

## **1 Basic Outlook and Key Strategies**

### **1. Key ideas**

#### **(1) Introduction**

In the "New Economic Policy Package" released at the end of last year, the 3 years until fiscal 2020 were set for Productivity Revolution and the Fiscal Consolidation Plan. The government has doubled down on the implementation of a variety of measures, including bolder tax policies, budget, and regulatory reforms. Various measures have also been proposed so as to raise the productivity of the entire Japanese economy toward the realization of "Society 5.0".

"Future Investment Strategy 2018" will expand the scope and timeframe of the growth strategies while steadily implementing various measures based on the considerations of the past half a year. Capitalizing on the technological innovations of the Fourth Industrial Revolution, past efforts will be reevaluated and new mechanisms introduced in order to fully realize "Society 5.0".

#### **(2) Current status of the New Economic Policy Package**

Various measures included in the New Economic Policy Package:

- Establishment and enforcement of the "the Act on Special Measures for Productivity Improvement" (regulatory sandbox, promotion of industrial data utilization etc.)
- Tax reduction on capital investment by small and medium-sized enterprises (SMEs). Establishment and enforcement of tax policies such as the reduction of corporate tax on companies actively investing in equipment and IT.
- Execution of budget measures such as "Subsidy for Manufacturing and Service of SMEs"
- Promotion of regulatory reforms such as the "System Improvements of Self-Driving Cars"

Each component of the plan has seen steady progress.

However, as the gap between supply and demand is increasing, the Economic Policy Package and implementation of "Society 5.0" are both underway to drastically raise potential

growth rate. As such, sound policy-making is indispensable in order to move on to the next step of development.

### **(3) Global trends and Japan's standing**

In the world today, implementation of ICT such as AI, big data, IoT has progressed rapidly as the digital revolution made its mark in society. Leading companies in the United States and China continue to occupy new markets with innovative digital products, services, and systems, and that is where investments are flowing worldwide.

There is also competition internationally over the new "fuel" that is data and highly skilled workers that can make use of the data to produce new ideas and increase added value. On the other hand, there have been concerns that the sound development of economic and social systems may be hindered by "data hegemony", in which some companies or countries try to monopolize data.

Under such circumstances, Japan is blessed with abundant "real data" obtained from the technological expertise of companies, research, and development from universities, a highly-educated working population, and expertise in the fields of manufacturing and healthcare industry. Not to mention the high rate of corporate and household investments. Yet, it cannot be said that Japan has fully made use of all these resources in a strategic and timely manner to improve the country's economy. If prompt action is not taken, Japan may drown in the tide of new international competition.

Furthermore, Japan is a developed country that faces various social issues such as declining population and birthrates, aging population, as well as environmental and energy challenges. With rich real data from the ground, there is an opportunity to affect the status quo by illustrating the problem precisely and consequently solving it through the utilization of data and innovative technology. While Japan faces population decline more rapid than of the rest of the world, but compared to other countries, it is in an advantageous position where the incorporation of new technologies such as AI and robots into society is less likely to cause social problems like unemployment.

In order to make this opportunity a reality, both private and public sectors are turning away from introspection and over-reliance on past experiences of success, going beyond existing frameworks of organizations and industries, as well as technology and human resources.

Advancements in open innovation through new ways of bringing together data and industries will no doubt be essential.

#### **(4) A strategic approach to the realization of “Society 5.0”**

As a result of the Fourth Industrial Revolution, society will experience industrial digitalization and improvements in productivity. Social issues like aging population, energy and the environmental needs can thus be solved by making the best use of Japan's strengths and resources. “Society 5.0”, which is sustainable and inclusive socio-economic systems with a distinctively Japanese character, can then be realized and it will contribute to achievement of the SDGs<sup>1</sup>.

Whilst there are concerns of "digital autocracy" —in which society is dominated by a minority who monopolize data, the utilization of all kinds of data can generate a new model that cannot be achieved by only focusing on short-term gain. For example, businesses can innovate solutions for social issues if data was shared as a public as well as stimulate greater innovation by different industry players.

This may only be possible if the potential benefits “Society 5.0” can bring to society and people's lives are illustrated as clearly as possible and disseminated among the citizens. It is also important to differentiate said reforms of traditional institutions and social structures from past successes in order to achieve the goal of “Society 5.0”.

These efforts will drastically increase the potential growth potential of the Japanese economy and further boost nominal GDP from 600 trillion yen (circa 2020), to greatly improve national income, quality of life and Japan's international competitiveness.

Considering the fact other countries will also face social challenges similar to Japan's in the future, the competition for providing solutions to these challenges will no doubt intensify. Therefore, the next few years can be said to be a turning point for our country, and we need to move forward with resolve and haste.

---

<sup>1</sup> Sustainable Development Goals

## **2. Changes brought by Fourth Industrial Revolution Technologies/ New Developments: "Society 5.0"**

The new technological innovations of the Fourth Industrial Revolution are expected to drastically exceed the boundaries of human capabilities (AI as the brain, robots as muscle and IoT as the nerves). By utilizing the abundance of real data, various social problems can be solved by providing personalized products and services instead of conventional mass production/mass consumption type of goods and services, thereby creating greater added value.

Consequently, what we have once thought was a distant future has become an achievable reality. The realization of "Society 5.0" is expected to bring about great changes and opportunities in all aspects of society and the economy.

### **(1) Changes in lifestyles and industry**

#### **(i) Automation: Manpower shortage due to migration and the logistics revolution · Reducing the number of vulnerable persons**

Various fields are moving towards automation as a result of advancements in AI and robotics. For example, the successful implementation of driverless cars will lead to reductions in traffic accidents, increase accessibility to disconnected communities, realize safe and secure society, and also leading to greater logistical efficacy in spite of labor shortages.

The revolution in communication brought about by machine translation ("code-switching") has the potential to change the way knowledge and expertise is acquired and disseminated to and from Japan by bypassing the existing language barriers.

With automation and improvements in efficiency via AI and robotics, the focus of human activities shifts to brainwork that makes full use of the five senses, collaboration and knowledge-sharing.

#### **(ii) Remote/real-time feedback: Creation of new services by overcoming spatial and temporal constraints**

The graphics and sound quality improvements of IoT technology have made the provision of services that were once limited by geographical constraints possible. For example, both

residents of rural areas with poor transportation and residents of busy urban areas can receive the same necessary medical services and education services without significant cost.

Instead of shopping at a brick and mortar store, online shopping using smartphone applications will deliver the item to your doorstep in a timely manner.

In addition, people living in areas that were considered disadvantaged locations would be able to have clients from all over the world without ever having to leave their area for work. In essence, it will be possible to provide unique products and services to the world while living on an island surrounded by flora and fauna. This means that everyone would be granted equal opportunities for success.

## **(2) Changes in the "basis" of economic activity**

The basis for 20th-century economics has always been the stability of 'energy' and 'finance'. For Japan which does not have abundant natural resources, energy supply has been a potential "weakness" of the Japanese economy. Also on the financial front, Japan is currently lagging behind the global competition.

By adopting the latest innovations such as blockchain technology to decentralize data security, new forms of payment and smart energy management, these weaknesses can be turned into a strength that puts Japan on equal footing internationally.

Furthermore, in the data-driven society of the 21st century, the most important currency of economic activity is high quality, up-to-date and abundant "real data". Data has become so valuable that saying that the success or failure of a business depends on its access to data by no means an exaggeration.

By gathering, analyzing and utilizing the data that has been latent in the world thus far (big data), manufacturing, services and marketing processes can be refined to increase productivity. Goods and services catered to specific needs can also be provided together with real-time support.

For example, healthcare services can be provided according to the individual's health condition, goods, services, and produce may be marketed in response to changing consumer needs in accordance with time and season. The richness of real data in the fields of

manufacturing, medicine, and logistics can be said to be this country's greatest strength. Thus, good cybersecurity coupled with data infrastructure that is ahead of the world, Japan can become a front-runner in the new digital era.

### **(3) Changes in governance and infrastructure**

As the digital environment surrounding lifestyles and businesses change drastically, under the principle of discriminating from the old analogical administration and ending all the services of the administration procedures from the beginning to the end digitally (from “paper” to “data”), reduce the time, labour and cost burdened by citizens and companies in administrative procedures of various life events and business activities through the through promoting the usage and convenience of electronic official certificate systems.

In addition, through increasing openness of administrative data (infrastructure to provide access for everyone), promote innovations that utilizes data, creation of new business, construction of next-generation healthcare systems, etc.

Furthermore, even in infrastructure management of harbors, airports, roads, water supply, and sewer systems, not only can installation and maintenance costs be reduced through private sector initiatives (PPP / PFI etc.) and technological innovations, the very quality of infrastructure can be improved.

### **(4) Changes in the region, community, and SMEs**

The implementation of convenient transport and logistics services via automated driving or online medical monitoring services with IoT can greatly improve the convenience of regions with declining and aging populations, resulting in the revitalization of local communities.

With high-speed and large capacity communication lines such as 5G and abundant data, collaboration with knowledge-intensive research institutions, enterprises and universities both within Japan and worldwide is made possible. Similarly, local factories can be connected with the world in the same manner, stimulating regional innovation and creating value-added employment.

In addition to the booming tourism in Japan, diverse services can be provided to international tourists with the help of real data and multilingual speech translation technology. This will help drive tourism to more regions in Japan and promote tourist spending.

With data-sharing, IoT and 3D printing technology, high variety, a low-volume production that meets the needs of various customers is made feasible. This allows SMEs to be responsive to the changing needs of consumers and find their own niche in the market. Moreover, Introduction and utilization of AI, IoT, and robots bring about higher value of commerce in the supply chains of agriculture, forestry and fisheries. As a result of it, these primary industries would be profitable enough to offer attractive employment opportunities to younger generation.

### **(5) Changes in human resources**

Due to technical innovation of the 4th industrial revolution, AI and robots have taken over on the simple, repetitive tasks that have relied on human labor thus far, thereby reducing dangerous or unwanted jobs. As our life expectancy increases, the ability to adapt to the age of AI via upskilling, personalized courses and remote learning will become essential for men and women of all ages to gain better employment.

Technology has increased the inclusiveness of the workplace, allowing for the participation of women, the elderly, the disabled and foreigners in the workforce. Individuals now have the choice of how they would like to work according to their lifestyle and stage in life in order to achieve maximum productivity. The aim is to provide more flexible working arrangements compared to the past such as telework, crowdsourcing, and freelancing.

These measures to improve productivity will not only benefit the Japanese economy but also free up time for individuals, leading to higher quality leisure time as well as the much-desired work-life balance. Individuals can also make use of time spent away from work to upskill and acquire more knowledge, making it possible to "redesign their lives".

### **3. Priority areas to be addressed for the realization of “Society 5.0” and Flagship Project as a driving force for change**

These few years are an important period for Japan's bid towards “Society 5.0”, and thus it is essential that we begin to see the changes that are happening in society.

Therefore, in future growth strategies, rather than investing resources indiscriminately, the focus should be placed on key sectors that are expected to have new developments and opportunities as a result of the Fourth Industrial Revolution.

- Promote change in the lives of citizens through innovative projects utilizing data that will genuinely make a difference in society
- The project will involve various industry partners, academia, and government agencies. The focus will be placed on investing human and monetary resources whilst surpassing the barriers between existing organizations, ministries, and agencies.
- For new business models that are not protected by current regulation, or supervised by regulatory institutions, regulatory sandboxes will be used to provide a solution as fast as possible in line with efforts to realize “Society 5.0”.

The new flagship project (FP) set to work in line Japan's growth strategy take the aforementioned perspectives into account.

#### **(1) (i) "Automation": Project to build the next generation mobility system**

Competition for automated driving and social implementation but also competition by putting sideways on various services related to the movement has been started, including the smartization of automatic driving and public transport as a whole ahead of the world in Japan to realize "next generation mobility system".

<Practical application of automation>

- The aim is to make driverless cars a viable transport system by 2020 and commercialization of autonomous truck platooning system on highways is set to begin as early as 2022. Trials in collaboration with operators knowledgeable in local traffic conditions will be conducted in addition to demonstrations of the unmanned vehicle system on public roads that will start during this fiscal year.
- In light of the Tokyo Olympic and Paralympic Games in 2020, infrastructure for signaling systems and infrastructure to vehicle communications will be set up in Haneda Airport, the



coast and the surrounding areas by 2019. This is to allow for the demonstration of cutting-edge remote and fully autonomous driving technology.

- Continued leadership on the matter will be demonstrated at international meetings based on the "Charter for Improvement of legal system and environment for automated driving systems" which summarizes the government's policies on the implementation of autonomous driving by 2020. Necessary legislation for each sector will be also made.

<Smarter public transport>

- For the smooth transportation at the Tokyo Olympic Games and the Paralympic Games in 2020, trials for a smartphone application utilizing open data to disseminate data and information on public transportation will begin this fiscal year, starting with the Tokyo metropolitan area.
- Create the model city/region that fulfills the needs of users in terms of mobility with new services that combine town-planning and public transportation. Examples include the usage of new technologies such as autonomous driving, efficient transportation, shopping support, monitoring services, as well as Mobility as a Service (MaaS).

**(1) (ii) Project to create the next-generation healthcare system**

The creation of a new patient-oriented healthcare system through the introduction of data and technological innovations aims for full-scale operation by 2020. The goal is to lengthen life expectancy and create a next-generation healthcare system that provides services catered to the individual's needs in order to promote preventive care and improve the health of individuals.

<Personalized healthcare services>

- A nationwide healthcare information network with the health records and medical history of individuals shared among medical institutions will be set up. Detailed plans will be formalized this summer and necessary trials held in order to ensure full-scale operation from fiscal 2020.
- By 2020, individuals and their family members will be able to access their Personal Health Record (PHP) to check their health and medical records using the My Number Portal at any time. This is expected to improve quality of life and promote healthier lifestyles.

- A public-private partnership that brings together local governments, researchers and enterprises to create new products and services that are aimed at dementia will be set up this year. The platform will deal with early dementia prevention, the creation of an inclusive environment and lifestyle support after the onset of disease.

<Increasing the productivity of the healthcare and nursing industry>

- To increase productivity in nursing, the move towards the usage of ICT will be promoted. By the year 2020, data-sharing in the field of nursing will be made possible together with the development and implementation of robots, sensors and AI to meet the needs of the industry. Using the evidence of efficacy obtained from operators, evaluations regarding remunerations for nursing will be made in the next term.
- To increase the usage of services that contribute to better health and disease prevention outside of public insurance, the industry needs a mechanism for feedback and evaluation so as to allow for the objective visualization of said services. Local governments and care managers should actively provide users with information on quality services. At the same time, performance-based partnerships with the private sector will be carried out in order to keep administrative costs low while making use of the expertise of the private sector to solve social issues and increase efficiency.

<Remote/real-time medical care>

- Enhancement of "online medicine" so patients can receive medical care from professional doctors and pharmacists from home, in an environment they feel comfortable in. From the next term onwards, amendments to the "Medicinal products and instruments law" will be made with evaluations of the effectiveness and safety of medical treatments based on the healthcare remuneration revision. These reforms aim to make measures more current and user-oriented.

**(2) Projects related to the "basis" for economic activity**

**▶Promoting innovations for energy conversion and decarbonization**

- In view of 2050, we will promote technological developments toward energy conversion and decarbonization such as energy management using digital technology, power storage and use of hydrogen; also we promote ESG investing through facilitating active proposal and disclosure, and dialogue and understanding between investors and financial institutions by Japanese companies. In addition, we will promote spread of next-generation vehicles such as

electric vehicle, fuel cell vehicles, and others. Furthermore, we will internationally deploy Japanese expertise and products that contribute to decarbonization, and will lead global energy conversion and decarbonization.

- Aiming to the commercialization in FY2021 of a virtual power plant, which is a next-generation power of electrical conditioning that makes use of distributed energy resources such as batteries, electric vehicles, negative watts, etc., we will promote demonstration and rule-making in order to increase available energy resources and sophisticate energy control technology.
- In conjunction with implementing these projects, we will formulate mid-century long-term low greenhouse gas (GHG) emission development strategies based on the Paris Agreement as growth strategies to lead decarbonization and to achieve a virtuous cycle of environment and economic growth in global market becoming more environment-conscious.

**▶FinTech / Promoting cashless society**

- We will consider revising financial and commercial regulations in order to transform the current sector-based regulations to function-based and cross-sectorial regulations which apply same rules to services with identical functions and risks. We will draw an interim conclusion on basic concepts of the regulatory reform during this fiscal year.
- We will consider creating a scheme which enables simple and secure identity verification by using technologies such as blockchain and timestamps and will consider introducing AI in market surveillance.
- The industry, the government, and the academia will establish "Cashless Promotion Council (tentative name)" during this year. The council will consider measures to realize cashless society, including incentive programs available to business operators and consumers. The council will also consider and set out an action plan during this fiscal year to standardize formats of two-dimensional codes (QR code, etc.), keeping in mind to ensure simple and secure payment schemes.

**(3) Projects related to the government and infrastructure**

**▶Shift towards digital government**

While digital transformation is expanding worldwide, we develop the foundation of advanced digital society through transforming the old-fashioned analogue type administration and making our governmental organization and service match the digital age without being lagging behind the trend of digitalization of the private sector

- With the submission of the draft of "Digital First Law (tentative name)" to the Diet in 2018, the elimination of attached documents through the back office operations, the reviews of identity verification with signature/seals and face-to-face procedures, online commission payment, and API infrastructure, and so on, will be implemented.
- As for the “Flagship Project”:
  - One-stop service of procedures related to nursing care will be realized from FY2018. One-stop service and “once only” procedures related to moving which citizens are forced to make similar procedures at multiple different windows and procedures related to “death and inheritance” which citizens are forced to proceed at the administrative office of the remote area just after the death of close relatives will be realized from FY2019.
  - By launching the online one-stop of service incorporation procedures, the registration of incorporation in the commercial register can be completed within 24 hours. A one-stop service for procedures regarding employee social insurance and tax for corporations will begin service in 2020.
- Legislation for online procedures on smartphones with electronic official certificate will be formulated (expected in 2019).
- Opening the administrative data will be promoted based on private demands, and we realize early opening data such as public transportation data including operational information, inbound data including consumption of foreigners visiting Japan, disaster prevention data including hazard map
- In order to maximize the investment effectiveness and to enable unified project management, we will study to strengthen structures through considering a structure that reflects cross-ministerial-sectional views at each stage of execution from request to execution, flexible procurement/contract procedure, and utilization of excellent talent from the outside.

► **Building next-generation infrastructure and systems**

- In order to cope with deteriorating infrastructure and mid-to-long-term manpower shortage, there needs to be safe and secure infrastructure that would increase productivity so that appropriately and take thorough data as a good asset to succeed to the next generation We will greatly advance productivity improvement and cost efficiency of infrastructure maintenance by utilization and development and introduction of new technologies such as robot and sensor.
- Along with building a data platform that can collect and share infrastructure related data, the data on construction, renewal, and maintenance will be modeled in 3d shape data and put on the cloud. This will increase support for surveys, design, construction, and maintenance for both operators and clients to increase efficiency and cut manpower costs.
- The state aim clearly states the level of request (performance, cost, etc.) according to the needs of the workplace, and the new technology that private enterprises can positively utilize the method of developing realization methods with open innovation, while satisfying the requested level As we promptly develop required technical standards, we will prepare a roadmap for the next five years for the development and introduction of new technologies and data, during this year, and for the "Infrastructure Longevity Plan" etc., this fiscal year Perform intermediate evaluation and inspection inside.

► **Introduction of PPP and PFI**

- While maintaining the public functions of the national forest, measures to enable private business operators to generate long-term revenue will be put in place. Priority areas such as airports, water supply and sewage systems, roads, educational facilities, and harbors will be granted concessions.
- With the cabinet and executive authority at the helm, the concrete plans to expand PPPs and PFIs will be discussed. The appointment of personnel with specialized knowledge and extensive experience is being considered.
- Performance-based partnerships with the private sector will be carried out in order to keep administrative costs low while making use of the expertise of the private sector to solve social issues and increase efficiency.

**(4) Projects related to the region, community, and SMEs**

► **Smartification of agriculture, forestry, and fishery**

- At any site of agricultural production, the cultivation process will be optimized with data from sensors and big data analysis on them, and AI will enable expertise of the skilled farmers to be passed down and disseminated while robots and drones will enable larger-scale, lower-labor, and more productive agricultural activities. In addition, the supply chain will be connected with transaction data from head to toe, and optimization of the production and shipment based on marketing information will be promoted, as well as minimization of the associated costs. Moreover, the scope of these measures will be expanded to the forestry and fishery industries.

► **Smart city through the cooperation of town-planning, public transportation, ICT utilization etc.**

- Utilizing the new mobility services, ICT, public and private data, the development of the "Compact · Plus · Network" will be sped up. The incorporation of these technologies into town development will also be further studied to create the model town/city. Increase accessibility to solutions for aging population like mobility services utilizing automatic driving technology, shopping support and monitoring services in specific regional industries.

► **Further strengthen the productivity revolution of SMEs and micro businesses**

- To promote the robust introduction of IT and robots by SMEs and micro businesses, the government will strengthen the IT support system in cooperation with management improvement of SMEs and micro businesses in order to allow the property tax reduction based on "the Act on Special Measures for Productivity Improvement" to exert synergistic effect with support measures such as "Subsidy for Manufacturing and Service of SMEs" and IT Introduction Subsidy.
- To accelerate smooth supply of funds to SMEs for encouraging further growth with loans to evaluate the future business prospects and without excessively relying on collateral or personal guarantee, the government will further promote the "Guidelines for Personal Guarantee Provided by Business Owners," which can also be utilized for business succession, through establishing the Key Performance Indicator (KPI) by which financial institution's intermediation efforts can be objectively evaluated.

In addition, emphasis will be placed on (3) governance and infrastructure, (4) region, community, and SMEs as mentioned above through various partnerships on the regional level.

Measures and mechanisms will be reviewed to cope with economic activities on a larger scale. New frameworks will be proposed to allow regional areas to tap into the concentration of economic activity in Tokyo.

#### **4. Creating a foundation for economic innovation**

The driving force behind “Society 5.0” is dynamism of the private sector that capitalizes on new technologies and ideas for business. A rise in added value is expected as industries become more connected (Connected Industries), leading to increased innovation. The role of the government in fostering innovation is to create an environment that makes it easy to innovate through sound policies that capitalize on Japan's strengths. Any obstacles toward such an environment need to be identified and overcome.

For this reason, we will develop a common infrastructure for the data-driven society specifically in the areas of data utilization, human resource management, and innovation. Concurrently, bolder regulations, institutional reform and new rules adapted to “Society 5.0” will also be made.

##### **(1) Improvement of common infrastructure of data-driven society**

###### **(i) Promoting investment in infrastructure system and technology**

- Promote development of the next generation computing technology which is the strength of our country, such as edge processing technology with AI chip to handle the field data in real time, and quantum technology.
- In order to start 5G service which supports high volume and high-speed communication from 2020, allocate frequency at the end of FY2018 and promote infrastructure development by private operators. A secure and high-speed information network for research will be made available to companies in order to accelerate progress on industrial-academic research in areas related to “Society 5.0”.
- While various data distributions are becoming full-fledged domestically and overseas, in order to ensure security, promote cyber security measures such as certifications of the reliability of devices and services through the supply-chain, safety assessment of cloud services for government procurement, study the structure of appropriate protection and distribution of data in important infrastructure fields.

###### **(ii) Human resource development in the AI era**



In the era of AI, not only is the mastery of AI and data important, talented people with qualities that are irreplaceable by AIs like problem identification and solving skills, the ability to think outside the box are vital. In light of that, reforms in educational and human resource management will be carried out. Furthermore, reskilling and training of senior workers to adapt to increased life expectancy will also be promoted.

- In order to effectively implement lessons on programming in elementary schools from FY2020, we will improve the quality of teaching materials and conduct training for teachers. Local governments are to prepare the necessary ICT environments for wireless LAN, computers by FY2020.
- In order to ensure analytical ability after compulsory education for all students including those who do not major in sciences, together with other basic subjects such as Japanese, Mathematics and English, the subject "Informatics I" (workings of a computer, programming etc.) will be adopted in common university entrance examinations. A standard curriculum and teaching materials will also be developed so that all university students including those who major in humanities can take mathematics and data science as part of their general education.
- To cultivate experts in AI, the standard of universities in engineering will be reviewed both across departments as well as across majors. The aim is to have a degree program that develops talents unrestricted by distinctions like engineering or science.
- Revamp the old IT system (legacy system) of private enterprises and promote digitalization. Upskilling of IT personnel currently trained to operate and conduct maintain IT systems, to work in data and AI. Organizational reforms of corporations, universities, specifically remuneration systems and human resources so as to secure a group of experts on AI that can compete internationally.
- The Council for Labor Policy will consider and review appropriate working conditions such as efficient management of working hours and health of workers for the promotion of freelancing and side businesses.

**(iii) Innovation in universities and industry, academia and government tie-ups**

Amid the Fourth Industrial Revolution, universities and national research institutes are increasingly important as hubs for research and development. Thus, through collaborations with universities, industries, and government agencies, an ecosystem for innovation will be built.

- Formulate governance codes for universities in FY2019 to clarify the division of functions between the President (in charge of management) and the Provost (in charge of academic affairs), revivify the administrative council as well as formulate better career path development.
- Review the framework for the allocation of subsidies and grants from private funding, focusing mainly national universities specializing in research in FY2018.
  - In order to increase research opportunities for young researchers, the annual salary of staff at National Universities will be increased in stages through a performance evaluation. In addition, in order to create a culture of independent research especially with regard to young researchers, grants for scientific research aimed at new researchers will be put in place.

## **(2) Bolder regulations and institutional reform**

### **(i) Utilization of sandboxes and the change from top-down regulation**

- Through the promotion of a new technology verification system (known as regulatory sandboxes) under the Act on Special Measures for Productivity Improvement, a business environment to foster new business models and innovative technologies under a unified inter-governmental system is made possible.
- As innovative businesses not bound by traditional categorizations industries are appearing one after another, there is a need to review current frameworks. Existing top-down frameworks can be mitigated through the use of regulatory sandboxes to make room for services and functions that do not fit in with traditional conceptions.

### **(ii) Rules in response to the rise of the platform business model**

- As digital platform continues to dominate the market, the rise in businesses with platform business models has brought a need to sustain a competitive business environment. Data

portability on selected platforms and open APIs ensure a transparent and level playing field inclusive of SMEs and venture firms. Fundamental principles regarding this new business model shall be finalized and rolled out during this year to ensure fairness to users and clarify corporate social responsibility of platform businesses. Deregulation aimed to stimulate innovation (relaxation of entry requirements, etc.) will be also considered.

**(iii) Discuss the competition policy corresponding to changes in socio-economic structure**

- Considering drastic changes in economy and social structure, such as decline in demand due to population decrease in regions and intensifying global competition, from the viewpoints of securing fundamental services indispensable for regions, strengthening corporate management in regions, ensuring fair and free market, and improving utility for public users, the whole government will discuss how the competition policy should be and reach a conclusion by the end of this fiscal year.

## **5. Framework for future growth strategies**

The speed at which the innovations of the fourth industrial revolution evolves worldwide makes it unpredictable. As such,

The collaboration between various stakeholders is essential for the realization of “Society 5.0”. Thus, it is important to make concrete plans and develop sound processes without being constrained by existing organizations and conventional categorizations of industries.

### **(1) Establishment of the Industry-Government Association**

Regarding future plans for the growth strategy, not only will discussion of issues in the council continue, there will also be increased involvement of other stakeholders and people from the ground. While sharing the common vision of our economy (ground design), flagship projects (FPs) will also be implemented. The Industry-Government Association that will be set-up will take into consideration the outcomes and findings of these projects, especially in the key areas listed in Chapter 2 and 3.

The "Industry-Officers Association" will promote the vision for 2025 and compile the necessary action plans by next summer. In addition, support will be given to the following:

- FP2020: Early Harvest by 2020
- FP2025: Concrete changes to the social system

Resources will be allocated in key areas from both public and private sectors.

Work on the budget, tax and regulatory reforms at the institutional, organizational and human resource level will begin swiftly in FY2019. The changes in society will be kept in mind as these projects are implemented.

### **(2) Future Investment Council and the future efforts of each ministry**

The Future Investment Council will look into establishing the Council of Industry-Academia-Government Collaboration as the headquarters for the growth strategy, working closely together as the Future Investment Council highlights new issues, reports on the current situation and instructs the Industry Council.

Each ministry and agency will seek to support burgeoning innovations in the industry, universities and research institutes as much as possible. Support will be given and reforms made without being constrained by existing separations of ministries and agencies.