

Real Trends of Real Estate 2021

How will the COVID-19 pandemic change society and real estate?

December 25, 2020

The socioeconomic conditions that surround us are changing at an accelerated pace and becoming increasingly complex, resulting in an overflow of information. Under these circumstances, it is not easy to accurately decipher the trend of the world and to grasp and understand its impact on real estate. To facilitate this, Xymax Real Estate Institute ("Xymax REI") released a report titled *Real Trends of Real Estate 2020* in September 2019 on 11 themes it considered to be important in relation to the world and real estate of today and the future.

Since then, the global outbreak of the novel coronavirus (COVID-19), which began in early 2020, has had a huge impact on the society and economy. In specific figures, 74.9 million people across the world and 0.18 million people in Japan have been infected with the virus as of December 18, 2020, with the number of deaths reaching more than 1.66 million across the world and 2,700 in Japan. Since neither a cure nor a vaccine has been widely disseminated so far, mankind has been trying to counter the spread of the virus by restricting travel and exchange as well as establishing a healthcare system to prevent patients from developing severe symptoms or dying and ensuring sanitation in everyday life by recommending hand-washing and the wearing of face masks.

The COVID-19 pandemic has not only caused human suffering but has also had a huge impact on the economy. The movement of people and goods was halted, which has resulted in, as of May 2020, decreases in real consumer spending by 16.2% year on year, the total number of travellers by 84.9% year on year, imports and exports by around 30% from the previous year, and the use of public transport by around 70% from before the pandemic. As cash flows deteriorate, corporate management has been experiencing adversity, with 483 COVID-related bankruptcies being recorded between April and September 2020. COVID-19 has also affected the labor market, with the active jobs-to-applicants ratio declining from 1.6 before the pandemic to 1.03 (September 2020). These factors have led to a record -28.8% (annualized) drop in real GDP growth between April and June 2020. Although figures have shown a recovery since the lifting of the state of emergency on May 25, 2020, with GDP growth showing a significant rise to +21.1% between July and September 2020 and the Nikkei Stock Average recording the highest level in 29 years, the real economy and corporate management continue to struggle.

COVID-19 has also delivered a huge shock to the real estate market. The Tokyo Stock Exchange REIT Index plummeted from 2,145 points at the end of 2019 to 1,138 points in March 2020. In the housing market, new supply of condominiums in Greater Tokyo fell by 44.2% year on year to 7,497 units in the first half of 2020. In the office market, vacancies are beginning to shift to a mild increase, with the office vacancy rate in the 23 wards of Tokyo rising 0.55 percentage points year on year to 1.34% in the third quarter of 2020. The pandemic has also affected land prices, as the national average volatility, including both residential and business districts, fell by 0.6% year on year as of July 1, 2020.

Furthermore, the pandemic has given birth to 'New Normal' lifestyles and concepts, such as reducing contact with other people, refraining from traveling or dining together, staying-at-home consumption, and the spread of telework. These have been supported by technology, which has led to remote and contactless services as well as real vs virtual services.

A pandemic like this one has occurred multiple times in the long history of mankind. It is without doubt that this corona crisis will have a huge impact on us and is about to change our daily lives, behavior, and ways of thinking. At the same time, some people might have become engrossed and short-sighted by the situation of the pandemic and think that this situation will last indefinitely. What is important is to determine whether the fundamental trend will accelerate, change, or be added with something new due to the pandemic. It will help to understand our situation if we think that there is a major medium- to long-term trend underlying this world, on which abrupt events like this pandemic occur.

In this *Real Trends of Real Estate 2021*, we decided to look back on the pre-pandemic trends of the same 11 themes as the previous report, introduce what is happening due to the pandemic, and summarize the impact

on real estate. However, in view of the situation of the pandemic that is changing day by day, note that the content of this report is our assessment as of December 2020. For details of the pre-pandemic trends, please see *Real Trends of Real Estate 2020*.*

It is difficult at this stage to make a reliable forecast about the post-COVID-19 world. However, it is possible to think of scenarios for the world going forward by examining with clear eyes past developments and what happened due to the pandemic. This will also be about thinking of the usage of real estate going forward and of the real estate business.

In any era and under any circumstances, real estate will always be an important foundation that supports our lives and activities. The impact of COVID-19 on real estate must be a matter of concern and interest not only for those directly involved with real estate but also to ordinary people. We hope that this report will facilitate the understanding of the real ('true' and 'actual') trends of real estate.

Xymax REI intends to release the *Real Trends of Real Estate* report on a regular basis to continuously examine socioeconomic changes and their impact on real estate from a neutral and objective perspective.

Summary : https://www.xymax.co.jp/english/research/images/pdf/20201225_s.pdf

**Real Trends of Real Estate 2020*, released on September 30, 2019 <https://www.xymax.co.jp/english/research/images/pdf/20190930.pdf>

Themes featured in Real Trends of Real Estate 2021

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| 1. Changing values | 5. Data society | 9. Natural disasters |
| 2. Labor shortage | 6. Advance of technology | 10. ESG |
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1 Changing values



1.1 Trend from before the pandemic: Diversifying values

In *Real Trends of Real Estate 2020*, which was released in 2019, we examined the situation of diversifying values. The values that guide people's behavior are affected by the times and environment in which each person was brought up. The coexistence of people who grew up in different times and different living environments, such as the baby boomers, the generation that grew up during the bubble economy, the Millennials, and the digital natives, has led to the diversification of values within the Japanese society. On the other hand, it has been observed across the world that, due to globalization, people of the same generation tend to embrace the same kind of values.

Such diversification of values has naturally had an impact on the real estate industry. For example, there has been an increase in options of housing renovation to address the family situations and tastes of each individual, as well as a spotlight on new business opportunities such as multipurpose, pay-by-the-hour spaces and housing rental services that accommodate multiple languages and cultures. Real estate services that used to focus mainly on 'standard' lifestyles are gradually evolving in accordance with the times of high-mix, low-volume production, which can respond to a wide range of needs.

1.2 Changes due to the pandemic: To a 'New Normal'

The outbreak of COVID-19 has had a huge impact on the society as a whole across countries and regions. The movement of people and goods, which had underpinned economic activity, has stopped almost entirely, affecting many industries and companies. The outbreak has also impacted individuals in the form of movement restrictions to prevent infections as well as economic uncertainties such as a decline in income and unemployment. Under such a crisis, conservative behavior and stability orientation are becoming the mainstream in society. However, the development of a vaccine and the application of a therapeutic drug are rapidly being carried out, which would, once they are achieved, eliminate the threat of COVID-19 sooner

or later and provide an outlook toward the resumption of international travel and normalization of economic activities.

Meanwhile, living under the threat of COVID-19 (days 'With COVID') is set to continue for the time being. The most prominent characteristic of lifestyle changes due to COVID-19 is the emergence of new behaviors and ways of thinking, which are referred to as the 'New Normal.' In terms of consumer behavior, seeking products that offer safe and secure has been increasing among consumers of all ages, as is demand for face masks and disinfectants to protect oneself from viruses as well as thermometers to monitor one's physical conditions, and air purifiers. Exercise equipment such as running shoes, bicycles and dumbbells has continued to be popular due to a rise in health awareness.

In addition, consumers are spending more time with oneself or with their family, as they now spend most of their time at home due to the government's stay-at-home request and less time going out or traveling. This has led to a surge in staying-at-home consumption, such as in foodstuff and cooking tools to enhance home cooking, games and video streaming services to enjoy their time at home, and books and e-learning for self-development and skills improvement. On the other hand, expenditure on suits, cosmetics, accessories and other products for 'dressing up' has been declining as consumers go out less.

While anti-infection behavior restrictions have led to inconveniences, many people have experienced that they can carry things out without going to a specific place by using remote technologies that they had not been able to fully utilize, or social media, which are already widely used. The outbreak of COVID-19 has triggered people to review their longstanding customs and opened up new possibilities to daily life. Webinars and virtual events that can be attended wherever you are, the dissemination of top-class education through e-learning, telemedicine, choosing where to live without being bound to the location of your company due to telework—an increase in such options may result in major shifts in people's lifestyle and values going forward.

1.3 Impact on real estate: Real estate that can address the New Normal

Since real estate is a part of every aspect of daily life, the changes in values mentioned in the previous section naturally have an impact on the real estate business. Future trends in the industry include providing safety and a sense of security to users, offering support to users' physical/mental health and comfort, and providing services that can address new lifestyles. Changes have been seen in each of the following asset types.

In offices, the key criteria for choosing an office will be the promotion of the wellness of employees, in addition to work efficiency. While offices were traditionally designed to accommodate all employees who work eight hours a day five days a week, going forward there will be no need to assemble everyone at one place due to social distancing considerations and the spread of telework. A hybrid work style in which each employee chooses where to work from—the main office, a third-place office or home—according to their work, preference and private life is expected to become the future trend.

In terms of houses, living comfort is being required more than before rather than traffic access, due to the increase in time spent at home. Furthermore, the spread of working from home will give rise to the need for a workspace within the house. Detached houses that offers flexibility in layout and sound insulation have recently been attracting attention. Home renovation is also popular, with the emergence of furniture and equipment for adding a simple workspace to the existing layout.

Retail properties such as restaurants and shopping venues have been hard hit by the COVID-19 pandemic. The spread of e-commerce is also challenging the *raison d'être* of physical stores. The advantage of physical stores in its competition with online stores is the ability to stimulate consumer appetite through on-site experiences such as holding or trying on the actual product. There have actually been moves to use stores as a showroom or attaching a café or yoga studio to the store so that customers can enjoy their time in the store. The conventional business model of attracting a large number of people with purchasing intentions

might reach a turning point.

In terms of accommodation facilities, the shortage of hotels that had hitherto been an issue has made an about-turn due to the double whammy of entry restrictions of people from abroad and the government's stay-at-home request. Many hotels have decided to suspend business, and some were forced into bankruptcy. Under such circumstances, there has been a call for 'micro-tourism,' a tourism style of traveling safely and securely at a nearby place about 1–2 hours from home, while avoiding the 'Three Cs' (closed spaces, crowded places, close-contact settings). The challenge for hotels in attracting the residents of their surrounding areas would be to provide extraordinary experiences or experiences that emphasize the appeal of the area.

While the pandemic has brought on headwinds to almost all asset types, logistics facilities have been booming. This is due to the surge in online consumption and the re-acknowledgement of the importance of logistics facilities so as not to disrupt the supply chain during an emergency. Full automation is expected to accelerate as manpower will be increasingly difficult to secure due to the advance of the aging and shrinking of the population, as well as from an infection control perspective. Furthermore, the acceleration of online BtoC and CtoC transactions is expected to boost demand for logistics facilities specializing in last mile distribution, and creating facilities friendly to end-users, such as by attaching outlets of different industries including stores and sport gyms, is drawing attention as the future trend.

2 Labor shortage



2.1 Trend from before the pandemic: Labor shortage hindering business expansion

Labor shortage in Japan had become a serious problem as companies in various industries and areas increased hiring on the back of a long and stable expansion of the economy, making it an issue in achieving continuous economic growth. As a means to solve the shortage, the Act for Stabilization etc. of Employment of Older Persons etc. and the revised Immigration Control Law have been enforced to further urge women and the elderly to participate in the workforce as well as to secure manpower of foreigners by creating an environment where a wide variety of people can take part in labor.

The shortage was not resolved despite such efforts, and the real estate industry faced a severe shortage of workers in the maintenance of real estate, such as in security and cleaning. Among operational assets such as commercial outlets, distribution facilities, hotels and healthcare facilities, some have put off or postponed openings due to labor shortage. The construction industry also faced similar labor shortages, which resulted in delays in construction work processes and a long-term rise in construction costs. Companies strove to create a workplace that can maintain or improve employee retention rates such as by reviewing shift patterns, enhancing welfare facilities and turning temporary employees into regular employees to secure manpower. In building management, smart meters and robots were introduced to improve efficiency, while stores and hotels made efforts to reduce manual labor by introducing cashless payment and automatic settlement machines. In addition to the diversification of workers and the advance of information technologies, labor shortage has had an impact on the views toward the location of real estate and the whole concept of buildings.

2.2 Changes due to the pandemic: Alleviation of labor shortage and the emergence of human resource mismatch

The tight labor market turned around completely due to the pandemic. With the active jobs-to-applicants

ratio at 1.04 and the total unemployment rate at 3.1% in October 2020, the labor shortage has been alleviated compared to the same month in 2019. In industries that have been especially hard hit such as accommodation, restaurant and entertainment, some have suspended business, reduced business days and hours, forced to stay at home, or even closed business or went bankrupt. Companies have reviewed their headcount or dismissed personnel accordingly. The Ministry of Health, Labour and Welfare announced that the number of people who were dismissed or whose employment contract was terminated (including expected cases) in relation to COVID-19 was 71,121 as of November 13. By industry, the manufacturing industry was the most prominent with 13,671, followed by restaurant with 10,563 and retail with 9,551. In a sudden transformation from a shortage of labor, job seekers have been increasing, with a restaurant owner saying that more than 200 people applied for several part-time job openings for a new store. At hotels, some employers have allowed banquet staff and cooks to take up side jobs while the hotel was closed. Turnover also seems to be declining in industries where the retention rate had been said to be low, such as nursing care and cleaning. On the other hand, certain industries are experiencing a rise in demand for personnel. There has been a shortage of healthcare professionals responding to COVID-19 as well as essential workers such as welfare, agriculture, retail, distribution, telecommunication, and maintenance and inspection personnel. Furthermore, with the rise in the need for DX (digital transformation) in all industries, there has been a lack of engineers and IT personnel with knowledge in this area.

Amid these major environmental changes, there is currently a mismatch of employment where some companies face a shortage of labor while others have too many due to poor business performance. To fill this gap, there has been a rise in the sharing of employees, in which an employee is seconded to another company while remaining an employee of his/her original company. Specific examples include cases where consumer electronics chains, supermarkets and personnel dispatch companies receive employees of airlines, travel agencies, hotels and restaurants as seconded personnel. The agriculture industry, which is suffering from a labor shortage since foreign technical interns have been barred from entering Japan, is also accepting personnel from hotels, etc. This scheme is beneficial to both the receiving side, who can alleviate their labor shortage by receiving workers with a certain degree of business experience, and the seconding side, who can not only reduce personnel costs but also maintain the number and quality of workers required when demand recovers after the pandemic, without dismissing employees. Employee-sharing platforms have also emerged to match human resources smoothly between companies with these needs. New forms of personnel movements beyond industry borders are progressing on the back of the pandemic.

2.3 Impact on real estate: Transform into real estate that is sought after by workers; prepare for medium- to long-term labor shortage

The real estate business in the days of the coronavirus must not only ensure infection control and safety, but also take into consideration a medium- to long-term shortage of labor after the pandemic has abated.

People's awareness toward hygiene and safety/security has undergone a dramatic change through the experience of the pandemic. In *Greater Tokyo Office Worker Survey 2020*, a survey by Xymax REI targeting office workers, more than 40% of the respondents replied that they either did not think or did not think that much that the building they currently worked in was safe or secure. Recently, many buildings have taken various infection control measures in building control, such as providing alcohol disinfectants at the entrance or disinfecting high-contact surfaces, including doorknobs and elevator buttons. Additionally, an increasing number of buildings are taking anti-infection measures in their facilities, such as enhancing ventilation performance and introducing contactless equipment. Infection control is also essential in operations at buildings that are visited by a large number of people, such as stores, restaurants and hotels. One hotel is facing an even greater shortage of labor in their reception desk operations due to an increase in work such as taking guests' temperatures or checking their physical conditions at check-in and checking where they arrived from. Some hotels face worker shortage in housekeeping due to an increase in the frequency of room cleaning and linen service, as inbound tourists who tend to stay relatively long have been replaced by domestic guests who stay shorter. Even in an industry that was hard hit by the pandemic, there are differences in the situation of labor shortage depending on the type of work.

On the back of such shifts in workers' awareness toward safety and security, changes are also occurring in office buildings, their place of work. The CASBEE-Wellness Office by the Institute for Building Environment and Energy Conservation is a tool for assessing the specifications, performance and initiatives of buildings that support the maintenance and enhancement of the users' health and comfort, and has been carrying out since 2019. Going forward, all types of real estate will likely be required to provide an environment where workers can work safely and securely to secure the necessary manpower and ensure the continuous growth of companies.

Furthermore, more companies have recently been introducing a work-from-home program or using satellite offices. In particular, demand has been growing for satellite offices in the suburbs, which allow their users to avoid long commutes and congestion. Having a workplace near workers' homes enables employees to adapt to their family circumstances, leads to greater work ethic, and improves employees' productivity. This move is to bring the workplace close to the homes of office workers. Logistics facilities, which have been in high demand due to an increase in online consumption, had been choosing locations close to residential areas from before in order to secure manpower. This trend has not changed. Moving forward, the perspective of 'workers' place of residence' should become a focus in the location of real estate.

Currently, the real estate industry that had been suffering from a chronic shortage of labor has been dismissing employees or adjusting employment due to the dissipation of demand owing to the pandemic. However, this state is likely to be temporary. With an aging and diminishing population, Japan is expected to face a decrease of its working population in the medium- to long-term and return to the previous state of a shortage of manpower once the pandemic abates and demand returns. The establishment of systems and environments that promote the movement of manpower will continue to be anticipated in order to eliminate the mismatch of human resources. A diversification of forms of employment, such as permitting side jobs, turning employees into individual business owners and introducing a four-day workweek, should contribute to eliminating the mismatch of human resources as well as to improving the productivity of each individual. Additionally, labor saving and efficiency improvement are expected to accelerate due to the introduction of new technologies and robots. It will be important for the real estate industry to prepare for the return of the days of labor shortage.

3 Work style reform



3.1 Trend from before the pandemic: Work styles not bound by time or place

Since the burst of the bubble economy, Japan has continued to suffer sluggish economic growth with an average growth rate of around 1%, and its population growth turned to negative in the 2010s. In order to revive the Japanese economy, it is essential to improve value-added production, or labor productivity. Against this backdrop, the National Council for Promoting the Dynamic Engagement of All Citizens advocated the promotion of work style reforms in 2016, and the Work Style Reform Law was enforced in 2019. Society's interest was especially high in the improvement of labor productivity of office work, which is considered to be lower than that of manufacturing work, and telework gained attention as a solution to the problem. With the Tokyo Olympics & Paralympics then scheduled for 2020, telework became a major movement involving both the public and private sectors, and included initiatives such as Telework Days (carried out for three years from 2017). Before the pandemic, around 30% of the companies had provided a place or program for telework, and the number of flexible offices in the 23 wards of Tokyo had risen to 569 as of January 2020 on the back of demand from such companies. Simultaneously with the expansion of the telework market, a greater variety of office strategies had emerged such as ABW (Activity Based Working) and hybrid strategies that combine the use of the main office and third-place offices.

The trend of focusing on workers and placing emphasis on diverse work styles and workplaces has been gathering steam not only in Japan but also in other countries in the world. However, the background to this in other countries was different to that in Japan. In other countries, the flexible space business had developed as the disadvantages of rental offices were highlighted due to the competition for young talents, the rise of the gig economy, the surge of rent, and the shortening of business cycles.

3.2 Changes due to the pandemic: Diversification of companies' office strategies

The global outbreak of COVID-19 occurred as the telework market was growing and maturing at an

accelerated pace. In order to maintain economic activity while restricting workers from commuting to the office to reduce contact by 80% due to the declaration of a state of emergency, many companies introduced telework, such as working from home and using satellite offices, as well as off-peak commuting extensively. However, the introduction of telework is not uniform and varies between company sizes and sectors. The introduction rate tends to be higher at large companies and the technology sector, and lower at SMEs and the finance & insurance sector. According to a survey by Xymax REI in November 2020, more than 70% of workers prefer to telework even after the pandemic has abated, which indicates that there is strong demand for a workplace close to home where workers can concentrate in their work.

At the same time, the issues of telework have been shared after the experience of a semi-compulsory transition to telework. The issues include, for example, the existence of work that is suited for telework and work that is not, the difference in companies' preparation toward telework (e.g., paperless processes and communication environments), a sense of inequality between departments that introduced telework and those that did not, and the difficulty in management and communication. Furthermore, the pandemic has given rise to a need for ensuring ventilation, partitions and social distancing, as people's awareness toward hygiene, safety and security were heightened. These may become a new source of demand not only in personnel management and software development but also in offices and the broader real estate industry.

In view of these new needs and the timeline for the pandemic to abate, companies' office strategies are becoming differentiated into the evolution group, the downsizing group, the restoration group, and the wait-and-see group. The points in question are the redefinition of the office, cost reviews, productivity improvement and the generation of innovation. Companies are being required to present their office strategy to their employees and provide work style programs and an office environment that enable employees to work with a sense of security. Amid increasing uncertainty in companies' business performance, it is becoming important for the continuous growth of companies to create an environment where employees can work in health and comfort, instead of temporarily reducing costs.

3.3 Impact on real estate: Transition from renting space to consulting

The differentiation of companies' office strategies means that options will become more diverse than before. The previous assumption that all employees gather in an office in the city center at the same time every day is no longer valid, and it has also become difficult to estimate the necessary office space through a simple calculation of multiplying the number of employees by 3 to 4 tsubo (1 tsubo = 3.3 sqm) per person. The conventional, simple yardstick that a good office is to be in a new and large building in a city-center location with good traffic access cannot address the changes.

The COVID-19 pandemic has produced many matters for companies to consider in terms of their office strategy, such as what percentage of employees should be allowed to come to the office, to what degree the main office should be reduced, whether there is no other option than owning or renting offices (i.e., flexible offices), how much and to which suburb the office should be dispersed, to what degree should the office return to the pre-pandemic state, to what level should infection prevention and response be carried out, and what kind of BCP should be put in place when a state of emergency is declared again. Amid changing situations due to the pandemic, companies are required to steer their office strategies toward the future.

For real estate companies, while the pandemic may pose a revenue deterioration risk through the departure of tenants and rent reductions, it would also provide an opportunity to gain revenues by developing and proposing new products and services. In terms of location, office space is expanding to the suburbs. Since offices have been concentrated in city centers and scarce in the suburbs, there have been cases where retail properties, hotels, transportation facilities, and financial institutions are being used as workplaces. In terms of office facilities, hygiene measures such as ventilation and disinfection have been implemented, and products for managing contact with others such as motion sensors and desk management systems have emerged.

Going forward, the office building business is likely to become more of a consulting service for solving corporate issues based on flexible and complex combinations of products and services mentioned above according to diverse corporate needs. A consulting business model will not depend on the amount of office floor space that can be owned or rented, and its earnings model will not be based on monthly rent but on service usage. Therefore, we expect to see alliances across asset types within the real estate industry (between offices and residences, retail properties, distribution facilities or hotels), as well as new entries from and alliances with other business such as tech industry.

4 Internationalization, coexistence with foreigners



4.1 Trend from before the pandemic: Internationalization by attracting foreigners

The key phrase for capturing the trend of internationalization and the establishment of a cohesive society with foreigners in recent years is 'internationalization by attracting foreigners.' Specifically, it means to make inbound tourists as well as foreign workers and students want to visit, work, study (again) in Japan or continue living in Japan. The key is for Japan to continue to be a country that is chosen by foreigners.

The number of inbound tourists in 2019 rose by 2.2% year on year to a record 31.88 million, although the growth rate had been declining. In particular, the destinations of repeat visitors diversified, which had a spillover effects on regional economies such as in the rise of land prices in regional sightseeing destinations.

The number of foreign workers rose by 13.6% year on year to 1.659 million as of the end of October 2019, reaching a new high for seven consecutive years. Foreign students increased by 4.4% year on year to 0.312 million as of May 2019, achieving the government's goal of accepting 0.3 million foreign students by 2020.

The Japanese government presented the "Comprehensive Measures for Accepting and Coexisting with Foreign Workers" in December 2018. Realizing the measures requires awareness-raising among both the Japanese and foreigners as well as the development of tangible and intangible infrastructure. This would also urge real estate to change.

4.2 Changes due to the pandemic: Suspension of movement of people between countries and regions

Japan began restricting the entry of people from abroad at the end of March 2020. As of the end of October 2020, people from 159 countries and regions have been barred from entering the country, except

for the entry or re-entry of foreigners qualified as permanent residents of Japan and business travel between certain countries and regions. (Latest situation: Entry restrictions from nine Asian countries and regions were lifted from November 1, the first lifting since the outbreak.)

As a result, the number of inbound tourists has plunged by 99% year on year since April, leading to the evaporation of consumption by inbound tourists, which had reached 4.8 trillion yen in 2019. Furthermore, the movement of people has stopped due to voluntary restrictions of traveling across regions and prefectures within Japan, which has continued even after the state of emergency was lifted. This has had a particularly large impact on the accommodation, restaurant, and retail industries. To address these situations, the government has been seeking to boost consumption through the 'Go To Travel' and 'Go To Eat' campaigns that started in July. However, there has been no signs of the pandemic to abate, as COVID-19 cases grow in the third wave of infections. The Ministry of Health, Labour and Welfare announced that as of November more than 70,000 workers have been dismissed or had their employment contract terminated due to the impact of COVID-19. Although a breakdown is not available, we believe that a certain number of fixed-term foreign workers are included.

In October, Prime Minister Suga announced that he will adhere to the government's goal of attracting 60 million foreign tourists by 2030, which was presented in the "Tourism Vision to Support the Future of Japan" formulated by the government in 2016. Being able to control the risk of the coronavirus to the same degree as the seasonal flu in the international community as a whole through early development of a vaccine or a therapeutic drug would lead to the resumption of inbound tourism and activate domestic consumer spending.

4.3 Impact on real estate: Trade areas shifting from the entire world to local areas; internationalization is essential in the medium- to long-term

We have classified the impact of the pandemic on real estate into short-term impacts and medium- to long-term impacts and issues for each asset type. They are summarized below.

[Short-term impact: Accommodation facilities, retail properties]

Due to the increase in inbound tourists and foreign business guests prior to the pandemic, the trade area of the accommodation industry, which includes hotels and traditional Japanese inns, expanded from Japan to the entire world. However, the previous strategies are being forced to change amid the pandemic.

The current focus in the tourism field is micro-tourism. This refers to overnight trips or day trips to tourists' local or neighboring areas within one or two hours from their homes. By providing opportunities to rediscover the local attractions, experience the local culture, offering places for the local community and establishing a scheme that encourages repeat trips, micro-tourism may become a sustainable and stable market.

One example is the retreat-style wellness program that began at Hoshinoya Kyoto, which is operated by Hoshino Resorts. The three-day program is aimed at strengthening respiratory functions and improving immunity at the same time through acupuncture treatments, a laughter workshop by a kyogen performer in Kyoto, fragrance sachet making at a traditional fragrant wood shop, and a morning reading of scriptures at a Zen temple.

Private lodging is also seeing an increase in discontinued businesses due to the pandemic, since foreigners had accounted for more than 70% of users. The number of registered houses (the number of registrations minus the number of discontinued businesses) peaked at 21,000 in April 2020 and has been declining since May. This trend is likely to continue for some time.

Examples of conversions of properties after their withdrawal from the private lodging business include furnished rental housing, shared housing, short stay apartments, and pay-by-the-hour offices.

The restaurant and retail industries have also been hard hit by the evaporation of inbound consumption, the reduction of stores' business hours, and the impact of the government's stay-at-home request. As a nationwide trend, consumers' spheres of activities (i.e., stores' trade areas) have become smaller and there are more unprofitable stores in cities and tourism areas than in the suburbs and residential areas. Stores such as drugstores that were opened to capture inbound demand have been closing, as are duty-free stores in the cities and tourism areas.

According to the *2020 Land Price Research by Prefectural Governments* that was published by the Ministry of Land, Infrastructure, Transport and Tourism in September, commercial land value in local regions fell from last year's rise to a drop, and while the Tokyo and Osaka regions maintained a rise, land value fell notably in Ginza and Shinjuku Kabukicho, two symbolic areas of inbound consumption.

[Medium- to long-term impact: Corporate/student dormitories, MICE facilities, offices]

In June 2020, the Singapore government announced that it will take the initiative in increasing the number of dormitories for foreign migrant workers, who suffered an explosion of coronavirus infections. Technical interns and students who account for a large share of foreign workers in Japan also tend to live in groups, which makes it difficult to avoid the Three Cs.

While the lack of manpower has been alleviated in many industries and business categories due to the pandemic, the competition for foreign human resources will not only be within Japan but also with countries across the world in the medium- to long-term. The central and local governments, business operators, and educational institutions should be more actively committed to providing corporate and student dormitories where foreign workers and students can live safely and securely. This could be a differentiation strategy to attract foreign human resources especially in the local regions, which are seeing the arrival of population decreases in the medium- to long-term.

MICE facilities have also voluntarily suspended business due to the pandemic but are beginning to resume business on the back of the gradual easing of limits on the number of people. Going forward, MICE facilities are likely to evolve into hybrid facilities where physical and digital are integrated as 5G becomes widespread. The location or size of physical facilities will no longer be necessarily advantageous; the facility's functionality that offers users flexible options for participating in an event through the value and experience provided will become more important.

The international financial city concept has been gaining momentum in cities such as Tokyo, Osaka and Fukuoka, due in part to China's enforcement of the Hong Kong National Security Law in June 2019 and the subsequent withdrawal of American financial institutions from Hong Kong. Moving forward, it will be further required not only to review the taxation system of corporate taxes and income taxes, which are said to be a greater burden than other countries, but also to develop safe and secure offices and residences that are resilient and conscious of the environment and health.

In Japan, which faces an aging and diminishing population in the medium- to long-term, the revival of inbound tourism and greater admittance of foreign workers will be essential. The roles that should be fulfilled by the real estate industry to advance 'internationalization by attracting foreigners' are likely to grow in the future.

5 Data society



5.1 Trend from before the pandemic: A world in which data creates added value

As it is said that data is the oil of the 21st century and helped by the advance of technologies such as IoT and AI, an era has arrived where a vast amount of data that is born every day creates added value and drives not only industries and the economy but also the entire social structure. In particular, major global digital platformers such as GAFA (Google, Apple, Facebook, Amazon) own a huge amount of data and have come to have an impact at the national security level of countries around the world.

With regard to GAFA's business models, the EU in particular has strengthened its regulations, while the US Department of Justice announced in July 2019 that it would start investigating major tech firms in relation to the antitrust law and sued Google for possible violation of said law in October 2020.

In Japan, the Ministry of Economy, Trade and Industry presented in 2017 a new vision for industries that Japan aims to achieve, namely, Connected Industries, while the Ministry of Internal Affairs and Communications launched the Information Bank in 2018, which is a scheme for distributing and utilizing data with the involvement of individuals. Additionally, there have been moves in the private sector to solve social issues by sharing big data across industry borders as well as collaborative efforts by the government, industry and academia to foster data scientists.

5.2 Changes due to the pandemic: Issues in data infrastructure highlighted

As the impact of the pandemic escalates across the world, the share prices of GAFA have been boosted on the speculation that the digital shift will accelerate throughout the entire society. Between the end of 2019 and the end of November 2020, the share price of Google rose by 31%, Apple by 62%, Facebook by 35% and Amazon by 71%. (The NASDAQ Composite Index rose by 36% over the same period.)

Furthermore, not only tech firms but also many other industries and companies are stepping up their DX initiatives to restore sales and profits that have been undermined by the pandemic. As they seek to change or restructure their business strategies or models, they also face the challenge of obtaining human resources with skills in the digital field.

Meanwhile in Japan, the COVID-19 pandemic has exposed its challenges and problems in data infrastructure. To receive the special cash payment (in response to the pandemic), citizens were recommended to apply using the My Number (ID number) card. However, since the card is not linked to a bank account, etc., it made work more complicated, which resulted in more than 100 local governments cancelling online application. As of November 2020, approximately 27.78 million My Number cards have been issued, which is only 21.8% of the total population. Furthermore, while the COCOA app (COVID-19 contact app) has been downloaded more than 20 million times as of November 2020, only around 3,000 positive test results have been registered.

Japan has fallen from 6th in 2014 to 14th in 2020 in the e-government ranking published by the United Nations Department of Economic and Social Affairs. Prime Minister Suga announced immediately after his inauguration that he will establish a digital agency in fiscal 2021 to address these issues. While the operational design of the agency is yet to be determined, it is anticipated that the agency will make efforts in unifying systems between the central and local governments, promoting the spread of the My Number card, enabling online administrative procedures, and deregulating the use of technology in healthcare and education.

5.3 Impact on real estate: Digital transformation of real estate gains momentum

Even from before the pandemic, there had been changes in consumer behavior and existing business styles due to the advance of various technologies following the spread of the data society. As the changes accelerate on the back of the pandemic, real estate is required to transform even further. In this section we discuss the major key words and how they affect real estate.

Staying-at-home consumption: This refers to shopping from home, such as e-commerce, and enjoying entertainment using the Internet, following the stay-at-home request by the government. It has also become possible to participate remotely from home in meetings, school classes, drinks, personal workouts, travel experiences and even weddings and funerals. As the conventional e-commerce is also a type of consumption for staying at home, physical stores have been hard hit by the pandemic. However, consumption at physical stores and consumption for staying at home are not in a trade-off relationship but can coexist, and business operators must pursue a hybrid strategy of addressing both types of consumption. This will require a further evolution of CX (customer experience) through DX.

MaaS (Mobility as a Service): MaaS is a new concept of 'mobility' that considers mobility by all means of transport other than the users' private car as one service, regardless of whether it is public transport or not or who the operator is, and links them seamlessly by applying cloud technologies to transportation using ICT (information and communication technology). Trial experiments are being carried out in different parts of Japan. Due to travel restrictions as a result of the pandemic, however, the short-term roles of MaaS are likely to shift to corona-related areas, such as shopping services, transporting people infected by the virus, and allocating cars to transport healthcare professionals to their workplaces. In the medium- to long-term, MaaS is expected to bring changes to real estate as it connects with various industries including not only transportation but also tourism, healthcare, community planning and energy as a key player in smart cities, and creates new services.

FinTech: FinTech is a portmanteau of financial technology and refers to innovative developments that connect financial services with information technology. Specifically, the concepts that FinTech embraces are wide-ranging, from virtual currency to crowdfunding and cashless payment, and its presence has been increasing each year. According to the Nihon Keizai Shimbun, Japan's leading economic newspaper, the profits of some FinTech companies for the April–June 2020 period surpassed those of major banks in Japan,

Europe and the United States, which suggests that the pandemic has accelerated the digitalization of finance.

In Japan, Sumitomo Mitsui Banking Corporation plans to end cash exchange services at 300 branches in Japan, which accounts for more than 70% of all of its branches, by fiscal 2022. Resona Bank will reorganize their branches in urban areas into branches for corporate customers and those for retail customers by the same year. The branches that have become vacant due to such consolidation or closures are increasingly being taken up by new usages of real estate, such as shared offices. Furthermore, Mizuho Bank has announced that it will start selling customers' transaction information together with public statistics, in a move to shift its business model from the distribution of funds to distribution of information.

In addition, the central banks of Japan, Europe and the U.S. have compiled foundational principles of a central bank digital currency. The Bank of Japan will begin tests in 2021. More than 30 private companies in Japan, including the three megabanks and the NTT Group, plan to put a digital currency common platform into practice in 2022. The spread of FinTech is expected to change the conventional concept and roles of branches.

RealTech or PropTech: Japan's real estate industry has been considered to be lower in technology literacy and productivity compared to other countries in the world. In an effort to turn Japan's real estate business into an information industry, the Real Estate Tech Association for Japan published the *Real Estate Chaos Map (Vol. 6)* in June 2020. The real estate industry is also beginning to see the spread of virtual previews using AR or VR technology to respond to non-face-to-face and contactless needs due to the pandemic. The Ministry of Land, Infrastructure, Transport and Tourism has been carrying out social experiments of full electrification of lease contracts in the real estate industry.

Individual real estate such as office buildings and retail properties are also making efforts in disseminating BIM (Building Information Modeling), which creates a database of buildings and would be a solution for utilizing information in all processes from design and construction to maintenance, as well as creating data of the use of facilities using sensor technologies, and improving facilities to enhance the health of users. Furthermore, the utilization of big data such as location information of mobile phones has enabled the movement of people and congestion of an entire area or city to be visualized. These progresses of DX in the real estate industry are expected to lead to the concept and development of smart cities in a data society in the near future.

6 Advance of technology



6.1 Trend from before the pandemic: The development of technology and its introduction in the real estate business

The global dissemination of innovative products and services that make full use of ICT has led to the disruption or redefinition of existing industrial structures and principles of competition in various industries. The real estate industry is experiencing the introduction of new technologies, such as in improving work efficiency, discovering revenue opportunities, and facilitating the market.

As technologies for 'building' real estate, technologies such as 3D printers, construction/cleaning robots, drones, BIM and ZEB emerged. These have enabled more efficient use of limited resources such as human resources, materials, energy and time.

As technologies for 'using' real estate, space sharing emerged in many asset types, including houses and hotels. Revenue opportunities are created by matching space with low utilization with those at the other end of the Internet who wish to use the space.

As technologies for 'trading' real estate, technologies such as portal sites, VR previews, AI assessment, crowdfunding, electronification and blockchain emerged. These have facilitated and ensured the safety of the processes for lending/renting and buying/selling real estate.

6.2 Changes due to the pandemic: Remote and contactless technologies

The global outbreak of COVID-19 occurred as these new technologies were emerging one after the other. While travel and overcrowding are being restricted, various technologies are being developed and introduced to prevent the spread of infections and end the pandemic. By making use of remote and contactless technologies, people have continued their social and economic activities while avoiding the

three Cs.

A leading example of a remote technology that rapidly penetrated people's lives during the pandemic is the online meeting, which enables communication from remote places. Zoom usage peaked at 300 million daily participants in April 2020. With the spread of work-from-home, e-learning, non-face-to-face sales and online demonstrations, many people experienced the ability to work remotely. General consumption activities have also become more remote and contactless, giving birth to VR/AR commerce, live commerce, online transactions, virtual make-ups, virtual fitting room, online fitness and telemedicine. The development of contactless interface, which does not require touching, is also progressing. Fujitec is increasing its offering of elevators that are operated by infrared sensors. A technology that visualizes infection risk to maintain appropriate distance between people has also been developed. The contact-tracing apps that are being introduced in countries around the world are a leading example. On the other hand, since the social implementation of contact-tracing apps involves the tracing of users' movements, it faces challenges in balancing privacy protection and increasing the number of users. There has also been an emergence of high-speed temperature screening technologies and wearable devices that forecast the onset of COVID-19.

The communication and processing technologies that support these remote and contactless technologies are advancing day by day. 5G enables faster connections, more capacity and higher number of simultaneous connections. Edge AI does not process on the cloud but carries out complex processing on the device; therefore, it reduces the load on the cloud and can also protect privacy since it does not upload data. Low-power technologies such as LPWN enables the installation of a large number of IoT sensors and control devices at lower prices than before.

The COVID-19 pandemic has accelerated the pace of digitalization, which is enabling society and the economy to function with few contact between people. For example, services through digital channels will become popular. Online transactions and telemedicine will become more common, and automation using robotics and self-driving will come into full swing. Robots that serve customers, carry out inspections, disinfect, and deliver products will appear, while customer contact centers will be replaced by chat bots and interactive voice response systems. Such changes in society and the economy will result in greater demand for human resources that can promote digitalization. Jobs for technical personnel skilled in software development, data analysis, cyber security and privacy protection will be created.

6.3 Impact on real estate: Remote/contactless real estate business

In the real estate industry, the introduction of technology, especially ICT, tended to be lower than other industries. The backdrop to this included the fact that people have to go to the site since real estate is immovable and that face-to-face communication with clients and customers was emphasized since the products are expensive. However, the pandemic has turned traveling and face-to-face contact into risks.

Under such circumstances, the housing rental business is seeing early penetration of remote and contactless technologies. With regard to VR previews, nearly half of the customers are interested in using the service and 12% of the real estate companies are considering introducing the technology. Real estate companies have begun to introduce chat bots, virtual tours, remote customer service, paperless processes, electronic contracts and signatures, and smart keys, with around 90% of the companies that introduced ICT tools appreciating the positive effect of them. Thus, even in the real estate business that places emphasis on face-to-face communication, there is a growing trend of new real estate services that provide information and conduct transactions with customers remotely and contactlessly.

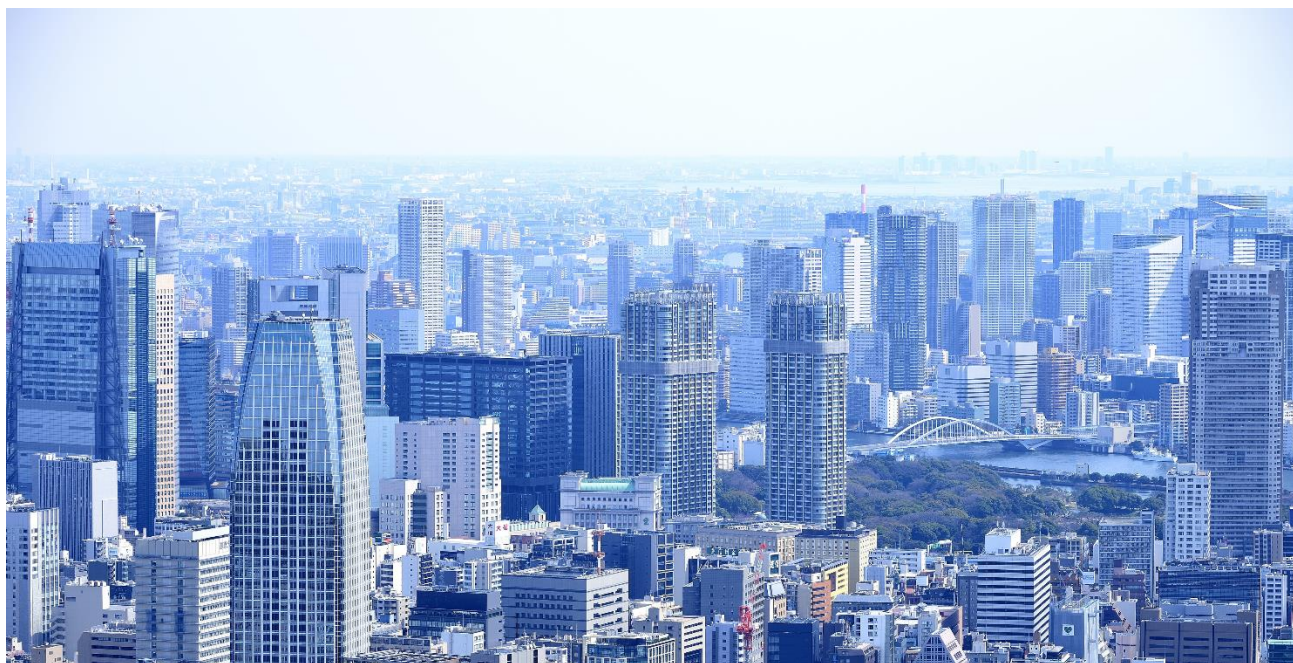
Endeavors to balance social distancing and the continuation of the real estate business are being made in assets other than housing as well. In logistics facilities, Amazon has rolled out a system that uses AR cameras to let workers see their distance between one another, while IK Multimedia has developed a device that alerts workers if they are too close to each other.

At offices, in addition to layouts with sufficient distance between desks and the installation of transparent partitions, technologies for managing congestion within the office are being proposed. Such technologies include indoor positioning devices using LiDAR or UWB, IoT sensors that monitor human presence, seating and air quality, and desk reservation systems.

Retail properties are implementing infection control measures such as screening temperatures, as well as recording visitors' entry using cameras and sensors, monitoring congestion, and introducing tracing notification systems. Digitalization has also penetrated many sales processes, with the purchasing value chain that includes customer development, promotions, purchasing, settlement and inventory management being carried out digitally. Shopping venues will transform into a place that focuses on customers' experience value as they offer customers the opportunity to physically touch products and services. Other asset types will also embrace digitalization, such as in e-learning at educational facilities, remote inspections in infrastructure, telemedicine at hospitals, and digital administrative processes at public facilities.

The penetration of remote and contactless technologies due to the pandemic will not only advance infection control in real estate but also accelerate ICT introduction and digitalization in the real estate business, triggering changes in the direction of real estate.

7 Cities and provinces



7.1 Trend from before the pandemic: Different issues in cities and the provinces

In Japan, the widening of the gap between cities and the provinces have become a major issue. The gap was caused by cities burgeoning and the provinces facing depopulation as companies have continued to concentrate in the cities and the population has continued to flee from the provinces to the cities since the days of dramatic economic growth between the 1960s and the 1970s.

In the medium- to long-term and as Japan's population ages and shrinks the fastest among developed countries, the key will be whether each region in Japan can revitalize itself through initiatives built on its characteristics. The government advocated regional regeneration in 2014 under the second Abe administration and carried out measures such as revitalizing metropolitan areas as well as creating employment opportunities, strengthening economic foundations and improving living environments in the provinces in accordance with the Regional Revitalization Act and the Act on the Regeneration of Communities, People, and Jobs.

In urban areas, large-scale redevelopment plans were being promoted, providing office buildings, houses and hotels on a continuous basis. Real estate development has accelerated in areas designated as national strategic special zones, where districts with idle land and a cluster of small buildings and wooden houses with low fire resistance have become large urban blocks with upgraded roads, superskyscrapers and high-rise condominiums. They are also transforming into resilient cities. From a global perspective, however, the lack of high-class hotels due to the increase in foreign tourists before the pandemic and the weak promotion of cultural tourism resources had been considered urgent issues.

In the provinces, there has been a rising number of municipalities that are focusing on community development to vitalize the community by developing industries and tourism using local resources, encouraged by the central government's policies. At the same time, activities by NPOs and local residents are continuously being carried out to attract companies from urban areas, create an environment that facilitates migration from urban areas to the provinces, and connect local residents with people in urban

areas.

7.2 Changes due to the pandemic: The flow of people from city centers to the suburbs and provinces

Due to the outbreak of COVID-19, people began to spend long hours at home as avoiding the Three Cs and traveling became the norm and telework was encouraged. With a wish to enrich their life at home and with their values in daily life shifting from work to life, people began to require comfort in the place where they spend most of the time of the day.

People engaged in jobs for which telework is possible tend to prefer a large house in the suburbs where there is nature and good public service over an expensive rental house in the city center. Some people have actually been moving to such houses. In Home's ranking of the most popular cities for renting a house, Ikebukuro fell to 5th rank from the top rank it had held for four consecutive years. Honatsugi ranked top, followed by Kasai and Omiya, all suburban cities that have direct access to central Tokyo and guarantee a certain degree of convenience of living.

There has also been an increase in workation, i.e., leaving large cities and working in the provinces, digital nomads who change their location every now and again, and even those who wish to migrate. In a web questionnaire survey (May 2020) by the secretariat of the Regeneration of Communities, People, and Jobs Headquarters of the Cabinet Secretariat, 49.8% of residents of the Tokyo area replied that they were interested in living in the provinces. The Migration Support Center of Ogawa-machi, Saitama saw a 40% year-on-year rise in the number of migration requests between April and September (56 cases). Nagano prefecture saw a net increase (750) in in-migrants from Tokyo between April and August 2020, as 2,939 people moved into the prefecture while 2,189 moved out from the prefecture to Tokyo. The town of Fujimi in the Suwa district of Nagano had expected a decrease in its population by 150 for this year but saw an increase for two consecutive months in July and August. Many other local governments have opened or updated their websites to respond to inquiries of migration. On the other hand, according to the *Report on Internal Migration in Japan Derived from the Basic Resident Registration* by the Ministry of Internal Affairs and Communications' Statistics Bureau, the net increase of Japanese in-migrants to the Tokyo area between April and October 2020 decreased significantly on a year-on-year basis. The decrease was particularly notable between July and September when out-migrants from the Tokyo area outnumbered in-migrants, which indicates a weakening of the trend of overconcentration in Tokyo.

Under the pandemic, there has been progress in the use of ICT, in addition to the increase of telework and moves to improve work-life balance. This is likely to have provided an opportunity to avoid overconcentration in Tokyo and reform productivity improvement, as well as an opportunity of a new way of community development. The Cabinet Secretariat released the "2020 Basic Policy on the Regeneration of Communities, People, and Jobs" (July 2020), in which it has set targets with the aim of achieving vibrant regional communities and correcting the overconcentration in the Tokyo area over the future. Specifically, against the backdrop of major changes in people's awareness and behavior due to the pandemic, it aims to accelerate initiatives for regional regeneration and promote the DX of the entire society nationwide such as in healthcare, welfare and education, as well as creating an environment for the New Normal of the post-pandemic days. Initiatives proposed for the local regions include reinforcing competitiveness by building on local resources and industries, transforming the agricultural, forestry and fishery industry into a growth industry by introducing smart agriculture, etc., creating innovations from local communities, encouraging the 'metabolism' of local industries, promoting transfers and migration to the provinces, and creating attractive regional universities.

Furthermore, the Ministry of Land, Infrastructure, Transport and Tourism examined the direction of community development in the wake of the corona crisis and summarized urban policies going forward ("Direction of Community Development in the Wake of the Corona Crisis" (Summary of Issues), August 2020). In the summary, the Ministry states that the vision and direction of new policies should be reconsidered amid the need to respond to multiple disasters, in terms the following five issues: 1) Cities

(functions of offices and sphere of life); 2) Urban transportation (network); 3) Open space; 4) Community development using data and new technology; and 5) Community development based on disaster prevention in view of the need to respond to compound disasters.

7.3 Impact on real estate: The growing trend of living closer to work and regional regeneration

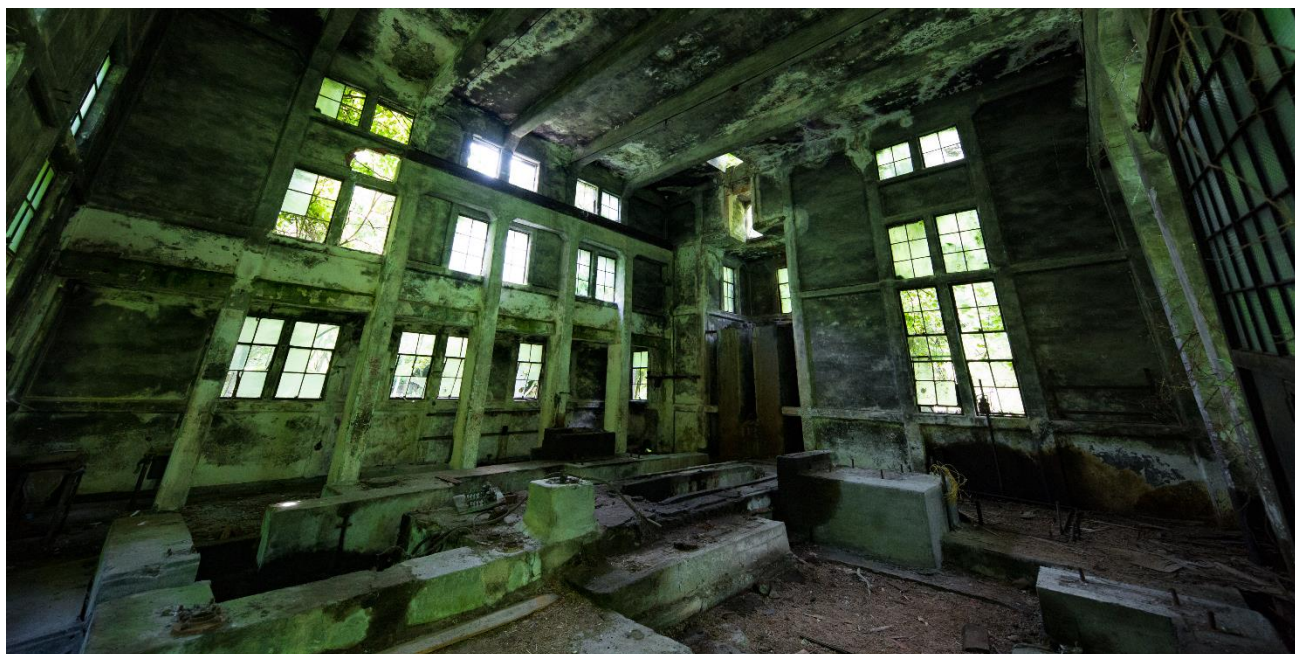
In terms of houses, people who used to prefer to rent are buying houses due to reasons such as the need for noise insulation and the lack of space, which were highlighted by extended periods of working from home. Inside the houses, spaces and facilities that enable working from home have been supplied, and more importance has been placed on the number of rooms to secure workspace. Newly built condominiums with telework space in the common areas have also become popular. Originally a place for resting and family gathering, houses have been applied work elements. In terms of location, not only the outlying areas of city centers but also the suburbs or provinces have been attracting attention from the perspective of rich daily life services, health, spaciousness and contact with nature. The pandemic has also had an impact on the demand for rental housing in urban areas, as exemplified by cases where university students from the provinces terminate their apartment lease in Tokyo to return to their home as remote classes become common.

In terms of offices, companies are currently considering their office strategies for after the pandemic. Some companies are considering cancelling the lease of all or part of their office space and relocating the entire company to the suburbs or the provinces, as is the Pasona Group, which is planning to relocate its head office functions from Tokyo to Awajishima. According to *Companies' Work Styles and the Workplace under the Corona Crisis* by Xymax REI, the most popular direction of office strategy after the pandemic is the hybrid strategy, which is to introduce telework and realize diverse work styles while keeping the main office. These trends are likely to affect the office market in city centers, the suburbs and the provinces going forward.

The tourism industry has been shifting its focus to Japanese tourists, as there is no indication of when inbound demand will resume. It is advocating micro-tourism, a safe and secure style of travel to rediscover the appeals of each region, which is stimulating tourism demand in local regions. The provision of shared offices by local governments as well as the demand for vacant houses have also been increasing in response to workation needs. The room layouts and equipment of accommodation facilities, which had been designed to cater for inbound tourists, are also being reviewed to target Japanese tourists.

The impact of the pandemic on real estate is not entirely negative and is also creating a new flow of people from city centers to the suburbs and provinces as well as contributing to the vitalization of the suburbs and provinces and triggering the rediscovery of the characteristics of each region. Spurred by the central and local governments' development of an ICT environment for remote education and healthcare, the establishment of laws, and the provision of subsidies, the use of real estate and the real estate business are likely to see further changes.

8 Aging of building stock



8.1 Trend from before the pandemic: Buildings aging overall

The aging of buildings is a major problem in Japan's real estate industry. Even before the COVID-19 pandemic there were more than 8.46 million vacant houses, with the vacant house ratio rising to 13.6%. Condominiums more than 40 years older have exceeded 2 million units, giving rise to issues such as consensus-building for reconstructing the condominium. In non-housing assets, offices for rent have been increasingly aging, with buildings aged 35 years or older accounting for 30% of the market in Tokyo on a number of building basis. Some of the aged office buildings face difficulty in carrying out large-scale renovations or reconstructions due to lack of funds or the aging of the owner. Even in the rapidly growing logistics sector, around 30% of the warehouses were built more than 30 years ago. Real estate with low utility value and profitability due to deviation from the requirements of the times as they age have been accumulated in the cities.

The government has established laws and regulations against the social issue of underutilized real estate. The Act on Special Measures for Promoting Countermeasures against Vacant Houses, etc. that was enforced in 2015 enabled the government to execute by proxy and led to the establishment of vacant house banks in many municipalities. The Act on Facilitation of Reconstruction of Condominiums that was revised in 2012 set forth rules for building consensus for reconstructing old condominiums. The development of such environments is supporting the growth of new markets by the private sector using old real estate. The potential market for vacant houses, such as second-hand housing distribution, renovations, share houses, and private lodging, is estimated to be worth 9 trillion yen according to one source.

Furthermore, even old properties can now earn revenues if they are properly managed to maintain good conditions and renovated to address new needs. A leading example before the pandemic is private lodging using vacant houses. On the back of the increase in inbound tourists, Japan's private lodging market grew rapidly, with more than 24,000 hosts registered in Airbnb and other services before the pandemic. Some vacant buildings and roadside stores were renovated into 'no frills' hotels. The conversion to accommodation facilities had become an effective way of utilizing old real estate.

8.2 Changes due to the pandemic: The needs that disappeared and the needs that emerged

Although the outbreak of COVID-19 has not had a direct impact on the obsolescence of buildings or the solving of problems, it has brought about several changes to the use of old real estate.

The first change is that, as the movement of people stopped in Japan and abroad, it put the brakes on private lodging and renovations to hotels, which were anticipated to be a solution of the vacant house problem. The number of inbound tourists has been decreasing by 99% year on year since April 2020, leading to more than 7,000 business closures in private lodging, which is double the number prior to the pandemic, with the overall number of registered houses (number of registrations minus number of business closures) declining since May 2020. Although the situation depends on the development and dissemination of a vaccine, the previous utilization model of vacant houses based on accommodation demand must seek another direction such as micro-tourism that targets domestic tourists, as inbound tourism is not expected to recover for the time being.

On the other hand, vacant houses in the provinces are attracting attention as many people experience working from home and other forms of telework. Some municipalities have seen a rise in inquiries for migration since the outbreak of COVID-19, while Tokyo experienced a net increase in out-migrants for the first time since 2013 when the statistics became comparable. The reasons include the ability to work for companies in city centers while living in the provinces as the development of ICT enabled remote office work, and a rising need to improve the living environment following an extended period of working from home. Although it remains to be seen whether this trend will come into full swing or become established due to factors such as the timing of the end of the pandemic, companies' work arrangements and preparations to accept migrants on the part of local communities, it is gaining attention as a new use of underused real estate in the provinces.

8.3 Impact on real estate: Compiling information of aging real estate into a database

In order to deal with aging and obsolescence, it will be important to appropriately maintain the building and the site, as well as realizing flexible use of real estate according to the changes of the times. Although the pandemic has made it difficult for abandoned properties to be used for accommodation such as private lodging and hotels, it has also given birth to new options of use such as destinations of telework and migration. In this section, we will mainly discuss measures and examples of utilizing underused or abandoned real estate in the housing sector, which experienced major changes, and omit sectors such as hotels and retail properties, which have not yet shown a distinct trend under the pandemic.

First of all, many local governments are providing subsidies to encourage migration to the provinces. The city of Shizuoka is making dedicated efforts to attract teleworkers by subsidizing Shinkansen costs, accommodation costs and office usage fees, which have resulted in a rise in users even during the pandemic. It has also rolled out private sector migration support services such as SMOUT, which matches people who wish to migrate and the local communities. Apart from the purchase and sale of vacant houses, there have been measures to promote the use of space that was underused. The Ministry of Internal Affairs and Communications launched the "Otameshi (Trial) Satellite Office" and "Furusato (Hometown) Telework" businesses to encourage companies to relocate to the provinces. The city of Uenohara in Yamanashi prefecture subsidizes vacant house renovation costs, such as for establishing a communication environment. Other examples include converting vacant houses to welfare facilities (in Toshima ward of Tokyo) and converting private lodging to remote offices. The telework trend is giving birth to new options of using abandoned real estate.

When we look at previous examples of utilizing abandoned real estate, such as inbound and telework, we can see that it is important to compile a database of real estate and develop a user-friendly service by a private company that utilizes the data. With regard to inbound tourism, private lodging matching services such as Airbnb succeeded in the matching of guests and vacant houses across the world. Following this success, many private lodging operators entered the market and utilized real estate as a place for

accommodation, creating a huge platform for vacant houses. A platform for abandoned real estate has also been established for people migrating to the provinces and teleworking, giving rise to a trend in which private companies offer matching services on these platforms. A leading platform is Akiya Bank. Akiya Banks have been established in more than 40% of all municipalities, with a nationwide version launched in 2017. In terms of private services, leichiba provides direct matching of sellers and buyers of vacant houses.

On the other hand, the role of the public sector is significant in creating a vacant house database, which is the foundation of all services. Some municipalities such as the cities of Namegata and Nara use the government's Special Grant for Regional Regeneration Against COVID-19 to carry out registration promotion of Akiya Bank. Other concepts of a real estate database are also under way, with the Ministry of Land, Infrastructure, Transport and Tourism beginning trial operation of a comprehensive real estate database in 2015. In the private sector, the ADRE Consortium Blockchain for Real Estate was launched in 2018, which uses the blockchain technology to share real estate information between different sectors. Transforming physical real estate into data, stocking them as information assets and using them through matching services are likely to become important in solving the abandoned property problem, not only for houses but also for other assets such as offices.

9 Natural disasters



9.1 Trend from before the pandemic: Continuous disasters; both public and private sectors more prepared against disasters

Natural disasters are critical natural phenomena such as abnormal weather, volcano eruption, earthquake and landslide that result in losses or damages to human lives, economic activities and daily lives. Japan has historically experienced repeated occurrences of major natural disasters. The 2011 Tohoku earthquake and tsunami brought about huge damage due to a tsunami as well as the earthquake itself. More than 20,000 lives were lost, 1.15 million houses were collapsed or damaged, and the economy suffered a slump subsequently. Since then, natural disasters such as floods and landslides caused by large typhoons and local torrential rain due to abnormal weather and the overflowing of rivers have occurred continuously, with the scale of damage expanding.

The Japanese government positions national resilience and disaster prevention/reduction as one of the top priority issues in the country's risk management. Creating a resilient country means to protect the lives and properties of its citizens and to guarantee safe and secure daily lives and activities of individuals and companies. Specifically, the government has implemented tangible and intangible measures in accordance with the National Resilience Plan, such as developing key infrastructure of breakwater, bank reinforcement and emergency transport routes, and information networks including hazard maps, promoting local disaster prevention activities, and establishing BCPs and BCMs, in combination with 'self-help, mutual help and public help.'

The local regions have reinforced local communities to provide disaster-prevention education at neighborhood associations as well as to foster leaders. In terms of individual real estate, the regions have been promoting the improvement of disaster response capabilities, such as by encouraging properties to be released as disaster-prevention facilities and accept people who have difficulty returning home when a disaster occurs, as well as by promoting quake proof measures and stockpiling of disaster provisions in structures such as houses and buildings, and utilizing companies' and citizens' funds and voluntary activities.

9.2 Changes due to the pandemic: Disaster-prevention measures under the New Normal

To stop the spread of the coronavirus, the government has stressed the importance of changing our behavior and called for a New Normal in daily life. Specifically, it asks people to disinfect surfaces, wear masks, avoid the Three Cs, ensure social distancing, and refrain from traveling to across different prefectures. The idea and method of emergency response to natural disasters are also required to change in accordance with the New Normal.

At the local and citizen level, municipalities are reconsidering or restructuring the place and method of emergency evacuation during a disaster, which is resulting in a shift away from evacuating a large number of people into one space to a more dispersed method of evacuation by avoiding the Three Cs and ensuring social distancing. Since this will lead to a shortage of evacuation shelters, which municipalities will not be able to cover entirely by themselves, new concepts of evacuation shelters are being explored, including the use of private real estate and facilities.

At the company level, disinfectants and face masks are being included in disaster provisions and telework is being promoted to enable work outside the main office, from the perspective of BCP. Other initiatives that are carried out include the introduction of communication environments and systems necessary for telework, the digitalization or the use of the cloud for work, such as abolishing the use of seals (for signatures) and introducing online contracts, and the review of personnel systems. In terms of the location of offices, companies are now required to consider wide-area disasters such as the COVID-19 pandemic in their BCP, in addition to measures against local disaster such as earthquakes and floods (e.g., establishing a backup office). Drawing up a new office strategy for the future has become an urgent issue.

Amid these developments, the Ministry of Land, Infrastructure, Transport and Tourism published the "Analysis Results on Medium- to Long-Term Natural Disaster Risks" (December 2020). They are the results of an analysis of the change in population within disaster risk areas by prefecture (from 2015 to 2050). While the population of the risk areas of the four types of disasters, namely floods, landslides, earthquakes (seismic intensity disaster) and tsunami, is expected to decrease from 86.03 million to 71.87 million, its percentage of the total population is forecast to increase from 67.7% to 70.5%. Existing commercial districts and residential districts tend to be at risk of a disaster more than other districts as well as having higher population density. Going forward, the results could be used as a source of BCP, such as in reconfirming municipalities' disaster-prevention measures and disaster risks and reviewing the evacuation behavior of citizens, as well as for companies' distribution routes and office locations.

9.3 Impact on real estate: Dispersed, remote work and real estate stock for evacuation

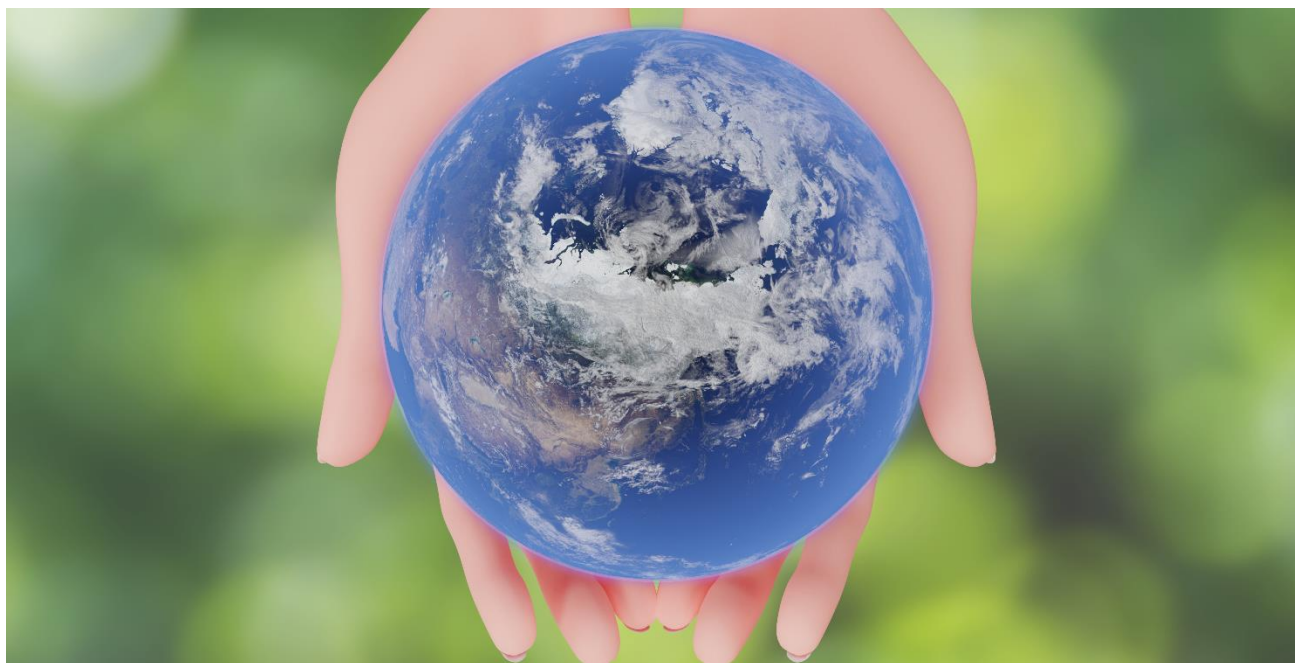
In terms of offices, a hybrid office that embraces 'concentration and dispersion' has been gathering attention due to work style reforms and the impact of the pandemic. This type of office enables employees to work not only at the main office where all employees used to gather, but also from a wide variety of places such as home or a third-place office. In the *Greater Tokyo Company Survey on Work Styles and the Workplace (August 2020)* by Xymax REI, more than 50% of the respondent companies replied that they intend to allow both working at the main-office and telework from other places. The survey also indicated that office locations and the size of offices are undergoing changes. Some companies are planning to move their head office to the suburbs close to where their employees live or to the provinces with low infection risk, which suggest that office demand in the suburbs and provinces might increase. Demand for areas rich with nature is also growing as a place for telework through workations and migrations. In addition, local governments are providing shared offices as well as subsidies and services to encourage migration.

As for evacuation shelters, it is being considered to shift from the previous method of evacuating a large number of people into gymnasiums and community centers to reducing the capacity of each shelter and increasing the number of evacuation sites. Private facilities such as vacant houses and mobile container

hotels are now being used, in addition to retail properties and accommodation facilities, which already serve as shelters. At the time of Typhoon Haishen in 2020, hotels across Kyushu met a wave of reservations, and some hotels were fully booked. Evacuating in cars, which provide a power source and can avoid the Three Cs, also increased, with some schools providing emergency parking space in their schoolyard. Thus, the pandemic has also brought about changes in the use of real estate and space.

Furthermore, some municipalities offer systems that enable citizens to check the availability and occupancy of evacuation shelters on their smartphones before evacuating, while others have partnered with J-COM to release disaster-related information of the users' place of residence (e.g., degree of damage, evacuation shelters that are currently available). The evolution of technology and the use of information dissemination are also affecting our preparedness and behavior against natural disasters.

10 ESG



10.1 Trend from before the pandemic: The birth of ESG and investor consensus-building

In recent years, there has been a gradual spread of the recognition that environmental issues such as the pollution of the natural environment, climate change and natural disasters, and social issues such as racial discrimination are the greatest risk factors for the sustainability of the development of mankind. ESG investment has been attracting attention as an economic solution to these issues. ESG investment is a style of investment that incorporates Environmental, Social and Governance elements, and invests in companies that carry out management activities in consideration of ESG elements as having low long-term business risk and high potential and sustainability. ESG investment has reached 31 trillion dollars worldwide, and has been expanding in Japan as well, since the Government Pension Investment Fund (GPIF) signed the UN Principles for Responsible Investment (PRI) in 2015.

A term similar to ESG is SDGs, which refers to Sustainable Development Goals (17 goals) set by the United Nations in 2015 that are intended to be achieved globally between 2016 and 2030. Companies carrying out their daily business activities with a focus on ESG will lead to the achievement of SDGs as a result.

As real estate investment is a major type of medium- to long-term investment, properties with insufficient response to ESG face the risk of being assessed as high risk and may be subject to divestment. Japan's real estate market is also seeing an increase in environmental real estate due to the establishment of environmental certification systems and the advance of building environment technologies.

10.2 Changes due to the pandemic: Investors and users shifting to greater focus on sociality

The corona-shock served as a trigger to question companies' social responsibilities. The World Economic Forum Annual Meeting in Davos 2020 called for a shift away from shareholder-driven capitalism to 'stakeholder capitalism' and pointed out that companies are responsible for bringing economic benefits to

all stakeholders, including employees and local communities. Indeed, ESG-related funds have been performing strongly amid the volatility of global financial markets. For example, while the S&P 500 Index dropped 23.2%, ESG funds only dropped by 12.2% on average (as of March 12, 2020). The issuance of corona bonds, which are corporate bonds principally aimed at fighting COVID-19, has exceeded 275.8 billion dollars worldwide, and 30 billion euros' worth of the bonds have been included in sustainable funds in Europe. These indicate that medium- to long-term investors value the flexibility and continuous competitiveness of companies that focus on ESG to aggressively try to fulfill social responsibilities, in addition to their abilities to address environmental regulations which are likely to become more stringent going forward. Consumers are also showing a greater tendency to have a positive impression toward companies that are active in social contribution, which suggests that companies' decisions to switch existing production lines to manufacture face masks, disinfectants and PPE (personal protective equipment), actively introduce work-from-home, offer subsidies to employees, and suspend the collection of fees from franchisee sales agents may be enhancing the loyalty of customers and employees to the company.

On the other hand, of the ESG elements, awareness toward issues in E, the environment, had already risen before the COVID-19 outbreak became aggravated. This trend was evident from developments such as the start of full-scale implementation of the Paris Agreement and the announcement of the European Green Deal, which aims to achieve carbon neutrality in 2050. In terms of actual performance, it is estimated that CO2 emissions will, though unintended, decrease by 4–7% year on year as economic activity slowed down significantly this year due to the pandemic. However, the rapid deterioration of the economy has given rise to voices that governments should place priority on anti-COVID measures and the economy over environmental issues.

10.3 Impact on real estate: S (Society) included in assessment of real estate, in addition to E (Environment)

The trend that was triggered by the pandemic of focusing on ESG elements, especially in S (Society), is beginning to have an impact on the real estate industry as well.

In particular, more emphasis is being placed on the perspective of 'wellness,' which is to be conscious of the health and well-being (physical, mental, and social) of real estate users. For example, offices are now preferred to be equipped with interior design that boosts intellectual productivity, comfortable space for refreshing, quake resistance, sophisticated communication infrastructure, high-spec ventilation, and a water supply system that provides safe water. In addition to such tangible requirements, BCP measures that assume pandemics are also required. Property management abilities such as stockpiling face masks and disinfectants, managing air and water quality, controlling density within the building, taking the temperatures of users, and ensuring smooth communication with stakeholders during a state of emergency are being called into question. It is also becoming viewed as important to contribute not only to the users but also to the surrounding community, such as providing event space for the community as well as disaster provisions and evacuation shelters.

On the back of these trends, there has been a rise in the need for an information platform that evaluates how properties are responding to wellness. In addition to conventional environmental certification centered on E (Environment), wellness certification that focuses on the well-being of users is gradually spreading across the world. In the United States, the WELL Building Standard was developed in 2014, which has 4,708 registered buildings mainly in the United States, Britain and China (as of October 2020). In Japan, the CASBEE-Wellness Offices certification was launched in 2019, with 30 offices certified as of November 2020.

11 Mega events



11.1 Trend from before the pandemic: Inbound from the world to Japan

On March 24, 2020, it was announced that the Tokyo Olympic & Paralympic Games, originally scheduled for summer 2020, will be postponed. With more than 10 million visitors expected from both within and outside Japan, a huge economic effect was estimated, which included not only the development of urban infrastructure and facilities but also spillover effects on other industries such as tourism and retail. It was also anticipated that Tokyo would become even more appealing as an international city for tourism and a global business city after the Games. Such mega events like the Olympics and the Expo are considered to enhance the motivation of citizens, gather attention from the world, and even affect changes in people's lifestyles and awareness.

The real estate industry was expecting direct benefits to accommodation facilities and retail properties. Demand was expected to continue even after the end of the Games as spectators visited Japan from abroad, stayed in various places in the country and purchased goods. In terms of offices, initiatives to alleviate traffic congestion during the Games were carried out, such as the Telework Days that was participated by around 680,000 people from 2,887 organizations in 2019, which boosted work style reforms.

11.2 Changes due to the pandemic: The risk of a large number of people gathering in one place

In natural disaster-prone Japan, sport events and concerts had been cancelled or postponed in the past due to earthquakes and typhoons. Although venues with disaster preparedness had been built and disaster drills conducted, the COVID-19 pandemic was unexpected and led to the first ever postponement of the Olympic Games for reasons other than war. So far, the Tokyo Olympic & Paralympic Games have been rescheduled for summer 2021, with infection prevention measures to be taken, but the possibility of not being able to hold the Games is not zero, depending on the global situation of coronavirus infections. In any case, if the Games are cancelled, not only will the expected economic effects disappear, but there might

also be various negative effects, in addition to added investments due to the postponement. Accommodation and commercial operators have been hard hit by the postponement, while the HARUMI FLAG, which is being sold as a condominium after renovating athletes' lodging after the Olympics, has been forced to postpone delivery to the purchasers.

To prevent infection, it has become commonplace at event venues (for concerts, sport events, etc.) and theme parks to impose limits on the number of attendees and admission rates to avoid the Three Cs, as well as checking the temperatures of guests, disinfecting and sanitizing. Systems to trace guests for subsequent response are also introduced at some venues. At Yokohama Stadium, trial experiments to reduce restrictions are being carried out, such as gauging the mask-wearing rate of guests and the flow of people entering and exiting the stadium using a high-definition camera, and enabling guests to check the congestion of lavatories and concession stands with their smartphone. For the Tokyo Olympics & Paralympics, a plan has been put in place to set up an Infection Control Center to manage the health of the athletes and to transport any athletes infected with COVID-19 to a pre-arranged overnight medical treatment facility or a designated hospital to isolate them and prevent the occurrence of a cluster. Such infection control measures will be required for events going forward.

However, even if events can be held with infection control measures in place, restrictions on admission will be a huge blow to the organizers, whose earnings depend on admission fee income. Therefore, event organizers have been reinforcing their business online by offering video streaming of the events as an alternative income source to compensate for the loss of admission fee income. Events, which presuppose that many people gather, will have to explore measures for when people gather as well as ways to ensure profitability even without people gathering. Buildings will also be required to change accordingly.

The postponement of the Tokyo Olympics & Paralympics due to the pandemic has also had an impact on the office industry. Teleworking was being encouraged due to concerns of traffic congestion during the Games, with Telework Days, a promotional event, being carried out every summer since 2017. However, companies were forced to adopt telework in 2020 due to the COVID-19 pandemic without waiting for the start of the Games. While many companies struggled to provide an environment or system for telework, companies that had prepared for the introduction of telework were able to switch to telework more smoothly than those that had not.

11.3 Impact on real estate: A hybrid of online and physical events

Not just mega events like the Olympics and the Expo but every type of event that presupposes the gathering of many people are likely to undergo changes in how they are held. Furthermore, just as companies and schools went online through telework and e-learning, events such as concerts, sport events, seminars, international conferences and product exhibitions are also likely to increasingly be held online. On November 3, 2020, Arashi, a boy group popular nationwide, offered paid live streaming from the National Stadium with an empty crowd. With 10 million people said to have watched the concert, the size of the business appears to have been immensely larger than a concert held at the National Stadium with a capacity of 80,000. Online concerts can reduce costs compared to conventional tours which tour event venues across the country and are expected to be more profitable since they can take place regardless of location or capacity. In the face of such success, events which used to depend on the number of physical audiences for sales may shift to a new business model beyond the need to go online for infection control and revenue compensation. As capacity ceases to coincide with the business scale of the event and events are freed from the restrictions of location and time, the importance of the size and location of buildings where events are held is likely to change. Restaurants, retailers and hotels near event venues, whose expected client base was the visitors of the events, may have to review their business as the advantage of their location might diminish.

Digital technologies are likely to see further progress, reducing the gap between physical and online events even more. However, no matter how much technology progresses, it will not be able to beat the experience and emotions of physically participating in an event at the actual venue and the sense of unity

among the audience. The same can be said for seminars, conferences and product exhibitions—the advantage of physical and live events and the importance of direct communication between people will be re-acknowledged, and the venues and buildings for such purposes will never become unnecessary. The differentiation between physical and online and hybrids are likely to become the norm in events as well.

The pandemic has transformed events and given birth to new businesses at the same time. The various measures and preparations for the Tokyo Olympics & Paralympics to be held in 2021 can be viewed as a social experiment of events going forward. New styles of events and new usages of buildings are also likely to emerge at the Expo 2025 Osaka Kansai, for which an urban development concept is being implemented to create an integrated resort (IR) as well as an international conference hall and exhibition hall (MICE).

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