

The Evolution of ESG Investment, Realization of Society 5.0, and Achievement of SDGs

—Promotion of Investment in
Problem-Solving Innovation



Messages on the publication

(title at the time)



NAKANISHI Hiroaki, Chairman, Keidanren

Digital Transformation and the disruptive innovation has opened up entirely new possibilities for the world. It will also open the way for solutions to many of the issues that were previously considered difficult, such as global warming, energy, food, concentration in large cities, and health and medical care. It's both an ambitious challenge and a huge opportunity for companies working on these issues. This will lead to the achievement of the United Nations' SDGs and the creation of a society in which people around the world can live happily and with peace of mind.

In order to realize Society 5.0 for SDGs, we must focus our human and financial resources to accelerate change. I hope that this joint research made not only by industry but also with the University of Tokyo, a representative of academia, and the GPIF, the world's largest asset owner, will help accelerate the creation of the new society.



GONOKAMI Makoto, President, the University of Tokyo

Society 5.0 has been described as “a sustainable, human-centered society in which the physical and cyber worlds are highly integrated by digital transformation, no one is left behind, and everyone works together to create safe and comfortable lives and new growth opportunities.” Society 5.0, which is a better, knowledge-intensive society, is not something that is achieved automatically or spontaneously. We must protect and nurture cyberspace as a global commons that enables everyone to use data fairly and impartially across borders. It is also necessary to transform expansionist economic growth, which seems to have reached its limit due to the manifestation of environmental issues, into growth driven by inclusiveness in which no one is left behind, or “inclusive growth,” and to make a “difference” as a new source of growth.

Working in partnership with Keidanren, the GPIF, and all sectors of society, the University of Tokyo will drive a paradigm shift for a new model of a knowledge-intensive society toward the realization of Society 5.0 for SDGs as a “global base for knowledge collaboration” that will contribute to the future of the planet and human society.



TAKAHASHI Norihiro, President, The Government Pension Investment Fund

Having stable and sustainable growth of corporate value and the capital market as a whole is essential to obtain stable profits over the long term for the benefit of the public pension insured, with funds totaling 160 trillion yen as of the end of March 2019. Against this backdrop, the GPIF has actively promoted ESG investment as a “super-long-term investor” and “universal owner” to enhance the sustainability of financial markets as a whole.

This time, a joint study conducted with Keidanren and the University of Tokyo has shown quantitatively and qualitatively that corporate activities promoting Society 5.0 for SDGs in Japan contribute to environmental and social sustainability and sustainable economic growth from the viewpoints of companies, investors, and academics. This finding is extremely significant from our standpoint as we keep precious insurance premiums of insured persons, and we have high expectations for future development.

The Evolution of ESG Investment, Realization of Society 5.0, and Achievement of SDGs

Joint Research Report by Keidanren, the University of
Tokyo, and the GPIF for the Promotion of Investment in
Problem-Solving Innovation

“Society 5.0 is a sustainable, human-centered society in which the physical and cyber worlds are highly integrated by digital transformation, no one is left behind, and everyone works together to create safe and comfortable lives and new growth opportunities.”

(From the analysis results of this report)

Purpose

We are faced with a time of great change, as exemplified by the development of digital transformation (DX), changes in the socioeconomic structure, an increasing sense of crisis regarding global environmental issues, and changes in people’s mindsets.

To seize these changes as an opportunity to achieve medium- to long-term economic growth and build a sustainable, human-centered society, the realization of “Society 5.0 for SDGs”—a concept originating in Japan—holds the key.

Therefore, we conducted joint research toward the realization of Society 5.0 for SDGs with three parties representing the Japanese business community, academia, and investors, namely Keidanren, the University of Tokyo, and the GPIF.

In the joint research, a series of discussions have been held with the shared recognition of the importance of stable medium- to long-term funding for

companies, universities, and start-ups promoting problem-solving innovation for the realization of Society 5.0 for SDGs.

Accordingly, we have set an aim of realizing Society 5.0 and achieving SDGs by identifying the trend of now globally expanding ESG investment, further evolving it, and connecting it to the promotion of investment in problem-solving innovation. We then examined measures to achieve the aim.

Specifically, we established four themes to promote investment in problem-solving innovation, and conducted research on specific initiatives of each player.

At the end, through these discussions, we present a future action plan of the three parties for the realization of “Society 5.0 for SDGs.”

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Overview

Chapter 1: Background of the Study

- Society 5.0 for SDGs is a concept that transforms four megatrends into opportunities for economic growth and problem-solving.
- In order to achieve this, it is essential that medium- to long-term stable funding be channeled to a variety of players promoting problem-solving innovation, such as companies and universities, and that the innovation ecosystem itself evolves autonomously.
- Therefore, we identify the trend of now globally expanding ESG investment and further evolve it to accelerate investment in problem-solving innovation, in order to achieve the realization of Society 5.0 and the swift and reliable achievement of SDGs.

Chapter 2: Current Status of the Understanding of Society 5.0 and Measures to Improve It

Purpose

Explore the current state of understanding of Society 5.0 and consider measures to improve it

Methodology

- Questionnaire survey on companies and investors
- Same survey + natural language processing
- Discussion among the three parties, etc.

Result

- Society 5.0 is less recognized than ESG/SDGs
- Incorporating Society 5.0 into ESG investment will have a variety of benefits, including higher returns and a broader scope for problem-solving

Chapter 3: Economic and Social Impacts

Purpose

Estimate the economic and social impacts of Society 5.0 and clarify its benefits

Methodology

Estimation by Nomura (2020)

- Presentation of growth opportunities in key industrial

Industrial sector (excerpt)	Growth opportunities (2030)
Next-generation healthcare	36.2
Digitization of manufacturing	28.5
Smart mobility	21.3
Smart living	18.9
Next-generation energy	19.3

Result

- Estimated that if all technologies are implemented in society, a growth opportunity of 250 trillion yen (nominal GDP: 900 trillion yen) would be created in the economy as a whole
- Cumulative investment needed to realize Society 5.0 is 844 trillion yen over 15 years

Evolution of ESG Investment →

ESG

(Mainly focusing on the negative impacts on society and risk reduction)

SRI
(Mainly focusing on compliance with ethical standards)



Investors

* Nomura (2020): A report titled "Society 5.0 for SDGs — Creating Future Economic Assessments" by Koji Nomura, Project Leader, the 21st Century Public Policy Institute and Professor, Keio University



SUSTAINABLE DEVELOPMENT GOALS

Companies, universities, etc.
promoting Society 5.0

Society 5.0

Mainly focusing on the positive impact on society and the medium- to long-term growth of companies

Chapter 4: Direction of Information Disclosure by Companies Promoting Society 5.0

Purpose	Explore the direction of information disclosure by companies addressing Society 5.0
Methodology	<ul style="list-style-type: none"> • Questionnaire survey on companies and investors + natural language processing • (1) Collect long-term visions and other information from companies, and (2) collect investor evaluations of them. • (1) and (2) are processed in natural language to extract the contents of long-term vision, etc. and expression methods required by investors.
Result	<ul style="list-style-type: none"> • Smart life, population structure, climate change, etc. ranked high as megatrends to be captured • 3 elements of the long-term vision of highly rated companies <ol style="list-style-type: none"> (1) Business development based on people (2) Solving global issues (3) Creation of new markets

Chapter 5: Improvement of the Investment Environment

Purpose	Purpose Explore concrete recommendations to improve the investment environment to realize Society 5.0
Methodology	Discussion among the three parties, etc.
Result	<ul style="list-style-type: none"> • Examples of initiatives to improve the investment environment • Role of each player • Fundraisers: Inclusion of Society 5.0 in the integrated report and other publications, promotion of the formation of projects, etc. • Concrete recommendations for the promotion of investment in universities and start-ups • Universities: Identification of key technologies contributing to Society 5.0, etc. • Proposed recommendations of investment methods for Society 5.0 • Megatrend indices, integrated management of DX and ESG indices, etc.

Action Plan

- The three parties of Keidanren, the University of Tokyo, and the GPIF manifest their commitment to Society 5.0 for SDGs, and as concrete measures for its realization, they will foster the formation of projects concerning Society 5.0, promote engagement, and form a social system for its realization.

1.

Background of the Study

Summary

We see 4 megatrends looming currently. Going forward, Japan and the rest of the world will undergo major changes that are not in line with past trends.

We need to turn these megatrends into opportunities for medium- to long-term growth and for the creation of a sustainable society.

The key to achieving this is the realization of “Society 5.0,” a concept originating in Japan. “Society 5.0” is a “growth strategy” that makes the most of digital transformation, overcomes various human limitations, solves global issues such as environmental problems and health, and realizes a sustainable, human-centered society. This will greatly contribute to the achievement of the SDGs advocated by the United Nations.

On the other hand, ESG investment is an investing method

that contributes to the achievement of SDGs by investors. ESG investment and Society 5.0 share three common themes: forward-looking and pursuing both economics and sustainability. Currently the two are not connected, but the evolution of ESG investment (which means that as part of ESG investment, more companies and universities will invest in problem-solving innovation) is critical to truly achieving SDGs.

This chapter proposes a new idea: “Further evolution of ESG investment and the realization of Society 5.0 are critical to the swift and reliable achievement of the SDGs.” And, four strategies for the realization are presented.

In addition, this chapter presents the role required of various stakeholders for realization of Society 5.0.

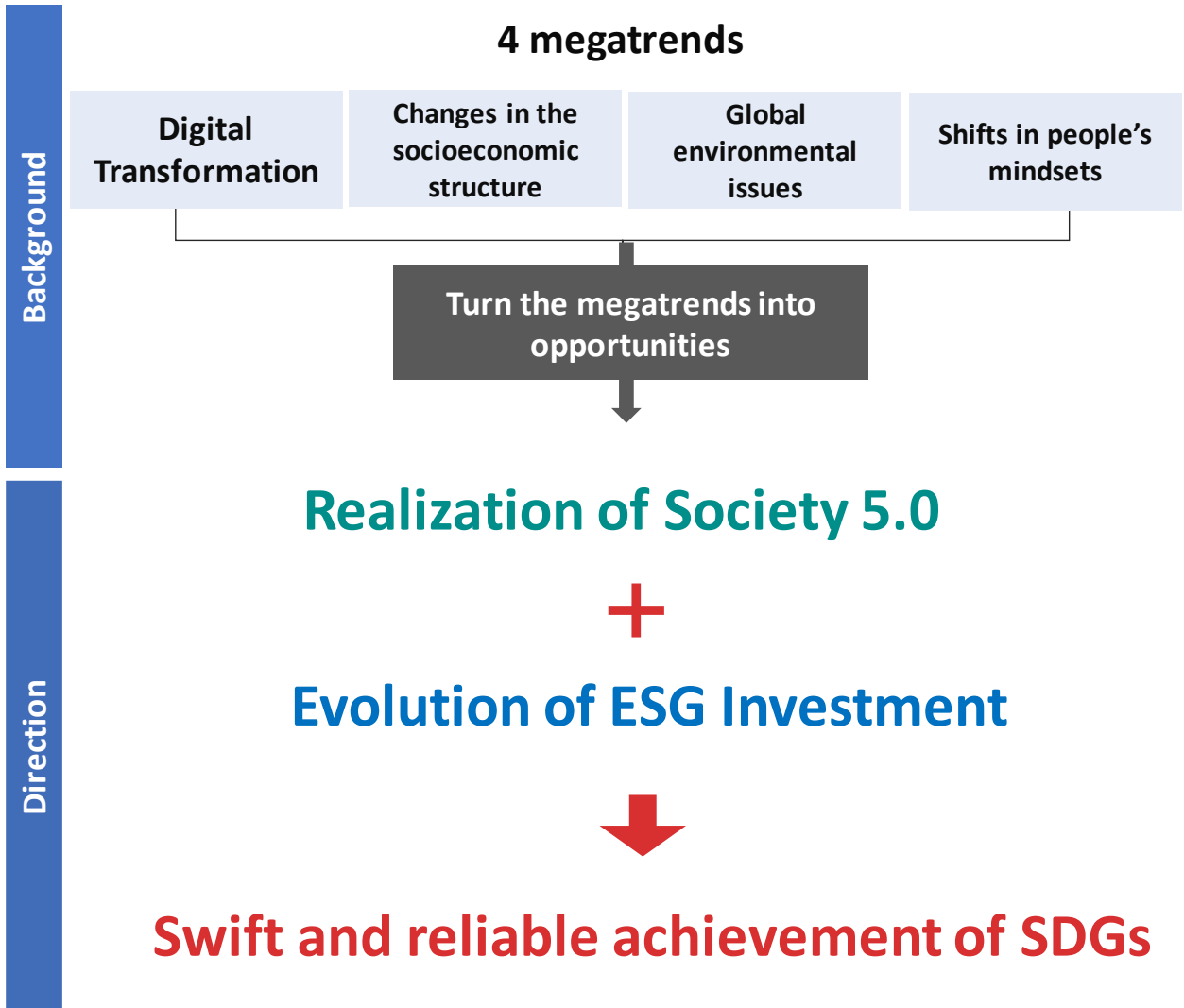


“ Although the paradigm shift that starts with digital transformation poses negative risks, it has the positive potential to lead the world to inclusive growth, include all people while reducing various disparities, and create a better society.

This is the image of Society 5.0 as the ‘better society’ that Japan has been discussing ahead of the rest of the world.”

*GONOKAMI Makoto,
President,
the University of Tokyo*

Chapter 1: Background of the Study (Overview)



Challenge

On the other hand, investment in problem-solving innovation through ESG investment is still halfway to completion. Society 5.0 will not be realized without investment in problem-solving innovation

4 strategies

- Current Status of Understanding and Measures to Improve It (Chapter 2)
- Economic and Social Impacts (Chapter 3)
- Direction of Information Disclosure (Chapter 4)
- Improvement of the Investment Environment (Chapter 5)

Role of each stakeholder in realizing Society 5.0 for SDGs

4 Looming Megatrends



Digital Transformation

The looming megatrends are changing society drastically. Here, we introduce four major such trends.

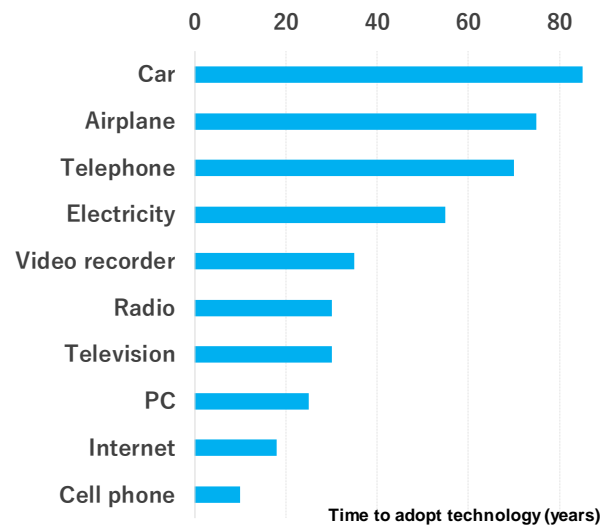
The first megatrend is the progress of “DX (digital transformation)” which brings about the possibility of new social change.

Diffusion of digital devices

Since the 1990s, personal computers and the Internet have rapidly spread to common households, and the “information society,” in which many people can freely access a wide range of information, has arrived.

With the advent of smartphones in the mid-2000s, possession of advanced information devices changed from “one per house” to “one per person.” This has made it easier for people of all ages to access more advanced information today.

Approximate amount of time it takes new products to penetrate 50% of the U.S. population
85 years for cars, 25 years for PCs, and 10 years for cell phones



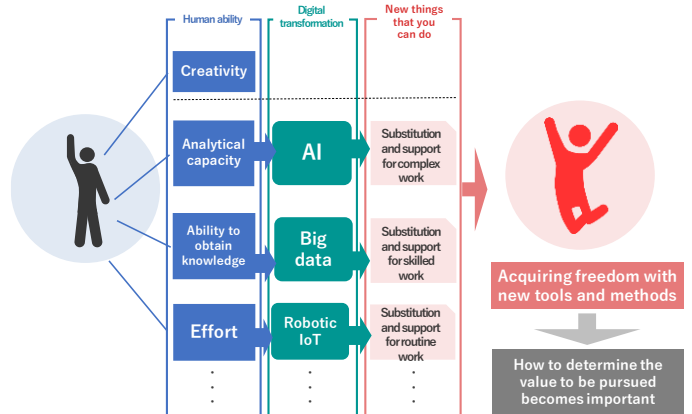
Note: Adoption refers to the amount of time it takes a technology to penetrate 50% of the U.S. population.
 (Source) Prepared by Keidanren Secretariat based on the United Nations Development Programme (2015): Human Development Report

Digital transformation (DX)

Digital technology has further advanced to connect not only digital devices but also all “things” to the Internet. In addition, advances in AI technology that can predict, analyze, and optimize information, and social implementation of 5G communication technology that connects various technologies are imminent.

These developments in digital technology are not limited to the spread of individual technologies, but are expected to significantly change the appearance of society. This transformation is commonly referred to as “digital transformation (DX).”

Digital transformation expands people’s capabilities, enables new things, and provides freedom





Changes in the socioeconomic structure

The second megatrend is the change in the socioeconomic structure of Japan and the world.

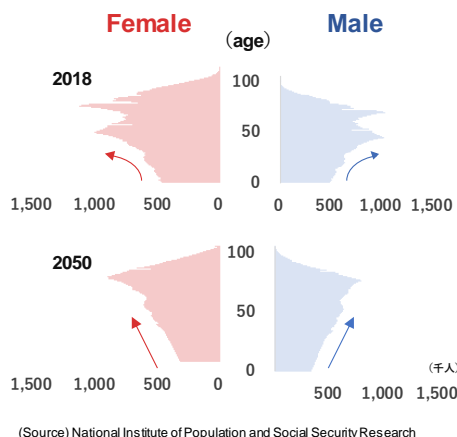
Demographic changes (progress of low birthrate and aging population)

Since the 1990s, Japan has experienced a rapidly aging population with a declining birthrate and a longer life expectancy. As a result, the country faces various challenges, including a labor shortage, a decline in the vitality of rural areas, and an increase in social security costs.

There is also growing concern over the declining birthrate and aging population in Europe, and in places in Asia such as China and South Korea. For example, according to population prospects released by the United Nations, the working population in Europe is expected to decline by about 50 million between 2010 and 2025.

At the same time, demand for products and services in response to the aging of society is expected to increase, and measures to respond to the declining birthrate and aging population are becoming a common global issue.

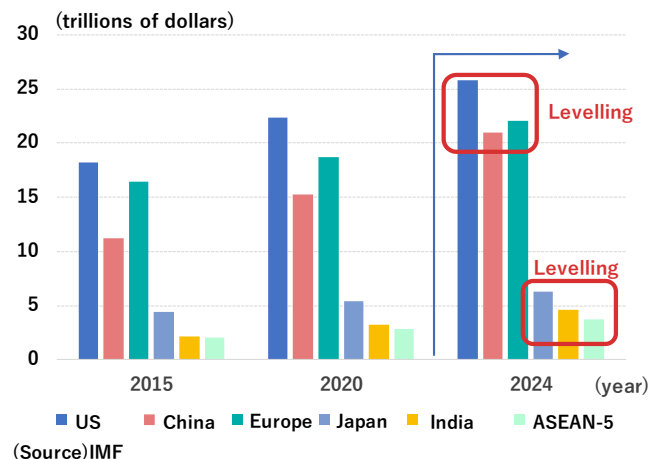
Japan's declining birthrate and aging population will continue to advance: in 2050



Shift of the world economy to Asia and emerging countries

The world economy is expected to shift further to Asian and other emerging countries, and China is expected to become an economic superpower comparable to the United States and Europe. India and ASEAN are also expected to grow rapidly. As a result, demand for high-value-added products and services will increase in Asia and emerging countries.

Changes in nominal GDP (U.S. dollar) of countries and regions



Concerns about low growth and prolonged low interest rates in developed countries

Since the bursting of its economic bubble in the 1990s, Japan has experienced a prolonged period of low growth and low interest rates, known as the “Lost 30 years”, deflationary recession, or protracted stagnation.

Furthermore, since the global financial crisis of 2007–2008, developed countries in Europe and elsewhere have continued to have low growth and low interest rates, as in Japan, and there is a concern that these will be prolonged.



Global environmental issues

The third megatrend is global environmental issues, for which there is a growing sense of crisis worldwide in recent years.

Global environmental problems that pose global risks

The World Economic Forum’s *The Global Risk Report 2020* ranks global risks after 2007 in terms of two indices, namely the probability of risk materialization (likelihood) and the adverse impacts of risk materialization (impact).

According to the report, environmental issues did not rank in the top five in either index until 2011. However, in 2020, environmental issues made up the top five in terms of risk materialization probability (likelihood) and three of the top five in terms of the adverse impacts of risk materialization (impact). Environmental issues as global risks have been positioned as extremely important.



* The top five issues of concern in terms of the probability of risk materialization and the adverse impacts of risk materialization assumed by the WEF are indicated in different colors.
 * Green indicates environmental risk, red indicates social risk, blue indicates economic risk, purple indicates technological risk, and orange indicates geopolitical risk.

(Source) World Economic Forum

Climate change

Concerns over climate change are growing both at home and abroad against the backdrop of factors such as extreme weather events, including typhoon disasters and extreme heat in recent years, and the United Nations Climate Action Summit in September 2019.

Climate change is a global issue, and members of the international community are working together to reduce greenhouse gases under the Paris Agreement adopted by the United Nations in 2015. The Paris Agreement sets a goal for the second half of this century of balancing global emissions and sinks, and the creation of disruptive innovation driven by business is essential to achieving this goal.

In addition, the market for “E” (Environment) among ESG investments has expanded significantly in recent years. According to an estimate by the International Finance Corporation (IFC), the amount of green bonds (bonds specifically for environmental projects) issued exceeded 27 trillion yen in 2019, setting a record high.

Biodiversity and marine plastics

It is essential for human life to benefit from natural resources, and the blessings of nature that grow in a superior environment are sources of high added value such as nutritious food. Maintaining biodiversity and building a sustainable society in harmony with nature are essential conditions for realizing a human-centered society.

In addition to marine pollution and the impact on the ecosystem, the issue of marine plastics, which has attracted increasing attention in recent years, has the potential to affect the human body through the food chain. The formation of a circular economy is also important from the viewpoint of realizing the healthy life of people.



Shifts in people's mindsets

The fourth megatrend is shifts in people's mindset due to the emergence of new generations.

Adoption of SDGs and awareness of sustainability

In 2015, the UN General Assembly unanimously adopted the "Transforming our world: the 2030 Agenda for Sustainable Development" ("2030 Agenda" hereinafter), which, based on the principle of leaving no one behind, set 17 SDGs and 169 targets as international common goals to be achieved by 2030.

The 2030 Agenda calls for the cooperation of diverse stakeholders to balance and achieve simultaneously the three dimensions of the SDGs: the economic, social, and environmental dimensions.

According to *Better Business Better World* by the Business and Sustainable Development Committee, an organization composed of the world's business community and experts, achieving the SDGs opens up new opportunities for companies, and the market opportunities are estimated to be worth over 12 trillion dollars per year in four economic systems.



(Source) Prepared by Keidanren Secretariat based on *Better Business Better World*

Major core generation changes in the next few years

It is said that over the next 5 years, approximately half of consumers and workers will be "millennials" who value not only economic growth but also contributions to society, and the "Digital Native"

generation who have been surrounded by digital devices since they began to understand things.

Millennials

Millennials have spent a long time in the age of uncertainty, beginning with the global financial crisis of 2007–2008, and are not focusing solely on economic growth, but also on improving the quality and sustainability of society as a whole. For this reason, they consider environmentally and socially conscious products and services as elements of high added value.

In addition, they are highly interested in "experiential consumption" which emphasizes not only the functional aspects of products and services but also the experience gained through them.

Digital Native generation

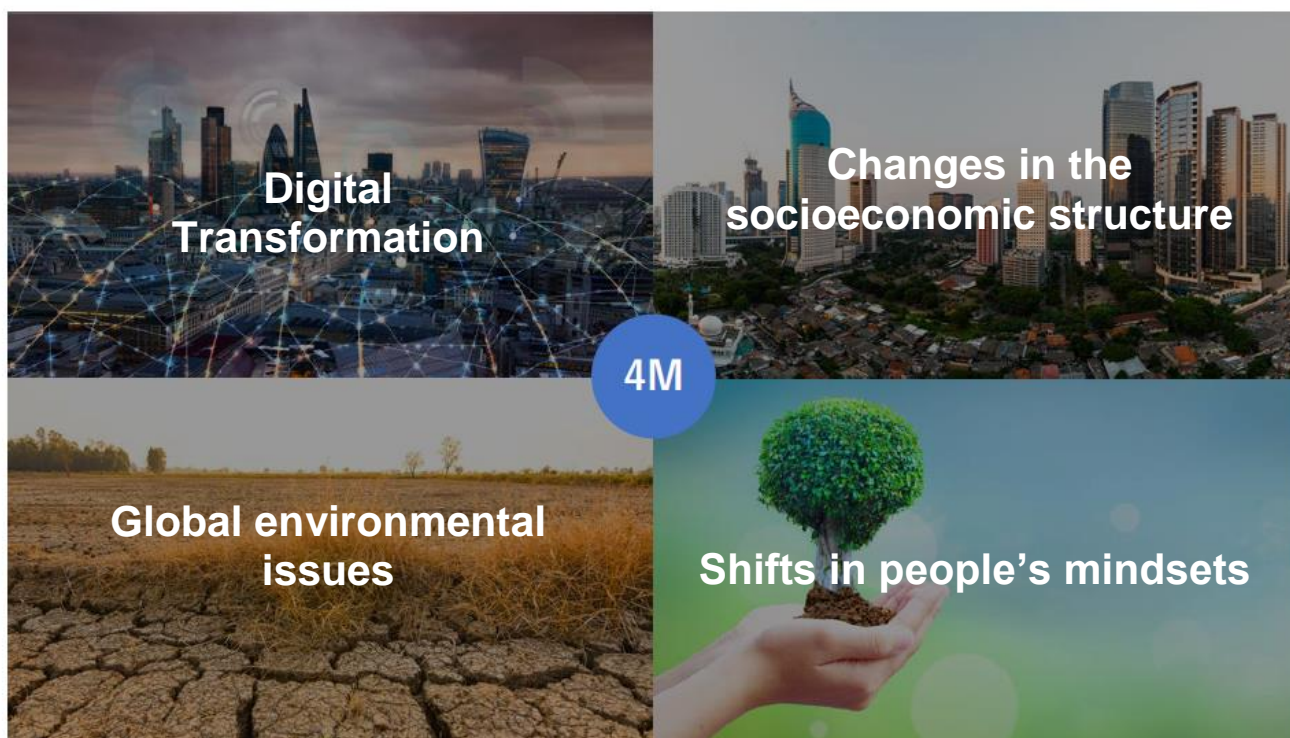
The Digital Native generation have been enjoying the new benefits of the rapidly spreading Internet and digital devices since the late 1990s, as soon as they began understanding things.

This generation aim to do more efficient activities and create smooth human relationships with the use of digital devices. They are also said to have the characteristic of not being bound by conventional customs, and acting based on their own values and ways of thinking.

When using an approach with conventional ideas, it is difficult to gain response from these generations who have such new modes of behavior and values; companies, universities, investors, and others are required to flexibly change their ways of thinking.

Realization of Society 5.0 for SDGs

in the 4 Megatrends Holds the Key



Society 5.0 for SDGs

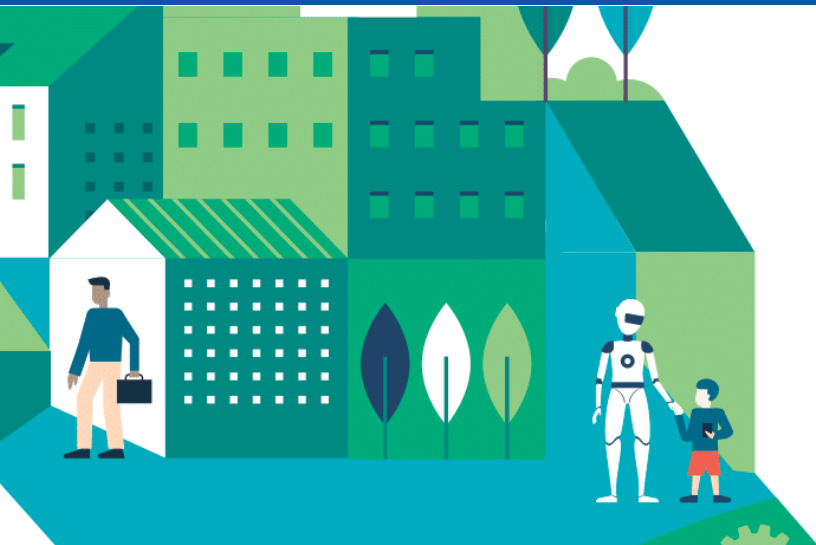
Society 5.0 turns the megatrends into opportunities

The above four megatrends, namely the development of digital transformation (DX), changes in the socioeconomic structure, increasing sense of crisis regarding global environmental issues, and shifts in people's mindsets, will cause major changes over the medium to long term.

Depending on our efforts, we may be at risk of creating new, more complex challenges.

However, the "Society 5.0 for SDGs" concept originated in Japan is an ambitious concept that views such changes and challenges as opportunities, connects them to medium- to long-term growth, and leads to the solution to global challenges.

Society 5.0 for SDGs



Society 5.0

—a Creative Society

What is Society 5.0?

Society 5.0 is the concept of the fifth future society, following the hunting society, agricultural society, industrial society, and information society.

In Japan's fifth Science and Technology Basic Plan, Society 5.0 was defined as a "super smart society" in which cyberspace and physical space (real space) are highly integrated by utilizing rapidly developing digital technology.

Society 5.0 is a "Creative Society"

In its proposal "Society 5.0: Co-creating the future" ("the Society 5.0 Comprehensive Recommendation" hereinafter) published in November 2018, Keidanren defined Society 5.0 as a society "where digital transformation combines with the imagination and creativity of diverse people to solve social problems and create value." It also named the society a "Creative society."

Behind this lies the idea that the society to be pursued in Society 5.0 is not only a "super smart society" but also a society in which anyone, anytime, anywhere, with peace of mind, creates values while living in harmony with nature by utilizing innovative technologies.

In addition, it presents two elements, namely "digital transformation" and the "imagination and creativity of diverse people," as important means of realizing Society 5.0, and calls for companies to utilize digital transformation and reform the organizational structure so that diverse people can demonstrate their imagination and creativity.

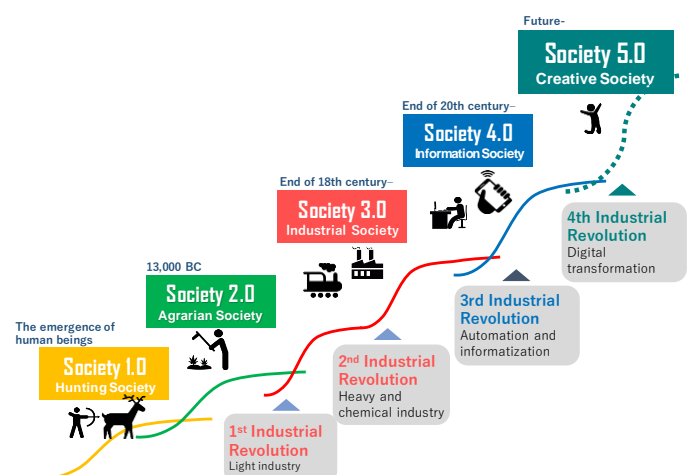
Utilizing technology and industry to create a human-centered society

The difference between Society 5.0 and the fourth Industrial Revolution, such as Germany's Industrie 4.0, lies in that the goal of the latter is to pursue technological and industrial transformation, while the former pursues human happiness and the building of a better society based on such transformation.

In the fourth Industrial Revolution, which aims to transform technology and industry, innovative technologies will be introduced into industry to achieve more efficient and smarter production. But as a result, it can have a negative impact on people and society.

On the other hand, with the goal of creating a more comfortable life and a better society, Society 5.0 focuses on how technological and industrial transformation should be utilized to achieve happiness and a better society.

In other words, Society 5.0 is a concept that aims for an inclusive and sustainable society in which people play a leading role, with a broad perspective on the use of innovative technologies.



(Source) Keidanren



Social vision of Society 5.0

What will Society 5.0 look like? For example, the Charter of Corporate Behavior (Box 1.2) formulated by Keidanren presents a sustainable, human-centered society in which economic growth is compatible with the resolution of various social issues such as health and medical care, agriculture and food, environment and climate change, energy, safety and disaster prevention, and equality of people and gender, and in which each and every person can live and work comfortably and with peace of mind.

In addition, in the Society 5.0 Comprehensive Recommendation, five figures of societies realized by Society 5.0 are presented.

1. **“Value Creation” Society**
→ A society that creates new added value by responding to diverse needs and solving problems
2. **“Diversity” Society**
→ A society in which diverse people display diverse talents and pursue diverse values
3. **“Decentralized” Society**
→ A society in which wealth and information are not concentrated on a specific person or company, and in which there is an opportunity for everyone to play an active role anytime and anywhere.
4. **“Resilient” Society**
→ A society where people can live with peace of mind free from concerns such as climate change, abnormal weather, social unrest, and cyber attacks
5. **“Harmony with Nature” Society**
→ A society where people can live with peace of mind free from concerns such as climate change, abnormal weather, social unrest, and cyber attacks

In Society 5.0, a world that saw a large-scale paradigm shift, cyberspace and physical space become two sides of the same coin. For this reason, appropriate and responsible development, use and management of the common platform for humanity spanning both spaces (global commons) will support Society 5.0 and play an extremely important role in realizing its goal of a sustainable, human-centered society.

Society 5.0 “for SDGs”

Thus, Society 5.0 is in line with a society which has achieved the United Nations SDGs, in which both economic growth and problem-solving have been attained. To clearly indicate this, Society 5.0 is referred to as “Society 5.0 ‘for SDGs.’”¹

Significance of Society 5.0 in terms of achieving SDGs

On the other hand, from the perspective of achieving SDGs, Society 5.0 is also significant in that it makes it easier for economic entities such as companies and investors to encourage efforts to achieve SDGs. This is because Society 5.0 emphasizes the achievement of SDGs through business and innovation.

In addition, because Society 5.0 is a concept that aims to achieve the SDGs through the use of innovative technologies, it is possible to simultaneously resolve a number of social issues that have been considered as trade-offs in conventional technologies. For example, it enables the provision of cheap and clean energy by combining innovative clean energy technologies, storage battery technologies, and the like.

¹ The terms “Society 5.0 for SDGs” and “Society 5.0” are used in this report for the above reasons and refer to the same concept.

ESG Investment and Society 5.0



What is ESG investment?

On the other hand, in the global financial and capital markets, interest in ESG investment has increased in recent years.

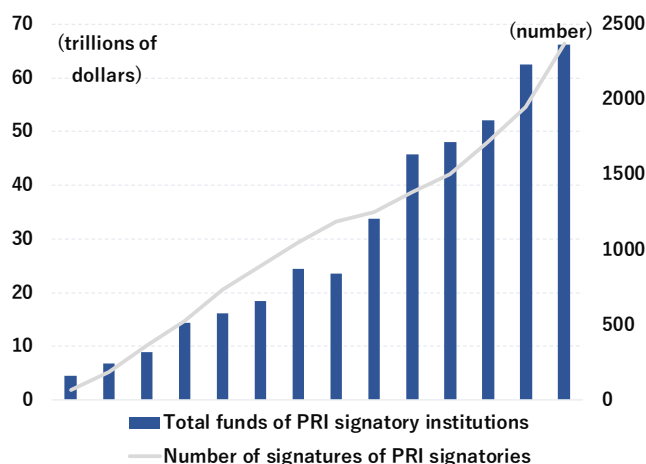
What is ESG investment?

ESG investment was originally proposed in the Principles for Responsible Investment (PRI) launched in 2006, and which presented E (Environment), S (society), and G (Governance) as factors influencing medium- to long-term corporate value.

Expansion of ESG investment

ESG investments expanded rapidly, particularly in Europe, with the total assets under management of the fund managers signing the PRI amounting to about 66 trillion dollars and the actual assets allocated to ESG investments reaching about 30 trillion dollars.²

Interest in ESG investment is also growing in Japan, reflecting the GPIF's strong commitment to ESG including the inclusion of ESG in its Investment Principles.



² Global Sustainable Investment Review 2018 by Global Sustainable Investment Alliance ("GSIR" hereinafter)

Contributing to the achievement of SDGs (ESG for SDGs)

ESG investment is also one of the approaches taken by investors to solve social issues, and there is a strong recognition among investors that ESG investment will lead to the achievement of SDGs.

For example, in a questionnaire survey on companies and investors,³ 96% of the investors said that their ESG investments contribute to achieving the SDGs.

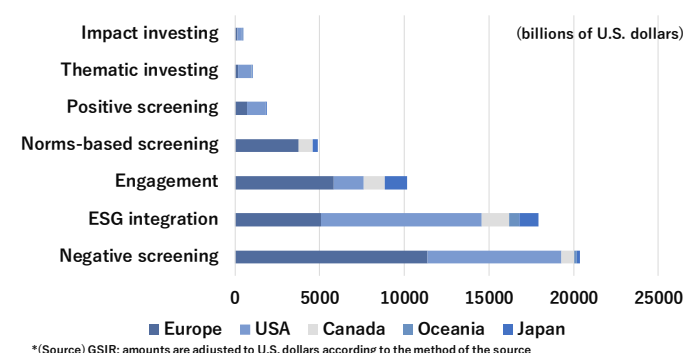
Variety of ESG investing methods

Investing methods of "ESG investment" vary widely. For example, the GSIR classifies ESG investment methods into seven strategies.

According to the report, negative screening, which excludes certain sectors and companies that do not meet ESG criteria from investment, has the largest amount of assets.

The method with the second-largest amount of assets under management is "ESG integration" which introduces ESG elements into financial analysis.

In addition, although still relatively small in amount, positive screening and themed investing have surged in recent years.



³(Source) GSIR; amounts are adjusted to U.S. dollars according to the method of the source

³ Throughout this report, the "questionnaire survey on companies and investors" refers to the findings of the survey presented in Appendix 1 of this report.

Common features of ESG investment and Society 5.0



ESG investment by investors and Society 5.0 by corporations have the following three features in common, and they are expected to be connected with each other.

Being forward-looking (potentiality)

Both ESG investments and Society 5.0 are forward-looking—rather than being backward-looking and investing and carrying out activities based on historical conditions and data, they look ahead and invest and conduct corporate activities accordingly.

Improving economic growth and returns (profitability)

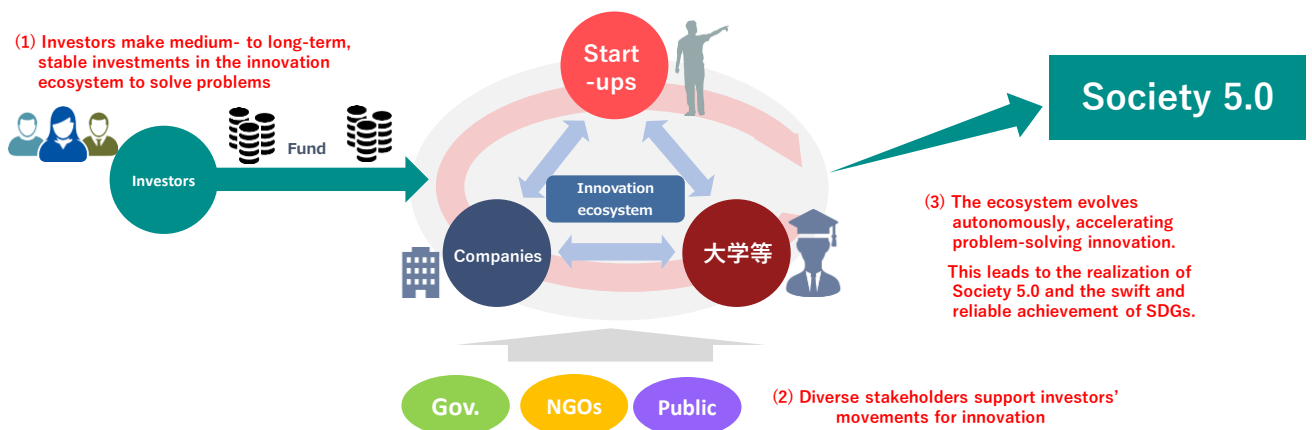
ESG investment and Society 5.0 both aim to increase not only social but also economic value.

Aiming to achieve SDGs (sustainability)

Both ESG investment and Society 5.0 aim to address global issues, achieve SDGs, and realize a sustainable society.

ESG investment in problem-solving innovation accelerates realization of Society 5.0

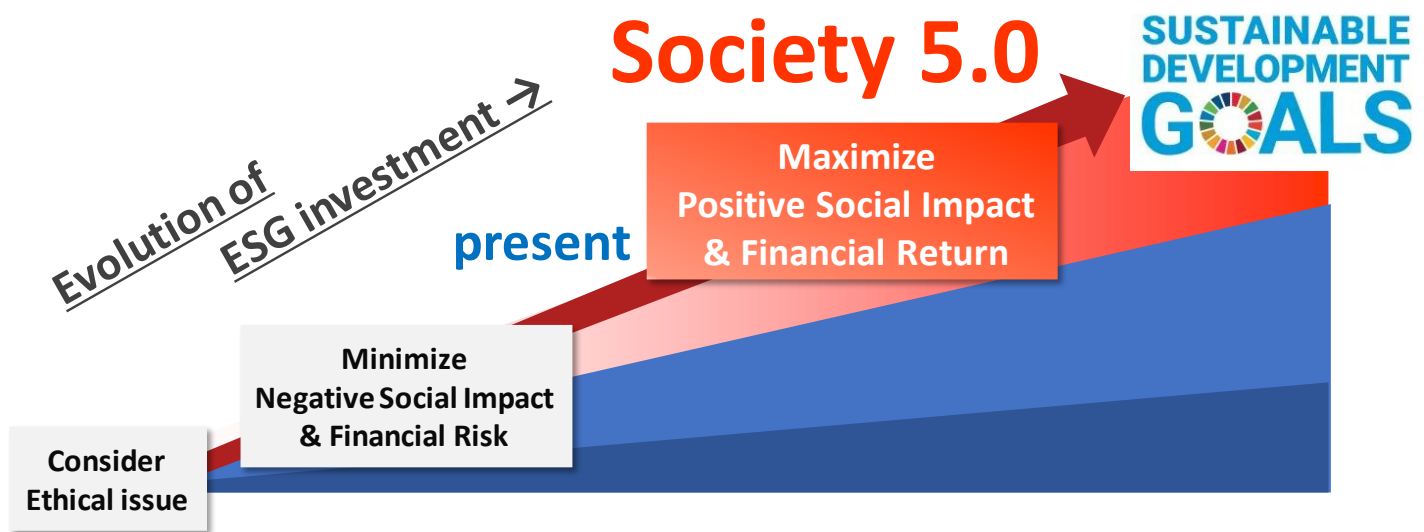
Stable medium- to long-term funds from ESG investments drive the achievement of Society 5.0, and SDGs will be achieved.



If ESG investment and Society 5.0, which have the common features, are combined, the problem-solving innovation ecosystem will evolve autonomously, Society 5.0 will be realized, and SDGs will be truly achieved.

If ESG investment and Society 5.0, which have the three features in common, were to be combined (medium- and long-term stable investment funds were to be directed to the problem-solving innovation ecosystem), the ecosystem would evolve autonomously to realize Society 5.0 and truly achieve SDGs (swift and reliable achievement of SDGs).

Further evolution of ESG investment is critical to achieving Society 5.0 and SDGs



Further evolution of ESG investment is essential

Meanwhile, it is difficult to say that ESG investment and Society 5.0 are currently well connected. This is probably because ESG investment is still in the process of evolving.

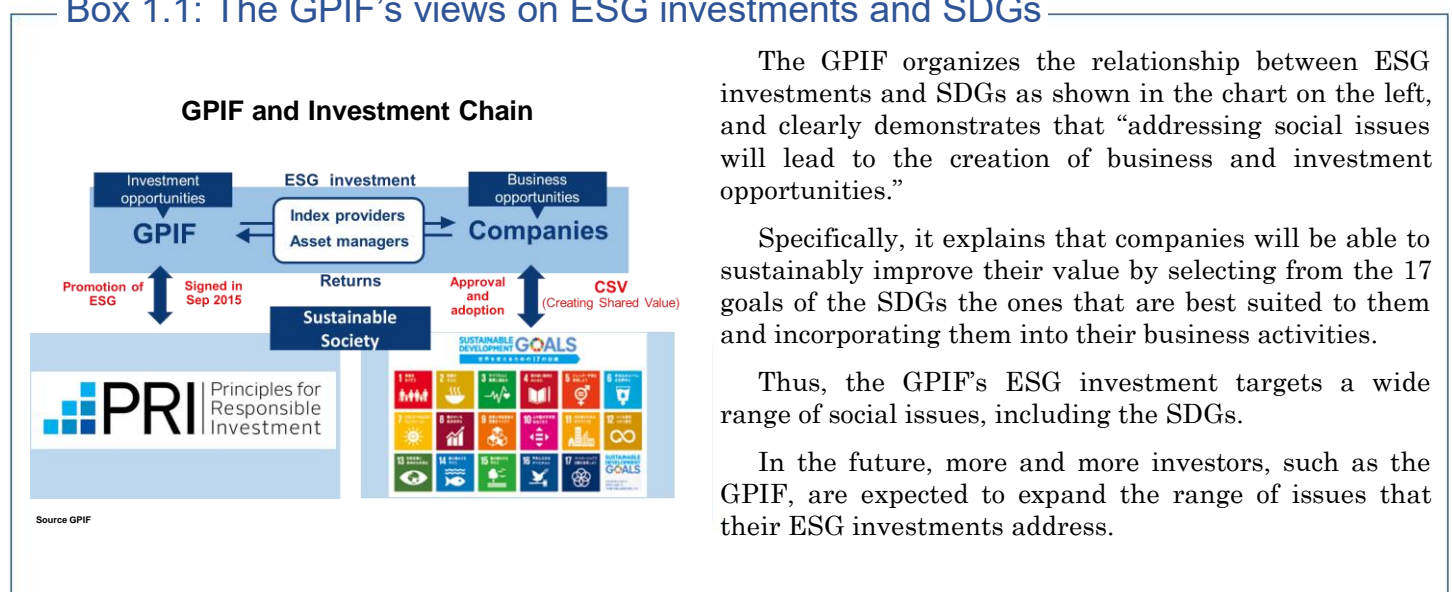
ESG investment originally came from Socially Responsible Investment (SRI), which excludes companies that do not conform to the code of ethics from investment destinations. It later evolved to investment centered on reducing the negative impact of corporate activities on society and the risk of medium- to long-term fluctuations in corporate value.

Furthermore, currently an increasing number of people have the view that solving social issues through corporate business activities and innovation not only has positive impacts on society but also is a key to corporate growth over the medium to long term.

This further evolution of ESG investment (promotion of investment in problem-solving innovation) will also lead to the realization of Society 5.0 and the true achievement of SDGs.

It is therefore important to promote the evolution of ESG investment and connect it to Society 5.0.

Box 1.1: The GPIF's views on ESG investments and SDGs



The GPIF organizes the relationship between ESG investments and SDGs as shown in the chart on the left, and clearly demonstrates that “addressing social issues will lead to the creation of business and investment opportunities.”

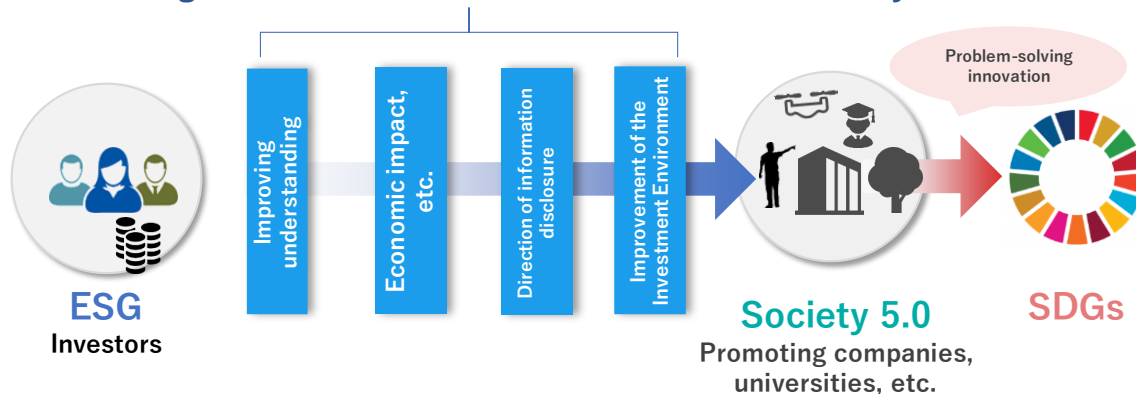
Specifically, it explains that companies will be able to sustainably improve their value by selecting from the 17 goals of the SDGs the ones that are best suited to them and incorporating them into their business activities.

Thus, the GPIF's ESG investment targets a wide range of social issues, including the SDGs.

In the future, more and more investors, such as the GPIF, are expected to expand the range of issues that their ESG investments address.

Evolve ESG Investment and Connect It to Society 5.0 to Achieve SDGs Swiftly and Reliably

4 strategies to connect ESG investment and Society 5.0



Accelerate the evolution of ESG investment and connect it to Society 5.0 to achieve SDGs quickly and reliably

In light of the above, this report aims to “Accelerate the evolution of ESG investment and connect it to Society 5.0 to achieve SDGs swiftly and reliably.” The following is a list of four specific strategies to achieve these objectives and concrete examples of how they will be realized.

4 strategies to connect ESG investment and Society 5.0

Chapter 2: Current Status of Understanding and Measures to Improve It

Gain an understanding of the level of recognition of Society 5.0, and organize strategies to increase the interest and understanding of Society 5.0 among not only investors but also a wide range of people to create an investment climate for Society 5.0.

Chapter 3: Economic and Social Impacts

Show the economic and social impacts of Society 5.0.

Chapter 4: Direction of Information Disclosure

Explore the direction of information disclosure by companies addressing Society 5.0.

Chapter 5: Improvement of the Investment Environment

Present the challenges and measures to support the realization of Society 5.0

ESG Investment connected to Society 5.0

Evolution of ESG investment

Society 5.0 has led to a greater realization that the evolution of current ESG investments will allow for more effective economic growth, more effective problem-solving, and the true achievement of SDGs. Investors will thus be encouraged to invest in ESG to realize Society 5.0.

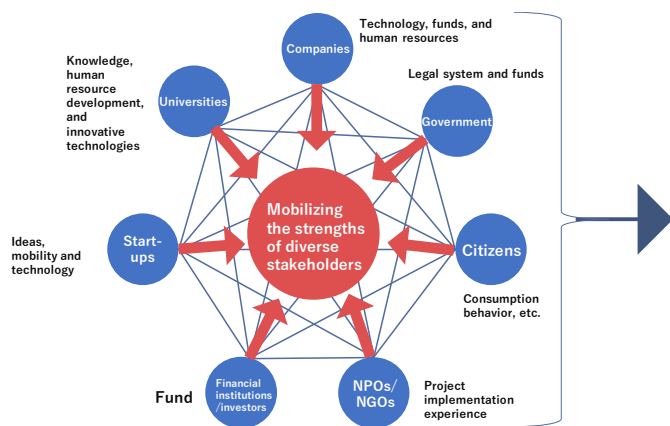
Evolution of problem-solving innovation ecosystem that contributes to the realization of Society 5.0

With a long-term and stable supply of investment funds, funds will circulate among companies, start-ups, universities, and the like, and more disruptive and transformative innovations will be created autonomously to realize Society 5.0.

Evolution of stakeholders to achieve SDGs

A variety of forward-looking, constructive dialogues based on the common concept of Society 5.0 for SDGs will be held to connect diverse stakeholders.

Collaboration with Various Stakeholders to Realize Society 5.0 for SDGs, and Roles of Each of Them



Society 5.0 for SDGs

Toward a sustainable, human-centered society

Collaboration with a variety of stakeholders is essential

In addition, realizing Society 5.0 for SDGs requires a variety of stakeholders to play a role. The roles are shown here.

Role of companies

The role of companies is defined in the ten articles presented in the Charter of Corporate Behavior (Box 1.2). In particular, Article 1 “Develop and provide socially beneficial and safe goods and services through innovation” is important.

Also, in order for open innovation to take root and become fully fledged, it is necessary to invest their management resources such as superior human resources, funds, technology and data in the ecosystem.

It is also important to build medium- to long-term sustainable relationships with customers and other stakeholders through these initiatives.

Role of start-ups

Start-ups are expected to have a clear vision and ambitious ideas for solving problems and development of innovative technologies, and the enthusiasm and mobility to realize them. Therefore, as a key player in realizing Society 5.0, they are required to demonstrate their maximum ability in the innovation ecosystem and implement a new business model.

Role of universities

Universities are responsible for providing cutting-edge knowledge and technology, and superior human resources within the ecosystem and working with other stakeholders to create and nurture cutting-edge innovation seeds. It will also lead a paradigm shift to a new model of a knowledge-intensive society through studies of the socioeconomic system that underpins Society 5.0.

For this reason, universities are required to establish systems and foundations to enable the

utilization of excellent resources throughout the ecosystem, and to develop superior human resources.

Role of financial institutions and investors

Financial institutions and investors have a vital role to play in providing capital to drive the evolution of the problem-solving innovation ecosystem. Funding should not be limited to short-term profitability, but should be done from a medium- to long-term perspective, taking into account the value it brings to society.

Role of the national and local governments

Governments and local governments are required to play diverse and fundamental roles in the evolution of the innovation ecosystem. These include giving financial support for basic research, supporting projects that are socially needed but for which it is difficult to mobilize private funds, providing demonstration fields, and deregulating and developing a legal system for the social implementation of technologies.

Role of NPOs/NGOs

Stakeholders, including NPOs and NGOs, are required to provide experience in and implement various projects, in addition to raising awareness for the realization of Society 5.0 for SDGs. In doing so, it is also important to use a framework that encourages public interest activities by the private sector through dormant deposits (JANPIA). (Box 1.7)

Role of citizens

Citizens are encouraged to deepen their understanding of Society 5.0 for SDGs, and they are also expected to play a role as a fund provider by utilizing their skills and experience, and going forward, cloud funding and other means. In addition, consumption behavior which contributes to the realization of Society 5.0 for SDGs is also required.

Box 1.2: Charter of Corporate Behavior: companies' role in realizing Society 5.0 for SDGs

Companies have a wide range of roles to play in realizing Society 5.0 for SDGs. Keidanren revised its Charter of Corporate Behavior in November 2017 and clarified such roles.

Charter of Corporate Behavior - For the Realization of a Sustainable Society -

Keidanren (Japan Business Federation)

The role of a corporation is to take the lead in the realization of a sustainable society by creating added value that will benefit society and generating employment, through autonomous and responsible behavior, on the basis of fair and free competition. To this end, regardless of its location, a corporation is expected to comply with the letter and spirit of relevant laws and regulations and international rules and to fulfill their social responsibility with a strong sense of ethical values, by acting in line with the following ten principles.

Sustainable economic growth and the resolution of social issues

1. Develop and provide socially beneficial and safe goods and services through innovation, and strive for sustainable economic growth and the resolution of social issues.

Fair business practices

2. Engage in fair and free competition, appropriate transactions and responsible procurement. Also, maintain a sound relationship with political bodies and government agencies.

Fair disclosure of information and constructive dialogue with stakeholders

3. Disclose corporate information actively, effectively and fairly and engage in constructive dialogue with a wide range of stakeholders, with a purpose of enhancing corporate value.

Respect for human rights

4. Conduct business that respects the human rights of all persons.

Relationships of trust with consumers and customer

5. Provide consumers and customers with appropriate information about goods and services, communicate with them in good faith, and earn their satisfaction and trust.

Reform of work practices and enhancement of workplace environments

6. Realize work practices that will improve the capability of employees and that respect their diversity, character, and personality. Also, provide safe and healthy working environments.

Engagement in environmental issues

7. Proactively initiate measures in acknowledgment of environmental issues, the common challenges they pose to humanity and their importance to a corporation's operation and persistence.

Involvement in community and contribution to its development

8. Actively engage in community involvement activities and contribute to community development as a good corporate citizen.

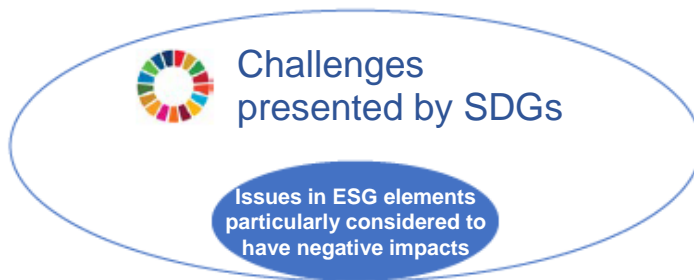
Thorough crisis management

9. Conduct thorough and organized crisis management in the face of actions by antisocial forces, terrorism, cyber attacks, natural disasters and other crises that pose a threat to civil society and corporate activity.

Role of top management and implementation of this Charter

10. Top management shall recognize that it is their role to realize the spirit of this Charter, build effective governance systems for the conduct of business, and strive to raise awareness of the Charter's spirit within the corporation and the entire corporate group to achieve its full compliance. Top management should also encourage behavior based on the principles of this Charter within the corporation's supply chain. In the event that the corporation violates the spirit of this Charter and loses the trust of society, top management shall proactively take responsibility to respond to the situation, including resolving the problem, investigating the causes, and preventing the problem from recurring.

Box 1.3: Expanding ESG investment



The scope of ESG issues perceived by investors is expanding.

Traditionally, ESG investments have particularly focused on negative impacts among the elements of “environment,” “society,” and “governance.”

In recent years, however, an increasing number of investors such as the GPIF regard broader issues presented by SDGs and the like as issues to be addressed in ESG investment.

Society 5.0 also aims to solve the broad social issues of SDGs, and it is hoped that companies’ pursuit of Society 5.0 and investors’ ESG investments will be connected under SDGs in the future.

Target issues of ESG investment

(1) Environment

Climate change, environmental pollution, circular economy, biodiversity, etc.

(2) Social

Human rights, labor standards, safety and health, quality safety, human diversity, relationships with local communities, etc.

(3) Governance

Corporate governance, corruption, the rule of law

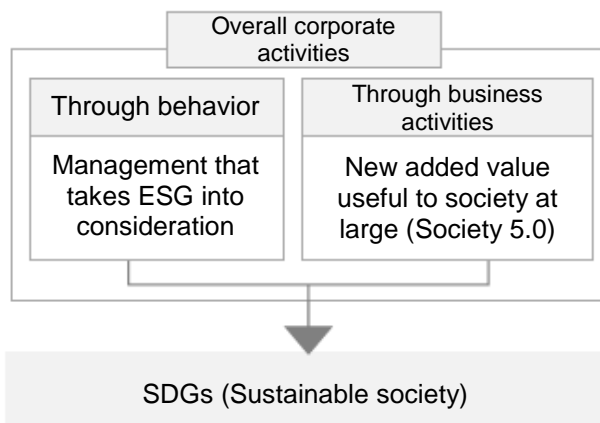
Social challenges presented by SDGs

1. No poverty
2. Zero hunger
3. Good health and well-being
4. Quality education
5. Gender equality
6. Clean water and sanitation
7. Affordable and clean energy
8. Decent work and economic growth
9. Industry, innovation and infrastructure
10. Reduced inequalities
11. Sustainable cities and communities
12. Responsible consumption and production
13. Climate action
14. Life below water
15. Life on land
16. Peace, justice and strong institutions
17. Partnerships for the goals

Box 1.4: Views on Society 5.0 and ESG in the Charter of Corporate Behavior

The Keidanren Charter of Corporate Behavior views ESG and Society 5.0 as follows:

Member corporations should fully recognize that their development is founded on the realization of a sustainable society, and they should exercise their social responsibilities by creating new added value and generating employment that will be beneficial to society at large and by conducting their business in a manner that takes the environment, society, and governance (ESG) into consideration.



The following diagram shows a specific example of how the Charter of Corporate Behavior views Society 5.0 and ESG.

Examples of the views on Society 5.0 and ESG



Management that takes ESG into consideration:
Enhancing the in-house training system

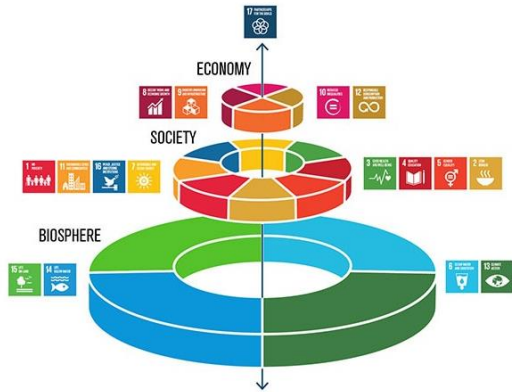
Society 5.0: Delivering quality education through VR



Management that takes ESG into consideration:
Cooperation in biodiversity activities

Society 5.0: Establishment of cooperative farming methods to maintain biodiversity in deserts

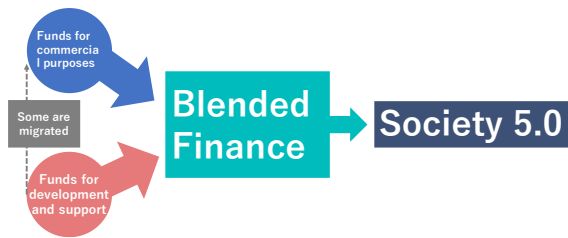
Box 1.5: Three categories of “economy,” “society,” and “environment” in SDGs



The SDGs consist of 17 targets, which are considered to be divided into three categories: “economy,” “society” and “environment.”

In addition, a concept called “wedding cake model” has also been presented, in which three levels of “economy,” “society” and “environment” are hierarchized as shown in the figure on the left.

Box 1.6: Blended finance and diverse stakeholder engagement



Implementation of Society 5.0 for SDGs in new markets and developing countries may not be profitable in the short term, and may be difficult with private funds alone. Therefore, it is necessary to construct blended finance mainly by government and international

Blended finance is a method of combining the funds of public financial institutions such as the International Finance Corporation (IFC) and private financial institutions to finance projects with high uncertainty, and is used for economic development in developing countries. This approach is expected to attract funds from a wide range of stakeholders and strongly drive the social implementation of Society 5.0 for SDGs in developing countries.

Box 1.7: Resolution of social Issues utilizing dormant deposits through JANPIA and by NPOs and NGOs

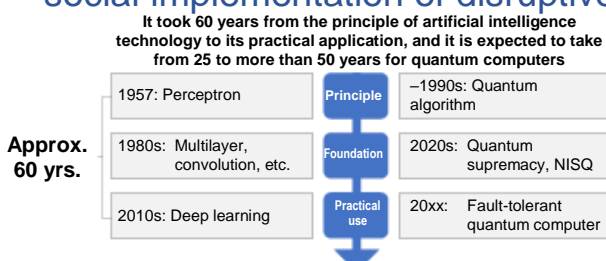


JANPIA is an organization established in 2018 under the leadership of Keidanren, and it is designated to utilize dormant deposits (Designated Utilization Organization) based on the “Act on Utilization of Funds Related to Dormant Deposits to Promote Public Interest Activities by the Private Sector.” Masaya Futamiya, Chairman of Sompo Japan Nipponkoa Insurance Inc., serves as Chair, while representatives from various fields in Japan, namely the business community, labor circles, local governments, academics and NPOs, participate in the council.

With the purpose of “Resolving various social issues that are difficult for the national and local governments to deal with” and “Fostering public interest activities by the private sector and improving the environment for financing public interest activities by the private sector,” JANPIA provides grants (for the time being, approximately 3 billion yen) through “Funds Distribution Organizations” to “Private Organizations Carrying out Public Interest Activities” (NPOs/NGOs) that promote the resolution of social issues.

In FY2019, JANPIA selected 24 Funds Distribution Organizations for four projects (Grassroots Activity Support Program, New Project Support Program, Social Business Creation Support Program, and Disaster Recovery Support Program) in three areas (support for children and young people, support for people having difficulties in their daily and social lives, and improvement of regional vitality). At the same time, the organization is also carrying out programs to strengthen the infrastructure to support public interest activities in the private sector in a sustainable manner, such as assessing social impact, recruiting and developing specialized human resources, and matching with companies.

Box 1.8: Stable investments over the medium to long term are important for social implementation of disruptive innovation



Disruptive innovations that change the assumptions of society are likely to take a very long time from the discovery of principles to their practical application.

For example, it took about 60 years for artificial intelligence technology to be implemented in society, and it is believed that quantum computers, which are capable of processing information well beyond the abilities of supercomputers and provide high levels of security, will need about another 20 years. Investors need to have a medium- to long-term perspective to achieve such innovations and the investment required for them.

(Source) FUJII Keisuke, “The Possibilities of Quantum Computers and Development Race”

2.

Current Status of the Understanding of Society 5.0 and Measures to Improve It

Summary

The realization of Society 5.0 is a concept promoted by Keidanren and incorporated in the growth strategy of the Japanese government, but according to the questionnaire survey on companies and investors, the recognition level is lower than ESG and SDGs.

On the other hand, according to the questionnaire survey on investors, if “Society 5.0” is incorporated into their own ESG investment, they expect that it will lead to a high return on their ESG investment and solve a wider range of problems.

In addition, it has become clear that if companies recognize Society 5.0 as their revenue driver and handle it in departments close to management, then the realization of Society 5.0 could promote constructive dialogue between

companies and investors on medium- to long-term management strategies.

Therefore, we have come to recognize that in order to evolve ESG investment and connect it to Society 5.0, it is important to improve the recognition and understanding of Society 5.0 among various stakeholders including investors.

Therefore, this chapter presents four concrete strategies: (1) identification of words and phrases that give response to Society 5.0 using natural language processing, (2) presentation of examples of concretization of Society 5.0 (issues to be addressed and technologies expected to be implemented in society), (3) creation of various publicity tools, and (4) approach to influential institutions in Japan and abroad.

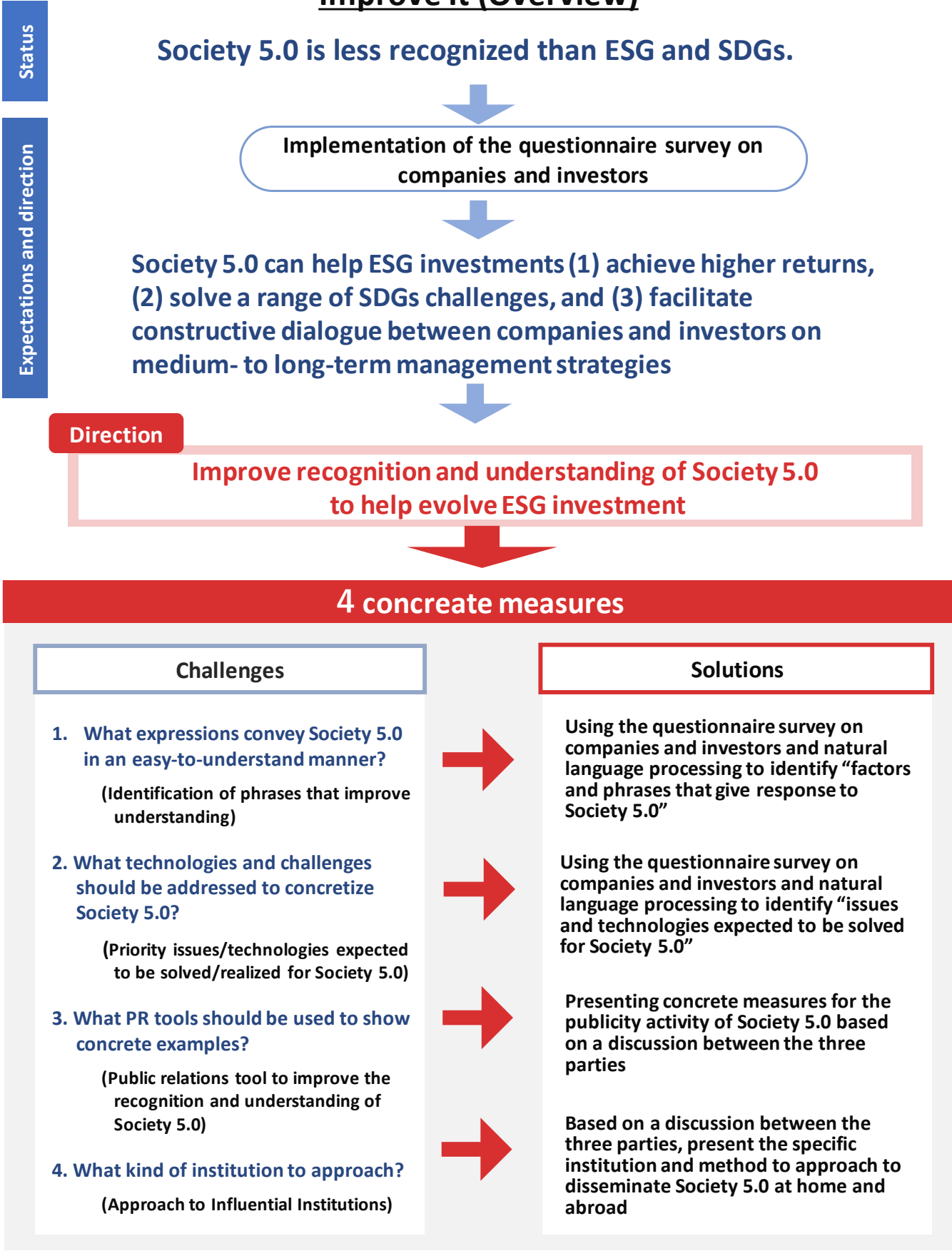


“Compared to the time when the GPIF began ESG investment in Japanese stocks, the current market and corporate reaction are very positive, and there is an atmosphere where it can be viewed as a business.

We will do our best to continue this momentum without making it a temporary boom.”

*TAKAHASHI Norihiro,
President, GPIF*

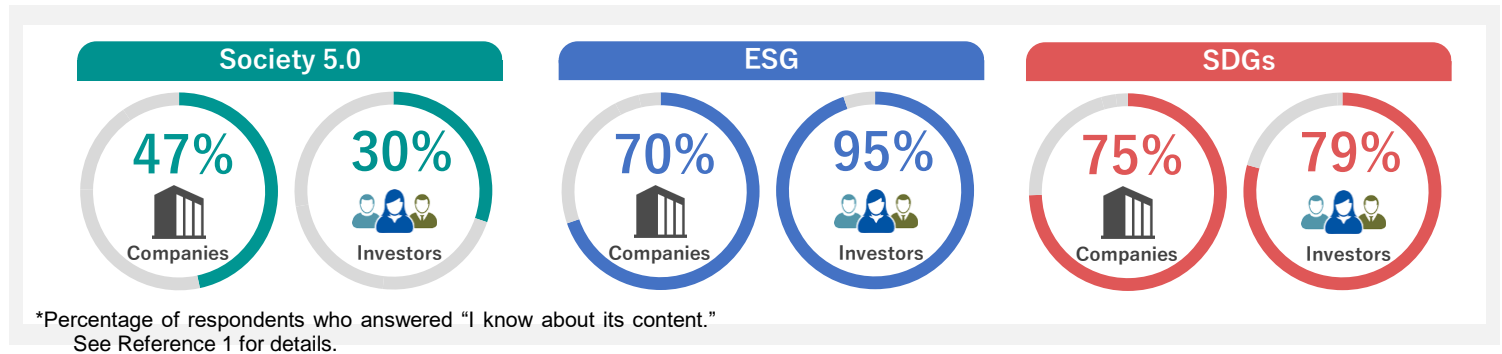
Chapter 2: Current status of Understanding and Measures to Improve It (Overview)



Current Status of Recognition and Understanding

(Questionnaire Results)

Current level of recognition of Society 5.0



Compared to ESG and SDGs, recognition is a challenge for Society 5.0

We conducted a questionnaire survey on companies and investors⁴ and surveyed the degree of recognition of Society 5.0, SDGs, and ESG. Of the respondents, the percentage of companies who answered "I know about its content" was 47% for Society 5.0, 70% for ESG, and 75% for SDGs, respectively, while that of investors who gave the same answer was 30% for Society 5.0, 95% for ESG, and 79% for SDGs, respectively. Recognition is a challenge for Society 5.0 compared to ESG and SDGs.

Improving public recognition is a particularly important issue

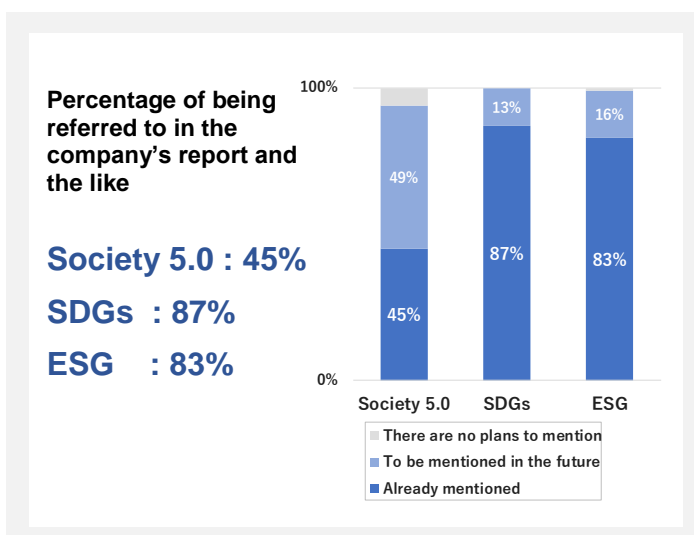
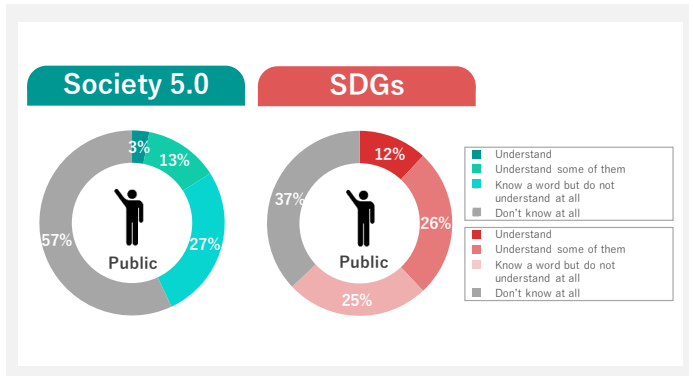
According to the "Awareness Survey on of SDGs"⁵ conducted by Keizai Koho Center (KKC) between January and February 2019 and the "Awareness Survey on Society 5.0"⁶ conducted between October and November of the same year, 3% and 12% of citizens answered that they "I know its content" for Society 5.0 and SDGs, respectively.

On the other hand, "I don't know at all" was the most common answer, accounting for 57% for Society 5.0 and 37% for SDGs.

Possibility of raising awareness through integrated reports and other publications

Furthermore, regarding Society 5.0, SDGs, and ESG, the percentages of being mentioned in corporate integrated reports and the like, were 45%, 87%, and 83%, respectively.

While the reference rate to Society 5.0 is not as high as that of SDGs and ESG, 49% of the respondent companies said that "We are considering mentioning it going forward." It is therefore expected that recognition of Society 5.0 among investors and citizens will be improved through corporate integrated reports and other publications.



⁴ Data from the questionnaire survey on companies and investors was obtained from 102 companies out of 408 belonging to the Keidanren Committee on Financial and Capital Markets, the Committee on Responsible Business Conduct & SDGs Promotion, and the Committee on Startups, and from 117 investors out of 34 commissioned by the GPIF. See Reference 1 for details.

⁵

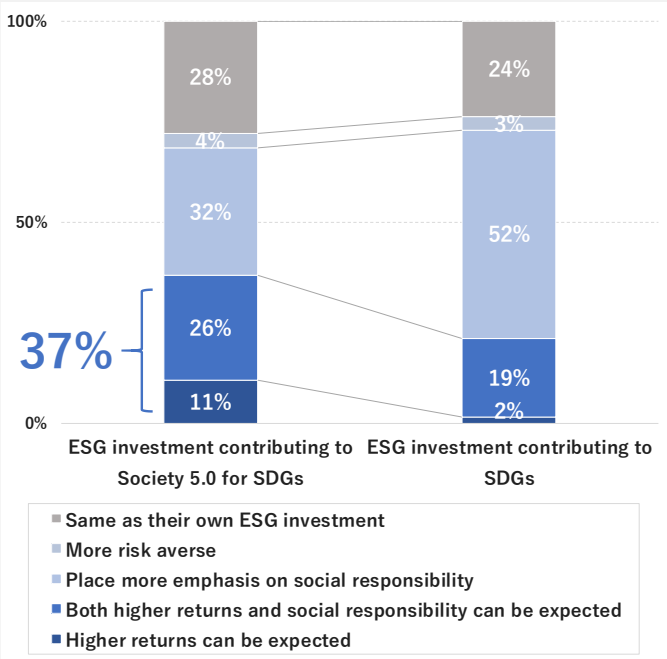
https://www.kkc.or.jp/society/survey.php?mode=survey_show&id=114

⁶

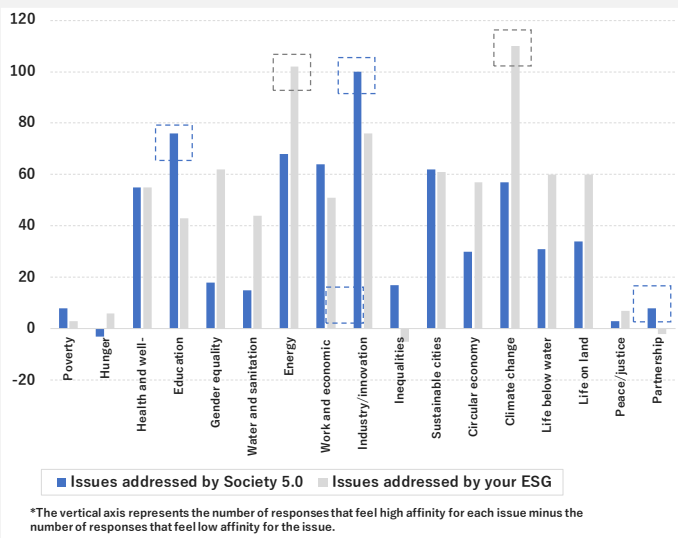
https://www.kkc.or.jp/society/survey.php?mode=survey_show&id=117

Impacts of Society 5.0 on ESG investment

37% of investors answered that “higher returns can be expected” in Society 5.0 for SDGs than their ESG investments. Of which, 26% said it will further enhance “high returns and social responsibility”



Society 5.0 will expand the scope of problem-solving of investors’ own ESG investment



In addition, while many of the respondents felt that ESG investment has a low affinity with “inequalities” and “partnership,” many answered that Society 5.0 has an affinity with these issues.

These results suggest that incorporating Society 5.0 into ESG investment will enable ESG investment to contribute to solving a broader range of issues, as the issues with an affinity with Society 5.0 also come into the scope of the issues to be solved through ESG investment.

On the other hand, we also look at what impacts Society 5.0 will have on current ESG investments.

We set two conditions, namely “ESG investment contributing to the achievement of SDGs” and “ESG investment contributing to Society 5.0 for SDGs.” Then we asked investors how they thought their current perception of ESG investment would change if they were to conduct such investments.

ESG investments contributing to SDGs emphasize social responsibility

First of all, 52% of the investors answered that “ESG investment contributing to the achievement of SDGs” (ESG for SDGs) would put more emphasis on social responsibility than their own ESG investments.

Society 5.0 will bring higher returns on ESG investment

Next, regarding “ESG investment contributing to Society 5.0 for SDGs,” 37% of investors answered that higher returns can be expected than their own ESG investments.”

In addition, 26% of the 37% said that “both higher returns and social responsibility can be expected” than their own ESG investments. These results suggest that Society 5.0 may lead to higher returns or both higher returns and social responsibility for ESG investment.

Society 5.0 expands the scope of issues to solve.

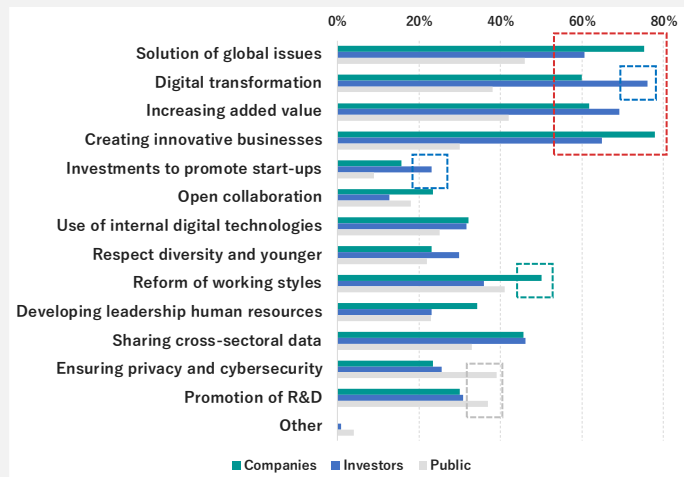
Next, we asked investors “What are the individual SDGs that you feel you have high/low affinity with your ESG investments?” and “What are the SDGs that have high affinity/low affinity with Society 5.0?”

The chart on the left shows the difference between the number of people who answered “feel high affinity” and the number of people who answered “feel low affinity” for each goal of the SDGs. As a result, many of the respondents feel that “ESG investment” has an affinity with environmental issues.

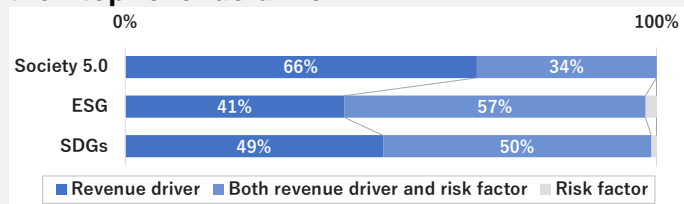
On the other hand, regarding “Society 5.0,” many felt that it has an affinity with industrial/innovation and educational issues.

Society 5.0 is highly expected to

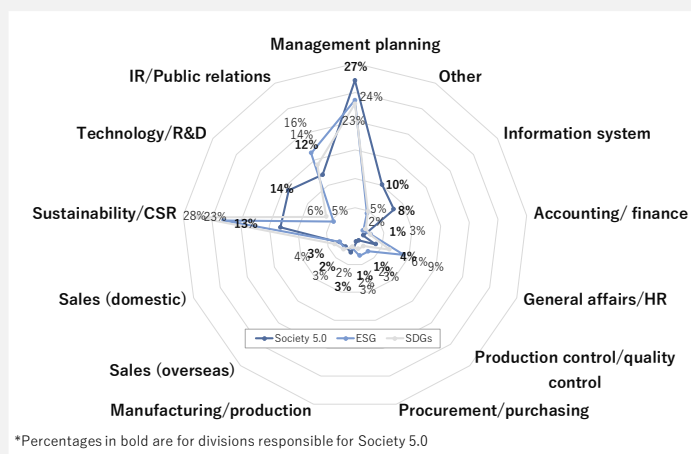
- solve global issues
- increase competitiveness through digital transformation
- create innovative new businesses



66% of companies recognize Society 5.0 as their top revenue driver



27% of companies have the corporate planning department take charge of Society 5.0. Possibility of promoting constructive dialogue between companies and investors on medium- to long-term management strategies



Increasing various corporate values through Society 5.0

In addition, companies, investors, and the general public expect that Society 5.0 will bring about various changes in Japanese companies and serve as an opportunity to increase corporate value.

When asked about the expectations placed on Japanese companies by Society 5.0, companies said there were high expectations for “solving global issues,” “creating innovative new businesses” and “reforming working styles and having a model change of employment practices.” Meanwhile, investors expressed high expectations for “enhancing international competitiveness through digital transformation” and “increasing added value and return to society.”

Society 5.0 as a revenue driver for companies

Regarding companies’ perception of Society 5.0, it was found that of the companies that answered that they mentioned “Society 5.0” in their integrated reports and the like, 66% viewed Society 5.0 as a revenue driver.

On the other hand, of the companies that mentioned “ESG” or “SDGs” in their integrated reports and the like, 41% answered that they regarded ESG as a revenue driver, while 49% answered they regarded SDGs as such. This shows that Society 5.0 is a concept that companies can easily view as a revenue driver.

Society 5.0 is close to management and promotes constructive dialogue on long-term management strategies.

A survey on corporate divisions responsible for Society 5.0, SDGs, and ESG found that the corporate planning divisions and the sustainability/CSR divisions are likely to be in charge of all three.

Looking at the details, 27% of the corporate planning divisions were in charge of Society 5.0, the highest percentage compared to ESG and SDGs. In the sustainability/CSR divisions, 28% and 23% of them were in charge of ESG and SDGs, respectively, while only 13% were in charge of Society 5.0. The percentage of Society 5.0 taken charge of by technology, R&D, and information systems divisions was also high.

Based on the above, Society 5.0 is considered to be a concept close to the corporate planning division and management strategies. Thus, utilizing Society 5.0 is expected to facilitate constructive dialogue on long-term management strategies between companies and investors.

Summary: Incorporating Society 5.0 into ESG investments will provide higher returns, resolve broader issues, and promote constructive, future-oriented dialogue



Incorporating Society 5.0 into ESG investment provides high returns and solutions to a wide range of challenges

Taken together, these findings suggest that adding “Society 5.0” to ESG investment by investors will have the following four benefits. Specifically, their ESG investments will: (1) provide higher returns; (2) expand the scope of issues to be solved (solve a wider range of issues); (3) enhance various corporate values; and (4) promote forward-looking and constructive dialogue between companies and investors.

Given this, it is important to promote the evolution of ESG investment by improving the recognition and understanding of Society 5.0 among investors.

4 concrete measures to improve recognition and understanding

We therefore propose the following four concrete measures to improve the recognition and understanding of Society 5.0.

4 concrete measures to improve recognition and understanding

1. Identification of phrases that contribute to improved recognition and understanding

Various explanations on Society 5.0 have been given by organizations such as Keidanren and the Cabinet Office, but in order to showcase it to the general public, it is important to explain it in easy-to-understand phrases.

2. Examples of Society 5.0 concretization (issues to be addressed and technologies expected to be implemented in society)

Showing concrete examples of Society 5.0 will help improve the recognition and understanding of Society 5.0. Therefore, we identify issues to be addressed in Society 5.0 and technologies expected to be implemented in society.

3. Public relations tool to improve the recognition and understanding of Society 5.0

We need to use a variety of public relations tools, including videos and icons, to widely communicate the Society 5.0 concept.

4. Approach to influential institutions

In order to improve the recognition and understanding of Society 5.0, it is important to approach various influential institutions in Japan and abroad. In particular, we will participate in international initiatives and promote rulemaking.

4 Concrete Measures to Improve Recognition and Understanding

1. Identification of phrases that contribute to improved recognition and understanding

Consider Society 5.0 from a PR standpoint

At present, Society 5.0 is explained as follows by Keidanren and the Cabinet Office.

Society 5.0 will be a Creative Society, where digital transformation combines with the imagination and creativity of diverse people to solve social problems and create value. (Society 5.0 Comprehensive Recommendation)

[. . .], Keidanren is aiming for the realization of Society 5.0, a future society in which the IoT, AI, robots, and other innovative technologies will be used to maximum effect for the optimization of individual lives and of society as a whole. In this future society, economic growth will become consistent with solutions to global and local challenges, [. . .] (“Revision of the Charter of Corporate Behavior”)

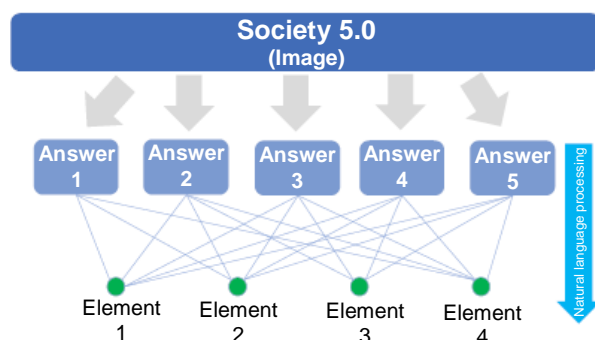
A human-centered society that balances economic advancement with the resolution of social problems via a system that highly integrates cyberspace and physical space (Cabinet Office)

In order to further improve the recognition and understanding of Society 5.0, it will be important to explain Society 5.0 in more understandable words and phrases.

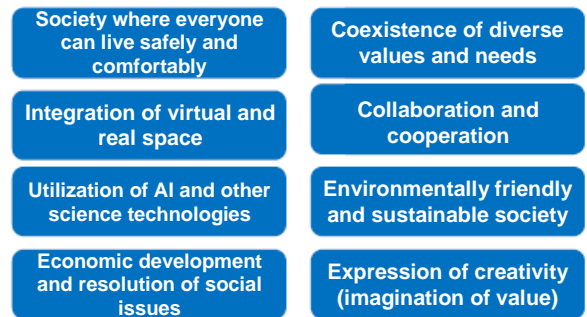
We asked 304 companies and investors about their image of Society 5.0 in order to find out what points companies and investors would respond to in the current explanation of Society 5.0.

Three sympathetic elements of Society 5.0

We asked companies and investors to describe their image of Society 5.0 in 150 words or less.



Next, natural language processing was applied to the collected answers, and the following eight elements were extracted from the answers as elements of the image of Society 5.0.



Furthermore, the following results were obtained when the evaluation from the viewpoints of comprehensibility and response was scored.

	Score	Number submitted
Society where everyone can live safely and comfortably	53	98
Integration of virtual and real space	52	47
Utilization of AI and other science technologies	52	21
Economic development and resolution of social issues	50	87
Coexistence of diverse values and needs	50	17
Collaboration and cooperation	50	7
Environmentally friendly and sustainable society	49	16
Expression of creativity (imagination of value)	48	51

In terms of the number of responses, “Economic development and resolution of social issues” and “Expression of creativity (imagination of value)” ranked high. But in order of comprehensibility and response scores, “Society where everyone can live safely and comfortably” as well as “Integration of virtual and real space” and “Utilization of AI and other science technologies” ranked high.

Reasons why the 3 elements gained response

Society where everyone can live safely and comfortably

There is an expectation that everyone can live an equal and convenient life by solving problems and concerns about the future such as the gap between the rich and the poor and between the regions.

Utilization of AI and other science technologies

People strongly hope that AI and robotics will make life and work easier so that they can focus on things only they can do.

Integration of virtual and real space

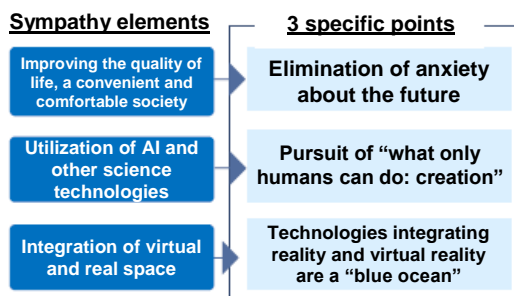
It is expected that by collecting and analyzing various kinds of real data in virtual space, we can see possibilities that we could not see until now, and that by returning it to the real world, we can solve problems that were thought to be difficult to solve until now.

There is the following observation⁷ regarding the reasons for and implications of why these three elements gained response.



First of all, the reason why “Society where everyone can live safely and comfortably” gained the most response was that many people expressed their concerns about the future, such as the expansion of the gap between rich and poor and between regions, ahead of the expectation for the future. This suggests that it is easier to gain response if we emphasize to many people that “Society 5.0 can solve anxieties and concerns about the future.”

Second, as for the reasons why “Utilization of AI and other science technologies” gained response, it is thought that people strongly want to use AI and robotic technology to make life and work easier and focus on things that only they can do. This suggests that it is easier to gain response if we emphasize that “Society 5.0 focuses on humans” in describing Society 5.0.

Third, the reason why “Integration of virtual and real space” has gained response is that by collecting and analyzing various pieces of actual data, a new approach will be found to solve issues that have been thought difficult to solve, and momentum to tackle problems will be created. This suggests that it is easier to gain response by emphasizing that “Technologies integrating reality and virtual reality that contribute to Society 5.0 are a ‘blue ocean’ with infinite growth potential.”



How to structure the expression that conveys Society 5.0 in an easy-to-understand manner?

Component	Direction of the message	Key phrase	
 Future vision	Boost expectations for the future	Inclusion (of technology and life)	Balancing (economic development and sustainability)
		Challenge Coexistence in harmony (with nature)	Overcoming the wall (between people) Diversity Convenience
		Path to the future	Digital AI/IoT
 Now	Reference to the technology to be specifically utilized	Information	
		Explain which of the current issues are being addressed	Aging Rural areas

The explanation structure of Society 5.0 that was received as easy to understand was one that (1) shows the current issues, (2) provides the future vision, and (3) presents the path to the future.

As the “Keywords” that gain response, “Equality,” “Balancing (economic development and sustainability),” “Expanding the possibilities (of humans),” “Challenge,” “Diversity,” “Coexistence in harmony (with nature),” and “Convenience” were mentioned regarding the presentation of the future vision, “Digital,” “Information,” and “AI/IoT” were mentioned regarding the path to the future, and “Aging” and “Rural areas” were mentioned for the present.

Phrases that gain response

Based on the analysis results above, the following three phrases can be considered for gaining response with Society 5.0.

Example phrase:	Society 5.0 is highly expected to
Society where everyone can live safely and comfortably	A society in which all people can live with peace of mind while taking on the challenge of creating diverse values through digital technology
Utilization of AI and other science technologies	A society where, while AI takes over conventional production activities, humans focus on creating new value and human evolution accelerates
Integration of virtual and real space	A society in which a new frontier with limitless possibilities is created through the integration of real and virtual space

In addition, to summarize these three points, the following phrase (the analysis result and a shortened version) is conceivable.

Analysis Result

Society 5.0 is a sustainable, human-centered society in which no one is left behind and the physical and cyber worlds are highly integrated by digital transformation, to create safe and comfortable lives and new growth opportunities.

Short version (advertising slogan)

A sustainable, human-centered society created through digital transformation

⁷ VISITS Technologies (2020) “Society 5.0 Project”

2. Examples of Society 5.0 concretization

(issues to be addressed and technologies expected to be implemented in society)

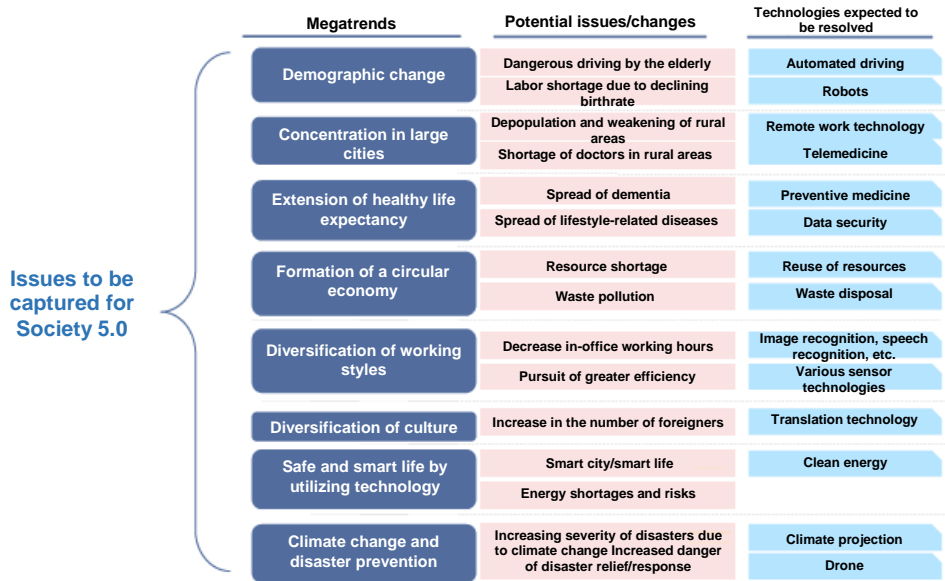
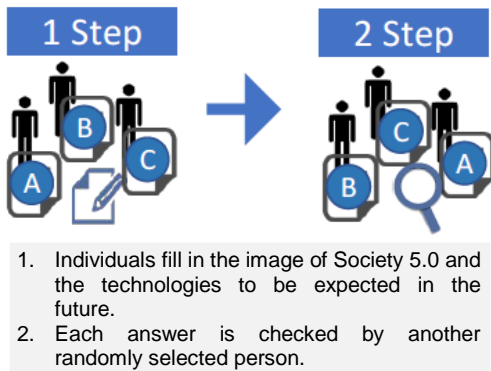


Figure A

Toward the concretization of Society 5.0

In order to improve the recognition of Society 5.0, it is important to concretize Society 5.0 (specific issues to be solved by and technologies expected to be socially implemented in Society 5.0) in the sectors in which people have high expectations, and collect examples.

As part of this effort, we conducted the questionnaire survey on companies and investors regarding issues expected to be solved in Society 5.0 and technologies expected to be implemented in society in the future. Concrete methods are shown below.



Issues expected to be solved and technologies expected to be implemented

Figure A summarizes the results of the survey. Specifically, the survey found that dangerous driving by the elderly, depopulation in rural areas, dementia and lifestyle-related diseases, smart cities, and climate change are issues and constraints that respondents feel should be solved first.

These issues can also be grouped into eight megatrends such as “demographic change” by focusing on the background events.

Women respond to a wide range of technologies and solutions

By gender, men’s answers on technologies expected to be implemented in society focused on “Automated driving” and “Machine translation” while women cited a wide range of technologies, including “Telemedicine,” “Waste disposal,” and “Solar power generation.”

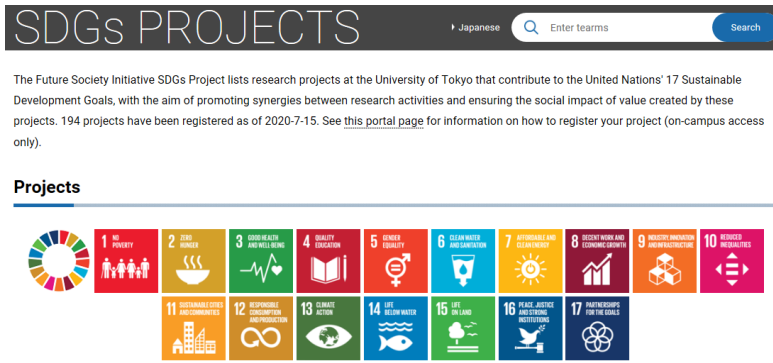
Women also expressed hope that these technologies would solve a wide range of problems.

Male		Female	
Technology	Issues in the background	Technology	Issues in the background
1 Automated driving (1)	Traffic accidents (1)	Telemedicine (1)	Shortage of doctors in rural areas
2 Automated driving (2)	Dangerous driving by the elderly	Waste disposal	Pollution control
3 Automated driving (3)	Life of the elderly	Solar power generation	Prevention of global warming
4 Healthcare data	Disease prevention	Introduction of AI by the government	Convenient life
5 Telework	Population concentration	Automated driving	Traffic accidents (1)
6 Robots	Hazardous work	Diagnostic imaging	Shortage of doctors
7 Machine translation (1)	Diversification of culture	Local development	Depopulation
8 Automated driving (4)	Safe society	Alternative energy	Disaster prevention measures
9 Automated driving (5)	Rush hour congestion	Robots	Nursing care problem
10 Machine Translation (2)	Social advancement of the disabled	Telemedicine (2)	Shortage of medical resources

Technologies with divided evaluations

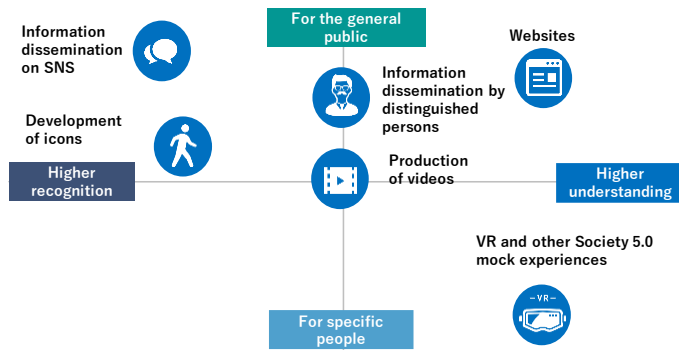
In this survey, evaluation was divided for some technologies. For example, in the case of “Personalization of education through VR, etc.,” there will be no standardized class, and each student will be able to receive a customized education, but the school system as a place for group education will become a subject of discussion. It is suggested that there is a need to study the broad impacts of each of these technologies.

3. Public relations tool to improve the recognition and understanding of Society 5.0



(Source) The University of Tokyo's website

It is also necessary to improve the recognition and understanding of Society 5.0 by utilizing various public relations tools such as case study collections, videos, SNS, and icons. Here are some of them.

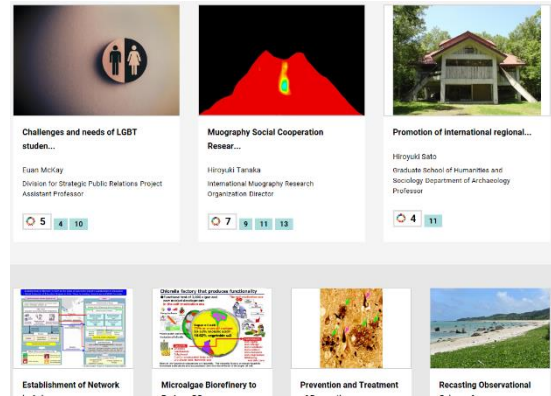


Examples contributing to Society 5.0

One example of case study collections contributing to Society 5.0 is the University of Tokyo's Future "Society Initiative SDGs Project" website. On this website you can check various innovations, projects, and the like of the University of Tokyo for the realization of a future society based on a classification of the 17 goals of the SDGs.

Case study collections that classify innovations in accordance with the 17 targets of the SDGs include "KeidanrenSDGs.com," which is Keidanren's dedicated SDGs website, and the organization's collection of case studies "Innovation for SDGs," and "Tangible Examples" by B20 (see page 36).

For example, they introduce ways to achieve a safe transportation system by using face recognition technology, and ways to optimize and improve efficiency by using drones and AI to make the agriculture, forestry and fisheries industry, which lacks labor, sustainable.



Examples of problem-solving innovations leading to the realization of Society 5.0 like these need to be continuously collected and presented.

Production of Society 5.0-related videos

A video provides a more concrete picture of Society 5.0 and is an effective tool for improving recognition and understanding. As part of this joint research, Keidanren produced a video about Society 5.0 titled "20XX in Society 5.0—Our Future created through Digital Transformation." (See Box 2.1)

Establishment of "Theater 5.0"

As an awareness-raising activity for Society 5.0 for SDGs, we're launching a platform "Theater 5.0" that comprehensively collects videos related to companies' initiatives for Society 5.0 for SDGs.

We hope that this platform will help many to better understand Society 5.0 for SDGs by demonstrating how companies are using digital transformation to solve challenges and create value.

Other

Other public relations efforts could include launching a website, having distinguished persons post on SNS, and creating a Society 5.0 icon like SDGs (Box 2.3). It would also be worth considering providing people with an opportunity to familiarize themselves with Society 5.0 using new technology, such as virtual experiences through VR.

Box 2.1: Video showing examples of Society 5.0 for SDGs



As an awareness-raising activity for Society 5.0 for SDGs, we created a video to show its concept and examples.

This video consists of four specific examples of (1) telemedicine and capsule surgery, (2) real-time translation, (3) virtual reality (VR), and (4) brain-machine interface, along with (5) animation of developments from Society 1.0 to Society 5.0.

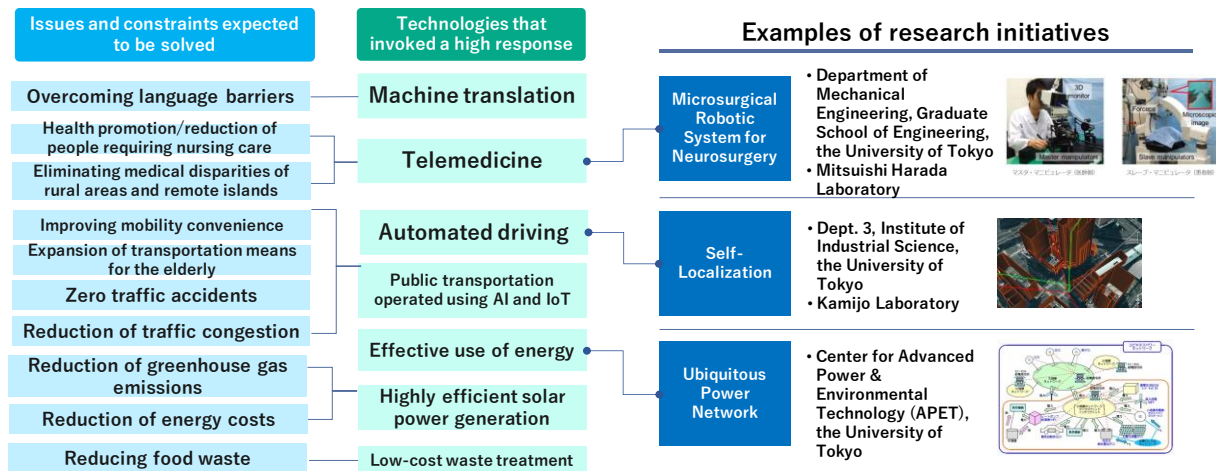
The four examples show technologies that are expected to be implemented in society in the future, and describe how those technologies can solve problems and create a better future.

In the animation section, it is shown that Society 5.0 will not aim to transform technology and the like but will transform society as a whole.

We also created a short 1-minute-and-30-second version that brings together four scenes and emphasizes Society 5.0 for SDGs in which “digital transformation can create any future.”

Box 2.2: Identifying technologies contributing to Society 5.0 and promoting R&D

Although there are various technologies that contribute to Society 5.0, if we collect concrete examples of Society 5.0 from companies and universities’ research and development based on technologies that many people expect to be implemented in society first, we can help to improve the recognition and understanding of Society 5.0.



Box 2.3: Iconifying Society 5.0 for SDGs



One of the main reasons why SDGs have become so popular is that they have simple icons representing the 17 targets.

To improve the recognition and understanding of Society 5.0, it is also conceivable to iconify the elements representing Society 5.0 and present the contents of Society 5.0 in a visually easy-to-understand format.

In doing so, it is likely that more people will use icons if we created some starting with those for technologies for which a high degree of response was shown in the questionnaire survey on companies and investors.

4. Approach to influential institutions

Cooperation with national and international organizations is essential for the international development of Society 5.0 for SDGs. The following are the influential institutions that should be approached in particular.

Business and economic organizations

At the 2019 Tokyo Summit, Business 20, which comprises economic organizations from twenty major industrialized countries, adopted a joint declaration on “Society 5.0 for SDGs.” We should continue to cooperate with economic organizations belonging to B 20.

The World Economic Forum, which hosts the Davos Conference, is leading the way in setting the global agenda on economic and social issues, and a strong approach is required.

The World Business Council for Sustainable Development (WBCSD) is working with Keidanren on the information dissemination of Society 5.0, and will present its vision for the next 30 years at the 2020 Council Meeting in Tokyo. Further cooperation is important.

In addition, it is necessary to collaborate on Society 5.0 for SDGs with economic organizations which aim to solve global problems, such as the International Chamber of Commerce (ICC).

Investors, financial institutions, and rating agencies

Initiatives such as the PRI and TCFD⁸ are aligned with the society that Society 5.0 for SDGs aims for. It is necessary to encourage the inclusion of Society 5.0 for SDGs’ concept of economic growth and problem-solving through innovation, among others, in the activities of these initiatives.

In addition, we need to encourage the World Benchmark Alliance, GRI, and ESG rating agencies to improve their recognition and understanding of the importance of Society 5.0 for SDGs, and to deepen discussions on how to cooperate with each other.

Universities and research institutions

It is necessary to encourage universities and research institutions in and outside Japan, such as the Brookings Institution engaged in research on SDGs, and international initiatives in the academic world such as Future Earth, to respond to Society 5.0 for SDGs.

Governments and international organizations

In order for the public and private sectors to work together on Society 5.0 for SDGs, it is necessary to reach out to the United Nations, UNDP, the World Bank, International Union for Conservation of Nature (IUCN) and other international organizations, in addition to the governments and ministries concerned, for their understanding and cooperation.

Young people and future generations

It is necessary to showcase the concept to young people and future generations, who are the main players of the realization of Society 5.0 for SDGs, in a way more familiar to future generations by utilizing SNS, video, and the like.

Other efforts (toward improved recognition and understanding)

Improving recognition and understanding through cooperation among the three parties

The three parties of Keidanren, the University of Tokyo, and the GPIF should work together to improve the recognition and understanding of Society 5.0 for SDGs.

Continuation of collecting examples

We will continue to collect specific examples and videos that will contribute to Society 5.0 for SDGs to illustrate the concept.

Wide variety of public relations activities

It is necessary to advance the creation of various publicity tools which intend to improve the recognition and understanding of Society 5.0 for SDGs. For example, “CEO Guidelines for Realizing Society 5.0 for SDGs” for corporate managers, or creation of icons for Society 5.0, new videos, or tools using virtual reality and computer graphics to experience Society 5.0 can be considered.

Participation in and promotion of rule-making at international organizations

In response to international initiatives and standards on technology and sustainability, it is necessary to actively approach influential institutions in order to formulate international rules that will contribute to the realization of Society 5.0.

⁸ It is comprehensively presented in Box 1 of the GPIF and the World Bank (2018) “Incorporating Environmental, Social and Governance (ESG) Factors into Fixed Income Investment.”

3.

Economic and Social Impacts

Summary

What are the opportunities for companies, investors, and society as a whole to be provided by the realization of Society 5.0? This chapter describes the reasons for the economic and social impacts of Society 5.0 and provides a quantitative analysis of them.

First, the reasons Society 5.0 has such a huge economic impact include that it utilizes AI and robotics to boost productivity, expand new demand, optimize inputs, and accelerate economic transactions.

Also, the reasons for the social impact include the elimination of individual constraints and the resolution of various social issues, the simultaneous resolution of all issues, inclusive growth through the dissemination of high-quality products and services, and compliance with various ethical standards.

According to quantitative analysis, if Society 5.0 is realized, new growth opportunities in each industry would

amount to 36.2 trillion yen in the next-generation healthcare field, 21.3 trillion yen in the smart mobility field, and 19.3 trillion yen in the next-generation energy field.

If all of these technologies are implemented in society, 250 trillion yen will be created as a new growth opportunity in 2030, and the cumulative investment required to realize this will be 844 trillion yen. At the same time, it has been found that it will have social impacts such as improving the wage gap between men and women and reducing CO₂ emissions.

Finally, looking at the future industrial shape to be achieved by realizing Society 5.0, this chapter discusses a change in the industrial structure in the process of realizing Society 5.0, examples of an anticipated industrial structure based on various surveys, and future challenges.

*“ In the past, ‘business’ came first.
This was based on the idea that we
have to contribute to society, make
donations, and protect the
environment because business puts a
burden on society.*

But now this has changed.

*It is precisely because companies are
useful to society that they can
receive orders and generate sales.”*

*NAKANISHI Hiroaki,
Chairman, Keidanren*



Chapter 3: Economic and Social Impacts of Society 5.0 (Overview)

Economic and Social Impacts

This chapter shows the economic and social impacts of realizing Society 5.0.

2 perspectives

Why it has impacts?

The reasons for the economic and social impacts are summarized into four categories based on various discussions.

What impacts does it have?

Introduce the estimates made by Nomura (2020) regarding the economic and social impacts in the case of realizing Society 5.0

Nomura (2020) results

Economic impacts

With the realization of Society 5.0, the following results were obtained for each industry:

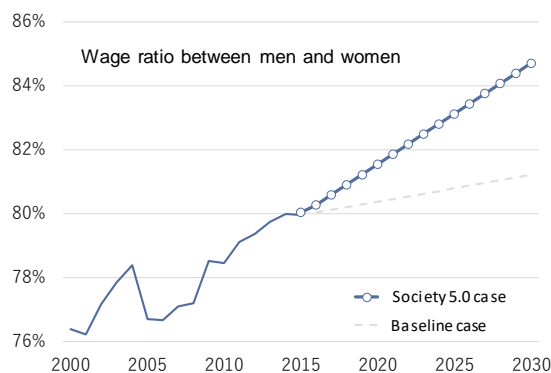
Industrial sector (excerpt)	Growth opportunities (2030)	Market size (2030)
Next-generation healthcare	36.2	95.1
Digitization of manufacturing	28.5	108.0
Smart mobility	21.3	64.4
Smart living	18.9	46.0
Next-generation energy	19.3	37.4

Society 5.0 will also create **250 trillion yen** in growth opportunities throughout Japan.

The cumulative amount of investment required to achieve this goal is **844 trillion yen**

Social impacts

As women advance into society, the gender wage gap will improve to **85%** by 2030.



The number of employed people aged 65 or older increased by **approximately 1 million**

Industrial structure

Consider changes in the industrial structure in the process of realizing Society 5.0.



Organize various discussions and present concrete examples based on the results of the questionnaire survey on companies and investors and other materials

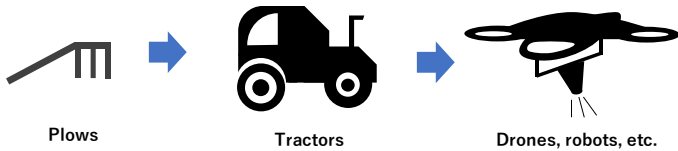
Opportunities Provided by Society 5.0

Why Society 5.0 Has Economic Impacts



Society 5.0 has many economic impacts by solving individual constraints and challenges (needs). There are four main reasons for this.

Substitution of markets through new products and services

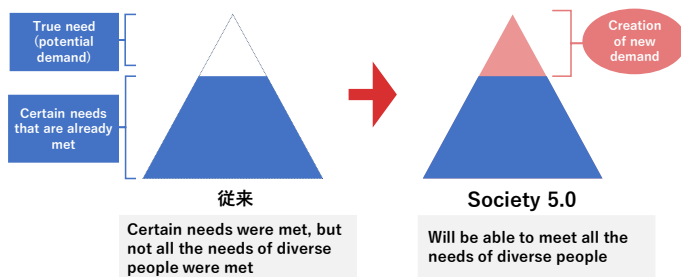


The development of digital technologies is expected to create products and services that can solve existing needs more optimally and efficiently.

For example, in the past, the need for “plowing the fields with ease” was only met by using labor with plows and hoes, but now it is efficiently realized in a short time by tractors.

If smart agriculture is realized, robots and drones will be able to meet the needs more optimally and efficiently. In other words, conventional products and services will be replaced by those contributing to Society 5.0.

Enabling approach to meet potential demand

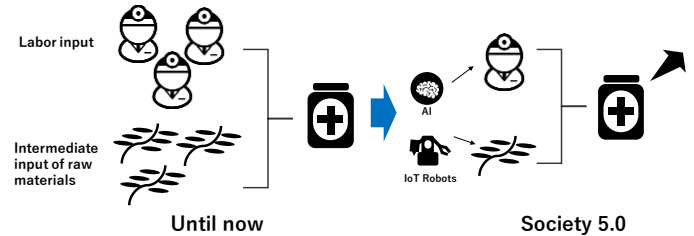


In Society 5.0, by analyzing consumers’ attributes, behaviors, and purchasing data, it will be possible to highlight the needs of consumers, especially real needs that are not yet clear (potential demand).

On the other hand, by digitizing factories and introducing robots, 3D printers, and the like, companies will be able to produce and provide products and services customized to the diverse needs of consumers.

By enabling consumers to meet their needs more deeply in both supply and demand, we will create new markets and create new value.

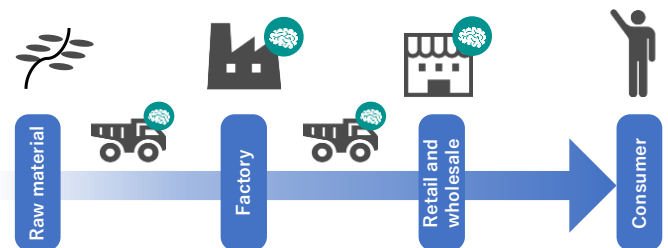
Cost reduction through drastic reduction of production input



As technologies contributing to Society 5.0, robots are replacing the labor force of simple workers, and AI is replacing the labor force of intelligent workers. In addition, by optimally managing the supply chain and using other means, the input of raw materials and energy required to provide products and services can be made more efficient and the input can be reduced. This greatly reduces production costs.

Furthermore, higher price competitiveness due to cost reductions will lead to increased demand for those products and services.

Acceleration of economic transactions

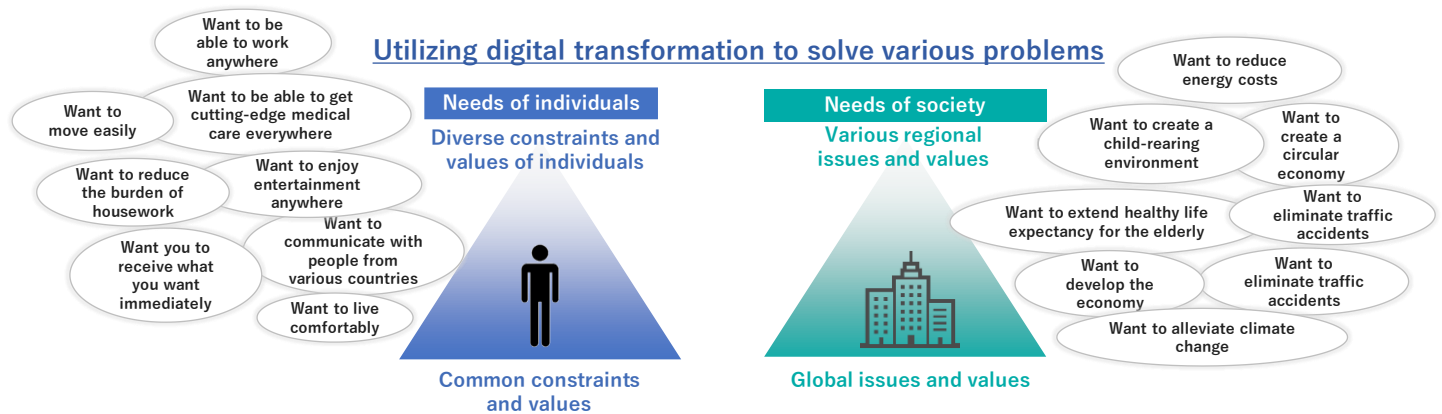


Technologies contributing to Society 5.0 will greatly improve the efficiency and time required to complete the entire transaction (production, delivery, and settlement of goods and services).

Faster transactions of goods and services not only reduce the stress of economic transactions but also accelerates the speed of transactions and increase the amount of economic activity per hour.

In this process, the utilization rate of transportation machinery, equipment, and the like is increased, and the production cost is also reduced.

Why Society 5.0 Has Social Impacts



Society 5.0 will have many social impacts in addition to many economic ones. The main reasons are as follows.

Solving individual limitations and resolving social issues

Society 5.0 is a concept that aims for economic growth by eliminating people's constraints and solving social problems.

For example, technologies contributing to Society 5.0 can reduce traffic accidents and congestion, increase mobility for the elderly, revitalize rural areas, reduce medical disparities of rural and remote islands, lower electricity costs, and reduce food waste.

Example: revitalization of local areas and enhancement of local natural and cultural values

Technologies contributing to Society 5.0 will make it easier to access previously undiscovered local nature and culture, leading to increased value for local resources and revitalization of local communities.

More specifically, automated driving, multilingual translation, and haptic technology that simulates a travel experience are technologies that help foreign tourists gain access to rural areas.

Solve all challenges "optimally and simultaneously"

Society 5.0 will build a structure that collects a variety of social data, uses AI to identify optimal conditions for society as a whole, and uses the IoT and robots to execute efficiently. As a result, multiple social issues will be solved optimally and simultaneously.

Inclusive growth

Society 5.0 will bring inclusive growth to people.

For example, data on the advanced skills of skilled workers, the introduction of robots with more complex movements, and the like, will make it easier for high-quality goods and services to become widely available at prices that will enable a wider range of people to obtain such goods and services.

Powered suits that support individual movements also enable people with disabilities to live and work in the same way as people without disabilities.

Respect for various ethical standards

Unlike the fourth Industrial Revolution, Society 5.0 is a concept that aims not for a better industry but for a better society. Therefore, the realization of Society 5.0 includes compliance with ethical standards in corporate activities.

Compliance with ethical standards for innovative technologies

Innovative technologies such as AI can have a negative impact on society through misuse. For this reason, both domestic and international ethical standards, such as the international "Asilomar Principles"⁹ and the Japanese government's "Social Principles of Human-Centric AI" must be complied with.

Sustainable relationships with diverse stakeholders

To realize Society 5.0, it is essential to engage diverse stakeholders and build long-term and sustainable relationships with them. Companies will promote their efforts based on the Charter of Corporate Behavior and international standards for the environment and human rights.

⁹ <https://futureoflife.org/ai-principles-japanese/>

New Opportunities Provided by Society 5.0 (Quantitative Analysis)

Growth opportunities created by Society 5.0 and the amount of investment required

Growth opportunities and market size created by Society 5.0, and the amount of investment required

Nomura (2020)¹⁰ shows the new growth opportunities (added value) in each industry that will be created when technologies contributing to Society 5.0 are implemented in society, and the size of the market in the new field. This section provides an overview of the opportunities provided by realizing Society 5.0, presenting the macroeconomic growth opportunities and required investment amount that would arise if technologies contributing to Society 5.0 were introduced to the full extent.



36.2 trillion yen's worth of growth opportunities in next-generation healthcare

As Japan's population ages, the next-generation healthcare industry is expected to benefit the most from innovative technologies, with a growth opportunity of 36.2 trillion yen in 2030 and a market size of 95.1 trillion yen.

For example, increasing healthy life expectancy through early detection and treatment of disease through data healthcare can improve the productivity of older workers. Telemedicine services will also save travel and time costs and facilitate advanced medical care in rural areas and remote islands that has been difficult due to distance constraints.

¹⁰ NOMURA Koji (2020): "Society 5.0 for SDGs — Creating Future Economic Assessments." He is Project Leader at the 21st Century Public Policy Institute and Professor at Keio University

In addition, robots that reduce the burden of nursing care will help prevent skilled workers from leaving their jobs to care for sick family members, creating a new growth opportunity worth 11 trillion yen, with a market size of 30 trillion yen.

Innovative drug discovery utilizing AI will enable the development and provision of new drugs tailored to individual attributes, leading to the creation of new demand. This alone represents a growth opportunity of 8.6 trillion yen and a market size of 22 trillion yen.



21.3 trillion yen's worth of growth opportunity with smart mobility

Smart mobility, such as automated driving, urban traffic optimization, and car sharing, will significantly change the face of mobility and create new growth opportunities of 21.3 trillion yen and a market size of 64.4 trillion yen.

For example, effective use of travel time and efficient travel routes achieved with automated driving will lead to increased labor productivity and the creation of new demand in all industries.

At the same time, the efficiency of the energy required for operating vehicles will be improved so that the energy can be used without waste.

In addition, more people will be able to use a variety of faster logistics services by automating and streamlining logistics such as with delivery robots, drones, and automated ships. In the field of logistics services, there will be a market expansion of 12.1 trillion yen, and a growth opportunity of 5 trillion yen will be created.

Digitization of manufacturing



28.5 trillion yen's worth of opportunity in digitization of manufacturing

In addition to digitizing production processes and product lifecycles, the introduction of unmanned factories and collaborative robots will replace human labor and significantly increase productivity in the manufacturing industry.

Furthermore, by providing high-quality products at popular prices through the use of data on the intuition and experience of skilled workers, and realizing production that meets the diverse needs of consumers, such as shift toward service industry of manufacturing and 3D printing, there will be a growth opportunity of 28.5 trillion yen in total manufacturing and a new market size of 108 trillion yen.

Next-generation energy



19.3 trillion yen's worth of opportunity for next-generation energy

Next-generation energy will contribute to balancing the economy and the environment, and its implementation will bring a new growth opportunity of 19.3 trillion yen and market size of 37.4 trillion yen.

For example, the construction of systems for hydrogen power generation and hydrogen storage and transportation will bring about a new market size of 8.3 trillion yen and a growth opportunity of 3.5 trillion yen in 2030. In addition to next-generation floating wind power generation and supercritical geothermal power generation, carbon capture technologies such as CCUS and artificial photosynthesis will also create growth opportunities.

FinTech/InsurTech



14.5 trillion yen's worth of opportunity at FinTech/InsurTech

FinTech, which focuses on cashless payments and more efficient accounting operations, and InsurTech, which focuses on improving the profitability of insurance services and creating new health-enhancing services, offer a growth opportunity of 14.5 trillion yen and a market size of 36 trillion yen.

FinTech alone expects a growth opportunity of 8.6 trillion yen and a market size of 20 trillion yen.

The InsurTech market alone will create a growth opportunity of 5.9 trillion yen and a market size of 15.5 trillion yen.

Smart living



18.9 trillion yen's worth of growth opportunity in smart living

Smart products that make life more comfortable for many people, such as home robots that replace more complex and skilled domestic work, will be introduced to general households. The new growth opportunity of smart living technology is expected to be 18.9 trillion yen and the market size will be 45.9 trillion yen.

Of these, domestic robots, which help bear the burden of housework and offer comfortable living, have a growth opportunity of 14.5 trillion yen and a market size of 34.8 trillion yen. In addition, technologies that change the way people work at home, such as those that enable telework, will be introduced to realize a work-life balance.

Smart agriculture



7.0 trillion yen's worth of opportunities in smart agriculture

Smart agriculture, which utilizes artificial intelligence and drones, will greatly improve production efficiency and reduce the burden on farmers. The new growth opportunity of smart agriculture will amount to 7 trillion yen and the market size will be 15.1 trillion yen.

4.4 trillion yen in cybersecurity

As the integration of virtual and real space advances, the impact of cyber attacks will have a more direct impact on the real world, increasing the importance of cybersecurity. In the field of cybersecurity, a growth opportunity of 4.4 trillion yen and a market size of 15.8 trillion yen will be created.



Cybersecurity

2.8 trillion yen's worth of growth opportunity in digital entertainment

New technologies such as VR and AR will bring new experiences and value to entertainment such as live performances, sporting events, and games, creating 2.8 trillion yen's worth of growth opportunity and 6.8 trillion yen as the market size in 2030.

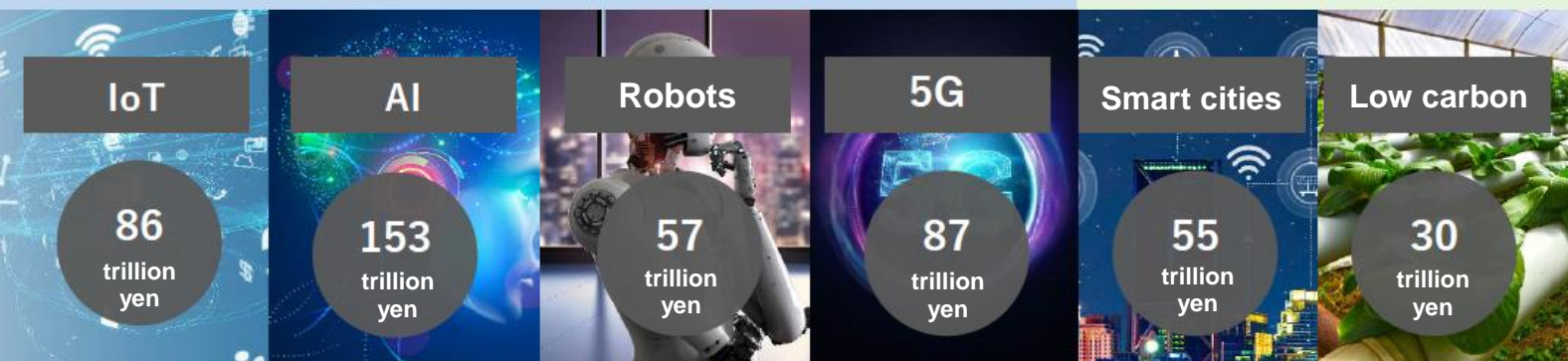
Digital entertainment



Growth opportunities for cross-sectoral fundamental technologies, products, and services

Cross-sectoral fundamental technologies

Cross-sectoral products and services

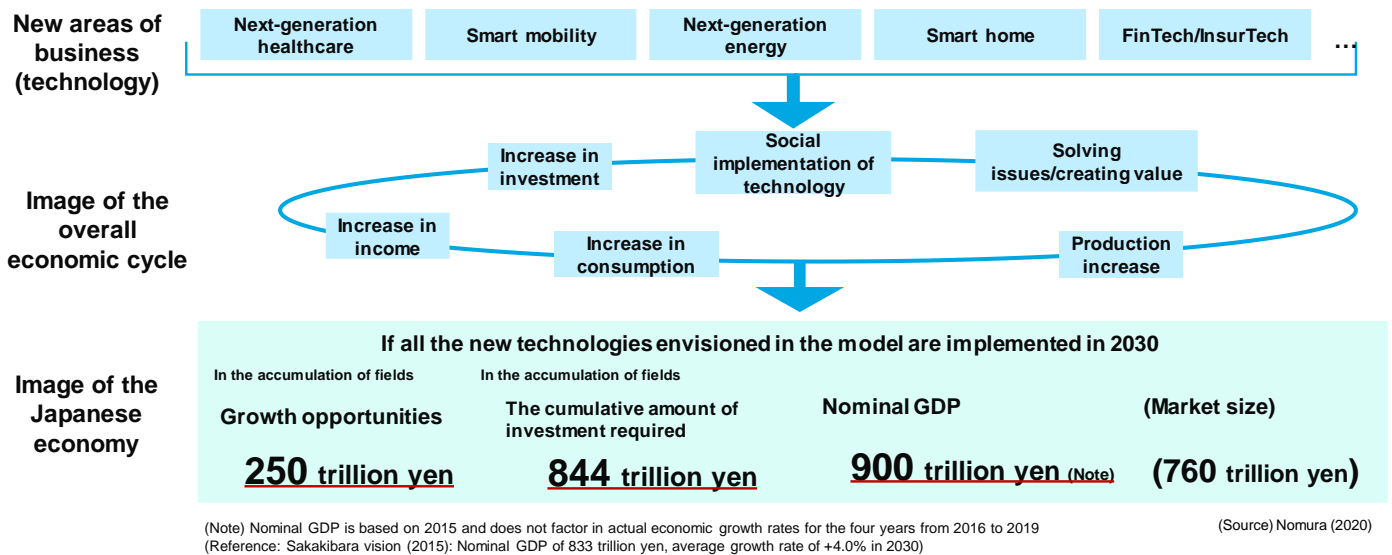


Economic impacts of cross-sectoral technologies, products, and services

Society 5.0 will create significant growth opportunities based on cross-industrial technologies (IoT, AI, robots, and 5G).

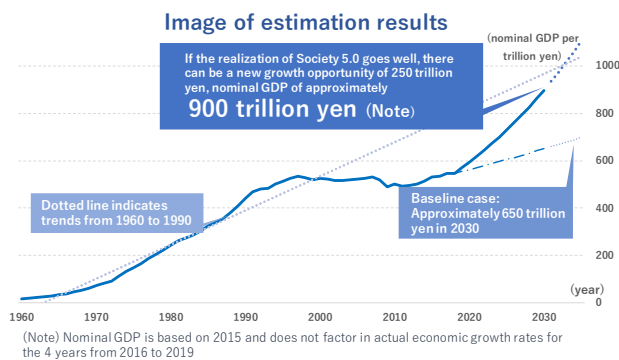
In addition, the combination of products and services provided across industries also will create significant growth opportunities.

Summary of estimation results



New growth opportunity and market size of 250 trillion yen in Japan as a result of Society 5.0

Nomura (2020) estimates that the accumulation of these new technologies in new fields will lead to a new growth opportunity of 250 trillion yen and a new market size of 760 trillion yen in Japan in 2030, if the impacts of these new technologies spread to people and society as a whole, including the vitalization of consumer activities.



The amount of investment funds needed to realize Society 5.0 is 844 trillion yen

The amount of cumulative investment required to realize Society 5.0 is estimated at 844 trillion yen in total.

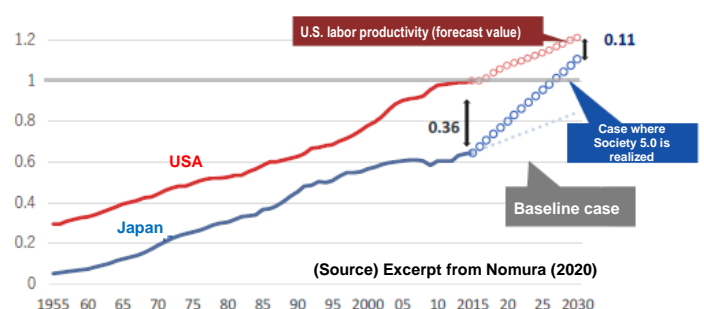
Society 5.0 can contribute to us the improvement of labor productivity

In addition to the new growth opportunities in the macro economy as a whole brought about by the realization of Society 5.0, Nomura (2020) has also made a comparison of labor productivity levels between Japan and the United States when such opportunities are realized.

The result shows that, although there was a 0.36 point difference in labor productivity between Japan

and the United States in 2015, the labor productivity in Japan will reach the current level of the United States in the late 2020s, and the labor productivity gap between Japan and the United States will be reduced to 0.11 by 2030.

On the other hand, the gap in labor productivity between Japan and the U.S. may not be narrowed or may widen if we don't address Society 5.0.



“Social acceptance of Society 5.0” is a condition for a virtuous cycle

Based on an economic model, it appears the introduction of technologies that contribute to Society 5.0 will lead to the “autonomous” realization of a virtuous economic cycle, which will improve competitiveness, expand production, increase income and consumption, and lead to further investment in new technologies.

On the other hand, if there is no social acceptance of Society 5.0 and related technologies, there is a possibility that production, income, consumption, and investment will not increase and the virtuous cycle will stop somewhere. In that case, it would be difficult to reap the huge benefits from Society 5.0.

Therefore, mainly in academia, it is necessary to deepen research not only on the technical aspects of Society 5.0 but also on the institutional design for x social acceptance.

Social impacts created by Society 5.0

Creating social impacts through Society 5.0

Next, we introduce the social impacts created by introducing technologies that contribute to the realization of Society 5.0 into an economic model based on Nomura (2020).

Society that meets diverse needs

10.5% of manufacturing companies create new value

The manufacturing industry, where 3D printers, innovative drug discovery, and smart cell industry meet individual needs and create new value, will account for 10.5% of the added value created by the entire manufacturing industry.

Society in which everyone can demonstrate diverse talents

The number of employed people aged 65 or older to increase by 1.05 million

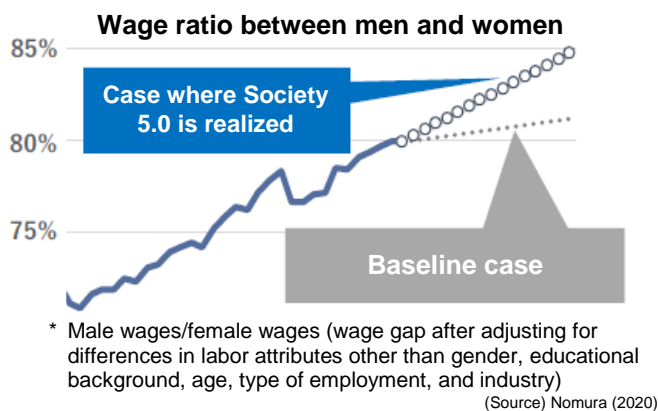
With power suits in smart agriculture, nursing robots, and the increase of telework, participation in the labor market by the elderly aged 65 or older will increase by one point five million compared to 2015.

Home robots to be installed in about 45% of households

Home robots will be used in 45.5% of all households, greatly reducing the burden of housework. As a result, women's participation in society and the environment for raising children can be further enhanced.

Narrowing wage gap between men and women

The wage gap between men and women (wage gap after adjusting for attributes other than gender) will be narrowed, leading to a more equal society.



Facilitating communication with the disabled and the elderly

Conversation aids such as a brain-machine interface (BMI) are widely used by 85.6% of the elderly and people with hearing and speech impairments, enabling smoother communication.

Society where opportunities are available anytime, anywhere

Labor income to increase by 2.4% due to the spread of telework

Telework will spread throughout the country, boosting labor income by 2.4%.

Society where people can live with peace of mind and challenge themselves

Securing of approximately 5 billion IoT devices

About five billion IoT devices in Japan will be secured through cybersecurity and AI-enabled accident-prevention measures.

Introduction of disaster information linkage system

A disaster information linkage system will be established to provide residents with quick and reliable disaster-related information when a disaster occurs.

Optimization and leveling of infrastructure maintenance costs

Drones, AI, and sensors can be used to prevent infrastructure accidents and to optimize and level the costs required to maintain them.

Society where people can coexist with nature

The introduction of next-generation energy technologies will improve energy efficiency.

Improvement of international indicators (projections based on the estimates)

According to the estimate by Nomura (2020), Society 5.0 has the potential to further improve international indicators calculated by international organizations.

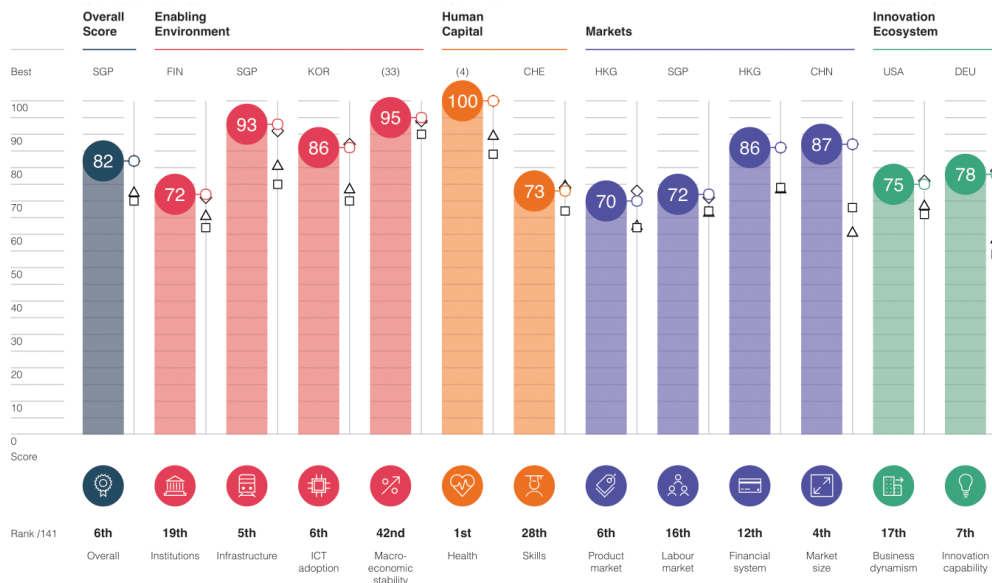
The Global Competitiveness Index

Technologies that contribute to Society 5.0 (telework, home robots, etc.) are expected to improve items for which Japan's score is particularly low in the Global Competitiveness Index (GCI) published by the World Economic Forum, such as workforce diversity and digital skills.

Sustainable Development Report (SDGs Index)

It is expected that the wage gap between men and women and the time spent on domestic work, for which Japan's score is particularly low in the country-by-country SDGs index published by the Bertelsmann Foundation, will be further improved through the introduction of domestic robots.

Box 3.1: World Economic Forum's Global Competitiveness Index Japan's International Competitiveness Index (2019 edition)



The World Economic Forum, which is famous for organizing the Davos Forum, publishes the Global Competitiveness Index (GCI) in its “Global Competitiveness Report” and it summarizes the international competitiveness of each country.

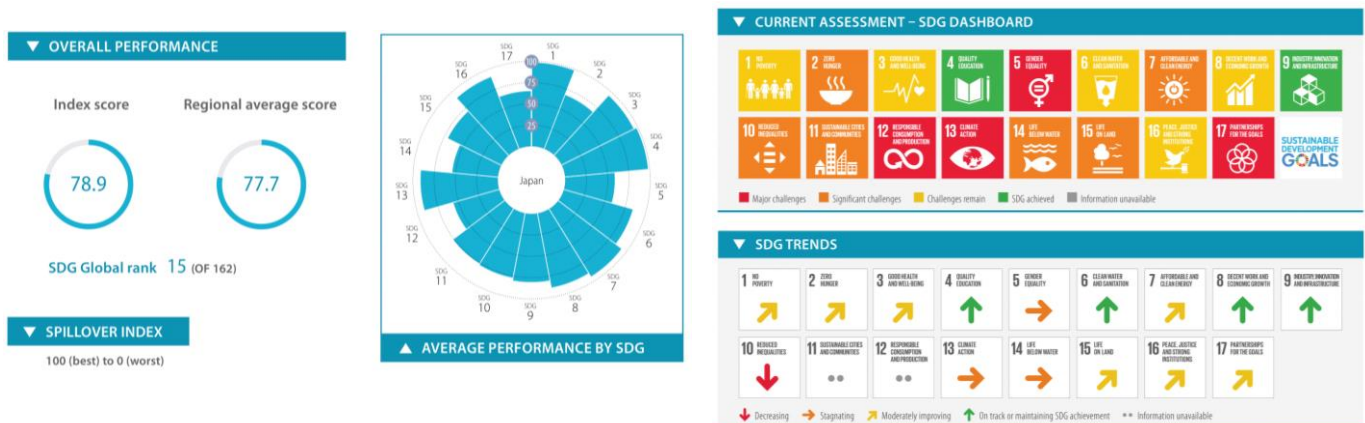
The index scores twelve categories in four areas: overall score, enabling environment, human capital, markets, and innovation ecosystem.

(Source) Excerpt from WEF (2019)

Japan ranks 6th in the world and has the highest score in the health field in the world. On the other hand, Japan ranked 42nd in macroeconomic stability, 28th in education and skills, 19th in legal framework, 17th in business dynamism, and 16th in labor market.

In terms of individual indicators, workforce diversity ranked 106th, credit gap 138th, complexity of tariff 107th, social capital 90th, critical thinking 87th, and digital skills 57th.

Box 3.2: The Bertelsmann Foundation's SDG Index



(Source) Excerpt from Bertelsmann Stiftung (2019)

Bertelsmann Foundation, which was founded by the German media conglomerate Bertelsmann AG, publishes its annual “Sustainable Development Report” and it summarizes countries’ progress towards SDGs.

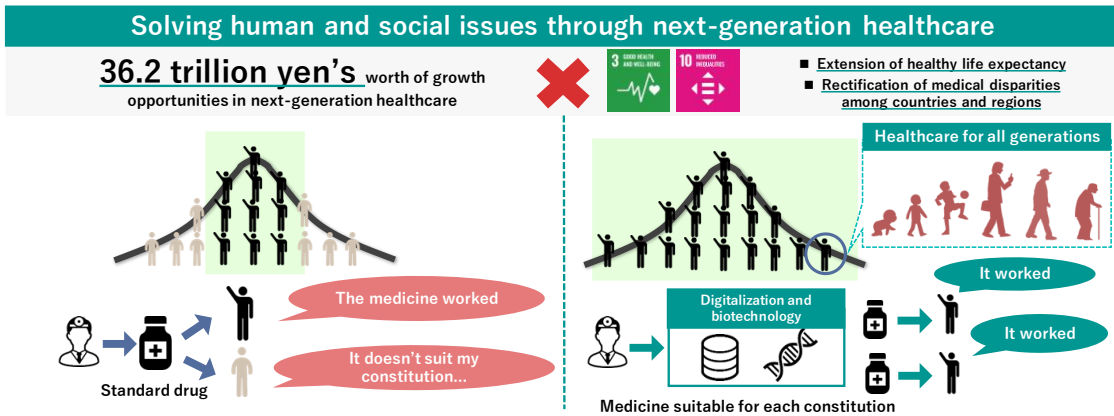
According to data from the latest edition (published June 2019), Denmark (score: 85.2) received the highest rating for achievement of SDGs. Japan is ranked 15th (78.9) in the world and the highest in Asia. The score improved by 0.4 points from the previous year, with the promotion of SDGs by Japanese industry led by Keidanren recognized as one of the positive efforts.

On the other hand, the average score of OECD member countries improved by 0.9 percentage points from 2018 to 2019 (to 77.7 from 76.9), and that of East, Southeast, and South Asia also improved by 1.6 percentage points (to 65.7 from 64.1). Therefore, further efforts are required of Japan.

In the case of Japan, the report identified gender equality, responsible production and consumption, climate change, and partnerships in particular as areas requiring improvement.

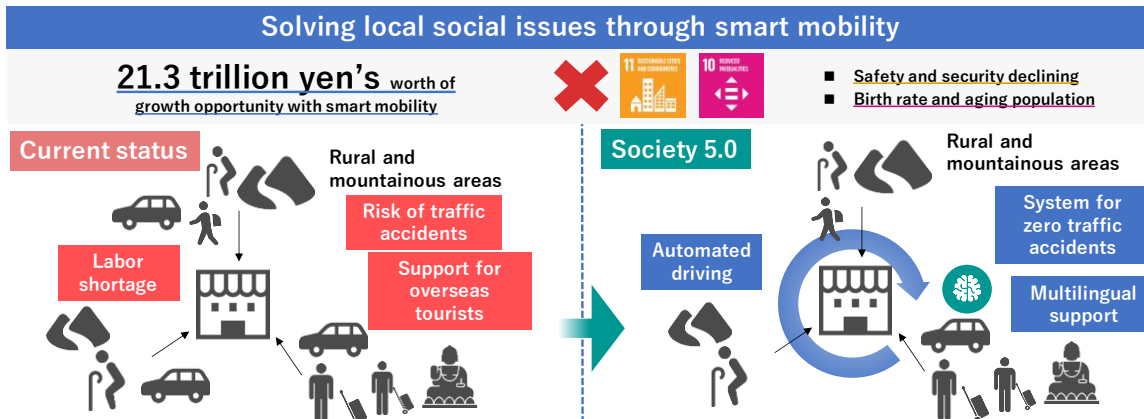
Specific Examples of Society 5.0 Based on Nomura (2020)

Based on the results of the economic and social impacts of Society 5.0 found by Nomura (2020), the following explanation can be made.



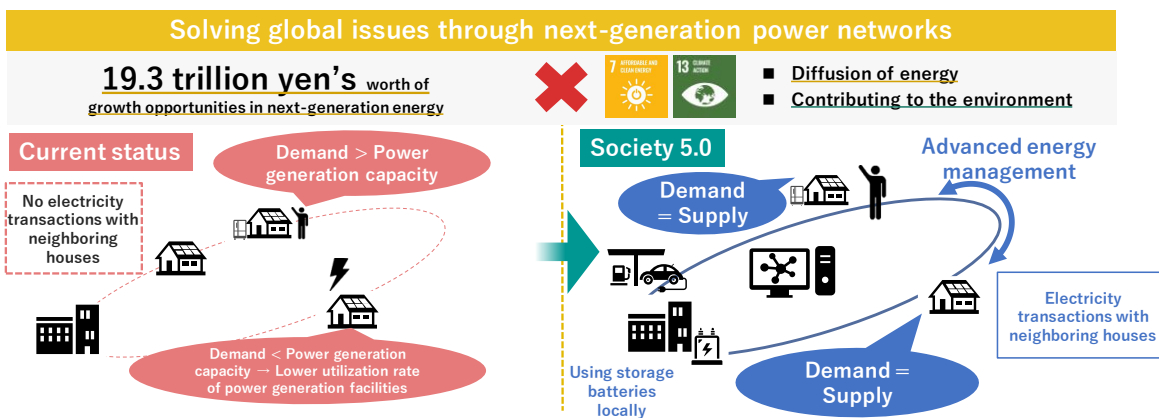
Rectifying medical disparities among countries and regions and extending healthy life expectancy through next-generation healthcare

In Society 5.0, we can protect the health and peace of mind of people of all generations through AI treatments tailored to individual attributes and innovative drug discovery. This next-generation healthcare market is expected to generate 36.2 trillion yen in new growth opportunities and 95.1 trillion yen in market size in 2030.



Improving mobility for the elderly and resolving local social issues through smart mobility

Society 5.0 will enable automated driving, accident-prevention systems, and other means to solve these problems. The smart mobility market using these technologies will have a new growth opportunity of 21.3 trillion yen and a market size of 64.4 trillion yen in 2030.

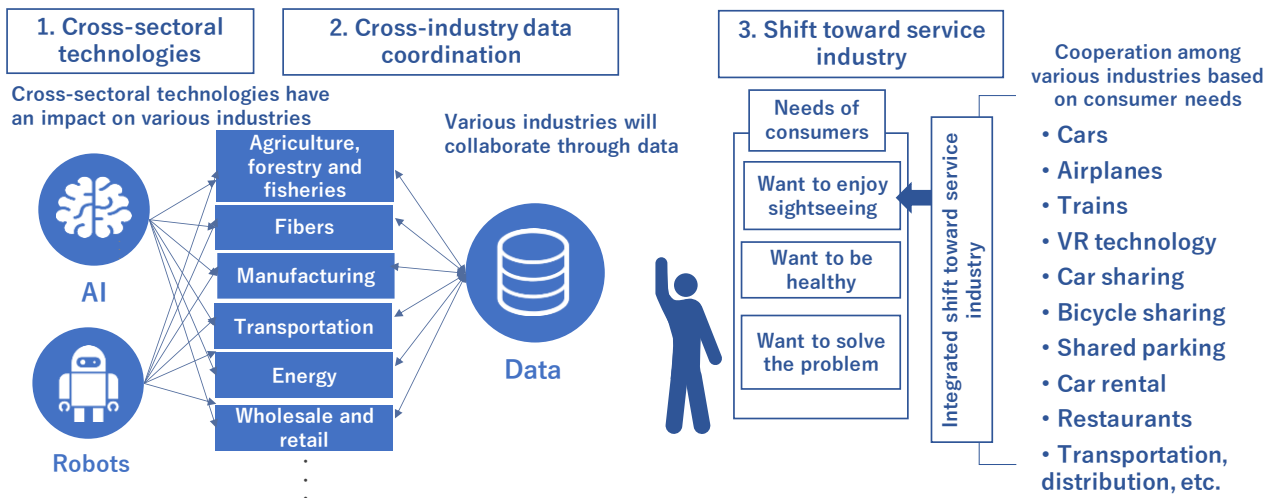


Improving the efficiency of energy use through next-generation energy systems and contributing to solving global issues

In response to the issues of climate change and energy, if advanced energy management is realized, for example, the optimum matching between households with surplus electricity and those with insufficient electricity will be realized, thereby eliminating waste in the use of electricity. The growth opportunity of the next-generation energy will be worth 19.3 trillion yen and the market size will be 37.4 trillion yen.

Various Discussions on Future Industrial Outlook

Discussion on future industrial structure



Industrial structure changes in the process of realizing Society 5.0

So far, we have presented the economic and social aspects of the realization of Society 5.0 based on Nomura (2020).

On the other hand, as it is said that “digital transformation will displace industry boundaries,” the transformation of the industrial structure that will take place in the process of realizing Society 5.0 is also of interest to companies and investors.¹¹

This section summarizes the current discussions on why digital transformation is changing the industrial structure and what it will look like in concrete terms. It also presents examples that have been presented in various surveys, including the questionnaire survey on companies and investors.

1. Digital technology is cross-sectoral technology

Digital technologies such as sensing technology, the cloud, machine learning, and robotics have features that can be applied in various fields. This makes it easier for companies with these technologies to enter various industries.

For example, companies from various industries such as the electrical machinery industry and the information service industry are entering the automobile industry due to the development of CASE (Connected, Autonomous, Shared, Electric) technologies.

2. Data coordination across different industries is important

It is also necessary to collect and analyze a variety of social data in order to utilize digital transformation to solve problems, create value, and promote corporate growth. As a result, companies in a number of industries with various types of data are expected to collaborate with each other, bringing their own data and utilizing it, thereby facilitating cross-industry collaboration.

3. Progress of shift toward service industry, including goods

People’s needs are shifting from owning particular products or services to focusing on the experience gained by using them, which is called “experiential consumption.”

Under these circumstances, advances in digital technology are enabling services that fulfill the “experiential consumption” to be provided at competitive prices.

For example, in the case of mobility as a service (MaaS), consumers who want an experience of “less expensive mobility” can meet their needs by using a service that lets them use a car at a low cost rather than owning a car. This will facilitate cooperation and mutual entry between the automobile industry and the information service industry.

¹¹ “Second ‘Council on Digital Transformation’ Is Held,” *Keidanren Times* (February 6, 2020 issue)

Examples of anticipated changes in the industrial structure

Against the backdrop of these discussions, the following three examples of anticipated industrial changes are presented.

Research on industries that are expected to compete with each other going forward

In the questionnaire survey on companies and investors, the respondents were asked to select up to three industries that they believe will compete in the next 10 years, in addition to their own industry.

The results show that people in many industries expect competition from other services (information services, etc.).

Regarding individual industries, there is a high expectation of competition with real estate and electricity in the construction sector, with telecommunications in the automobile sector, and with telecommunications, finance, and insurance in the wholesale and retail sectors. Industries such as CASE and cashless industries, which have already been entered by other industries, appear to have a concrete image of their future.

Companies whose long-term vision and other aspects are close in direction

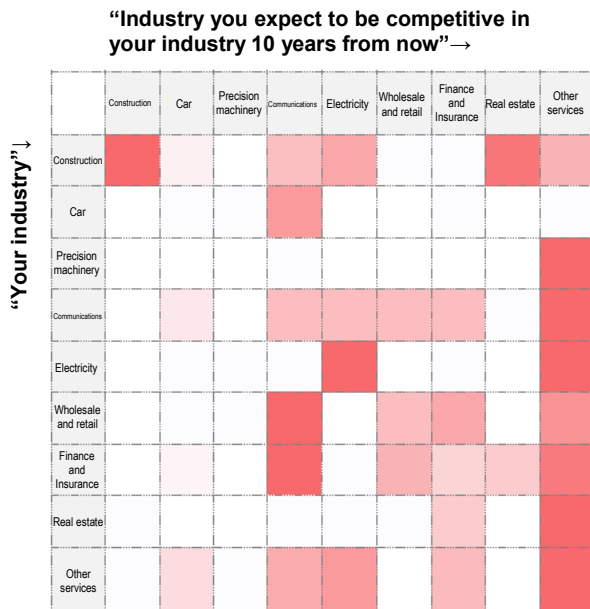
Businesses whose long-term corporate visions and other aspects are close in direction may become closer to each other in the future, and they may compete or cooperate with each other. In this respect, there is an analysis that shows the results of natural language processing by collecting long-term visions and the like that are published on the websites of each company.

In the figure on the left, dots are placed close to each other because the same directional terms are used in the same industry, but companies that are in different industries but have the same direction are also plotted close to each other. For example, the results suggest that although Company A in the real estate industry and Company B in the automobile industry are in different industries, they have a similar vision in terms of “city” and “mobility.”

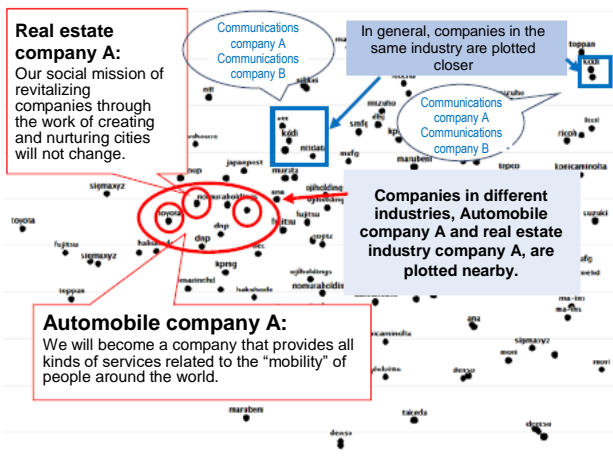
Influence of cross-sectoral technologies on industries in Nomura (2020)

Nomura (2020) uses an economic model to depict how cross-sectoral technologies make an impact on various industries based on 510 activity categories, including 54 new industries.

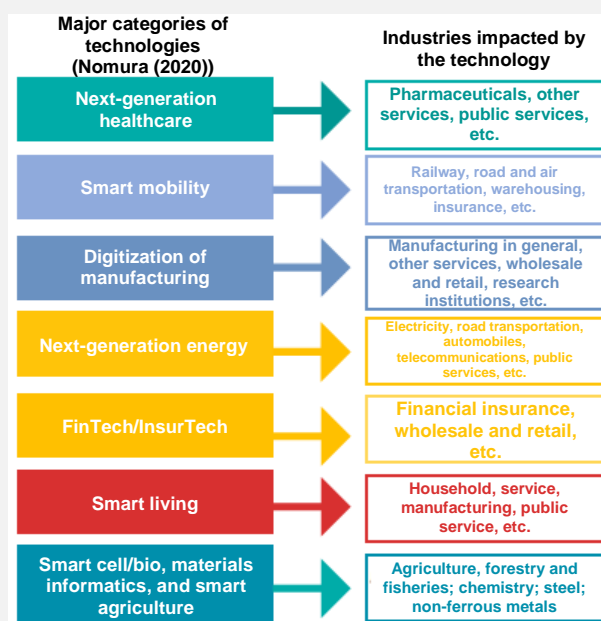
For example, in next-generation healthcare, the early detection and treatment provided by data healthcare can reduce healthcare costs by extending healthy life expectancy. On the other hand, it also increases the productivity of older workers and contributes to the expansion of new employment of elderly persons.



(Source) Prepared by the Keidanren Secretariat based on the results of the questionnaire survey on companies and investors
*The darker the red, the more likely it is to anticipate future competition; see Reference 1 for details.



(Source) Prepared by the Keidanren Secretariat based on materials from VISITS Technologies



Challenges for the Future

Updating estimates for Society 5.0

Estimates for Society 5.0 are based on currently assumed technologies, and the like, and need to be updated regularly as new technological innovations and social changes are expected in the future.

Research on the socioeconomic system that supports Society 5.0

In order to realize Society 5.0, it is important that technologies contributing to it are appropriately accepted by society. Therefore, it is required to

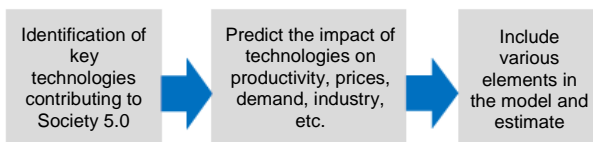
advance research on the ideal socioeconomic system which supports Society 5.0.

Further deepening knowledge about Society 5.0

In addition to this report, there are other reasons why Society 5.0 brings about economic and social impacts, and presentations of changes in industrial structure in the process of Society 5.0.

Therefore, it is important to continue to deepen our knowledge of Society 5.0.

Box 3.3: Method of estimating Society 5.0 for SDGs

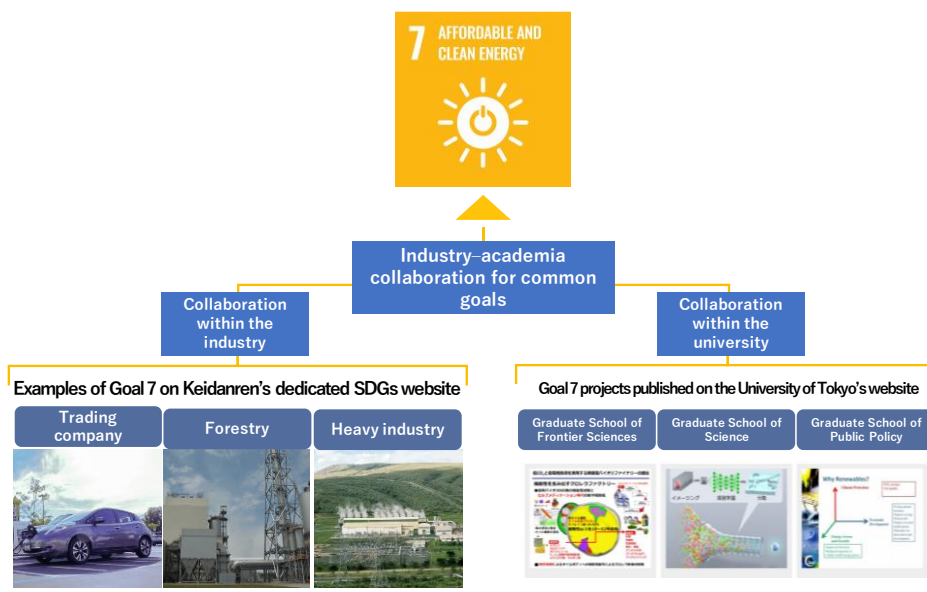


In making estimates for Society 5.0, Nomura (2020) first established the baseline (BaU) case based on the baseline of the Cabinet Office’s “Economic and Fiscal Projections for Medium to Long Term Analysis.”

Next, technologies contributing to Society 5.0 were identified by referring to Keidanren’s Society 5.0 Comprehensive Recommendation, Science and Technology Foresight Center of the Ministry of Education, Culture, Sports, Science and Technology, and the Electric Power Council for a Low Carbon Society (ELCS), and the like.

In addition, Nomura analyzed the impacts of the technologies on productivity, prices, demand, industry, and the like, and estimated the GDP growth rate and other figures by introducing the results of each analysis into the model.

Box 3.4: Potential for cross-border innovation collaboration based on the SDGs



For each goal of the SDGs, products, services, and projects that contribute to that target are announced on Keidanren’s dedicated website and the University of Tokyo’s website.

As shown in the figure on the left, this information can be used to promote collaboration among companies as well as between companies and universities with the SDGs as the axis.

*Prepared by Keidanren Secretariat based on KeidanrenSDGs.com and the University of Tokyo’s website

4.

Direction of Information Disclosure by Companies Promoting Society 5.0

Summary

In order to realize investments in companies that are actively addressing Society 5.0 (companies promoting Society 5.0), it is essential to present the ideal form of information disclosure that will enable such companies to be appropriately evaluated by domestic and foreign investors.

As the first step, this chapter explores the direction of information disclosure that identifies companies addressing Society 5.0.

First, we paraphrased the companies promoting Society 5.0 as “companies that can grow from a medium- to long-term viewpoint and contribute to a sustainable society,” and focused on the “future financial information” (non-financial information that represents the future of the company) disclosed by such companies, such as their long-term vision.

Then, as the results of the questionnaire survey, we found that 96% of investors consider “sustainability” as important for mid- to long-term growth, and 76% of investors consider “digital transformation” as such.

Then, we highlighted the elements of the vision that evoke megatrends and future growth expectations that should be addressed from investors’ perspective. To do this, a method was used in which long-term visions and other information are collected from companies in the questionnaire survey on companies and investors, and are processed in natural language together with comments for them from investors.

As a result, “safe and smart life by utilizing technology,” “demographic change,” and “climate change and disaster prevention” ranked high as the top megatrends investors think should be captured. In addition, three elements were listed as the elements of the long-term vision evaluated by investors, namely “business development based on people,” “solving global issues,” and “creation of new markets.”

Finally, this chapter presents the perspectives of information disclosure assessment and examples of descriptions of the specific efforts of companies promoting Society 5.0.

“In order for the Society 5.0 for SDGs to truly take root, it is necessary to create a framework, in which companies that are willing to engage in the “realization of Society 5.0” will be appropriately appreciated by domestic and foreign investors, among others, and through such a movement, more companies will actively engage in the “realization of Society 5.0.”

*KUNIBE Takeshi,
Vice Chair/Chair, Committee on Financial and Capital
Markets, Keidanren
(Chairman of the Board, Sumitomo Mitsui Financial Group, Inc.)*

“Society 5.0 is a sustainable, human-centered, super smart society, and I think it is better to use the positive term ‘future’ financial information, rather than non-financial information, to describe the disclosed information of companies that aim for its realization.”

*FUTAMIYA Masaya, Chair,
Committee on Responsible Business Conduct & SDGs
Promotion, Keidanren
(Director-Chairman, Sompo Japan Nipponkoa Insurance Inc.)*

“Corporate integrated reports clearly describe how they can contribute to the society of the future. If we collect them, I think we can see what kind of society we will have in the future.”

*NAKA Hiroshi,
Professor, Institute for Future Initiatives,
the University of Tokyo*



Chapter 4: Direction of Information Disclosure by Companies

Promoting Society 5.0 (Overview)

Purpose

Show the direction of information disclosure of Society 5.0

by extracting the image of companies addressing Society 5.0 from their long-term vision, etc.

Methodology

Companies promoting Society 5.0

= Defined as “companies that can grow from a medium- to long-term viewpoint and contribute to a sustainable society”

Focus on **“future” financial information** (non-financial information that indicates medium- to long-term growth of the company) as information to show the future growth and sustainability of a company.



Also assume the following 3 assumptions as future financial information



Future financial information

1. Megatrends to capture as opportunities
2. Long-term vision that generates expectations for growth
3. Corporate action plan to realize Society 5.0

Methodology

Megatrends

Long-term vision

Action Plan

Analysis using Natural Language Processing

Organize various materials and present an action plan

1 Step

2 Step



Natural language processing

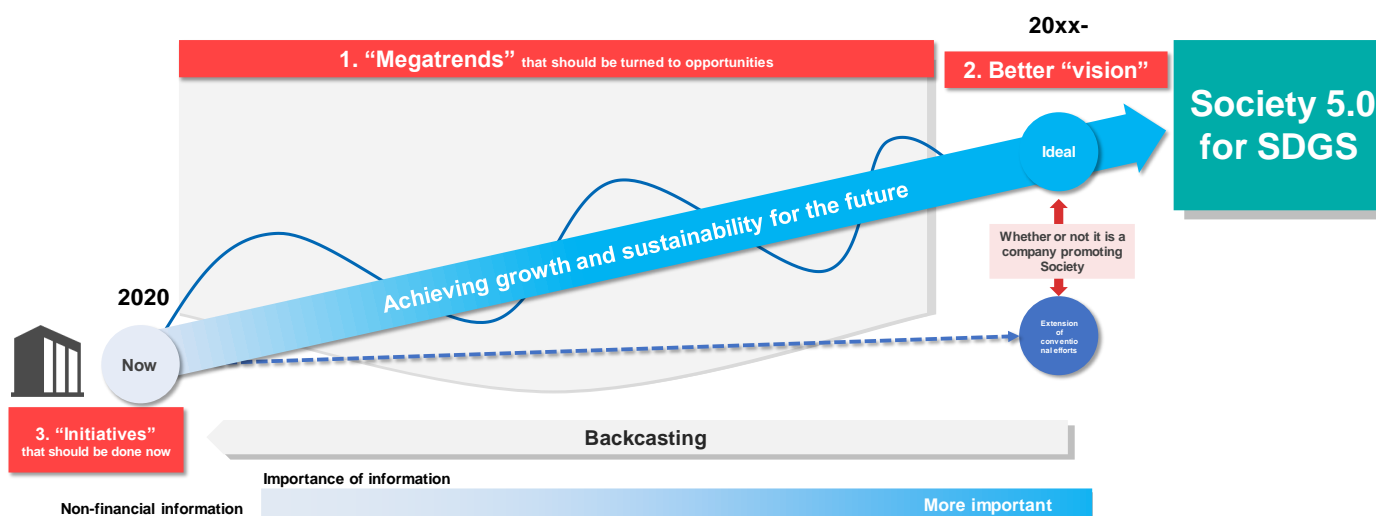
Extract the contents of long-term vision, etc. and expression methods required by investors.

- (1) Companies fill in their long-term vision, etc.
- (2) Acquire comments/feedback from randomly selected investors on company responses
- (3) Conduct natural language processing on the content of (1) and (2) Extract the contents of the long-term vision, etc. and expression methods required by investors.

*Analysis based on survey results of 105 companies and 117 investors

“Future” Financial Information Showing Companies Addressing Society 5.0

Companies that generate expectations for their future growth and sustainability

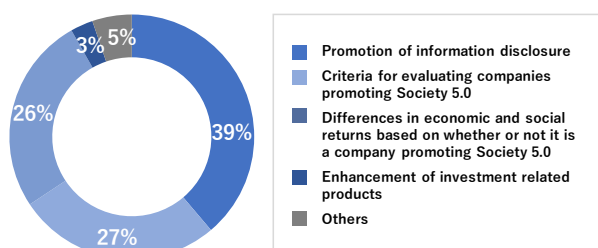


Information disclosure that shows companies addressing Society 5.0

Information disclosure and evaluation criteria based on that disclosure are important in encouraging investment in companies addressing Society 5.0 (companies promoting Society 5.0).

In the questionnaire survey on companies and investors, when investors were asked about the “issues in promoting investment in companies that advocate Society 5.0 for SDGs,” 39% cited “promotion of information disclosure” and 27% cited the establishment of “evaluation criteria for Society 5.0 for SDGs companies.”

Challenges to be addressed to promote investment in companies advocating Society 5.0 for SDGs



Based on the above, in this chapter we focus on the establishment of standards and guidelines for information disclosure based on Society 5.0 as a future issue, and first explore the direction of information disclosure which indicates the companies promoting Society 5.0.

Information that represents future growth and sustainability

A “company promoting Society 5.0” is considered to be a “company that can achieve future growth and contribute to a sustainable society.”

From the perspective of evaluating “companies with high expectations for the future” (companies engaged in expected value-oriented business), it is desirable to focus on non-financial information rather than financial information, which is the result of past performance. Daiwa Institute of Research (2019)¹² defines this information as “future financial information” in the sense that it transforms into financial information over time.

In terms of companies that realize “growth potential” and “sustainability” it is desirable to focus on their “long-term vision” which is a picture of their future business, and “megatrends” which are the social trends behind the vision.

Therefore, we focus on long-term vision and megatrends among non-financial information, and explore what points in them will evoke future growth and sustainability for investors.

In addition, various documents have already shown specific examples of the efforts required of companies to realize Society 5.0. We will also analyze such information along with the specific direction of information disclosure, since it helps determine whether a company is promoting Society 5.0.

¹² Daiwa Institute of Research (2019): “Financial Information Is ‘Future Financial Information’: A New Perspective in Corporate Analysis”

Natural language processing for analysis of non-financial information

Analysis of non-financial information using natural language processing

Since non-financial information is qualitative information, quantitative statistical analysis has been considered difficult.

In recent years, however, natural language processing technology has been developed to enable quantitative analysis of qualitative information. For example, words in a written sentence can be analyzed to specify similar written contents for grouping.



Human “impressions” can also be incorporated into the analysis

On the other hand, since natural language processing of non-financial information is a method for mechanically classifying the descriptive content, the impression that a human reader receives from the descriptive content is not included in the analysis object.

However, when investors judge the growth potential of a company based on non-financial information, the impression they get from the description is important.

In this survey, therefore, we not only collect descriptions of long-term visions from companies, but also collect impressions that investors receive from such descriptions, and perform natural language processing on the two.

This technique is called CI (Consensus Intelligence) technology, and it is possible to derive descriptions that elicit more response from people (investors in the case of this study).¹³



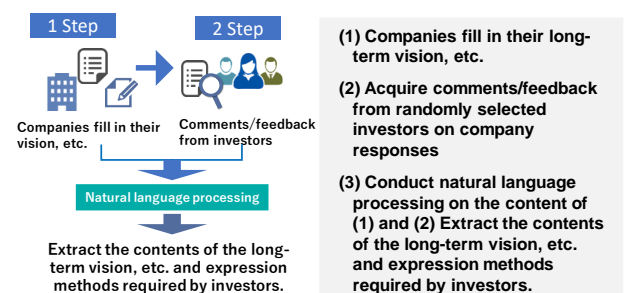
The significance of the survey: non-financial information required by investors

The significance of this survey is to clarify the direction of non-financial information disclosure requested by investors by utilizing CI technology with the participation of many companies and investors.

As pointed out in Box 4.2 (page 63), the guidelines for disclosing non-financial information are diverse and do not indicate the direction of uniform disclosure that investors truly want.

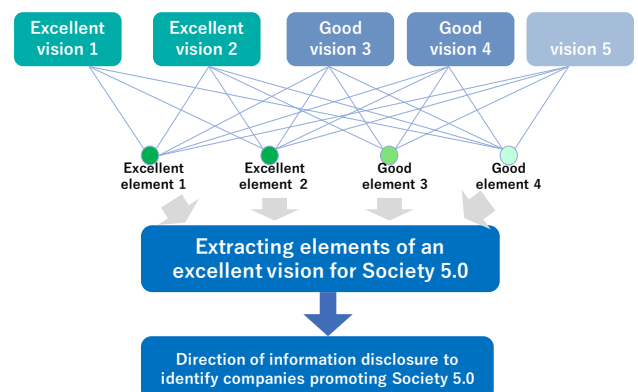
In this context, natural language processing is applied to the long-term vision and other information of companies and comments from multiple investors in response to it, in order to extract information that investors truly respond to among information that indicates future corporate growth, from an independent perspective.

The results obtained from this analysis are also a synthesis of the views of various investors, and may be considered as a unified view of non-financial information that investors require to be disclosed. Therefore, this will be a useful insight in developing information disclosure guidelines for Society 5.0 in the future.



Survey overview

The survey was conducted between November 2019 and February 2020 with the cooperation of the companies that belong to the Keidanren Committee on Financial and Capital Markets, the Committee on Responsible Business Conduct & SDGs Promotion, and the Committee on Startups, and investors commissioned by the GPIF. Valid responses were received from 105 companies and 117 investors.



¹³ The CI technology “ideagram” used in the survey is VISITS Technologies’ proprietary technology.

Megatrends to Capture

Keywords of Society 5.0:

“digital transformation” and “sustainability”

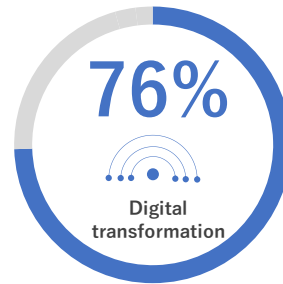
Digital transformation and sustainability are important

Before analyzing the long-term vision and megatrends, we first examined investors’ perceptions of the importance of the Society 5.0 keywords “digital transformation” and “sustainability.” The result showed that 76% of investors answered that “digital transformation” is very important or important for the medium- to long-term growth of companies.

Digital transformation increases corporate competitiveness and creates added value

Specific reasons cited for emphasizing digital transformation in terms of corporate growth include “Creating added value and improving cost efficiency through digital transformation are contributing to corporate earnings growth in a growing proportion,” “Digital transformation is a key component of enterprise growth,” and “Digitization could be the cornerstone of competitiveness and survival.”

Of all investors, 76% believe digital transformation is important for corporate growth, while 92% believe sustainability is important for such growth.



* Percentage of investors who answered in the questionnaire survey on companies and investors that digital transformation and sustainability are very important or important for the medium- to long-term growth of the company

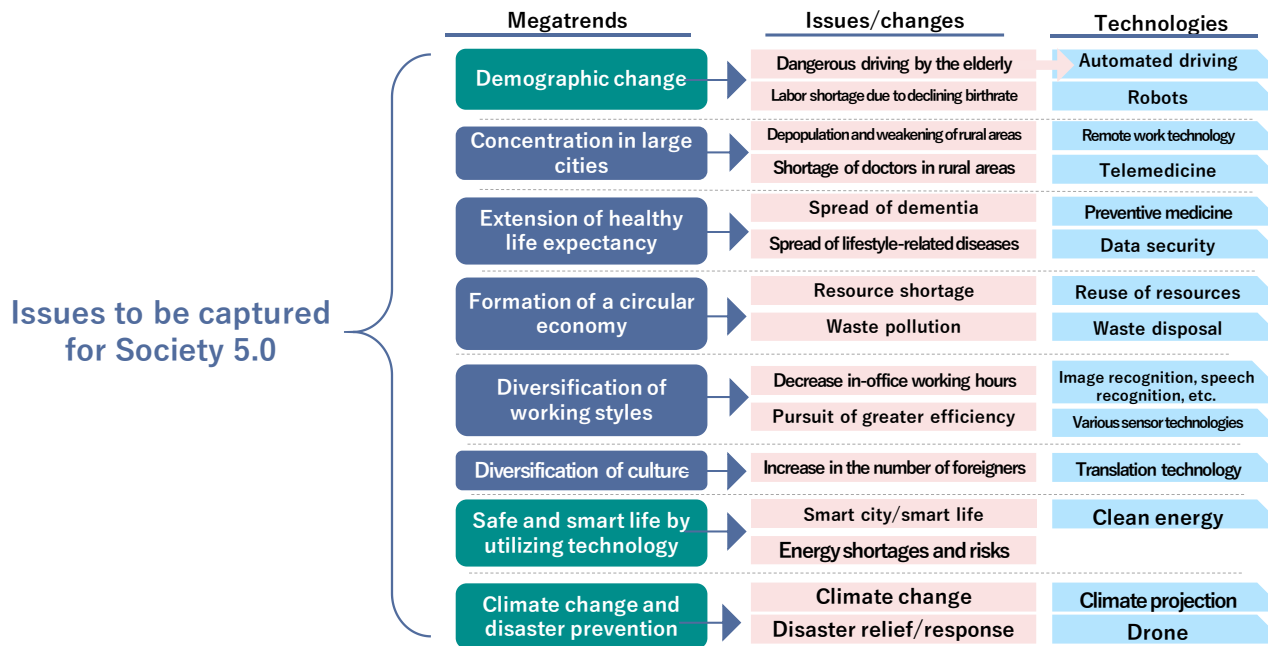
Sustainability means the sustainability of corporate value, stakeholder expectations, and the raison d’être of a company

As for sustainability, 92% said it was very important or important, and 53% of them said it was very important. Reasons for this include “The sustainability of the cash flows generated by a company is an important factor in determining corporate value” and “Sustainability is the what the stakeholders surrounding a company expect, and it is impossible for a company to achieve sustainable growth without considering this expectation.”

Why do investors think “digital transformation” and “sustainability” as being important of companies’ growth?

Comment	Job title	Location	Department
Digital transformation			
Because a growing proportion of companies are benefiting from the creation of added value and cost efficiency through digital transformation	Sales	USA	Investment planning department
Although recognizing that digital transformation is not a purpose but a means, it is important because many companies seek to make a profit through digital transformation	Officer	Europe	Sales department
I think digital transformation is essential for future corporate growth, irrespective of whether it is relevant to ESG investment or not	Sales	Japan	Sales department
Because a fundamental change in the traditional business model will be brought about, and it can be both an opportunity and a threat to the enterprise	Analyst	Europe	Corporate research department
Because of the potential for significant changes in business models	Other	Europe	Investment planning department
Sustainability			
Because ESG is a breakdown of the elements that achieve sustainability	Sales	USA	Sales department
Sustainability should be considered in a maturing society regardless of whether it is relevant to ESG investment or not	Sales	Japan	Sales department
Because without the creation of social value, there is no creation of corporate value, and sustainability initiatives are an essential element in corporate activities	Analyst	Europe	Corporate research department
Because ESG investment itself is an investment from a long-term perspective, and sustainability is an essential perspective	Officer	Japan	Sales department
Because the sustainability of the business itself is inseparable from the future business environment.	Other	USA	Investment department

Megatrends to capture: specific challenges and technologies



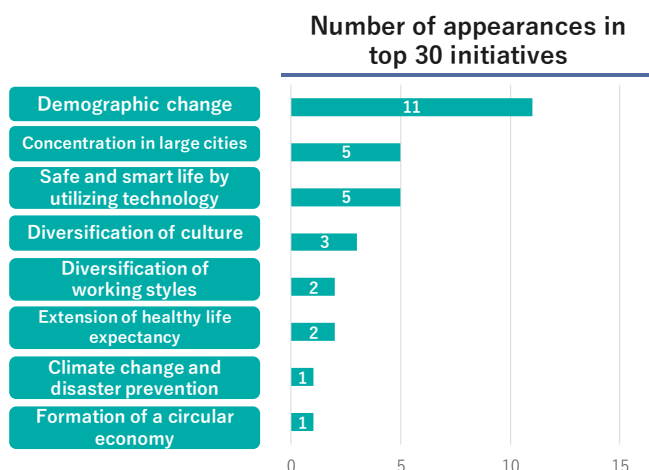
Below, among the megatrends that need to be addressed in the future as revealed in the questionnaire survey on companies and investors, we examine those that investors found to be particularly of high priority.

Megatrends that invoke a response

First, as described in Chapter 2, in the questionnaire survey on companies and investors, (1) in the first step, all the questionnaire participants were asked about the issues they expect to be solved, and (2) in the second step, the responses collected in the first step were evaluated mainly to see if other participants can agree with them.

In the (2) second step, we analyzed and counted which of the eight megatrends mentioned in Chapter 2 correspond to the top 30 answers that invoked a high response.

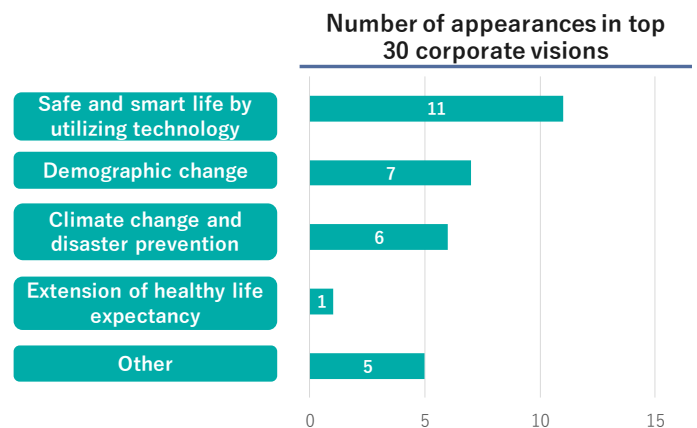
As shown in the chart below, among the responses from companies and investors as a whole, demographic changes, concentration in large cities, and safe and smart life utilizing technology ranked high.



Megatrends focused on by investors

On the other hand, when only the responses from investors are analyzed, as shown in the figure below, “safe and smart life by utilizing technology” is at the top of the list, while the ranking of “climate change and disaster prevention” is relatively high.

As a result, the megatrends that investors are focusing on are more concentrated on specific megatrends compared to individuals.



Long-Term Vision That Evokes Expectations for Future Growth

Expectations for a longer and more ambitious vision

Importance of the long-term vision

We then focus on the long-term vision of the company. In the questionnaire survey on companies and investors, 89% of companies said that they had provided investors with an opportunity to get an explanation of their long-term vision, and 88% said that they had received inquiries from investors about their long-term vision.

Long-term visions generally assume 3 to 10 years

In analyzing the long-term vision, we first indicate the number of years the current long-term visions assume.

This time, when asked about the number of years that the long-term vision assumes, about half of the respondents answered about 3 years, while 16% answered about 5 years, 28% answered about 10 years, and 7% answered 10 years or more.

According to the survey on the long-term vision in the GPIF's "Report of the 4th survey of Listed Companies Regarding Institutional Investors' Stewardship Activities," long-term visions up to fifteen years accounted for 93% of the total, showing a similar result. The majority of Japanese companies, including member companies of Keidanren, have a long-term vision of about 10 years or less, and mainly about 3 to 5 years.

written "Fink's letters" to corporate executives around the world, asking them to explain their management strategies for creating long-term value for constructive dialogue with them.

In order to make engagement with shareholders as productive as possible, companies must be able to describe their strategy for long-term growth. [. . .] We recognize that the market is far more comfortable with quarterly reports and colored proxy cards than complex strategy discussions.

But a central reason for the rise of activism—and wasteful proxy fights—is that companies have not been explicit enough about their long-term strategies.

(Fink's letter 2018)

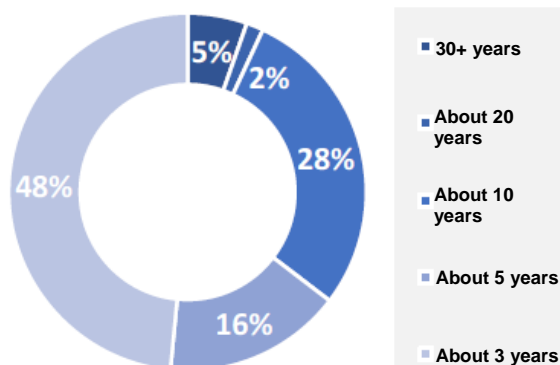
Creating a longer, more ambitious vision

In light of these developments, companies are expected to accelerate their efforts to formulate a better long-term vision for the longer term.

Regarding the extension of the period of vision, according to the aforementioned "Report of the 4th Survey of Listed Companies Regarding Institutional Investors' Stewardship Activities," the number of companies with a vision of 10 years or more increased by about 5 percentage points in just 1 year.

In the face of digital transformation in particular, some are calling for an ambitious vision that evokes more growth expectations. Formulating such a vision will also help realize the Society 5.0 concept.

Years for which companies' long-term vision is established in this survey



If you view the long-term vision as part of your medium- to long-term management plan and business cycle, it will not match the long-term vision sought by overseas investors. As digital transformation advances and the industrial structure changes, investors want to know where the company is going. [. . .] They want an ambitious vision for future growth.

MIZUNO Hiromichi, Executive Managing Director and CIO, GPIF

Expectations of investors for disclosure of long-term vision and other information

Investors, on the other hand, want a better long-term vision. For example, Larry Fink, CEO of BlackRock, the world's largest fund manager, has

Elements of a Long-Term Vision That Evokes Expectations for Future Growth

		Average score	Number of responses	Consideration based on the responses
High	Business development based on people	3.5	4	Whether it is B2B or B2C, people are the starting point of a business, and focusing on them can attract expectations in terms of <u>both novelty and scale</u>
	Solving global issues	3.4	27	Future-oriented, clearly aware of <u>specific global issues</u> , and aiming to achieve them with numerical targets
	Creation of new markets	3.3	10	Capitalizing on the technologies and strengths of existing businesses to capture other needs, offering both <u>novelty and robustness and viability</u>
Middle	Solving current issues	3.0	20	Aiming to solve social issues based on the present, and <u>expectations for the future are weakened a little</u>
	Safety, security, and trust	3.0	5	Safety, security, and trust are permanent issues and are important, but have less sense of the future
	Creating new value	2.9	19	<u>Although attractive in terms of direction, slightly lacking in concreteness and was evaluated poorly</u>
Low	Improving productivity and	2.7	12	Productivity improvement is inevitably considered as not breaking away from the <u>existing business domain</u>

Seven long-term vision elements and scoring

In the questionnaire survey on companies and investors, we performed natural language processing on the descriptions of the collected long-term visions, and found that the long-term visions contain seven elements, as shown in the figure above. When comparing the number of responses that referred to each element, “solving global issues,” “resolution of social issues,” “creating new value,” and “improving productivity and profitability” were the most common.

Finally, based on investor feedback on the long-term visions (investors’ scores and comments in terms of whether they evoke growth potential), we identified highly regarded elements of the long-term visions. As the elements of the long-term visions highly evaluated by investors, three elements were listed, namely, “business development based on people,” “solving global issues,” and “creation of new markets.”

Observation regarding the visions that have received high evaluation from investors

This section examines the long-term visions that have been highly evaluated by investors based on their comments on the answers.

First, regarding the visions related to “business development based on people,” the element with the highest score, it was found that high expectations were placed on the novelty of the business and the expansion of the market size.

Regarding the visions related to “solving global issues,” many comments evaluated the fact that they refer to social issues, which evoked in investors an

image of acquiring global markets, and that they set specific numerical targets.

Regarding the “creation of new markets” visions, many commented that they have robustness, feasibility, and novelty because they leverage the strengths of existing businesses.

Observation regarding the visions with a low evaluation

On the other hand, “solving current issues,” “safety, security, and trust,” “creating new value,” and “improving productivity and profitability” were rated low. The reason is discussed below.

It is considered that because these four elements were visions that were based on the present rather than the future, the evaluation of these four elements was low in terms of expectations for future growth.

For example, it is considered that the score of “solving current issues” was low because the visions could not convey a concrete picture of the society that the companies wanted to realize in the future, even though they grasped the current issues.

It is thought that the element of “safety, security, and trust” was regarded as risk averse, while it is also important, rather than as an indication of future potential.

It is considered that the content related to “creating new value” was regarded as not sufficiently specific, although it is promising.

“Improving productivity and profitability” is an important element in business activities, but investors may have interpreted it as meaning the company is interested only in extending the existing business domains.

3 factors highly evaluated by investors



Business development based on people

Aim to develop business based on people to bring new value to people by anticipating and utilizing future technologies



Solving global issues

Clarify global issues, set specific targets, etc., and aim to resolve them



Creation of new markets

Capitalize on the strengths of existing businesses, capture diverse needs, and aim to create new markets

Further examination of the three highly evaluated elements suggests that the following should be considered in order to develop a better long-term vision.

Business development based on people

In the “business development based on people” element, which has the highest average score, highly evaluated visions were those that stated that the age will come when the meaning of human beings will be strongly brought into question amid technological innovations such as AI and robots as well as changes in society. They were also those that, based on such projections, work on increasing communication, creating new enjoyment, and diversifying working and living styles while making use of technological transformations.

Solving global issues

As for the “solving global issues” which was the runner-up in the average score, companies with such a

vision not only clearly understood the needs of the world, but also clearly showed the relationship between their businesses and technologies and the issues of SDGs. As a result, investors were probably convinced that stable growth could be expected.

Creation of new markets

In average score, it was third but the most interesting long-term vision element was “creating new markets.”

The visions with this element were novel in that they focused on needs that the company has not been addressing in its current business, and sought to actively capture the needs of other industries, regardless of existing industry barriers.

In addition, they include the perspective of utilizing the company’s existing business when engaging in new business, and were evaluated by investors as being concrete and solid.

Business development based on people

Description (excerpt)	Examples of investors' comments (Summary)
The Company will not only add more technologies and functions to its products, but also take on the challenge of pursuing “the optimum” for each individual customer by continuing to evolve products and services even after they are sold, making full use of various types of data and advanced AI and IoT technologies.	Insatiable adoption of information technology Create expectations for growth
As technology evolves, the time will come when we question the meaning of human beings. People grow up in loving situations where people interact with each other, while making good use of new technology.	As technology evolves, the added value of services that ask about human nature should increase.
We focus on improving the automation of data warehouses and provide an environment that enables older workers to perform more organized work, such as training and improving skills. At the same time, we provide an active program for developing STEM skills (science, technology, engineering, and mathematics) for the younger generation. We think that this is necessary to ensure a long-term vision for Japanese industry.	Concrete, original and proactive responses to Japan’s challenges

Solving global issues

Description (excerpt)	Examples of investors' comments (Summary)
Since its founding, the Company has always believed that materials can change lives, true to the fundamental corporate principle of contributing to society. At the Company, we make it our mission to deliver innovative technologies and advanced materials that provide real solutions to the challenges the world faces while balancing development and sustainability	Each item is highly specific and addresses major global issues.
Contribute to the creation of an affluent and sustainable society by providing new value through future-oriented research and development. Contribute to the transition to a circular economy by promoting initiatives aimed at reducing the burden on the global environment to zero.	Companies that have successfully responded to these changes are expected to expand into new stages and accelerate growth

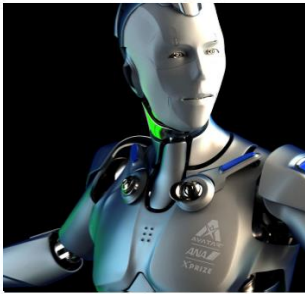
Creation of new markets

Description (excerpt)	Examples of investors' comments (Summary)
We are also engaged in research into advanced technologies, such as artificial intelligence and lasers, to respond quickly to the increasingly sophisticated and diverse needs of society. [. . .] The Group leverages its comprehensive strengths, broad range of business fields, and high levels of expertise to engage in a wide range of businesses that meet the diverse needs of consumers who are end-users, including needs for automotive parts and energy-related products.	Since we are able to meet the diverse needs of consumers through "comprehensive strengths of the Group," growth can be expected even in the event of major changes
Not bound by the existing framework, we will pursue our business with flexible ideas that meet the needs of the times. [. . .] (Also,) we aim to build a new business model by combining technologies and systems from our own perspective, even in business areas that we have not yet entered as developers. [. . .] Aiming to strongly promote our business in response to the world's leading Society 5.0, [. . .] we aim to create an exciting future before 2030	Recognizing the importance of advancing business with flexible ideas that respond to the times.

Box 4.1: Visions with high expectations extracted by web scraping

According to VISITS Technologies (2020), the following visions can be extracted by web scraping (technology that automatically extracts information from websites) using natural language processing for three factors of business development based on people, solving global issues, and creating new markets.

Business development based on people



The ANA AVATAR is a **new form of instant, physical transportation that will enable humanity to connect limitlessly**. By integrating multiple exponential technologies such as robotics, haptics, and sensors, real-world Avatar systems **will make it possible for anyone to communicate, explore, and interact with a remote environment**.

ANA HD will be collaborating with partner companies and local governments to **create an Avatar social infrastructure worldwide. This far-reaching plan will change the way that mobility is leveraged to solve social issues**, and help create a society that **exponentially increases freedom to learn, share and move**.



We, Xiborg, are **dreaming we'll see a Paralympic champion of sprinting finish in a faster time than the Olympic champion of the same year**. In order to make it happen, we are **developing running-specific prostheses considering the biomechanics of athletes, and coaching athletes running with our technology**.

Solving global issues



Japan's agriculture is expanding on a large scale with the **aging of farmers. Reducing the workload** and increasing productivity are essential if agriculture is to become a more attractive industry. Smart agriculture **utilizes robotics and ICT** to realize labor-saving and high-quality production. [. . .] We will continue to expand our product lineup to realize smart agriculture for a **sustainable agriculture in the future**.



Global warming countermeasures have become an important issue in recent years [. . .]. In particular, in the field of fuels, attention is being focused on the development of **biofuels**.[] We have been working on research and development of **bio-jet fuels** based on the fact that it has been difficult to escape from liquid fuels in aircraft and that there are high needs from the aviation industry due to the flow of **environmental** regulations. We focused on the need for development. Against this background, as we proceeded with discussions with Isuzu Motors, whose vision is the same as ours, [DeuSEL® project] was born.

Creation of new markets



Toyota, as a "mobility company," **will continue to provide wide-ranging services related to transportation into the future**.

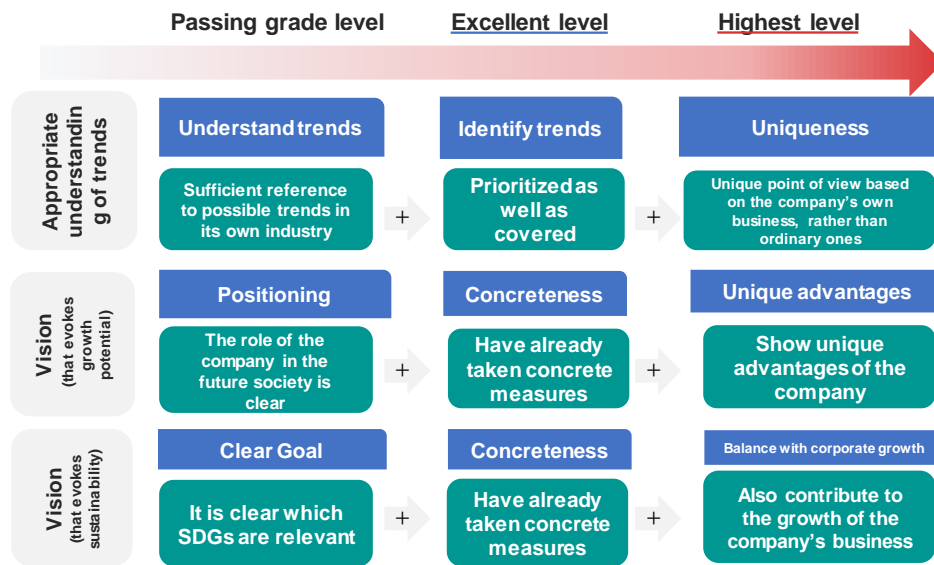


Our concept car "AKXY" **showcases a variety of Asahi Kasei's unique automotive products and technologies. Discover the many innovations available. Access the Possible.**

Photos are from ANA, Xiborg, Kubota, Euglena, Toyota and Asahi Kasei websites.

Direction of Information Disclosure and Specific Corporate Initiatives

Perspective of information disclosure evaluation



Method of describing matters in information disclosure

Based on the above, we explore the specific direction of information disclosure. First of all, in order to disclose company information in a way that evokes a response in investors, the method of describing (writing) used in the disclosure is important.

This section analyzes the characteristics of the method of writing about megatrends that investors evaluated as appropriate and made them able to expect growth and sustainability.

The method of describing megatrends that has been evaluated as appropriate

Of the references to the megatrends assessed as properly identified, those by companies evaluated as having a passing grade in responses were well documented in terms of references to trends that could occur in the industry.

In addition, those evaluated as being of an excellent level identified the megatrends in their industries, as well as the priorities they were trying to exploit.

Furthermore, those evaluated as being of the highest level identified megatrends from a unique perspective based on their own business.

How to write a vision that evokes growth potential

Next, when we analyzed how to write a vision that evokes growth potential, we found that the method of writing evaluated as being of passing grade clearly indicates the company's role in the future society.

In the answers evaluated as being excellent, concrete examples based on the vision were described. Furthermore, those evaluated as being of the highest level also showed their own unique advantage.

The method of writing that evokes sustainability

As for the references evaluated in answers as that they evoke sustainability, those evaluated as having a passing grade clearly indicate which SDGs their business activities are related to.

In addition, those evaluated as being of an excellent level indicated concrete efforts as well as growth potential.

Those evaluated as being of the highest level expressed a clear logic that sustainability also contributes to their business growth.

Specific case studies and initiatives



It will also be important for companies to disclose specific initiatives to realize Society 5.0.

We have just described the contents of the long-term vision and trends evaluated by investors. The following is a summary of the activities required now based on various materials.

Strong innovation ecosystem

The companies promoting Society 5.0 are building a strong innovation ecosystem that connects organically and autonomously with a variety of stakeholders, including affiliated companies, university and research institutions, investors, private NPOs, foundations, and public institutions to collaborate on innovation creation.

Collaboration with start-ups

The companies promoting Society 5.0 are working with start-ups with innovative technologies, business models, and mobility in complementary and mutually beneficial ways to create innovations that lead to new businesses and industries in order to make the most of their resources.

Creating an organizational environment to take on a challenge

We are delegating authority, responsibility and resources to the younger generation, and through it we are creating an environment to create new business and value by encouraging bold challenges and developing practical human resources.

For example, it is possible to establish a “Dejima” (this was a Dutch trading post in Nagasaki, Japan that was the only trading post for the West during the Edo period; it refers here to a platform to support overseas expansion) in which decision-making and evaluation systems are separated from the company itself.

Proactive governance

Based on the Corporate Governance Code, the companies promoting Society 5.0 have established the most appropriate proactive governance structure to drive innovation.

Diversity/inclusion

The companies promoting Society 5.0 are creating an environment in which human resources can actively work regardless of nationality, age, or gender in order to respond flexibly to various changes in the world and continue to create new value.

Evaluation and management system for creative work

The companies promoting Society 5.0 not only manage the progress of routine work, but also create a system of added value-based management for creative work to maximize individual creativity.

Leading the way in solving global issues through business

Anticipating the future sustainable society, the companies promoting Society 5.0 are helping to achieve a sustainable society both at home and abroad by taking the lead in solving global and domestic issues.

Promotion of “Challenge Zero” Initiative

The companies promoting Society 5.0 are taking on the challenge of climate change, which particularly requires the solidarity of the international community. For example, against the backdrop of the Keidanren’s “Challenge Zero” Initiative, Japan is taking on the challenge of creating innovation toward the realization of a carbon-free society.

Active cooperation with diverse stakeholders

The companies promoting Society 5.0 understand that their corporate value comes from relationships of trust with a variety of stakeholders and are actively working with them.

Accelerating information disclosure for Society 5.0

Further evolution of information disclosure and development of guidelines for Society 5.0

In order to advance the investment in Society 5.0, it is necessary to consider the establishment of disclosure guidelines which show that the company promotes Society 5.0, referring to the result of this report and other materials.

Promoting the formulation of a vision for Society 5.0

Based on the three key points of the long-term vision presented in this report, companies are required

to formulate a vision for medium- to long-term growth that will contribute to the realization of Society 5.0.

One possible approach would be to form an ambitious vision in cooperation with universities with comprehensive knowledge from a medium- to long-term perspective.

It is also important to promote information collaboration among companies, such as by holding symposiums on long-term visions, in order to formulate better visions.

Box 4.2: A wide range of standards for non-financial information disclosure

Mapping of domestic and overseas ESG information disclosure standards, etc.

(Source) Nissay Asset Management (2019): "Study of ESG Information Disclosure"

Japanese and overseas disclosure standards for non-financial information vary widely, increasing the disclosure burden on companies.

As international guidelines, the International <IR> Framework, the GRI Standards, the SASB standards, and the TCFD final recommendations are well known, while in Japan the "Guidance for Collaborative Value Creation," among others, is well known.

Standards such as the GRI and SASB standards have items that can be compared among multiple companies. For this reason, ESG rating companies refer to these items for ESG scores.

On the other hand, the IIRC framework and the Guidance for Collaborative Value Creation do not provide guidelines for comparable information, but provide guidelines on how to describe and express information when individual companies disclose information.

Box 4.3: Creating ESG standards that create a sense of unity

Now

There are too many different standards.

Investors are passive participants

Made by someone else, so can be used for negative checks only

Desirable form

Unified standards

Investors are actively involved

Includes your own views and can be used for positive investment decisions

Given the diversity of disclosure criteria for non-financial information, it is desirable to develop comprehensive evaluation items for non-financial information by ESG investors.

In the ESG disclosure standards, it will be easier to reach a consensus on items that can be specifically compared by multiple companies through the GRI, SASB, ISO and other standards (e.g., a negative checklist, which means the minimum standards a company must adhere to ethically).

On the other hand, it is difficult to standardize the content of future financial information that captures the medium- to long-term growth potential of a company, such as long-term vision, because investors have different viewpoints for evaluating such information. The IIRC framework and the Guidance for Collaborative Value Creation do not provide content, but rather guidelines on how to write to inform investors.

Against this backdrop, this report is a new attempt to clarify what points in future financial information investors will respond to and have expectations for growth by using natural language processing technologies.

Box 4.4: Examples of excellent description methods

We consider sustainability to be the most important global issue of the 21st century.

Behind this, an interlinked web of global issues, such as population growth, the aging of society, climate change, water shortages and resource depletion, are posing ever-graver problems.

Since its founding, the Company has always believed that materials can change lives, true to the fundamental corporate principle of contributing to society. At the Group, we make it our mission to deliver innovative technologies and advanced materials that provide real solutions to the challenges the world faces while balancing development and sustainability.

We are convinced that we can continue to grow without negatively impacting global sustainability. By delivering on our corporate philosophy of “contributing to society through the creation of new value with innovative ideas, technologies and products,” we will do our utmost to address global issues, including the goals of the Paris Agreement and the United Nations Sustainable Development Goals (SDGs), while working closely with our business partners worldwide.

[A Better World the Group Aims for in 2050]

- (1) A net zero emissions world, where greenhouse gas emissions are completely offset by absorption
- (2) A world where resources are sustainably managed
- (3) A world with a restored natural environment, with clean water and air for everyone
- (4) A world where everyone enjoys good health and hygiene

Commitments for 2030 (Base year: FY2013)

■Supply 4 times more Green Innovation products (products that help to solve issues related to the global environment, resources, and energy)

This will cut eight times more CO₂ emissions from the value chain.

Understanding
megatrends +
prioritizing

Superiority of
business and
technology

Link business
growth and
problem-solving

Concretely
describe the future
vision and the
process

Uniqueness of
setting numerical
targets for social
impact

Box 4.5: Building a joint corporate and university vision for the future



* Photo: President of the University of Tokyo Gonokami (left), Chairman of Hitachi, Ltd. Nakanishi (right) from H-UTokyo Lab. website. Photo taken at opening ceremony on August 3, 2016.

The results of this joint study suggest elements of the vision that causes investors to expect future potential. In the future, companies will be required to formulate a vision for medium- to long-term growth based on these elements.

In doing so, it is considered necessary to utilize a university which considers the future society from a medium- to long-term viewpoint. This is an initiative that draws a picture of the sustainable growth of a company by fusing the contact points with society and experience of the company and the university's mid- to long-term perspective and knowledge of technologies that will be the core of the company's growth in the future. Specific examples include “H-UTokyo Lab.” by Hitachi, Ltd. and the University of Tokyo, and the creation of industry-academia collaboration for making air more valuable by Daikin Industries, Ltd. and the University of Tokyo.

5.

Improvement of the Investment Environment

Summary

In order to promote investment toward “realization of Society 5.0,” it is essential for companies, investors and financial institutions, universities, research institutions and rating agencies, and the government to improve the investment environment. As the investment environment improves, it is expected that various stakeholders will participate in investing in Society 5.0.

This chapter presents specific recommendations for improving the investment environment. First, fundraisers (companies) are expected to establish management strategies that incorporate the realization of Society 5.0 into their growth, promote innovation, and disseminate information externally, including to investors.

At the same time, fund providers (investors and financial institutions) are expected to engage in constructive

dialogue with companies and incorporate Society 5.0 into their investment strategies and principles.

In addition, the government should establish the Society 5.0 for SDGs Realization Conference and work hard to achieve Society 5.0.

In order to promote investment in universities, it is necessary to organize and disseminate information on university technology and research from the viewpoint of Society 5.0, and to formulate a joint vision between industry and academia. In order to promote investment in start-ups, it is necessary to promote understanding of the social significance of start-ups and to establish CVC and “Dejima.”

In addition, as concrete ideas for the investment method (indices, etc.) on Society 5.0, this chapter proposes an index utilizing megatrends, an integrated operation of DX index and ESG index, and the like.

“Society 5.0 is an ambitious attempt to change our daily lives, regenerate Japan, and ultimately achieve the SDGs by creating a society that serves as a model for the world. From this viewpoint, we are determined to achieve success.”

*HIBINO Takashi,
Vice Chair of the Board of Councillors/Chair of the
Committee on Financial and Capital Markets, Keidanren
(Chairman of the Board, Daiwa Securities Group Inc.)*

“It is important that the ESG and SDGs reports clearly state the role of start-ups. I hope that if many people understand the social significance of start-ups, it will lead to the advancement of start-ups in the future.”

*TAKAHASHI Makoto,
Chair, Committee on Startups, Keidanren
(President, KDDI CORPORATION)*

“We need to shift the reach of Society 5.0 to society as a whole, and the report should also serve as a banner for creating social momentum to achieve it together, rather than confining it to something shared only by companies.”

*Fujiwara Kūichi,
Director, Institute for Future Initiatives,
the University of Tokyo*

“Society 5.0 represents a clear business opportunity for SDGs, because it is based on technology and business. I think that if it is communicated well, ESG investors will be able to invest easily.”

*MIZUNO Hiromichi,
Executive Managing Director and CIO,
GPIF*



Chapter 5: Improvement of the Investment Environment (Overview)

Purpose

Provide specific recommendations for the environment needed to invest in Society 5.0

Efforts required of each player to improve the investment environment

- **Fundraisers (companies)**
 - Promotion of disclosure of information on Society 5.0, acceleration of initiatives for Society 5.0 for SDGs by businesses, etc.
- **Fund providers (investors and financial institutions)**
 - Incorporate Society 5.0 into the investment principles, promote engagement, launch investor initiatives, and develop indices
- **Cooperation between fundraisers and fund providers**
 - Developing guidelines for corporate information disclosure and investor investment decisions
- **Universities**
 - Examination of impact assessment methods
- **Governments and international organization**
 - Establishment of the Society 5.0 Realization Conference

Promoting investment in universities and start-ups

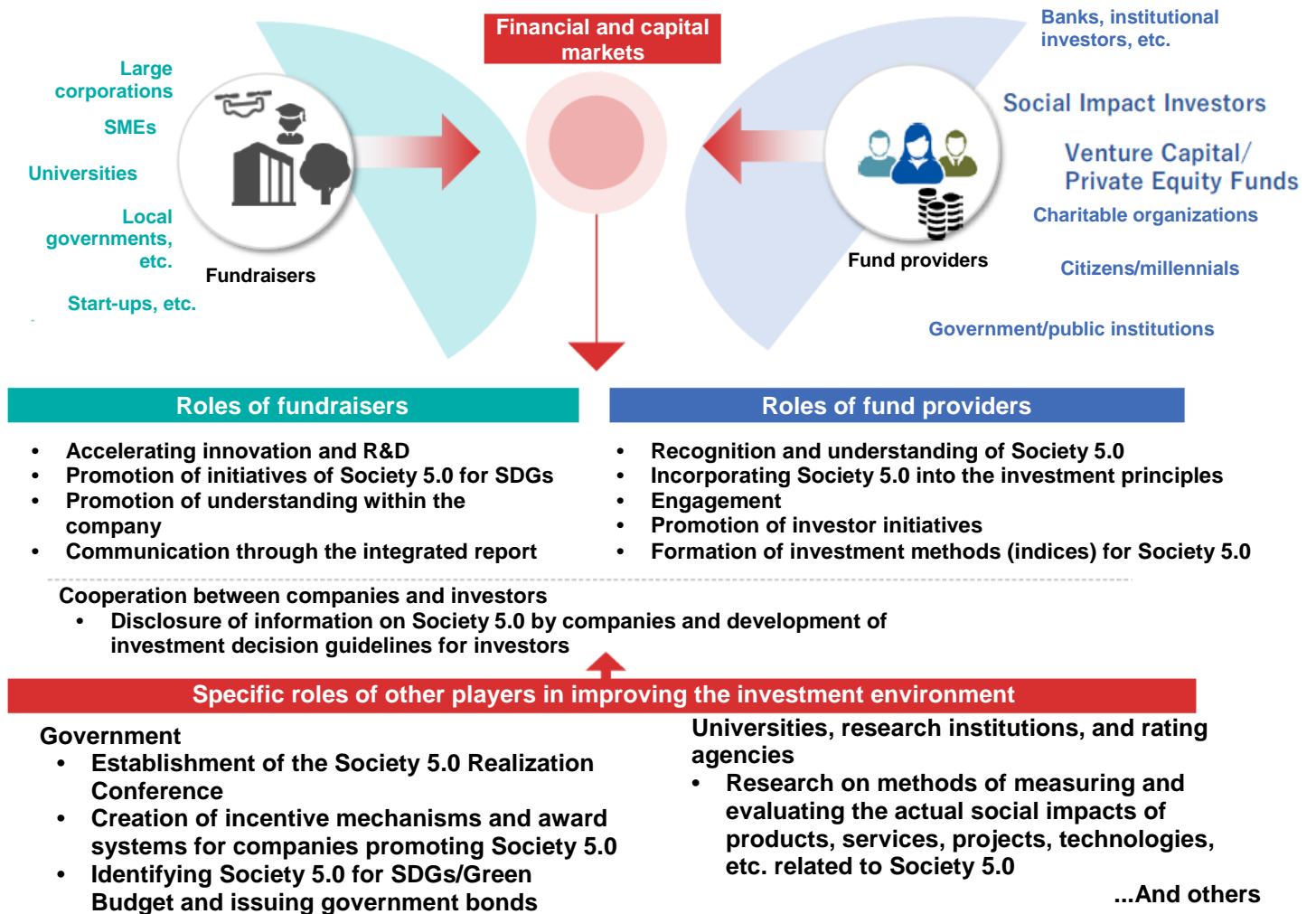
- **Toward promoting investment in universities**
 - Identification of technologies that will contribute to Society 5.0, expansion of the provision of information on such technologies, formation of a joint vision between companies and universities, etc. (further promotion of industry–academia joint research)
- **Toward accelerating investment in start-ups**
 - Dissemination of their social significance, establishment of CVC, establishment of Dejima, expansion of matching opportunities with overseas VC, etc.

Formation of investment methods (indices, etc.)

- **Index utilizing megatrends**
- **Integrated operation of DX index and ESG index**
- **Fund to solve issues through next-generation technology**

Examples of Initiatives to Improve the Investment Environment for Society 5.0

Overview of roles required for each player



Role of each player in improving the investment environment to realize Society 5.0

Facilitating investments for the realization of Society 5.0 requires efforts by fundraisers and fund providers, as well as efforts by the government and other players to improve financial and capital markets. Here are some examples of the efforts required of each player.

Fundraisers (companies)

Accelerating innovation and R&D

To realize Society 5.0, companies must aggressively accelerate R&D and innovation in the medium to long term.

Promotion of activities of Society 5.0

In addition to R&D, companies will also be required to implement various reforms to realize Society 5.0 for SDGs. Examples of specific actions can be found in the Charter of Corporate Behavior, the Society 5.0 Comprehensive Recommendation, and “Specific case studies and initiatives” in Chapter 4 of this report. Companies should refer to these materials and devise ways in response to their own circumstances.

Promotion of understanding within the company

Top management and executives of companies should understand the economic and social importance of Society 5.0. Then, under the leadership of top management and executives, it is necessary to ensure that all employees understand the importance of Society 5.0 and take concrete steps to realize it.

Publication of the integrated report and communication

As analyzed in Chapter 2, Society 5.0 can facilitate constructive dialogue between companies and investors on medium- to long-term management strategies.

Therefore, companies are required to actively disclose their efforts to realize Society 5.0 by utilizing the integration report and the like.

For example, a company may make a commitment to Society 5.0, and describe in an integrated report and the like its contribution to solving problems through its business in connection with its own value-creation story, taking into account Society 5.0. It may also indicate related opportunities, risks, and actions to be taken, establish KPIs, explain progress, and engage in constructive dialogue with various stakeholders based on the disclosed information.

In addition to identifying projects related to Society 5.0, it is also a possible idea to establish an in-house certification and award system for Society 5.0, such as the in-house SDGs certification system, to promote in-house activities.

Box 5.1: Inclusion of Society 5.0 in integrated reports, etc.



(Source) Hitachi, Ltd. website

(Source) ANA's "Annual Report 2019"

A growing number of companies, especially advanced ones, are linking their activities to Society 5.0.

For example, Hitachi, Ltd. explains and cites Society 5.0 in its medium-term management plan and special webpage.

In its annual report, the ANA Group presents examples of what it calls the “ANA Group Version of Society 5.0” including smarter airport operation.

Box 5.2: Disclosure of impacts in “Innovation for SDGs”



Keidanren’s “Innovation for SDGs,” a case study collection of corporate efforts to achieve SDGs, includes quantitative descriptions of the economic and social impacts of such efforts.

Specifically, the companies calculate concrete impact figures using in-house indicators such as the amount of reduction of CO₂ emissions, the number of local jobs created, and the introduction rate, and indicate the usefulness of products and services.

Fund providers (investors and financial institutions)

Recognition and understanding of Society 5.0

Fund providers are expected to recognize and understand that Society 5.0 is a concept of medium- to long-term value creation which aims at both medium- to long-term value improvement and problem-solving.

Commitment to realizing Society 5.0

It is important for them to demonstrate a strong commitment to the realization of Society 5.0 by demonstrating internally and externally that Society 5.0 (for SDGs) is included in their ESG investment.

Incorporating Society 5.0 into the investment principles

Furthermore, in order to promote investments to realize Society 5.0, they are required to clearly state in the investment principles “Society 5.0 for SDGs” that aims to increase corporate value over the medium to long term, and to actively invest in companies that tackle issues through innovation and digital transformation.

Engagement with companies promoting Society 5.0

In order to realize Society 5.0, not only providing investment funds but also constructive dialogue and

engagement based on the knowledge of investors and financial institutions are important.

In particular, a more meaningful dialogue will be possible by discussing the value that companies should create in the future and the risks they should address under the theme of realizing Society 5.0, which aims to increase corporate value over the medium to long term.

Promotion of initiatives by investors and financial institutions

Considering Society 5.0 as an initiative to realize a sustainable society in the future, it is conceivable that investors and financial institutions who support it will work together for its realization.

Development of investment methods (indices, etc.)

In order to expand investment in companies promoting Society 5.0, it is necessary to establish an evaluation axis, create an award system, and develop and manage indices that lead to investment in companies promoting Society 5.0, in order to make such group of companies as clear as possible.

Box 5.3: GPIF’s Investment Principles, Stewardship Principles, etc.

Increase medium- to long-term investment returns for the insured through a variety of stewardship initiatives (including the **consideration of ESG factors**) **Investment Principles**

Stewardship Principles

(4) ESG Integration into the Investment Process

- GPIF believes that it is vital to integrate environmental, social and governance (ESG) factors into the investment process to increase corporate value and promote the sustainable growth of investee companies and the capital market as a whole, thereby contributing to long-term investment returns. Asset managers should consider the materiality of ESG issues in relevant sectors and the circumstances of individual investees and deal with those factors accordingly.
- Asset managers should determine which ESG issues they deem to be critical, specify goals that they would like to achieve as a long-term investor, and proactively engage with investee companies on these issues.
- Asset managers should become signatories of the Principles for Responsible Investment (PRI), and participate in other industry ESG initiatives.

In proceeding with ESG investments, the GPIF includes “ESG Integration” in its “Investment Principles” as well as “Stewardship Principles,” the basic principles of engagement with external financial institutions entrusted with investment.

In addition, as a new initiative, it has adopted the “ESG index” for equities and has begun passive asset management linked to it. This is “positive screening” that incorporates stocks with high ratings according to the standards established by index companies from the ESG’s point of view, and increases the percentage of such stocks that are incorporated.

Through these activities, the GPIF aims to increase corporate value over the medium to long term and improve the interests of the insured.

Box 5.4: ESG Investment Initiative



Various ESG investment initiatives have been established to promote ESG investment.

The United Nations Principles for Responsible Investment (PRI), for example, require ESG-conscious investment from investors. There are about 2,400 signatory investors around the world, and they represent approximately 6,600 trillion dollars in total assets under management.

Climate Action 100+ and TCFD promote constructive dialogue and corporate information disclosure on climate change and environmental issues.

The 30% Club in the UK and Thirty Percent Coalition are initiatives that seek to increase corporate value by increasing the proportion of women on the board.

Fundraisers and fund providers

Development of information disclosure guidelines for Society 5.0

To encourage a constructive dialogue between companies and investors to realize Society 5.0, companies and investors could work together to develop information disclosure guidelines for Society 5.0.

Universities, research institutions, and rating agencies

Academic research on impact assessment

Universities are expected to deepen their research on methods to measure and evaluate the actual social impact of products, services, projects and technologies for Society 5.0 (for SDGs).

Governments and international organizations

Establishment of the Society 5.0 for SDGs Realization Conference

In order to demonstrate at home and abroad that the government is strongly promoting the realization of Society 5.0 for SDGs, it is conceivable that the “Society 5.0 for SDGs Realization Conference” will be established, taking into account the current bodies of councils and the like, to discuss and advance cross-sectoral policies toward the realization of future society.

Creation of an incentive mechanism

The government could offer tax incentives and subsidies to organizations working to realize Society 5.0 for SDGs, and give preferential treatment to Society 5.0-eligible projects.

Identifying Society 5.0 for SDGs/Green Budget and issuing (super-long-term) government bonds

In its budget, the government may identify projects that lead to Society 5.0 for SDGs and issue government bonds to finance them under a name such as “Society 5.0 for SDGs Government Bonds” or “Society 5.0 for SDGs Green Government Bonds.”

Formation of blended finance

Government and international organizations are required to promote the formation of blended finance in order to realize Society 5.0 for SDGs in developing countries.

Raising awareness among individual investors

The realization of Society 5.0 for SDGs will require not only a change in mindset among large asset owners, but also raising awareness among individual investors. Therefore, it is necessary for the government to take the lead in promoting financial education for the realization of Society 5.0 for SDGs.

For example, with the cooperation of influential individual investors, it is possible to gain understanding and response by discussing issues such as “How to design future society in the era of Society 5.0.”

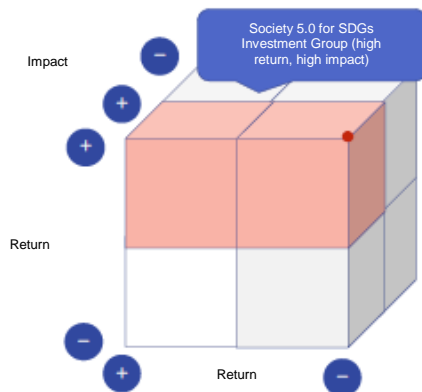
Developing a platform for matching fundraisers and fund providers

With the government taking the lead, there needs to be a matching platform between fundraisers (companies, universities, R&D institutions, etc.) and fund providers (investors and financial institutions) to realize Society 5.0.

Creation of an award system for companies and projects promoting Society 5.0

It is necessary to establish a system in which the government and others proactively evaluate companies and projects working to realize Society 5.0 as well as the development and utilization of innovative technologies, including incorporating Society 5.0 in the selection of companies to receive the Japan SDGs Award.

Box 5.5: Investors with diverse risk preferences and their involvement



Target	Return	Impact	Risk
Traditional investors (banks, institutional investors, etc.)	+	+	-
Venture capital	++	~	++
Individual investors	+	~	-
Social investors	~	++	~
Governments, etc. (growth strategy)	++	+	++
Philanthropists	-	++	~
Governments, etc. (social policy)	--	++	~

(Material) Prepared by Keidanren Secretariat based on PRI, "Portfolio construction and investment decision-making"

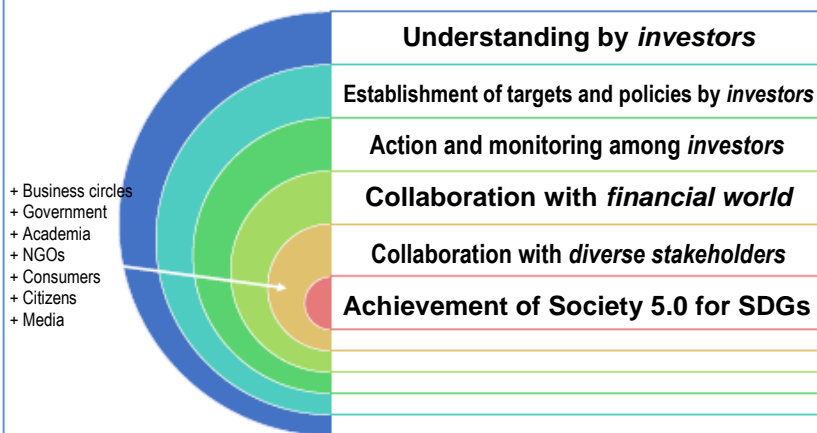
(Material) Prepared by Keidanren Secretariat based on materials by NAKA Hiroshi, Professor, the University of Tokyo

Companies and others contributing to the realization of Society 5.0 for SDGs ("Society 5.0 for SDGs Investment Group") are considered to bring about a high return (economic impact) and a large social impact (social impact) in the medium to long term, according to the questionnaire survey on companies and investors, the results of estimates, and the like. Thus, Society 5.0 for SDGs Investment Group appears to be in the positive return (+) and positive impact (+) category shown above.

On the other hand, the degree of positive return and positive impact may vary depending on the risk. In particular, the realization of Society 5.0 for SDGs may result in a positive return in the medium to long term but a negative return in the short term in some instances, such as the social implementation of innovative technologies in developing countries. Therefore, in order to realize Society 5.0 for SDGs, it is important to involve a wide range of fund providers with various risk preferences.

It is also necessary to improve the investment environment in line with the conditions and interests of such fund providers.

Box 5.6: Investors' steps towards realizing Society 5.0 for SDGs



Investors may take the following steps toward realizing Society 5.0 for SDGs.

- Understanding:** Investors understand the significance of Society 5.0 for SDGs.
- Setting goals and policies:** Investors set goals and policies to achieve Society 5.0 for SDGs.
- Action and monitoring (investors):** Investors will invest in Society 5.0 for SDGs to maximize positive and reduce negative impacts on the economy and society.
- Action and monitoring (financial world):** Investors extend the initiatives in 3 to the financial sector as a whole.
- Action and monitoring (society):** Investors extend the efforts in 3 to a variety of stakeholders.

Box 5.7: Budget and government bonds for Society 5.0 for SDGs



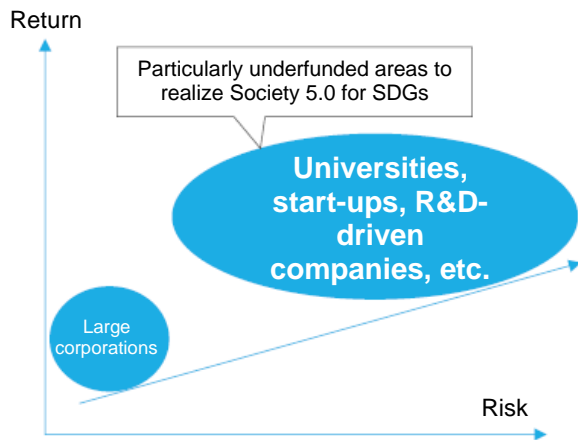
More and more green bonds are being issued not only by corporations but also by governments and local governments around the world, and have already been issued by more than 10 countries including Poland, France, Fiji, Nigeria, and Indonesia. Such government bonds with a clearly defined use would expand public understanding and, in some cases, the range of investors.

For example, the budget relating to Society 5.0 for SDGs can be classified as the "Society 5.0 for SDGs Budget" and identified according to issues such as environment and education as "Society 5.0 for SDGs Education Budget" and "Society 5.0 for SDGs Green Budget."

Issuing "Society 5.0 for SDGs Government Bonds" in accordance with the aforementioned budget is expected to expand social understanding and broaden the range of investors, even if it is small in amount at first, while taking into account

Examples for the Promotion of Investment in Universities and Start-Ups

Players that need special funding to realize Society 5.0



Need to promote universities, start-ups, and R&D

One of the key players in the Innovation Ecosystem leading to Society 5.0 is universities, start-ups, and R&D-driven companies that seek to develop and implement innovative technologies from a medium- to long-term perspective. In addition, these companies tend to be relatively underfunded, so financial support is particularly essential.

Toward promoting investment in universities

Role of universities in realizing Society 5.0

As described in Chapter 1, universities are required to provide cutting-edge knowledge, technology, and human resources within the ecosystem, to play a leading role in fostering cutting-edge innovation while collaborating with other stakeholders, and to lead a paradigm shift to a new model of a knowledge-intensive society through research into the socio-economic system that supports Society 5.0.

In order to promote investment in universities, which are the main players in realizing Society 5.0, universities, companies, and investors are required to take the following actions.

Organize technologies from the perspective of Society 5.0/SDGs

First, universities are required to organize and actively disseminate information on leading-edge technologies that will contribute to the realization of Society 5.0/SDGs in order to establish partnerships with companies and investors.

Forming a joint vision between companies and universities

It is effective for companies and universities to form a medium- to long-term joint vision for the realization of Society 5.0. This will enable companies and universities to share the same goals, create novel and disruptive innovations to achieve them, and develop understanding and support for the basic research required in the process.

For mutual cooperation, companies are required to understand the cutting-edge technologies of

universities and their medium- to long-term perspectives, while universities are required to understand the organizational structures and economic activities of companies.

Promotion of joint research by companies, universities, investors, and the like

After forming a joint vision, it is necessary to promote joint research in order to achieve concrete innovation toward the realization of that vision. In doing so, it is important to actively utilize the human resources, knowledge, goods, funds, and the like, possessed by companies and investors.

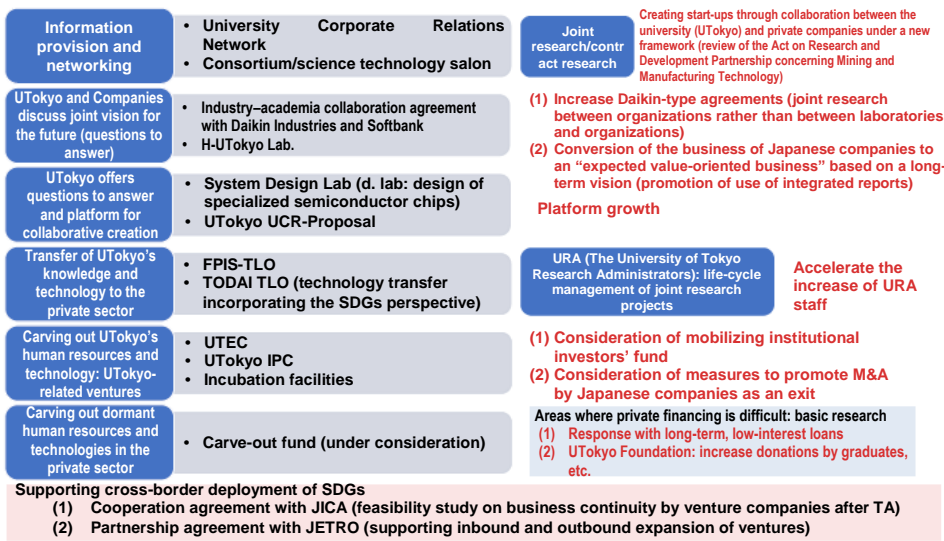
Promotion of personnel exchange

In order to promote a joint vision and joint research, it is a prerequisite for companies and others to exchange human resources with each other to mutually incorporate viewpoints and knowledge.

In addition, both companies and universities are required to actively engage in each other's human resources in business and research and development, in order to go beyond mere formal human resource exchanges, and to treat their own human resources based on the experience of personnel exchanges and the results achieved during the personnel exchange period.

Box 5.8: Current status and challenges of promoting industry–academia collaboration to utilize the knowledge and technology of the University of Tokyo

Promotion of industry–academia collaboration to utilize the knowledge and technology of the University of Tokyo: current status and issues



The University of Tokyo is working to promote industry–academia collaboration from the following six perspectives: “information provision and networking,” “building a joint vision with companies,” “provision of collaboration platform,” “transfer of knowledge and technology to the private sector,” “carving out of university knowledge and human resources,” and “carving out of private sector personnel and technology.”

For example, in order to carve out the talent and technology of the University of Tokyo, the university approved “UTECH,” a venture capital which invests in excellent start-ups, as a technology-transfer-related business operator.

(Source) The University of Tokyo

Toward accelerating investment in start-ups

Role of start-ups

Start-ups have lofty visions and ambitious ideas, as well as the enthusiasm, innovation, and mobility to make them happen. They are required to make the most of their capabilities for success in the innovation ecosystem.

Challenges in promoting start-up investment in Japan

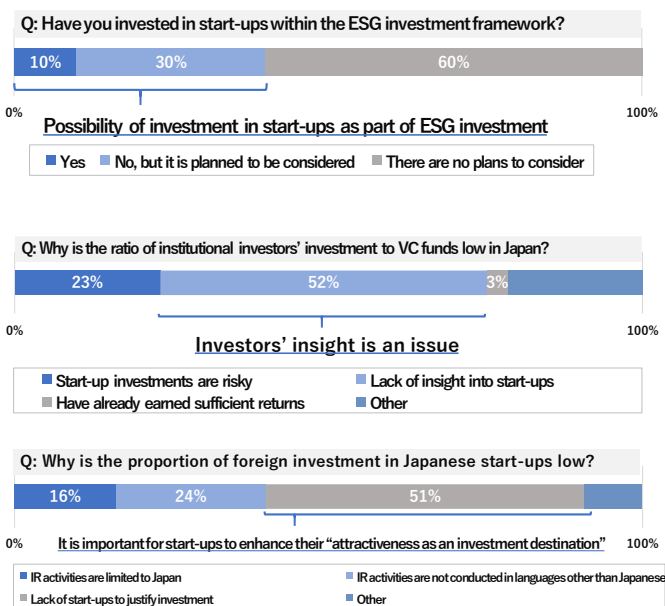
Here, based on the questionnaire survey on companies and investors, we explore issues to promote investment in Japanese start-ups.

First of all, many start-ups are trying to solve social problems and play a major role in realizing Society 5.0. The survey indicates that 40% may invest in start-ups as part of their ESG investment, and it is expected that “evolution of ESG” will increase investments in start-ups as well.

The lack of insight into start-ups was also cited as a reason for the lack of institutional investors investing in VC funds in Japan.

In addition, about half of the Japanese VC funds received less than 1% foreign investment because there are not enough start-ups to match their investment.

In order to promote investment in Japanese start-ups, both start-ups and investors need to work together.



Challenges for start-ups

- Limited number of promising start-ups that can do business on a global scale compared to the U.S.
- Low return on risk
- Lack of information dissemination in English

Challenges for investors

- Investors' short-term orientation and lack of experience
- Asset owners' preference for listed stocks, low needs
- Domestic VCs are small
- Universities and foundations must have the momentum to invest in VC

Other challenges

- Japanese society is indifferent to heresy and risk-taking
- Requirements for preferential tax treatment should be relaxed and preferential treatment expanded
- No information-intensive communities like the U.S. or China

Based on these challenges, next we present some concrete plans to promote investment in start-ups in the future.

Understanding and communicating the social significance of start-ups

Rather than focusing only on the short-term risks of start-ups, it is necessary for investors to understand the social significance of driving medium- to long-term growth by solving issues with new approaches, and it is also required to instill such understanding throughout society.

Venture ecosystem centered on universities

In order to maximize the utilization of start-ups, which are key to realizing Society 5.0, it is necessary to create a “venture ecosystem” that focuses on developing a sound cycle of people, money, and knowledge (intellectual property) between universities, industry, financial institutions, and start-ups as a new model of university-centered industry-academia collaboration. For example, it is necessary to foster investment funds for spin-offs and carve-outs from large corporations, and to promote a mechanism that supplies human resources to the local ecosystem in cooperation with local universities and financial institutions, and encourages establishment of joint ventures between universities and corporations.

Establishment of CVC, and setting up of Dejima by large companies

When a company decides to invest in a start-up and make preparations for the investment, such as setting

up a corporate venture capital (CVC), it will consider whether the start-up’s business will contribute to Society 5.0 for SDGs.

It is also important for large companies to work with start-ups to expand their own business domains.

It is also effective to bring together talented people with a start-up spirit, separate decision-making and evaluation systems from the company itself, and establish Dejima as an independent organization separated physically. Active support will be provided by the company while allowing “Dejima” projects to compete with its existing businesses.

Information dissemination from start-ups

Start-ups and unlisted SMEs need to communicate more financial and non-financial information to investors. In addition to Japanese, information dissemination in multiple languages including English is also important.

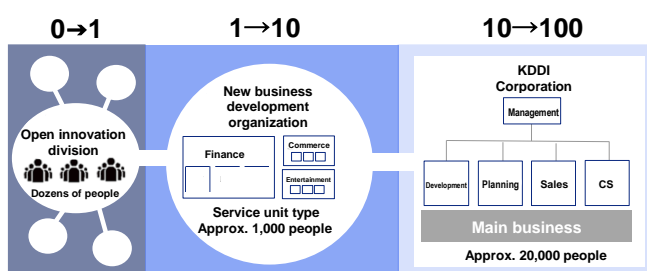
Utilization of private, public, PE, and VC funds

In order to provide funds to start-ups, it is necessary to actively utilize public and private funds, private equity funds, venture capital, and the like, which have the most advanced technology and insight.

Forming a VC platform

In order for Japanese start-ups to grow internationally, they need to, for example, increase opportunities to connect with overseas venture capital.

Box 5.9: Companies working on open innovation



Advanced companies are promoting open innovation in their own unique ways.

For example, in order to realize open innovation, KDDI has established a “Dejima function with a three-layer structure” consisting of (1) creation of new businesses (0 → 1), (2) development of businesses (1 → 10), and (3) business expansion through cooperation with the company’s main body. The company is making efforts by setting KPIs for each level.

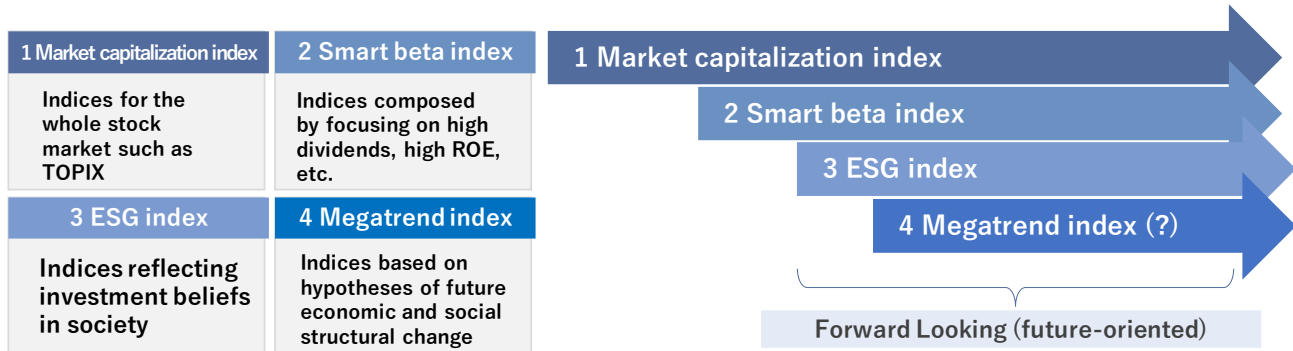
Furthermore, in the area of (1) creation of new businesses, it has deployed dozens of employees to maximize the creation of added value through collaboration between start-ups and large companies.

In April 2018, KDDI established a new CVC, aiming to invest 20 billion yen over 10 years in innovative technology fields such as AI and the IoT, and established the “KDDI Regional Initiatives Fund” targeting regions with many challenges. KDDI is thus working to collaborate with local companies, create new added value, and build sustainable and inclusive business models.



Index utilizing megatrends

History of index



(Source) Prepared by the secretariat from MSCI's material

History of index development

Long-term investment, especially passive management, is a way to acquire returns provided by the market over the long term. Initially, an index for such management was designed as a “market capitalization index” like TOPIX to obtain returns (equity premium) from stock price increases in the entire market.

Later, in order to achieve returns above the market capitalization index, smart beta indices, which are composed of stocks focusing on specific factors, such as return on equity (ROE) and dividends, emerged, expanding the range of passive investment. Representative smart beta indices include the “JPX-Nikkei Index 400” which focuses on ROE, and major investors such as the GPIF purchase these stocks.

Common characteristics of these passive indices include performance independent of investor skills, low cost, and high transparency.

Emergence of ESG index

In addition, the ESG index, which consists of companies highly regarded from the ESG point of view, appeared.

Internationally famous ESG indices include the Dow Jones Sustainability Index (DJSI), MSCI ESG Indexes, and the FTSE4Good Index Series. In addition to improving stock prices, inclusion in these well-known ESG indices is also expected to improve the corporate brand.

Next development: what is a megatrend index?

In addition, an index utilizing megatrends is considered as the next development of the index (“megatrend index” hereinafter).¹⁴

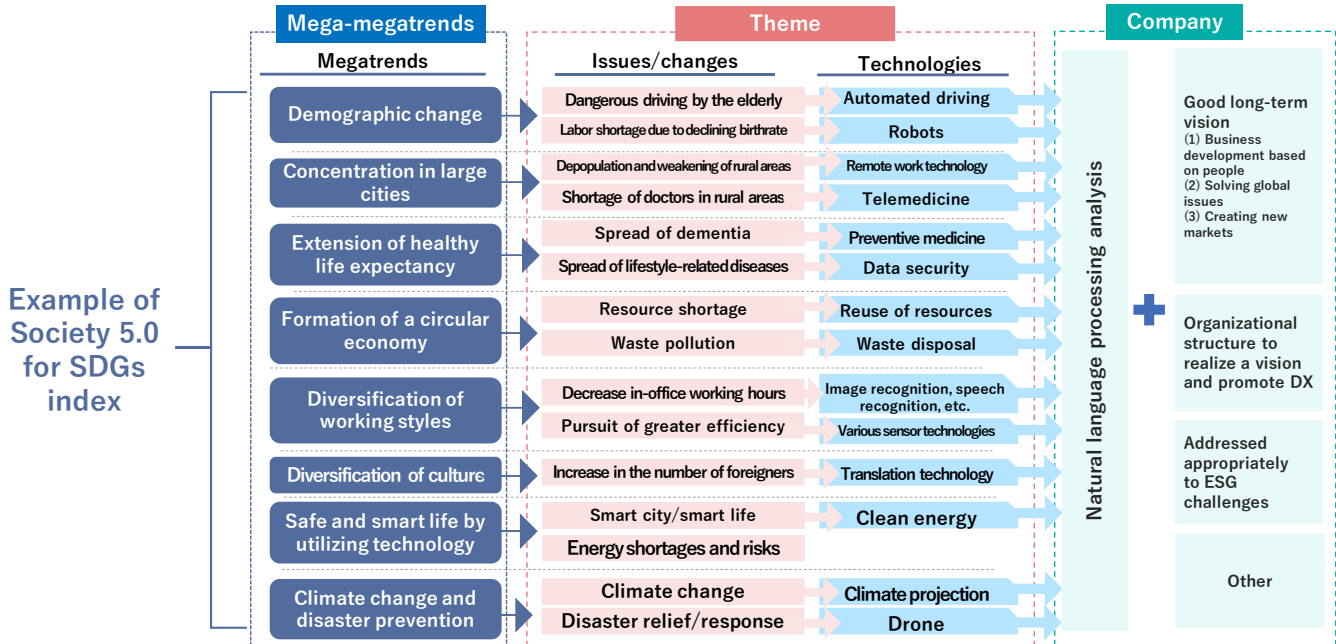
Like ESG, the megatrend index is an index based on the future-oriented concept that companies achieving growth in the future are those envisioning and working toward the future of society.

In other words, the megatrend index is an index based on an idea that companies seizing various structural changes in the future as an opportunity will achieve an increase in corporate value over the medium to long term.

Index of capturing structural changes in society as an opportunity

A specific method for selecting stocks for a megatrend index is to first predict future structural changes and set them as “megatrends” (e.g., demographic change, climate change, and disaster prevention). Next, a theme (e.g., next-generation energy, smart mobility, and next-generation healthcare) that will grow under the megatrends is identified, and stocks are selected under these themes.

¹⁴ MSCI's material notes that the usage cases of such index have been increasing mainly in exchange traded funds (ETFs) since around 2018.



Characteristics of the megatrend index

The megatrend index has the following characteristics.

Enables rule-based index management

By setting megatrends and themes based on them, companies can automatically select stocks based on their business operations through natural language processing.

A single megatrend index is risky, but multiple sets provide stable returns

In the megatrend index, for example, “demographic change” is defined as a megatrend, and next-generation healthcare and new leisure experiences are selected as themes based on the megatrend.

Since these megatrend indices are based on forecasts of future changes in economic and social structures, they can also be considered as passive investments based on the active risk of future forecasts (quasi-active investment).

Society 5.0 can be viewed as a “mega-megatrend” index built from multiple mega-trend indices

If we look at Society 5.0 for SDGs as a “mega-megatrend” consisting of multiple megatrends, we can construct an index for Society 5.0 using multiple megatrend indices.

The chart above illustrates the formation of an index for Society 5.0 for SDGs based on the eight megatrends identified in the questionnaire survey on companies and investors.

Furthermore, an index created by multiple megatrends is expected to be less industry-specific than a single megatrend index and to reduce active risk.

Various issues remain to be addressed in the actual formulation of the index, such as how to determine the number of themes and whether the themes can be agreed upon by both companies and investors.

Box 5.10: World Benchmarking Alliance’s “megatrend” index



(Source) World Benchmarking Alliance

An international initiative World Benchmarking Alliance, launched in September 2018 with the participation of the United Nations Foundation and the governments of the Netherlands, the United Kingdom, and Denmark, will develop sectoral SDGs impact assessment indices for enterprise initiatives and make them available free of charge.

In developing the index, the WBA selects seven key areas for achieving a sustainable society and chooses companies that will contribute to changes in these areas. First, the relevant companies will be selected in January 2020, and the ranking will be announced by 2023 after receiving feedback from the companies.

This WBA index development approach has a lot in common with the concept of megatrend index formation introduced in this joint research, and we hope that it will be one of the suggestions for future index formation of Society 5.0 for SDGs.

Integrated operation of DX index and ESG index

Integrated operation of DX index and ESG index

One possible way to develop an index for Society 5.0 is to integrate and operate the DX and ESG indices. While various organizations have already developed their ESG index, the DX index is still in the process of development. Some examples are introduced here.



Digital transformation stocks

Since 2015, the Ministry of Economy, Trade and Industry and the Tokyo Stock Exchange have selected and announced the “Competitive IT Strategy Company Stocks” (which will be renamed as “Digital Transformation Stocks” or “DX Stocks” from 2020, and the selection criteria will also be changed) to support

strategic and proactive IT investments that will utilize IT to enhance corporate value and enhance competitiveness over the medium to long term. Competitive IT Strategy Company Stocks are selected by looking at 5 major items and asking about 40 questions, and the focus is mainly put on the management process for improving corporate value.

In addition, since 2019, in order to support efforts toward DX that will contribute to strengthening corporate competitiveness, the two bodies have been collecting DX promotion best practices and selecting and publishing the DX Grand Prix, which will serve as a reference for the DX index.

DX Promotion Indices

In addition to the “Competitive IT Strategy Company Stocks,” the Ministry of Economy, Trade and Industry has developed “DX Promotion Indices” to encourage companies’ digital management reform. These indices are positioned as a self-diagnosis tool for companies to carry out management reforms, but they can also be a management index for companies to promote DX, so they can be used as a reference for the DX index.

Utilization of funds

Fund to solve issues through next-generation technology

The realization of Society 5.0 will require the proper selection of companies promoting Society 5.0, in other words, “companies that seek to solve problems by

making the most of innovations such as digital transformation.” In doing so, it is conceivable to promote investment through a fund (an investment fund and the investment trusts it provides) with a high “insight” (example: Box 5.11).

Box 5.11: Investment in innovative technologies and ventures as part of ESG investments



Photo courtesy of Integral Geometry Science

Dai-ichi Life invested in Integral Geometry Science, a Kobe University-originated venture that is developing the world’s first high-precision breast cancer visualizing system.

Some financial institutions are investing in innovative technologies and ventures as part of their ESG investments.

For example, Amundi Asset Management has created an investment trust “Mirai Medical” to invest in next-generation medical technology companies in response to the megatrend of aging in developed countries. Furthermore, by explicitly showing that this investment trust will contribute to achieving SDG 3: Good health and well-being, the company is disseminating information that encourages investors to achieve SDGs through innovation.

As part of its ESG investment, Dai-ichi Life has been making impact investments (an investment method that aims to achieve both investment income and social impact) since 2017, focusing on investments in venture companies that develop innovative technologies to solve social issues. Specifically, it is investing in companies that are developing new-generation biomaterials and treatment apps, smart childcare using the Internet of Things, and InsurTech.

Conclusion



*Photo: GPIF President Takahashi (left), Keidanren Chairman Nakanishi (middle), and the University of Tokyo President Gonokami (right) (March 26, 2020)

The key message of this report “Evolve ESG Investment and Connect It to Society 5.0 to Achieve SDGs Swiftly and Reliably” requires further research and behavioral evolution.

Based on this recognition, Keidanren, the University of Tokyo and the GPIF present an action plan to be taken by the three parties in the future.

Joint Research Task Force

Keidanren: KUNIBE Takeshi, Vice Chair/Chair, Committee on Financial and Capital Markets
HIBINO Takashi, Vice Chair of the Board of Councillors/Chair of the Committee on Financial and Capital Markets
FUTAMIYA Masaya, Chair, Committee on Responsible Business Conduct & SDGs Promotion
TAKAHASHI Makoto, Chair, Committee on Startups

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MIZUNO Hiromichi, Executive Managing Director and CIO

In addition, Project Professor YUYAMA Tomonori of the Graduate School of Public Policy, the University of Tokyo, and many other relevant persons from Keidanren, the University of Tokyo, and the GPIF provided valuable opinions and suggestions.

Action plan of Keidanren, UTokyo and GPIF to realize Society 5.0 for SDGs

The three parties of the Japan Business Federation (“Keidanren” hereinafter), the University of Tokyo (“UTokyo” hereinafter), and the Government Pension Investment Fund (“GPIF” hereinafter) hereby declare that they will implement the following action plan to realize “Society 5.0 for SDGs.” This is a concept originating in Japan which seizes current changes such as the imminent development of digital transformation (DX), changing socioeconomic structure, increasing sense of crisis regarding global environmental issues, and shifting people’s mindsets as an opportunity to achieve mid- to long-term economic growth (“Society 5.0” hereinafter).

Actions to be implemented by all parties

Improving recognition and understanding of Society 5.0

- Publicizing Society 5.0 at home and abroad
- Promoting incorporation of Society 5.0 into the stewardship principles for companies and investors at home and abroad

Keidanren

Encouraging companies and initiatives to achieve Society 5.0

- Promoting the action plan for corporate transformation as outlined in Keidanren’s recommendations on Society 5.0 and the Charter of Corporate Behavior
- Further promoting initiatives to solve problems through innovation (e.g., “Challenge Zero” Initiative)
- Promoting matching of ESG investors with companies promoting Society 5.0
- Promoting initiatives for the evolution of the venture ecosystem
- Fostering investment through corporate pension and promoting stewardship activities to realize Society 5.0
- Promoting development and dissemination of financial products (investment trust, etc.) related to Society 5.0

Further consideration to realize Society 5.0

- Presenting the industrial structure of Society 5.0 and the action plan for corporate transformation through the council on Digital Transformation
- Engaging with various stakeholders including the government to realize Society 5.0 through each committee

UTokyo

- Conducting research on the desirable socioeconomic system that supports Society 5.0 and the strategy to steer the current system in

that direction, including research on global commons in both physical and cyberspace

- Cultivating talented people to lead Society 5.0 as professionals and entrepreneurs with knowledge
- Accelerating efforts to create industry-academia collaboration, including the creation of a venture ecosystem model centered on universities, in cooperation with relevant organizations
- Developing institutional and framework research and investment methods to encourage investment in companies and other entities that will lead the realization of Society 5.0 for SDGs, including research on optimal ways of assessing social impacts

GPIF

The GPIF will consider the following initiatives in light of the view that sustainable growth of the investment portfolio and the market as a whole is necessary for a greater long-term investment return on invested assets in the management of reserve funds.

- Consideration of incorporating Society 5.0 and SDGs into its Investment Principles and the like
- Encouraging information disclosure on Society 5.0 with a view to promoting ESG investment
- Collaborating with various stakeholders, including fund managers, to evolve ESG investment
- Promoting constructive engagement and conducting research on appropriate evaluation methods to connect ESG with Society 5.0
- Conducting ongoing research into the long-term performance of companies that will help to realize Society 5.0
- Leveraging ESG investors’ insights to develop and spread Society 5.0-related financial products

March 26, 2020

In the hope of growth and problem-solving for Japan and the world,

NAKANISHI Hiroaki
Chairman, Keidanren

GONOKAMI Makoto
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TAKAHASHI Norihiro
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Toward the Evolution of ESG Investment, Realization of Society 5.0, and Achievement of SDGs
—Promotion of Investment in Problem-Solving Innovation

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