

Global Promotion Action Plan 2025

Ministry of Internal Affairs and
Communications

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Introduction (Background, Objectives, and Structure)

The IT Revolution has triggered the transformation of global industrial and social structures in the 21st century. As countries around the world undertake socioeconomic reforms in response to those changes, the U.S. and emerging economies including China have been the core drivers of global economic growth. However, Japan has not necessarily progressed in sync with worldwide growth trends. Japan's GDP as a share of the global total has been consistently declining for around 20 years, reaching about 4% in 2020.

On the other hand, the COVID-19 pandemic that began in early 2020 has brought about new trends and lifestyles, further stepping up the pace of transformation in industrial and social structures that has been underway since the beginning of the 21st century. At the same time, this, coupled with recent rapid changes in world affairs, has drawn attention to the issue of securing the supply chains of a variety of goods and services important to our daily lives.

Amid this situation, efforts are underway to move forward with digital transformation (DX) and the restructuring of stable, flexible supply chains, against the background of changing consumption needs arising from new lifestyles in anticipation of the post-pandemic age, growing geopolitical risks centered in particular on the Ukraine situation, and the need to ensure economic security. Needs for the development of digital infrastructure and solutions to social issues aimed at driving further industrial and social transformation continue to grow worldwide.

On the other hand, in Japan, where the escalating issue of an aging population coupled with a declining birthrate is expected to result in a fall in the working-age population from 2030, it is hoped that business activities in other countries and tie-ups with overseas business operators will enable Japanese companies to tap into strong demand overseas, boosting earnings and contributing to economic growth. With a view to further advances in the field of information and communications technology (ICT), Japan has for some time been investing in ICT-related research and development (R&D) and human resource development, including in Japan's regions. It is now necessary to promote the demonstration and implementation of the fruits of this investment, and ultimately bring them to market, both in Japan and overseas. A policy issue of particular importance is to leverage the world-class technologies and know-how of Japanese companies to address the current socioeconomic changes and promote the overseas deployment of infrastructure that will enhance the international competitiveness of Japanese companies and boost their corporate value.

In partnership with relevant ministries, agencies, and organizations, the Ministry of

Internal Affairs and Communications (MIC) has been promoting overseas expansion in a wide range of fields, including ICT, postal services, fire safety, statistics, and administrative consultation systems, thereby contributing to solving problems across the globe, as well as to supporting the overseas expansion of Japanese business operators and revitalizing Japan's national and regional economies. Based on the awareness that the comprehensive and strategic promotion of these initiatives can be expected to generate synergies between overseas expansion projects, MIC formulated the Communications Overseas Expansion Action Plan 2020 (hereinafter, the "old plan") in April 2020 and published it the following month, in order to set out the ministry's basic policy on efforts to promote overseas expansion and establish a plan for the specific actions to be taken. Since formulating the old plan, MIC has put together various overseas expansion support measures based on that plan and has been proactive in providing support for overseas expansion by Japanese companies. However, it has now formulated the Ministry of Internal Affairs and Communications Communications Overseas Expansion Action Plan 2025 (hereinafter "this Plan") in order to further clarify the fields that should be addressed as a priority, taking into account changes in the environment and situation relating to Japanese overseas expansion, while reflecting on the achievements of initiatives to date.

The objective of this Plan is to set out MIC's specific overseas expansion policies and further deepen collaboration with relevant ministries, agencies, and organizations, Japanese companies, and overseas stakeholders, with a view to the milestone year of 2025, which is the focus of the government's infrastructure export strategy, the Infrastructure System Overseas Promotion Strategy 2025 (approved December 10, 2020 by the Management Council for Infrastructure Strategy; revised edition approved by the Council on June 17, 2021; expanded version approved by the Council on June 3, 2022).

This Plan is structured as follows. Chapter 1 looks back at progress in achieving the main targets set in the old plan. Chapter 2 sets out issues in respect of which initiatives need to be enhanced, while taking into account recent changes in the overseas expansion situation, and Chapter 3 defines the three basic principles serving as guidelines for addressing those issues. Chapter 4 identifies 10 priority fields in which initiatives should be enhanced toward 2025, while mapping out the basic direction of initiatives in light of Japan's position. Chapter 5 describes expansion and collaboration policies tailored to national and regional characteristics, and finally Chapter 6 sets out measures for improving overseas expansion techniques.

This Plan will be reviewed during fiscal 2025 to take account of the implementation status of the Infrastructure System Overseas Promotion Strategy 2025.

Chapter 1 Progress of the MIC Communications Overseas Expansion Action Plan 2020

Under the old plan, MIC committed to the Five Principles of Overseas Expansion: (1) promoting the SDGs; (2) strengthening global competitiveness; (3) promoting Data Free Flow with Trust (DFFT); (4) achieving the vision for a Free and Open Indo-Pacific (FOIP); and (5) fully mobilizing all policy resources. More specifically, as well as continuing to implement existing initiatives focused on strengthening global competitiveness and promoting international cooperation to achieve the Sustainable Development Goals (SDGs), the old plan stated that four new initiatives would be implemented as a priority, namely (1) promoting an international digital strategy consistent with foreign policy; (2) developing an environment conducive to overseas expansion that brings the public and private sectors together; (3) fully mobilizing all policy resources; and (4) promoting priority projects. Accordingly, the plan stated that MIC would work toward developing a system for overseas expansion that brings the public and private sectors together and also the full mobilization of all policy resources.

The following provides a summary of progress with these efforts up to April 2022.

(1) Promoting an international digital strategy consistent with foreign policy

In the area of international digital strategy, MIC encouraged the development of safe, reliable networks and other elements of an ICT network delivering safety and peace of mind, with a view to achieving a Free and Open Indo-Pacific (FOIP) and promoting Digital Free Flow with Trust (DFFT), while seeking to ensure consistency with foreign policy and various government strategies.

In particular, MIC undertook initiatives aimed at creating more resilient, open networks including 5G, in order to ensure the safety and reliability of networks. More specifically, MIC promoted international collaboration via not only bilateral relationships with countries such as the U.S. and UK, but also multilateral frameworks including the Quad relationship with the U.S., Australia, and India, the G7, and the OECD. MIC also conducted basic surveys on 5G and submarine telecommunications cables—areas in which Japan demonstrates strengths in terms of openness and reliability—and held workshops with like-minded countries.

Amid growing concern about the need to secure supply chains and other aspects of economic security triggered by rapid changes in the international situation, Japan is working on various measures aimed at ensuring economic security. May 2022 saw the enactment of the Act for the Promotion of Ensuring National Security through Integrated Implementation of Economic Measures (Economic Security Promotion

Act). Leveraging the aforementioned frameworks for international collaboration, MIC has sought to maintain consistency with overall government policy in working on these areas, while putting in place the necessary systems, such as creating a dedicated department to address economic security.

(2) Developing an environment conducive to overseas expansion that brings the public and private sectors together

February 2021 saw the establishment of the Japan Platform for Driving Digital Development (JPD3), a framework for public-private collaboration to support the overseas deployment of Japanese digital technology. As of April 2022, this framework had more than 100 members, including Japanese telecommunications carriers, ICT vendors and startup companies, trading companies, and banks, along with relevant ministries and agencies, and government financial institutions. In addition to providing a database for sharing information to facilitate overseas expansion of solutions models leveraging 5G, data centers, and ICT in various countries and regions worldwide (51 countries and 1 organization), JPD3 regularly holds field- and region-specific workshops, and undertakes deliberations regarding team composition and specific projects.

(3) Fully mobilizing all policy resources

(i) Leveraging all MIC's policy resources

MIC has undertaken initiatives cutting across departmental lines aimed at promoting overseas expansion in the key digital field, including telecommunications and terrestrial digital broadcasting infrastructure development, and the overseas deployment of intangible products, such as solutions based on digital technology and broadcast content.

The ministry's purview is wide-ranging, covering not only the digital field, but also postal services and statistics, administrative consultation services, and fire safety. By introducing Japanese initiatives and exchanging information, MIC has made effective use of all its policy resources, including working on the rollout to other countries of Japanese administrative services and associated technologies and supplies.

(ii) Revising the JICT support system

The Fund Corporation for the Overseas Development of Japan's ICT and Postal Services (Japan ICT Fund; JICT)—a public-private fund under MIC's jurisdiction—

provides investment and hands-on support to companies engaging in business overseas in the telecommunications, broadcasting, and postal services sectors, along with those who support them. As of the end of March 2022, JICT had approved investment and financing support worth around ¥78.8 billion. Published in November 2021, MIC's review of the status of enforcement in accordance with the provisions of Article 4 of the Supplementary Provisions of the Act on the Fund Corporation for the Overseas Development of Japan's ICT and Postal Services (Act No. 35 of 2015) resulted in the decision that, in light of recent advances in ICT, market needs, and policy trends in other countries, businesses providing ICT for medical care, cybersecurity services, and other ICT service businesses that do not involve the development of hard infrastructure will be added to the list of businesses eligible for support, and that JICT will promote limited partner (LP) investment in funds. Accordingly, MIC revised the support criteria in February 2022 (MIC Notice No. 34 of 2002). Based on the revised support standards, MIC approved support for an access control ICT service project in March 2022 and for LP investment in a fund to contribute to the growth of startups providing ICT services in June that year.

(iii) International collaboration and international joint research aimed at realizing Beyond 5G

While supporting R&D, MIC is stepping up initiatives aimed at realizing next-generation information and communications infrastructure in the form of Beyond 5G (also known as 6G). It will be necessary to forge international partnerships in this area, with a view also to future standardization activities.

Amid this situation, MIC has been working to bolster international collaborative research aimed at realizing Beyond 5G, including adopting international collaborative research projects involving the U.S. and other countries to conduct R&D.

MIC has also founded the Beyond 5G Promotion Consortium, a group of representatives from Japanese industry, academia, and government aiming to promote Beyond 5G, and is promoting international collaboration initiatives in partnership with the consortium. More specifically, in addition to hosting the Beyond 5G International Conference, MIC has undertaken such initiatives as concluding memoranda of cooperation with Beyond 5G-related groups in Europe and North America, starting with the conclusion of a memorandum with Finland's 6G Flagship.

(4) Promoting priority projects and undertaking interim evaluations thereof

The old plan specified that initiatives would be developed by combining various fields with different countries and regions under each of the aforementioned three perspectives, and identified 20 projects (the Nimiru Projects) to be promoted as a priority over the three years from 2020. Specifically, the old plan identified the countries and regions to be covered by projects in the following 20 areas: (1) 5G/Local 5G; (2) onshore broadband; (3) data centers; (4) mobile phone business; (5) submarine telecommunications cables; (6) terrestrial digital broadcasting; (7) fiber optic quantum communications; (8) stratospheric platforms / low earth orbit satellites; (9) broadcast content; (10) cybersecurity; (11) smart cities; (12) radio wave systems (intelligent transportation systems, airport systems); (13) radio wave systems (rainfall radar); (14) ICT for medical and health care; (15) ICT for disaster preparedness; (16) ICT for agriculture; (17) postal services; (18) digital government (e-Government) and statistics; (19) fire safety; and (20) administrative consultation services.

Due to run until April 2023, the Nimiru Projects were recently subject to an interim evaluation of their progress, as part of the process of formulating this Plan. In the area of 5G/Local 5G, for example, as well as taking up the topic for discussion in bilateral consultations with India and countries in Southeast Asia and Latin America, MIC has held 5G-related workshops involving business representatives and has also publicized the technologies of Japanese companies. A certain degree of progress has been observed, including surveys and trials of Open RAN—one of Japan's strengths—in countries such as Thailand and Chile, along with the establishment of a cooperation framework between Japan and the UK, and other efforts to achieve stronger intergovernmental partnerships. Going forward, it will be necessary to promote the overseas deployment of Open RAN, while striving to further nurture the market environment, primarily in developing countries.

In the realm of cybersecurity, MIC has far exceeded its goal of training 650 cybersecurity personnel in the ASEAN region, having trained 812 as of May 2022. MIC expects to continue providing support for capacity building, given the importance of this area. Looking at ICT for medical and health care, trials of a mobile telemedicine system in Latin America have been conducted, leading to the system's introduction in Brazil and Peru. The memorandum of cooperation in the field of ICT signed in January 2021 by MIC and India's Ministry of Communications covers submarine telecommunications cables. It was in this context that a Japanese company became involved in September 2021 in a project to lay a submarine telecommunications cable in the Indian Ocean.

However, it would not necessarily be fair to say that progress has been smooth, and issues remain in some areas. For example, in the realm of terrestrial digital broadcasting, specific measures will need to be considered to address the fact that the adoption of the Japanese standard has not led directly to sales of Japanese broadcasting equipment and systems. In the case of smart cities, despite the implementation of surveys and trials of elemental technologies in Southeast Asia and Latin America, it has become apparent that these have not resulted in orders being received for urban development projects as a whole.

Aside from these issues, the impact of the COVID-19 pandemic has been such that, although initiatives were continued in the form of surveys and online seminars, among others, some projects were forced to be halted, while in others, it was not possible to proceed to trials involving business operators. Going forward, it will be necessary to resume those projects that can be resumed, while assessing the state of the COVID-19 pandemic, and to create points of contact that involve fresh business operators (the specific state of progress of individual projects and their interim evaluations are detailed in the "Reference" section at the end of this document).

Chapter 2 Changes in the Overseas Expansion Situation and Issues Requiring Enhanced Measures

In May 2020, when the old plan was formulated, the COVID-19 pandemic had only just begun and its impact was somewhat unclear. Over the more than two years that followed, the pandemic's effects on the international socioeconomic situation have been immense.

Moreover, due to rapid changes in world affairs over this period, the environment surrounding overseas expansion has undergone major changes, so it is necessary to implement overseas expansion initiatives that address these changes.

(1) Changes in the overseas expansion situation

(i) The COVID-19 pandemic and moves toward a post-pandemic age

Since the old plan was formulated in May 2020, the impacts of COVID-19 have expanded dramatically. Two years later, as of the end of May 2022, the total number of people worldwide infected with the novel coronavirus stood at 530 million, 8.85 million of whom were in Japan. This pandemic not only caused a major stagnation in global economic activities due to curbing flows of people, but also substantially affected our ways of life, as people were forced to remain at home and became subject to other restrictions on their activities.

At the same time, as telework, e-commerce, and video streaming services have expanded in the process of society's transition to this new way of life, expectations have burgeoned regarding the potential of digital to serve as infrastructure for socioeconomic activities. Amid this situation, both the public and private sectors have undertaken various initiatives aimed at promoting digital transformation (DX) and the amount invested by companies and other organizations in DX (covering all expenditure on digital transformation) is forecast to roughly double worldwide from the 2019 level by 2024, representing around half of all digital expenditure (**Figure 1**).

On the other hand, as the pandemic appears to have peaked, it will now be vital to step up recovery efforts aimed at achieving a better society and economy, responding to a variety of socioeconomic needs with an eye to the post-pandemic era. As such, there are high hopes that digital technology will prove to be not only a tool for supporting economic activities during the pandemic, but also infrastructure for post-pandemic economic recovery.

The need for the kind of high-quality infrastructure in which Japan excels is thus higher than ever before, particularly in the realms of digital infrastructure

development in other countries and solutions that leverage digital technology. Accordingly, it is imperative that Japan take the lead in efforts aimed at ensuring no one is left behind by eliminating the digital divide as we move toward the post-pandemic era.

(Figure 1) Trends in Digital Expenditure and DX Investment



Source: MIC FY2021 research, "Quantitative Basic Research Regarding the Market for Overseas Digital Expansion in the COVID-19 Age"

(ii) Issues faced by post-pandemic Japan

COVID-19 had a substantial impact on Japan, with real GDP falling 4.5% in 2020. Although it returned to growth in 2021 with a rise of 1.6%, the Japanese economy can be considered to still be in recovery when this figure is compared with the size of the fall in 2020. Moreover, with the aging of the population coupled with a declining birthrate set to escalate from 2030, there are fears about the stagnation of Japan's economic growth as a result of a fall in the working population and shrinkage of the domestic market as domestic demand contracts.

Under these circumstances, it is hoped that Japan can achieve sustainable economic growth by ensuring that the nation's companies look beyond the domestic market and tap into markets overseas. Specifically, this is expected to involve expanding orders based on the anticipated expansion in demand for vast

infrastructure and services in emerging economies, by such means as conducting business activities overseas and working in partnership with business operators in other countries.

Consequently, in seeking to revitalize socioeconomic activities today, it is crucial to promote organic partnerships between activities at home and abroad, maintaining stronger relationships between them than ever before. From this perspective, MIC needs to formulate international policies that include overseas expansion, while remaining conscious of the potential for specific benefits for Japan. At the same time, MIC will need to implement and promote domestic policy with an eye to overseas business expansion by operators from an early stage.

(iii) Changes in the global situation

Turning to world affairs, the situation is looking increasingly complex, due in part to the pandemic.

In the digital field in particular, concerns about supply chain risks and ensuring security in cyberspace are surfacing against the backdrop of a changing global situation. With the information and communications industry that underpins the digital field taking on a greater role as a strategic infrastructure industry, securing both its strategic autonomy (ensuring that if a particular country is eyeing a change in policy, one's own country is not hugely reliant on that country for trade and investment) and its strategic indispensability (ensuring that one's own country is indispensable toward the country in question, with the latter relying considerably on one's own country for trade and investment) is a key policy issue.

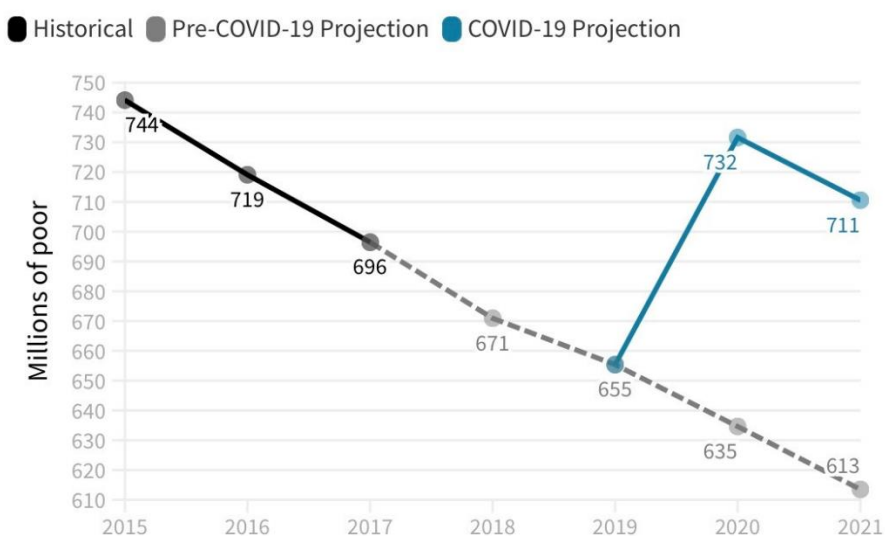
At the same time, with a view to achieving the Free and Open Indo-Pacific (FOIP) promoted by Japan, which takes a somewhat different approach to strategic autonomy and strategic indispensability, it is necessary to bear in mind the need to improve both hard and soft connectivity across the Indo-Pacific region and to build the infrastructure that will enable the region to achieve comprehensive economic development. FOIP is also important in an economic security context, and there is a growing need to strengthen economic partnerships, including from the perspective of building highly resilient and reliable supply chains.

(iv) Efforts to achieve the SDGs

The COVID-19 pandemic has transformed not only socioeconomic activities, but also our living environments. According to the World Bank, the downward trend in the number of people living in extreme poverty (note: people living on less than

\$1.90 per person per day; **Figure 2**) seen for the last 25 years has undergone a reversal due to the pandemic and the Ukraine situation, with the combined crises forecast to lead to an additional 75 million to 95 million people living in extreme poverty, compared to pre-pandemic projections. People are also facing the challenges of famine and lack of adequate access to education due to the stagnation of socioeconomic activities.

(Figure 2) Number of People in Extreme Poverty Worldwide (2015-2021)



Source: World Bank

Amid this situation, the implementation of initiatives to achieve the SDGs established in 2015 is becoming increasingly important. The SDGs are a set of 17 international goals calling for measures to combat such issues as poverty and famine in order to create sustainable, diverse, and inclusive societies in which no one is left behind. The role that digital can play in achieving the SDGs has come under the spotlight.

Although digital infrastructure in particular is of growing socioeconomic value as connectivity expands, those living in poverty in developing countries continue to lack adequate access to it (**Figure 3**). Some have pointed out that the global digital divide is exacerbating inequality and that eliminating this divide would bring the world much closer to achieving the SDGs. As such, Japan needs to make a contribution on the global stage.

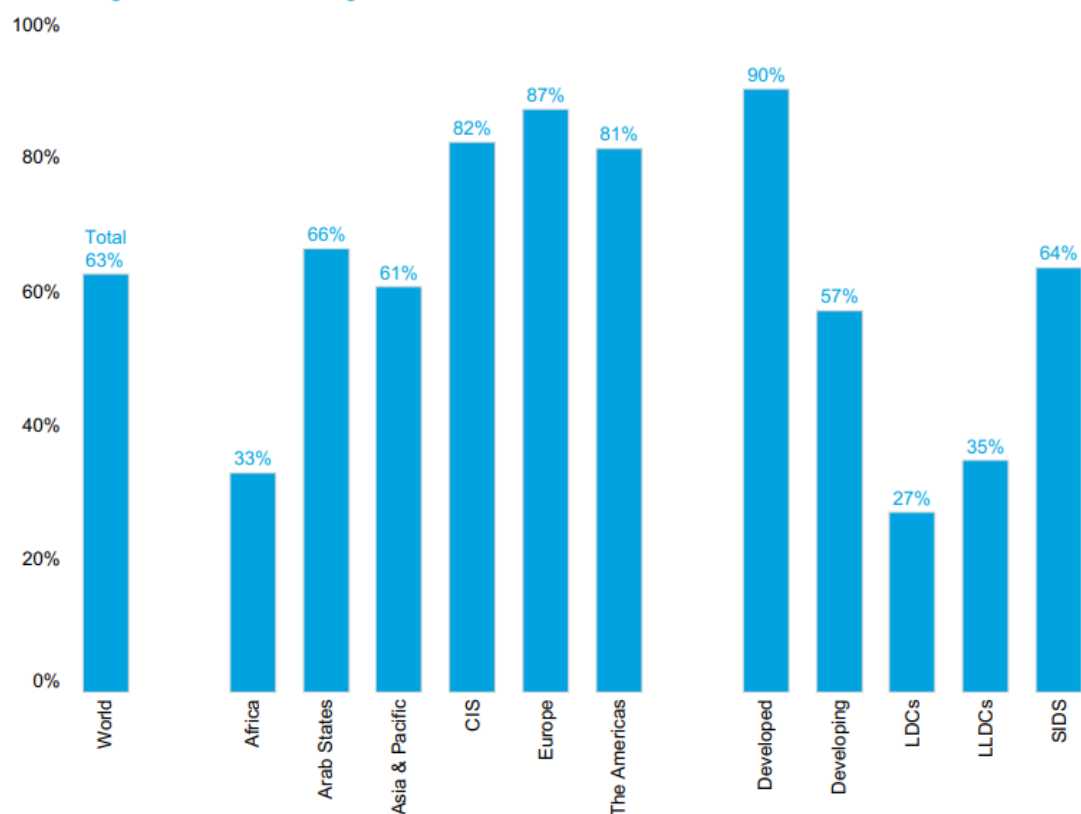
MIC is actively developing a variety of measures to achieve digitalization that leaves no one behind, including the development of digital infrastructure. In

connection with this, it will be vital to speed up these initiatives, while sharing know-how and working with other countries to co-create global economic development and solutions to social issues.

Amid mounting international concern about addressing climate change, initiatives that leverage digital technology to promote a greener world will also be exceedingly useful. In relation to such moves, there is a global need to promote more environmentally friendly infrastructure development and operation, in order to address the impacts of the proliferation of digital technology on efforts to achieve a greener world. Such activities will be of crucial significance to the achievement of the SDGs.

(Figure 3) Individual Internet Usage by Region

Percentage of individuals using the Internet, 2021*



Source: International Telecommunication Union (ITU)

In light of these trends, it is necessary to formulate a new action plan that keeps in mind the following issues requiring enhanced measures.

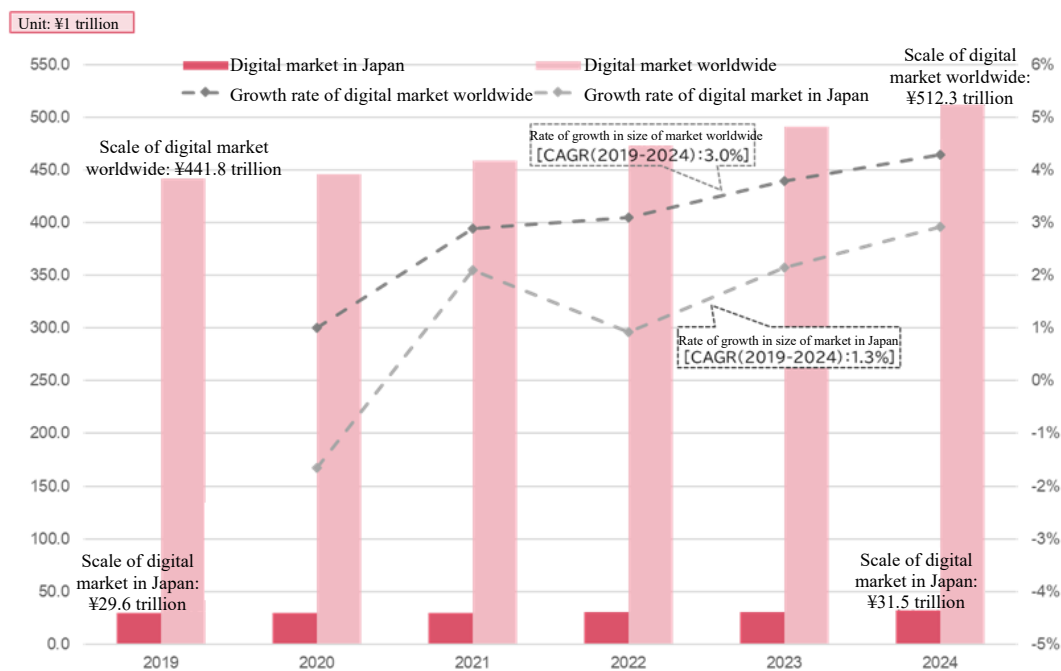
(2) Issues requiring enhanced measures

(i) Post-COVID economic regeneration

Amid the accelerating digitalization of society and the economy triggered by the COVID-19 pandemic, there is a growing need for the development and upgrading of communications networks, along with effective digital solutions to various issues. As a result, the scale of the digital market worldwide is forecast to grow from about 442 trillion yen in 2019 to around 512 trillion yen by 2024 (Figure 4). In addition, rapid growth in the e-commerce market has exposed a need for the enhancement and upgrading of postal networks to support it.

While listening carefully to feedback about needs on the ground, Japan must tap into this booming overseas demand in the digital sector and work with partner countries to achieve better economic regeneration in the post-pandemic age. In particular, increasing the number of global players originating in Japan, while providing support firmly rooted in each region is vital. In this regard, it will be crucial to bolster support to enable feedback from each country and region to reach companies in Japan's regions, and SMEs and startups that have outstanding technologies and the will to expand overseas, but lack overseas expansion know-how and connections on the ground.

(Figure 4) Scale of the Global and Japanese Digital Markets



Source: MIC FY2021 research, "Quantitative Basic Research Regarding the Market for Overseas Digital Expansion in the COVID-19 Age"

(ii) Use of international partnerships

Digitalization leveraging ICT is progressing in various fields. From the perspective of ensuring global digital connectivity, the prerequisite for progress in this regard is the building of cooperative relationships not only domestically, but also internationally. At the same time, against the background of the aforementioned environmental changes, organic linkages between domestic and overseas activities are becoming increasingly important. Furthermore, it will be desirable to build more universal, sustainable frameworks and bolster initiatives within them, in order to promote overseas expansion focused on Japanese infrastructure and services.

It is crucial to work on co-creation with numerous partners in the international community, while proactively tapping into global trends by further improving connectivity worldwide, including in Japan.

In light of this perspective, it is vital for Japan to make maximum use of the partnerships it has forged in the digital field, within not only various bilateral frameworks, but also international frameworks involving multiple countries, such as the Japan, U.S., Australia, and India Quad, the G7, and the OECD.

With discussions around economic security intensifying, the importance of a focus on quality in particular will be at the fore, encompassing the transparency, reliability, safety, and sustainability of infrastructure in fields including digital. It will be necessary to consider how to cover off the fact that the initial cost of Japanese infrastructure is seen as higher than other countries, while spreading the high-quality infrastructure mindset to overseas markets and leveraging the advantages in terms of long-term maintenance and management costs delivered by higher quality as a selling point.

Initiatives via international organizations are important and there is a need to put in place an environment that will support overseas expansion by Japanese companies, by such means as promoting the requisite rule-making initiatives, securing major posts at international organizations, and implementing an array of projects that leverage Japan's voluntary contributions.

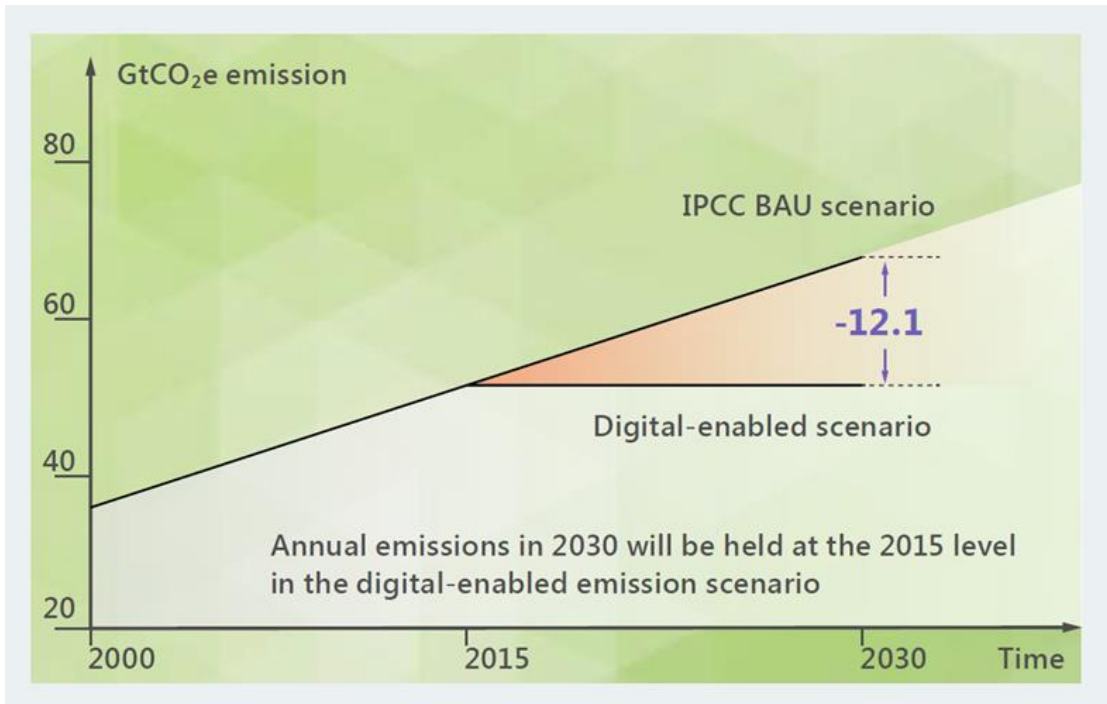
Also key will be initiatives based on public-private cooperation, aimed at translating into reality approaches to infrastructure support in regions overseas that are geopolitically important, even if they lack profitability from a business perspective.

(iii) Contributions to addressing climate change

With international momentum to address climate change building rapidly, policies defining increased CO2 reduction targets and other measures to combat climate change have been set out by a series of countries. COVID-19 has brought increasing opportunities to use digital approaches such as telework, telemedicine, and e-commerce, driving up interest in efforts to achieve greater energy efficiency in the digital sector, which requires a high level of power consumption. Consequently, efforts are required to promote a greener world by such means as introducing highly energy-efficient digital infrastructure and using digital solutions in a wide range of fields. The United Nations Framework Convention on Climate Change (UNFCCC) mentions that the adoption of digital technology could potentially reduce CO2 emissions in 2030 by about 12.1 billion tons (about 10.3 billion tons if limited to digital technology use excluding the impact of renewable energy) compared with the baseline scenario set out by the Intergovernmental Panel on Climate Change (IPCC) (**Figure 5**). A MIC survey suggests that the manufacturing, agriculture, and energy sectors are likely to be particularly effective in terms of the potential for reducing CO2 emissions via digital solutions, with the potential reductions forecast to rise substantially, from 2.82 billion tons in 2020 to 10.3 billion tons in 2030 (**Figure 6**).

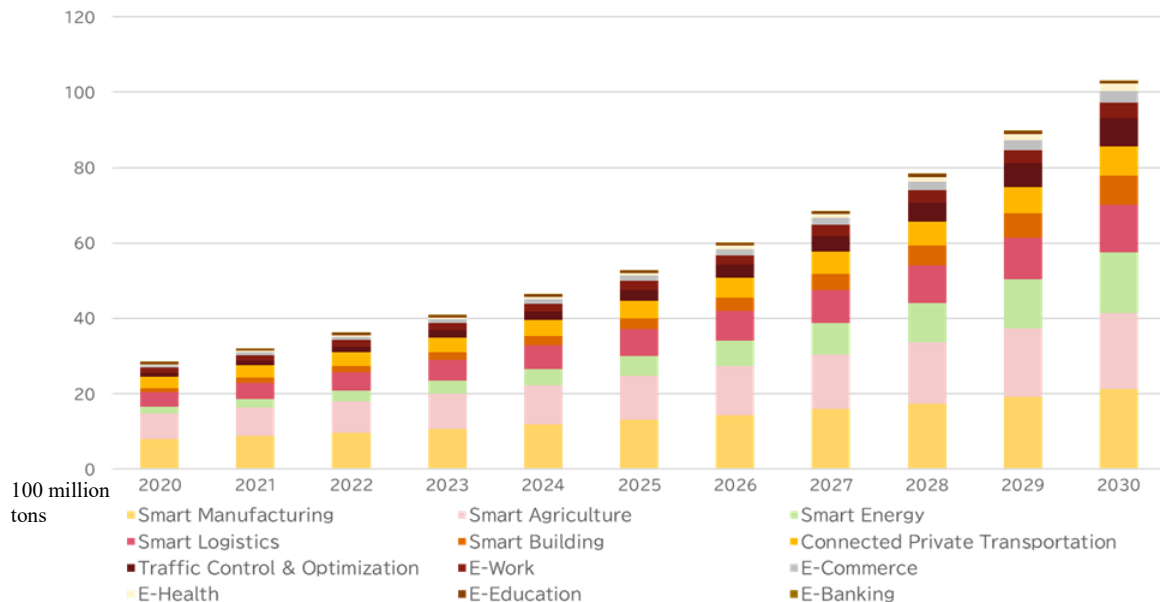
At the same time, when it comes to addressing the numerous natural disasters around the globe, the tremendous interest in solutions based on Japan's experience as a country prone to natural disasters means there are hopes that Japan could offer various countries such solutions based on its experience.

(Figure 5) CO2 Reductions Expected to Result from the Use of Digital Solutions



Source: GeSI, "#SystemTransformation report" (2016)

(Figure 6) Estimate of Potential for CO2 Reductions Resulting from the Use of Digital Solutions



Source: MIC FY2021 research, "Basic Research Regarding the Contribution of the Digital Industry to Achieving a Green Society and the State of Initiatives by Japanese Companies"

Chapter 3 Basic Principles in Promoting Overseas Expansion

Based on the following three basic principles, MIC will implement specific initiatives to promote more effective overseas expansion, while taking into account the issues and changes in the situation set out in the previous chapter.

(1) Principle 1: Achieving the SDGs (contributing to sustainable development)

Adopted at a September 2015 U.N. summit, the SDGs are based on global consensus and their promotion will help to ensure consistency with the development plans of target countries, along with international development policy measures. Consequently, in overseas deployment of infrastructure overseen by MIC, rather than merely marketing infrastructure, it is vital to provide solutions that take account of the situation in the country in which they are to be deployed, ensuring that they resolve issues and contribute to the local economy. In promoting the SDGs, achieving compatibility with business (the pursuit of profit) is also essential, so the perspective of co-creation is required, pursuing the interests of both the company deploying the solution and the country where it is to be deployed.

(2) Principle 2: Strengthening global competitiveness from a long-term perspective

Although Japanese infrastructure sometimes lacks price competitiveness in the global market, its high quality means that it has advantages in the long term from the perspective of maintenance costs. The digital sector is no exception. Rather than lowering quality to reduce costs in the introduction phase, it is important to adopt a response designed with the partner country in mind, based on long-term relationships of trust. Backing Japanese companies by such means as proposing long-term packages that also have an eye to securing orders for operation and maintenance (O&M) is also crucial from the perspective of competition with other countries.

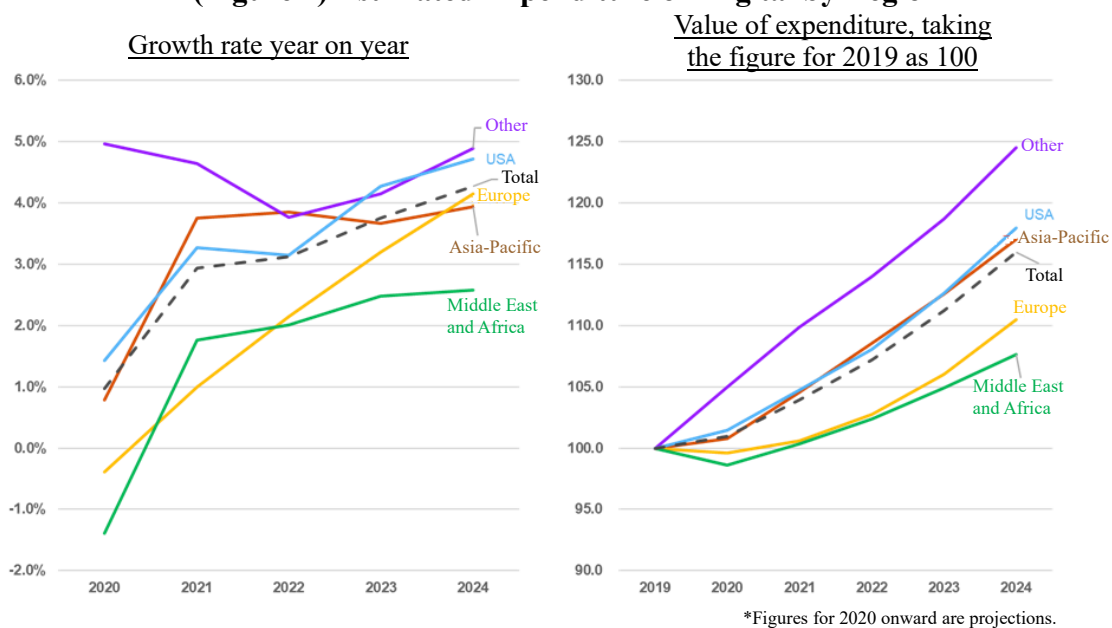
MIC will need to undertake measures from a long-term perspective that keep in mind the cycle for achieving overseas expansion by properly ascertaining and tracking domestic and overseas R&D trends and the implementation status of their outcomes. In this sense, it is imperative to promote connectivity in digital infrastructure globally, taking into account, for example, the development status of the safe, secure, transparent 5G networks that Japan has been building, and leveraging the outcomes as know-how when deploying them overseas. With regard to Beyond 5G initiatives, it will be useful to promote implementation that looks ahead to overseas deployment, while gaining a clear understanding of the elemental technologies involved and Japan's technical superiority.

(3) Principle 3: Emphasis on international cooperation and ensuring consistency between domestic and foreign policy

The direction of overseas expansion must be determined with consideration for economic security requirements, while also taking into account such government strategies as the Infrastructure System Overseas Promotion Strategy 2025, Grand Design and Action Plan for a New Form of Capitalism, and Vision for a Digital Garden City Nation. In doing so, MIC will implement measures, while deepening both bilateral relationships and partnerships with international organizations.

As Asia drives the world economy, while Africa and Latin America are expected to achieve growth going forward, accompanied by expenditure in the digital sector, MIC has positioned them as particularly important regions (**Figure 7**). To contribute to achieving FOIP—which aims for economic growth throughout the region, across the Indian and Pacific Oceans positioned between these priority regions—it will be important to engage in overseas expansion based on maintaining a constant understanding of the international situation surrounding all kinds of infrastructure development, while working in partnership with international organizations, European nations, regional communities such as ASEAN, and our Quad partners, namely the U.S., Australia, and India.

(Figure 7) Estimated Expenditure on Digital by Region



Source: IDC's Worldwide ICT Spending Guide by Industry and Company Size (IDC 2021.2)

Chapter 4 Priority Areas Requiring Enhanced Initiatives toward 2025

As stated above, the old plan identified 20 projects (the Nimaru Projects) to be promoted as a priority over the three years from 2020 (see Chapter 1). Although the basis of this Plan is to continue implementing the initiatives in the old plan, MIC has, in light of their state of progress and interim evaluation (see Chapter 1), specified the 10 areas below as fields requiring enhanced initiatives relating to overseas expansion as a particular priority toward 2025, while also bearing in mind changes in the overseas expansion situation (see Chapter 2) and the basic principles in promoting overseas expansion (see Chapter 3). (The specific state of progress of individual Nimaru Projects under the old plan and their relationship to the priority areas in this Plan are detailed in Summary Table 2 in the "Reference" section at the end of this document.)

(1) Development of broadband services such as local 5G/5G centered on Open RAN

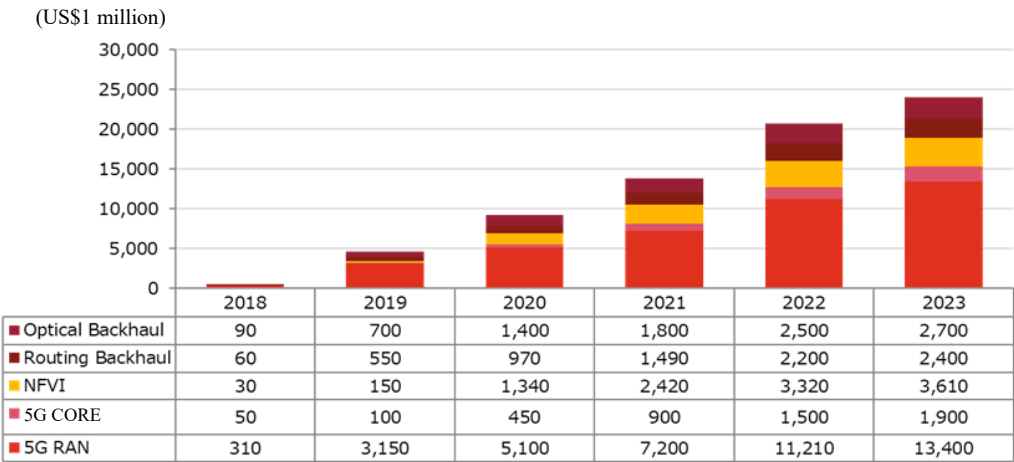
With mobile communications networks envisaged to continue to be the key to improving global connectivity going forward, countries worldwide are engaged in deliberations aimed at the introduction and enhancement of 5G networks, which are capable of accommodating higher-speed, wider-ranging usage scenarios. Mobile communication service providers are actively investing in 5G network infrastructure, primarily in fronthaul RAN (radio access network). The growth rate of the market for 5G network infrastructure is forecast to average 113.8% annually between 2018 and 2023, and is expected to be worth \$24.01 billion by 2023 (**Figure 8**).

In upgrading this kind of network, it is envisaged that the high costs associated with ensuring safety and reliability, and installing a dense network of base stations will be an issue. As such, MIC will promote Open RAN, which has become the focus of attention as a technology for ensuring the transparency of networks, which also allows for participation by diverse suppliers, the development of innovation from the perspective of security and increased supply chain resiliency, and the promotion of competition in the base station market. Moreover, with a view to the Beyond 5G era, MIC will seek to contribute to strengthening the global expansion of high-quality 5G.

More specifically, MIC will foster international understanding of Open RAN by using policy dialogue and demonstration projects to share information in bilateral and multilateral settings regarding the advantages of Open RAN, namely its ability to provide a communications network that ensures supply chain resiliency via the diversification of vendors in the communications market; promotes innovation and competition between suppliers; reduces capital expenditure and operating expenses; and delivers safety, reliability, and transparency.

In addition to implementing Open RAN demonstration projects in around 10 countries across North America, Europe, Latin America, Oceania, and Southeast Asia, MIC will conduct seminars and other activities to raise awareness of Open RAN among governments and communications providers in at least 50 countries. Furthermore, bearing in mind countries in which nationwide 5G networks have not been introduced, MIC will undertake initiatives to support the overseas deployment of usage scenarios based on 5G networks that use Open RAN within closed networks (Local 5G) in order to lobby for the introduction of Open RAN to nationwide networks, while also paying attention to mobile policy trends and network renewal trends in each country. In addition to these efforts, MIC will comprehensively examine approaches to support policies and demonstration tests that will contribute to deliberations on identifying and addressing issues with a view to the further popularization and expansion of Open RAN.

(Figure 8) Scale of the Global 5G Network Infrastructure Market (value of investment basis)



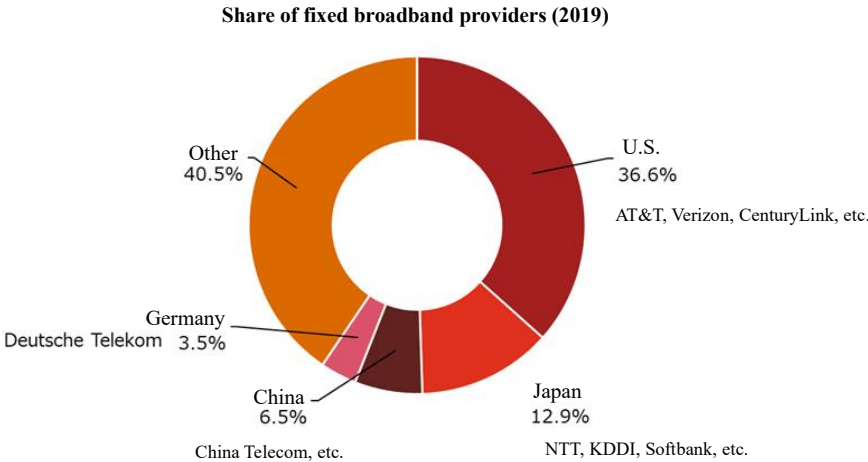
Source: IDC

With regard to onshore broadband, given that Japanese companies have secured a certain share of the market as fixed broadband providers (**Figure 9**) and that Japanese companies also demonstrate strength in fiber optic cable technology, it is necessary to tap into opportunities for expanding growth markets, including the popularization of wired high-speed communications in developing countries, along with 5G and data centers. It is anticipated that future expansion efforts by Japan will focus principally

on fiber optic cables, while also promoting the deployment of various associated products. In the existing FTTx market, price competitiveness will be a driver if these products are to replace Chinese products, so there will be a need to invest in efforts to improve production efficiency. As in the 5G field, governmental organizations are highly influential overseas, so MIC will provide the requisite backup, such as proactively supporting efforts to publicize the safety of Japanese products and outline examples of their introduction during Japanese government lobbying of other countries.

In terms of non-onshore means, efforts aimed at the commercialization of broadband services using non-terrestrial networks (NTN) are underway, so MIC will provide support as needed for the expansion of high altitude platform stations (HAPS) and satellite constellations, among others, while assessing their progress status.

(Figure 9) Share of Fixed Broadband Providers



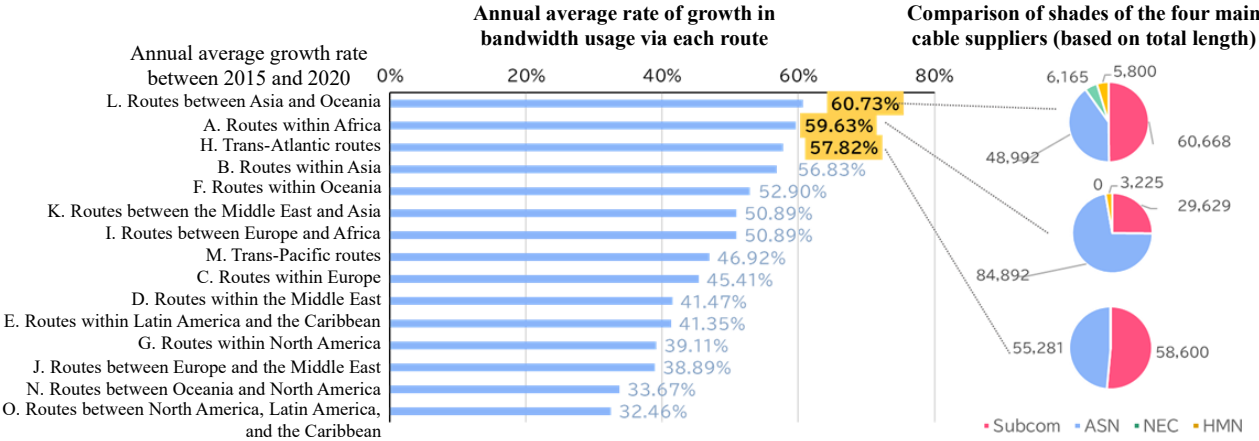
Source: Omdia

(2) Submarine telecommunications cables

Submarine telecommunications cables form a trunk communications network that handles around 99% of international communications. Against the backdrop of the internet's greater penetration of daily life resulting from the popularization of 5G and the progress of DX, along with increasingly enriched content, some platform operators are independently laying their own submarine telecommunications cables. Accordingly, increases in demand for submarine telecommunications cables capable of high-speed, high-volume data transmission and projects involving the laying of

such cables are expected to gather pace. Compared with other routes, the Asia-Pacific route (**Figure 10**) in particular offers high potential profitability and latent demand for laying such cables, and Japanese suppliers have an abundant track record and strength in this realm. Accordingly, MIC will promote discussions and relationship-building with governments of like-minded Asia-Pacific nations to ensure that Japanese suppliers can continue to maintain and expand their competitiveness. While demand at present is limited, it is expected to grow in due course, given the need to ensure redundancy by such means as establishing multiple lines. Accordingly, MIC will consider support at the national level to provide backing for Japanese companies' involvement in projects on routes focused on the Pacific Islands, which is a key region from a political perspective, as well as being crucial to the achievement of FOIP. In addition, MIC will examine approaches to support in such areas as the formation of submarine cable projects in waters where Japanese suppliers have not hitherto had advantages, and measures for bolstering the strength of Japanese suppliers outside individual projects. Through these initiatives, MIC will provide the requisite support, aiming to help Japanese companies secure orders as both suppliers and operators.

(Figure 10) Annual Average Rate of Growth in Bandwidth Usage via Each Route (as of December 2021)



Source: Prepared by Mitsubishi Research Institute based on TeleGeography, "Global Bandwidth Research Service"

(3) Data centers / infrastructure sharing

Needs for data centers are growing as a result of increased demand for online services in the form of cloud services in recent years. The market for servers—a key component of data centers—is growing by 6.18% per year on average, while the

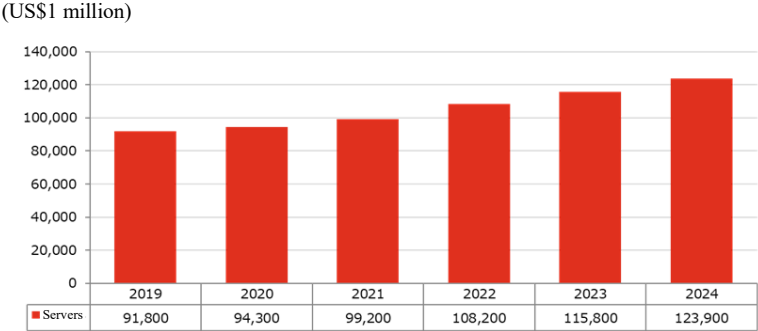
storage market is also demonstrating steady growth of 7.43% per year on average (**Figures 11 and 12**). To capture this demand without fail, it is vital to provide support to encourage Japanese companies' involvement in the data center development and operation business overseas, while also highlighting their strengths in such areas as the design of facilities with low power consumption and running on geothermal or other renewable energy to minimize the burden on the environment, and also advanced security measures based on biometric authentication technology.

At the same time, with the age of the IoT and AI approaching, dramatic expansion in data use is expected to generate ongoing growth in the data center development and operation business. In particular, as the market for hyperscale data centers is expanding rapidly (**Figure 13**), tapping into demand for these will be crucial. There are numerous companies at present and an oligopoly has not developed, but there are moves among companies in other countries to expand in scale via mergers and other means. If companies from other countries form oligopolies or grow to an immense size, they could be able to tap into economies of scale in such areas as procurement, which could result in a loss of competitiveness for Japan. Accordingly, expansion measures such as mergers, acquisitions, and the establishment of joint ventures may be required. As this is a field with comparatively low barriers to entry in terms of permits and approval, apart from in certain countries, it is important to provide operational know-how and solutions that tap into the technical capabilities in which Japanese companies excel. In the case of countries that do require business approval, government-level support could conceivably take the form of studies on the establishment of data centers overseas and providing the information required when expanding into the countries in question. In light of this, MIC will support efforts by Japanese companies to develop and operate data centers, with a particular focus on such regions as Central Asia, the Middle East, and Africa.

At the same time, infrastructure-sharing initiatives are progressing worldwide. These initiatives involve several telecommunications carriers sharing common facilities, with the aim of eliminating such issues as the huge capital investment in the 5G/Local 5G field required by the telecommunications sector as a whole, and the need to secure sites for the establishment of base stations. MIC will continue to implement pilot studies focused on the introduction of infrastructure sharing and to provide financing support, in order to achieve regional expansion via M&A and partnerships with overseas infrastructure sharing services, and to maintain high asset efficiency via long-term leases to multiple telecommunications carriers. In terms of outcomes, MIC will aim for the securing of orders by Japanese companies for the provision of

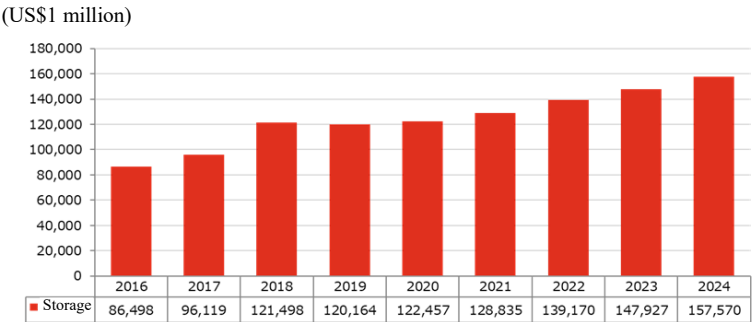
infrastructure sharing services, with a focus on the Southeast Asia region, among others.

(Figure 11) Scale of the Global Server Market (revenue basis)



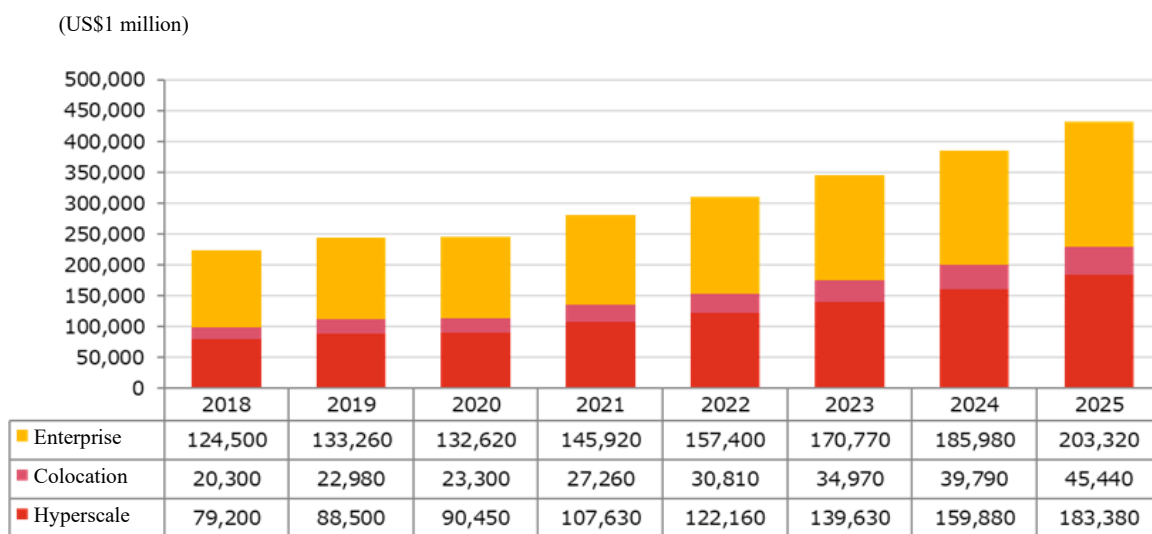
Source: IDC

(Figure 12) Scale of the Global Storage Market (revenue basis)



Source: IDC

(Figure 13) The Data Center Operation Business Worldwide (by format)



Source: Frost & Sullivan

(4) ICT solutions (medical, agricultural, quasi-zenith satellites, smart cities, etc.)

In addition to the deployment of Open RAN and basic communications infrastructure, MIC will support DX at overseas offices of Japanese companies pursuing overseas expansion. In addition, MIC will promote the provision of various one-stop ICT solutions (e.g. digital solutions in factories, hospitals, agriculture, and smart cities, etc.) at Japanese companies pursuing overseas expansion, based, if needed, on partnerships with companies boasting strengths in the deployment of solutions in Japan and overseas. At the same time, regarding the positioning augmentation service provided by the Quasi-Zenith Satellite System (Michibiki), MIC will continue to implement overseas expansion of solutions leveraging Michibiki in the Asia-Pacific region. Furthermore, as companies of all sizes from Japan's regions, along with Japanese SMEs and startups are expected to play an active role in the ICT solutions field more generally, MIC will proactively support players that aspire to expand overseas and encourage their participation in global markets. Additionally, MIC will work with governmental organizations in partner countries while lobbying for the commercialization and introduction of advanced radio wave use systems, with an eye to such systems as a Ground Based Augmentation System (GBAS), which transmits reinforcement signals that improve the accuracy and safety of GPS from the ground and provide aircraft approach and landing path information, in order to guide aircraft safely to the runway. Through these initiatives, MIC will provide the requisite

support, aiming to ensure that Japanese companies receive orders for ICT solutions in general from around 10 countries, with a primary focus on such regions as Latin America, the Middle East, Africa, and South and Central Asia.

(5) Terrestrial digital broadcasting

First adopted in 2006 by Brazil, the Japanese standard for terrestrial digital broadcasting is now used by 20 countries, including Japan. Going forward, it will be necessary to tap into ODA, etc. while providing support and follow-up efforts to encourage a steady shift to terrestrial digital broadcasting from analog broadcasting in countries that have adopted the Japanese standard. Efforts to lobby for the introduction of the products (terrestrial digital broadcasting equipment and associated systems) of Japanese companies in countries that have adopted the Japanese standard will also be required.

(6) Broadcast content

To promote the overseas expansion of broadcast content, thereby enhancing soft power and the dissemination of information from the regions, MIC will, in collaboration with broadcasters and production companies actively pursuing overseas expansion, examine measures to take into account changes in new environments, such as the development of online common infrastructure enabling Japanese content to be effectively promoted overseas, and the cultivation of content developers with a global outlook.

Through these efforts, MIC will raise the growth rate of Japan's overseas net sales of broadcast content to a level higher than that of the global visual content market as a whole (projected annual average growth rate: approximately 8%), increasing overseas net sales to 1.5 times the FY2020 level by FY2025.

(7) Cybersecurity

MIC will conduct Japanese-developed training courses in the security field for around 450 people via partnership and cooperation with the ASEAN-Japan Cybersecurity Capacity Building Centre (AJCCBC), which MIC took the lead in establishing in Thailand, and international organizations such as the World Bank. In addition, MIC will implement initiatives to be rolled out in ASEAN member states, along with developing countries in Africa and Latin America.

Moreover, MIC will implement around five seminars and workshops as an initiative for the establishment and popularization of cyber defense centers (CDCs) mainly in

African countries, to facilitate strategic security responses at the organizational level, as set out in the ITU Recommendation ITU-T X.1060. In doing so, MIC will develop an environment that makes it easier for relevant Japanese companies to expand into the countries concerned.

With regard to quantum cryptographic communication, which is expected to become a new, more secure means of telecommunication, MIC will, for the time being, devote its energies to initiatives aimed at international collaboration in R&D and international standardization, while also examining support with a view to the potential for future overseas expansion, focusing primarily on quantum key distribution (QKD), which is an area of strength for Japanese companies.

(8) Postal services

The COVID-19 pandemic triggered intensive investment in upgrading postal and logistics systems in response to renewed awareness of the importance of securing supply chains, along with increased need for greater operational efficiency in postal services due to the rise in parcel deliveries resulting from the advance of e-commerce in various countries. As part of postal sector efforts to address climate change, moves are emerging worldwide to introduce postal infrastructure with a lower environmental burden, including the deployment of electric delivery vehicles.

In light of this situation, MIC will aim for the following targets in the postal services field.

- (a) In addition to promoting the upgrading of various countries' postal infrastructure via the introduction of Japan's outstanding postal equipment and systems, MIC will promote the introduction in various countries of DX-related technologies based on Japanese knowledge of achieving greater operational efficiency in postal operations. In doing so, MIC will actively seek to uncover DX-related technologies held by SMEs. Additionally, MIC will undertake particular enhancement efforts focused on developing countries and emerging economies in Asia and Eastern Europe that have demonstrated a high level of interest in Japanese knowledge and know-how, based on the results of basic surveys conducted to date.
- (b) MIC will encourage the introduction in various countries of initiatives focused on achieving carbon neutrality in the postal sector where Japan has knowledge and know-how to offer, and will promote the deployment of postal infrastructure contributing to reducing the environmental burden.

Through these efforts, MIC will promote the development of postal and logistics

systems underpinning a flexible supply chain, aiming to bring to implement by 2025 around three projects involving the introduction of postal equipment and systems—including projects that contribute to promoting DX and carbon neutrality—in developing countries and emerging economies in Asia and Eastern Europe, among others.

(9) Fire safety and disaster preparedness

Specifications and standards drawn up by the Fire and Disaster Management Agency and rigorous inspections by third-party organizations ensure that fire safety equipment manufactured and sold in Japan can be relied upon to function. The outstanding advantages of such equipment include meticulous design that reflects needs in the field, ease of maintenance, and a high level of durability. Promoting understanding overseas of these advantages is vital to overcome such issues as the high introductory cost of such equipment compared with non-Japanese products and the low level of awareness of the standards concerned, in order to promote greater adoption of Japanese firefighting equipment, thereby supporting more widespread safety and peace of mind.

In particular, Southeast Asia is home to countries that have not established their own specifications, standards, and testing methods, unlike the U.S. and the EU, for example, and there is a comparatively high level of understanding of Japanese fire safety in the region, as many people have experience of having participated in training courses focused on Japanese fire safety technology. Accordingly, focusing on this region, MIC will promote the overseas deployment of fire safety equipment by spreading the word about the superiority of Japan's standards and certification systems, and its fire safety equipment.

More specifically, MIC will raise awareness among around 500 people by continuing to implement JICA training courses, which attract numerous Southeast Asian participants, and by organizing international forums to introduce Japanese fire safety technology, systems, and equipment to a wider audience. MIC's objective in doing so will be to contribute to improving fire safety and disaster preparedness capabilities in the region, where economic development and the march of urbanization have given rise to a need for more advanced fire safety and disaster preparedness systems than before. In particular, MIC will implement training programs on fire safety equipment standards and certification systems for fire fighters working for the Ministry of Public Security of Vietnam, with which Japan has a memorandum of cooperation.

As a country prone to natural disasters, Japan's strengths in delivering disaster preparedness solutions include the data on diverse forms of disaster that the country has amassed over several decades. At the same time, due in part to the fact that disaster preparedness measures are usually implemented by public administrative bodies, there are limits to what can be achieved through the efforts of individual private sector companies, so medium- to long-term initiatives will also be required. Accordingly, MIC will move forward with medium- to long-term public-private cooperation initiatives and call for the introduction of digital infrastructure as part of large disaster preparedness systems at overseas administrative organizations implementing disaster preparedness measures. Moreover, with a primary focus on countries that have adopted the Japanese standard for terrestrial digital broadcasting, MIC will promote the introduction of an emergency warning broadcast service (EWBS) enabling disaster preparedness information to be broadcast, and will also encourage the use of the airwaves for disaster preparedness purposes in countries that have not adopted the standard.

(10) Systems and other soft infrastructure (administrative consultations, statistical systems, etc.)

Under the administrative consultation system, MIC addresses complaints from the public in a wide range of administrative fields, using simple procedures to encourage their swift resolution and promote improvements in administrative systems and management. The system is internationally recognized as fulfilling the functions of an ombudsman by bringing together three groups to work as an integrated whole: (1) MIC's Administrative Evaluation Bureau; (2) administrative counselors; and (3) the Administrative Grievance Resolution Promotion Council. Increased flows of people across national borders are set to give rise to a growing need to deal with consultations from foreign nationals in Japan and from Japanese nationals outside the country. In anticipation of this, MIC will seek to expand the administrative consultation system to other countries by implementing cooperation with other countries in such areas as training based on bilateral memoranda and partnerships with official ombudsmen. More specifically, while assessing the status of the COVID-19 pandemic, MIC will conduct training regarding administrative consultation for at least 50 practitioners per year, focusing primarily on Vietnam and other countries with which Japan has concluded memoranda on bilateral exchanges.

In the field of statistics, various countries have expressed high praise for ICT solutions such as MIC's system for the joint use of Japanese government statistics,

which incorporates 13 subsystems, including the e-Stat portal site of Official Statistics of Japan, the Statistics Map of Japan, and the online survey system. In particular, MIC will provide support to Vietnam to enable Japan's online survey system to be used for the survey of businesses by industry in Vietnam. In addition, as well as resuming the training course on the use of IT in the statistical field, which was suspended due to the pandemic, MIC will dispatch to Vietnam a total of nine experts in the use of IT for statistics to conduct a training program lasting about 20 days. MIC will also contribute to upgrading the preparation and supply of statistics in other countries, with a primary focus on developing countries.

Chapter 5 Expansion and Collaboration Policies Tailored to National/Regional Characteristics

(1) Southeast Asia

A growth market in both demographic and economic terms, Southeast Asia has extremely close economic ties with Japan, as many Japanese companies have expanded into the region. From Japan's perspective, Southeast Asia is a very important region in foreign policy terms, as it forms part of the Free and Open Indo-Pacific (FOIP).

Against this background, MIC will seek to maintain the good relationships it has cultivated with Southeast Asian countries over the years, while identifying various issues in partner countries through regular intergovernmental dialogue and matching useful initiatives by Japanese companies to address those issues. Thus, while also leveraging the memoranda of cooperation in the fields of ICT and postal services that it has already concluded with governments in various countries, MIC will work with its counterparts to resolve those issues.

More specifically, MIC will support surveys, workshops, and demonstrations to deepen understanding of the need to make 5G, local 5G, and Beyond 5G open, as well as supporting demonstrations of Japanese companies' products, solutions, and infrastructure sharing projects in the ICT field, and proactively spreading the word about their outcomes in policy dialogue. Through these efforts, MIC will not merely publicize the supremacy of Japan's technologies, but also aim to work with counterpart governments to contribute to addressing diverse social issues. Moreover, while exchanging views on policy issues, MIC will conclude memoranda of cooperation on specific collaborative measures and steadily implement them.

In terms of Japan's relationship with Southeast Asia at a regional level, MIC will seek to further leverage collaboration frameworks via the ASEAN Digital Ministers' Meeting with Japan, etc., and identify solutions to various issues common to Japan and the ASEAN region as a whole, as well as ensuring Japan makes proactive contributions to resolving those issues. In relation to this, MIC will implement cooperation based on the ASEAN Digital Masterplan 2025, which provides an overview of digital policies throughout the ASEAN region.

(2) Oceania

Changes in the security environment in Asia and Oceania in recent years mean that Japan's relationship with Australia is an increasingly important partnership for

promoting collaboration aimed at achieving FOIP, as well as in the context of multilateral frameworks such as the Quad alliance of Japan, the U.S., Australia and India, and the trilateral framework involving Japan, the U.S., and Australia.

Amid this situation, more in-depth bilateral and multilateral collaboration is required not only in the fields of foreign policy and defense, but also in ICT and the digital realm as a whole. As such, MIC will promote collaboration that taps into the Australia-Japan Policy Dialogue for Telecommunications Resilience, to whose establishment Japan and Australia committed in July 2022, for the purpose of promoting the development in the Indo-Pacific region of a digital environment guaranteed to be safe, secure, open, and transparent. At the same time, MIC will contribute to strengthening mobile communications networks in Australia via trials of 5G using Open RAN, and seek to strengthen bilateral collaboration aimed at creating more resilient mobile communications networks and establishing multiple lines with the aim of securing redundancy in submarine telecommunications cables in Pacific Island nations and other third-party countries.

Moreover, MIC will pursue possibilities for collaboration in the digital field with New Zealand, which shares fundamental values with Australia.

Furthermore, MIC will leverage both bilateral and multilateral frameworks such as the Asia-Pacific Telecommunity (APT) in relationships with Pacific Island nations to contribute to disaster preparedness in island nations and promote collaboration aimed at developing safe, reliable digital infrastructure.

(3) South and Central Asia

With its huge market and high growth rate, South Asia has great economic potential. As a member of the aforementioned Quad alliance, India in particular is an extremely important partner for bringing FOIP to fruition. India also has a multitude of ICT personnel, with the skills of such personnel regarded highly by Japanese companies.

Accordingly, MIC will further promote cooperative relationships in the ICT and postal fields, taking into account the memorandum of cooperation signed by ministers from Japan and India. More specifically, MIC will promote projects focused on laying submarine telecommunications cables, the development of the technology demonstration environment with a view to rolling out a 5G network based on Open RAN technology within India, and initiatives focused on identifying various challenges faced in promoting Beyond 5G and sharing the requisite information, among others.

As the crossroads where Asia meets Europe, and Russia meets the Middle East,

Central Asia occupies a strategic position in geopolitical terms. In particular, in light of the cooperative relationships with Uzbekistan based on the memorandum of cooperation signed by ministers in 2019, MIC will implement initiatives aimed at the formation of new projects using the data centers, etc. developed with the involvement of Japanese companies. At the same time, MIC will aim to deploy Japanese ICT solutions elsewhere in Central Asia, taking advantage of Japan's partnership with Uzbekistan.

(4) North America

Under the Global Digital Connectivity Partnership (GDCCP), whose launch was agreed in April 2021 at the Japan-U.S. Summit, MIC will strengthen Japan-U.S. cooperation in the digital field by holding the U.S.-Japan Policy Cooperation Dialogue on the Internet Economy (IED), which is the framework for promoting the GDCCP, and also by means of collaboration within multilateral frameworks and third-party country partnerships on the part of Japan and the U.S.

More specifically, MIC will encourage Japan-U.S. collaboration in areas including the promotion of Open RAN and other safe, open 5G networks, and investment in research, development, trial, and popularization of advanced ICT and safe networks such as 5G and Beyond 5G.

MIC will also take advantage of the opportunities presented by CES and other international telecommunications technology trade fairs to showcase the supremacy of Japanese technologies and companies, thereby contributing to international expansion and efforts to uncover needs in North America.

(5) Latin America

With a large population, Latin America has great potential as an infrastructure market in terms of its gross regional product. Looking at the region's links to Japan, strong cooperative relationships have been built in the course of the widespread adoption of Japan's terrestrial digital broadcasting standard (ISDB-T), starting from its introduction in Brazil.

MIC will leverage these relationships while encouraging the rollout of Japanese companies' initiatives throughout the wider ICT sector, starting with Brazil. In particular, in the realm of 5G and Open RAN, MIC will promote cooperation that includes MIC's involvement in events organized by the U.S. in the context of collaboration by Japan and the U.S. with third-party countries, and will implement the requisite responses in consultation with relevant business operators in Mexico and

other key countries in Central America.

With regard to terrestrial digital broadcasting, MIC will address such matters as follow-up aimed at the cessation of analog broadcasting in countries that have adopted the Japanese broadcasting standard, and the deployment of early warning broadcast systems (EWBS), as well as showcasing the supremacy of Japanese technologies and companies via participation in local trade fairs focused on broadcasting.

MIC will also continue to promote the deployment of ICT solutions in such areas as agriculture and medical care in response to challenges faced by the countries of Latin America.

(6) Europe

Focusing mainly on intergovernmental meetings and high-level talks, MIC will build relationships with the EU aimed at economic security and the formation of international political rules on DFFT and AI, etc., and will promote cooperation in the field of telecommunications infrastructure via R&D and standardization activities relating to Beyond 5G and other advanced technology.

With the UK, MIC will promote wide-ranging partnerships in the digital field in both countries via the UK-Japan Digital Group set up in May 2022, including the promotion of cooperation in initiatives aimed at the diversification of telecommunication suppliers, and in R&D and standardization activities focused on Beyond 5G and other advanced technology.

MIC will also take advantage of the opportunities presented by the Mobile World Congress (MWC) and other international telecommunications technology trade fairs to showcase the supremacy of Japanese technologies and companies, thereby contributing to international expansion and efforts to uncover needs in Europe.

(7) Middle East

The Middle East has a huge infrastructure market in the petroleum and natural gas sector, and is also a geopolitically important region from the perspective of energy security, as it serves as the main artery of marine freight linking Asia and Europe. In light of rising digital demand on the back of continued growth in the region's younger population, Japan has a great need to promote overseas expansion in this area. The impact of the COVID-19 pandemic means that governments in the Middle East, too, are promoting the digital economy.

As well as formulating the Japan-Saudi Vision 2030 as a guideline for strategic partnership with Saudi Arabia, MIC will conclude a memorandum of cooperation in

the ICT field, and maintain and strengthen good cooperative relationships. In order to encourage expansion focused on Japanese ICT technologies, MIC will promote the deployment of such technologies in the smart city Neom, encouraging Japanese involvement and investment in business bases in the digital field, including telecommunications infrastructure and ICT solutions. MIC will also augment support for expansion by Japanese companies in the United Arab Emirates and the rest of the Gulf.

(8) Africa

While the situation does vary from country to country, the region of Africa has achieved startling economic growth in recent years overall, on the back of its abundant natural resources and growing population, and it demonstrates great potential as an infrastructure market. On the other hand, Japanese ICT companies have been slow to expand into Africa compared with other regions. Since 1993, the Tokyo International Conference on African Development (TICAD) organized by the Japanese government has served as a key catalyst for overseas business expansion. Taking into account the outcomes of TICAD 8, held in 2022, MIC will promote initiatives that contribute to economic growth and social stabilization.

To use digitalization to resolve various issues in Africa and address data distribution and surging telecommunications demand resulting from digitalization, MIC will provide support for surveys and trials of communications infrastructure, including data centers and ICT solutions in the medical and agricultural fields, and will also expand opportunities for Japanese companies of all sizes—from large corporations to startups—to expand overseas.

Chapter 6 Measures for Improving Overseas Expansion Techniques

Various techniques need to be combined to promote overseas expansion. In light of this fact, MIC will implement improvement measures focused on the support schemes listed below, in addition to proactive top-level sales pitches by MIC's higher echelons during policy dialogue with other countries, the inclusion of projects that tap into memoranda of cooperation, and lobbying during meetings with key personnel.

(1) Strengthening of budgetary measures to support overseas expansion

Since FY2015, MIC has been implementing ICT Overseas Expansion Package Support Projects (known until FY2021 as the ICT International Competitiveness Enhancement Package Support Projects; hereinafter, "Package Projects") to encourage overseas deployment of ICT-based infrastructure systems—both hard infrastructure and solutions-based models—by providing support tailored to three key deployment stages: (1) project discovery (preliminary surveys of regulations and needs); (2) project proposal (public-private missions and demonstrations); and (3) project design (formulation of development plans, implementation of model projects, etc.) Of the 85 projects implemented between FY2015 and FY2020 whose outcome is known, 28 have so far resulted in orders being secured (an order placement rate of 33%), worth a total of around ¥13 billion yen. Going forward, it is necessary to increase the precision of order receipt and aim for long-term involvement that includes in O&M. Furthermore, MIC will consider synchronization with JICT and other government-operated finance programs, as well as measures to provide more effective support using the limited budget funding available.

(i) Commercialization after trials, and screening to provide priority support for projects with a view to securing orders for Japanese companies

MIC will formulate guidelines for increasing the order placement rate for support projects delivered via Package Projects, and will select support projects based on fixed criteria. Based on the projects that have been successful to date and the assumption that they are in the priority fields set out in Chapter 4, consideration of the following elements is crucial.

- Ensuring that the projects meet needs in the country in question (for example, that they will lead to the resolution of issues mentioned in policy dialogue between Japan and the country in question).
- Ensuring that the projects are activities positioned as key pillars of the business strategy of the companies involved.

- Ensuring that the superiority of the products and technologies is clearly indicated.
- Ensuring that the organizational structure when doing business is clearly indicated, including partners outside the company, the company's internal structure, HR development and labor management, and sales structure and market cultivation.

Moreover, at the selection stage, MIC will increase the accuracy of commercialization by sharing information with JICT and analyzing the prospects for gaining investment at the basic survey or demonstration stage.

(ii) Promotion of support based on company needs through project schemes involving the public solicitation of solutions and introduction of priority categories in certain areas

Support for Package Projects to date has, in some cases, failed to be empathetic to companies' needs, with time-consuming coordination and procedures resulting in implementation often beginning only in the middle or latter half of the fiscal year. Accordingly, MIC intends to partially introduce a project scheme involving a call for proposal-based applications, under which the call for applications would be made in March of the previous fiscal year, with selection taking place in April of the fiscal year in question, so that the projects could begin in May or thereabouts. It is hoped that this would not merely enable the implementation period to begin earlier, but also make it easier to choose projects with a higher possibility of being developed into actual businesses. In addition, MIC will seek to facilitate bridging to ensure that projects can be commercialized by effectively providing multi-year support for promising projects. To this end, when putting out the call for applications each year, MIC will pursue the direction of establishing a priority category for projects that achieved excellent outcomes during the previous fiscal year and are thought to have a high likelihood of securing orders in future, to enable those projects to be implemented during the next fiscal year.

(iii) Priority support for companies in Japan's regions, SMEs, and startups

Focusing primarily on the field of ICT solutions, for which there is a growing need, MIC will seek to promote use of networks such as the Japan Platform for Driving Digital Development (JPD3) and Regional Bureaus of Telecommunications, as well as increasing awareness of the Package Projects, by formulating measures to partially prioritize the allocation of support to demonstration projects being

considered for overseas expansion by companies in Japan's regions, and SMEs and startups, which have outstanding technologies, but face challenges in terms of overseas marketing ability due to lacking networks of connections and name recognition abroad. Moreover, MIC will provide support for promotional activities, such as holding demonstrations of Japanese ICT during top-level sales pitches and trade fairs in various countries.

(2) Enhancing use of the JICT public-private investment fund and associated collaboration

For more than six years since its establishment in 2015 following the entry into force of the law providing for its founding, JICT has played a part in Japan's support for the overseas development of ICT, by such means as providing investment, loans, and hands-on support for projects focused on the development and operation of submarine cables and other telecommunications infrastructure, and M&A efforts by Japanese ICT companies targeting overseas companies.

In particular, given the tendency for larger businesses to be involved in international ICT projects in recent years and the growing importance of economic security, Japanese companies have even greater expectations regarding government-affiliated funds. MIC and JICT will provide private sector companies with support coordinated with government policy to meet the need for risk capital in cases that are hard for private sector funds or financial institutions to accommodate, so that Japanese companies can proactively expand into international markets and tap into global economic growth generated by leveraging digital technology.

(i) Further augmentation of support based on expanding eligibility for support

As stated above, MIC revised the JICT support standards in February 2022, adding ICT service businesses to the list of those eligible for support and promoting LP investment in funds. This has made it possible to provide more flexible support for a wider range of fields and companies than before, taking into account recent advances in information and communications technology and changes in business models.

In particular, with regard to support for ICT services (ICT solutions) businesses, the increasing prevalence of business models predicated on the use of the cloud mean that businesses that do not necessarily involve the sale or development of goods (hard infrastructure) are expanding on a global scale, with further market growth expected going forward.

MIC will also continue to discover and shape support projects, while keeping an eye on the changing times amid a rapidly shifting international situation.

(ii) Coordination with MIC's domestic and overseas policy measures, with a view to commercialization overseas

JICT's finance and hands-on support is expected to take on even greater political significance as a result of its use as a seamless assistance scheme coordinated with MIC's Package Projects and other demonstrations and feasibility studies. With regard to demonstrations and model projects implemented by MIC as part of its domestic policy measures, it will be important to undertake deliberations based on the assumption of commercialization within Japan from an early stage and deployment overseas, while being aware of the possibility that the technologies and services on which these projects focus might, in due course, be put to practical application or commercialized first by various actors overseas.

Working under this awareness, the private sector companies serving as project implementing bodies, MIC, and JICT will work closely together on information sharing and matching with an eye to their respective medium- to long-term commercialization plans, in order to ensure future commercialization and the securing of project orders.

(iii) Construction of an ecosystem with Japanese and overseas organizations

To enable JICT to provide effective support for companies as a public-private investment fund specializing in ICT, it is necessary not only to secure the requisite internal personnel for JICT, but also to work with external organizations to build a system that makes effective use of a wide range of expertise.

Within Japan, MIC will promote efforts to enhance cooperation with NICT and other areas of academia and Fiscal Investment and Loan Program (FILP) agencies overseen by MIC, along with other governmental organizations and organizations involved in the Japan Platform for Driving Digital Development (JPD3).

With regard to international organizations and foreign governments and companies, etc., MIC will ensure that JICT actively participates in various policy dialogues between the Japanese government and other countries, and in intergovernmental meetings based on memoranda of cooperation. In addition, MIC will consider the possibilities for building cooperative relationships in regard to investment in specific fields and for involvement in forming projects further upstream.

(iv) Support for regional companies, leading medium-sized businesses and SMEs, etc.

In light of revisions to the support standards, MIC and JICT have summarized their outlook on investment in funds as part of LP investment schemes. As such, it is anticipated that promoting fund-based investment will indirectly bring wider-ranging benefits to Japanese business operators, including leading medium-sized businesses and SMEs.

As the revision has made it possible to support ICT services businesses, broader-based deliberations are expected to take place regarding the overseas deployment of technologies and services owned by startup companies based in regional Japan.

Thus, MIC will promote efforts to discover and put together projects, while seeking to accurately identify the needs and initiatives of companies based in regional Japan, leading medium-sized businesses, and SMEs via Regional Bureaus of Telecommunications and other local branch offices of government, relevant business associations, and other such channels, in order to ensure that JICT, as a public investment fund, contributes to expanding demand for a wider, more diverse range of Japanese companies.

(v) Risk diversification and establishment of a sound fiscal situation

JICT's investments are made with capital from the Industrial Investment Special Account and need to satisfy two requirements—political importance and profitability—in accordance with the provisions of the Act on Special Accounts (Act No. 23 of 2007).

Furthermore, it is vital to maintain JICT's own finances in a sound state, as stable investment management by JICT will likely make it possible to handle investments of a higher political significance and higher-risk investments in the future.

Accordingly, in addition to achieving this by means of portfolio management based on diversifying the fields and regions in which JICT invests and undertaking ongoing monitoring of existing investments, JICT will implement strategic organizational management with an eye to the future by formulating a medium-term management plan.

(3) Strengthening of the functions of the Japan Platform for Driving Digital Development

MIC will strengthen the functions of the Japan Platform for Driving Digital

Development (JPD3) in order to further encourage the formation of specific projects.

(i) Increasing and diversifying membership

To broaden the base of overseas expansion in the digital field, MIC will seek to encourage not only large corporations, but also companies in Japan's regions, SMEs, and startups to join JPD3.

(ii) Enhancement of the provision of information regarding overseas expansion in the digital field

MIC will increase to around 20 the number of countries covered by JPD3's database, focusing primarily on the Middle East, Central Asia, and Africa. In addition, MIC will strengthen JPD3's ability to gather the latest information about each area and disseminate updated content in a timely fashion.

MIC will revamp the members-only section of the website to make it more user-friendly. Specifically, MIC will seek to encourage the incorporation of digital technology into cross-sectoral overseas infrastructure projects being undertaken by Japan, by ensuring that the members-only section of the website is updated every fiscal year with details of support tools offered by relevant ministries, agencies, and organizations, as well as information about project briefing sessions by these bodies and more detailed information about projects. Moreover, as far as possible, MIC will share with members information including procurement information concerning Package Projects, reports on surveys of overseas expansion in the digital field conducted by MIC, and outlines of the results of policy dialogues involving MIC, and strive to link this information organically to initiatives involving the public and private sectors.

(iii) Strengthening of support for the formation of specific projects.

Hitherto, JPD3 has functioned as a forum enabling the sharing of core information among an inner circle by holding occasional workshops for members on specific countries and technologies.

Going forward, while further augmenting this function, MIC will seek to increase JPD3's external points of contact in order to enhance its project formation function, with a view also to synchronization with bilateral policy dialogue and international events. For example, one conceivable measure would involve drawing up a list of technologies held by members who wish to disseminate them overseas, and then to spread the word about them to a wide range of foreign governments and companies

through bilateral policy dialogues and embassies. Companies wishing to match with those on the technology list could then contact the company holding the technology in question as needed.

Furthermore, MIC will bolster initiatives relating to the system under which experts with detailed knowledge of digital technology trends, overseas business, and the state of digital technology in various countries and regions worldwide are appointed as advisors. More specifically, MIC will put a consultation form on the members-only section of the website, so that members can seek a consultation at any time, with advisors providing advice as needed. In addition, MIC will progressively move forward with initiatives aimed at increasing opportunities for matching members with other member companies, foreign governments and countries, and multilateral development banks. In conjunction with this, MIC will also use the platform to call for submission of projects to be the focus of top-level sales pitches.

(4) Active involvement in international organizations and use of multilateral relationships and international conferences

The activities of international organizations are predicated on the pursuit of the interests of all member countries, but given that strengthening Japan's involvement enables Japan to develop unique contributions and thereby increase opportunities for the expansion of Japanese business overseas, MIC will be proactive in its approaches to international organizations.

(i) Appointment of high-caliber Japanese personnel to key posts at international organizations

The government as a whole has confirmed its intention to strategically work toward securing executive posts within international organizations, and Japanese nationals have already been appointed to the posts of Secretary General of the Asia-Pacific Telecommunity (APT; appointed February 2021) and Director General of the Universal Postal Union (UPU; appointed January 2022).

MIC will work toward securing the appointment of Japanese nationals to key posts at relevant international organizations, including the post of Director of the International Telecommunication Union (ITU) Telecommunication Standardization Bureau (election scheduled for September 2022).

(ii) Strengthening of human resource development and interpersonal exchange

efforts through networks of connections with and financial contributions to international organizations

(a) International Telecommunication Union (ITU)

As well as the standard financial support provided to the International Telecommunication Union (ITU), MIC uses additional contributions to further support the ITU's activities and address international issues, thereby contributing to the international community. For example, to provide support for the needs of developing countries thrown into relief by COVID-19, MIC is making financial contributions to a project to strengthen digital infrastructure in those countries and a project to enhance resilience in the Asia-Pacific region in the wake of various disasters. MIC also contributes personnel, including dispatching Japanese experts to other countries. Moreover, MIC supports overseas expansion activities by Japanese SMEs and startups by co-sponsoring international trade fairs and forums organized by the ITU.

MIC will continue to proactively contribute to the ITU's activities, thereby enhancing the environment for the overseas expansion of Japanese companies and the overseas deployment of their technologies and know-how.

(b) Asia-Pacific Telecommunity (APT)

Every year, Japan makes voluntary financial contributions to the Asia-Pacific Telecommunity (APT) and actively supports the APT's human resource development activities (training programs, international collaborative research, and pilot projects).

While assessing the impact of the pandemic, MIC will move its training programs for executives and mid-ranking staff from APT member countries back from online to a face to face format, and will use these programs to effectively introduce Japanese technologies and services, as well as striving to further bolster networking with private sector companies.

In international collaborative research and pilot projects, MIC introduces Japanese technologies and services to APT member countries and promotes the development of an environment in which other countries can actively tap into Japan's advanced technologies.

(c) Universal Postal Union (UPU)

MIC and the Universal Postal Union (UPU) have signed a memorandum of cooperation aimed at promoting the implementation of projects in UPU member

countries, including projects for the enhancement of disaster risk management in the postal sector, and MIC provides the support required for this in the form of voluntary contributions to the UPU. Renewed in April 2022, the memorandum of cooperation covers projects to be implemented in the following areas: (1) enhancement of disaster risk management (e.g., holding workshops for training disaster risk management specialists); (2) use of cutting-edge technology, such as digital technology; (3) promotion of financial inclusion initiatives; (4) contribution to measures to cope with infectious diseases; and (5) enhancement of climate change initiatives (carbon neutrality).

In implementing these projects based on the memorandum of cooperation, MIC will seek to provide Japanese knowledge and know-how as needed, thereby promoting the overseas deployment of Japanese postal infrastructure systems.

MIC has already sent Japanese experts to the UPU to support the implementation of projects based on the memorandum of cooperation. In addition, in light of the January 2022 appointment of a Japanese national as Director General of the UPU's International Bureau, MIC will seek to further bolster Japan's presence within the UPU and develop an environment supportive of the overseas deployment of Japanese postal infrastructure systems.

(d) Association of Southeast Asian Nations (ASEAN)

MIC will contribute to the achievement of targets set out in the ASEAN Digital Masterplan 2025, which was formulated at the 1st ASEAN Digital Ministers' Meeting (ADGMIN) in January 2021. As well as taking advantage of opportunities such as the ASEAN Plus Japan Digital Ministers' Meeting (ADGMIN+J) to introduce Japanese companies, MIC will strive to strengthen joint projects by making even greater use of the Japan-ASEAN ICT Fund, which was established with contributions from Japan.

(iii) Sharing of examples of high-quality Japanese infrastructure during multilateral talks and international conferences

In addition to policy dialogue opportunities afforded by bilateral and multilateral frameworks such as those involving Japan, the U.S., and Australia, and the Quad alliance of the U.S., Japan, India, and Australia, MIC will take advantage of Japan's hosting of the G7 and Internet Governance Forum (IGF) in 2023 to share examples of Japan's high-quality infrastructure, thereby fostering an international environment supportive of overseas expansion.

(iv) Overseas deployment of Japanese content via existing multilateral platforms

In 2018, MIC established the ASEAN-Japan Cybersecurity Capacity Building Centre (AJCCBC) in the Thai capital of Bangkok, to serve as a platform for human resource development in the cybersecurity field in the ASEAN region. Via the AJCCBC, MIC has implemented security training courses and supplied self-study materials developed by Japan for ASEAN member states.

Going forward, MIC will implement initiatives aimed at rolling these courses and study materials out more widely across the Indo-Pacific region.