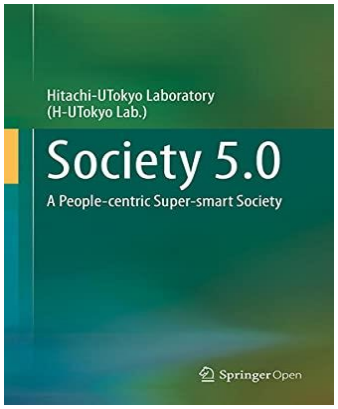
Jurnal Aristo (Social, Politic, Humaniora) Vol. 12, No.2 (2024): July, pp. 664 – 681
Social and Political Science Faculty, Universitas Muhammadiyah Ponorogo.
p-ISSN 2338-5162 / e-ISSN 2338-5162

Navigating Society 5.0: Unraveling the Dynamics of a People-Centric Super-Smart Society

Assyari Abdullah[1*], Jayus[2], Yasril Yazid[3], Sumaiyah[4], Akmal Khairi[5], Edison[6], Dwi Sutri Astuti[7], Mutasir[8]

[13678] Universitas Islam Negeri Sultan Syarif Kasim Riau, Pekanbaru, Indonesia
[13678] Jl. HR. Soebrantas No.Km. 15, RW.15, Simpang Baru, Kota Pekanbaru, Riau 28293
[24] Universitas Muhammadiyah Riau, Pekanbaru, Indonesia
[24] Jl. Tuanku Tambusai, Tampan, Pekanbaru, Riau, 28294
[5] Sekolah Tinggi Agama Islam Imam Asy Syafii Pekanbaru, Pekanbaru, Indonesia
[5] Jl. Soekarno - Hatta, Tengkerang Bar., Kec. Marpoyan Damai, Kota Pekanbaru, Riau 28283
assyariabdullah@uin-suska.ac.id[1]*; jayus@umri.ac.id[2]; yasril.yazid@uin-suska.ac.id[3]; sumaiyah@umri.ac.id[4]; busyifaa165@gmail.com[5]; edison@uin-suska.ac.id[6]; dwisutriastuti@uin-suska.ac.id[7]; mutasir@uin-suska.ac.id[8]



Book Title	:	***Society 5.0: A People-centric Super-smart Society***
Editor	:	*Hitachi-UTokyo Laboratory (H-UTokyo Lab.), The University of Tokyo* and Bunkyo-ku, Tokyo, Japan
Publisher	:	Springer Singapore
Year Published	:	2020
Number of Pages	:	177
ISBN	:	978-981-15-2989-4

Pengiriman : 07 Maret 2024
Penelaahan : 30 Maret 2024
Penerimaan : 5 Mei 2024
Surel Penghubung : Assyariabdullah@uin-suska.ac.id
Copyright ©2020 Jurnal Aristo (Social, Politic, Humaniora)
This is an open access article under the CC–BY-NC-SA license.
Akses artikel terbuka dengan model CC–BY-NC-SA sebagai lisensinya.

Introduction

The book titled "*Society 5.0: A People-centric Super-smart Society*" is a book that describes the concept of society developed by the Japanese government, which puts forward advanced technology and human-machine collaboration to improve people's quality of life. The book is written by experts and practitioners from various fields, including technology, economics, social, and politics with the editors of *Hitachi-UTokyo Laboratory (H-UTokyo Lab.), The University of Tokyo* and Bunkyo-ku, Tokyo, Japan. To be honest, many names contributed to the writing of this book, including Toshihiko Koseki (former Executive Vice President, The University of Tokyo), Shinobu Yoshimura (Vice President, The University of Tokyo), Norihiro Suzuki (Vice President and Executive Officer, CTO, Hitachi, Ltd.), and

Shinji Yamada (General Manager, Center for Exploratory Research, Hitachi, Ltd.), Takashi Haga and Miho Sugimoto (the University of Tokyo's University Corporate Relations Department), Mayumi Fukuyama and Tomiko Kinoshita (the Hitachi R&D Group's Technology Strategy Office)

This phenomenal book was born from the results of an in-depth study of a long process of joint research *laboratory* between Hitachi and *The University of Tokyo1* in 2018 and published for the first time through Springer Singapore in 2018 which can be accessed for free through the Springer Open

This book explains that Society 5.0 is an evolution of society that has passed through the stages of industry 1.0, 2.0, 3.0 to 4.0, where technology is used as a tool to increase productivity and efficiency. On the other hand, Development *Artificial Intelligence* and *Big Data* within the framework of the Industrial revolution 4.0 this must automatically be responded to by transformation *Human Revolution* 4.0 to realize Human Resources (HR) that are able to survive in the midst of rapid technological developments and the era of disruption (WEF, 2020). The growth of AI is fueling concern from individuals both inside and outside the technology-based industry who are questioning the impact of technology, especially on jobs (Galloway &; Swiatek, 2018). The rise of AI and robotization has spawned concerns, not only about potential job losses, but also ethical issues and the possibility of a future in which humans, to some extent, are controlled by smarter technologies than they are (Abdullah, 2020)

Society 5.0 integrates advanced technologies such as *the Internet of Things* (IoT), *Artificial Intelligence* (AI), and robotics in every aspect of people's lives, to improve the quality of life and create a more just and inclusive society.

The book also describes several initiatives that have been carried out by the Japanese government to realize Society 5.0, such as the development of smart cities, the development of AI technology for health, and increased collaboration between industry and education. One of the strengths of this book is the clear and detailed elaboration of the concept of Society 5.0, as well as concrete examples of initiatives that have been carried out by the Japanese government. This book also describes the challenges and obstacles that must be faced in realizing Society 5.0, such as data privacy and security issues, as well as social and economic problems that may arise from the implementation of advanced technology. In general, "Society 5.0" is a very informative and interesting book for anyone who wants to find out more about the concept of

a future society developed by Japan. The book also provides useful insights for decision makers in the technological, economic, social, and political fields.

Review Point

People who live amid the onslaught of technology and artificial intelligence are important to read this one book. The urgency of reading this book lies not only in understanding the shift in societal practices towards a more digitally connected one but also in understanding the role of technology in improving the quality of human life. In addition, the urgency can be seen in the collective awareness that we as individuals and society must choose the implications of this digital transformation. By understanding this concept, readers are expected to play an active role in directing technological development toward the common good and ensuring that everyone can benefit from the presence of technology inclusively.

Through an in-depth reading of this book, readers will be confronted with the idea that we are currently in an era of transformation marked by rapid advances in digital technology. The concept of Society 5.0 emphasizes the importance of utilizing technology for the benefit of humans, ensuring that technological innovation does not only focus on economic progress but also social welfare.

In this book, Readers will find a wide variety of case studies and in-depth analyses of how the application of Artificial Intelligence, the Internet of Things, Big Data, and other technologies can form a super intelligent and human-oriented society, covering various fields such as Education, Health, transportation, environment and more.

Books written by Most project team members *H-UTokyo Lab* as well as by academics from the University of Tokyo. has a total of 177 pages (including bibliography) consisting of 8 chapters where Chapter One, unpacks the general thinking behind Society 5.0 and lists the relevant nomenclature.

Chapter Two, deals with the question of how we can balance what is best for society with what is best for individuals, a question that must be answered if we are to address social problems under the framework of Society 5.0. This chapter discusses a unique approach to this question: habitat innovation. Chapter 3 focuses on developments in this century. In particular, this chapter analyzes the rise of *smart cities*, reviews Japan's efforts to develop *sustainable cities*, and discusses how they relate to Society 5.0.

Chapter 4 discusses urban dataization, an essential requirement for cyberspace building. It also discusses the methods and challenges of integrating different data and systems. Chapter 5 focuses on the work of researchers from the field of engineering. This chapter discusses how researchers pursue *Research and Development* (R&D). In addition, this chapter also discusses the basic thinking underlying research projects aimed at addressing social issues, including those related to aging populations, the need to be carbon-free, and the need for the regeneration of rural communities.

Chapter 6 focuses on research in the humanities and social sciences. This chapter identifies the main challenges of generating a model of society and obtaining a suitable approach. In this chapter it also examines what is meant by *a people-centric society*.

Chapter 7 features a dialogue between Makoto Gonokami, President of the University of Tokyo, and Hiroaki Nakanishi, Chairman of Hitachi. The two leaders discussed the possibility of Society 5.0 and the direction it would go. Finally, Chapter 8 summarizes the challenges we face on the way to Society 5.0 and the prospects for achieving that vision.

In general, this book is the result of joint research by *Hitachi-UTokyo Laboratory (H-UTokyo Lab.), The University of Tokyo.* As the author stated in the introduction above, this book is very informative and attractive for forward-thinking people about the concept of future society and provides useful insights for decision makers in the technological, economic, social, and political fields.

Part One, *What Is Society 5.0?*

Looking at the introduction of this book, the authors simply define what is meant by Society 5.0 or society 5.0 with very light language where Society 5.0 denotes a new society created by transformation led by innovation and smart technology after we know hunter-gatherer society (society 1.0), agricultural society (Society 2.0), industrial society (Society 3.0), and the information society (Society 4.0)(Hitachi-UTokyo Laboratory(H-UTokyo Lab.), 2020) and now, welcome to Society 5.0.

Essentially, Society 5.0 is an integrated human-centered ecosystem where people, devices and systems *Internet of Things* (IoT) is seamlessly connected. Data from IoT devices is analyzed by *Artificial Intelligence* (AI) and injected back into society (Cacciagrano et al., 2021).

Society 5.0 will have a system that operates throughout society in an integrated manner. We need comfort in all aspects of life, including energy, transportation, medical care,

shopping, education, work, and leisure. To this end, the system must collect varied and voluminous real-world data. This data must then be processed by sophisticated information technology (IT) systems as AI, because only these IT systems can handle such diverse data. The information generated from the processing must then be applied in the real world so as to make our lives happier and more comfortable (Deguchi, Hirai, et al., 2020). However, the Vision of Society 5.0 cannot be realized unless the problems of data monopoly, data misuse and data ownership can be overcome (Yano et al., 2020).

The concept of Society 5.0 was put forward by the Government of Japan for the first time on January 22, 2016 which was designed in "*the 5th Science and Technology Basic Plan*" by the Council on Science, Technology and Innovation and received Cabinet approval(Fukuyama, 2018). The concept also illustrates Japan's vision for the next step in human evolution after the hunter-gatherer, agrarian, industrial and information stages of society. It aims to increase the competitiveness of the industry and help the formation of a society more attuned to individual needs. The focus is on the great potential of data accumulation, and new technologies of the fourth industrial revolution, to find solutions to social problems such as declining birth rates, aging populations, and environmental and energy problems(Salgues, 2018).

The goal of society 5.0 is to create a human-centered society where economic development and solving social challenges are achieved, and people can enjoy a high quality of life that is fully active and comfortable. It is a society that will attend in detail to the various needs of people, irrespective of region, age, gender, language and others. By providing the necessary goods and services. The key to its realization is the fusion of cyberspace and the real world (physical space) to generate quality data, and from there create new value and solutions to solve challenges. This national vision adopted by Japan will strive for a new human-centered society, at the same time solving various social problems (Fukuyama, 2018).

In the first of eight chapters in this book, we are given the understanding that Vision Society 5.0 requires us to reframe two types of relationships: (1) the relationship between technology and society and (2) the technology-mediated relationship between individuals and society. With this perspective, the introductory chapter gives an exaggerated view of the concept of Society 5.0. It clarifies the difference between today's society and Society 5.0. This book guides how we can approach Society 5.0. Parts 1.1–1.4 of this chapter describe what Society 5.0 is. In particular, the focus is on key concepts that are parallel aspects of society: (1)

human-centered society, (2) combining cyberspace with physical space, (3) knowledge-intensive society, and (4) data-driven society. Understanding these four concepts allows us to understand the approach needed to make Society 5.0 a reality. On *Part*. 1.5, The author of this book fully explains the conceptual differences between Society 5.0 and Industry 4.0 launched in Germany in 2011, which is one of the leading visions to revolutionize the industry through the integration of information technology. Society 5.0 seeks to revolutionize not only industry through the integration of information technology but also living space and public habits.

The challenge of Society 5.0 is about how to optimally balance the needs of society with individual needs. We cannot make progress until we solve this problem. The actors involved in policy and technology must coordinate with each other so that everyone understands how each policy proposal or technology development fits in and contributes to Society 5.0. Otherwise, actors pursue their own specific technologies or policies in uncoordinated ways without understanding how they fit into the bigger picture of Society 5.0.

However, the shortcomings of Chapter 1 do not fully explain the foundation and pillars of Society 5.0, so to understand the concept of Society 5.0 it is necessary to read the full work Sharma & Garg (2024) "*Technological Prospects and Social Applications of Society 5.0*" published by CRC Press, Taylor & Francis Group.

Part Two, Habitat Innovation

To understand this chapter as a whole, we must first go into what factors *drive* social problems in Japan, including that the birth rate in Japan is always falling and the population will continue to age. Rural communities are dwindling, and many will decline and become neglected. Meanwhile, the population is increasingly concentrated in cities, leading to traffic jams and an increased risk of mass-scale damage in natural disasters. Although cities are supposed to be large population centers, the service sector is increasingly understaffed. Despite the labor shortage, wages are by no means high, and more and more young people are working irregularly, driving the birth rate decline even further. As the workforce shrinks, so does tax revenue. Nonetheless, government spending will continue to rise due to the need to maintain destroyed infrastructure. These factors, coupled with bloated welfare budgets needed to cope with a graying population, place an increasingly heavy burden upon the working-age population. The main social problems of Japan are:

1. Labor Slump

   Japan's birth rate shows a downward trend. This trend has an impact on three main effects. *First*, This condition leads to a decrease in the overall population and, more importantly, a decrease in the young population and the working population. In 2015 alone Japan's working-age population reached 76 million, and it is predicted that it will always fall to 52 million by 2050(Matsuoka & Hirai, 2020). The condition of the 'gray' population also has an impact on many working-age people leaving the workforce to care for their elderly parents. One possible solution to this problem is to introduce AI and robotics technology. However, automated driving, and other radical forms of automation will result in many jobs being lost. *Second* sparse rural populations and who *Third*, an aging population.

2. Consumer Sparsity

   Another problem is what the author calls "Consumer Parity" where the consumer population is distributed sparsely over a large area (there is a decrease in population density). The greater the level of consumer sparity, the higher the infrastructure-related costs per consumer. When these costs cannot be covered, the quality of service decreases. If there is no adequate water infrastructure, for example, residents may have to go out every day to provide water supply facilities and transport water back to their homes.

3. Aging Population

   An aging population means that older people account for the lion's share of the overall population, a phenomenon caused by declining birth rates and longer life spans. With the number of employed people reduced, economic growth stalled and the central and local governments received less tax revenue. On the other hand, the 'old population' requires higher social welfare(Labour and Welfare, 2012). With poor fiscal health, citizens must receive poor-quality social welfare or bear a heavier burden to maintain social welfare

4. Aging Infrastructure

   Consumer sparity leads to inefficient use of infrastructure, but destroyed infrastructure is an independent driver of social problems in addition to demographic concerns. Japan's basic infrastructure was massively developed during the country's period of high economic growth, during the 1950s, 1960s, and 1970s. More than half a century has passed since then, roads, bridges, waterways, and other infrastructure in Japan 'decayed'.

According to estimates, about 190 trillion Yen is needed for infrastructure renewal over a 50-year period from 2011 to 2060.

5. Switching to Renewable Energy

   Japan has signed the Paris Agreement at COP21. Japan has promised the world that it will work towards a low-carbon society. Therefore, Japan is committed to switching to renewable energy sources. The constraint is, the level of energy generated from renewables such as wind and solar power fluctuates and cannot be controlled. Thus, as society switches to renewable energy, it will struggle to balance energy supply and demand. Society will also face problems related to trimming frequencies, controlling reverse power flow, and dealing with voltage fluctuations. In tackling this problem, communities need to invest more in these renewable energy system facilities. Such conditions generate new social problems. Then, to achieve a carbon-free society, Japan must lower renewable energy prices, promote energy savings and more controlled supply and demand in areas with large populations. If Japan fails to handle these tasks appropriately, energy prices will rise and the power system will become unstable.

After describing the factors that led to the birth of social problems in Japan, this chapter offers innovative solutions to solve these problems. The solution is to provide the formulation of Key *Performance Indicators* (KPIs). In '*Habitat Innovation*', KPIs are calculated through three components: (1) *structural transformation*, (2) *technological innovation*, and (3) *quality of life* (QoL)." Government leadership is needed for "structural transformation." This component suggests ways in which cyber-physical convergence frameworks can be used in public policy-making processes. The "technological innovation" component tells us how cyber-physical convergence frameworks can help create resource-efficient societies. The "QoL" component can ask the Japanese public to disseminate data in a way that can generate new services to support the QoL community. In '*Habitat Innovation*', insights into engineering, social sciences, humanities and many other disciplines are used to analyse what QoL means at an individual level and to identify the role that policy and technology should play.

Part Three, From Smart City to Society 5.0

This chapter tries to review the history of smart city projects and smart communities implemented in various cities in Japan. The concept of *Smart City* and *Smart Community* was

born from the initiative of the Government of Japan through subsidies and support to create *pilot projects* promoted by the City Government that follow the rules of the game 'Kyoto Protocol'. The project aims to review the authenticity of smart grid, *microgrid*, and smart home technologies created by integrating information technology (IT) with energy management systems and was implemented into first-generation smart community pilot projects in the 2000s as Japan was considered lagging behind in terms of electricity market liberalization compared to the EU and the United States.

This chapter with a total of 23 pages is used by the author to explain in full about "*From Smart City to Society 5.0*" into 5 interesting discussion sub-chapters, namely: (1) What Is Smart City?, (2) *Smart Energy Management Systems*, (3) *Japan's Smart Communities/Cities* (4) *Sustainable Cities and Smart Cities*, and (5) From Citizen-Led Smart City to Society 5.0 (Deguchi, 2020).

1. *What Is Smart City?*

   This sub-chapter outlines how the basic concept of smart city involves the integration of information technology (IT) with urban planning. Smart city initiatives have been implemented in various countries in the world and involve the transportation and energy sectors. For example, bus services in Japan using geo-positioning technology and automotive navigation systems help minimize travel time and energy and improve service quality. Once the services are supported by such a smart system, the urban community will become a smart city and will eventually give birth to a smart society. In Society 5.0, these smart systems will further advance and help solve problems affecting the population as a whole. The idea that IT integration will lead to a more advanced society and along with the evolution of technology, is also discussed in this sub-chapter.

2. *Smart Energy Management Systems*

   One thing smart cities and smart communities have in common is that they both depend on energy systems. Therefore, many smart city initiatives focus on "smart" energy, that is, energy systems that integrate information technology with local power systems. Smart grids, microgrids, and smart homes are major players in the early phases of smart city initiatives, and are becoming important terms associated with the smart city concept. Applications of "smart grid" and "microgrid" technologies involve the development of advanced energy management systems, such as the "*Community Energy Management*

System (CEMS)" in Japan. The term "smart home" is in turn related to detached homes that use a "*Home Energy Management System* (HEMS)" to achieve optimal energy management. The practical application and proactive development of new energy management systems are critical in advancing the smart city concept. We'll cover each of them further in the next section.

3. *Japan's Smart Communities/Cities*

   Japan, which lags behind in energy liberalization, is trialling advanced energy supply systems in some communities. Local governments are working with private businesses to implement state-subsidized projects aimed at reducing greenhouse emissions and realizing a carbon-free society. The Kyoto Protocol Target Achievement Plan is the government's strategy to fulfill the 6% greenhouse gas emission reduction commitment mandated by the Kyoto Protocol. The "Next-Generation Energy and Social Systems Demonstration" program was launched by the Ministry of Economy, Trade and Industry (METI) in 2009 and has five objectives, one of which is to showcase an energy-efficient and IT-based lifestyle. Four municipalities, Yokohama, Toyota, Keihanna Science City, and Kitakyushu, were designated as test sites in 2010 and each has its own project with the participation of residents and private businesses. The goal of every project is to build a "Smart Community", where energy and resources are managed efficiently and are environmentally friendly.

4. *Sustainable Cities and Smart Cities*

   Energy management intelligence in cities and communities, as in the case of Japan, has spurred the development of smart cities. However, the implementation of smart city initiatives is limited to certain zones such as new development zones. There are no hard and fast rules as to how large or populated a city or community should be is a smart city or community. Area selection for smart city implementation and coverage of systems such as *the Community Energy Management System* (CEMS) is often unfair. The task of spreading the benefits of technology to areas outside smart cities makes the government focus on showing urban development models to emulate. This requires communities to build models of urban development best practices. Community/smart city initiatives have a social role to play in leading the implementation of the model. Positioning

community/smart city projects as part of local community strategies is important to clarify the vision, define the role of each initiative, and formulate implementation strategies in a coordinated and long-term thinking way. It also ensures that communities make effective use of government subsidies and grants. This approach is similar to the actions of governments that lead the creation of master plans for communities and work with local stakeholders in their implementation.

5. *From Citizen-Led Smart City to Society 5.0.*

   The EU has supported the development and implementation of smart cities in line with the European Commission's medium-term vision of "Europe 2020" which was realized in 2010 and the Horizon 2020 programme, the EU's largest programme that assists research and innovation both financially and non-financially. In 2015, the European Commission launched the European Alliance for Internet of Things Innovation (AIOTI) (Nomura, 2017) which serves as institutional support. The support has resulted in various models of smart cities in Europe, such as smart energy, smart transportation, smart distribution, smart waste, and many other smart systems. In the next section, focus is given to the examples of Barcelona, Santender, USA, Hawaii, Copenhagen, Chicago, San Francisco.

Part Four, Integrating Urban Data with Urban Services

This chapter provides a complete picture of architecture that integrates urban information. This chapter also describes how urban information should be integrated and how this integration can result in optimal collective services. The integration of spatial and temporal information is an initial approach to the integration of social and technical architectures. The metric that must be improved is related to user satisfaction, where users are individuals and businesses in urban areas.

Furthermore, there are three main channels that integrate information including: The *first* channel is a collection of interfaces that allow the system to operate symbiotically. Specifically, this channel indicates an interface design that allows businesses and services to communicate and interact with each other so that they all operate not only independently but also as part of a larger organic system. The *second channel* is a collection of social systems that reorganize rights and responsibilities related to the use, management, and protection of

data. Technologies that can enable organizations to use personal information without compromising privacy and data principles were introduced. The last channel is a measure of quality of life (QoL). This chapter also discusses the theoretical framework for measuring QoL using human sensors.

Part Five, Solving Social Issues Through Industry–Academia Collaboration

This chapter explains how Society 5.0 will transform cities and people's lives around the world by introducing research work developed by the industry-academia collaboration "H-UTokyo Lab," which is a joint effort between Hitachi and the University of Tokyo. In this chapter, researchers from the engineering field discuss the basic thought processes behind research projects that aim to address social issues in every part, including those related to aging populations, the need to be carbon-free, and the need to regenerate rural communities. In addition to the discussion, the researchers also describe updates in the technical revolution to solve social problems. Each section ends with an illustrated picture of our future life in Society 5.0.

In general, the author divides this chapter into 4 discussions: (1) How Will Society 5.0 Transform Cities?, (2) Building a Habitat to Support the 100-Year Life, (3) Carbon-Free Society: "Energy" × "Life" Management (4) Local Co-creation and Data-Driven Urban Planning(Deguchi, Akashi, et al., 2020).

1. *How Will Society 5.0 Transform Cities?*

   Society 5.0 is a society that prioritizes human interests and seeks to overcome economic and social problems and ensure that every individual can live a comfortable and quality life. In this case, how should the urban environment change and how can we change it for the better? This chapter discusses a new model developed by H-UTokyo Lab, the result of cooperation between Hitachi and the University of Tokyo. In contrast to the conventional industry-academia cooperation model, where university laboratories collaborate with private companies, H-UTokyo Lab seeks to address social problems through industry-academia collaboration that integrates companies and universities. In this approach, researchers from Hitachi and the University of Tokyo formed working groups to focus on specific themes and work on making appropriate technology and

policy proposals. In this chapter, the author will focus on conversations related to these efforts.

2. *Building a Habitat to Support the 100-Year Life*

   This theme discusses how to design habitats to address the problem of shrinking and aging populations. The Subchapter also suggests ideas for better housing support for 100-year life and the development of technologies close to human and data-based services. Moreover, the main forces cultivating human habitats, namely markets and governments, can no longer cope with the problem. Therefore, Society 5.0 plays an important role in empowering local/civic communities to take responsibility for their habitats and ensure that habitats develop as desired by the community. There are three factors influencing the development of this habitat, namely the desire for experiences in public spaces, the importance of action on climate change, and the ability of digital technology to model and manage living spaces and human activities. Thanks to this factor, Society 5.0 opens up opportunities to manage human activities and human habitats according to the will of society.

3. *Carbon-Free Society: "Energy" × "Life" Management*

   In Japan, the room temperature is set at 28°C due to Cool Biz's campaign to reduce greenhouse gas emissions. However, this temperature is uncomfortable and affects the productivity of office workers. There are alternatives to save energy without sacrificing comfort, such as cutting air conditioning usage and optimizing air conditioning systems, lighting, and so on. However, this is often not done and requires a troubleshooting process after the building is completed. Basically, this subchapter introduces technologies that coordinate energy management at different levels, i.e., individual, building, and district levels, to contribute to a carbony-free society, allowing people to use minimal energy without sacrificing their QoL

4. *Local Co-creation and Data-Driven Urban Planning*

   Urban planning is important for transportation. Chicago became the first city in the world to introduce quantitative methods in transportation plans in the 1950s. Later, Japan through the Hiroshima Main Metropolitan Area introduced the travel survey of people

which expanded the use of surveys in transportation planning. Japanese cities with a population of over 300,000 conduct surveys to guide and evaluate urban planning after a period of economic growth. In today's urban transportation planning, travel behavior survey data is used to predict passenger demand through mathematical models of transportation. The survey is conducted by entering people's daily travel behavior data and predicting it for the future. The Travel Survey of People in the 1960s was paper-based and used a four-step method. The core of this subchapter proposes data-driven urban planning methods, which support local communities to develop their own community improvement projects.

Part Six, From Monetary to Nonmonetary Society

As a consequence of the digital revolution, in this chapter the author gives a fairly perfect prediction about the dynamic changes in everyday life and changes in how we consume things. In the sixth chapter, the book has outlined the concept and nomenclature of Society 5.0 and discussed the approach and direction of future technology development based on the concept. So far, Society 5.0 has been discussed primarily from an engineering perspective. This chapter takes perspectives from economics and the humanities. From this perspective, the book explores the future of data-driven societies the kind of societies that Society 5.0 supports how we can understand/embrace such societies, how viable they are, and what problems will arise.

Then, Society 5.0 represents the next step in our socioeconomic evolution, the previous steps being hunter-gatherer (Society 1.0), agrarian (Society 2.0), industrial (Society 3.0), and information (Society 4.0). Each of these steps forward is a result of what Bresnahan & Trajtenberg (1995) Call it "all-purpose technology", which provides an engine of growth that transforms existing social structures. Every time an old system is replaced with a new one, our lives and work styles change accordingly, as do our values and ways of thinking. This chapter also discusses the phenomenon of a cashless society from the economic aspect of a data-driven society. This points to two types of problems that may arise: pricing invaluable information and managing personal data without anonymity in a cashless society, which digital currencies might embodied. Furthermore, as part of the solution is a philosophical approach to humanity and human wealth that is the goal of Society 5.0. Suggest the development of the 'sharing economy' method because there is currently a paradigm shift in economics: from a conventional economy based on private ownership to a new economy based on cooperation, and from a

society with conventional values for ownership to a society with new values for use. The final part of this chapter provides an overview of the future society that Society 5.0 aims for from the point of view of humanity and philosophy. It suggests that Society 5.0 should innovate capitalism to transform from material-based to human-based along with the growth of human capabilities, which can be referred to as societies to "come together to become human."

Part Seven, Interview: Creating Knowledge Collaboratively to Forge a Richer Society Tomorrow - An Innovation Ecosystem to Spearhead Social Transformation

This chapter attempts to explain the complexity and social problems both at home and abroad. With the growing complexity and variety of social problems, the Government of Japan is carrying out the vision of Society 5.0, a super-intelligent society that balances economic progress and social problem solving, and allows all individuals to live comfortably. On the other hand, the United Nations (UN) has pushed the Sustainable Development Goals (SDGs) agenda to address global challenges, while encouraging industry to play a role in achieving the SDGs through business activities. How are the research and development (R&D) efforts of universities and businesses driving innovation and accelerating social transformation? This question was a major topic in the dialogue between Makoto Gonokami of the University of Tokyo and Hiroaki Nakanishi of Hitachi, both members of the Growth Strategy Council.

Section Eight, Issues and Outlook

Concluding this book, this chapter explains the goals and problems in the process of realizing Society 5.0 from the point of view of human happiness in harmony with society, and ends with an overview of the importance of Society 5.0 and its prospects as a policy for society driven by the digital revolution.

This chapter also describes the problems of providing happiness to humans through a data-driven society, and points out that there needs to be an explanation of approaches that enable each individual to achieve his or her personal happiness through consent to the implementation of data-driven technologies and harmonizing with data-driven societies. In addition, it is also considered the issue of coexistence between individual freedom of choice and social control, and it is advisable to understand the moral questions that must be considered

in the process of realizing a data-driven society. This chapter also summarizes the social meaning and importance of Society 5.0 as a vision emanating from Japan with the aim of implementing advanced digital technologies that go beyond the conventional concept of smart cities. Finally, it emphasized the importance of sharing the concept of "human-centered" to realize social problem solving and economic growth as mentioned in the original definition of Society 5.0 in the Comprehensive Strategy on Science, Technology and Innovation of 2017.

Conclusion

Society 5.0: A People-centric Super-smart Society" is a book that explains the concept of society developed by the Japanese government, which puts forward advanced technology and human-machine collaboration to improve people's quality of life. The book is written by experts and practitioners from various fields, including technology, economics, social, and politics with the editors of *Hitachi-UTokyo Laboratory (H-UTokyo Lab.)*, *The University of Tokyo* and Bunkyo-ku, Tokyo, Japan. Many authors have contributed to the writing of this book, including Toshihiko Koseki (former Executive Vice President, The University of Tokyo), Shinobu Yoshimura (Vice President, The University of Tokyo), Norihiro Suzuki (Vice President and Executive Officer, CTO, Hitachi, Ltd.), and Shinji Yamada (General Manager, Center for Exploratory Research, Hitachi, Ltd.), Takashi Haga and Miho Sugimoto (the University of Tokyo's University Corporate Relations Department), Mayumi Fukuyama and Tomiko Kinoshita (the Hitachi R&D Group's Technology Strategy Office)

The book is an expicution of the results of an in-depth study of a long process of joint research *laboratory* between Hitachi and *The University of Tokyo* in 2018. This book is written in 8 separate chapters but becomes a complete unity to explain the phenomenon raised in the title of this book. This book was published for the first time through Springer Singapore in 2018 which can be accessed for free through the Springer Open website.

In closing, I will give some notes for both the author and the reader of this book. As for my notes during reading this book for the author *First*, some key concepts may require further clarification to ensure proper understanding by the reader. For example, a further explanation of how Society 5.0 differs from previous eras (Society 1.0 – 4.0), will help readers who are less familiar with the concept. *Second*, although the main focus of this book is society 5.0 as initiated by the Government of Japan, additional global context or case studies from other countries can provide greater insight into the relevance and potential implementation of the

concept worldwide. *Third*, Enriching books with broader inclusion from different segments of society will help ensure that the concept of Society 5.0 is truly oriented toward the interests and well-being of all individuals, including those who may have been marginalized so far. Ending the book with some practical suggestions or concrete steps that readers can take to contribute to realizing the vision of Society 5.0 will make this book not only a source of information but also a guide for concrete action.

Finally, notes that I can give to readers of this book *First*, when reading this book, it is important to ensure a solid understanding of the main concepts of Society 5.0. If any part is less clear, it is advisable to refer back to the definition and explanation of the concept to ensure a comprehensive understanding. *Second*, During the reading process, consider how the concept of Society 5.0 can affect the reader's personal life and the surrounding community. If possible, jot down ideas or changes that you can implement in your daily life. *Third*, this book only provides an overview of the concept of Society 5.0, if interested take the time to find additional information through sources such as articles, reports, scientific papers, and case studies to gain deeper insights. *Fourth*, To the Reader, remain critical of the ideas presented in this book. Carefully review the ethical, social, and economic implications of the changes proposed by the Society 5.0 concept and consider different viewpoints before concluding.

References

Abdullah, A. (2020). Public Relations in The Era of Artificial Intelligence: Opportunity or Threat? ARISTO, 8(2), 406. https://doi.org/10.24269/ars.v8i2.2629

Bresnahan, T. F., &; Trajtenberg, M. (1995). General purpose technologies 'Engines of growth'? Journal of Econometrics, 65(1), 83–108. https://doi.org/10.1016/0304-4076(94)01598-T

Cacciagrano, D., Corradini, F., &; Mostarda, L. (2021). Blockchain and IoT Integration for Society 5.0. In A. Gerber &; K. Hinkelmann (Eds.), Society 5.0 (Vol. 1477, pp. 1–12). Springer International Publishing. https://doi.org/10.1007/978-3-030-86761-4_1

Deguchi, A. (2020). From Smart City to Society 5.0. In Hitachi-UTokyo Laboratory(H-UTokyo Lab.) (Ed.), Society 5.0 (pp. 43–65). Springer Singapore. https://doi.org/10.1007/978-981-15-2989-4_3

Deguchi, A., Akashi, Y., Hato, E., Ohkata, J., Nakano, T., &; Warisawa, S. (2020). Solving Social Issues Through Industry–Academia Collaboration. In Hitachi-UTokyo

Laboratory(H-UTokyo Lab.) (Ed.), Society 5.0 (pp. 85–115). Springer Singapore. https://doi.org/10.1007/978-981-15-2989-4_5

Deguchi, A., Hirai, C., Matsuoka, H., Nakano, T., Oshima, K., Tai, M., & Tani, S. (2020). What Is Society 5.0? In Hitachi-UTokyo Laboratory(H-UTokyo Lab.) (Ed.), Society 5.0 (pp. 1–23). Springer Singapore. https://doi.org/10.1007/978-981-15-2989-4_1

Fukuyama, M. (2018). Society 5.0: Aiming for a New Human-Centered Society. Japan Economic Forum. https://www.jef.or.jp/journal/pdf/220th_Special_Article_02.pdf

Galloway, C., &; Swiatek, L. (2018). Public relations and artificial intelligence: It's not (just) about robots. Public Relations Review, 44(5), 734–740. https://doi.org/10.1016/j.pubrev.2018.10.008

Hitachi-UTokyo Laboratory(H-UTokyo Lab.) (Ed.). (2020). Society 5.0: A People-centric Super-smart Society. Springer Singapore. https://doi.org/10.1007/978-981-15-2989-4

Labour and Welfare, M. of H. (2012). Shakaihoshōnikakawaruhiyō no shōraisuikei nokaiteinitsuite (heisei 24 nen 3 gatsu) (Revision to future projection of costs required for social security). Ministry of Health, Labour and Welfare of Japan.

Matsuoka, H., &; Hirai, C. (2020). Habitat Innovation. In Hitachi-UTokyo Laboratory(H-UTokyo Lab.) (Ed.), Society 5.0 (pp. 25–42). Springer Singapore. https://doi.org/10.1007/978-981-15-2989-4_2

Nomura, A. (2017). Yūzā doribun inobeishon ni yoru sumāto na machizukuri ni mukete: Kaigai ni okeru 'sumātoshiti 2.0' e no torikumi (Toward smart urban development based on user-driven innovation: Smart city 2.0 initiatives overseas). Japan Research Institute. https://www.jri.co.jp/MediaLibrary/file/report/jrireview/pdf/9939.pdf.

Salgues, B. (2018). Society 5.0: Industry of the Future, Technologies, Methods and Tools (1st ed.). Wiley. https://doi.org/10.1002/9781119507314

Sharma, L., & Garg, P. K. (Eds.). (2024). Technological prospects and social applications of society 5.0 (First edition). CRC Press, Taylor & Francis Group.

WEF. (2020). HR4.0: Shaping People Strategies in the Fourth Industrial Revolution. World Economic Forum. https://www.weforum.org/reports/hr4-0-shaping-people-strategies-in-the-fourth-industrial-revolution/

Yano, M., Dai, C., Masuda, K., & Kishimoto, Y. (Eds.). (2020). Blockchain and Crypto Currency: Building a High Quality Marketplace for Crypto Data. Springer Singapore. https://doi.org/10.1007/978-981-15-3376-1