

AI Utilization Strategy II For an AI-Powered Japan

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Contents

I. From AI-Ready to AI-Powered	1
II. Proactive Utilization of AI	3
1. Formulating a comprehensive strategy	3
2. Ensuring AI-powered companies and society	4
III. Addressing the Risks Accompanying the Use of AI	6
1. AI governance	6
(1) Overall approach	6
(2) Efforts by the entire AI ecosystem	6
(3) Consistency with other countries	7
2. Intellectual property-related challenges	8
(1) The legal task of improving foreseeability	8
(2) The development of an intellectual property ecosystem	9
3. Human ability-related challenges	10
IV. Enhancing Japan's Ability to Develop AI	12
1. Improving the environment	12
(1) Securing computing resources and supporting research and development .	12
(2) Accumulation of data	13
2. AI development that harnesses Japan's strengths	14
(1) Overall approach	14
(2) International development	14
V. Our Approach for the Future	16

I. From AI-Ready to AI-Powered

Over four years since Keidanren compiled its policy proposal entitled AI Utilization Strategy: For an AI-Ready Society (2019)¹², there have been significant changes in the environments and international developments surrounding AI. The use of generative AI, in particular, is progressing at a growing pace both in and outside of Japan. A variety of content—including not only text, but also images and audio—is being created around the world on a day-to-day basis.

Given that AI helps to increase productivity and promote innovation in all kinds of industries, the only conceivable approach is to actively utilize it. We need to move beyond the question of whether to use AI, and rapidly create an “AI-powered society”—a society in which the merits of AI can be enjoyed in all areas—while also appropriately addressing the risks in accordance with the principles of human-centric AI.

Enhancing Japan’s ability to develop AI is also essential not only for improving industrial competitiveness, but also for ensuring a healthy environment for competition. In order for Japan to leverage its content industry and other such strengths as a means of bolstering its ability to compete, while considering how it differs from other countries in terms of language, culture, and other aspects, we need to pursue the development of trusted quality AI strategically, in conjunction with the making of rules to ensure that each entity receives the appropriate benefits.

Taking such factors into consideration, and also anticipating the fruits of the Hiroshima AI Process³ which are due to be finalized within the year, this proposal sets

¹ The policy proposal AI Utilization Strategy: For an AI-Ready Society sets out principles, guidelines, and frameworks for companies, individuals, and social systems in preparing to utilize AI, or in other words, in taking steps to become AI-ready (Proposal outline in English: https://www.keidanren.or.jp/en/policy/2019/013_outline.pdf).

² The five principles laid out in AI Utilization Strategy (1. Implement Society 5.0 for SDGs with AI, 2. AI for diversity and inclusion, 3. Build AI-ready social systems, industries, and companies, 4. Develop trusted quality AI, and 5. Promote appropriate understanding of AI) are still universally applicable today. In this proposal, we build on those same principles as we clarify the measures that are needed in light of current developments.

³ On September 7, 2023, the G7 Digital and Tech Ministers and partners met virtually as part of the G7 Hiroshima AI Process. They adopted the G7 Hiroshima AI Process G7 Digital & Tech Ministers’

out the best approach for the development and utilization of AI in Japan as we seek to ensure that our businesses and society move beyond AI-readiness and become AI-powered.

Statement, the key recommendations of which include working towards international guiding principles and formulating a code of conduct for the development of advanced AI systems (https://www.soumu.go.jp/main_content/000900470.pdf).

II. Proactive Utilization of AI

Like digital or other forms of technology in general, the technological advances in AI are irreversible. Even as we may fear the risks, putting a stop to the development or use of AI is not a realistic option. We therefore need to proactively utilize AI in line with the principles of human-centric AI and with the defined goal of realizing Society 5.0 for SDGs—namely, creating a better society in which everyone can live happily, and no one is left behind. Becoming a dominant AI user at this early stage of its progress will also allow Japan to actively participate as a key player in future global efforts to establish the best approaches and international rules for using AI.

1. Formulating a comprehensive strategy

While it has been suggested that, particularly when it comes to use of generative AI, Japan is being left in the dust by other countries, Japan has ample potential to secure an advantage by applying its unique strengths and making increasing use of AI while working with the relevant industrial fields. The strengths Japan can potentially draw on include: 1) high-quality real data accumulated in fields such as Japanese-style craftsmanship and manufacturing processes (*monozukuri*) and healthcare, 2) the high standards of quality and reliability of *monozukuri* grounded in precision finishing and other such techniques, and 3) world-famous content such as computer games, anime, and manga.

In order to proactively ensure greater use of AI in Japan, the government urgently needs to formulate and implement strategy that, rather than exclusively tackling AI, follows a comprehensive approach by adopting an overview of digital transformation as a whole, including the accumulation and use of high-quality data, ensuring trust and transparency by pursuing the concepts of Web3⁴, and the appropriate protection of both creators' and users' rights with regard to content.

⁴ Keidanren published the policy proposal Web3 Advancement Strategy: Toward Realizing Society

This must be a big-picture strategy that applies a top-down approach to set out the measures required for realizing Society 5.0 for SDGs under a centralized “command center”, as opposed to superficial strategy created from the bottom up by gathering together the short-term and existing initiatives of individual ministries and agencies.

2. Ensuring AI-powered companies and society

In order to apply such a strategy with the objective of ensuring that our entire society becomes AI-powered, it is necessary to proactively utilize AI in all socio-economic activities and in doing so enable people to have a real sense of the effects that are commensurate with the costs.

Particularly in companies, each person—from management level to individual employees—needs to appreciate the specific value of AI and draw on such understanding as they share AI use cases while combining the insights companies have gathered in their respective industrial domains with AI, thereby prompting innovation in particular projects and business fields and in turn in society as a whole.

Developments regarding “AI for science” are now suddenly picking up pace around the world. It is important for Japan to lead “AI for scientific discovery” by using all forms of AI in combination with robotics and other related technology in which it holds an advantage, and in doing so not only improve efficiency and quality, but also successfully enable AI to autonomously develop and test hypotheses.

In addition, as we push forward with efforts to make our entire society AI-powered, it is essential to develop the human resources to support it. While we pursue initiatives to enable the human resources in each field to acquire the skills to use AI, it is necessary for the public and private sectors to cooperate to explore the possibilities for smooth movement of labor to the growth industries and fields generated by AI use and for reskilling and other such recurrent education to allow people to adapt to the mid- to

5.0 for SDGs in November 2022. (<https://www.keidanren.or.jp/policy/2022/096.html> in Japanese). The proposal sets out the potential and prospects for the use of Web3.

long-term shifts in industrial structure. Such initiatives can also contribute to addressing the decline in Japan's working population. Enhancing research and development environments is, as touched on below, also vital for assisting efforts to encourage talented human resources to come to Japan from overseas.

III. Addressing the Risks Accompanying the Use of AI

Using AI will invariably also entail addressing the accompanying risks. As Japan endeavors to create an AI-powered society, it is essential to not only guarantee AI governance and tackle legal issues, but also broadly investigate the ways in which the use of AI impacts upon our daily lives.

1. AI governance

(1) Overall approach

Use of AI that affects the nature of human life, human rights, our society, or other fundamental matters needs to be appropriately regulated. On the other hand, other uses of AI should not be excessively restricted. As we build on the basic philosophy of human-centric AI, we need to unleash the infinite potential of AI and apply it effectively to solving social issues and other such tasks. Developing a flexible system of governance will also be necessary in order to respond to the rapid developments in technology.

(2) Efforts by the entire AI ecosystem

In order to ensure appropriate use of AI, it is necessary to clarify the nature of the respective responsibilities of not only the enterprises that develop AI (“developers”), but also those enterprises that use the AI models developed by a third party to provide an AI service (“service providers”) and its users (“users”), and the entire AI ecosystem must work to ensure responsible deployment and other means of improving governance. When doing so, rather than limiting the means of governance to legal regulation, it is advisable to respect voluntary efforts by the entities involved, which also entails remaining open to various forms of governance, such as norms, market principles, and soft law.

It is also necessary to take care to avoid impeding the development and use of AI due to excessive demands upon developers and service providers to engage in governance. We expect the Japanese government to bear this in mind when compiling guidelines

regarding the requirements for “guardrails” that need to be set up by enterprises and to thereby ensure that the content of such guidelines is highly foreseeable and specific.

It is also necessary to facilitate healthy market competition by developing a competitive environment among developers. In the event of a monopoly or oligopoly by a certain enterprise or group of enterprises, not only in AI development but also platforms and other such AI usage, it is necessary that, to ensure fair business practices, such enterprises be prevented from abusing their superior bargaining position.

(3) Consistency with other countries

When exploring the best approaches to governance in Japan, including soft law, it is necessary to properly ensure consistency with other countries, in order to prevent Japan’s efforts from evolving in a different direction from the rest of the world. When doing so, it is necessary to take heed of the possibility that as each country/region individually explores new rules, there may be cases in which the use of AI is excessively restricted and where rules may lack consistency or transparency.

The countries of the world are called upon to build on the outcomes of the G7 Digital and Tech Ministers’ Meeting in Takasaki, Gunma⁵, and the work of the Hiroshima AI Process, and cooperate to facilitate the use of trustworthy AI in a secure digital environment and determine the best form of measures to curb the risks of data bias and other such aspects of governance, ensuring fairness from an objective point of view as they seek to foster coordination among systems. Japan is expected to adopt a significant role in the process of international coordination of policies, in forums such as the Global Partnership on Artificial Intelligence and the OECD’s Working Party on Artificial Intelligence Governance. Keeping in mind that international rulemaking can contribute to Japan’s ability to compete internationally, it is necessary to secure opportunities to

⁵ The Digital and Tech Ministers of the G7 agreed on the Action Plan for Promoting Global Interoperability between Tools for Trustworthy AI on April 30, 2023 (<https://www.meti.go.jp/press/2023/04/20230430001/20230430001-ANNEX5.pdf>).

deliver our opinion on the AI and platforms operated by other countries in terms of their publication of specifications, the transparency of operations, and standardization of technology.

Furthermore, with regard to calls from the governments of third-party countries for the disclosure of data, algorithms or generated models, Japan must draw on the arguments set out in the OECD's Declaration on Government Access to Personal Data Held by Private Sector Entities⁶ to consistently uphold its stance of protecting the products of Japan's technological developments. It is also necessary to facilitate the development of international rules in order to ensure that the data, algorithms, models, and other such products accumulated and developed in Japan do not become subject to unjust demands from a particular country to coerce technology transfer.

2. Intellectual property-related challenges

(1) The legal task of improving foreseeability

When exploring the possibilities for regulating the development, study, and use of AI, it is necessary to take care to ensure that intellectual property rights in the content industry, one of Japan's strengths, are not threatened. Alongside these efforts, it is important to eradicate factors that may hinder the use of AI by developing an environment in which it is ensured that users do not bear the risks of infringing upon intellectual property rights, while at the same time preventing the risks from being exclusively borne by service providers.

In light of such challenges, particularly with regard to the provisions of Article 30-4 of the Copyright Act (Exploitation without the Purpose of Enjoying the Thoughts or Sentiments Expressed in a Work)⁷, it is necessary to adequately consider the unique

⁶ Adopted at the OECD Committee on Digital Economy Policy on December 15, 2022 (https://www.ppc.go.jp/files/pdf/government_access_en.pdf).

⁷ Article 30-4 of the Copyright Act prescribes that in the event that the use of a work "unreasonably prejudices the interests of the copyright owner" in light of the nature or purpose or the circumstances of use of the copyrighted material that is used, the permission of the copyright owner is required.

properties of generative AI and on that basis seek to improve foreseeability by further clarifying the applicability of the provisions and providing more examples and precedents. If, for instance, opt-out clauses or other such provisions are newly included to address the use of copyrighted works as machine training data, the business operator using the works should not fall under excessive limitations or burdens.

Furthermore, particularly in order to minimize the risks of AI service users infringing upon copyright, it is necessary to clarify what constitutes similarities with or dependencies on copyrighted works in AI products. It is in turn necessary to communicate the results of the various investigations to creators and AI service users in comprehensible formats, such as by hosting seminars and releasing public information videos.

(2) The development of an intellectual property ecosystem

Developing an ecosystem regarding intellectual property requires combining various forms of governance and all kinds of legal systems in the process of creating an environment in which data providers, developers, service providers, and users can appropriately enjoy their respective benefits. Such initiatives also help to attract outstanding human resources and companies to Japan.

When doing so it is necessary to examine, while considering the technological limitations, the development of a system that both minimizes the risks of users becoming the target of public criticism and also returns the appropriate profits to the rights holder in accordance with the actual state of training data use.

Among the forms of intellectual property, it is particularly image and video contents—namely, Japan’s strengths—which, due to their lack of dependence on language, are in demand internationally and thereby hold the potential to realize overwhelming profits for Japan. For Japan, where content rights are subdivided in contrast with other countries, it is not easy for the respective rights holders to align themselves to participate in the ecosystem. In order to secure the benefits that Japan can

draw from intellectual property, it is necessary not only to improve the efficiency of processing rights and provide careful explanations to stakeholders, but also for the public and private sectors to engage in a united front to pursue extraordinary efforts. We need to recognize that unless an appropriate ecosystem is developed in conjunction with the initiatives for AI development addressed below, the use of Japan's contents will be unregulated, in turn potentially causing Japan a significant decline in its ability to compete and a loss of profits.

Moreover, given the international trend of increasing numbers of lawsuits and other legal action regarding intellectual property rights, it is also important that while building on the efforts of the Hiroshima AI Process, Japan takes the lead in rulemaking that transcends national borders. When doing so, it is necessary to consider the best form of returning profits to the data provider, such that the rules assist Japan, a country with its strengths in the content industry, to improve its ability to compete and acquire foreign currency.

As addressed below, in the future Japan should strive to ensure greater use of AI that is designed in such a way that both training data and products do not infringe upon copyrights or any other such rights.

3. Human ability-related challenges

In seeking to achieve an AI-powered society, it is important to foster the ability to use AI proficiently in educational and human resource development settings. On the other hand, there are also concerns that the use of AI may lead to decline in our thinking skills and weakening of our sensibility. Amid advances such as progress in the application of generative AI in search engines, it is anticipated that—just as internet use has become consistently more widespread since the end of the twentieth century—use of AI will inevitably become part of our daily lives. As this progress continues, it is necessary to investigate the impacts that AI can inadvertently have on our day-to-day lives.

Japan therefore needs to promptly explore discussion of what it essentially means to “use AI correctly,” rather than “avoiding relying on AI,” by making our own judgments regarding the accuracy and authenticity of the information it generates, and in turn consider the best form of the comprehensive education and human resources development required to understand and implement such an approach. In the immediate future, this could for instance entail incorporating education on basic ethical and technical knowledge of AI use in the curriculum of each stage of education.

Especially in elementary and secondary education, which is focused on forming the foundations for linguistic and thinking skills, it is crucial to develop an appropriate environment for the AI native generation, by forming consensus on the cases in which use of AI should be encouraged or curbed, while taking into consideration factors such as the children’s abilities to utilize and manage information, their literacy, and the settings in which they use AI.

IV. Enhancing Japan's Ability to Develop AI

To ensure an environment for healthy competition without relying excessively upon a particular foundational AI model, it is essential for Japan, a country that differs from others in terms of background, to have the ability to develop its own AI without overly relying on the models of other countries. In light of the current developments, the public and private sectors need to cooperate with each other to urgently pursue initiatives.

1. Improving the environment

(1) Securing computing resources and supporting research and development

To enhance Japan's ability to develop AI, it is vital that the government actively back urgent efforts to acquire GPUs,⁸ for which there is a scramble among countries and companies. It is also necessary to take sufficient care to prevent the structure from arising where Japan's AI development is hampered due to bias in suppliers or supply destinations, and for the national government to take measures where necessary.

At the same time, due to economic security considerations, it is necessary to ensure a stable supply chain for key commodities related to AI development, including considering the possibilities for shifting to domestic production. It is concurrently also necessary to provide profound support through public funding for research and development covering areas such as the enhancement of large-scale computing resources including super computers, and to train and acquire human resources in the field and related fields. When pursuing these initiatives, it is essential to have a sound grasp of the mid- to long-term trends in AI development.

In order to support improvements to Japan's research and development ability on a mid- to long-term basis, it is important to also explore the best means of using domestic clouds, as opposed to only public clouds from outside of Japan.

⁸ A graphics processing unit (GPU) is an arithmetic device (semiconductor chip) specifically for processing images in real time. It is used in AI development as an arithmetic device due to the vast amount of arithmetic processing required.

(2) Accumulation of data

It goes without saying that data is indispensable for the development and use of AI. In order to leverage a combination of AI and use of data as a means of bolstering Japan's competitiveness, it is necessary to facilitate cooperation between the public and private sectors to accumulate and link large volumes of data. In doing so, individual ministries and agencies must collaborate in line with a clear and comprehensive policy to take action with an unprecedented sense of urgency in order to accumulate data that is high quality in terms of volume, variety and velocity.

Particularly in the case of non-personal data, given the relatively few issues regarding data sharing, efforts need to be swiftly pursued to share and utilize data among a wide range of entities in fields of cooperation. On the other hand, with regard to personal data, it is important to use secure computing technology and AI to protect the data while safely linking and analyzing it, and also to develop scenarios for feeding the results back into AI development. At the same time, it is necessary to constantly examine the state of the legal system in light of the latest developments, in order to ensure individuals' safety and peace of mind when we utilize data.

Moreover, most generative AI models now becoming widespread around the world have been developed using training data in English, making it difficult to realize these models' full potential in Japan, which has a different language, culture, and so on. In the future, the public and private sectors need to work together on the utilization of data resources of national research and development agencies and various public institutions and on the linkage with data from companies in order to develop a high-quality, large-scale Japanese-language database, aimed at not only enhancing Japan's ability to develop AI but also ensuring that Japan's AI can use modes of expression particular to the Japanese language and culture. When doing so, it is vital to have a framework for reducing the risks and costs involved in the provision of data.

2. AI development that harnesses Japan's strengths

(1) Overall approach

Building on such efforts to improve the environment to support Japan's AI development, and with next-generation technology beyond the current generative AI in mind, it is necessary to push forward with the development of the trusted quality AI that Keidanren has been advocating for some time. Focusing on securing governance, efforts need to be invested to ensure that intellectual property rights are not violated, that appropriate profits are returned to data providers, and that after prior training specific data can be deleted.

At least as far as development of foundational AI models for generative AI is concerned, Japan currently lags significantly far behind internationally; however, in areas of research and development other than foundational models, such as image recognition technology, there are a number of fields in which Japan has achieved comparative advantage. It is necessary to adopt a well-balanced approach to investing the limited resources in not only the development and utilization of the currently ever more widespread generative AI, but also in the promotion of basic research in AI as a whole and the development of the peripheral technology.

Particularly in the development of AI that generates images, videos and other such content, in order to fully utilize Japan's capacity for creating content and contribute to improving its competitiveness and profits, it is necessary to strategically coordinate with the aforementioned national efforts toward ecosystems and rulemaking regarding intellectual property, thereby developing what can be referred to as "AI with earning potential" through image and video data training and development of foundational models.

(2) International development

When developing Japan's own AI models with a Japanese-language database as a basis, it is important that, taking care to ensure that Japan's efforts are not evolving in a

different direction from the rest of the world, we explore the possibilities of developing and promoting the use of models based on data from the countries/regions in which Japanese companies conduct business. In order to spread AI models in such a way that contributes to Japan's ability to compete, it is necessary to also examine in an integrated manner the nature of the platforms upon which users implement AI.

The government also needs to support research and development and human resources development by leading cooperation among the G7 and G20 nations, and collaboration with Global South and other countries/regions and international organizations.

V. Our Approach for the Future

With the ever-progressing technological advances in AI, action needs to be taken promptly in an environment that changes drastically. Based on this proposal, Keidanren will continue to actively engage in efforts to facilitate the development and use of AI and address the accompanying risks.

While building upon the fruits of the Hiroshima AI Process that are due to be finalized within the year, we will support companies and society in going beyond AI-readiness and becoming AI-powered by keeping up discussions and communicating our standpoints as and when appropriate.