### **Value Creation Strategy**

# **Material Issues**

In July 2019, we looked at the relationship between the Kajima Group's business activities, the measures in Medium-Term Business Plan (FY2018–2020) and social issues, starting with the SDGs. We then grouped the results into seven categories to identify our material issues for both solving social issues and achieving sustainable growth for the Kajima Group. In March 2021, in conjunction with the formulation of the Kajima Group Vision and Medium-Term Business Plan (FY2021–2023), we revised these material issues to take into consideration significant changes in the social environment, including the COVID-19 pandemic and accelerating shift toward carbon neutrality.



revision proposal

Review periodically

### **Determination of Material Issues**

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### **Our Material Issues and Related SDGs**

				1		
		Di	rection of Initiatives for Material Issues	Specific Contribution through Customers' Businesses	Initiatives Contribution through Our Businesses	Related SDGs
	1		Creating functional urban, regional and industrial infrastructure capable of meeting new needs Kajima proposes sophisticated value in the fields of building construction, infrastructure construction, urban development and industrial infrastructure to meet diversifying needs resulting from changes in values and behavioral patterns. Combining experience and new technologies, Kajima creates functionality that facilitates life, work and wellness.	Creating comfortable and attractive spaces     Improving productivity and product quality through engineering technologies     Improving workplace productivity and wellness     Constructing smart c	Conducting large-scale, mixed-use redevelopment projects	
Society	2		Developing sustainable and long-lasting social infrastructure Kajima promotes technological development for repair, maintenance, renovation and extending the lifespan of buildings and infrastructure, and develops outstanding social infrastructure that can be used safely long into the future.	Technologies for extending building lifespan     Technologies for maintaining and renewing infrastructure     Increasing sophistication of facility and building management	<ul> <li>Acquiring quality assets in the real estate development business</li> <li>Participating in infrastructure operation and public-private partnerships</li> </ul>	9 300 400 11 300 400 10 10 10 10 10 10 10 10 10 10 10 10 1
	3		Providing technologies and services for disaster preparedness that support safety and security Kajima provides disaster-resilient building and infrastructure construction, technology development, and services for rapid recovery and reconstruction in the event of a disaster. In light of the impact of climate change, we will increase the sophistication of disaster prevention technologies with a commitment to a safe society where people can live with peace of mind.	<ul> <li>Increasing sophistication of seismic damping and isolation technologies</li> <li>Responding to climate change with resilient buildings and structures</li> <li>Proposing BCP solutions</li> </ul>	<ul> <li>Structuring supply chains that take BCP into account</li> <li>Strengthening disaster response capabilities</li> </ul>	9
Environment	4	P	Contributing to society's transition to a carbon-free footprint Kajima contributes to society's transition to a carbon-free footprint by reducing CO <sub>2</sub> emissions during construction and by developing energy-efficient technologies and eco-friendly materials, as well as by building, developing and operating power generation facilities that use renewable energy, developing green buildings, and managing energy efficiently. We are also committed to recycling resources and harmoniously co-existing with nature based on Kajima Environmental Vision: Triple Zero 2050.	Delivering zero-emission and other energy-efficient buildings     Structuring optimal energy systems     Constructing power generation facilities that use renewable energy     Promoting green infrastructure     Achieve Tri	<ul> <li>Reducing CO<sub>2</sub> emissions during construction</li> <li>Developing green buildings</li> <li>Renewable energy projects</li> <li>Developing and using eco-friendly materials</li> </ul>	
		Di	rection of Initiatives for Material Issues	Platform for Busir	ness Sustainability	Related SDGs
stainability	5		Focusing on unwavering technological innovation and Kajima quality Kajima strives to build sustainable next-generation construction systems and create new value by developing technologies and carrying out digital transformation to improve productivity and safety. In addition, in order to deliver buildings and infrastructure to customers with confidence, we continuously improve the quality of inspection and assurance systems with a commitment to ensuring building, infrastructure and environment quality, safety and security.	<ul> <li>Promoting technology devel transformation to improve p create new value</li> <li>Ensuring safe, high-quality b quality assurance systems</li> </ul>	opment and digital roductivity and safety and to buildings through rigorous chanizing, automating and	
orm for Business Su	6		Construction that emphasizes people and partnerships Kajima promotes work-style reform at construction sites, secures construction personnel, hires and nurtures human resources, and creates an attractive working environment in which every employee can excel. We create value in cooperation with our business partners and promote innovation through collaboration with external parties.	Kajima Smart Future Vision     Ensuring occupational health and safety     Promoting work-style reform and securing     construction personnel     Reforming the multilayer subcontracting structure     Training and developing people with an emphasis     on diversity     Using open innovation		3         4         10           5         10         10           6         10         10           10         10         10           10         10         10
Plat	7		Practicing corporate ethics Kajima promotes fair and honest corporate activities by practicing thorough compliance and risk management. Each employee and director of the Group acts ethically and earns the trust of customers and society through initiatives in all parts of the supply chain.	<ul> <li>Ensuring rigorous compliant</li> <li>Enhancing risk managemen process management</li> <li>Conducting fair supply chair</li> <li>Respecting human rights</li> </ul>	ce t systems and n management	16 that the second the second

### **Value Creation Strategy**

# **Medium-Term Business Plan Progress**

In fiscal 2021, we launched the Kajima Group Medium-Term Business Plan (FY2021–2023). It sets out important measures and financial targets for the Group, with due consideration for the medium- to long-term Goals for 2030, as based on the Kajima Group Vision and material issues. Despite the intensely competitive environment projected, the plan's theme is supporting the Group's future development by investing to drive medium- to long-term growth while maintaining and improving business performance.

We have made steady progress in the first year of the Medium-Term Business Plan, and we will continue to promote measures and investments aimed at medium- to long-term profit growth.

### Three Pillars / Goals for 2030



### **Financial Targets**

	FY2021 results	FY2022 forecast	FY2023 target	FY2024-2026 target	FY2030 target
Revenues	¥2,079.6 billion	¥2,270 billion	Approx. ¥2,250 billion	_	_
Net income attributable to owners of the parent	¥103.8 billion	¥85 billion	¥95 billion or more	Reliably ¥100 billion or more	¥130–150 billion or more
Return on equity	11.4%	_		Above 10% level	

### **Key Measures and Specific Outcomes**



### **Investment Plan Progress**

During the plan period, the Kajima Group has positioned forward-looking investment as a priority and plans to invest a total of ¥800 billion and recover a total of ¥360 billion through the sale of properties in the real estate development business. In fiscal 2021, we invested ¥252 billion and recovered ¥107 billion, with both figures around the 30% progress mark against plan. We will invest in the domestic and overseas real estate development businesses where we are strong, raise productivity, and secure a future workforce. In addition, having newly established a Strategic Investment Budget, we will implement various initiatives, such as promoting global open innovation and creating new businesses (including those that can help solve social challenges) with the aim of preparing for rapid progress.

(¥ billion)	FY2021 results	Medium-Term Business Plan (FY2021–2023)
Domestic/overseas real estate development businesses [Recoup of investment]	<b>193</b> [107]	<b>640</b> [360]
Domestic real estate development business [Recoup of investment]	51 [11]	190 [80]
Overseas real estate development business [Recoup of investment]	142 [96]	450 [280]
R&D and digital investment	18	55
Strategic Investment Budget	21	60
Other	20	45
Total	252	800
Net investment	145	440

### **Domestic/Overseas Real Estate Development Businesses**



### Strategic Investment

Established Atami Infrastructure Management LLC. and acquired the business that operates the Atami Beach Line toll road in Shizuoka Prefecture.



### **Financial Measures and Stockholder Returns**

### Holding of Listed Stocks including Cross-Shareholdings

The Medium-Term Business Plan calls for Kajima to sell stocks totaling ¥30 billion over three years. In fiscal 2021, the first year of the plan, we identified and sold 16 publicly listed stocks with a value of ¥14.8 billion.

Reduction status	FY2021 results	FY2023 target
Number of stocks sold (including partial sale)	16 stocks	_
Amount of sale	¥14.8 billion	Three-year total ¥30 billion or more
Stockholdings	As of March 31, 2021	As of March 31, 2022
Number of stocks [Publicly listed stocks]	320 stocks [144 stocks]	316 stocks [135 stocks]
Balance sheet amount	¥266.5 billion	¥258.7 billion

### Stockholder Returns

We increased dividends in accordance with our stockholder return policy, which is to strive for a dividend payout ratio of 30%, as well as to flexibly contribute to stockholder returns by acquiring our own shares and other means with consideration of business performance, financial condition and business environment.

	FY2020 results	FY2021 results	FY2022 forecast
Annual dividends per share	¥54.00	¥58.00	¥58.00
Basic net income per share	¥193.13	¥208.00	¥172.61
Dividend payout ratio	28.0%	<b>27.9</b> %	<b>33.6</b> %
Acquisition of own shares	¥10 billion	¥20 billion	_

### Material Issues and Medium-Term Business Plan KPIs

Ma	terial	issues Pages 24-25	Mediu Plan k	m-Term Business ey measures	Page 27	KPIs	FY2021 results	FY2023 targets
		Creating functional urban, regional		Strengthen proposal, design-build, and engineering capabilities with a focus on growth areas		Civil Engineering: Renewable energy domain sales	¥26 billion	¥30 billion per year
		and industrial infrastructure capable of meeting	1	Increase profits by proactive investment in the real estate development business		Investment by domestic and overseas real estate development businesses	¥193 billion	Three-year total: ¥640 billion
		new needs		Build and enhand platforms	ce global	Investment by overseas real estate development business	¥142 billion	Three-year total: ¥450 billion
ciety		Developing		Strengthen propo design-build, and engineering capa a focus on growt	osal, d abilities with ch areas	Civil Engineering: Infrastructure upgrade domain sales	¥11 billion	¥20 billion per year
So	2	sustainable and long-lasting social infrastructure	1	Maximize custom	ner value	Building Construction: Renovation sales	¥180 billion	¥200 billion per year
				by expanding the domain	e business	Building Construction: Number of buildings installed with Kajima Smart BM	19 buildings	20 buildings per year
		Providing technologies and	2	Proactively promote businesses in solving social challenges		Number of buildings that employ BCP solutions	97 buildings	60 buildings or more per year
	3	services for disaster preparedness that support safety and security	1	Strengthen propo design-build, and engineering capa a focus on growt	osal, d abilities with ch areas	Number of projects that use optical fiber monitoring for disaster prevention	6 projects	Three-year total: 10 projects
Environment	4	Contributing to society's transition to a carbon-free footprint	3	Accelerate Triple activities	Zero 2050	Reduction of CO <sub>2</sub> emissions per unit of sales (Scope 1 and 2)	36.4% reduction vs. FY2013	7% reduction vs. FY2021 (target revised from 26% reduction vs. FY2013)
		Focusing on unwavering	1	Further promote the development of next- generation construction manufacturing systems		Civil Engineering: Construction site PH (Cost of sales/Total working hours)	13.8% improvement vs. FY2016	15% improvement vs. FY2016
		innovation and Kajima quality				Building Construction: Percentage of sites that use smart production	10.2%	50% or more
ustainability	Istainability			Secure next-generation workforce while maintaining and strengthening the supply chain		Implementation of construction systems that limit the scope of contracts to secondary subcontractors, in principle	72.4%	100%
usiness s		Construction that emphasizes people	3			New E Award recipients (incentive system for outstanding skilled workers)	735	800 people per year
orm for b		and partnerships		Develop people and systems to promote growth and transformation		Number of female employees in managerial positions	164	FY2024: 162 (three-fold increase from 54 in FY2014)
Platf			2	Explore and create new businesses by promoting open innovation		Strategic investment	¥21 billion	Three-year total: ¥60 billion
	7	Practicing corporate ethics	3	Secure next-generation workforce while maintaining and strengthening the		Kajima Group Conduct Guidelines for Business Partners survey coverage (major business partners)	Trial basis	100%
			supply chain	Serious legal violations	0	0		

# Message from the General Manager of the Treasury Division



### Financial management aiming for boosted efficiency of cash flow, assets, and capital

### Ken Uchida

Director, Senior Executive Officer, General Manager, Treasury Division

# Review of the Previous Fiscal Year and Response to Current Economic Conditions

Results for the previous year of fiscal 2021, the first year of Medium-Term Business Plan (FY2021–2023) ("the current Medium-Term Business Plan"), exceeded targets, backed mainly by solid performance in the overseas real estate development business and success in curbing downward pressure on profits in the domestic and overseas construction businesses, despite the impact of the COVID-19 pandemic. Our focus on investments

### Real Estate Development Assets / Owners' Equity



for growth, especially in the real estate development business in Japan and overseas, began with Medium-Term Business Plan (FY2018–2020) ("the previous medium-term business plan"), so it is something we have been pursuing for four years now. We are now seeing positive outcomes, particularly in the overseas real estate development business. Moreover, we will continue to position market-oriented investments in real estate development as a growth driver, and proceed with investments for enhancing Group capabilities in the construction business and relevant upstream and downstream fields, including R&D, digitalization, and strategic investments in new markets. We are committed to generating results from all of our investments.

That said, the start of the second year of the current Medium-Term Business Plan has coincided with dramatic changes in our operating environment. There is still no foreseeable return to 'normal' following the COVID-19 pandemic. In addition, we are faced with higher-than-expected global inflation, rising interest rates, the rapid depreciation of the yen, and the emergence of geopolitical instability due to factors including the situation in Ukraine. We did not foresee some of these circumstances when we formulated the current Medium-Term Business Plan and its performance targets for fiscal 2022. The depreciation of the yen is representative. As our overseas construction and real estate development businesses are strongly rooted in the areas where they operate and their cash flows are primarily denominated in local currencies, the impact on earnings from foreign exchange gains or losses on cross-border transactions will be limited. On the other hand, the rapid rise in the prices of imported materials in the domestic construction business will negatively impact construction profits. In addition, the increased proportion of overseas businesses in the Group results may significantly impact the consolidated statement of income and balance sheet upon conversion into yen. Consequently, the relative composition of our portfolio of domestic and overseas businesses and profit by segment, the balance of interest-bearing debt held in Japan and overseas, and the volatility of outstanding debt will be affected.

Under these circumstances, we will nevertheless work to maintain and improve overall consolidated operating results. We will also refer to benchmarks including return on assets (ROA)

### Owners' Equity / Owners' Equity Ratio / Adjusted Equity Capital



and return on invested capital (ROIC) as we initiate a new and appropriate reconciliation of earnings and the balance sheet in overseas operations. In this turbulent economic environment, we will address these issues from a medium- to long-term perspective while assessing the impact on fiscal 2022.

### **Construction Business and Its Finances**

Through a series of in-depth discussions with customers from the early stages of construction concept, schematic design, and design development leading into the construction phase, we strive to ensure profitability at the time of contract award. In the construction phase, we also ensure gross profits are maintained through productivity improvements based on timely decision-making, efficient construction planning, technology development, and strengthening the supply chain.

The necessary tools and strategies are many and various, and continuous improvement is essential. For example, we have expanded the use of the A<sup>4</sup>CSEL ("quad accel") automated construction system from dams to tunnels. We are also addressing the problem of worker shortages by providing support and training to subcontractors to help them hire and develop workers, offering financial incentives to skilled workers, and resolving multilayered subcontracting issues. Other tools include precise digital twin modelling of construction projects that minimizes the gap between virtual and actual construction. Ensuring gross profit from construction projects is essential to securing the financial resources for the ongoing implementation of such tools and strategies. Specifically, our R&D investment, including investments in digitalization, totaled about ¥18 billion in fiscal 2021. Given that this figure is equivalent to approximately 1% of construction revenues and most of it is allocated to the construction business, we cannot overlook the potential for it to exert downward pressure on gross profit from construction projects.

Working capital management is also important. In Japan's construction industry, there is always a timing delay between the collection of receivables from customers and payments to subcontractors. Although we work with customers to improve

payment terms, the revision of longstanding business practices agreed with each customer will take time. On the other hand, payments to subcontractors come under the provisions of the Construction Business Act and Subcontract Act. As such, shorter payment schedules are highly encouraged from the perspective of protecting small- and medium-size companies. Asymmetries in the receipt and payment of funds slow the cash conversion cycle. In addition, the increasing size of construction projects in recent years has also increased the financial burden on the general contractor during construction. The construction business operates under a flow business model that basically does not depend on assets, and so smooth funding flow and a shorter cash conversion cycle are key to better working capital management. Specifically, as cash flow is governed by the payment terms of each contract, it is vital to implement day-today management and thereby minimize the timing difference between customer receivables and subcontractor payments.

### **Real Estate Development Business and Its Finances**

Our program of investments in real estate development, carrying over from the previous medium-term business plan, is now in what is effectively its fourth year, and we have secured the necessary financial resources from consolidated operating cash flow, primarily from solid cash flow in the construction business. We broadly categorize real estate development business assets as rental assets that produce stable income and short-term merchant development assets for sale. In Japan and overseas, we try to attain a suitable balance between the two categories according to regional circumstances and portfolio considerations. The short-term merchant development business performed better than forecast in fiscal 2021, particularly in North America and Europe, and so acted as a driver for consolidated performance and helped curb the increase in interest-bearing debt by enabling recovered capital to be allocated for reinvestment. The ability of the real estate development business to accelerate its cash conversion cycle has significantly improved capital efficiency.

We will continue to invest a certain amount in the real estate development business as an earnings driver. However, the real



### Interest-Bearing Debt / Debt-to-Equity Ratio





estate development business is a stock-model business and can easily tie up capital, so it must be operated with a rapid cash conversion cycle that generates revenues and profits quickly. In addition, the cumulative effect of investment will lead to an increase in the balance of interest-bearing debt. Leverage from the use of interest-bearing debt increases project profitability, but looking forward, overseas interest rates are starting to rise, so we must make investment decisions even more carefully in consideration of interest rates and the business outlook in the areas we operate. When making decisions on individual projects, we will consider internal rate of return (IRR), primarily for sales businesses, and net operating income (NOI), primarily for leasing businesses. Also, on a business segment basis, we will consider whether return on invested capital (ROIC) exceeds weightedaverage cost of capital (WACC; assumed to be 4.0-5.5%) and whether the potential risk is appropriate in relation to equity capital.

Furthermore, at the Group level, with consideration for the unique characteristics of our consolidated balance sheet, which presents the construction business and the real estate business in combination, we will carry out a multifaceted assessment, which includes determining whether any skew has arisen in terms of debt-to-equity ratio or other indicators, and whether there is any sign of overdependence on interest-bearing debt.

### **Investment in New Businesses and Markets**

We will continue to invest in new businesses and markets with a focus on technology exploration. For example, we expanded the use of A<sup>4</sup>CSEL from dams to tunnels. We will also reflect the skills and knowledge we have gained through construction of Japan's first commercial offshore wind power facility in our self-elevating platform (SEP) vessel, which is scheduled to enter service in 2023. In addition to operating the toll road business we acquired, we will use it as a test bed for new road-related technologies. In these and other ways, we aspire to pioneer new frontiers and are combining external knowledge with our unique construction technology to open up new technological horizons.

On the other hand, it is vital that we measure the financial benefits of the projects we invest in. We conduct regular

reviews to determine whether to stay in or withdraw from each project. We are also structuring an investment system that can keep pace with the speed of technological innovation, which is driving both progress and obsolescence.

### **Sustainability Management**

Corporate management is now evaluated on new axes that are evolving year by year, including ESG, the SDGs, decarbonization, and sustainability. Programs to develop global sustainability reporting standards are well under way. Under these circumstances, strategy formulation must take into account financial and non-financial considerations, and the interactions between the two. The diversity of disclosure formats, the adoption of which is currently at the discretion of companies, may impair comparability and may not fully reflect the relative importance of any given reporting item for a particular company. We need to make our disclosure easier to understand and more comprehensive while addressing current trends in the development of standards for reporting and disclosure formats.

We have already introduced four types of sustainable financing. At their core, both the construction business and the real estate development business should provide the world with infrastructure for human activity where people are able to live with nature, and it should be an industry that embodies sustainability in its broadest sense. As such, when structuring financing, we are involved in proactive, ongoing initiatives to earn a reputation for sustainability. In principle, we use sustainable financing when securing long-term funds. Totaling about ¥30 billion, sustainable financing already accounts for more than 20% of our consolidated long-term interest-bearing debt balance of ¥145 billion, and we intend to increase this ratio as much as possible in the future.

### Holding of Listed Stocks Including Cross-Shareholdings

Our goal under the current Medium-Term Business Plan is to sell cross-shareholdings totaling ¥30 billion or more during the three years through fiscal 2023. We have been steadily moving toward this goal while spending time to resolve the corporate

Туре	Fiscal year when structured	Amount	Years to maturity	Sustainability-related aspects	
Green bonds	2019	¥10.0 billion	5	Construction financing and refinancing for two green projects	
Sustainability bonds	2021	¥10.0 billion	5	SEP vessel construction, sustainability technology R&D investment, and hub construction in Singapore	
Desitive impact financing	2021	¥7.0 billion	5	Evaluation of the environmental, social, and economic impact of our business activities	
Positive impact infancing	2021	¥3.0 billion	5		
Sustainability-linked loans	2022	¥1.5 billion	5	CDP climate change score: A- or higher	

### Our Approach to Sustainable Financing

Reduction of	Cross-Shar	eholdings
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FY	Issues held	Listed	Unlisted	Carrying amount (fair value)	Issues sold	Proceeds from sale
2015	385	181	204	¥224.4 billion	13	¥1.3 billion
2020	320	144	176	¥266.5 billion	20	¥9.4 billion
2021	316	135	181	¥258.7 billion	17	¥14.8 billion
2023	_	-	-	_	¥30.0 billion or more	during FY2021–2023

mentality underlying our historical use of cross-shareholdings as a token of long-term trust and solidarity with corporate allies. Our basic policy is to hold stocks only if they contribute to increased corporate value, and to sell them when that rationale weakens. We have regularly measured the significance of shareholdings using indicators including order volume, future plans, construction profitability, and dividend yield. We have also used our cost of capital as a benchmark, and intend to begin using other metrics that add rigor to our analysis.

One issue emerging in this process is that of investments in startups or for technology acquisition, among our investments for growth such as R&D, digital, and strategic investments. In many cases we choose to pursue a capital alliance, which is more effective than a business alliance, thereby increasing our portfolio of unlisted equities. However, the current framework of the Corporate Governance Code and corresponding disclosure guidelines do not provide adequate accommodation for differentiating between cross-shareholdings (that we should reduce) and investments for growth, so we would like to provide supplementary explanations.

### **Stockholder Returns Policy**

When formulating the current Medium-Term Business Plan, we revised our basic stockholder returns policy, which is to strive for a

dividend payout ratio of 30%, as well as to flexibly contribute to stockholder returns by acquiring own shares and other means with consideration of business performance, financial condition, and business environment. This policy is unchanged. Implementation of sustainability management, including an emphasis on human capital, also requires us to provide returns to a wide range of stakeholders. Just as important as stockholder returns, our contributions and returns to customers, partner companies that support construction and supply chains, the Group employees, the general public including the neighborhoods that host our construction sites, and the global environment are all indispensable, and so we must adopt a balanced approach.

While assessing the impact on owners' equity when economic downturns lead to the deterioration of operating income and a decline in asset value, we should consider how to maintain sustainable returns. Conversely, we should consider how to expand the range of returns when favorable economic conditions support our performance. Under this range of possible conditions, we look at operating cash flow and returns on investment to make decisions about deploying cash, with the goal of providing stockholder returns through a combination of dividends and acquisition of own shares. We have set a target for return on equity (ROE) of 10% or higher. In our management we will improve our profitability to accomplish higher earnings per share (EPS) as the means to enhance stockholder returns.



### Stockholder Returns

Dividends per share (Adjusted for reverse stock split) Oividend payout ratio

# Civil Engineering



Business Overview

### We will quickly respond to changes in existing markets and accelerate business initiatives to resolve social issues.

Given Japan's need to address intensifying natural disasters and the renewal of aging infrastructure, the civil engineering business will keep contributing to society by engaging in measures to strengthen national resilience as well as delivering quality infrastructure that ensures people's safety and security. Also, in the drive toward carbon neutrality, we intend to develop the renewable energy sector into one of our principal medium- to long-term income sources by steadily undertaking projects and acquiring knowledge and expertise in design, construction, procurement and management of contracts.

### Masaru Kazama

Senior Executive Officer. General Manager, Civil Engineering Management Division

### Construction Project Gross Profit / Revenues Gross Profit Margin (¥ billion) (¥ billion) 334.7 288.0 271.8 280.0 2019 2020 2021 2022 (FY)

44.9 42.5

2019 2020 2021 2022 (FY)

Construction project gross profit
 Gross profit margin

### Market Environment

Medium-Term Forecast for Construction Investment in the Civil Engineering Field



Source: 1.2 Medium-to long-term forecast for construction investment and supply and demand through 2035, Construction Economic Report No. 74, Research Institute

of Construction and Economy 1. Economic expansion at the current potential growth rate

2. Market performance reflecting effect of economic policies

**Outlook for Kajima Construction** Amount by Field



### Strengths

- Extensive construction track record and industry presence
- Technology development capabilities for taking on challenges in new technologies and fields and seeing them through to practical application
- Design and construction capabilities that meet all customer needs

### **Risks**

15.2%

- Supply chain disruptions
- · Rapidly increasing material and equipment prices
- Shortage of workers for the next generation as fewer people enter the construction industry

### **Opportunities**

- Accelerating societal needs for national resilience measures and decarbonization
- Expansion of renewable energy field and infrastructure maintenance and renewal field
- Ability to develop and implement labor-saving technologies that use ICT

### Business Policies

- Strengthen efforts in targeting projects that leverage comprehensive engineering capabilities
- · Focus on growth areas and new business areas
- Further innovation of production systems that use ICT
- Enhance construction capabilities and expand the scale of business in collaboration with Group companies and construction companies with specialized skills

### Progress in FY2021

### Demonstrated comprehensive engineering capabilities

New contracts were below target due to factors including lower private sector construction order volume, despite firm government construction contracts. At the same time, over the past several years we have been steadily focusing on projects that require comprehensive engineering capabilities before construction, such as offshore wind farms and ECl<sup>1</sup> projects. Design and construction departments are working together to implement frontloading to obtain preferential negotiation rights.

1. Early contractor involvement. A type of construction contract in which the general contractor is involved from the early stages of the project and provides input at the design stage.

### Promoted new initiatives to resolve social issues

We have acquired the business that operates the Atami Beach Line toll road, which we are now using as a representative example for renewing and maintaining infrastructure and to demonstrate the testing and introduction of eco-friendly technologies. The eco-friendly concrete CO<sub>2</sub>-SUICOM ( Page 59) was adopted as a NEDO<sup>2</sup> Green Innovation Fund Project.

2. New Energy and Industrial Technology Development Organization

### Future Initiatives

### Strengthen the foundation for winning new contracts and generating earnings

We will increase the number of bids to ensure a steady supply of new contracts for projects we expect to be profitable, while maintaining and growing earnings. In addition, we will promote information sharing and technology transfer by digitalizing construction technologies and on-site management expertise, and will also hire and train personnel who can utilize ICT and CIM to formulate optimal construction plans. We aim to achieve safer, more efficient construction with lower costs.

### Focus on renewable energy, infrastructure renewal, and new business fields

We will further enhance our system for designing, constructing, and contracting offshore and onshore wind farms. We will also systemically minimize the social impact of traffic restrictions in the course of highway renewal work. In the overseas civil engineering business, we will focus on winning new contracts in Southeast Asia following a fiscal 2021 shield tunnel construction contract award in Taiwan. Furthermore, we will strengthen our competitiveness and create business opportunities through M&A and alliances involving construction companies with specialized skills.

### Apply A<sup>4</sup>CSEL to tunnel construction

We are evolving the A<sup>4</sup>CSEL automated construction system beyond its core application in dam construction into use for mountain tunnel construction. We are conducting actual-scale feasibility demonstrations at the Kamioka Test Tunnel in Hida, Gifu Prefecture to verify development results including the introduction of unmanned work in areas with high risk of collapse to improve safety, automated technologies that improve productivity, and blasting technologies that reduce over-excavation.

### **Digital Transformation**

### A<sup>4</sup>CSEL: The Leader in Automated Construction

In Akita Prefecture, Kajima's proprietary A<sup>4</sup>CSEL system is being used for automated embankment construction at the Naruse Dam, one of the largest trapezoidal cemented sand and gravel dams in Japan. As many as 23 units of automated heavy machinery including dump trucks, bulldozers, and vibrating rollers are expected to operate simultaneously at peak times. The unprecedented scale and speed of construction makes the site one of the most advanced of its kind in the world.

Since the start of automated construction in fiscal 2020, the knowledge obtained from construction data has been fed back into software programs and ongoing improvements have been made as construction continues. As a result, the amount of concrete poured per hour has increased from 500 cubic meters in the first year to 750 cubic meters in the second year. Our goal for fiscal 2022, the third year, is to continuously pour 900 cubic meters per hour, an unprecedented amount among projects of this kind. In addition, we have developed a futuristic centralized remote control system through which this and two other sites employing A<sup>4</sup>CSEL have been successfully controlled simultaneously from Kajima Head Office.

The next-generation construction manufacturing system A<sup>4</sup>CSEL is central to our continued leadership in automated construction.



A<sup>4</sup>CSEL in use for embankment construction at Naruse Dam

### A Unique Track Record in Commercial Offshore Wind Power Construction in Japan, with Three Provisional Contract Awards

### Japan's Largest Offshore Wind Power Project under Construction

Offshore wind power generation is a promising new source of renewable energy for Japan because higher average wind speed compared to onshore power generation supports stable power generation.

# Kajima has been constructing onshore wind farms for about 30 years, and is now involved in offshore wind power. We were responsible for the structural design and construction of the wind turbine foundations and the wind observation tower of Japan's first bottom-fixed offshore wind power generation facility, located off the coast of Choshi, Chiba Prefecture (experimental research began in 2009). Building on this experience and track record, Kajima is now constructing the Akita Port & Noshiro Port Offshore Wind Farm Projects (operator: Akita Offshore Wind Corporation), the first commercial offshore wind farms in Japan.

These projects involve the installation of a total of 33 bottom-fixed offshore wind turbines in port areas managed by Akita Prefecture. With a total capacity of 138.6 MW, they will be among the largest wind farms in Japan. We have been involved in the project from the planning stage, and are responsible for engineering, procurement, design, and installation of the foundations and underwater cables. Construction of the wind turbine foundations began in April 2021 and the installation of the wind turbines began in July 2022, with completion scheduled for December 2022.

### Participation in Three New Offshore Wind Power Projects

In December 2021, based on the Act on Promoting the Utilization of Sea Areas for the Development of Marine Renewable Energy Power Generation Facilities (Act on the Use of Renewable Energy Marine Areas), the Ministry of Economy, Trade and Industry and the Ministry of Land, Infrastructure, Transport and Tourism selected companies to participate in the following offshore wind power generation projects: Offshore Wind Power Generation Project off the Coast of Noshiro City, Mitane Town and Oga City, Akita Prefecture (Operator: Akita Noshiro Mitane Oga Offshore Wind); Offshore Wind Power Generation Project off the Coast of Yurihonjo City, Akita Prefecture (Operator: Akita Yurihonjo Offshore Wind); and Offshore Wind Power Generation Project off the Coast of Choshi City, Chiba Prefecture (Operator: Chiba Choshi Offshore Wind). Kajima and Japan Offshore Wind & Marine Contractors Co., Ltd. (JOW&MC) will be jointly responsible for construction work in cooperation with these three operators.

JOW&MC is a Japanese subsidiary of Van Oord Offshore Wind BV in the Netherlands, which is involved in more than 40 offshore wind power projects in Europe. Kajima and JOW&MC will combine their advanced technological capabilities to cooperate in executing these projects smoothly.



Wind Turbine No. 1 (as of July 2022)

Status of Offshore Wind Power Farm Construction Plans



Prepared using materials from the Ministry of Economy, Trade and Industry's Advisory Committee for Natural Resources and Energy, Subcommittee for Energy Conservation and New Energy, Subcommittee for the Electricity and Gas Businesses, and Subcommittee for the Commercial Introduction of Renewable Energy and Next-Generation Power Networks

### Government Targets for Offshore Wind Power



Source: Overview of the Vision for Offshore Wind Power Industry (1st), Public-Private Council on Enhancement of Industrial Competitiveness for Offshore Wind Power Generation, Ministry of Economy, Trade and Industry and Ministry of Land, Infrastructure, Transport and Tourism

### **Promoting Development of Related Technologies**

The construction of bottom-fixed offshore wind farms requires large self-elevating platform (SEP) vessels. In preparation for upcoming projects, we have invested with Penta-Ocean Construction Co., Ltd. and Yorigami Maritime Construction Co., Ltd. to build a SEP vessel equipped with a 1,600-ton lifting capacity crane. The vessel is due to begin operating in April 2023. In March 2022, we also started research and development with Hitachi Zosen Corporation on the optimization and mass production of floating foundations for offshore wind turbines and hybrid mooring systems for floating platform wind turbines, for which we expect construction demand to grow. We will promote lower-cost wind power generation as part of the NEDO Green Innovation Fund project.

### **Outstanding New Technologies** for the Infrastructure Renewal Market

### **Trends in the Expressway Renewal Market**

Roads built during Japan's post-war period of high economic growth are deteriorating at an increasing rate due to factors including age, increased large-vehicle traffic, and the use of de-icing agents. Large-scale renewal and renovation projects are under way.

Three expressway companies currently manage about 9,000 kilometers of expressways, of which about 40% has been in service for more than 30 years. In 2014, the companies announced a provisional large-scale renewal and renovation plan that includes construction to replace 224 kilometers of deteriorated reinforced concrete deck slabs on steel bridges with precast deck slabs. The cost of this 15-year project is projected to be ¥1,642.9 billion. In 2015, the Ministry of Land, Infrastructure, Transport and Tourism issued a business permit for renewal work as specified in the Act on Special Measures concerning Road Construction and Improvement, and a series of orders for deck slab renewal work has followed.



Reference: East, Central and West Japan Expressway Renewal Plan, NEXCO

### **Development of the Smart Deck Renewal System**

We developed the Smart Deck Renewal (SDR) System in 2019 in preparation for the coming period of large-scale road bridge deck renewal in Japan.

Road bridge deck slab renewal involves cutting the edges of and removing existing damaged deck slabs, removing rust from and repairing the existing framework of steel girders, and installing new deck slabs. Our SDR System uses precast deck slabs in consideration of quality, workability, and construction time. With this system, we can meet the need for a desk slab replacement method that minimizes the negative social impact of traffic restrictions, suppresses noise and vibrations for nearby traffic and surrounding facilities, and ensures safety.



SDR System overview

### **Working toward Further Functional Enhancements**

We launched an upgraded version of the SDR System with variable width orientation in 2022. For example, deck slabs formerly had to be replaced at the same time for two lanes running in the same direction. The new variable width system, however, allows work on a single lane at a time, which further minimizes the need for traffic restrictions. In April 2022, we conducted an actual-scale public demonstration that confirmed the high speed of our system, which is capable of shortening the In the SDR System, deck replacement work is divided into four steps: (1) edge cutting and removal of existing deck slabs; (2) steel girder flange surface preparation; (3) adjustments to match height of existing deck slabs; and (4) emplacement and installation of new deck slabs. Each specialized component of the process moves forward simultaneously in a longitudinal direction like a moving assembly line. In this way, the system reduces the time required to complete these four steps to about one-sixth that required by the conventional method. In addition, we have developed a new lightweight deck slab removal and replacement machine as a substitute for the large cranes formerly used to remove and replace deck slabs. This machine

> significantly improves quality by reducing the load on existing steel girders, and is expected to minimize the need for traffic restrictions and enhance safety by eliminating the need to rotate deck slabs as they are lifted by a crane.

The SDR System is being used for the first time as part of the Kan-Etsu Expressway Anogawa Bridge Deck Slab Replacement Project we are conducting for East Nippon Expressway Co., Ltd. (NEXCO East), which began in April 2021.



Kan-Etsu Expressway Anogawa Bridge, where deck slab renewal work will be carried out using the SDR system

deck slab replacement process by as much as 90% compared with conventional methods. In addition, we expect that establishing a plant to manufacture precast deck slabs near the construction site will reduce construction costs by about 20% by lowering slab production and transportation costs.

We will actively propose this system for actual construction work, and conduct research and development to enhance its functions through automation and other means.

# Building Construction



### We will build a strong organization by upgrading smart construction technologies and working closely with Group companies.

Leveraging our accumulated technological capabilities and expertise, we will accelerate the development of technologies for super-tall skyscrapers and construction robots, as well as CO<sub>2</sub> emissions reduction measures at construction sites to become carbon-neutral. This will enable us to upgrade our proposals to meet the new needs of customers and society. We will continue to provide high-value-added services that respond to changes in the market environment by increasing the functionality of digital twin and smart construction technologies through BIM and by working closely with Group companies, as well as by building a strong organization that leverages our comprehensive design-build capabilities.

### Koichi Matsuzaki

Executive Vice President, General Manager, Building Construction Management Division

### Business Overview

### Market Environment



### Strengths

- Reliability of established smart construction and digital twin technologies
- Project execution expertise leveraging BIM operation systems and comprehensive design-build capabilities
- Collaboration with Group companies covering the entire value chain from upstream to downstream of the construction business

### Risks

- Changes in the market environment due to factors such as the COVID-19 pandemic and global price increases
- Decrease in the number of skilled construction workers to become the next-generation workforce
- Changes in the work environment due to the Act on the Arrangement of Related Acts to Promote Work Style Reform, to be applied to the construction industry from April 2024

### Opportunities

- Increase in demand in fields such as data centers, semiconductor factories, and pharmaceutical plants
- Social needs for realizing a carbonneutral society
- Development of productivityenhancing technologies through the application of ICT and digital transformation

### Business Policies

- Develop and advance next-generation construction systems
- Deepen digital twin technologies through BIM
- Respond to customer needs by leveraging comprehensive design-build capabilities
- Build a management foundation capable of growth through collaboration with Group companies

### Progress in FY2021

### · Enhancement of operational efficiency at our construction sites

To improve work efficiency, we expanded our support system for construction sites by outsourcing certain management tasks, such as inspection work and maintenance of the ICT environment, to Group company One Team, Inc. Moreover, as a measure toward realizing the Kajima Smart Future Vision,<sup>1</sup> we introduced K-Mobile<sup>®</sup>, a smartphone for workers with functions that enable inter-work communication and coordination, management of materials and equipment, and hazard detection. With the initiatives mentioned, we have been continuing to improve personnel work efficiency and enhance safety management standards.

1. A plan to achieve a 30% improvement in productivity by FY2024 based on the core concepts of "Half of the work with robots," "Half of project management done remotely," and "Digitalization of all processes."

### Utilization of KTMS<sup>2</sup> data

KTMS enables us to minimize risk by adopting a unified approach across administrative departments and construction sites. Consolidating and digitalizing all project information allows real-time information sharing between the Head Office, branches, and construction sites. It also assists administrative departments in providing accurate support and advice through follow-up meetings during construction. By establishing a quantitative evaluation system for construction activities based on accumulated data, including safety, profitability, and productivity data, we will harness big data to enhance our design, construction, and proposal capabilities, customer responsiveness, and business creativity.

### Future Initiatives

### Developing businesses with specialized departments in response to market changes

In addition to investment in super large-scale redevelopment projects in central Tokyo, there is active investment in distribution warehouses for the expanding e-commerce market, in data centers and semiconductor-related facilities to support the digital shift, in pharmaceutical plants for vaccine manufacturing, and in tourism-related areas in preparation for the post-COVID-19 era. To fully address all kinds of customer needs, we will utilize our abundant experience in establishing optimal design and construction systems in cooperation with each specialized department, leveraging a wide variety of proposals on structure, cost, construction period, and seismic damping and isolation performance.

### Advancing robotics transformation

Through our participation in the Construction RX Consortium,<sup>3</sup> we will promote the development and use of construction robots and IoT applications to improve on-site productivity, safety, and cost reduction. The Construction BIM Subcommittee aims to establish an integrated BIM process for design, construction, and maintenance management by expanding data linkage among construction companies with specialized skills, in addition to design companies, and to utilize BIM data in conjunction with robotics transformation.

3. A consortium for technological collaboration in the fields of construction robots and IoT. Kajima is one of the managing companies and is the sitting chair. The consortium has a membership of 105 companies, of which 25 are regular members and 80 are cooperating members (as of July 31, 2022).

### Establishing new construction processes

Amid rising material and equipment prices, we are accelerating initiatives to secure procurement under favorable conditions for specific items, such as steel frames. We are doing so both in Japan and overseas through early negotiations on prices with manufacturers based on BIM estimates of necessary quantities. In addition, to further improve quality while complying with statutory overtime limits, it is important to produce design drawings that satisfy client needs and to finalize drawing information at the early stages of each project. We will establish methods for reaching consensus with clients using BIM and a construction design process in collaboration with our design departments.

### **Digital Transformation**

### Kajima Smart Future Vision

We are further developing and adopting new technologies based on the Kajima Smart Future Vision, which aims to innovate construction processes with digital technology. Specifically, we have introduced a facial recognition access control system at all construction sites, with photo data registered for 280,000 skilled workers. The system has been effective in improving the efficiency of daily labor management and body-temperature screening during the COVID-19 pandemic. In addition, we have introduced about a thousand K-Mobile smartphones at our construction sites. Smartphones feature various applications that enhance work efficiency, such as 3D K-Field, a real-time site management system for materials and equipment, and QRKAZAS™, a keyless management system for elevated work platforms. We have adopted portable welding robots at a total of 30 construction sites. These robots have enabled us to develop new construction methods, such as ultra-narrow gap welding, that can significantly reduce the required amount of welding. For the first time in an actual construction project, we used TawaRemo®, a tower crane remote control system, which contributed to improving operator efficiency and creating a better work environment.



Ultra-narrow gap welding using a portable welding robot

### Solutions That Apply Our Comprehensive Design-Build Capabilities

Our architectural design department (Kajima Design) is an important part of the value chain. Working in collaboration with the real estate development business and facility engineering departments to go beyond mere building design, it provides seamless services for the construction businesses of clients as well as the entire building lifecycle. The ratio of design-build projects among total building construction contract awards has been increasing year by year, and now accounts for around 70%. This can be attributed to the competitive advantages of our service offerings in realizing shorter construction periods and cost control, as well as the trend toward diversification of customer requests and bid processes. By strengthening our systems tailored to such needs and providing high-quality building construction, we will expand our services globally and further enhance the value of Kajima's design and construction.

### Contract Awards for Design-Build Projects (Non-Consolidated, Building Construction)





### **Enhancing Design Quality**

We are leveraging cutting-edge digital technologies as we continue to hone our design capabilities. We realize innovative construction processes through building performance design using computer simulation and BIM. These advanced design techniques power proposals that achieve reliable consensus and thereby architectural spaces that offer high customer satisfaction.

The advantages of BIM include sophisticated construction design and planning, with stronger integration of design information and coordination with work processes. Furthermore, front-loading techniques enable earlier decision-making, reduced workload and risk, and enhanced quality. Through these and other approaches, we will continue to pursue 'Kajima Design' in high-quality design-build projects.

### The Concept of Front-Loading: Quality Improvement and Risk Reduction



Reference: Guide to Front-Loading 2019, Japan Federation of Construction Contractors

### Technology to Respond to New Social Issues

We are also working to address pressing social issues and the SDGs through advanced design technologies. This includes reducing building lifecycle CO₂ emissions by promoting ZEB (▶ Page 58) and wood-frame, mass-timber construction, thereby helping to realize a carbon-neutral society. Moreover, we are developing biophilic design and facility programming services, which are used to deliver high-productivity office spaces that contribute to safety, security, and health/wellness. In addition, to contribute to the

effective utilization of existing building stock we are working on various renovation technologies, including the roll out of D<sup>3</sup>SKY<sup>®</sup>-c, a compact rooftop-mounted seismic damping system that enhances seismic performance without compromising the usability of existing small- and medium-sized buildings, as well as technology to increase the value of existing buildings through energy-saving equipment systems. In these and other ways we provide designbuild solutions for a sustainable and prosperous society.

### **Development of the Kajima Slash Cut Method** as a Technology for Demolishing Skyscrapers

Currently, there are more than 120 large office buildings (i.e., those with floor areas of 5,000 square meters or more) that were built before June 1981 under old seismic standards in the 23 wards of Tokyo. In 1970, when Kajima completed construction of the World Trade Center Building in Minato-ku, Tokyo, it was a major milestone for Japanese skyscrapers. In August 2021, we began the demolition of this building as part of a redevelopment project. This is the first-ever demolition of a skyscraper over 160 meters tall in Japan, with 40 floors. The building is located at a transportation hub, with direct connections to Hamamatsucho Station on JR and Tokyo Monorail lines, and the area around the building features a network of office buildings, subways, and arterial roads. In response to such challenging work conditions, we developed the Kajima Slash Cut Method™, a skyscraper demolition technology that combines safety aspects and a shortened work period. We applied this method to this project.

This method is a refined version of the block demolition method (the mainstream skyscraper demolition method) under which frameworks and slabs are cut into large blocks that are then lowered by crane. While effective in reducing the risk of falling debris, dust scattering and wind dispersal, and noise, the block demolition method can entail increased costs and lengthy construction periods. For the new Kajima Slash Cut Method, we developed a diagonal cutter\* that can cut slabs at an angle. Slabs cut at an angle are supported by adjacent slabs, so after cutting, scaffolding can be quickly dismantled in preparation for cutting the next slab. This allows demolition work on lower floors to begin ahead of time, and the overall schedule to be moved forward.

Moreover, the development of a slab cutting and lifting jig\* and 4-point automatic lifting device\* has streamlined the demolition

### **Project Overview**

Demolition of existing World Trade Center Building and annex Client: World Trade Center Building Inc. Work period: August 2021– March 2023



process in this project, establishing a 5-day demolition cycle per floor. This is expected to shorten the construction period by about 17% compared to previous methods. The new method minimizes dust scattering and wind dispersal, as well as noise, because slab cutting can be performed inside an enclosed building. It is also an environmentally friendly demolition method since cutting work is performed without the use of CO<sub>2</sub>-intensive heavy machinery.

Going forward, Kajima will actively propose environmentally friendly demolition technologies, centered on the Kajima Slash Cut Method, along with Kajima Cut and Take Down Method<sup>®</sup> (applied in the demolition of the former Kajima head office buildings and the Resona Maruha Building), to meet demolition needs for buildings built to old seismic standards. \* Patents pending



Kajima Slash Cut Method (Demolition Workflow)



(2) Gas cutting is used to cut steel beams and columns into large blocks, which reduces the problem of dust and metal scraps.



 In advance, floors are dismantled into slabs using diagonal cutters inside the enclosed building.



(3) Each block is lowered through a large opening inside the building and broken down into small pieces on the ground floor.



 (4) The lowerable scaffold, which serves as the demolition work area, is lowered to the next floor, and steps
 (1) through (3) are repeated.

# **Real Estate Development**



### We will energetically take approaches unique to Kajima, focusing on the construction value chain, Group synergies, profitability, and investment efficiency.

We will fully take advantage of our strengths in the real estate development business, which combines construction technology and real estate expertise. We will also strengthen profitability and improve investment efficiency by adding quality assets and further promoting the short-term merchant development business model. In addition, we will work to enhance the construction value chain through the generation of additional synergies with the construction business and by increasing Group profit opportunities through REIT management. We will also focus on initiatives to resolve social issues, such as environmental impact and smart cities.

(FY; as of March 31)

Office

74%

### Takahiko Tsukaguchi

Executive Officer, General Manager, Real Estate Development Division



### Domestic Real Estate Development Assets Other 11%

Bv Use

Housing

7%

Hotel

8%

By Region



### Strengths

- In-house businesses that focus on integrating construction technology from project inception to construction and commercialization
- Diverse business opportunities that leverage the Company's extensive information network
- Pursuit of investment efficiency through approaches integrating real estate and finance, including private REITs

### Business Policies



- · Changes in social needs and market environment
- Increased business costs due to inflation and price increases

March 31,

2022

¥350.0 bi

### Market Environment

Medium-Term Outlook for Real Estate Market in Japan

Field	Current	Outlook		
Investment market (overall)	Excellent	-	Solid performance overall due to robust demand from overseas investors backed by the weaker yen	
Office	Good	-	Although there is overall market weakness, quality has become a clear differentiating factor and high-quality buildings are generally performing well	
Housing	Good	+	Generally solid with stable demand	
Hotel	Weak	-	Post-pandemic recovery due to an increase in inbound tourists and other factors	
Logistics facilities	Excellent	-	Generally solid due to robust demand	

### **Opportunities**

- Increase in redevelopment needs due to urban structural change
- Greater awareness of carbon neutrality and the SDGs
- Growing need for new real estate development brought on by workstyle diversification and ongoing digitalization
- Post-pandemic inbound tourism recovery and changes in the business environment

- Create quality assets that generate stable revenues
- Improve profitability by acquiring new real estate for sale and promoting short-term turnover-type businesses
- · Conduct business planning and diversify portfolio to address new social and customer needs
- Expand Group profit opportunities by tapping the growth of private REITs

### Progress in FY2021

### · Steadily moved projects forward and created new business opportunities

In fiscal 2021, we made steady progress toward achieving the goals of the Medium-Term Business Plan. Investment totaled about ¥51 billion, capital recovery totaled about ¥11 billion, and assets as of March 31, 2022 totaled approximately ¥350 billion. Yokohama Gate Tower, Hakata Connecta, and Hotel Grand Bach Tokyo Ginza opened in fiscal 2021, and we expect them to contribute to future performance. We are complementing operations in the central area of Tokyo with business in regional urban centers throughout Japan. To that end, we have secured eight new business opportunities in Tokyo, Nagoya, Sendai, Fukuoka, and other locations.

### Portfolio diversification

In fiscal 2021, we complemented our core office building operations with housing and hotel development, and also began developing logistics facilities.

### Private REIT asset growth

We sold our share in NAGOYA FUSHIMI K-SQUARE to Kajima Private REIT, which launched in fiscal 2018, to support the growth of the private REIT. As a result, private REIT assets under management are increasing steadily and totaled approximately ¥60 billion as of March 31, 2022.

### Environment and SDGs-related initiatives

Yokohama Gate Tower hosts the Yokohama SDGs Design Center, while Hakata Connecta uses renewable electric power from dams constructed by Kajima.

### Future Initiatives

### Maximize synergies between construction and real estate development and improve profitability and investment efficiency

Under the current Medium-Term Business Plan, we aim to increase earnings by investing ¥190 billion over three years and to increase real estate development assets in Japan to approximately ¥420 billion. We are currently executing a significant number of large-scale projects on our way to achieving the goals of the plan. We will continue to execute real estate development projects unique to Kajima that combine construction technology and real estate expertise. In addition to stable earnings from lease assets, we will increase overall earnings with real estate sales involving shortterm turnover-type businesses. Our goal is to establish an earnings structure for segment income of ¥10 billion. By pursuing business with an eye to return on invested capital and other indicators, we will also enhance investment efficiency through capital-saving project schemes and appropriate asset replacement.

### Increased earnings from private REIT growth

Kajima Private REIT intends to increase assets to ¥80 billion or more by March 31, 2024. While providing maximum private REIT sponsor support, we will leverage private REIT growth to expand profit opportunities for the Kajima Group's fee business.

### User-driven product planning

Digitalization, diversifying work styles, and the trend toward carbon neutrality are among the factors driving demand for business planning that adapts to new societal and customer needs. We are responding by developing environmentally friendly real estate in ways such as acquiring environmental certifications and switching to green electricity. In addition, through feasibility demonstrations at Haneda Innovation City and other endeavors, we will apply our collective knowledge and expertise to other properties and implement smart cities and smart building development initiatives to resolve future social issues.

Project name

Kajima Nakasu Nakashimamachi Office Building (tentative name)

Kyukan Hakata Ekimae 3-chome Project (tentative name)

### **Focus**

### Real Estate Development Projects in Japan



KUDAN-KAIKAN TERRACE Yokohama Connect Square



Sendai Chuo 3-chome Project (tentative name) Note: Completion dates are subject to change.

HILLSIDE FOREST Yokohama Totsuka

KUDAN-KAIKAN TERRACE

Yokohama Connect Square

Park Tower Kachidoki South

Hilton Okinawa Miyakojima Resort

Omiya Ward Sakuragicho Office Project Haneda Innovation City (Phase II)



Hotel Grand Bach Tokvo Ginza

Primary use

Office

Office and hotel

Hotel

Office

Office

Office

Office

Housing

Housing

Office

Completion

July 2022

January 2023

February 2023

April 2023

May 2023

June 2023 June 2023

August 2023

October 2023 February 2025

# **Domestic Subsidiaries and Affiliates**

As of March 31, 2022, the Kajima Group has 103 domestic subsidiaries and affiliates (46 subsidiaries and 57 affiliates). With a focus on civil engineering and building construction, these companies are responsible for a wide range of activities in the value chain, from pre-planning and development, design and engineering, and construction, to post-completion operation and management, and maintenance and renovation. We will continue to provide services that meet the needs of society by enhancing our value chain. This will include using BIM to enhance the sophistication of design, streamline construction, and raise the quality of building management, as well as extending the service life of civil engineering infrastructure.



Principal Subsidiaries and Affiliates, pages 86–87

In the civil engineering field, Kajima Road Co., Ltd. has focused development on pavement construction as its core business, Chemical Grouting Co., Ltd. provides comprehensive underground engineering, and Kajima Environment Engineering Corporation handles construction, maintenance, and management of facilities for the appropriate treatment of waste and sewage.

In the building construction field, Taiko Trading Co., Ltd. is a general trading company related to construction materials and equipment, Kajima Tatemono Sogo Kanri Co., Ltd. comprehensively manages building lifecycles, and Clima-Teq Co., Ltd. handles water supply and drainage, sanitation and plumbing, air conditioning, and electrical equipment work. In the real estate development field, in addition to Avant Associates, Inc., a think tank for urban and community development, and Kajima Property Management Co., Ltd., which manages real estate on behalf of its clients and works to increase asset value, the Group also operates a wide range of hotel and resort businesses, including Kajima Tokyo Development Corporation, which operates Tokyo East 21, and Shinrinkohen Golf Club Co., Ltd., which manages a golf course in Saitama Prefecture.

Furthermore, we have subsidiaries and affiliates that support the Group's overall operations in areas such as public relations, IT, temporary staffing, insurance, and other services.

### Collaboration with Kajima Tatemono Sogo Kanri: BIM-FM

The Kajima Group has a growing legacy of BIM data covering planning, design, construction, maintenance and management, and renovation, that it continues to pass down throughout Kajima and its subsidiaries and affiliates. Utilizing this BIM data, we establish systems for following a building throughout its lifecycle.

BIM data generated in Kajima's design and construction processes is passed on to Kajima Tatemono Sogo Kanri Co., Ltd., where it is integrated into a BIM-FM (facility management) system that was jointly developed by the two companies. A database of equipment, fittings, and spaces, as well as 2D and 3D drawing information from the BIM data are passed along to and incorporated into the BIM-FM system. Logging and updating the daily management history from computers and smart devices makes it possible to ascertain building conditions and trends and link them to appropriate actions.

We are currently working to broaden the scope of management methods by utilizing augmented/mixed reality to further visually represent management history and information. Overlaying BIM data with the real world on the screen is starting to produce results in terms of visually highlighting items subject to inspection and improving the efficiency of administrative work.

### Passing Along and Use of BIM Data by Kajima, Subsidiaries, and Affiliates



### Collaboration across the Kajima Group: q-NAVIGATOR

In the immediate aftermath of an earthquake, building managers and users must sometimes make their own judgments on whether a building is structurally sound or in danger of collapsing. The Kajima Group provides systems and tools that enable building managers without specialized knowledge to carry out emergency inspections and confirmations immediately after a disaster event.

q-NAVIGATOR is a structural health monitoring system developed by Kobori Research Complex Inc. and recommended by the Kajima Group. It uses sensors installed in buildings to measure and estimate their behavior during an earthquake, and promptly assesses building safety to assist building managers and users in making decisions. In principle, all buildings designed and constructed by Kajima that are above a certain size are equipped with this system as standard. Furthermore, Kajima Leasing Corporation provides leasing services that help reduce upfront installation costs, and Kajima Tatemono Sogo Kanri Co., Ltd. provides support for management, operation, renovation, and repair during normal times.

Engineering & Risk Services Corporation provides an emergency inspection checklist, which assists building managers and other parties in visually ascertaining building safety without the use of technology-based systems. This checklist is tailor-made for each building based on prior investigation by construction experts. The checklist format also makes it easy to use for people without expertise in building structure.



## Overseas Operations



### We will leverage our multi-dimensional global network of subsidiaries, well-rooted locally, to provide high-quality, value-added services.

The Kajima Group currently serves 24 countries and regions in North America, Asia, Europe, and Oceania. More than 100 local subsidiaries, conducting business in accordance with the characteristics of their respective markets, form a multi-dimensional network that enables Kajima to provide high-quality, value-added services globally. We are unique in our best-in-class ability to locally handle all stages of development, including design, construction, operation, and property sale, in an integrated manner, all within the Kajima Group. Targeting further growth, we will manage risks appropriately, expand business platforms, and diversify revenue sources.

### Keisuke Koshijima

Representative Director, Executive Vice President, General Manager, Overseas Operations Division

### Business Overview



### Overseas Real Estate Development Assets

By Use



### Housing 25%

**Risks** 

Office

10%

Hotel

12%

• Drastic changes in the political and economic landscape, including inflation, interest rates, and exchange rates

Other Commercial 6%

March 31

2022

¥345.0 t

Distribution

warehouse

40%

- Worsening security situation, natural disasters, and infectious diseases
- Difficulty in hiring, developing, and retaining in-market talent

### Market Environment

Medium-Term Outlook for the Regional Real Estate Development and Construction Markets Kajima Serves

Region	Current	Outlook	
North America	Excellent	+	Generally solid due to robust demand
Asia	Weak	-	Recovering from the impact of COVID-19
Europe	Excellent	+	Generally solid due to robust demand
Oceania	Good	-	Generally solid with stable demand

### **Opportunities**

- Ongoing robust demand in the distribution warehouse markets of Europe and North America
- Investment in Southeast Asia, which is showing signs of recovery from the impact of COVID-19
- Securing diverse revenue sources

### based on organizations and businesses well-rooted in each

Strengths

country and region
Real estate development business being leveraged by our Group's comprehensive capabilities

Multi-dimensional global network

### Business Policies

- · Be the best in well-defined markets and business domains
- Create unique business opportunities through Group collaboration

### Progress in FY2021

### • Succeeded in increasing fiscal 2021 revenues and income over the previous fiscal year

In fiscal 2021, overseas operations generated approximately 30% of Group revenues and just over 20% of Group net income. Revenues and contract awards in our construction business increased over the previous fiscal year. There are a significant number of works in progress that are moving forward smoothly, mainly in Europe and North America, and we have received contract awards for large-scale projects ranging from distribution warehouses, housing complexes, and data centers to production facilities and public works. In our real estate development business, we sold 17 distribution warehouses in the United States and five in Europe, and also sold rental housing and office properties. Net income in this business increased despite impairment loss recognized for the Yankin development project in Myanmar.

### Focused on reinforcing business platforms and strategic investments

The Kajima Group added three overseas companies through M&A during fiscal 2021. The overseas real estate development business invested ¥142 billion in fiscal 2021 with recovery of invested capital totaling ¥96 billion. This represents an approximate 30% achievement rate for the final-year goals of the current three-year Medium-Term Business Plan, indicating that we are on course. In alignment with the features of the regions and markets we serve, we are expanding the business platforms that will generate future earnings.

### Future Initiatives

### Initiatives to achieve targets for fiscal 2022

In fiscal 2022, given our expectations that both our construction and real estate development businesses will make steady progress in the United States and Europe, and rebound in Southeast Asia, we will pursue bold targets for contract awards, revenues, and income. The construction business will contribute to achieving our targets by collaborating with local general contractors, diversifying its customer base, and further elevating cooperation with our real estate development business in each region and Group companies in different regions. The real estate development business will achieve higher earnings by increasing short-term turnover-type businesses encompassing distribution warehouses and rental housing and accelerating the capital cycle. We will also invest in new businesses to expand our portfolio of assets that will generate stable income in the future.

### · Risk management structure for markets served by overseas operations

We have established a structure whereby a special-purpose committee assesses and discusses uncertainties such as geopolitical risk, inflation, and rising interest rates on a project-by-project basis. This committee also manages the underlying total value at risk in real estate development projects. Our overseas operations cover geographically diversified markets in North America, Asia, Europe, and Oceania, and we are diversifying our customer base and asset types as well.

### • Hiring and developing the individual talent who will lead our overseas operations in the future

We will further enhance recruiting, assignment, and training of candidates interested in working overseas and inmarket employees. We will also acquire local companies whose corporate culture, operating scale, and markets align with our needs, thereby welcoming more outstanding individuals who believe in Kajima's corporate philosophy.

### Focus

# Further Expansion of Overseas Real Estate Development Business

We are expanding our well-balanced business portfolio and strengthening our ability to generate earnings in countries around the world.

In the United States, we launched 27 distribution warehouse development projects in fiscal 2021. We have also been actively investing in the rental apartment market, which is performing well despite rising interest rates.

In Europe, we are expanding our distribution warehouse development business beyond our established market presence in Central Europe to Germany, the Netherlands, Spain, and elsewhere. We are managing 24 private finance initiative projects in the United Kingdom, and we are developing public-private partnership projects and rental housing projects in Ireland. In Poland, we have been investing in the student dormitory development and operation business, which has low susceptibility to economic fluctuations, and have also begun participating in businesses to develop rental housing and renewable energy facilities.

With regard to Southeast Asia, in Singapore we developed a residential condominium property and also acquired an office building in the central business district. Furthermore, in Vietnam, in addition to developing a series of accommodation-only Wink Hotels, we have begun developing rental warehouses and buildings designed to be factories for lease.



Amberleigh South, rental apartment development, Flournoy Development Group, LLC. (United States)



Student dormitory development, Student Depot Sp. z o.o. (Gdansk, Poland)