇒2017: Approx. 23 trillion yen

*KPI includes "the amount of income from business investment, etc."

[KPI] Increase overseas sales of broadcast contents to 50 billion yen by FY 2020

⇒FY 2017: 44.45 billion yen

(2) New specific measures to be taken

In order to achieve sustainable growth of the Japanese economy, global demands need to be incorporated by taking a broad look at the international market. Also, further efforts need to be taken to encourage Japanese companies including SMEs to expand overseas businesses.

The global movement towards achieving Sustainable Development Goals (SDGs) brings new business opportunities. Together with expanding Society 5.0 internationally, by taking advantage of opportunities such as the G20, the Seventh Tokyo International Conference on African Development (TICAD7) in Japan and the SDGs Summit, the "SDGs Model of Japan" will be shared and promoted with and across the international community, with Africa and Southeast Asia as key regions.

Also, while there are conflicts in the world over trade, such efforts are to be undertaken through working on economic partnership negotiations, to promote the establishment of a

rules-based free and fair economic order, and to lead to the sustainable growth of the world economy.

i) Global expansion of Society 5.0 and achieving SDGs

(i) Support for implementation by private companies

- To realize Society 5.0 abroad led by the private sector, the Government strongly promotes healthcare, smart cities and mobility programs, by utilizing the network of the Center for the Fourth Industrial Revolution Japan / the World Economic Forum and through involvement of various actors in advanced efforts, and supports these programs by the relevant measures of government agencies.

(ii) Accelerating STI for SDGs

In order to promote "Science, Technology and Innovation for Sustainable Development Goals (STI for SDGs)," the Government formulates the "Guiding Principles for the Development of STI for SDGs Roadmaps" proposed by Japan at G20 and supports the formulation of roadmaps for each country.

- In FY 2019, the Government will research ideal roles of the platform which matches the seeds and needs for solving issues and creates new businesses, and conduct trial operations of prototypes. Furthermore, through disseminating information at international conferences such as G20 and TICAD, the Government will promote collaboration and cooperation among various actors in Japan and abroad, and promote the creation of innovations for achieving SDGs, including measures against climate change and marine plastic litter.

(iii) International standardization of Society 5.0 (Repeat)

- The Government promotes international standardization by actively making proposals to international standard organizations, in those fields such as data architecture that embodies the concept of Society 5.0, along with the fields of autonomous driving technology, sharing, smart cities, data exchange market, AI and IoT, etc.

ii) Supporting overseas business expansion of Japanese companies

(i) Expansion of exporting infrastructure systems

- The public and private sectors implement the priority measures of the "Infrastructure System Export Strategy (Revised Edition in FY 2019)" (approved by the Ministerial Meeting on Strategy relating Infrastructure Export and Economic Cooperation on June 3, 2019).

a) Promotion of the "quality infrastructure"

- To ensure "openness", "transparency", "economic viability", "debt sustainability of

borrowing countries", etc., in accordance with the G20's principles of high-quality infrastructure investment and the APEC Guidebook, etc., the Government leads the development of infrastructure internationally and contribute to sustainable economic and social development.

- Building upon problem-solving capabilities that utilize advanced new technology such as IoT and AI and high-quality distribution services, the Government enhances Japan's contribution to the achievement of SDGs. At the same time, in order to promote overseas expansion in the business fields in which Japan has an advantage, the Government promotes the formation of cross-sectoral packaged projects such as smart cities, by developing regulations and rules in partner countries, proliferating international standards originating in Japan and strengthening coordination among related ministries and agencies through field-specific task forces.

b) Strengthening competitiveness through public-private approach and strategic efforts to win orders

- Consistent with foreign policy, such as the "Free and Open Indo-Pacific" vision, the Government reduces business risk and strengthens access to markets including in Africa and island countries by working together with the relevant countries, to promote expansion of business opportunities. Also, the Government promotes to utilize materials and human resources, including from local regions and third countries, to improve price competitiveness, and studies structural reforms of domestic-related industries to strengthen their export base.
- The Government constructs new trade insurance schemes in collaboration with relevant organizations to address issues such as further utilization of institutional investors' funds and development of the African market.
- The Government improves its involvements in project formation from "upstream" to "downstream," and enhances public finance for package projects, public-private funds and efforts in overseas operations of independent administrative corporations, to enable Japanese companies to further enter into overseas infrastructure markets.
- The Government enhances public support to promote continuous involvement of Japanese companies, including utility companies, through participation in management and O&M, instead of simply selling equipment,.

To support Japanese companies with technological superiority in the field of renewable energy such as offshore wind power generation, the Government supports with public finance those businesses and commercialization of new initiatives that use advanced technology, and promotes innovation and new business investment by Japanese companies.

- The Government implements steadily software infrastructure support, such as human resource training and legal system development.

(ii) Establishment of a rule-based, free and fair economic order

a) Economic partnership negotiations

- Japan, as flag-bearer of free trade, aims to take the lead in establishing comprehensive, balanced and high-level global rules through the conclusion and expansion of high-quality EPAs.
- The Government aims for early signing and entry into force of RCEP currently under negotiation, and promotes strategically and expeditiously other economic partnership negotiations, including the Japan-Turkey EPA and the Japan-China-Republic of Korea FTA. Also, the Government proceeds with discussions on strengthening economic partnerships, including expansion of member countries/regions of TPP11, which entered into force in 2018, and the conclusion of EPAs with new countries/regions.
- The Government works on reviewing and holding discussions on the EPAs signed thus far, in order to make them even better and in line with the current economic situation.
- In order to let more businesses including SMEs make effective use of EPAs, the Government strengthens support, including providing information, and works on further promotion of their use.

b) Investment related agreements

- The number investment related agreements is expected to cover 94 countries/regions in total, if those that are currently under negotiation are counted, and therefore the Government seeks early conclusion to the ongoing negotiations. In addition, the Government aims to sign and put into effect investment-related agreements for 100 countries/regions by 2020 while identifying new countries for negotiations based on the demands from business community, and to start negotiations as early as possible.

c) Tax treaties

- The Government promotes the qualitative and quantitative expansion of tax treaty networks necessary to support sound overseas business expansion of Japanese companies through concluding new tax treaties or revising existing treaties with countries/regions where development of relations through investment with Japan is expected and amending existing treaties.

(iii) Support of the overseas business expansion of medium-sized enterprise and SMEs

a) Market development support, human resources and financial support

- Based on the opportunities created by entry into force of the EU-Japan EPA and TPP11, the Government deploys in Japan and overseas those specialists familiar with overseas markets, such as of the EU, to strengthen hands-on support from planning to the conclusion of business negotiations, with the "Consortium for New Export Nation" at the core of the efforts. In doing so, the Government focuses on supporting companies with high spillover effects, especially those frontrunning companies for the regional future.
- To encourage the use of rapidly expanding EC in the world, the Government promotes matching with platformers and let the Japan External Trade Organization (JETRO) set up a "Japan Mall" at major EC sites overseas to expand and implement efforts to support sales of Japanese products to the United States, Europe, the Middle East and other regions, in addition to those efforts already made in Asia.
- In order to promote measures to provide one-stop support for market development, logistics, branding, procedures, etc. to enable SMEs to export autonomously, the Government considers methods during FY 2019.
- The Government, based on the information about needs from local buyers, trading companies and government agencies, builds mechanisms to match with domestic companies that can meet the needs and to strengthens in Japan and overseas locally oriented product and service development and support for market development. Also, the Government promotes efforts to develop overseas sales channels that unite Japanese food with its food culture and related products.
- The Government strengthens the training and securing of global human resources who can be immediate workforce for the companies both in Japan and overseas.

b) Support for overseas expansion

- The government provides high priority support for overseas expansion and business expansion after moving overseas, such as local subsidiary establishment, navigating local standards/ regulations and securing local agents and sales destinations. Also, based on TICAD 7, the Japan International Cooperation Agency (JICA) and JETRO will work closely together to strengthen overseas expansion, including into Africa, while utilizing ODA.
- The Government promotes the overseas expansion of SMEs by revising the Trade Insurance Law enforcement provisions to enable NEXI to underwrite reinsurance of private investment insurance.
- The Government develops dispute settlement infrastructure, including promptly revising Foreign Lawyers Law for revitalizing international arbitration, so as to support overseas expansion of Japanese companies.

- The government enhances Japanese language learning and special support education systems in overseas education facilities and strengthens educational functions, such as facilitating admission into schools when families return to Japan.

iii) Measures to make use of Japan's charm

(i) Promotion of inward direct investment

- Based on the "Program to Intensively Attract Foreign Direct Investment in Regional Japan" (adopted by the Council for Promotion of Foreign Investment in Japan on April 16, 2019), the Government enhances support for activities to attract foreign companies by local governments who have clear strategies, consolidates the support system of JETRO and strengthens cooperation with inbound tourism needs and export promotion of agriculture, forestry and fishery products. Also, the Government promotes efforts to foster collaboration and cooperation with foreign companies by disseminating successful examples of attracting companies to local regions and to further improve the business environment in Japan.
- The Government attract actively foreign companies that are creators of innovation by forming a close network of overseas innovation – ecosystems, etc., at JETRO's major overseas bases.
- In FY 2019 the Government holds the Regional Business Conference, which started in FY 2018, in the regions that are actively attracting foreign companies. Also, in preparation for the Japan Business Conference in FY 2020, the Government proceeds with preparation to create implementation system, etc.

(ii) Cool Japan

- Based on the "Intellectual Property Promotion Plan 2019" (decided by Intellectual Property Strategy Headquarters on June 21, 2019), the Government formulates an updated Cool Japan Strategy by the summer of 2019 taking into account the effects of previous efforts. Based on the new strategy, the Government carries out related measures, such as utilizing overseas diplomatic missions of Japan, the Japan House, the Japan Foundation and JETRO, information dissemination by the Japan Food Product Overseas Promotion Center (JFOODO), and the funding by Cool Japan Fund Inc. In so doing, based on the idea of market-in, the Government promotes preference analysis by country / attributes, cross-sectoral approaches / story making, use of influencers and events such as exhibitions, while considering the creation of a virtuous cycle of inbound and outbound tourism.
- The Government strengthens the foundation for promoting collaboration among

various stakeholders through the Cool Japan Public-Private Cooperation Platform. As part of that, the Government works continuously using digital technology on foreigners who like Japan and promotes the expansion of the fans of Japan and their long-term stay by taking advantage of the Tokyo 2020 Olympic and Paralympic Games and the Japan Expo.

- The Government promotes the establishment of the institutional framework for developing professional personnel, highly-skilled design personnel and high-level management personnel, and for accepting foreign personnel, mutual exchange projects that include regional culture dissemination, spreading Japanese language learning overseas, and creation of infrastructure that allows local organizers to play active roles, etc.
- In anticipation of advancing into overseas markets expanding with the development of information and communication technologies, in regard to competitive Japanese video contents in overseas markets, the Government promotes productivity at the production sites by introducing the digital and other technologies. Also, by holding international trade fairs and supporting overseas development of broadcast contents, the Government carries out the development of overseas markets for contents-related industries and local industries and the expansion of inbound to regions.
- Regarding e-sports, which are attracting attention as a new growth area, the Government makes efforts to improve awareness in society and conducts fact-finding surveys related to, for example, the governance of competitions in FY 2019, so as to prepare the environment needed for sound development.
- In FY 2019, the Government promotes sharing of licensing information among related parties through updating national location databases and trial settings of area managers, and also improves the shooting environment for domestic and international video productions by conducting an exploratory survey on attracting foreign video projects. While contributing to the creation of new Japanese films that will be appreciated around the world through developing young filmmakers, film production support and international exchanges, etc., the Government mobilizes interest in Japanese movies and other genres of Japanese culture by promoting international co-productions, transmitting information to overseas film festivals and exchanging human resources.
- The Government promotes further export expansion of Japanese liquor and inbound tourism, through effective promotion and spread based on national/regional characteristics and preferences, improvement of brand power, development of an export environment and cooperation with fields other than liquor .

(iii) Preparation for the 2025 World Exposition

- Based on the Expo Special Measures Law, the Government designates the Association for the 2025 World Exposition responsible for the preparation and operation of the Expo 2025 Osaka, Kansai, Japan and provides support measures such as government subsidies and the dispatch of government personnel.
- After getting approval for Japan's hosting plan (registration application form) from the Bureau of International Expositions (BIE), the Government takes advantage of such occasions as the 2020 Dubai World Expo to solicit the participation of as many countries as possible. Also, at international conferences related to the theme of the Expo, the Government disseminates the attractions of and information about the Expo to the world.

11. Promotion of active participation by highly-skilled foreign professionals

(1) The main KPI progress status

[KPI] Aim to recognize 10,000 highly-skilled foreign professionals by the end of 2020 and recognize 20,000 highly-skilled foreign professionals by the end of 2022.

⇒ A total of 15,386 foreign nationals have been recognized as highly-skilled foreign professionals since the introduction of the Point-based System (May 2012) until December 2018.

[KPI] The number of foreign students' acceptance will be doubled from 140,000 to 300,000 by 2020 (implementation of "300,000 Foreign Students Plan").

⇒ The number of foreign students at higher educational institutions such as universities / graduate schools, etc. in Japan is 208,901 (as of May 2018)

* If 78,658 foreign students enrolled in Japanese language schools for learning Japanese are added, the number of foreign students comes to 298,980 (as of May 2018)

(2) Specific measures to be newly taken

With tightening worldwide competition for highly-skilled human resources, Japan's living & working environment and entry & residency management systems should become more attractive to foreign individuals with advanced knowledge and skills. In order for these foreign individuals to be able to play an active role in Japan, we will promote the following initiatives across the government, based on the " Comprehensive Measures for Acceptance and Coexistence of Foreign nationals " (decided by the Ministerial Council on Acceptance and Coexistence of Foreign nationals on December 25, 2018) and " Enhancement of Comprehensive Measures for Acceptance and Coexistence of Foreign nationals " (decided by the Ministerial Council on Acceptance and Coexistence of Foreign nationals on June 18, 2019).

i) Promotion to accept highly-skilled foreign professionals

(i) Cross-Government approaches to promote the employment of foreign students etc. in Japan

- In response to the establishment of the " JETRO's platform for promotion of active participation by highly-skilled foreign professionals" at JETRO, provide information on relevant measures such as immigration control systems held by relevant government ministries and various employment promotion measures such as seminars on highly skilled foreign personnel implemented by relevant government ministries. Also, provide information on university enrollment of foreign students wishing to

work in Japan and regularly updated, new information on companies interested in hiring highly skilled foreign personnel including foreign students.

- For SME companies that are interested in hiring foreign talent including foreign students, use the platform to encourage the hiring of highly skilled foreign professionals, including foreign students, by having experts provide meticulous, 1-to-1 sustained support from recruitment to retention.
- Some companies require advanced Japanese language skills (for example, the Japanese Language Proficiency Test N1 level or higher) when recruiting foreign students, but the level of Japanese language skills required for work varies from company to company. In light of the diversity of Japanese language skill levels required at the time of employment, promote diversified recruitment process and post-hiring treatment packages that respond to this diversity of Japanese language skills. Therefore, relevant ministries, industries, job support companies, universities, etc. should cooperate on establishing and promulgating best post-hiring practices in regard to various types of human resource development, job packages etc. In addition, in order to promote information dissemination from companies and universities that are making efforts to obtain talented advanced international students, make sure that the relevant government ministries and agencies are well informed.

(ii) Improvement of Japanese language education programs for business purposes and enhancement of the quality of Japanese language education

- Universities cooperate with companies and others in formulating an educational program to help foreign students learn "business Japanese," which is a necessary skill for finding a job in Japan, have the program accredited by the Ministry of Education, Culture, Sports, Science and Technology and develop a nationwide system that will lead to foreign students gaining employment at Japanese domestic companies. At accredited universities, request the setting of achievement goals tied to the employment of foreign students while also prioritizing the allocation of scholarships etc.
- Identify excellent foreign students and support efforts at vocational schools to build a comprehensive acceptance model that involves Japanese language teaching, matching to domestic companies etc. Publicize and widely share information on educational programs developed through these efforts.
- Provide comprehensive support such as the schooling of foreign children, improvement of Japanese language instruction and career education for high school students. Also, disseminate training programs for Japanese language teachers who are teaching working people and make efforts that are based on examinations of new qualifications that certify the ability of Japanese language teachers. To maintain a Japanese language education environment for foreigners, create learning systems such as at local public entities and

promote the use of ICT teaching materials.

(iii) Improvement of the immigration and residency management systems, etc. to facilitate the acceptance of highly-skilled foreign professionals

- Strengthen public relations for local public entities through the sharing of best practices so as to spread the use of "Project for Encouraging Foreign Entrepreneurs to Start Business" including foreign entrepreneur management and support.
- To facilitate the start of businesses in Japan by foreign students, review the systems and operations related to entry and residency management, including the expansion of systems and operations related to "Project for Encouraging Foreign Entrepreneurs to Start Business" and "National Strategic Special Zone Program to Promote the Reception of Foreign Entrepreneurs" and reach conclusions in FY 2019.
- In advancing the Fourth Industrial Revolution, such as AI, IoT and cloud technology, undertake studies that include a review of current systems and operations that lead toward the smooth acceptance of outstanding human resources in fields that need innovation technology, and reach conclusions in FY 2019.

ii) Strengthening of residency management foundation for the facilitation and acceleration of the procedure for resident status

(i) Facilitation and acceleration of the procedure for resident status

- For affiliated institutions that meet certain requirements, such as proper employment of foreigners and giving notice of foreign employment status etc., we will start accepting online applications for residency on behalf of foreigners in July 2019. In the future, we will expand the scope of online application procedures, in order to further improve convenience.

(ii) Strengthening of residency management foundation

- Promote the development of an information system to enable a continuous understanding of information related to the status of acceptance of foreigners, and to enable the management and interception of information at the level of individual organizations hosting foreigners, and digitize the residency management.

II. Reforms to Social Security Systems for All Generations

1. Securing employment opportunities up to the age of 70

(1) Major progress of KPI

[KPI] (New) 2025: 65-69 years-old employment rate: 51.6%

⇒ 2018: 46.6%

(2) New specific measures to be taken

i) Securing employment opportunities up to the age of 70

- It is necessary to create opportunities for elderly people who are willing to work can fully demonstrate their ability in this 100-year life era. Therefore, we will review the current system that continues employment until the age of 65 so that work opportunities can be secured until age 70.
- In regard to securing work opportunities for people age 65 to 70, which is different from conditions up to age 65, it is necessary to expand the options available for hiring according to the characteristics of each elderly person. For this reason, mechanisms that allows choices to be made will have to be considered, with various legal options prepared, choices prepared for those companies that hire senior citizens, mechanisms arranged for discussions between labor and management, the kinds of choices that are appropriate to an individual and company consultations with individuals.
- The options to be arranged under the legal system are assumed to be "the abolition of retirement," "extending retirement up to age 70" and "the introduction of a continued employment system (including continued employment at subsidiaries and affiliates)," which relate to system choices up to age 65. In addition, there is "realizing re-employment at another company (a company other than a subsidiary or affiliate company)," "providing funding for freelance contracts with individuals," "supporting individual entrepreneurship" and "funding to participate in the social contribution activities of individuals." Companies will hold talks with labor and management about particular companies choosing these options. When making specific examinations of each choice, careful future consideration will be made of the exact nature of the involvement of companies, such as the degree of responsibility enterprises bear for each option.
- Also, in order to smoothly secure job opportunities up to age 70, the legal reform will be divided into two stages, starting appropriately with a first stage. The direction of the first stage of the legal system will consider the following.
 - a) The legal system, after clearly specifying the above options, stipulates efforts to secure work opportunities up to 70 years of age.

b) If it is deemed necessary, the Minister of Health, Labor and Welfare will require employers to formulate individual company labor and management plans, and seek to secure the implementation of plans.

In addition, based on the progress of actual first-stage conditions, as a second stage, we will consider legal amendments for guarantees based on the disclosure of corporate names (so called obligatory) as under the current law, for any of a variety of options. In this case, as in the previous legal examples, when labor and management agree that health is not good and attendance rate is low etc., establishing exemptions will be considered.

- In addition, we will not consider revisions to the existing legal system up to the age of 65 to prevent confusion. In order to realize such a mechanism, following deliberations by the Labor Policy Council the 2020 ordinary Diet session will propose first-stage legislation.
- Study promoting employment centering on local public entities and cooperation with local companies so that elderly people who are willing to work can fully demonstrate their abilities and can play an active role according to the individual circumstances of working people. Also, consider strengthening the functions of the Silver Human Resources Center and strengthening matching functions that are based on the needs of companies and the experience and willingness of senior citizens to work.
- Develop programs to support the redesign of career plans for old age and the introduction of a system for workers to receive regular career counseling within companies, support career formation through providing services nationwide and promote recurrent education that includes senior citizens. Also, provide support for companies taking measures to secure work opportunities up to age 70 and companies working on ensuring the safety, health, etc. of elderly people, such as prevention of work accidents among older workers. In addition, create an environment for senior citizens to demonstrate their abilities, such as supporting construction of evaluation and compensation systems that emphasize abilities and results and that take into account the motivation and satisfaction of senior citizens, and that enables senior citizens to play an active role while feeling at ease. Further, provide employment support for middle-age and elderly women, such as strengthening the functions of the Silver Human Resources Center that includes expanding female membership.

ii) Review of the pension system due to the diversification of work style and the prolonged elderly period and employment expansion

- From the perspective of “the 100-year life era, “ promote institutional reform of both public and private pensions, with a view to submitting a bill to an ordinary session of the Diet in 2020, in order to be able to improve the economic basis for longer periods of elderly living. This will be based on the financial verification of public pensions in 2019 and in recognition

of the changes happening in a society where more people are working longer in various modes.

- Due to the flexibility of the pension deferment system (currently, a 1-year deferment results in an 8.4% yearly increase, a 5-year deferment results in a 42% yearly increase), expand the options for old-age employment and the start of collecting a pension, to make it possible to improve the economic basis of those living to an older age by extending the period of employment. Also, while keeping fairness in mind, in order that future generations to which the macroeconomic slide adjustment will apply will not be hindered from securing working pension levels for as long as possible, we will review the adjustment of wages and pensions for those still employed (the old-age pension system for those still working), while also gaging the future abolition of the system. In regard to this, we will review the system promptly after deliberations are held at the Social Security Council.
- In regard to expanding the provision of employee insurance to short-term workers, based on the aim of realizing a social insurance system for all workers, promptly carry out a review of the system via deliberations at the Social Security Council from the viewpoint of increasing pension levels and other benefits for short-term workers
- In regard to raising the age at which private pensions can be activated, promptly carry out a review of the system via deliberations at the Social Security Council, taking into consideration the extension of age and the expansion and diversification of employment, and dispersing & expanding corporate pension schemes to SMEs.

2. Promotion of mid-career hiring and hiring of people with experience

(1) Major progress of KPI

<p>[KPI] 2020: A ratio of hirees who had changed jobs of 9.0%</p>
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<p>⇒2017: 8.6%</p>

(2) New specific measures to be taken

i) Promotion of mid-career hiring and hiring of people with experience, etc.

- To ensure that workers who are willing to work can fully demonstrate their abilities in the 100-year life era, it is necessary to undertake reform of the employment system. In particular, it is necessary to expand mid-career recruitment & recruitment of experienced persons⁵ for a full-year of hiring, while at the same time undertaking a needed review of the hiring system that is centered around the all-at-once hiring of new college graduates, which has traditionally been the province of large companies. The government will respond by asking large companies to disclose information on their rates of mid-career and experienced worker recruitment.
- Develop a campaign to change employment practices by, for example, horizontally expanding the good practices of mid-career & experienced person recruitment councils that bring together leading companies, especially listed companies that actively engage in mid-career recruitment and the recruitment of experienced people, and venture companies and SMEs. Also, encourage companies to review their evaluation and compensation systems through publicizing good practices. When this is done by SMEs that have limited management reform capabilities, provide support for reviewing their systems by using mid-career recruitment support subsidies.
- Based on the premise of assuring a learning environment for students, and also taking into account actual conditions of employment and hiring practices, we will undertake a study in FY 2019 in regard to the direction of employment and recruitment of students and companies suited to the future, centered for example on long-term internships.

ii) Infrastructure development to support proactive career formation

- By promoting the development and operation of the occupation information website "Japanese version O-NET" (provisional name), which aims to start operating in 2020, and "professional abilities diagnosis tools," which may become available in 2022 or later, along with a view of linking them to each other and to existing systems, such as the Hello Work

⁵ Among companies that are actively involved in mid-career hiring, there are cases that are referred to as "career hiring."

Internet Service and comprehensive workplace information websites, we will strive to create an organic system that allows job seekers and company personnel departments to smoothly comprehend job information and search job offer information.

- Support the introduction of HR technology in SMEs and publicize examples of usage, and support an active role for and increased productivity of diverse human resources in SMEs by introducing and utilizing this same technology.
- As quickly as possible, conduct a special examination of the legal and technical issues regarding the financial remedies available at the time of invalidation of dismissal and, based on the results, obtain a final conclusion from the Labor Policy Council and take the necessary institutional measures.

3. Expansion of diverse and flexible work style

(1) Major progress of KPI

[KPI] 2020: 3-fold rise vs. FY 2012 in companies adopting telework

⇒ 2018: 19.1% (2012: 11.5%)

[KPI] 2020: 10% of corporate officers at listed companies are women

⇒ 2018: 4.1%

[KPI] 2020: 15% of section chiefs or equivalent in private sector are women

⇒ 2018: 11.2%

[KPI] 2020: 55% of women continue employment after birth of first child

⇒ 2015: 53.1%

(2) New specific measures to be taken

i) Expansion of diverse and flexible work style

(i) Promotion of side jobs and multiple jobs

- Promote side jobs and multiple jobs while paying heed to restricting long working hours and ensuring the health of workers. Publicize guidelines and revised model rules for employment. Also, we will accelerate discussions via a study commission on how to secure worker health and manage working hours effectively and draw conclusions in 2019. This will be followed by deliberations at the Labor Policy Council and drawing conclusions as soon as possible.
- Regarding workers' accident compensation schemes in the case of side jobs and multiple jobs, currently the Labor Policy Council is in the process of undertaking a review, but we will continue to identify issues and reach conclusions as soon as possible.
- Through setting up forums where local financial institutions and Yoroazu support centers and private company/other kinds of human resource support organizations can work together to secure core human resources who can solve management issues at SMEs, we will continue to work on the creation and horizontal development of efforts to secure core human resources through local financial institutions and universities. In this regard, from FY 2019 we will focus on achieving securing human resources in collaboration with human resource support agencies so that SMEs can hire core human resources, including people engaged in side jobs and multiple jobs, through business support organizations, including Yoroazu support centers.
- In regard to government officials engaging in multiple jobs, we will further publicize clearly stated multiple employment permission criteria to enable people who wish to work multiple jobs related to the public interest/other activities to use the system smoothly.

(ii) Development of an environment for the work style not depending on employment

relationship (e.g. freelance).

In proceeding with medium and long-term consideration of various issues, including the need for legal protections, involving working styles that do not depend on regular full-time employment such as freelancing (and the specification of contract conditions, the determination and modification of contracts and the clarification of termination rules and appropriate compensation amounts), we will prepare a significant summary of issues by the summer of 2019 via the "Study Group on identifying issues concerning style of working similar to regular employment." At the same time, in regard to issues that should be prioritized, we will undertake a study with a sense of urgency.

(iii) Promotion of telework

- Promote public awareness of guidelines appropriate to labor management in telework and provide support for introducing telework, such as subsidies for creating & operating telework consultation centers and setting up telework operations.
- Organize and disseminate an advanced model of effective telework that contributes to the diverse use of human resources such as women, disabled people and senior citizens. In particular, promote teleworking according to the circumstances of local regions and companies by having specialists such as social insurance workers and IT coordinators who are in charge of solving problems at SMEs become promoters of expanded use of telework.

(iv) Support for the balance between treatment and work

- Foster and deploy coexistence support coordinators to closely support patients to become the core of cooperation between primary care physicians and companies. Also, strengthen support know-how for patients at companies and medical institutions by promoting the "Guidelines for coexisting support of treatment and work in the workplace" and the "Company and medical institution cooperation manual" revised in March 2019
- Promote the establishment of a consultation support system in communities for patients with cancer and intractable diseases through the efforts of local balanced life support promotion teams consisting of prefectural labor bureaus, labor & management units, local governments, local medical institutions and other organizations.

ii) Support for realizing the work style that enables the maximum productivity

(i) Improvement of the work environment by correcting long working hours and other conditions

- From April 2019 we will strive to implement appropriate regulations, based on thorough supervision and guidance among other measures, in regard to overtime hours regulations that

include penalties applicable to large companies. At the same time, efforts will be made to apply the regulations smoothly, starting in April 2020 with SMEs and in April 2024 with the construction industry and medical professionals etc. These efforts include improvements to counseling systems, familiarization with systems and application grace periods, along with encouraging and supporting efforts to reduce overtime work and ensuring the health of workers, and new laws if necessary.

- We will secure an appropriate construction period, equalize construction time and streamline deployment requirements for engineers, among other measures. Also, we will promote work-style reforms in the construction industry by improving working conditions through a capabilities assessment system for skilled workers and specialized construction companies that utilize the construction career-up system.
- Provide counseling support for SMEs, small businesses and others at working-style reform promotion support centers for the smooth enforcement of "equal pay for equal work" (Part-time & Fixed-term Employment Labor Law, Temporary Staffing Services Law) from 2020. Also, conduct public education with respect to the "procedures manual for business owners" and the "inspection and examination manual for eliminating unreasonable treatment differences" by industry.
- Based on revisions to the Labor Measures Comprehensive Promotion Act, the Equal Employment Opportunity Law and other laws, employers are required to create new employment management measures to prevent power harassment and have reinforced measures to prevent sexual harassment etc. In accordance with this, we will develop guidelines for the appropriate and effective implementation of measures and provide necessary support so that SMEs can take appropriate measures.
- In regard to power harassment from workers and others such as at business partners and major harassment from customers and others, we will clarify the desired efforts such as consultation services and cooperate with relevant government ministries and agencies to promote public awareness.

(ii) Promotion of the “visualization” of human resources investment information

- Stakeholders, such as institutional investors, and relevant government ministries cooperate with each other to take a public-private sector approach to examining ways of utilizing human capital non-financial information for improving corporate value.
- In accordance with the revision of the Corporate Governance Code in 2018, which prescribes explanations of human resource investment and other allocations of business resources, we will follow up on the implementation status in the future.
- At the same time, investigate the status of disclosures of corporate human resources

investment, collect and publicize examples of good practices and promote the enhancement of disclosure at companies.

(iii) Raising the minimum wage

- Actively work on creating an environment in which SMEs and small businesses can easily pay increased wages while raising the economic growth rate and boosting the productivity of the entire Japanese economy. For SME companies and small businesses making efforts motivated by a desire to improve productivity, employ drastic support measures, including the provision of sustained 1-to-1 support. Also, promote the appropriateness of business relationships including more thorough business development promotion standards based on the Small and Medium Subcontractor Promotion Act, and facilitate the transfer of rising labor costs at subcontracting companies to selling prices.
- With regard to the minimum wage, aim for a national weighted average of 1,000 yen in the near future, based on the fact that annual wages have risen at a rate of about 3% over the past three years, and taking into consideration regional disparities and economic and price conditions. At the same time, continue to examine the status of the minimum wage, including an analysis⁶ of why Japan's wage level remains low compared to other developed countries

iii) Further expansion of women's active participation and promotion of diversity management

- Based on the fact that the revision of the Act on Promotion of Women's Participation and Advancement in the Workplace will expand targets responsible for formulating general business owner action plans and strengthen information disclosure, have SMEs and other companies across the country work steadily on women's advancement to ensure smooth implementation. Thoroughly publicize the contents of the revision, develop counseling services for companies and consider efficient measures & publication methods for general business owner action plans, while promoting cooperation between prefectural labor bureaus and local public entities. At the same time, provide additional strong support for and promote key women's advancement efforts in various local actors.
- Publicize information on the status of women executives at listed companies and the activities of women in ESG investment from the viewpoint of the advancement of women and diversity management promotion. Also, promote gender investment that considers the elements of women's company career activities in investment decisions. Further, we will conduct executive training for women cosponsored with local governments, universities, etc.,

⁶ Includes actual conditions analysis by type of business/type of industry and by type of area.

including development in new regions, to develop the pool of women executives, and strengthen the bank of human resources of those who have completed skills training courses.

- Promote diversity management in companies through dissemination of the "Diversity 2.0 Action Guidelines" that require information disclosure etc. to encourage active dialogue between companies and investors and review selection criteria, such as for "Nadeshiko Brand" companies.
- To build a society where diverse choices can be made in the 100 years of life, establish and use a "public-private partnership platform" to support new employment utilizing grants for local revitalization and promote model development to comprehensively support career improvement, partly through support for advanced efforts by NPOs deeply involved in addressing women's needs. Promote the re-entry of a diversity of women into the labor market, including women who are raising children and the generation of women who stopped working to raise children. Also, provide support for women-specific cancer screening medical visits so that women can live long healthy lives.
- In regard to developing childcare programs, we will continue to support verification of the development plans of the local public entities and the making of arrangements according to the results, based on the childcare waiting lists situation in April 2019. Also, based on the "new after-school child comprehensive plan," we will further promote after-school club programs for children. Further, we will further promote the establishment and expanded functionality of local childcare support centers in order to carry out childcare support in response to diverse regional needs.
- We will encourage men's participation in childcare and housework so that women can continue their careers after childbirth, and try to amend the current situation where the responsibility for childcare and housework is biased toward women. Specifically, based on the fact that many men cannot apply for childcare leave even though they wish to do so, we will consider institutional improvement measures, and further promote paternity leave-taking by men.

4. Prevention of Disease and Nursing Care

(1) Major progress of KPI

[KPI] (New) Aim to prolong healthy life expectancy by at least three years for men and women, increasing it to at least 75 years of age

⇒2016: 72.14 years of age for men, 74.79 years of age for women

(2) New specific measures to be taken

Health is the foundation for people's sense of security in the era of the 100-year life. To move ahead with reforms to build a social security system for all generations, preventive health promotion initiatives will be boldly strengthened targeting all generations and community members, including those indifferent to health.

i) Promotion of health with anticipation of the 100-year life

(i) Drastic reinforcement of incentive measures for disease prevention and health promotion

- Fundamental improvements will be made to incentive measure under the support system for efforts by NHI insurers in FY2020 after examining budget measures, including funding sources, to promote initiatives for prevention and health promotion. At the same time, for each evaluation indicator, results-based indicators will be introduced and expanded and a review will be conducted to increase variety of allocation so that progressive and best practices are rolled out, initiatives to change individual behavior are enhanced and the use of private-sector services is promoted.
- Regarding the late-stage senior support funds adjustment system paid out based on the preventive health care initiatives of health insurance associations, a review will be conducted to increase the adjustment to a maximum of plus or minus 10% by FY2020 along with bring greater variety to allocation standards and expand the introduction of results-based indicators in FY2021 regarding evaluation indicators and points allocation, based on an analysis of health program effects and the impacts of incentive measure.
- For people with the risk of increasing severity of diabetic nephropathy, insurers must be mindful of rolling out progressive and excellent cases, such as detailed intervention by public health nurses, through collaboration with doctors, etc., and of increasing the uptake rate for dental checkups and cancer screenings, etc.
- To promote voluntary individual prevention and health promotion initiatives, insurer initiatives will be supported that incentivize individuals, such as health care points, to encourage the roll out of progressive and excellent cases.

- As to the review of indicators for incentive measure regarding medical care insurance and nursing care insurance, effective programs will be developed through a comprehensive PDCA cycle by verifying the effects of evidence-based preventive health care programs.

(ii) Strengthening of efforts leading to individual's behavioral change aiming for prevention and health promotion

- For people with a risk of lifestyle disease onset or increasing severity, a new mechanism will be examined that can provide programs for medical management and appropriate exercise, etc., seamlessly through collaboration with medical institutions and insurers/private-sector businesses, etc., with a conclusion to be reached by around FY2019. In addition, a standard program for exercise facilities will be compiled during FY2019 to make it easier for medical institutions to prescribe exercise. At the same time, verification will be carried out on mechanisms where exercise and sports can be practiced safely, effectively, and enjoyably at exercise facilities and efforts will be made to spread good practices.
- To promote prevention and health promotion including among those indifferent to health, using nudge theory, etc., information including comparison with the entire population and averages and future predictions (using AI and big data, etc.) appearing on various health notifications, such as for specific health checkups, etc., will be enhanced and progressive and excellent cases will be rolled out during FY2019.
- Following the nutrition summit to be held in 2020 in Tokyo, efforts will be made to promote a food environment where people become healthy naturally, including those indifferent to health. Collaboration will be sought with various private-sector actors to examine comprehensive measures including building and increasing evidence for promoting a healthy diet, expanding contact points with health meals, and providing effective information to people indifferent to health in order to begin engaging in initiatives that can be implemented immediately.
- Through early case analysis and model verification programs, starting in FY2019, launch initiatives for promoting healthy eating, exercise and social participation daily as well as food delivery services based on appropriate nutrition control at individual homes or places in the community for shared eating, through collaboration with various actors in the community, including initiatives to increase the intake of vegetables.
- To support health promotion during pregnancy and childhood, healthy diet guidelines that incorporate the latest knowledge will be revised during FY2020 so as to contribute to appropriate nutrition guidance for expectant mothers, and initiatives will be carried out in order for the promotion of research that contributes to the formation of health living habits from childhood.

(iii) Strengthening of initiatives for the early detection of diseases

- Development of simple and less invasive exam methods, such as liquid biopsies using blood or saliva, and treatment methods for refractory cancer will be promoted to dramatically improve the five-year survival rate by establishing mechanisms for the early detection and early treatment of cancer. In addition, initiatives aimed at increasing the exam uptake rate using nudge theory, etc., and approaches to screenings based on risk for increasing uptake rate and effectiveness will be examined during FY2019 to reach a conclusion.
- To enhance dental disease countermeasures, such as periodontal disease that affects the entire body's health, based on the results of examinations into expanding opportunities to receive dental exams that are currently offered every 10 years of age and enhancing dental health guidance, a review will begin by FY2020 to quickly reach a conclusion. At the same time, efforts will be made to increase the uptake rate of dental exams and, based on exam results, efficient initiatives will be carried out to encourage uptake of necessary exams and promote collaboration involving dentists in case there is a possibility requiring treatment of a systemic disease.
- Improvements will be made to procedures for swiftly changing over from medical test reagents to over-the-counter (OTC) test reagents, in order for an individual to understand their own health condition and detect disease at an early stage. Therefore, a collaboration plan will be formulated during FY2019 and examination carried out to improve the quality of screenings and applications through collaboration between government and related industries, while referencing past cases. At the same time, self medication will be promoted by spreading OTC pharmaceuticals.

(iv) Promotion of health development, health management, and health investment of incorporated insurers and companies

- Initiatives will be deepened for prevention and health development known as collaborative health care through ties-ups between companies and incorporated insurers. The information appearing in the health scoring report for employers, which visualizes the health condition and medical costs of enrollees along with initiatives for prevention and health promotion, will be enhanced and notification methods modified, including secular change in evaluation indicators, in order to appeal to health insurance associations and employers. Similar initiatives will be carried out from FY2020 at all incorporated insurers by type and implemented for each business regarding health insurance associations and the mutual-aid association of national civil servants from FY2021.
- An environment will be developed for appropriate evaluations from capital markets on the initiatives and outcomes of health and productivity management, while taking into account

various research, etc., concerning the impacts on productivity of health and productivity management. To visualize the amount of health investment, the “Health Management Accounting Guidelines for Companies (provisional name)” will be formulated in FY2019 and examinations will begin on necessary incentive measure for promoting further health investment by companies. Also, for information disclosures, etc., related to health and productivity management, the “Health and Productivity Management Guidebook for Companies will be revised in FY2019 and spread thereafter. Furthermore, examinations will be carried out on approaches to information disclosures that can be compared by markets.

- Regarding the importance of health and productivity management in ESG and SDGs, dissemination of information globally will continue to be encouraged and increased by the public and private sectors. In addition, efforts will be made to spread the Beyond 2020 My Best Program following the Tokyo 2020 Olympic and Paralympic Games.

(v) Verification of effects for prevention and health promotion utilizing data etc., and promotion of private prevention and health services

- Verification programs will be implemented to confirm and build evidence concerning the effects of health improvement from prevention and health promotion using data, in order to utilize preventive health programs of incorporated insurers and local governments, etc.
- To ensure statistical accuracy, the government will establish a fundamental direction on target fields and verification methods for verification programs, and, based on the results, encourage implementation of appropriate preventive health care programs by incorporated insurers and others.
- Efforts will be made to establish an environment where users can use services with peace of mind and select health care services with a certain level of quality from intermediaries, through spreading the “Approaches to Health Care Service Guidelines” (formulated by the Ministry of Economy, Trade and Industry on April 12, 2018) to industry groups and intermediaries as well as support for industries to formulate their own voluntary guidelines. At the same time, consideration will begin in FY2019 for measures to support initiatives aimed at ensuring quality of health care services and standardizing health care data led by the private sector, as a basic infrastructure for cooperation between multiple companies and cross-functional innovation across industries.

(vi) Drastic reinforcement of incentive measures for nursing care prevention, etc.

- With regard to the nursing care incentive subsidy paid out to nursing care insurers and prefectural governments (Subsidy for Promoting Increased Functions of Insurers), fundamental improvements will be made to incentive measure in FY2020 after examining

budget measures, including funding sources, to promote the roll out of progressive nursing care prevention initiatives by local governments and shrink the gap in regional disparities in terms of health life expectancy.

- At the same time, for each evaluation indicator and point allocation, a review will be carried out, including expanding the introduction of performance-based indicators and improving variety in allocation standards to expand “community gathering places” familiar to seniors that could possibly prevent nursing care or dementia. In doing so, private-sector services will also be utilized that lead to activation of senior’s minds and bodies through exercise, etc. In addition, senior workers and volunteers will be encouraged at nursing care facilities, including “nursing care helpers,” and points will be utilized as an incentive for individuals.
- Detailed assistance will be expanded, including frailty countermeasures, for health programs for seniors age 75 and older. The insurer incentive measure for late-stage senior medical care will be utilized. The national special adjustment grant will be used to support the deployment of medical specialists in municipalities aimed at rolling out integrated nursing care prevention and health programs of municipalities nationwide.
- Regarding the nursing care remuneration adjustments for maintaining and improving the average daily activities of users, evidence-based verification will be carried out by FY2020 and necessary actions will be taken for the next nursing care remuneration revision, from the standpoint of supporting independence and preventing increasing severity, etc.

(vii) Strengthening of comprehensive measures for dementia

- Comprehensive dementia measures focused on “symbiosis” and “prevention” will be implemented pursuant to the Dementia Countermeasure Promotion Outline (decided by the cabinet meeting on dementia countermeasures promotion on June 18, 2019). As for progressive and excellent cases involving the use of “gathering places,” etc., a compilation of best practices and guidelines for implementation will be prepared by FY2020 for these cases to be rolled out to local governments nationwide. At the same time, R&D will be reinforced for establishing preventive methods for dementia. Work on a data compilation will begin in FY2019 with completion of a framework for data use to be completed by FY2021. Collaborative public-private platforms in the field of dementia will be utilized to encourage the social implementation of prevention and care, while aiming to establish evaluation indicators and methods.

5. Next-Generation Health Care

(1) Major progress of KPI

[KPI] (New) Aim to increase service provision per hour in the medical and welfare fields by at least 5% (7% for doctors) as of 2040

(2) New specific measures to be taken

To establish a next-generation health care system, “total optimization” with speed in mind will be promoted so that individual measures for health, prevention, treatment and care, etc., will be used to maintain and improve people’s health, increase the quality and productivity of medical care and nursing care, and realize work-style reforms in the field seamlessly integrated with the above, while actively introducing technological innovation such as data and ICT, etc., and fully utilizing it for a higher dimension of cost effectiveness.

i) Ensuring effective and efficient medical and welfare services utilizing technical innovation, etc.

(i) Promotion of the utilization of data that serves as a basis to provide health, medical and nursing care services

a) Online qualification confirmation, etc.

- Individual numbers will be assigned for the insured enrolled in medical care insurance and necessary system development will be steadily carried out aimed at the full-scale launch of “Online Certification Confirmation” from FY2020 where the My Number Card can be used as a health insurance certificate. Using the new medical information digitalization support fund to be established, support will be provided for system development by medical institutions and pharmacies.
- In addition, as for identifiers (ID) in the medical care, etc., field, consideration will be given toward a mechanism for consolidating information of the medical care, etc., field using the individually assigned numbers of the insured using the Online Qualification Confirmation System as the platform. Operation is slated to begin from FY2021 after considering the necessary legal benefits.

b) Collaboration and utilization of health and medical care information at medical institutions, etc.

- Initiatives will be advanced so that the health and medical information of patients can be checked at medical institutions, etc., nationwide. Therefore, efforts will be made to begin operating the mechanism that can check pharmaceutical information and specific health checkup information based on medical practitioners’ receipts for health insurance claims on

or after October 2021. Furthermore, in order to promote a mechanism where other data items can be checked at medical institutions, etc., issues will be organized based on previous verification results concerning the health and medical information network, and then examination will be made on approaches to administrator actors and cost burden, while verifying the need for information linkages and technological trends along with cost effectiveness. Based on this, a process chart will be formulated for completing the above by the summer of 2020. Furthermore, a review will continue to be carried out on linkages with nursing care information as well.

- The standardization of digital medical records will be pursued based on technological trends using the medical information digitalization fund, etc.
- As for digital prescriptions, guidelines will be formulated in FY2019 in order to facilitate operations taking into account verifications.

c) Collaboration and utilization of nursing care information of various job types in the nursing care field

- To reduce the burden of nursing care staff and provide high quality services, support will be provided for the use of ICT in the nursing care field by utilizing the comprehensive fund for regional medical and nursing care starting in FY2019. In addition, productivity improvement guidelines will be utilized to effectively spread ICT to the nursing care sites in order to implement ICT collectively with initiatives for increasing efficiency and productivity in nursing care operations on the sites. Furthermore, a review will be conducted in FY2019 on preparation of standard specifications for medical and nursing care collaboration using ICT to reach a conclusion.

d) Promotion of PHR

- Personal Health Records (PHR) will be promoted as a mechanism for individuals and their family members to check their health condition and prescription history for healthier daily living and health promotion. The provision of data to individuals through the My Number Portal is slated to begin in FY2020 with the provision of data on specific health checkups, while the provision of data on prescriptions will begin from claims made in October 2021.
- A review will be conducted for establishing a mechanism that is useful in accurate communication with the medical sites and that can be linked to medical exams as needed, by centrally utilizing health information such as for infancy and childhood health checkups as well as vaccinations, etc. Support will be provided for the digitalization and standardization of health checkup data of local governments in order to begin providing data through the My Number Portal from FY2020 for infant health checkups. In addition, for school health checkups as well, the digitalization of health checkup data will be encouraged and a review will be conducted on the future necessary processes in

collaboration with overall government discussions on PHR promotion to reach a conclusion by the summer of 2020.

- To further promote the use of PHR, discussions will be held by a panel of experts on matters for the digitalization of data related to health checkups and exams, with a certain conclusion to be reached by the summer of 2020.
- Taking into account the results of the verification on PHR service models, etc., a review will be conducted on API release and approaches to mandatory rules for private sector businesses in an effort to promote the spread of these services.

e) Utilize health, medical and nursing care information as big data

- The linking analysis for the medical practitioners' receipts for health insurance claims and specific health checkup information database (NDB) and the comprehensive nursing care insurance data base (nursing care DB) will begin in earnest from FY2020, enabling utilization by a broad range of actors, including government, insurers, researchers and private sector businesses, etc. In FY2019 and beyond, a review will be carried out on the need for consolidation with other related public data bases, and linking analysis will be carried out in succession beginning with data bases for which legal and technical issues have been resolved.
- Under the Next-Generation Medical Platform Act, following the act's basic policy, efforts will be made to promote people's understanding through public relations and raising awareness, and mechanisms will be put into operation that promote the utilization of anonymized medical information in research and development in the medical field by a broad range of actors.
- The necessary requirements for enabling the use of data and outcomes obtained in public research projects by private-sector businesses, etc. after the end of research will be organized following the example of the research project on using IoT to change people's behaviors. The contract template to be used when migrating data between administrators will be prepared in FY2019 and reviews conducted on various other issues.

(ii) Promotion of technology utilization at medical and nursing care sites involving ICT, robots, and AI

a) Promote online medical care

- Efforts will be made for the quick approval of the bill proposing partial amendments to the Pharmaceutical and Medical Device Act containing provision on online medication instructions in the Diet so that the series of medical processes from exam to medication instruction can be widely carried out seamlessly online. After the bill is approved, a review will be conducted promptly on rules for the provision system, etc., and, taking into account

the above situation, consideration will be made for evaluation of payments for medical services related to online medication instruction.

- Aimed at the appropriate promotion of online medical care, data will be compiled on the safety and effectiveness of online medical care, while cooperating with relevant academic societies and businesses, etc. Efforts will be made to understand the actual situation of case studies, and, based on the results, etc., guidelines will be revised regularly aimed at the appropriate implementation of online medical care.
- Ahead of the next revisions to the payment system for medical services, the penetration of online medical clinics will be studied and verified, and for diseases for which safety and effectiveness is confirmed, consideration will be made to include these into the coverage of online medical clinics. In addition, the necessary review will be conducted on the appropriate spread and promotion of online medical care with regard to the requirements for online medical care implementation method and implementation system, etc.
- As for remote medical care including online medical care, technical verification and demonstrations for the establishment of new models will be made based on the progress of ICT in an effort to promote the spread of safe and effective remote medical care.

b) Realization of science-based nursing care

- To implement nursing care that is scientifically substantiated to be effective toward supporting independence, etc., full-scale operation of a data base for collecting and analyzing data on the condition of seniors and details of care, etc., will begin in FY2020. The analysis results from this data base will be utilized in discussions on the next and subsequent revisions to the nursing care remuneration system and evaluations will be carried out on nursing care services whose effects are substantiated. In addition, acquired data will be shared with nursing care businesses and utilized to increase the quality of care, etc.

c) Development and introduction of robots and sensors, etc.

- Initiatives will be examined based on the findings of the Future Innovation Working Group, which examined a medium- to long-term vision up to 2040, and these initiatives will be crystallized during FY2019. The government as a whole will work to realize a social system that incorporates robots and AI, etc., including moon-shot-type research and development, development of new evaluation models for prompt social implementation of advanced technology, and reinforcement of technical intelligence functions, etc. In addition, the development of evaluation methods will be promoted for equipment and services aimed at the realization of a society where people can understand their own health condition.
- Rules on verifying the effects of robots and sensors, etc., will be compiled by the next revision to the nursing care remuneration system. An environment will be established for promoting ongoing verification of effects by businesses and an innovation cycle, with the

evidence used in the evaluation of the next and subsequent revisions to the nursing care remuneration system.

- In regard to robots and sensors, support will be provided based on needs in the field using monitor surveys, etc., on the nursing care sites and initiatives that connect the nursing care sites including users to developers. Development of nursing care technology using nursing care robots and public awareness of nursing care robots will be carried out and support for the introduction and utilization of robots on the sites of nursing care will be steadily provided. At the same time, the same initiatives will be carried out in the field of welfare for the disabled.

d) Utilization of AI technology, etc.

- While focusing on six key domains, the development of AI and utilization on the sites will be promoted in the fields of health, medical care, nursing care, and welfare, in order to improve the quality of medical care through correct diagnosis and treatment support and reducing the burden placed on medical practitioners. At the same time, the collection of high quality data required for AI development will be promoted. Furthermore, specific responses will be launched in FY2019 for resolving issues identified during AI development, and efforts will be made to expand the reach of AI technology development in Japan to other parts of the world through tie-ups with overseas medical institutions, including in Asia, etc. In addition, an approval and screening system, etc., based on the characteristics of medical institutions will be quickly developed using ICT to vitalize the medical equipment industry in Japan.

e) Promotion of genomic medicine

- Genomic medicine will be promoted for cancer and incurable diseases, etc. Aimed at the realization of complete genomic medicine for beating cancer, high quality complete genomic information and clinical information will be gathered by the Center for Cancer Genomics and Advanced Therapeutics (C-CAT) in Japan under the consent of patients and sufficient information management controls, and a system will be established for relevant parties to analyze and utilize this data broadly for the development of innovative treatment methods, such as drug discovery, and diagnostic technologies, in an effort to promote personalized medicine. An implementation system will be developed for genetic exams for the realization of early diagnosis of incurable diseases, etc., and the development of treatment methods using complete genomic information including gene therapy will be promoted. Therefore, while referencing the UK and other countries that seek to conduct complete genomic tests of 100,000 people and 1 million people in the future, a detailed action plan that includes numerical targets, human resource development, and system development, etc., will be formulated during 2019 after compiling initiatives and issues to date. In addition, in

promoting gene therapy, necessary measures will be promoted to create a society where people are not harmed by genomic or genetic information.

- To promote basic research on the use of genome editing technology for human fertilization of embryos, guidelines will be formulated with an eye on ethics, and legislative frameworks including approaches to legal regulations will be examined with regard to clinical applications, while also paying due attention to advancements in science and technology.

(iii) Organizational reform of medical and nursing care sites, and larger scale management with more collaboration

a) Paperwork reduction, increased operational efficiencies, and use of seniors

- To move forward with work-style reforms for doctors, etc., including reducing working hours, efforts will be made toward thorough labor management, and a review will be conducted on the promotion of task shifting, etc., along with the use of ICT for increasing operational efficiency. Efforts will also be made to reform management of medical institutions by rolling out effective business operations. In addition, changes will be encouraged in how people in Japan visit doctors by making emergency consultation hotlines known to all and carrying out fundamental reviews of medical information networks through which medical institutions can be searched.
- An operational efficiency model for the sites of nursing care will be established in FY2019 by (i) analyzing and sorting operational work flow; (ii) promoting the active use of seniors as nursing care helpers; and (iii) implementing pilot programs using robots, sensors and ICT, etc., at nursing care facilities, based on the Nursing Care Site Innovation Plan that contains the direction for maintaining and improving the quality of services on the sites of nursing care, amid worker shortages. In addition, in FY2019 and beyond, gathered know-how will be reflected in guidelines for improving productivity and powerful efforts will be made to promote the horizontal roll out of good practices.
- For initiatives in the nursing care field to reduce paperwork, a further review will be conducted on documents required by the national and local governments and documents prepared individually by businesses, and a review will be conducted on issues such as the differing formats and attachments between local governments to reach a certain conclusion during 2019 and move forward with necessary reviews, aimed at halving the amount of paperwork by early 2020s. For the medical care and welfare fields, initiatives will be steadily implemented for reducing and standardizing paperwork, taking into account the characteristics of each field.
- The active involvement of seniors and prevention of nursing care will be promoted, and from the standpoint of broadening the horizons of nursing care human resources, comprehensive

efforts will be made to secure nursing care human resources using the comprehensive fund for regional medical and nursing care, including using diverse human resources as nursing care helpers.

b) Increase the scale, etc., of management of medical service corporations and social welfare service corporations

- Regarding the regional medical collaboration promotion company system, issues related to the system and operations including approaches to medical collaboration promotion operations and the lending of funds between participating companies will be identified, reviews carried out aimed at improvement, and necessary measures taken so that contributions are made to the greater effective utilization aimed at realization of the regional medicine concept.
- To facilitate mergers, etc., of medical service corporations, the creation of a lending system for necessary management resources will be considered during FY2019. At the same time, good practices involving medical service corporation mergers and business succession will be collected and made known.
- Know-how in all aspects of rehabilitation of regional medicine and management support for medical institutions possessed by the Regional Economy Vitalization Corporation of Japan will be actively transferred to regional financial institutions. At the same time, the collaboration and cooperation of the Welfare and Medical Service Agency and regional financial institutions will be promoted for these forms of support and rehabilitation.
- A review committee of experts will be established to discuss ways of promoting the increase cooperation and scale of social welfare service corporation operations, with a conclusion to be reached during FY2019. In addition, good practices will be collected and guidelines formulated during FY2019, including obtaining findings from a review committee of accounting professionals for clarifying the accounting treatment of mergers, etc., so that corporations interested in increasing cooperation or scale can more easily do so.

ii) Development, operationalization, and global expansion of superior pharmaceuticals and medical equipment from Japan

(i) Development and operationalization of superior pharmaceuticals and medical equipment from Japan

- Under the Health and Medicine Strategy to be revised in FY2019 (Cabinet decision on July 22, 2014), etc., research and development into medical technology and methods such as regenerative medicine, cell medicine, gene therapy, and genome/data platforms, etc., will be promoted based on uniform evidence that also covers different diseases and efforts will be made to create new industries, so as to contribute to the prolonging of healthy life expectancy

aimed at a society of healthy longevity.

- To develop medical equipment and health care services taking into account various needs from prevention to improved QOL, support for venture firms will be stepped up and policies promoting new entrants will be examined during FY2019. Furthermore, support for networking between venture firms and related institutions by the Health Care Innovation Hub (InnoHub) will be commenced.

(ii) Global expansion, etc.

- Under the Asia Health and Human Well-Being Initiative, the international expansion of Japanese health care related industries will be promoted to contribute to the realization of broad-based health care and independent industrial development in Asia. In particular, efforts will be made to promote both the development of pharmaceutical and medical equipment industries in Asia with the involvement of Japanese companies and the deregulation of pharmaceuticals and medical equipment in Asia based on the Grand Design for Asian Pharmaceutical and Medical Device Regulatory Harmonization (decided by the Headquarters for the Advancement of Health and Medicine Strategy on June 20, 2019).
- In Africa, a positive cycle will be created where public sector initiatives create and develop private sector business and vitalization of the private sector supports the public sector. To achieve broad-based health care through this, Japanese health care related industries will be encouraged to expand into Africa pursuant to the Basic Policy for an Africa Health and Human Well-Being Initiative (decided by the Headquarters for the Advancement of Health and Medicine Strategy on June 20, 2019) while disseminating information at TICAD7, etc.
- Increase the international response capabilities of Japan's medical care services by promoting in an integrated fashion the international deployment of medical services mainly led by Medical Excellence Japan (MEJ) and JETRO, etc. along with medical services provision for inbound medical treatment by Japan International Hospitals (JIH) and following the "Comprehensive Measures for Securing Appropriate Medical Services for Foreigners Visiting Japan."
- Regarding countermeasures against infectious diseases that pose a threat internationally, efforts will be made to reinforce research capacity and function, including forming a research hub centered at Nagasaki University and developing human resources by establishing research infrastructure in locations with infectious diseases. At the same time, studies on infectious disease occurrence as well as the exam system, and treatment system will be strengthened ahead of the Tokyo 2020 Olympic and Paralympic Games, and the number of medical institutions designated as capable of handling infectious diseases will be expanded.
- Through the G20 Osaka Summit, Health Ministers' Meeting, Joint Session of the G20

Finance and Health Ministers, and TICAD7, etc., support will be provided for raising Japan's international status in the promotion of universal health coverage (UHC) and international infectious disease response, bilateral assistance, and support for international health institutions such as the World Health Organization, global funds, and Gavi Vaccine Alliance, etc., along with the Global Health Innovative Technology (GHIT) Fund and CEPI, etc., and AMR countermeasures will be promoted. In addition, development of human resources who can handle international infectious diseases, etc., will be pursued further as well as their dispatch to international institutions.

III. Reinforcement of Regional Measures under Population Decline

1. Maintenance of Community Infrastructure and Competition Policy

(1) Major progress of KPI

[KPI] Aim for a service industry labor productivity growth rate of 2.0% by 2020

⇒2017: 0.18% (2016: -0.23%)

[KPI] Increase the number of profitable SMEs and micro businesses from 700,000 to 1.4 million by 2020

⇒FY2016: 954,546 companies (FY2015: 923,037 companies)

(2) New specific measures to be taken

(i) Bus services (and local public transportation competing with bus services)

As a typical example, in the center of towns, routes with excessive frequency are operated by multiple bus service operators and local public transportation competing with these bus service operators.

By allowing joint managements between these operators, the number of services on these high frequency routes can be rationalized, while the revenue increase from the rationalization can be used to maintain a network of bus services in low demand areas among other areas. This will ensure convenience for all residents across a broad area and thereby secure the interest of general consumers, which is the ultimate goal of competition policy.

For bus services, stakeholder councils have been set up under the Act on Revitalization and Rehabilitation of Local Public Transportation Systems, and local public transportation network formation plans are formulated and implemented by the councils. However, even under such councils, detailed discussions among operators about fares, pricing, operation frequency and routes were viewed as a possible breach of the Anti-Monopoly Act and this has been pointed out as an obstacle to plan formulation and implementation. Therefore, based on the framework of such councils, there is a need to exempt joint managements involving the routes, service intervals, and fares of bus service operators from the Anti-Monopoly Act and develop a clear framework for operators and communities. Specifically, there is a need to: (a) permit joint management of bus operators including utilization of fare pool to maintain a network of bus services including services in low demand areas; (b) require maintaining a network of bus services including services in low demand areas be a condition of approval of joint management, and the approval of joint management be rescinded should this condition be not maintained after the approval,; and (c) ensure the predictability of these rules for relevant operators.

A requirement will be the establishment of a council based on the Act on Revitalization and Rehabilitation of Local Public Transportation Systems for communities where it is possible to ensure core service provision as a network by carrying out coordinated initiatives among operators.

Operators will determine the area to be served, the plan for maintaining and improving convenience for the entire community, and the goal of services to be ensured. A framework will be developed, which ensures convenience for local residents based on a variety of situations in the regions.

The areas covered in the plan will not only be areas where rationalization of services will be undertaken among operators, but also areas in the entire network including unprofitable routes in mountainous regions whose operation is secured as a result. The approval requirements of joint management would be, for example, that it is deemed difficult to continue service provision and maintain the entire network including the unprofitable routes without joint management because of unprofitability.

(ii) Regional banks

Regional banks play an important role in local communities. Their services need to be maintained in an appropriate manner even in regions with a declining population.

If the downturn in business performance of regional banks persists, the negative effects, such as reduced lending, will extend broadly to depositors and borrowers. Banks establish relationships of trust with borrowers and use the relationships as a basis for determining credit and supporting management of local companies. Therefore, there are concerns that, due to the persistent downturn, banks will no longer be able to provide sufficient financial intermediation functions.

A bank experiencing a downturn in business performance should make operational improvements. For this reason, as a special measure, a management integration among regional banks, even if the resulting market share is high, will be permitted in order to facilitate their operational improvements at an early stage of downturn. But the application of the measure will be limited to situations where the persistent downturn may affect smooth financial intermediation in the local community.

In other words:

(a) Financial institutions pursuing management integration will submit an application to the Financial Services Agency for exemption from the Anti-Monopoly Act pursuant to the law on special measures. When an application is submitted, the Financial Services Agency will check whether the following requirements under the law on special measures apply. Discussions will be held by the Japan Fair Trade Commission about the applicability of

these requirements (if no application is submitted, merger reviews will be carried out pursuant to the Anti-Monopoly Act).

(b) Screenings will be carried out mainly by the Financial Services Agency for i) to iv) below and by the Japan Fair Trade Commission for v). Only when each requirement is fulfilled will an exemption be granted.

i) A local community is expected to see a continuous decline in demand for loans and fee-based services for SMEs, and as a result, regional banks could find it difficult to provide the abovementioned services to the local community in a sustained manner into the future.

ii) The applicant bank is, on a continuous basis, unable to cover expenses to sustain the network of the abovementioned services from the revenue generated from the services.

iii) Management integration is acknowledged to considerably improve business and maintain functions.

iv) Capacity arising as a result of iii) above is expected to be utilized in a way which contribute to the local economy.

v) Management integration will benefit the interests of users (general consumers) (even if competition is reduced).

(c) If the requirements i) to iv) will be satisfied, the Financial Services Agency will consult with the Japan Fair Trade Commission and the Financial Services Agency will respect the opinion of the Japan Fair Trade Commission including applicability of requirement v).

(d) After approval, when conformity with the requirements of i) to v) is no longer acknowledged, the Financial Services Agency will order the regional bank to take corrective actions. In addition, the Japan Fair Trade Commission can require the Financial Services Agency to take measures.

(iii) Limitation of scope of law on special measures

The scope of the law on special measures must be restricted to fields where management integration or joint management is expected to offer the greatest effect toward improving business by firms providing core services in the community and where competent government agencies can monitor and supervise actions taken after management integration or joint management. For the time being, the law will be limited to the above two fields. The law will be in effect for a period of 10 years.

Additionally, the bill for the law on special measures will be submitted to the ordinary session of the Diet in 2020.

(iv) Other

For the financial field, a separate review will be conducted simultaneously on other policy means for regulatory reforms in order to promote the entry of new players, including those from other industries, using new technologies, from the standpoint of user convenience and maintaining and developing the local economy.

Reviews shall be conducted on approaches to financial administration of local finance across prefectural borders, including the relationship with the Anti-Monopoly Act sometime in the future.

2. Supplying Human Resources to Regions

(1) Major progress of KPI

[KPI] Aim for a service industry labor productivity growth rate of 2.0% by 2020 (Repeat)

[KPI] Increase the number of profitable SMEs and micro businesses from 700,000 to 1.4 million by 2020 (Repeat)

(2) New specific measures to be taken

To increase productivity across Japan, more flexible options must be available for occupations nationwide both regionally and by industry.

In particular, in regions facing decline, securing professional and management resources to raise the level of company management locally bears great significance. Meanwhile, as we have entered the era of the 100-year life, there will be a growing trend requiring places for occupation changes or freelancing and side businesses and places for retirees to play an active role post mandatory retirement. These two needs mutually complement one another and strategically matching them represents one critical task for promoting the active role of human resources and increasing productivity in the future.

Often, however, SMEs and micro businesses in regions have yet to clarify what type of human resources they lack and what functions human resources should fulfill. This indicates that currently they cannot provide proper job offers and do not provide appropriate compensation to talent they acquire.

As a result, the labor market in regions is immature. This is why employee placement businesses are reluctant to expand in regions and the inflow of human resources there is limited.

Considering the current situation, efforts will be focused and concentrated on the following: (i) reinforce functions for supporting local companies to clarify their management strategy and human resource requirements (promote involvement of local financial institutions, etc.); (ii) fundamentally improve matching functions with human resources in major urban centers; and (iii) build a framework for promoting the supply of human resources from major urban centers to regions and immediately speed up the flow of professional and management human resources from major urban centers to regions.

3. Revitalization of Communities with Rapidly Declining Populations

(1) Major progress of KPI

[KPI] Aim for a service industry labor productivity growth rate of 2.0% by 2020

(Repeat)

[KPI] Increase the number of profitable SMEs and micro businesses from 700,000 to

1.4 million by 2020 (Repeat)

(2) New specific measures to be taken

In regions with rapidly declining populations, the shortage of bearers of local industry, such as agricultural, forestry and fisheries and commerce, has become serious, and, given that difficulties are arising in maintaining local communities and economies, human resources for community development will be secured and their active roles promoted.

4. National Strategic Special Zones

(1) Major progress of KPI

[KPI] Japan aims to be ranked within the top three among the developed countries in the World Bank's Ease of Doing Business ranking by 2020. (Repeat)

⇒ Ranked 39th in October 2018 (5 places lower than previous year)

[KPI] Tokyo to be ranked in the top three in the Global Power City Index by 2020 (4th in 2012) (Repeat)

⇒ Ranked 3rd in October 2018 (the same as the previous year)

(2) New specific measures to be taken

As for the National Strategic Special Zone system, efforts will continue to concentrate on remaining bedrock regulatory reform, including the flexible implementation of remote medication instruction and required system reforms for facilitating start-ups by foreign entrepreneurs, etc. The outcomes of special zones with high economic effect and no particular adverse effects will be rolled out nationwide more quickly starting with those in need.

In addition, based on the National Strategic Special Zone System, efforts will be made to realize the “Super City” initiative that seeks to achieve “whole future cities” that are global pioneers in future living through the use of AI and big data, and to create sandbox system of regulations exclusive to local communities.⁷

i) Early realization of the “Super City” initiative

- Based on the National Strategic Special Zone System, efforts will be made to quickly establish legislation that will promote multiple unique regulatory reforms within regions based on the consensus of local residents simultaneously and uniformly, aimed at the realization of the Super City concept that seeks to achieve “whole future cities” that are pioneers in the use of AI and big data. Also, the technology groundwork for “Society 5.0” will be laid urgently.

ii) Addition of further regulatory reform matters

(Expand trial implementation of remote medication instruction)

(i) Implementation of the remote medication guidance system in urban areas

- Remote medication instruction is currently being implemented only in depopulated areas,

⁷ The Bill for Partial Amendments to the National Strategic Special Zone Act and Structural Reform Special Zone Act, which contains provisions on the realization of the “Super City” initiative and creation of “sandbox system” exclusive to regions for facilitating the swift implementation of demonstration testing on advanced and innovative near future technologies such as autonomous driving of cars, unmanned aerial vehicles (drones), and the use of frequencies related to such, was decided by the Cabinet on June 7, 2019 and submitted to Diet.

etc. There are many patients in urban areas with diseases such as lifestyle diseases that require continuous medication and strong demand for remote medication instruction with remote medicine. As a result, the prescribed rule making will be implemented around the first half of this fiscal year to enable remote medication instruction in urban areas located inside National Strategic Special Zones in case certain conditions are met, such as being a family doctor or regularly visited pharmacy, and a pharmacist cannot visit the patient due to the situation of the patient, pharmacist or pharmacy.

(ii) Horizontal rolling out of the remote medication guidance system by designating virtual special zones in depopulated areas, etc.

- As for conventional remote medication instruction in depopulated areas, etc., taking into account the expected needs for implementation outside of Yabu, Aichi and Fukuoka, the virtual special zone system that designates multiple areas all at once covering a specific theme will be used to horizontally roll out this initiative at an early stage by aiming to realize remote medication instruction in the above cities at the same time.

(Rule making for realizing “anytime anywhere care”)

(iii) Consideration for the review of online consultation requirements

- Ahead of the next revisions to the payment system for medical services, the penetration of online medical clinics will be studied and verified, and for diseases for which safety and effectiveness is confirmed, consideration will be made to include these into the coverage of online medical clinics. In addition, the necessary review will be conducted on the appropriate spread and promotion of online medical care with regard to the requirements for online medical care implementation method and implementation system, etc.

(Vitalization of the liquidity of funds)

(iv) Early realization of lifting the ban on wage payment using digital money (payment to fund transfer business operators)

- Institutionalization of wage payment will be carried out as soon as possible in **FY 2019** to ensure worker protection such as secure payment of wages, based on the request for realization of payees’ needs and a cashless society. This has to be conducted upon consultation with labor-management organization about enabling the payment of wages to an account of fund transfer business operators, with a view that designing a system for sufficient amount of insurance etc., to be paid to workers early in the case of bankruptcy of fund transfer business operators. Simultaneously, monitoring of money laundering and other matters in accordance with risks will also be conducted, while referencing cases in foreign countries. (Repeat)

(Facilitation of demonstration testing of autonomous driving and drones, etc.)

(v) Establishment of the region-based sandbox system

- Efforts will be made to create a ‘sandbox system’ exclusive to local communities in order to speed up and facilitate demonstration testing on technologies of the near future, such as the autonomous driving of cars and drones, etc.

(Formation of new transportation and logistics networks using compact mobility and drones)

(vi) Review of personal mobility related regulations

- Regarding compact and highly flexible mobility supporting people’s movements, a conclusion will be reached during 2019 on prescribed rules making as needed, under the condition that safety is secured in a way that is harmonized with other transportation actors, while taking into account actual demand for mobility methods.

(vii) Relaxation of manufacturing permission for large unmanned aerial vehicles (drones)

- Regarding large unmanned aerial vehicles (drones) that are strongly expected by local governments to play an important role in logistics in mountainous regions in the future, consideration will be given to the abolishment, easing and rationalization of regulations and operations to facilitate development and manufacturing in Japan, while examining trends in onsite needs and related legislation, to reach a conclusion by the end of this year.

(Acceleration of research and development in regions)

(viii) Speeding up of the procedure to issue permit for drug transfer in joint research and development of new drugs

- Prescribed measures to clarify procedures involving the case where narcotics are transferred multiple times in joint research for drug discovery involving multiple companies will be implemented in the first half of this fiscal year. These procedures require second and subsequent applications for permission to transfer will be approved promptly by the Ministry of Health, Labour and Welfare on the condition that the initial application for for transfer contains the plan for all joint research and explain the need for transferring on each of the multiple occasions.

(ix) Relaxation of requirements for clinical practice provision for foreign doctors to conduct clinical trials

- Since track records and know-how are accumulated at private-sector hospitals with regard

to phase one trials related to research and development on pharmaceuticals, to speed up new drug development, a review will be conducted urgently to reach a conclusion in the first half of this fiscal year so that designation requirements for clinical professor hospitals (hospitals where foreign national doctors can serve as clinical professors) are eased in case foreign national doctors will conduct phase one trials at such private-sector hospitals as a clinical professor.

(x) Addition of investment business within the scope of business of incorporated administrative agencies (experiment and research institution type)

- In terms of the addition of the investment business within the scope of business of incorporated administrative agencies (experiment and research institution type), a review will be conducted at an early stage, including on whether to respond using National Strategic Special Zones or general legislation, while taking into account the needs of local government and investment systems of public universities, and National Research and Development Agency, etc., considering proposals in National Strategic Special Zones, to reach a conclusion during 2019.

(Promote the active participation of non-Japanese human resources to contribute to regional revitalization)

(xi) Promotion of the employment of foreign students in the area of cool Japan

- To expand the work possibilities for international students who have completed specialist training at a vocational school majoring in the fields of culinary or confectionery sciences, prescribed measures will be implemented at an early stage this fiscal year to expand the Japanese Cuisine and Food Culture Human Resource Development Program and to develop human resources to spread not only Japanese cuisine, but other cuisines and confectionery fields overseas.
- Aimed at utilizing the National Strategic Special Zone foreign national demand cultivation support promotion program in the fields of culinary and confectionery sciences, relevant ministry and agencies will work together to discuss and review matters at an early stage to reach a conclusion before the end of this year regarding the validity of substitute measures for landing permit criteria for persons with at least 10 years of professional experience based on the proposals from relevant local governments.

(xii) Expansion of the start-up visa system to promote the acceptance foreign entrepreneurs

- Prescribed measures will be put into place by the first half of this fiscal year to expand the conditions to secure a business site for the National Strategic Special Zone foreign national start-up promotion program so that co-working spaces provided by a start-up supporting business working with a local government also fulfill the condition.

- To promote start-ups by international students with the desire and skills, a review will be conducted promptly on amending systems related to the National Strategic Special Zone foreign national start-up promotion program so as to urgently realize making it possible for international students in school or post-graduation to switch to a start-up visa without having to return to their home country.

(xiii) Relaxation of employment requirements for foreign diving instructors

- To respond to growing in-bound tourism demand, prescribed measures will be implemented before the end of this year to clarify the application process for persons with a diving qualification overseas and who satisfy certain requirements to obtain a diving license required for working as a diving instructor according to a different method than passing the diving licensing exam.

(Response to home-visit rehabilitation carried out under reconstruction special zone special exceptions)

(xiv) Handling of the special measures for establishing home-visit rehabilitation offices by non-medical institutions

- The special exception for home-visit rehabilitation offices utilized in reconstruction special zones for the Great East Japan Earthquake will expire at the end of this fiscal year according to the current plan (excluding in Fukushima Prefecture). Given this, a review will be conducted on the handling of the special exception for home-visit rehabilitation offices by non-medical institutions, while confirming needs based on the situation of providing medical and nursing care services in reconstruction special zones and confirming the nationwide needs outside of disaster-affected areas while continuing to secure effectiveness and safety from the standpoint of users. Efforts will be made to reach a conclusion before the end of this year taking into account the views of relevant organizations.

5. Utilization of a “sandbox system”

(1) Major progress of KPI

[KPI] Create 20 unlisted venture companies (unicorns) or listed venture companies with corporate value or market value of at least 1 billion yen by 2023 (Repeat)

(2) New specific measures to be taken

The new technology verification system (“regulatory sandbox system”) was introduced pursuant to the Act on Special Measures for Productivity Improvement in order to drastically increase productivity by commercializing innovative technologies and business models including AI, IOT, big data and blockchain at an early stage and creating innovative products and services continuously. Thus far, six verification projects have received approval of the competent minister in charge, including projects covering not only FinTech, but also the use of IoT and blockchain, etc., in the fields of medicine and the environment, etc.

This system will continue to be used and for innovative ideas, to more swiftly carry out even more verification projects, by limiting the period and participants and obtaining the consent of participants, trial basis projects will be allowed to take place without obtaining approval under existing regulations. In turn, the accumulated experiences and data will be utilized to realize prompt social implementation. As a result, the government’s cross-functional and integrated systems for social implementation of new technologies, etc., will be enhanced.

- The Cabinet Secretariat, through the New Technology Social Implementation Promotion Team established with the Cabinet Office, will make coordinate all aspects with relevant ministries and agencies, including not only preliminary consultations or advice about applications, to support businesses utilizing the “regulatory sandbox system.” Efforts will be made to make this system known to all inside and outside of Japan through the introduction of accredited cases, etc.
- Relevant ministries and agencies, etc., under a system centered on promotion departments for new technology verification established outside of departments in charge of regulatory rules, will promptly screen applications and actively utilize the “regulatory sandbox system” in their respective fields. In addition, special exceptions will be developed promptly based on requests from businesses when implementing special exceptions are needed and appropriate for implementation of verification. Moreover, after the completion of verification, a review will be carried out on regulatory approaches concerning new technologies, etc., and based on the results, legislative measures or other measures will be

taken in order to eliminate or relax required regulations.

6. Increase Productivity of SMEs and Micro Businesses

(1) Major progress of KPI

[KPI] Aim for 2.0% growth of labor productivity of service industry by 2020 (Repeat)

⇒2017: 0.18% (2016: -0.23%)

[KPI] Aim to promote introduction of IT tools for approximately 1 million firms, which is equivalent to about 30% of SMEs and micro businesses in the three years until 2020

[KPI] Increase the number of SMEs and micro businesses in profit from 700,000 firms to 1.4 million firms by 2020 (Repeat)

⇒FY2016: 954,546 companies (FY2015: 923,037 companies)

[KPI] Aim to achieve that start-up rate exceeds cut-off rate and to make them comparable to the level in the US and the UK (10% range)

⇒FY2017: start-up rate: 5.6% (FY2016: 5.6%; cut-off rate: 3.5% (FY2016: 3.5%))

[KPI] Increase the ratio of SMEs which have overseas subsidiaries by 1.5 times compared to that in 2015 by 2023

⇒2016: 1.03 times

(2) New specific measures to be taken

i) Support for digital implementation of SMEs and micro businesses

(i) Support for introducing universal IT

The following fundamental measures will be taken in order to disseminate initiatives to increase productivity utilizing digitalization.

- To increase productivity of SMEs and micro businesses, initiatives fit for the unique characteristics of sectors will be promoted based on the Act on Enhancement of Management of Small and Medium Enterprises, and if cross-sectoral initiatives are required, a review will be carried out during FY2019 including revisions of the basic policy. And necessary measures will be implemented promptly thereafter. Then, collaboration between relevant ministries and agencies along with industry groups will be reinforced to generate synergies between various policies made by them to support SMEs and micro businesses.
- To continuously promote the introduction of equipment with the Subsidy for Manufacturing and Service of SMEs and the introduction of IT with the IT Introduction Subsidy considering cost-effectiveness etc. of support measures so far. To conduct a review on the Subsidy for Manufacturing and Services of SMEs to expand the scope of digital tools as scoring elements to adopt it in addition to the introduction of crowd funding which is

already included as a scoring element and to consider to expand the scope of subsidies which require similar scoring elements in FY2020.

- To develop an information platform for IT tools addressing management issues by collecting cases and data on various IT related measures, and to urge various support organizations for SMEs such as management innovation support organizations and certified information processing support organizations to utilize those information. Then, support organizations will support digitalization of SMEs utilizing this information.
- To review the support system and support contents of digitalization in the start-up stage including application crowd accounting system for SMEs, including those of business groups and financial institutions (including government-affiliated financial institutions) based on the cost effectiveness of previous support measures, and to make a conclusion about future approaches in FY2019.

(ii) Disseminate and expand more practical digital services

The following measures will be implemented to promote not only digitalization at each company but also open innovation in the form of tie-ups with other companies, and to realize the benefits of digitalization fit for the stages of digitalization of each company including creation of new business opportunities utilizing data.

- To promote loans for SMEs and small businesses utilizing data lending for short-term and small-lot loan using transaction data, operation methods of relevant credit guarantee systems will be reviewed and a conclusion will be reached in FY2019. (Repeat)
- To verify the effectiveness of bridge financing services to use electronically recorded receivables for allocated subsidies established in March 2019 and then to aim to expand the number of financial institutions offering this form of financing from four institutions current to 150 institutions over the next three years. Also, the number of eligible subsidies will be expanded.
- To promote digitalization of business-to-business transactions such as introduction of common EDI for SMEs, “Standards for Promotion” under the Subcontract SME Promotion Act will be revised to encourage subcontracting entrepreneurs to take the lead in subcontractors’ initiatives for digitalization. In addition, support measures for initiatives to introduce EDI related services simultaneously by multiple companies with certain transactional relationships, including in the supply chain, will be considered to reach a conclusion in FY2019.

ii)Promotion of business metabolism

- Existing business succession subsidy will be expanded and focused on second start-ups and venture business succession, in order to promote new business growth on occasion of

business succession. In addition, about this subsidy, measures will be considered for supporting business succession and business creation through succession of management resources.

- To encourage business succession and new business creation by those who wish to do so, matching for management resource succession and business cessation consulting will be added to the operations of Business Succession Support Centers.
- The smooth business succession of SMEs and micro businesses as well as sustainable development of local economies through it are important for financial institutions to secure its business basis continuously. Based on this perspective, the following measures will be promoted. Regarding personal guarantee provided by business owners that could become an obstacle to business succession, financial institutions will be encouraged to thoroughly implement rules limiting such to truly necessary situations only, and support will be provided to businesses.
 - New offerings will be created within the credit guarantee system that do not require a personal guarantee provided by business owners at the time of business succession, and if assistance or confirmation is made by experts for this same offering, a company's guarantee fee burden will be reduced to as low as zero excluding certain required administrative costs by the Credit Guarantee Association.
 - The special provisions in the "Guidelines for Personal Guarantee Provided by Business Owners" (formulated by the Research Committee on Guidelines for Personal Guarantee Provided by Business Owners on December 5, 2013) focused on the time of business succession will be formulated before the end of this year and put into practice quickly thereafter. These special provisions, in principle, will ensure that financial institutions do not demand overlapping guarantees from the previous business owner and the successor. In addition, the special provisions will specify detailed points of view and response methods to promote flexible judgment considering also the impacts on business succession during reviews of whether a guarantee is needed from both.
 - A system will be put into place where the confirmation and support of specialists can be received so that SMEs and micro businesses can fulfill the requirements of the "Guidelines for Personal Guarantee Provided by Business Owners" and the special provisions at the time of business succession.
 - As a government-affiliated financial institution, the Shoko Chukin Bank will, in principle, no longer require guarantees from 2020 from companies that satisfy certain conditions by thoroughly implementing the "Guidelines for Personal Guarantee Provided by Business Owners". Visualization will be carried out for the progress of revisions to personal guarantee provided by business owners, including having individual financial institutions engaged in SME lending, such as government-affiliated financial

institutions and Credit Guarantee Associations, release batch statistics starting from FY2018 on their requests for personal guarantee provided by business owners.

-“Percentage of guarantee requests at the time of business succession (overlapping from both previous business owner and successor, previous business owner only, successor only, and not from any)” and “Percentage of loans that do not rely on business owner guarantees to all new loans” will be set as key performance indicators (KPIs) that can objectively evaluate the situation of financial intermediation at financial institutions. Through releasing the situation for the second half of FY2019, the visualization of initiatives in financial intermediation will be promoted and through the above measures, further efforts will be made to encourage loans by private-sector financial institutions that do not require personal guarantee provided by business owners.

- The Business Succession Guidelines (formulated by the Study Group for Revitalization of Business Focusing on Business Succession in March 2015) will be revised during FY2019 to make the content more practical and add content on management resource succession.
- The business successor human resource bank will be expanded to Business Succession Support Centers nationwide during FY2019. In addition, the number of persons wishing to start a business registered with this bank will be greatly increased through collaboration with start-up support institutions nationwide. At the same time, the business succession support database will be drastically expanded, including information related to the succession of land, buildings, facilities, and other management resources.
- While promoting the use of the business succession tax system for corporations drastically expanded in 2018 and the individual version of the business succession tax system created in 2019, comprehensive support such as budget and tax will be promoted to powerfully assist business succession, including third-party succession, for the focus period of around 10 years. Support measures will be considered in case SMEs without a successor carry out trial employment of an outside successor.
- To provide seamless support for procuring the necessary funds for founders from business launch to expansion, support will be carried out in a focused manner for founders at the time of establishment and soon thereafter, including the use of existing subsidies such as the subsidy for sustainable business and Subsidy for Manufacturing and Service of SME.
- Initiatives that encourage regional angel investors to make investments in local SMEs including promoting the use of existing tax systems, will be reviewed in order to promote initiatives that create and foster local companies using local means.
- To encourage start-ups nationwide, start-up support by municipalities and financial institutions and support for public awareness concerning new business creation will be provided. In addition, support for entrepreneurs aiming for starting growth-oriented businesses in regions will be enhanced.

iii) Promotion of overseas expansion and fair transaction

- To execute matching by collecting information on needs and trends in overseas from overseas local buyers, trading companies and government-affiliated institution, by providing them to domestic companies and by providing information concerning domestic companies with an intent to produce products and services that meet those overseas needs to overseas companies. In addition, to provide support to encourage the use of overseas crowd funding and e-commerce by SMEs. Moreover, to provide support for the development of prototypes, opening up of sales channels, and brand development that meet the needs of markets.
- Cost reducing pressure of dominant subcontracting entrepreneurs could have been a factor why SMEs serving as subcontractors could not have increased their wages and capital investments. Thus, issues related to transactions faced by SMEs in each individual industry will be identified and competition legislation, SME legislation, and industry's voluntary action plans will be fully utilized to make fined-tuned improvements. Those actions will be based on priority investigations, including interviews, of subcontractors' state of business by investigators of subcontracting relationship, centered on industries with especially large disparities between main subcontracting entrepreneur and subcontractors, after analyzing the situation of profits and added value, labor and capital allocation for each industry, sector and company size. Such investigations will include the actual state of subcontracting transactions, such as unreasonable demands to lower cost price, situation of passing on cost increases to prices, and transactional shifting associated with working style reforms. In addition, collaboration agreements with local governments will be expanded and greater understanding of business practices based on regional characteristics will be promoted to enhance penetration of transactional rationalization at the local level.

iv) Strengthening of function of assistance agency for SMEs

- Through setting up forums where local financial institutions and Yorozu (one-stop or multi-task) support centers and private company/other kinds of human resource support organizations can work together to secure core human resources who can solve management issues at SMEs, we will continue to work on the creation and horizontal development of efforts to secure core human resources through local financial institutions and universities. In this regard, from FY 2019, we will focus on achieving securing human resources in collaboration with human resource support agencies so that SMEs can hire core human resources, including people engaged in sideline work and multiple employment, through business support organizations, including Yorozu support centers.
(Repeat)

- Expand the scope of visualization of expertise and results of SME support organizations, including the website established in March 2019 to visualize the results of activities of certified support organizations. In addition, a database will be developed to visualize the results of activities of the Core Manufacturing Technology and Strategic Core Technology Advancement Program subsidies regarding public testing for SME support and universities.
- Efforts will continue to be made to establish an SME support platform with full-scale operations set to begin from April 2020. Additionally, thereafter, the range of services will be expanded by promoting collaboration between relevant ministries and agencies, local governments and commerce and industry groups.
- To form a community for developing human resources of support organizations, including financial institutions, and SME owners in regions and for sharing practical know-how for resolving management issues, consideration will be given to set up a forum to learn and practice business problem solving for SME owners in regions and support organizations, such as financial institutions together. In addition, a progressive service model to solve management issues of SMEs will be created by dispatching persons with AI skills educated in universities to utilize data from the fields. Then the best practices will be horizontally roll out in Japan and abroad.
- Given that the ability of regional financial institutions to provide appropriate advice and financial services that contribute to increase productivity of regional companies and to provide support, for securing management resources can secure their own management base, the above initiatives will be promoted through deep dialog based on various information such as characteristics of individual financial institution, company evaluations by their customers, and the situations of regional finance and industry.
- To strengthen the function of regional financial institutions to support regional companies, the activities of Japan Human Resources Co., Ltd. and the Regional Economy Vitalization Corporation of Japan (REVIC), which focuses on the transfer of know-how to regional financial institutions, will be further promoted.
- To vitalize regional economies, regional financial institutions will play important roles, for instance, to promote business succession and business turnarounds. Thus, a review will be conducted on revising restrictions of the voting right ownership (the so-called 5% rule) in order to make regional financial institutions easier to support companies' business succession and business turnarounds while paying due attention to securing soundness of regional financial institutions.

v) Support for regional core companies

- To focus support measures such as budgetary support, tax incentive, finance, and regulatory special exemptions, including the Regional Future Investment Promotion Act to the

companies engaging in business that will drive regional economies, such as Driving Companies for the Regional Future Support Measures.

- Given that direct connections between regional economies and global markets is vital to regional growth, support will be provided to opening up sales channels and formulating strategy for business expansion aimed at global markets in order to promote regional-led innovations that utilize the seeds of regional core companies. In addition, to increase the ripple effect toward regional economies, support will be given to the initiatives of regional core companies such as service industries creating attractive content that will draw people to regions, while collaborating also with local governments.
- The specific investment operations of the Development Bank of Japan will be utilized for promoting the supply of risk money to the growth of regional core companies while taking into account previous initiatives.
- Regarding support organizations that provide support to regional core companies (industrial promotion centers, public research organization, universities, private-sector consultants, etc.), networks will be strengthened and efforts made to horizontally roll out effective support content such as the new use of regional core companies' seeds and opening up of sales channels.
- By promoting collaboration between industry, academia, financial institutions and government along with finance from regional financial institutions, regional revitalization will be promoted by compiling progressive practices in utilizing Subsidies for Businesses that Create Circulation in Local Economy to encourage creation of new businesses utilizing regional resources and development of existing businesses in new fields, and by disseminating them widely to local government, regional financial institutions and entrepreneurs who are interested in new business creation.

7. Realization of reform across the entire agriculture, forestry and fishery industries

(1) Major progress of KPI

[KPI] In the agricultural sector, almost all the business farmers utilizing data in their workflow by 2025

*Progress will be ascertained based on the Census of Agriculture and Forestry, etc., with expanded survey items.

[KPI] Use 80% of total agricultural land area by business farmers over the next 10 years (up to 2023) (end of FY2013: 48.7%)

⇒End of FY2018: 56.2%

[KPI] Reduce business farmer's production cost of rice by 40% compared to the nationwide average in 2011 over the next 10 years (up to 2023) , reflecting industry efforts in materials and distribution, etc. (2011: 16,001 yen/60kg)

⇒Farmer's production cost of rice grown in 2017

- Individual management⁸ 10,995 yen/60kg (32% reduction)
- Corporate management⁹ 11,859 yen/60kg (26% reduction)

[KPI] Increase the export value of agricultural, forestry, and fisheries products and foods to one trillion yen in 2019 (2012: 449.7 billion yen)

⇒2018: 906.8 billion yen

[KPI] Double the added value of forestry and wood industries derived from privately owned planted forest by 2028 (2015: 250 billion yen)

(2) New specific measures to be taken

As the number of workers in Japan's agriculture, forestry and fisheries industries falls and population of its rural villages declines, to maintain and develop agricultural, forestry and fisheries production along with rural villages, efforts must be made to utilize cutting edge technology such as ICT and to develop and dispatch human resources needed by rural villages by establishing a new agricultural structure.

In addition, reforms must be implemented in distribution and processing in the value chain along with proactive efforts for development an environment that supports agriculture, forestry and fisheries, including promoting exports and the protection of intellectual

⁸ Individually managed businesses (rice cultivation area of 15 ha or more) where the income from rice cultivation is equivalent to income from other sources.

⁹ Corporate entity that participates in rice cultivation in which the income is primarily from the sale rice (average area of rice fields about 22 ha

properties, etc.

By powerfully moving ahead with this reform, the competitiveness of agriculture, forestry and fisheries will be strengthened and strong agriculture, forestry and fisheries industries will be realized despite declining populations.

i) Acceleration of agricultural reform

(i) Enhancement of production sites

a) Building a powerful agriculture structure and development human resources despite a declining population

- To carry out agricultural production in a sustainable manner despite the declining number of farmers, efforts will be made to purchase agricultural produce, increase added value by processing agricultural produce and adjusting supply volume, etc., farm work agency services, instructions on good agricultural practices (GAP), and the expansion of new forms of producers using ICT creatively, etc., while cooperating with farmers without being tied down by local affiliations.
- The Japanese agricultural direct payment's system will be reviewed to cope with the declining number of farmers and diverse initiatives that utilize the unique characteristics of mountainous regions will be encouraged.
- Efforts will be made to strengthen the functions of prefectural agricultural colleges, etc., as institutions of recurrent education for agriculture to address the era of the 100-year life.
- A considerig will be carried out to builda mechanism connecting specialist human resources in various fields with rural villages so that human resources with the skills to contribute to resolving regional issues can be dispatched, etc., in FY2020.
- To realize an agricultural industry friendly to women, female farmers will be developed who will tackle regional issues and reforms will be promoted in the mindsets of agricultural management entities.
- Group enrollment in mutual aid horticulture facilities will be promoted so that horticultural agriculture can be carried out in a stable manner.
- Farming-photovoltaics ,where photovoltaics equipment is installed above farmland, will be expanded nationwide.
- As for agricultural cooperative reform, initiatives for self-reforms will continue to be encouraged after identifying the status of such self-reforms, even after the end of the focus period for agricultural cooperative reform.
- To reduce the construction cost of livestock barns, etc., for transforming stockraising into a growth industry, a review will be conducted on a special law exempting livestock barns, etc., from the safety standards of the Construction Standards Act, and the prescribed bill will be

formulated.

- As for agriculture-welfare collaboration, nationwide efforts will be made toward matching both agriculture and welfare needs, developing agriculture management engaging in agriculture-welfare collaboration, establishing an environment for the work of people with disabilities, etc., and the development of specialist human resources, etc.
- Efforts will be made so that a mechanism is developed by FY2022 where AI, etc., is utilized to gather supply-demand information for agriculture and livestock industries in Japan and abroad in real time, with this data then analyzed and provided.

b) Promotion of farmland consolidation and soil fertilization

- Pursuant to the revised Act on Promotion of the Cropland Intermediary Management Program, efforts will be made to speed up the consolidation of farmland among farmers by substantiating people and farmland plans via thorough discussions through provision of information on the actual situation in regions.
- Linked to efforts for the substantiation of farmers and farmland plans, the establishment of corporate management entities will be sped up through the dispatch of specialists from agricultural management consulting offices and the sharing of practices, etc.
- To increase the fertility of farmland, soil fertilization will be promoted based on soil diagnosis using drones, etc. Also, a data basis of soil diagnosis data including effects of increased yield will be developed by FY2022, and agriculture will be promoted that contributes to increased fertility, such as organic farming, etc.
- Legal framework over fertilizers will be reviewed drastically and the bill will be drafted promptly, in order to ensure to produce fertilizers that suit farmers' needs, promote to utilize composts and other fertilizers that are derived from industrial by-products and beneficial to soil fertilization, and encourage fertilizer producers to be innovative for improvement of fertilizer production like reducing producing costs, after ensuring the safety of fertilizers.
- In terms of the land improvement business, the competitiveness of agriculture will be strengthened with the larger zoning and generalized use of farmland, promoting collaboration with other businesses, while keeping costs down, and resilience measures for reservoirs and agricultural water facilities, etc., will be implemented urgently.
- Comprehensive support measures will be taken to conserve rice terraces and promote the vitalization of communities with rice terraces.
- Urban agriculture will be promoted by effectively utilizing urban farmland pursuant to the Urban Farmland Lease Act.

c) Rice policy reform

- Promote the introduction of highly profitable crops and make rice policy reform take root through the provision of detailed information and support for full utilization of rice paddies

so that farmers can choose crops based on their own management decisions

- Reduce rice production cost through the promotion of establishment of cultivation techniques in the regions to ensure the introduction of high yielding rice varieties, as well as through diversification of cropping seasons.

(ii) Promotion of the reform in the value chain

a) Distribution and processing, etc., reforms

- Industry restructuring, etc., will be promoted pursuant to the Act on the Support for Strengthening Agricultural Competitiveness as well as improving efficiency in distribution and the rationalization of distribution using ICT, etc., in order to pursue structural reforms of the distribution and processing of agriculture, forestry and fisheries products, etc.
- Aiming to lower prices of agricultural production materials, the target sectors under the Act on the Support for Strengthening Agricultural Competitiveness will be revised in FY2019 and initiatives will be strengthened for the restructuring , etc. of the production materials industry.
- To promote the business diversification of agriculture, forestry and fisheries, efforts will be made to encourage initiatives for primary processing where agriculture, forestry and fisheries businesses work with other sectors and for collaboration between processing/sales and countryside stay, etc. In addition, appropriate responses will be carried out for the capital needs of agriculture, forestry and fisheries businesses, etc.
- Through review of commercial practices such as delivery deadlines and intensifying partnerships with Food Bank activity, reduction of food loss and waste will be promoted nationwide.
- For the purpose of increasing the capturing of harmful wildlife, establishing a safe and secure supply system of wild game, and expanding the use of wild game including doubling the amount of consumption in FY2019 compared to FY2016, efforts will be made to promote smart capturing by ICT and creating of an information network concerning place of origin for users.

b) Protection of intellectual properties, etc., and enhancement of border quarantine

- A review will be carried out for enhancing the variety registration system so as to prevent the outflow of seeds and seedlings and promote the sustainable use of high quality varieties.
- A review will be carried out on appropriate distribution management and protection from the standpoint of preventing the inappropriate outflow of Japanese beef cattle genetic resources overseas.
- Border quarantine will be strengthened, including the use of quarantine detector dogs, to address the incursion risk of animal contagious diseases and plant pests .

(iii) Promotion of smart agriculture

In order to develop an environment for the steady and full-scale implementation of smart agriculture by FY2022; e.g. developing smart agriculture technologies viable in various fields and building a consulting system on smart agriculture for farmers etc., following initiatives will be promoted in unison, in accordance with “the Program for Promotion of New Farming Technology Implementation (decided by the Headquarters on Creation of Regional Vitality in Agriculture, Forestry, and Fisheries on June 7, 2019).”

a) Research and development

- Research and development will be carried out with an eye on implementation in the field considering farmers needs, with priority given to research and development of blank domains in regions and commodities, so that smart agriculture technologies in tune with various commodities and regions including hilly and mountainous areas can be supplied to the field at an acceptable price.
- The AI human resources of the National Agriculture and Food Research Organization will be strengthened to build an agricultural version of an ICT human resources bank and high quality AI research will be pursued so that AI research in the agriculture field is expanded nationwide and contributions are made to problem solving on the frontlines of agriculture.

b) Demonstration and Extension

- Efforts will be made to gradually expand and enhance classes incorporating smart agriculture, which will then be rolled out to agricultural high schools as well, so that smart agriculture becomes a part of curriculum at all prefectural farmer’s academies nationwide.
- Forums and matching events, etc., will be held nationwide and efforts will be made to provide information to farmers directly through the use of the online system for administrative procedures, so as to expand opportunities for farmers to obtain the information of smart agriculture technologies.
- Efforts will be made to verify smart agriculture technologies as an integrated system from production to shipment and to build a smart agriculture technology system for individual places of origin and commodities, with the aim of building and implementing smart agriculture technology systems for major agricultural commodities of each prefecture.
- Efficient usage models such as the joint use of smart agriculture machineries and systems and work consignment, etc., will be proposed. At the same time, an environment to encourage the entry into the smart agriculture field by private-sector businesses from various sectors will be developed.
- Efforts will be made for extension advisers, etc. to acquire knowledge and technology utilization methods, aimed at providing consultations for farmers concerning smart agriculture, where extension centers nationwide serve as first contact.
- Safety guidelines will be developed in conjunction with the commercialization of smart

agriculture machineries as necessary.

c) Development of environments

- Reviews and development will be carried out for the expansion of agriculture and rural village development compatible with smart agriculture, such as autonomous agriculture equipment and ICT water management, etc. Efforts will be made to develop an information network environment.
- Efforts will be made toward the development of farms in hilly and mountainous areas with an eye toward the realization of smart agriculture and development of an environment compatible with the characteristics of fruit farming, etc.
- The accumulation and provision of diverse data in Agricultural Data Collaboration Platforms will be promoted, and development will be carried out aimed at the establishment of an expanded Smart Food Chain System, including not only agricultural production, but also processing, distribution and consumption.
- The launch of a food distribution platform will be supported using the plan certification system of the Food Distribution Act. In the fields of logistics, product management, and payments, data sharing and utilization along with initiatives for reducing manpower and labor will be promoted for the implementation of a platform for each initiative.

ii) Promotion of export

- To increase sales of agriculture, forestry and fisheries products and foods overseas, the Global Farmers / Fishermen / Foresters / Food Manufacturers Project (GFP) that diagnoses exports for producers will be reinforced and efforts will be made to strengthen the proposal and advisory functions for producers through the encouragement of exchanges between export trading companies.
- Global producing areas compatible with overseas needs and regulations will be created, and projects linking producing areas and ports will be sped up.
- In response to overseas food safety regulations, etc., domestic responses will be increased, including speeding up certification of facilities compliant with the standards of destination countries. A review will be conducted, including on creating legislation, and system improved, in order for uniform government negotiations aimed at removing and relaxing regulations.
- During FY2019, packaging material suited to overseas transport will be investigated and made known, while a review will be carried out on the creation of standards.
- Efforts will be made for foreigners visiting Japan to experience food, travel, and history, etc., and to build an environment for them to continue experiencing Japanese food even after

returning to their home country.

- Initiatives for promoting exports will be steadily implemented pursuant to the Agriculture, Forestry and Fisheries Export Reinforcement Strategy (compiled by the Headquarters on Creation of Regional Vitality in Agriculture, Forestry, and Fisheries on May 19, 2016) and the Agriculture, Forestry and Fisheries Export Infrastructure Development Program (decided by the same headquarters on November 29, 2016).
- Taking the opportunity of the Tokyo 2020 Olympic and Paralympic Games, the strategic use will be promoted of intellectual properties and such standards and certifications as international standard GAP, Japan Agricultural Standard (JAS), organics, geographical indications (GI), and eco-labels for fisheries, etc.
- Increase demand for rice both domestically and abroad, such as expansion of rice export including non-gluten rice flour, taking opportunity of the Olympics and the lifting of the export ban on Niigata rice to China.
- To promote overseas business of Japanese food industry for meeting the global food demand, a plan will be established in 2019, and effort will be made to hold bilateral policy dialogs and establish a food value chains with joint public-private cooperation collaboration, etc.

iii) Forestry industry reform

(i) Accumulation and expansion of log production

- In the forest management administration system, the integration and consolidation of forest management administration will be promoted while utilizing the forest environment transfer tax. At the same time, priority will be given to forestry road network development and introduction of high performance forestry machines along with increasing the scale and efficiency of saw mills, etc.
- As for forest owner's cooperative associations, a review will be carried out for diversifying collaboration methods between unions to address the increasing scale of saw mills, etc.
- Within certain parts of national forests, a mechanism will be created for granting long-term, stable licenses to harvest trees to forestry business owners, etc., with the desire and capability, while maintaining the socially beneficial functions of these forests.

(ii) Promotion of the smart forestry, industry (forestry innovation)

- Measurement by laser technique, drones, etc. in the collection of forest information and reforestation and development of automatic or remote-control forestry machine in harvesting, transporting, etc. will be promoted to transform forestry into an attractive industry for youth and women together with various forest owners, including self-employed owners.
- ICT will be utilized for actions on wood production management and to acceralate actions

for establishment a supply chain that shares data on wood supply and demand, etc.

- A data base where local governments and private-sector businesses can share forest, etc., information will be set up by 2021.
- Fast-growing trees that make reforestation to harvesting possible by a single generation of forest workers will be selected and utilized and labor-saving efforts will be made for reforestation work, etc., through low-density planting and mechanization, etc.
- Research, development and implementation, etc., of manufacturing processes and products of wood-derived new materials including cellulose nanofibers and glycol lignin will be promoted.

(iii) Promotion of the use of wood

- Efforts will be made to increase the use of wood, including cross-laminated timber (CLT) in non-residential buildings such as offices, etc., and middle/high-story buildings, while obtaining cooperation of the economic world, etc.
- Efforts for the export of high value-added wood products will be promoted in collaboration with forest owner's cooperative associations and private-sector companies, etc.

iv) Fishery industry reform

(i) Promotion of the fishery policy reform

- To balance appropriate management of fisheries resources and turning fisheries into a growth industry, fisheries policy reform will be steadily implemented following the Fisheries Policy Reform (decided by the Headquarters on Creation of Regional Vitality in Agriculture, Forestry, and Fisheries on June 1, 2018).
- For the management stabilization of fishermen engaging in appropriate management of fishery resources, etc., measures of stabilizing income in the fishery will be led in the process of legislation to reinforce its function.
- To facilitate the funds procurement of aquaculture, efforts will be made to build a business model that contributes to the management stabilization of aquaculture businesses, including consignment from customers of aquaculture production and establishing financial systems for business capital, such as feed costs, etc.
- To speed up countermeasures against fish diseases in aquaculture, a “personal veterinarian” system where aquaculture businesses can consult on a daily basis will be established. Also numerical targets will be announced for increasing the number of veterinarians with in-depth knowledge of fish diseases and a mechanism will be established making online exams by a veterinarian possible.
- A review will be conducted on development of legislation related to catch certification,

which is the starting point of traceability.

- Following the Regulatory Reform Implementation Plan (Cabinet decision on June 21, 2019), legislative changes will be made so that medium-sized fishing boats operating in coastal waters can be operated by one small fishing boat captain.

(ii) Promotion of the smart fishery industry

- Aim to expand the evaluation scope of fisheries resources to all useful fish species (around 200) by FY2023 and increase the accuracy of resource evaluation. Utilize ICT to develop a system for collecting operation and fishing ground environmental information from fishing boats and survey ships and collecting catch information of producing area markets.
- Examine and validate fishing and sea condition forecasts so that fishing and sea condition information is provided to offshore and coastal, etc., fishermen in real time.
- Efforts will be made to establish a nationwide data base sharing marine information along with red tide and current information, etc., for realizing data-based, efficient and stable aquaculture.
- To address the declining number of fishermen and secure youth fishermen, efforts will be made to develop, verify and promote fishing and aquaculture technology using cutting edge technology such as ICT.
- Efforts will be made to build and implement a fisheries value chain producing area that increases the high added value of products and promote automation and labor-saving work, through collaboration with stakeholders from production to distribution, processing and sales, utilizing cutting edge technology such as ICT.
- The fishery data collaboration platform (tentative name) that supports fishing and aquaculture based on fisheries resource management and data will be established and placed into operation by 2020. A review of specific initiatives for smart fisheries will be conducted in FY2019 during industry-academia-government discussions.

8. Tourism, Sports, and Culture and the Arts

(1) Major progress of KPI

[KPI] We aim to increase the number of international visitors to Japan to 40 million in 2020 and 60 million in 2030

⇒In 2018: 31.19 million (in 2012: 8.36 million)

[KPI] We aim to increase the amount of consumption by international visitors to Japan to 8 trillion yen in 2020 and 15 trillion yen in 2030

⇒In 2018: 4.5189 trillion yen (in 2012: 1.846 trillion yen)

[KPI] Expand the sports market size to 10 trillion yen by 2020 and 15 trillion yen by 2025

⇒In 2015: 5.5 trillion yen

*A method of estimating the size of the sports market is to be designed in a manner that is continuously available and internationally comparable, with the cooperation of the Development Bank of Japan, Inc. Evaluation will be conducted once the latest numerical data is obtained.

[KPI] Build 20 stadiums and arenas around the country as places of interaction and exchange where diverse generations gather from the period of 2017 to 2025

⇒About 10 projects have newly entered the design or construction phase by March 2019. In addition, there are more than 80 other stadiums and arenas in the concept making or planning stages nationwide.

[KPI] Expand GDP of arts and culture to 18 trillion yen (about 3% of GDP) by 2025

⇒In 2016: 8.9 trillion yen (In 2015: 8.8 trillion yen)

*Consideration is underway with the United Nations Educational, Scientific and Cultural Organization(UNESCO), regarding international indicators measuring the economic value of culture.

(2) New specific measures to be taken

i) Realization of a tourism-based country

Tourism is the decisive factor towards achievement of regional revitalization and a pillar of the growth strategy toward a GDP level of 600 trillion yen. Based on the "Tourism Vision to Support the Future of Japan" (adopted by the Council for a Tourism Vision to Support the Future of Japan on March 30, 2016) and the "Tourism Vision Realization Program 2019" (adopted by the Ministerial Conference on Promotion of Tourism-oriented Country on June 14, 2019) etc., the Government will promote efforts toward realization of a world-class tourism destination.

In doing so, the government will urgently implement efforts to develop such environment

to ensure that international visitors enjoy Japan in the truest sense, as multilingual signages and announcements and free Wi-Fi, etc. In addition, the government will develop new contents in the local areas that international visitors can enjoy, such as opening of public facilities for night-time use, etc. Furthermore, the appropriate division of roles and reinforcement of collaboration between the Japan National Tourism Organization and regions (local governments and DMOs) will be promoted, and efforts will be made to implement centralized promotion through the Japan National Tourism Organization and to develop environment for international visitors in regions, etc.

(i) Development of environment where international visitors can truly enjoy sightseeing

a) Tourist destinations

- Drastic improvements will be made at major tourism areas (at least around 50 tourism areas in FY2019 and 100 by FY2021), through enhancing multilingual support (English, Chinese and Korean), installation of free Wi-Fi, and offering of cashless payment options, etc.
- The introduction of a multilingual voice translation system will be promoted at restaurants and retail stores, etc.
- Efforts will be made to promote the spread of tourism information services using cutting-edge technology such as AI chatbots¹⁰, etc., in order to reinforce the functions of tourist information centers for international visitors.
- To promote tourism-centered town development, efforts will be made to enhance the quality of historical tourism resources, introduce shared bicycle services, and proceed with removal of utility poles, etc.
- Multilingual support and installation of free Wi-Fi will be promoted at *Michi-no-Eki* (Roadside Stations), mainly in those regions where rental car use is popular.
- By facilitating the introduction of the paid passenger transportation in personal-use vehicles and shared ride of taxi, etc., efforts will be made to secure and enhance access (by bus, taxi, rental car, etc.) to tourism areas in regions.
- Reforms will be promoted to raise profitability of Japanese inns and hotels by improving productivity in the accommodation industry (establishment of systems where one person can carry out multiple jobs, etc.) and reinforcing accommodation for international visitors by using foreign human resources, etc. In addition, making accommodation facilities, etc., fully barrier-free will be promoted ahead of the Tokyo 2020 Olympic and Paralympic Games.
- In addition to increasing the number of tax-free shops in regions, development of the environment for offering cashless payments options and digitalization of tax-free procedures

¹¹ Chatbots is a term that combines the word “chat” and “robot”; it indicates a software program where a computer that learns using artificial intelligence (AI) automatically converses with users in place of a real person.

will be promoted.

- Initiatives under the “Immediate Measures to Secure the Safety and Peace of Mind of Foreign Tourists during Emergencies” (decided by the Tourism Strategy Promotion Council on September 28, 2018), such as 24-hour multilingual support at the Japan National Tourism Organization’s call center, will be decisively implemented.
- By reinforcing information provision in preparation for disasters, such as increasing the number of languages available for multilingual dictionaries on disaster prevention and weather information, the Japan Meteorological Agency website, and “Safety tips”, the information provision app for disasters, measures for ensuring that international visitors can continue their trip peacefully will be enhanced and strengthened.
- Development of the environment to accept diverse international visitors, including Muslims, will be promoted and the government will disseminate relevant information overseas.

b) Transportation

- Based on the International Tourism Promotion Act, multilingual support (English, Chinese and Korean), installation of free Wi-Fi, and offering cashless payment options, etc., will be carried out. These developments will be promoted on regional railways, etc., with drastic improvements which are planned for at least 100 lines in FY2019 and 300 lines by 2021.
- To realize world-class transportation services, free Wi-Fi will be set up onboard nearly all Shinkansen trains during FY2019. In addition, efforts will be made to enable reservations for the Japan Rail Pass from overseas on the Internet as well as to develop large suitcase storage areas onboard trains and to facilitate tourist mobility at railway stations, etc.
- By enhancing multilingual support (English, Chinese and Korean) for in-station and onboard announcements and websites as well as using QR code, etc., measures to provide information to international visitors during emergencies on the Shinkansen will be implemented with common and sufficient levels of services to be provided by each business operator.
- Infrastructure will be installed so that mobile phones can be used in Shinkansen tunnels on all lines by 2020. As for local line tunnels, a consideration will be conducted on policy to implement measures, with a conclusion to be reached by around the summer of 2019.
- With regard to MaaS in which travel to local tourism areas is considered as one service and which provides integrated services using a smartphone for searching, booking, and payment relating to railway and bus services, the government will promote the implementation of multilingual services, subscription services (flat-rate service) and other useful services from the perspective of international visitors, aim to promote online booking and payment at tourist facilities, and intend to realize tourism-type MaaS provided in the way of being integrated with transportation services. (Repeat)

c) Cultural properties and National Parks

- Multilingual commentary will be provided that conveys historical background to

international visitors so that they can enjoy cultural properties and National Parks in the truest sense. By 2020, drastic improvements of multilingual commentary will be made at more than 100 locations, including 34 National Parks and 18 UNESCO World Heritage Sites with high value as tourism resources.

d) Farmstays

- Multilingual support (English, Chinese and Korean) and free Wi-Fi will be offered based on the needs of users at 500 farmstays nationwide by 2020.

(ii) Development of new regional sightseeing contents

a) Cultural properties

- Through the creation of tourism contents inspired by the Japan Cultural Expo, supports to initiatives for “Living History”(development of new contents reenacting historical events and lives of the people during the specified time period at cultural properties), and the introduction about attractiveness of Japanese culture at airports, etc., utilizing cutting-edge technology such as VR, initiatives that contribute to international visitors’ enjoyment of Japanese culture and increasing consumption in local areas will be implemented.

b) National Parks

- Initiatives for the private-sector use at National Parks will be further promoted aimed at providing diverse accommodation experiences, including “Glamping”.
- The Government will promote such initiatives as improving the stay environment at user facilities (introduction of private-sector cafes, etc.), enhancing interactive contents, improving functions for accommodating international visitors at visitor centers, creating a mechanism for conservation funded by users, and increasing information dissemination about National Parks at Shinjuku Gyoen National Garden.

c) Public facilities and infrastructure

- The Government will extend the opening hours of the East Gardens of the Imperial Palace, given the sharp increase in visitors in recent years.
- To further increase the attractiveness of public openings of the State Guest House, Akasaka Palace and the Kyoto State Guest House, special guided tours where these facilities are reserved exclusively for the tour group will be held systematically, and around the end of April 2020 a new facility will open, housing a cafe and other shops to stimulate tourism in the park in front of Akasaka Palace (State Guest House).
- Efforts will be made to further increase the attractiveness of National Gardens, including the Kokyogaien National Gardens, etc. Particularly with regard to Shinjuku Gyoen National Garden, opening hours will be extended up to 7:00pm and efforts will be made to extend openings of the Old Imperial Rest House as well as to introduce private-sector cafes and utilize it for night-time events, etc.
- To expand public openings of the Imperial Household’s rare artworks housed at the Museum

of the Imperial Collections, exhibitions in partnerships with regional museums and art museums will be promoted and construction will begin on the Museum of the Imperial Collections in order to drastically expand exhibition spaces (the entire museum is slated to open in 2025).

- Infrastructure tourism will be promoted at the Metropolitan Area Outer Underground Discharge Channel, etc.

d) Stays in Japanese traditional houses, castles, and temples, etc.

- Efforts will be made to promote the further use of Japanese traditional houses, etc., and to develop experiential accommodation content for enjoyable stay experiences, such as castle stays and temple stays, etc. In addition, good renting of private houses and rooms will be promoted.

e) Farmstays

- Efforts will be made to improve private farm accommodations and Japanese traditional houses and to enhance contents of stays, such as farming experiences, etc., for farmstays suited to user needs.

f) Tourism destinations and transportation

- To vitalize night-time tourism, initiatives will be promoted that encourage night-time tourism involving the entire community through collaboration between diverse actors, such as the night-time operation of restaurants and public transportation, etc., as well as initiatives to develop night-time contents.
- The introduction of tourism trains and restaurant buses that make mobility fun and Cycle trains corresponding to new tourism needs will be encouraged.
- As for snow resorts, which represent effective contents towards long-term stays and increasing consumption in regions, snow resort reforms will be promoted aimed at reinforcing international competitiveness by offering financial assistance, etc., for multilingual support and upgrading facilities.
- To energize beach resorts, initiatives will be promoted to ease restrictions on the use of beaches (year-round use or extension of occupation periods, etc.) and open up disaster prevention facilities, etc., to tourists during normal times, through collaboration between coastal administrators and various actors.
- Initiatives will be created nationwide to increase the added value of tourism resources and as a result, increase consumption in regions, by introducing cutting-edge technology such as VR/AR and combining existing experiential contents with high quality guides, such as guided bicycle tours, etc.,.
- With the collaboration between the Ministry of Health, Labour and Welfare and the Japan Tourism Agency, efforts will be advanced to make improvements for accepting international patients at medical institutions, including developing a list of medical institutions that can accept international visitors while efforts will be made to encourage international visitors to

enroll in travel insurance. In addition, acceptance of international patients will be promoted using regional health care resources or unique tourism resources in regions, such as hot springs, etc.

- To increase satisfaction and consumption by cruise passengers, etc., efforts will be made to develop appealing experiential programs at ports of call, including ports capable of accommodating international cruise ships, to guide cruise passengers to local shopping arcades, and to build collaboration with cruise ship operators, etc.
- To attract high-income groups, efforts will be made to develop fly-and-cruise travel products, expand capacity for super yachts, and promote tourism on remote islands .

(iii) Appropriate division of roles and strengthening of cooperation between the Japan National Tourism Organization and regions (local governments and DMO)

- Specify and make known that the role of regions (local governments and DMOs) is to work for developing an environment for accommodating tourists, including multilingual support, free-Wi-Fi, and enhanced transportation access to tourism areas, and for developing new contents that international visitors will enjoy. In addition, efforts will be made for the Japan National Tourism Organization to centrally administer information on the attractiveness of regions and promotions for regions. Specifically, the creation of materials and tools for externally disseminating photographs and videos on such improved environment will be promoted and, using these tools, the overseas network of the Japan National Tourism Organization and digital marketing technology¹¹ will be fully harnessed to centrally disseminate the attractiveness of regions from the Japan National Tourism Organization. Therefore, drastic structural reinforcement will be made to the Japan National Tourism Organization after reviewing its entire structure.
- Considering the role of the regions as mentioned above, the involvement of various stakeholders in the regions will be encouraged, including local accommodation providers and activity businesses, etc.
- Through close collaboration between relevant ministries, agencies and the Japan National Tourism Organization, the website of the Japan National Tourism Organization will be used to centrally disseminate information about attractions such as cultural properties, national parks, and farmstays, etc.
- Large-scale promotions (global campaigns) offered mainly to Europe, North America and Australia will be expanded to include East Asia (China and South Korea, etc.), and progressive promotions that directly reach the attribution and interests of individuals will be deployed using ICT, etc. In turn, a mechanism will be established to realize a positive cycle

¹¹ Technology for analyzing website browsing history, etc. to understand the interests and tendencies of each country and field.

for providing analyzed data on user attribution and interests, etc., to regions (local governments and DMOs). In addition, the advanced human resources of the Japan National Tourism Organization will be utilized, etc., to reinforce consulting services for each region using digital marketing technologies.

- Nationwide training and the use of an information sharing system between DMOs, etc., will be utilized to enhance horizontal collaboration between regions (local governments and DMOs) and to share and roll out good practices to address issues facing regions.
 - In order to develop and secure necessary human resources at DMOs, support will be provided for the development of core human resources and the appointment of outside human resources, etc., such as making known the use of the JET Programme, etc.
- To capture demand from East Asia, which accounts for a vast majority of the inbound market, and to develop new markets for attracting visitors from a broad range of regions, local offices of the Japan National Tourism Organization will be opened in such markets that are expected to grow, including the Middle East and Latin America and trial promotions will be offered there as well.
- Efforts to disseminate information to overseas media and to attract visitors to regions, etc. will be made with fully utilizing the Rugby World Cup 2019.
- New experiential programs will be developed involving collaboration between regional universities, etc., and DMOs, etc.
- For regional railways working on multilingual support and installation of free Wi-Fi, etc., the appeal of tourism trains, etc., will be disseminated overseas through the Japan National Tourism Organization.
- Information dissemination, etc., will be increased through the promotion of host towns.

(iv) Other major measures contributing to attracting visitors to regions and increasing consumption

a) Facilitation of immigration

- The physical and personnel structures required for Customs, Immigration and Quarantine (CIQ) will be developed systematically, through introducing new facial recognition automated gates at New Chitose Airport and Naha Airport, and electronic customs procedure gates at Haneda Airport and others. In addition, FAST TRAVEL will be promoted that significantly reduces the time it takes to immigration procedure, by automating boarding procedures and centralizing them with facial recognition, facilitating the transport of baggage, etc., facilitating boarding procedures at regional airports, and improving environment for business jets, etc.

b) Strategic relaxation of visa requirements

- Visa requirements will be relaxed strategically, in collaboration with development of environment for receiving international visitors by entire government and promotions of the

Japan National Tourism Organization, etc., with an eye on international events, etc., planned to take place in Japan. In addition, efforts will also be made to develop the physical and personnel structures related to visa screenings at overseas diplomatic missions.

c) Airports

- The annual departure and arrival capacity of Tokyo metropolitan airports will be increased to around one million flights, which is the world's highest level.
- In order to increase international flights at Haneda Airport by 2020 with a focus on addressing rising inbound demand and increasing international competitiveness, annual departure and arrival capacity will be increased to around 40,000 flights by carrying out careful information provision, etc., and initiatives to review flight paths, etc.
- As for Narita Airport, too, annual departure and arrival capacity will be increased to around 40,000 flights by 2020 by developing rapid exit taxiways during FY2019. In addition, starting with the winter schedule, restrictions on night-time use of Runway A will be relaxed, while steady progress will be made with initiatives for developing the third runway, etc., in an effort to increase annual capacity to about 160,000.
- Enhancement to the functions of hub airports, such as runways expansion at Fukuoka and Naha airports, training of pilots, etc., and reinforcement of accommodation structure for ground support operations with labor-saving and automation, etc., will be carried out to address rising demand at airports. In addition, safety measures will be promoted with the introduction of cutting-edge technology, etc.
- Airport concession projects will be promoted, including the integrated operation of seven airports in Hokkaido.
- Through supports for reducing landing fees at regional airports, etc., air route networks in Japan and abroad will be enhanced and international visitors' travel to regions will be encouraged.
- The Government will enhance the hospitality by disseminating, etc. the attractiveness of Japan at airports.

d) MICE and IR

- Efforts will be made to increase the international competitiveness of MICE attraction and hosting by attracting MICE using VR, etc., and introducing cutting-edge technology for MICE such as facial recognition, etc.
- Based on the the Act on Promotion of Development of Specified Complex Tourist Facilities Areas, appealing stay-type tourism that is highly internationally competitive will be realized by steadily establishing a casino administration committee, implementing regulations, and formulating a basic policy, and the policy effect will be brought out as soon as possible. In addition, sufficient countermeasures will be taken to address various concerns such as addiction, by the world's highest-standard regulations over casino.

e) Sustainable tourism area development

- Countermeasures for congestion at tourism areas will be promoted through introducing a system for checking the congestion at tourism spots with a smartphone and utilizing early morning hours, etc. Also, sustainable tourism indicators will be developed that contribute to tourism area management considerate of local communities.

f) Utilization of International Tourist Tax

- Based on the "Basic Policy etc. for the Use of the International Tourist Tax", the tax revenue from the International Tourist Tax will be utilized to enhance and reinforce tourism infrastructure toward the realization of a world-class tourism destination.

g) Outbound tourism and domestic tourism

- Toward the further promotion of outbound tourism, initiatives for creating overseas travel products through public-private collaboration will be further expanded. In addition, dissemination functions for overseas safety information will be reinforced, including the use of IT technology and the shared platform for overseas safety information so that travelers can have safe and secure trips abroad.
- Renovations, etc., of old private houses will be promoted using the tourism related fund, etc., set up by the Regional Economy Vitalization Corporation of Japan and the Development Bank of Japan. In addition, efforts will be made to further promote domestic tourism through vitalization of night-time tourism and enhancement of experiential contents, etc.
- A consideration will be carried out on the spread of new travel formats combining business and tourism, in conjunction with the requirement that all employees take at least five days of annual paid leave based on Work Style Reform Act's.

h) Tourism revitalization in Tohoku

- In order to increase the number of overnight guests from overseas throughout 6 Tohoku prefectures to 1.5 million by 2020 (3 times the amount in 2015), efforts will be made to enhance tourism resources, to provide focused supports for Rebuilt Tourism Hub Cities, and to support domestic tourism projects in Fukushima Prefecture.

i) Promotion of the formation of "Tourism Nation Showcase"

- Relevant ministries and agencies will cooperate to offer preferential support mainly dedicated to the priority issues identified by Kushiro, Kanazawa, and Nagasaki cities respectively, and will attempt horizontal application of their practical cases to other areas.

j) Tourism statistics

- A consideration will be conducted toward improving ways of estimating tourism statistics, including the potential to use private-sector data, etc., in order to more accurately grasp regional tourism traffic and consumption trends.

ii) Future development of the sports industry

(i) Forming the foundation to make sports into a growth industry

- A governance code for sports organizations will be formulated and a mechanism for its

implementation will be established during FY2019, in order to encourage management reforms with both wheels of the governance and increased profitability of National Federation. A manual on the promotion and marketing strategy will be formulated during FY2019 and an advanced model will be formed. Furthermore, a review will be conducted on new support mechanisms in order to promote management reformat National Federation, including securing a financial base.

- To develop human resources in sports management, support will be provided to develop new curriculum on sports business for existing MBA courses, and external human resources will be encouraged to join sports organizations through matching.
- In order to speed up the establishment of sports open innovation platforms intended to create new businesses through the combination of sports and health care industries, a conference will be held involving companies, universities, and sports organizations. At the same time, verification of new businesses through tie-ups with sports groups and start-ups and commercialization related to financing will be promoted.
- To speed up sports tourism initiatives, support will be provided for cultivating and developing sports tourism contents and initiatives for disseminating information overseas through collaboration with the Japan National Tourism Organization, focusing on the key themes of outdoor sports and martial arts, while reinforcing collaboration with relevant ministries and agencies. These efforts will be rolled out horizontally while gathering information on issues and good practices. Particularly with regard to martial arts tourism, a review will be carried out with the aim of establishing a promotion organization in 2020 with the assistance of relevant entities.
- As for university sports, support will be provided to the activities of the Japan Association for University Athletics and Sport and universities, aiming to achieve appropriate organizational management, to transform university sports into a growth industry, and to encourage regional promotion.

(ii) Regional vitalization withsports

- Support to stadiums and arenas based on individual needs will continue to be provided through collaboration with relevant ministries, agencies and organizations. A new evaluation and verification method for economic as well as social effects of stadiums and arenas to a community will be developed around FY2020.
- Through the development of a “sports accessibility indicator” (provisional name) during FY2020 that comprehensively evaluates the number, availability, and information openness, of sports facilities in a community, efforts will be made to diversify and upgrade sports facility usage as well as increase profitability and boost the vitality of the local economy.
- Medium- to long-term measures for increasing the sports participation rate will be

formulated around summer of 2019. Promoting collaboration between sports sector and medical institutions, and collaboration between welfare and education sectors and companies in sports for the disabled as well as utilization through the visualization and sharing of information utilizing ICT on community sports resources will be carried out. In addition, foster momentum will be fostered for people's participation in sports on occasion of the Rugby World Cup 2019, Tokyo 2020 Olympic and Paralympic Games, and World Masters Games 2021.

iii) Economic vitalization through culture and arts

(i) Creating a virtuous cycle through arts and culture based on the 'Basic Plan on the Promotion of Culture and the Arts' and the 'Strategic Plan on Culture and Economy'

- Initiatives will be promoted and national branding will be established, based on the Japan Cultural Expo, a mega-project for highlighting the beauty of Japanese art, and the Basic Policy on the Promotion of International Cultural Exchange Events (Cabinet decision on March 29, 2019).
- A positive cycle of investment in culture and the arts and economic growth will be established by promoting mutual understanding and clarifying the initiatives each actor should implement at venues of dialog involving the art sector, business community, and government. Specifically, a review will be conducted on policy for strengthening the functions of museums related to inbound tourism, creating innovation in business, using cultural and artistic resources and related technologies, and vitalizing the art market, to bring about initiatives to organize during FY2019. In addition, efforts will be promoted to ensure the exterior of public buildings are in harmony with the surrounding environment and that they display cultural and artistic works.
- The Tokyo National Museum New Era Plan that aims to make the Tokyo National Museum into a world class facility will be implemented steadily, and the outcomes will be rolled out horizontally at other museums. In addition, initiatives unique to regions at regional museums and art museums, such as exhibits of famous works tied to the region owned by the national government will be promoted, and consideration will be given to a new framework to create inbound tourism demand related to culture. Furthermore, the legacy of the International Council of Museums (ICOM) Kyoto Conference 2019 will be utilized to reinforce the functions of local museums. Efforts will be made to create a positive cycle by thoroughly utilizing cultural stock at cultural facilities, such as working to enhance and visualize collections and improving the quality of curators.
- Greater use of the films in the National Film Archive of Japan will be promoted. Regarding cultural contents, a website will be established that includes data base, multilingual commentary, high resolution images and videos, and access information. Conditions for the

digitization and secondary use of works will be developed, aiming at boosting dissemination capabilities both domestically and abroad.

- Initiatives will be promoted that establish international festivals utilizing Japan's excellent media arts, including manga, anime and video games. By developing a hub of information, increased efforts will be made to disseminate Japan's media arts to domestic and international audiences.

(ii) Regional vitalization centered on cultural and artistic resources

- Cultural programs for the Tokyo 2020 Olympic and Paralympic Games will be rolled out nationally through the Japan Cultural Expo and Beyond 2020 Program for regional vitalization. In addition, dissemination of information domestically and internationally through collaboration with the Japan National Tourism Organization and dissemination of Japanese culture through cultural and artistic programs and international cultural exchanges through major sporting events will be increased.
- Efforts will be promoted to comprehensively and systematically preserve and utilize cultural properties in regions and a model will be built for refining Japanese heritage and utilizing new economic value of cultural resources, to create a positive cycle for cultural asset preservation and utilization. Cultural properties will be repaired according to appropriate intervals while taking into account securing the raw materials and tools. For preventing dissipation, cultural properties will be purchased and utilized, while information collection and grasp understanding of national designations and registrations along with measures to prevent fire, disasters, and crime will be supported.
- Arts education will be promoted at schools and regions through collaboration with cultural facilities, cultural and artistic groups, and arts education institutes in the community. Initiatives will also be promoted that further increase opportunities for expression and appreciation by dispatch of specialists. In addition, support will be provided to the cultural and artistic activities for people with disabilities, and an environment will be developed for their continued enjoyment of culture and arts, based on the Basic Plan on the Promotion of Cultural and Artistic Activities by People with Disabilities.