

MISSION
DRIVEN.

JGC JGC HOLDINGS CORPORATION

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JGC Report
2020

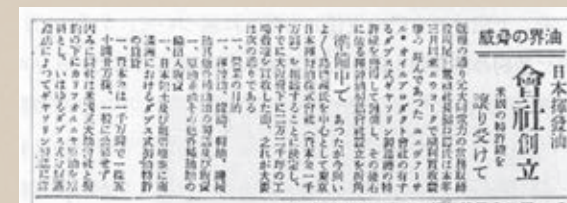
Founding Aspirations, Pursued to this Day



Founder of JGC Group **Masao Saneyoshi**

In Every Era, Aiming to Support the Foundations of Industry and Society at Large

In 1928 founder Masao Saneyoshi established Japan Gasoline Co., Ltd., predecessor of the JGC Holdings Corporation. What drove him to seek an abundant, low-cost supply of oil for Japan was the belief that domestic production of gasoline - for which imports were surging since the Great Kanto Earthquake - was indispensable to the nation's development.



News of the company's founding
(as published in the predecessor of The Nikkei, October 11, 1928)

Through consistent growth and expansion after focusing on EPC Services in the 1950s, founding aspiration have been passed down to each employee as the Group developed operations in a Total Engineering segment for Overseas Oil and Gas, Overseas Infrastructure, and Domestic EPC and Maintenance, as well as a Functional Materials Manufacturing segment in Japan.

The JGC Group will continue to grow by helping to build a sustainable society and contributing to solutions for global issues.

Corporate Philosophy

JGC Way

The corporate philosophy of the JGC Group, the “JGC Way,” is the fundamental platform pursuant to which the business activities of the group are promoted and furthermore is followed by each and every JGC Group employee and executive in their activities.

Mission

We are committed to creating a more prosperous future for our clients, for people and for society through integrating our core capabilities and technical expertise to generate innovative solutions.

JGC Group Corporate Slogan

MISSION DRIVEN.

The corporate slogan embodies the JGC Group's strong desire to contribute to the resolution of increasingly complex issues around the world through its business activities, including the full range of EPC services, functional materials manufacturing, and consulting.

Values

We are driven by our shared values and commitments.

These elements express our strengths and represent the basis for how we work and deliver solutions to our clients and stakeholders:

Shared Values

- | | |
|-----------|---|
| Challenge | We venture into new business fields, overcome technical hurdles and establish innovative methodologies. |
| Create | We remain dedicated to developing results-focused, thoughtful solutions that fully meet the needs of our clients and benefit society as a whole. |
| Integrate | We bring together a wide range of technologies, innovative tools and a diverse team dedicated to increasing value to all stakeholders. |
| Deliver | We commit to overcoming obstacles through diligence and our “never-give-up” philosophy, and to delivering quality products and services to our clients and society. |

Professional Commitments

- | | |
|-----------|---|
| Respect | We undertake to foster mutual respect and support among all those involved in our activities and to emphasize the importance of safety for all. |
| Integrity | We pledge to maintain the highest ethical standards in everything we do. |

Vision

We create new value and solve problems for our clients and society by utilizing our technical skills in the fields of engineering and functional materials.

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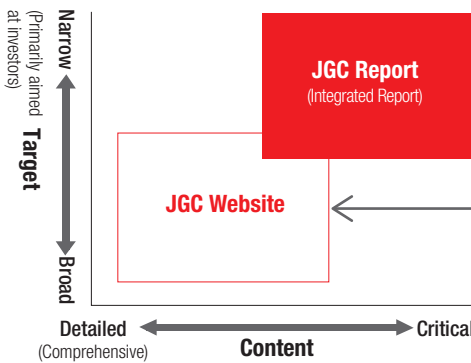
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Editorial Policy	
Purpose of This Report The purpose of the JGC Report, which was first published in 2015, is to explain to stakeholders how the JGC Group works to generate sustainable growth and increase corporate value over the medium to long term. JGC uses this report as a tool to communicate with stakeholders as part of its efforts to deliver sustainable growth through continuous, constructive dialogue.	Information Provided The JGC Report summarizes and presents the most relevant information related to the JGC Group and society. For detailed and comprehensive financial and non-financial information about the Group, please visit the JGC website.
Organizations Covered in This Report In this report, "JGC Group" and "the Group" refer to "JGC Holdings Corporation" and its subsidiary operating companies.	Forward-looking Statements Data and forecasts disclosed in this report are based on judgments and information available at the time of publication. The Company provides no guarantee for targets, forecasts and earnings projections, which may change due to a range of factors.
Period Covered In principle, the report covers the period April 2019 to March 2020 (fiscal 2019), but also includes information related to events from April 2020.	Reference Guidelines The JGC Report 2020 was compiled referring to the disclosure framework of the International Integrated Reporting Council (IIRC) and the World Intellectual Capital/Assets Initiative (WICI), as well as Guidance Supplement of the Ministry of Economy, Trade and Industry (METI). 

Information Provided



About Us

- <https://www.jgc.com/en/about/>
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CHAPTER 1

Toward Sustainable Growth

In this chapter, the JGC Group's business environment and progress in growth initiatives are discussed by the chairman and president, with insight on financial strategy from the chief financial officer.

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Our Third Transformation for Sustained Growth

1 Dual challenges of 2020

Many aspects of society, industry, and everyday life have suffered a tremendous impact from the new coronavirus pandemic ("Covid-19") since the beginning of this year. The world as a whole now faces an unprecedented situation. It only reinforces my strong impression that we are living in VUCA times, in a situation of Volatility, Uncertainty, Complexity, and Ambiguity.

We have seen a complete reversal in the plant market which until 2019 had been recovering but now seems uncertain. Given that oil prices have dropped sharply from a failure of OPEC+ to agree on production cuts, and that Covid-19 has sapped energy demand, clients including oil majors have made the decision to reduce capital investment this year. This means that 2020 presents me with two challenges as CEO. Not only must we grapple with somehow meeting our fiscal 2020 order target and earnings forecasts in the midst of this uncertainty, but we must also do this at a time when people appear to be redefining what is normal in society, industry, and everyday life. Through all of this I must chart a course to sustained growth as well as higher corporate value, and lead the Group as a whole to achieve these.

2 Long-term vision behind the next medium-term business plan

As of October 1, 2019, the JGC Group adopted a holding company structure. We had struggled for years to develop a diversified business portfolio that does not rely solely on overseas oil and gas, having faced turbulence about once every decade in the natural resource market. Our total engineering business now serves three segments; besides overseas oil and gas, we are also targeting overseas infrastructure and domestic EPC, as well as functional materials manufacturing. This gives the Group an updated management structure for revenue from a multi-business portfolio. With this, we have fulfilled my commitment to establishing a permanent Group management structure poised to build our second and third pillars of business after overseas oil and gas, as we pursue continued growth and gains in corporate value. (Reference: "JGC Story: JGC Group's Business," p. 27–28)

Significant changes have emerged this year in the wake of the emergence of Covid-19, as everyday life and our awareness change and new needs give rise to new business. In the energy and environmental segments intimately linked to the Group's business, low-carbon and decarbonization trends are accelerating and we have also seen speculation that the world may pass peak fossil fuel demand sooner than expected.

Message from CEO



Representative Director, Chairman,
and Chief Executive Officer

Masayuki Sato

Has worked in finance and accounting since joining JGC in 1979, overseeing finance for Middle East, North Africa, Southeast Asia, and CIS projects.

Appointed as a director in June 2010, CFO and Managing Director, Senior General Manager of the Corporate Administrative & Financial Affairs Division in July 2011, and Executive Vice President in June 2012.

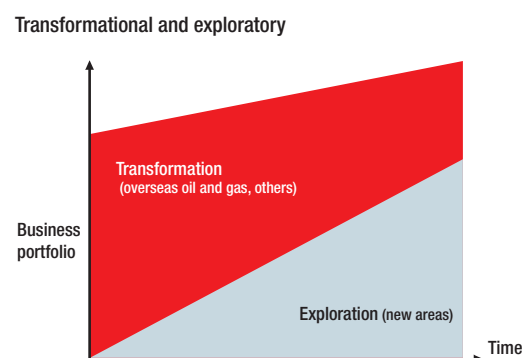
Representative Director and Chairman as of June 2014 and CEO as of June 2017.

Expanded investments in renewable energy by oil majors and statements by chemical companies about switching to a circular economy can be viewed as developments that reflect changes occurring in a “post-Covid-19” energy and chemical industry.

With the understanding that for the Group it is essential to establish a long-term vision premised on post-Covid-19 changes and acceleration toward low carbon and decarbonization in the energy and environmental segments, we are currently developing a long-term vision for 2040.

3 Sustained growth by addressing social issues

The long-term 2040 vision is based on the concept of creating shared value, or CSV (Creating Shared Value), and the affirmation that our business is fully aligned with solving social issues. It will combine exploration of new business areas with the transformation of current business, such as overseas oil and gas. In all of this, we can leverage our core competencies of technical expertise, project execution capabilities, problem-solving, and adaptability to contribute to solutions for specific social issues, with SDGs firmly in mind. (Reference: “JGC Story: Path to Sustained Growth,” p. 29–30)



In exploring new business areas, we have identified six segments as candidates for key Group businesses as of 2040. As resource-related or environmental segments, we will be exploring “new energy”, “low-carbon/decarbonized engineering”, “recycling”, and “functional materials supporting carbon reduction and environmental protection”. As segments pertaining to health or other social issues, we will explore “infrastructure/industrial innovation” and “healthcare/life sciences”. Four of these six new areas relate to resources and the environment because the world will inevitably shift toward low carbon and decarbonization, and because we anticipate significant future business opportunities here for the Group. We will continue to study specific business and strategies in this exploration of new segments, and we will work with a sense of speed and profitability over the next 5–10 years.

4 Transforming our project execution capabilities in total engineering

The course of action Group management will be taking will gradually increase the ratio of new business areas while maintaining the stability of revenue from existing overseas oil and gas operations.

In the total engineering business, fiscal 2020 will see us pursue an orders target of ¥670 billion by securing orders in all of the projects which are expected to materialize.

The matter of securing our orders target and earnings forecasts initially announced for fiscal 2020 calls on us to transform our project execution capabilities and, in particular, gain competitiveness in overseas oil and gas projects. I also view this as essential to ensuring success in the very competitive environment we will see when the world overcomes Covid-19, global energy demand recovers, and large-scale LNG projects

and others that are currently paused resume. It is clearly desirable to enhance our technical expertise in engineering and cost competitiveness, and to strengthen ties with overseas engineering subsidiaries. I would like to make overseas oil and gas operations fundamentally more competitive.

5 Attaining greater corporate value

Sound corporate governance is the bedrock upon which continuous growth of the Group's corporate value depends, and this year was no exception to our constant improvements and reinforcements to governance. For fuller discussions on medium- to long-term group strategies and issues at the holding company board meetings, we reduced inside board directors by three and added an outside board director after the June 2019 general shareholders' meeting. This nine-director system, which now has three outside board directors, will continue to be used after the June 2020 general shareholders' meeting.

Besides matters related to our adoption of a holding company structure and our long-term vision, in discussions on group governance the board reviews basic internal control system policies, establishes new organizations and committees under the holding company structure, reviews agenda items and approval criteria, and studies delegation of authority to operating companies, as well as the addition of matters for deliberation. In my view, we have succeeded in making the board more effective. (Reference: “Foundation for Creating Value: Corporate Governance,” p. 50–57)

6 Key year 2020 for sustained growth

We have undertaken two major transformations since the company was founded in 1928. The first occurred in the 1930s, as we moved on from our original business model in oil refining to become an engineering company. The second happened in the 1960s, as we took on a larger, global market from the previously targeted limited domestic market. Since then, despite facing many risks in a turbulent global market, we have achieved sustained growth and sought higher corporate value by constantly anticipating and overcoming market changes. (Reference: “JGC Story: Growth Trajectory,” p. 21–22) Low-carbon and decarbonization trends are accelerating as the world continues to move toward a sustainable society, and we can also expect far-reaching changes to society, industry, and everyday life in the wake of Covid-19. Accordingly, I believe it is by contributing to the solutions for a broader range of social issues in the areas of resources, the environment, health, and society, that we will achieve sustained growth as a corporate group. The third major transformation in a corporate history long focused on overseas oil and gas will surely be implementation and success in the long-term 2040 vision that we are currently formulating. In this context, we recognize that for sustained growth linked to solutions addressing a wide range of social issues, 2020 represents a key year for developing the long-term 2040 vision.

Our next medium-term business plan, to be effective as of fiscal 2021, will be positioned as the first step in the long-term 2040 vision, and details will be announced around May 2021.

We appreciate the ongoing support of all stakeholders.

Message from COO

Representative Director, President,
and Chief Operating Officer

Tadashi Ishizuka

Managed numerous projects outside of Japan after initially working in the Domestic Project Construction Division in 1972. Appointed Managing Director and Senior General Manager of the Project Operation Services Division in June 2008, Senior Managing Director in 2010, Executive Vice President and Board Director in June 2011, Senior Executive Vice President and CPO in February 2017, and President and COO in June of that year.



Fully Committed to Overcoming Market Uncertainty

1 Completely changed market environment

In early 2020, the market conditions faced by the JGC Group changed drastically in the wake of sharply lower crude oil prices and the subsequent new coronavirus pandemic (Covid-19). As energy demand plunged from the global economic slowdown, six oil majors including ExxonMobil and Shell announced that they would reduce fiscal 2020 capital investment by more than \$30 billion relative to their original plans. Large-scale LNG projects and many other capital investment plans have been postponed, and the outlook for the plant market remains uncertain.

Despite our ¥800 billion order target for fiscal 2019, final investment decisions for several expected orders were postponed, including the Rovuma LNG project in Mozambique, the Jordan Cove LNG project in the U.S., and an LNG receiving terminal in the Philippines, resulting in ¥189.6 billion of orders. In business results, analysis of the impact of Covid-19 on current projects, accounting for risks, led us to conclude that net income attributable to owners of the parent remained at ¥4.1 billion, in comparison with the forecast of ¥10 billion.

As COO, I would like to ensure that we meet our fiscal 2020 order target and results forecasts even in the current uncertainty. Moreover, as we formulate our long-term 2040

vision for the Group's third major transformation in its corporate history, I will be encouraging proactive efforts.

2 Securing orders for projects likely to proceed

In fiscal 2020, we are targeting ¥670 billion in total engineering orders, which breaks down to ¥400 billion in overseas oil and gas, ¥140 billion in overseas infrastructure, and ¥130 billion in domestic EPC. We are in the difficult position of having to achieve our target for orders amid this uncertainty as to when large-scale LNG plans will materialize in a market served by our total engineering business, and especially in overseas oil and gas. Nevertheless, we are fully committed to meeting this target, in line with the following policies. (Reference: "Business Strategies," p. 79–84)

In overseas oil and gas, we were awarded the Basra refinery modernization project in Iraq. As an order amounting to nearly ¥400 billion, the project places us in a good position to reach our target for the fiscal year. For other projects too, we will continue to assess the possibility of materializing and securing orders for projects that are likely to proceed.

In overseas infrastructure, we are aggressively engaged in sales activities aimed at winning orders for a non-ferrous metal refining project in Indonesia. Additionally, we are stepping

up efforts to receive orders for solar power plants in Asia as we establish a proven record in renewable energy outside of Japan, following our completion of three solar power plants in Vietnam. Overseas infrastructure is also a segment where we are increasing our workforce, and to enable the JGC Group to be profitable in multiple businesses – both nominally and in reality – we are striving to achieve our order target of ¥140 billion in fiscal 2020.

In domestic EPC, despite some impact from Covid-19, we can expect orders for biomass power plants, pharmaceutical manufacturing facilities, hospitals, nuclear power plant-related services, and refinery and petrochemical plant maintenance. There may be a strong sense of uncertainty in markets outside of Japan, but domestic EPC remains a supporting force in our total engineering business. We hope to achieve results surpassing the order target of ¥130 billion.

In functional materials manufacturing, Covid-19 has been a cause for concern, with refineries and other sites operating at reduced capacity due to a global economic slowdown and lower energy demand. Nevertheless, we view this as a critically important business accounting for 25% (¥5 billion) of operating income in the results forecast for fiscal 2020. As we monitor market developments, we are aiming to achieve our initial sales and operating income targets.

3 Impact of Covid-19 on current projects

As stated in the fiscal 2020 results forecast, we project net sales of ¥480 billion, gross profit of ¥43 billion, operating income of ¥20 billion, ordinary income of ¥23 billion, and net income attributable to owners of the parent of ¥8 billion. The gross margin ratio is expected to remain the same as in fiscal 2019, at 9.0%, but the net income mentioned will continue to

be partly impacted by a higher effective tax rate from increases in foreign income taxes in fiscal 2019.

As for the effect of the pandemic on current domestic and international projects, we calculated the impact on each project, accounting for additional costs expected in major projects and client terms and conditions, to total approximately ¥8 billion in fiscal 2019.

Unless there are significant changes in the business environment, we expect the impact on our fiscal 2020 results forecast to be minor, but we will continue to negotiate with clients to recover additional costs that have arisen as a consequence of Covid-19.

Inevitably, current international and domestic projects must proceed under various restrictions from the standpoint of containing infection in countries where construction is underway and other areas involved. This includes the LNG Canada project, three Algeria projects, two FLNG projects, and others. Project management will remain rigorous as we take the utmost care to prevent infection and maintain close communication with our clients.

4 Essential for sustained growth: transforming project execution capabilities

In line with the group management policy of steadily increasing the ratio of new business areas while ensuring revenue from existing operations, with a focus on overseas oil and gas, as COO I recognize that sustained growth for the Group is unattainable without transforming and improving our project execution capabilities in the overseas oil and gas area. I am determined to address this need.

We also intend to transform our overseas oil and gas business as a whole, by pursuing our vision of JGC one decade from

New business areas of interest for 2040

Low-carbon/decarbonization engineering
Leading the shift toward reduced carbon and decarbonization of conventional energy sources
Recycling
Promoting effective use of the world's limited resources
Infrastructure, industrial innovation
Providing infrastructure that helps solve a variety of global social issues

now. Among other things, this entails rebuilding our global project execution framework, gaining non-price competitiveness, developing new areas, and expanding the scope of our services. In this context, we view enhanced digital transformation (DX) efforts as a critical component. With regard to DX, we have established our IT Grand Plan 2030 and are engaged in a variety of activities to prepare for our vision of project execution in the year 2030. As we digitize engineering data from process engineering to detailed engineering with attributes and we link it to AI design, we will continue focusing on progress toward an engineering transformation. (Reference: "Feature 2: Business Innovation Through Digital Transformation," p. 33–34)

5 Environmental business with large growth potential

In the environmental field, to date the Group has promoted use of relatively low-impact fossil energy through the design and construction of LNG plants while at the same time expanding renewable energy generation by the design and construction of solar, biomass, and wind power plants. We have also developed an array of environmental technologies.

Among new business areas for exploration identified in the long-term 2040 vision under development, we view several segments as likely to join the Group's portfolio of

New energy
Building future energy infrastructure
Healthcare, life sciences
Keeping people healthy and contributing to the well-being of society
Functional materials for low-carbon and environmental purposes
Creating innovative materials that help industries advance

key businesses in the future: the environmental segments of new energy, low-carbon/decarbonized engineering, recycling, and functional materials supporting carbon reduction and environmental protection.

In October 2019, we established a dedicated organization in JGC Holdings that is now active in commercializing environmental technologies for applications such as CO₂ emissions reduction and waste plastic recycling. (Reference: "Feature 1: Accelerating Commercialization of Environmental Technologies," p. 31–32). In functional materials manufacturing also, we have stepped up development and production of silicon nitride substrates for EV/HV power units, as well as microplastic alternatives. These are some examples of how we are already engaged in business consistent with our long-term 2040 vision. We plan to accelerate development of environmental business built on these promising technologies.

6 Concluding words

Fiscal 2020 is a year to meet target orders and results forecasts while establishing a long-term 2040 vision looking toward the third major transformation in our corporate history. As COO, I remain fully committed to overcoming current uncertainty and achieving sustained growth.

We sincerely thank you for your support.

Message from CFO



Director, Senior Executive Vice President,
and Chief Financial Officer

Kiyotaka Terajima

After joining JGC in 1981, established business alliances and developed contracts for domestic and overseas projects in the Legal Department. Appointed Executive Officer and Deputy General Manager of the Corporate Administrative & Financial Affairs Division in 2014, Director, Executive Officer, and Senior General Manager of the division in 2016 (Senior Executive Officer in 2017), Executive Vice President and CFO in April 2018, and Senior Executive Vice President in April 2020.

Implementing Financial Measures that Support Sustained Growth

1 Current situation and duties as CFO

In an uncertain market environment that includes factors such as the drop in crude oil prices and the coronavirus pandemic (Covid-19), the Group is currently tasked with two challenges: meeting fiscal 2020 order targets and results forecasts while establishing a long-term 2040 vision for sustained growth as a corporate group.

As CFO, I intend to support our efforts in the face of these two challenges through financial measures.

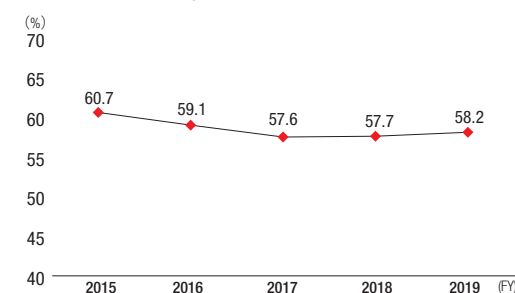
2 Maintaining sound finances

To secure and execute large-scale projects in overseas oil and gas engineering operations, our goal is to sustain robust finances largely unaffected by short-term market trends, and to keep flexible our funding capacity for large-scale investment. We aim to maintain a stable equity ratio of 50% or higher. As of the end of fiscal 2019, the equity ratio stood at 58%. Despite

sluggishness in the plant market from 2015 to 2017, our discipline in financial operations over this time has placed us on a solid financial footing.

Early 2020 saw crude oil prices plummet after OPEC+ failed to agree on production cuts, and Covid-19 has resulted in reduced energy demand. This has made market forecasts difficult for total engineering as well as for functional materials manufacturing. For the Group to prevail in this severe environment, we recognize that sound finances are more important than ever.

Shareholders' equity ratio



3 Liquidity in hand and stance on allocation

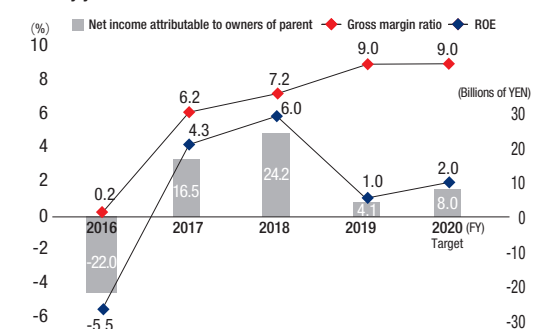
Liquidity in hand has improved significantly. Now that replacement cost no longer applies in the Ichthys LNG Project and capital recovery is in progress from projects in Algeria, net operating cash flow has increased. We have also obtained revenue from the sale of business investment assets after cross-holdings sales and a review of cross-shareholding. Current cash and cash equivalents as of the end of fiscal 2019 stood at ¥261.8 billion, a year-on-year increase of roughly ¥100 billion.

Financial needs for the Group include ample working capital for steady execution of total engineering projects, investment in AI/IoT in order to keep effective business operations, capital investment in functional materials manufacturing, and growth strategy investment in order to explore and commercialize potential new pillars of business. To meet such financial needs, it is our policy to consider cash in hand, among other options.

4 Toward greater capital efficiency

The Group has a target ROE of 10% or higher, accounting for cost of equity. Although ROE improved to 4.3% in fiscal 2017 and 6.0% in fiscal 2018 in part from our success in reinforcing project risk management after recording a net loss in fiscal 2016, ROE subsequently declined to 1.0% in fiscal 2019. The reasons are that corporate tax rose on higher foreign taxes, among other factors, and risk to current projects posed by Covid-19 was partially reflected in construction profitability, leading to lower net income attributable to owners of the parent.

Net income attributable to owners of parent, gross margin ratio and ROE by year



In order to improve ROE, it is required that the Group continue its thorough project risk management and that it cut costs to ensure profit from current and future projects. Also important is to continue generating and expanding stable and reliable revenue from functional materials manufacturing and total engineering consisting of three businesses that include overseas infrastructure and domestic EPC, instead of relying solely on overseas oil and gas which as a business is affected by fluctuations in the resource market. Moreover, the long-term 2040 vision under development will map a course for sustained growth by addressing a broader range of social issues including resources, the environment, society, and health, which promises to hold a greater potential for generating profit. As CFO, I am committed to timely and accurate allocation of resources for growth investment, based on suitable evaluation of risks and returns from investment projects, in order to improve capital efficiency through expanded profit.

5 Shareholder return

The Group positions shareholder return for investors as a key management issue and the basis of cash dividends. Our dividend payout ratio target is 30% of net income attributable to owners of the parent. Although this net income for fiscal 2019 was below the forecast announced at the beginning of the fiscal year, in consideration of liquidity in hand and other factors we maintained the same cash dividend as announced, ¥12 per share. We anticipate the same amount of ¥12 per share in fiscal 2020.

Recognizing that share buy-back is a form of shareholder return, we will consider this based on an overall assessment of market environments, the outlook for business performance, cash in hand, stock price developments, financial needs such as growth strategy investment, and other considerations.

We appreciate the understanding and support of all stakeholders.

Financial Highlights

(Millions of yen)

	March 31, 2011	March 31, 2012	March 31, 2013	March 31, 2014	March 31, 2015	March 31, 2016	March 31, 2017	March 31, 2018	March 31, 2019	March 31, 2020
Performance Highlights										
Net Sales	447,222	556,966	624,637	675,821	799,076	879,954	693,152	722,987	619,241	480,809
Operating Income or Operating Loss (–)	63,559	67,053	64,123	68,253	29,740	49,661	–21,496	21,495	23,249	20,234
Net Income Attributable to Owners of Parent or Loss Attributable to Owners of Parent (–) ^{*1}	25,477	39,111	46,179	47,178	20,628	42,793	–22,057	16,589	24,005	4,117
New Contracts	618,203	793,278	594,091	818,161	769,680	320,626	506,293	547,826	935,451	189,643
Outstanding Contracts	1,163,256	1,506,146	1,549,813	1,767,814	1,772,036	1,192,625	1,045,684	846,157	1,208,365	941,618
Financial Position at Year-end										
Total Current Assets	319,464	376,172	460,231	575,886	533,538	522,747	480,865	521,320	541,747	537,955
Total Current Liabilities	174,293	205,771	262,439	333,353	286,533	225,203	226,457	215,773	223,559	228,386
Total Assets	468,502	526,169	628,757	746,102	719,754	689,782	646,291	684,921	708,855	671,273
Total Net Assets	264,483	291,042	336,083	379,882	388,496	419,673	383,260	395,779	410,350	390,979
Shareholders' Equity	263,983	290,415	335,534	374,654	387,480	418,695	382,215	394,701	409,254	390,516
Cash Flow										
Net Operating Cash Flow	48,214	97,847	85,010	120,576	–71,416	–49,764	–28,884	5,539	–55,259	92,442
Investment Cash Flow	116	–18,746	–28,370	–18,728	–23,411	8,696	–12,979	11,736	–4,662	19,364
Financing Cash Flow	–7,317	–20,536	–3,695	–10,687	3,836	–4,374	–19,674	33,781	–13,878	–7,699
Cash and Cash Equivalents at End of Year	161,894	222,556	284,777	385,252	297,707	247,947	185,603	235,394	160,841	261,898
Financial Highlights										
ROA (Return On Assets) (%)	14.1	14.6	12.6	12.2	6.1	7.4	–2.3	3.8	4.6	3.2
ROE (Return On Equity) (%)	10.0	14.1	14.8	13.3	5.4	10.6	–5.5	4.3	6.0	1.0
Net Income per Share or Net Loss per Share (–) (in yen)	100.83	154.90	182.91	186.90	81.73	169.60	–87.42	65.75	95.14	16.32
Cash Dividends per Share (in yen)	30.0	38.5	45.5	46.5	21.0	42.5	30.0	25.0	28.5	12.0
Gross Margin Ratio (%)	18.2	15.6	13.5	13.1	6.6	8.3	0.2	6.2	7.3	9.0
Operating Income Ratio or Operating Loss Ratio (–) (%)	14.2	12.0	10.3	10.1	3.7	5.6	–3.1	3.0	3.7	4.2
Shareholders' Equity Ratio (%)	56.3	55.2	53.4	50.2	53.8	60.7	59.1	57.6	57.7	58.2
Current Ratio (%)	183.3	182.8	175.4	172.8	186.2	232.1	212.3	241.6	242.3	235.5
Payout Ratio (%)	29.8	24.9	24.9	24.9	25.7	25.1	–	38.0	30.0	73.5

^{*1} As a consequence of applying "Accounting Standard for Business Combinations" (ASBJ Statement No. 21, September 13, 2013), "Net income" is referred to as "Net income attributable to owners of parent" from the fiscal year ended March 2016 onward

CHAPTER 2

JGC Group Value Creation

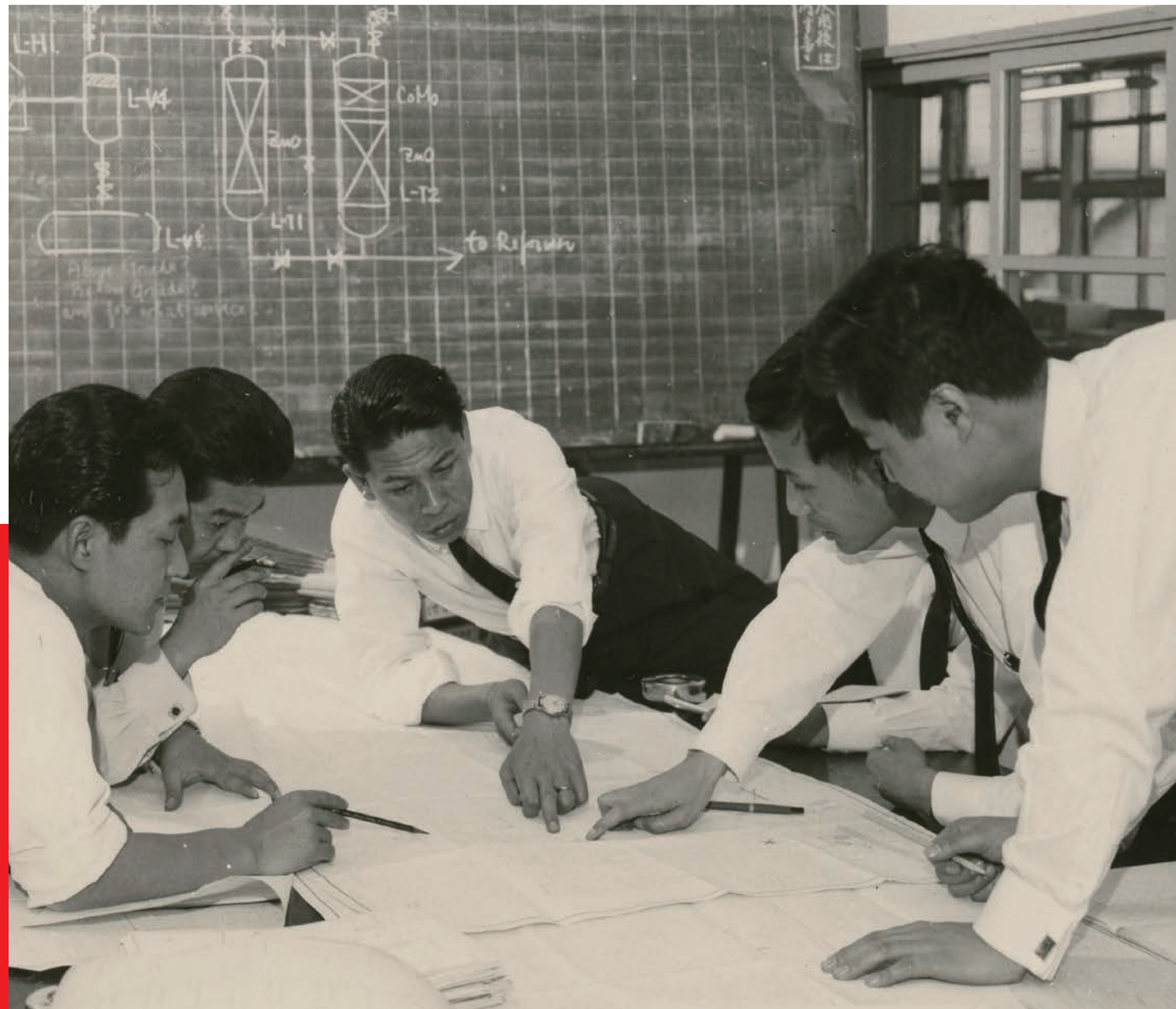
This chapter tells the story of the JGC Group, with highlights including historical growth, value creation, and the path to sustained growth.

21 JGC STORY

- 1 Growth Trajectory
- 2 JGC Group Materiality
- 3 Value Creation Process
- 4 JGC Group's Business
- 5 Roadmap to the Sustainable Growth

31 Highlights 1 Accelerating Commercialization of Environmental Technologies

33 Highlights 2 Business Innovation through Digital Transformation



JGC office in the 1950s

JGC STORY

Growth Trajectory

JGC Group growth is driven by constant transformation and ceaseless diligence in adapting to changing times and a changing world.

Net sales by year*
(¥ billions)

— 1,000

Key Developments

1960
OPEC established

1962
Liberalization of crude oil imports in Japan

1973
First oil crisis, fourth Arab-Israeli conflict, floating exchange rates adopted

1980
Iran-Iraq War (ends 1988)

1979
Second oil crisis

1985
Plaza Accord

1987
Black Monday

Global recession triggers a sharp downturn in projects

1991
Gulf War

2001
September 11 terror attacks

2003
Iraq War

2005
Kyoto Protocol comes into effect

2008
Subprime mortgage crisis

2011
The great East Japan Earthquake

2015
Paris Agreement adopted
SDGs adopted at UN summit

2020
Global pandemic of COVID-19

Asian financial crisis undermines regional projects
Regional focus shifts to the Middle East

High crude oil prices spur capital investment by Middle Eastern and other producers

Drop in projects due to global recession from the subprime mortgage crisis

Return to higher crude oil prices.
Stronger capital investment by producers

Net sales
Fiscal year ended March 2000
Total Engineering
¥258.8 billion
Functional Materials Manufacturing
¥21.7 billion

Net sales
Fiscal year ended March 2010
Total Engineering
¥376.4 billion
Functional Materials Manufacturing
¥37.8 billion

Net sales
Fiscal year ended March 2020
Total Engineering
¥426.7 billion
Functional Materials Manufacturing
¥46.6 billion

*Non-consolidated figures used until fiscal year ended March 1999; consolidated figures used from fiscal year ended March 2000.

1928

Founded as Japan Gasoline Co., Ltd.
(currently JGC Holdings Corporation)

Founded to build and operate domestic refineries.

1930s-1950s

Full-scale EPC,
start of catalyst production business

Services begin, with refinery and petrochemical plant constructions from the 1950s supporting rapid domestic economic growth. Production of catalysts used in the oil industry underway by the 1940s.

1960s

Concerted international expansion

Overseas expansion takes off, as JGC executes refinery construction projects in South America and moves into markets including China, Southeast Asia, and North Africa.



1970s

Earning a reputation as a world-class engineering firm

Awarded a series of orders in resource-producing countries for oil refinery, petrochemical, and gas-processing facilities; built the first LNG plant in Brunei. Start of environmental and energy consulting business.



1980s

Building a global network for project execution, diversifying operations

Globalization of project execution promoted, as sudden yen appreciation reduces cost competitiveness. Ventured into life sciences sector and launched the fine ceramics production business.



1990s

Overcoming crisis, responding to an era of gas demand

Withstood a wave of global restructuring and realignment in engineering; responded to growing gas demand, and secured a succession of orders for natural gas processing and LNG plants.



2000s

Business expansion driven by accelerated worldwide resource development

Energy demand expands in emerging countries. Higher sales and profit through resource development projects for Middle Eastern oil producers; now a world leader in the LNG plant industry.



2010s

Expansion of business segments and regions, adoption of a holding company structure

North American expansion capitalizing on regional advances in shale oil and gas development; power generation projects now reflect a commitment to offshore, thermal, and renewable energy. As of October 2019, JGC becomes a corporate group with a holding company structure, pursuing stable, sustained growth from a multi-business portfolio.



Visit us online to learn more about JGC Group history.

<https://www.jgc.com/en/about/history.html>

JGC STORY

JGC Group Materiality

Six issues are positioned as materiality by the JGC Group and addressed to contribute to a sustainable society and achieve sustained corporate growth.

Progress in these six areas will be published in the Company's integrated reports and online, and we will review their sustainability and consider new materiality as needed in response to changes in macrorends and our business.

Positioning as materiality

Issues positioned as materiality are viewed as a key element, fundamental in establishing management policies and conducting business. Through sound business activities, the JGC Group hopes to help solve social issues and create economic, social, and environmental value.

Six
material issues

Management policies
Business activities

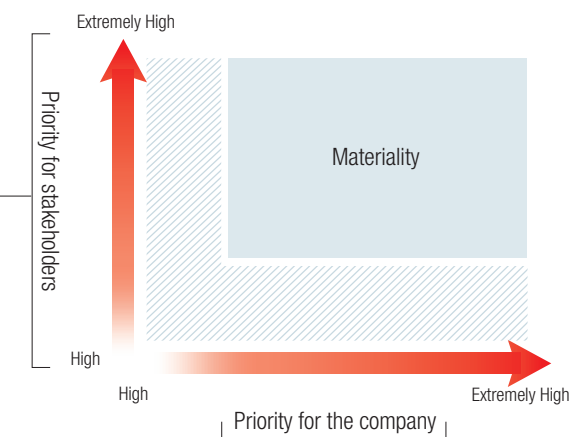
Output

- Economic value
- Social value
- Environmental value

Process to identify materiality

Social issues to be addressed by the Group are selected through analysis of GRI guidelines, ISO 26000, SDGs, and other international guidelines and global macrorends.

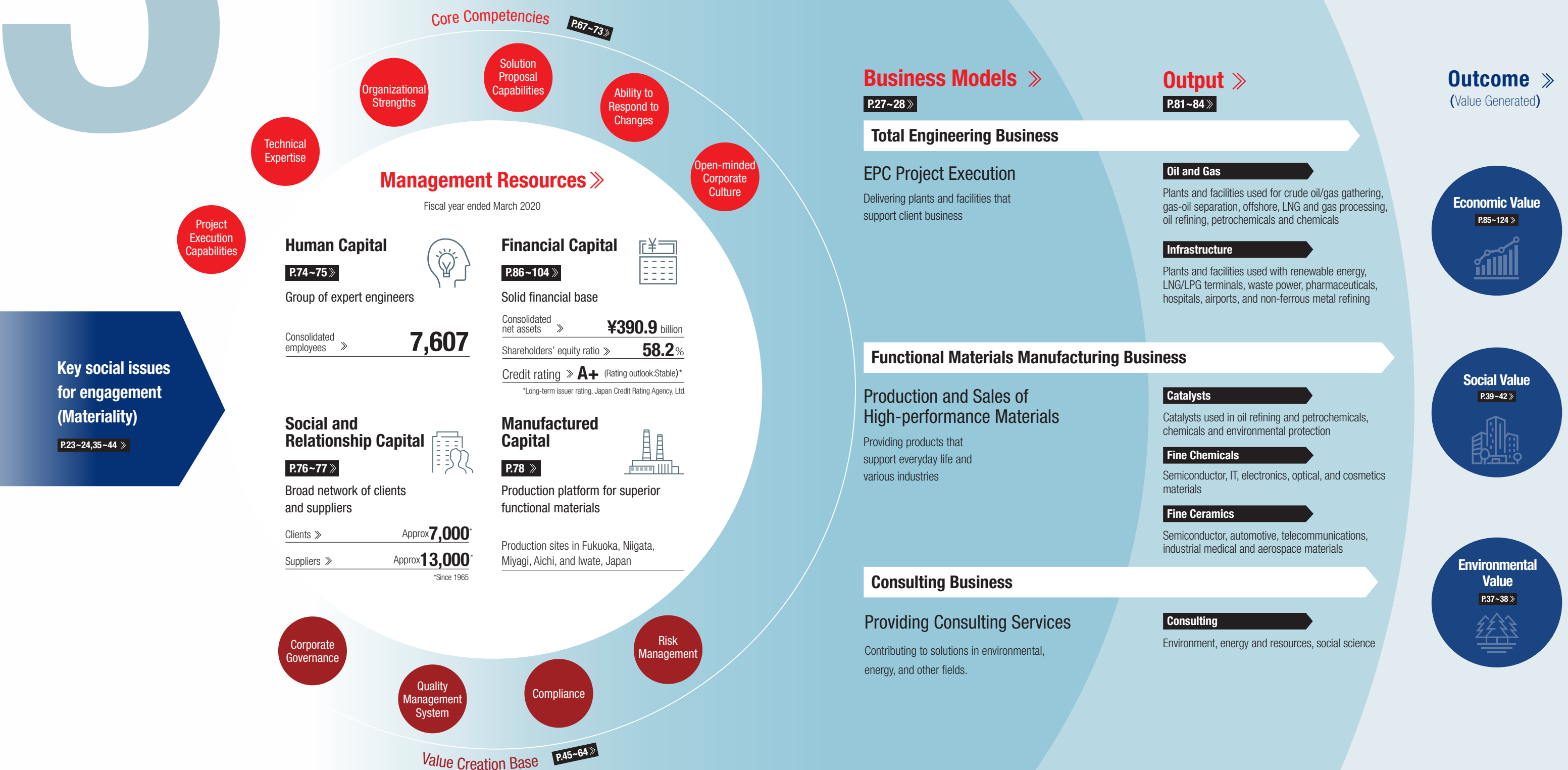
Six material issues that take precedence are determined from a comprehensive evaluation of priorities from the standpoint of society, stakeholders, and the company.



	Materiality		Related SDGs	Recognized Social Issues	Group Initiatives
ESG	Societies in harmony with environment P.37 »			<ul style="list-style-type: none"> •Reducing the environmental impact of fossil energy •Promoting use of a greater share of renewable energy •Protecting ecosystems, maintaining biodiversity •Promoting development of products and technologies that help curb global warming 	<ul style="list-style-type: none"> •Construction of Fossil Energy Plants with a Lighter Environmental Footprint •Construction of Renewable Energy Plants •Protecting rare plants and animals near construction sites •Producing environmentally beneficial products in volume and pioneering environmental technology business
	Materiality to address through business activities	Working with local communities around the world P.39 »		<ul style="list-style-type: none"> •Contributing to economic and industrial development in emerging markets •Creating employment in emerging markets •Supporting technology transfer and human resource development in emerging markets 	<ul style="list-style-type: none"> •Construction of plants and facilities in emerging markets •Promoting procurement in emerging markets •Training and educating engineers in emerging markets
		Energy access P.40 »		<ul style="list-style-type: none"> •Promoting workplace diversity •Promoting female hiring and strengthening skill-building •Respecting human rights in all business activities 	<ul style="list-style-type: none"> •Promoting measures that encourage workplace diversity •Expanding the personnel system accounting for opportunities and skill-building for women •Ensuring thorough respect for human rights, including in supply chains
	Materiality to achieve as a result of business activities	Human rights, employee motivation P.41 »		<ul style="list-style-type: none"> •Meeting greater global energy demand •Promoting wider use of renewable energy that contributes to sustained growth •Enhancing productivity through greater global energy efficiency 	<ul style="list-style-type: none"> •Construction of various types of energy plants in regions worldwide •Promoting wider use of renewable energy •Making energy plants more efficient and reducing energy consumption
		Quality of life P.42 »		<ul style="list-style-type: none"> •Responding to aging social and industrial infrastructure •Promoting development of social and industrial infrastructure in emerging markets •Improving global medical standards •Making life more convenient and comfortable 	<ul style="list-style-type: none"> •Conducting maintenance business for social and industrial infrastructure •Construction of various infrastructure facilities in Southeast Asia •Construction of pharmaceutical plants and medical facilities •Development and production of functional materials for electronics, everyday products, and more
G	Corporate governance, risks management P.50 »			<ul style="list-style-type: none"> •Strengthening and improving corporate governance •Ensuring regulatory compliance in business activities •Responding appropriately to corporate and business risk 	<ul style="list-style-type: none"> •Continuing to strengthen corporate governance and ensure efficacy •Being thorough about compliance policies, strengthen related activities •Practicing thorough risk management

JGC STORY

Value Creation Process



Key social issues
for engagement
(Materiality)

P.23~24, 35~44 »

4 JGC STORY

JGC Group's Business

JGC Group creates economic, social and environmental value through mainly two business models: Total Engineering (in Oil & Gas and Infrastructure segments) and Functional Materials Manufacturing.

Total Engineering Business >>

The plants and facilities developed through projects support client business of all kinds. We work with clients from early on, in the initial planning stages of feasibility studies (FS) and front-end engineering and design (FEED). After projects are complete, operations and maintenance services are also available. This ensures that throughout the life cycle of plants and facilities, clients can get the most from their business.

Sequence of project execution



Covered Sectors

Oil & Gas

Plants and facilities used for crude oil/gas gathering, gas-oil separation, offshore, LNG and gas processing, oil refining, petrochemicals, chemicals, and others

Infrastructure

Plants and facilities used for renewable power generation, LNG/LPG terminals, waste power, non-ferrous metal refining, pharmaceutical manufacturing plants, hospitals, airports, and others

Representative Product and Service



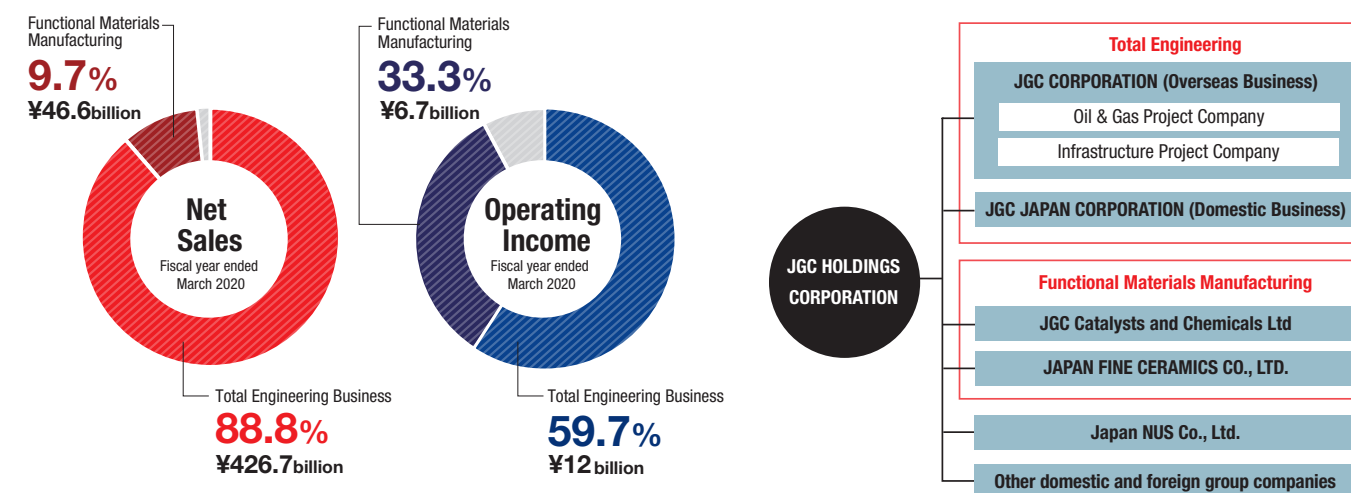
LNG plants



Solar power plants



Pharmaceutical plants



Functional Materials Manufacturing Business >>

Through R&D, planning, production, and sales in this business, JGC Group offers an array of catalysts, fine chemicals, and fine ceramics that enhance the value of our customers' operations in many applications.

Sequence of business operations



Covered Sectors

Catalysts

Catalysts used in oil refining and petrochemicals, chemicals and environmental protection

Fine Chemicals

Semiconductor, IT, electronics, optical, and cosmetics materials

Fine Ceramics

Semiconductor, automotive, telecommunications, industrial, medical and aerospace materials

Representative Product and Service



FCC (fluid catalytic cracking) catalysts



Silica Sol for HDD polishing



High-thermal-conductivity silicon nitride substrate

Consulting Business >>

Our Consulting business spans intelligence and research, field research, analysis and evaluation, and reliability and risk assessment in environmental, energy, resources, and social sciences fields. In this broad range of consulting services, we apply extensive experience and proven technology to help find solutions to diverse issues faced in Japan and around the world.



JGC STORY

Roadmap to the Sustainable Growth

Sustainability-oriented Social Issues to Address

	Stable Food Supply for All	Total global population ^{※1}	2020: 7.7 billion people 2050: 9.7 billion people
	Assurance of Health and Well-being for All	Global population 65 or older ^{※2}	2019: 700 million people 2050: 1.5 billion people
	Water Conservation	Global water demand ^{※3}	2019: 4,600 km ³ 2050: 6,000 km ³
	Improvement of Energy Access	Global primary energy consumption ^{※4}	2017: 13,511 Mtoe 2040: 17,866 Mtoe
	Building Foundations for Infrastructure, Technological Innovation	Projected global demand for infrastructure development (2016–2030) ^{※5}	\$53 trillion
	Development of Safe, Secure, Comfortable Cities	Global urban population ratio ^{※6}	2020: 56.2 % 2040: 65.5 %
	Establishment of Recycling Systems	Global waste generated annually ^{※7}	2018: 2 billion tons/year 2050: 3.4 billion tons/year
	Promoting Decarbonized / Low-carbon Societies	Rate of CO ₂ reduction to meet Paris Agreement targets ^{※8}	By 2030: 7.6 % reduction each year
	Conservation of Oceans, Marine Ecosystems	Global marine plastic waste ^{※9}	approx. 150 million tons

Core Competencies

Technical Expertise
Project Execution Capabilities
Organizational Strengths
Solution Proposal Capabilities
Ability to Respond to Changes
Open-minded Corporate Culture



The JGC Group pursues further growth through contributions toward a sustainable society.

The JGC Group is currently establishing 2040 Vision, a long-term vision that will inform the next medium-term business plan beginning in fiscal 2021. Based on creating shared value, the vision will guide us in efforts to transform current business while addressing urgent social issues on the path to sustainability, as we promote exploration of new business areas in the context of our core competencies to take on these social issues.

Transforming Existing Business

Significantly more competitive, from an innovation in project execution capabilities

Exploring New Business Areas

Business Segments Envisioned*

Low-carbon / Decarbonized Engineering

Focusing on segments that combine fossil energy with low-carbon technologies, such as CCS

Functional Materials Supporting Carbon Reduction and Conserving Environment

Contributing to greater EV/HV demand, microplastic alternatives, and other forms of carbon reduction and decarbonization

Resource Recycling

Responding to expanded resource recycling, such as plastic and other waste

New Energy

Focusing both on conventional renewable energy and new areas of energy, such as hydrogen and ammonia

Infrastructure, Industrial Innovation

Meeting greater demand for construction of advanced water, transportation, and other infrastructure and smart factories

Healthcare, Life Sciences

Responding to global population growth, longer life expectancy, and higher medical standards

* Subject to change

2040 Vision
(to be announced in 2021)

Sources

※1 UN"World Population Prospects 2019"

※2 UN"World Population Ageing 2019"

※3 IASA"Water Futures and Solution 2016"

※4 BP"BP Energy Outlook 2019 edition"

※5 OECD"Strategic Transport Infrastructure Needs to 2030"

※6 UN"World Urbanization Prospects 2018"

※7 World Bank Group"What a Waste 2.0"

※8 UNEP"Emissions Gap Report 2019"

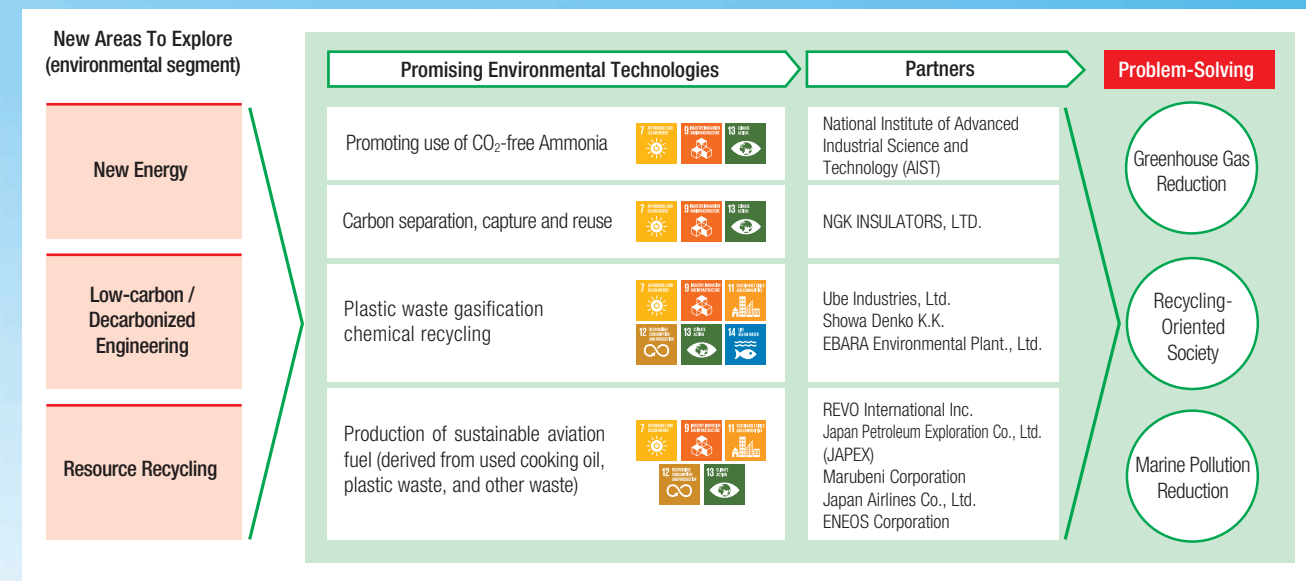
※9 McKinsey & Company and Ocean Conservancy

"Stemming the tide:Land-based strategies for a plastic-free ocean"

Highlights

Accelerating Commercialization of Environmental Technologies

Recognizing how firmly established the trend toward building sustainable societies has become, the JGC Group regards environmental business in particular as a priority segment. We focus on our own environmental and other technologies, drawing on collaboration with corporations and universities that maintain and develop other advanced technologies, to promote building new business. To accelerate this development, the Sustainability Co-Creation Department was established on October 1, 2019, under direct supervision of the president.



Sustainable Society as Envisioned and Pursued by the JGC Group



New Energy

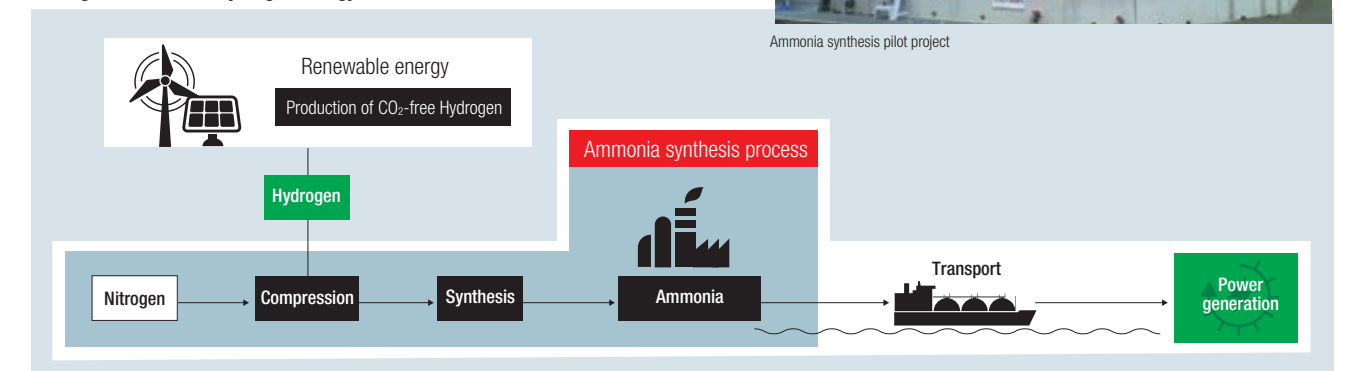
Promoting Use of CO₂-free Ammonia as a Hydrogen Energy Carrier

In efforts toward a low-carbon society, we can anticipate expanded use of hydrogen energy, which does not emit CO₂ during combustion. However, many commercial challenges remain. From an economic standpoint, for example, large-scale and highly efficient conversion to an energy carrier for transport is needed. In collaboration with AIST, the JGC Group is promoting establishment of technologies to commercialize hydrogen energy. One facet is developing new catalysts and processes to synthesize ammonia (which does not emit CO₂ during combustion) using hydrogen produced from renewable energy as a raw material.



Ammonia synthesis pilot project

Using Ammonia as a Hydrogen Energy Carrier



Low-carbon / Decarbonized Engineering

Carbon Separation, Capture and Reuse

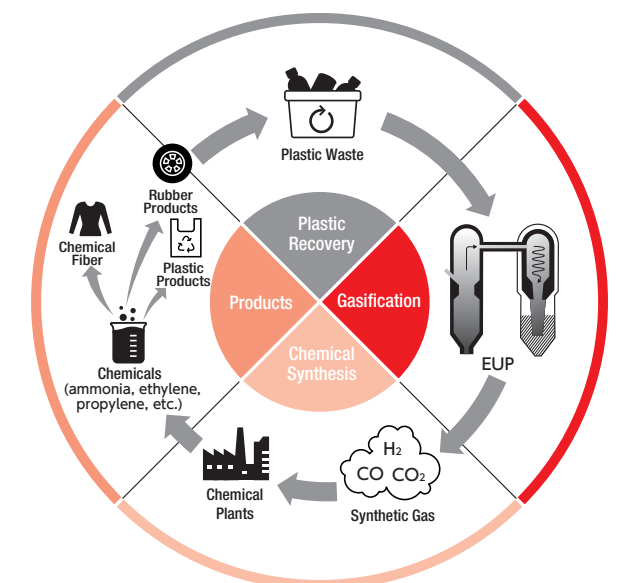
Working with NGK INSULATORS, the JGC Group has developed high-efficiency CO₂ separation and capture technology using DDR-type zeolite membranes. Large-scale field testing is underway in the United States. Use of these techniques—separation and capture of CO₂ from associated gas during crude oil production, or removal of CO₂ during natural gas refining—helps promote CO₂ recycling as well as development of energy resources with lower environmental impact. Gas processing costs are also reduced through this technology, which requires less energy to remove CO₂. To meet increasing energy demand, the technology will be applied in the development of challenging natural gas fields with high concentrations of CO₂.

DDR-Type Zeolite Membrane
(Source: NGK INSULATORS)

Recycling

Gasification Chemical Recycling of Plastic Waste

Plastic recycling is being promoted in response to global waste issues, with marine plastic pollution often cited as an example. In conjunction with Ebara Environmental Plant, Ube Industries, and Showa Denko, the JGC Group supports gasification chemical recycling that applies the Ebara Ube Process (EUP) to gasify waste plastic and convert it to synthetic gas that can be used in synthesis of chemicals such as ammonia or olefins.



Business Innovation through Digital Transformation

Currently making great strides, digital transformation (DX) is expected to shake up many areas of industry and society in the future. DX is actively promoted by the JGC Group, both to introduce innovation in existing businesses such as Total Engineering and to expand business models.

JGC Group's DX

Innovation in Executing Projects

Enhancing Productivity,
Creating added Value

Total Engineering

Engineering Procurement
Construction Project Management

Providing Digital
Solution Services

Exploring New Business Areas



Pioneering New Fields
with DX

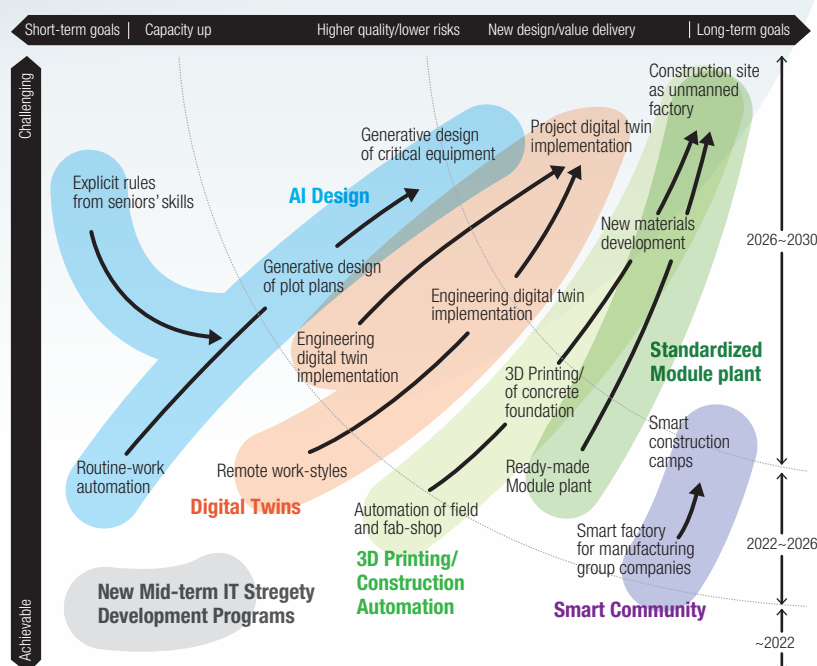
Innovation in executing projects

IT Grand Plan 2030: Future Vision and Roadmap for Total Engineering Business

The JGC Group established the IT-based project management technologies for Total Engineering Business in the 1970s, and continuously refined it over time. Currently, the JGC Group is taking on technical innovation for project execution and project management in line with IT Grand Plan 2030. The plan describes our future vision for this business, as enhanced by DX that is expected to evolve rapidly, and serves as a roadmap for attaining this vision. By 2030, we aim to complete projects twice as fast with one-third the current manpower.

2030 Targets (relative to 2020)

Man-hours  Construction time 
1/3 **1/2**



Innovation in executing projects

Enhancing Productivity, Creating added Value

A focus for the JGC Group is building our own DX-based advanced work packaging (AWP) system for further innovation in project execution in Total Engineering Business.

AWP (Advanced Work Packaging)

An approach employed for efficient, just-in-time construction that eliminates waiting time by breaking down the tasks to complete in a project and managing them according to relevant construction work.

JGC Group AWP

Construction-driven thinking

In managing project execution, an orientation toward overall EPC optimization centered on construction work requirements

DATA HUB

A system for efficient central management of all project information

- Overall optimization in project execution
- Making construction status visible
- Providing highly transparent plant hand-over data to clients

Based on overall optimization that the JGC Group has pursued for some time under a construction-driven approach to project execution, we have moved ahead in developing a Data Hub system for central management of related information and are now building our own AWP system applying these approaches. Expressing project progress visually and forecasting progress more accurately will be possible, and in addition to higher productivity from lower costs and earlier delivery, building the Digital Twins which replicate and visually express projects as a whole will enable us to create added value.

Exploring new business areas

Providing Digital Solution Services

The JGC Group is also engaged with digital solutions addressing technical challenges faced by our clients. Innovative, DX-based technical services provided by the JGC Group in Total Engineering Business include development of Airlike LNG technology package service for stable operation and higher productivity of air-cooled LNG plants, as well as integrated maintenance service (INTEGNANCE) for domestic oil refineries and petrochemical and chemical plants.

Smart maintenance service INTEGNANCE

Integrated maintenance and safety services

Support for aging facilities, corrosion/damage monitoring, risk assessment and support in international safety compliance, human resource development, skill shortage strategies, digitalization and automation, catalyst/chemical remaining life estimation, renovation project support

Four values

One-stop service

Providing complete support for all services from routine maintenance to regular planned maintenance and managing projects in line with client needs.



Connecting data

Linking data between various applications and services. Frees clients from routine work.



Data-driven

Accelerating work and enhancing quality through forecasts, decision-making, and planning based on data analysis.



Benchmarking

Enables comparative analysis with external data, drawing on extensive records.



Advantage 1 Cut costs through selectivity and focus in maintenance work

Advantage 2 Improve profitability through maintenance planning and project management

Exploring new business areas

Pioneering New Fields with DX

Applying DX in the JGC Group's Total Engineering Business and Functional Materials Manufacturing Business will enable us to provide services that are more value-added than ever before. By linking the Group's core and digital technologies, we are actively pioneering new business fields as well as working more efficiently in existing businesses.



CHAPTER 3

Materiality Initiatives

This chapter presents key issues and specific initiatives of the JGC Group toward sustainability in society.

- 37 Societies in Harmony with Environment
- 39 Working with Local Communities Around the World
- 40 Human Rights, Employee Motivation
- 41 Energy Access
- 42 Quality of Life
- 43 Ensuring Occupational Health and Safety
- 44 ESG Data Highlights



Solar power plant (Chiba, Japan)

E Societies in Harmony with Environment

Recognized Social Issues	Group Initiatives
Reducing the environmental impact of fossil energy	Construction of Fossil Energy Plants with a Lighter Environmental Footprint
Promoting use of a greater share of renewable energy	Construction of Renewable Energy Plants
Protecting ecosystems, maintaining biodiversity	Protecting rare plants and animals near construction sites
Promoting development of products and technologies that help curb global warming	Producing environmentally beneficial products in volume and pioneering environmental technology business

Construction of Fossil Energy Plants with a Lighter Environmental Footprint

LNG Plant Construction

In view of energy demand from a growing global population, fossil fuels are expected to continue to fulfill an essential role to a certain extent over the next few decades.

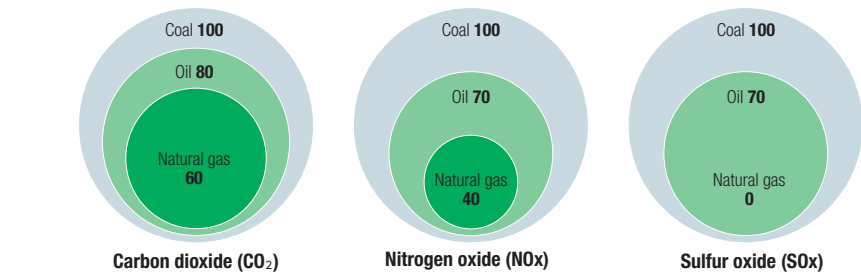
Among fossil fuels, natural gas has a low volume of carbon dioxide (CO₂) and nitrogen oxide (NOx) compared to coal and oil when burned, and its use is being expanded globally as a source of energy with an extremely low environmental burden that emits no sulfur oxide.

JGC possesses the technology to design and construct liquefaction equipment, the heart of LNG plants-something that few companies in the

world are able to do. Since building JGC's first LNG plant in Brunei in 1973, over a period of 50 years we have designed and constructed LNG plants responsible for over 30% of global output, responding to our clients' needs and accomplishing their projects as the leading contractor of LNG plants.

Furthermore, in recent years we have been developing technology for offshore LNG plants constructing and improving the productivity of LNG plants using AI technology, and we are actively working towards creating an environmentally friendly society through our business activities.

Emissions of Fossil Fuel Combustion Products (relative quantities with coal as 100)



Source: IEA "Natural Gas Prospects to 2010"

Track record of completed LNG plants

52Trains

Total capacity: 162,470,000 T/Y

Corresponds to over 30% of global output



Related SDGs >>

7

RENEWABLE ENERGY

12

RESPONSIBLE CONSUMPTION AND PRODUCTION

13

CLIMATE ACTION

15

LIFE ON LAND

Protection of Rare Plants and Animals Near Construction Site

Conservation During LNG Canada Construction

The construction site of LNG Canada Project is surrounded by grand nature, which is home to a large variety of native animals and plants. We are executing this project in harmony with the environment through the implementation of various conservation activities, such as realigning a river to avoid construction activities, as well as protecting native fish and expanding their habitat.



Conceptional drawing of the plant at completion

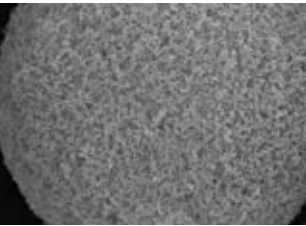
Mass Production of Environmentally Beneficial Products and Pioneering of Environmental Technology Business ※

Production of Microbead Alternatives

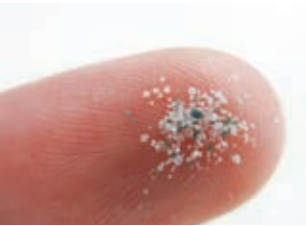
Recent years have seen the global emergence of problems with essentially non-biodegradable microbead pollution in the ocean. Cosmetics manufacturers are now using less of the plastic beads, spurred in part by an EU policy introduced in early 2019 to phase out this material as an additive in various products.

As an alternative to plastic microbeads on a scale of hundreds of microns, which are used in cosmetics such as foundation, lipstick, emulsion, and sunscreen as well as abrasive products including face scrubs and toothpaste, JGC Group develops and sells beads of silicon dioxide (silica), an abundant natural resource that makes up nearly 60% of the Earth's crust. Silica is a naturally circulating, sustainable mineral component. Hydrophilic

silica dissolves in water and is incorporated into phytoplankton and other organisms.



Silicon dioxide



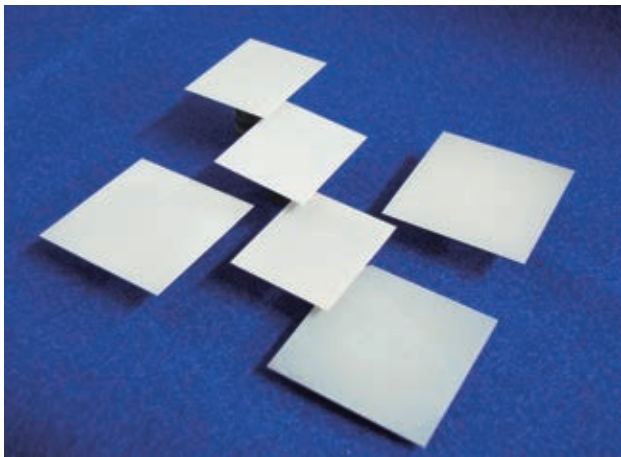
Non-biodegradable plastic microbeads

Volume Production of High Thermal Conductivity Substrates for EV/HEV Power Semiconductors

Amid growing needs for energy-efficient electric and hybrid vehicles, high-speed railways, and industrial equipment supporting a low-carbon society, it is essential to improve the performance of power modules that control the power of various equipment. Semiconductor substrates in particular are central in power modules, and as vehicle performance has improved in recent years, needs have emerged to develop robust components that do not break even under large currents.

By employing silicon nitride, a highly heat-resistant compound used in applications such as ball bearings, JGC Group has succeeded in developing silicon nitride ceramics with the world's highest thermal conductivity. Substrates made with the material withstand current 10 times higher than usual, which in conjunction with structural refinements that dissipate heat well can improve motor operating efficiency.

Slated for operation in 2020, a plant to produce silicon nitride ceramic substrates in volume is now under construction.



High thermal conductivity silicon nitride substrate

※Please go to "Accelerating Commercialization of Environmental Technologies" (p.31-32) for initiatives in pioneering of environmental technology business

S Working with Local Communities Around the World

Related SDGs >

4

EDUCATION

8

DECENT WORK AND ECONOMIC GROWTH

9

INDUSTRIAL INNOVATION AND INFRASTRUCTURE

10

REDUCED INEQUALITIES

Recognized Social Issues	Group Initiatives
Contributing to economic and industrial development in emerging markets	Construction of plants and facilities in emerging markets
Creating employment in emerging markets	Promoting procurement in emerging markets
Supporting technology transfer and human resource development in emerging markets	Training and educating engineers in emerging markets

Construction of Plants and Facilities in Emerging Markets

Contributing to Development in Algeria

Algeria boasts abundant resources, including crude oil and natural gas, and here, resource exploitation and exportation is the key industry. This business supports the country's economic and industrial development. Starting in 1969 when JGC Group was awarded Arzew Refinery construction by state-owned oil company Sonatrach, the Group has contributed to national development through construction of a variety of energy plants that have formed a cornerstone of industry for nearly 50 years. Besides creating many jobs for construction workers, this plant construction also contributes to overall plant industry growth, which is driven by our proactive stance on procurement from domestic material and equipment makers.



Arzew Refinery (completed in 1973)

Training and Educating Engineers in Emerging Markets

Promoting Domestic Procurement for Construction Sites

By actively promoting domestic procurement where plants are built, JGC Group contributes to the development of plant industries as a whole, including material and equipment manufacturing. Technology transfer is also supported. When JGC Group orders equipment that is difficult to manufacture, we dispatch our engineers to provide technical assistance tailored to local expertise and facilities, which helps build proficiency in new technologies.



Training for welders (Malaysia)

S Human Rights, Employee Motivation

Related SDGs >

5

DECENT WORK AND ECONOMIC GROWTH

8

DECENT WORK AND ECONOMIC GROWTH

10

REDUCED INEQUALITIES

Recognized Social Issues	Group Initiatives
Promoting workplace diversity	Promoting measures that encourage workplace diversity
Promoting female hiring and strengthening skill-building	Expanding the personnel system accounting for opportunities and skill-building for women
Respecting human rights in all business activities	Ensuring thorough respect for human rights, including in supply chains

Promotion of Measures that Encourage Workplace Diversity

Measures Respecting Diversity: Women, People with Disabilities, Seniors, Global Personnel, and Others

Fair personnel management that emphasizes human rights is fundamental to JGC Group. This fairness is reflected in recruitment practices and personnel systems. Diversity and inclusion are also promoted from a belief that respecting diverse lifestyles, motivating all employees, and fostering workplaces where everyone can reach their full potential as dynamic professionals is vital to creating a broad range of value and driving sustained growth.

System and Policies for Accomplishing Diversity

Women

JGC Group has created a supportive environment, for example through an expansion of our family care system

People with Disabilities

JGC Group strives to strictly observe the employment ratio designated by the Act for Promotion of Employment of Persons with Disabilities and provides appropriate workplace environments

Seniors

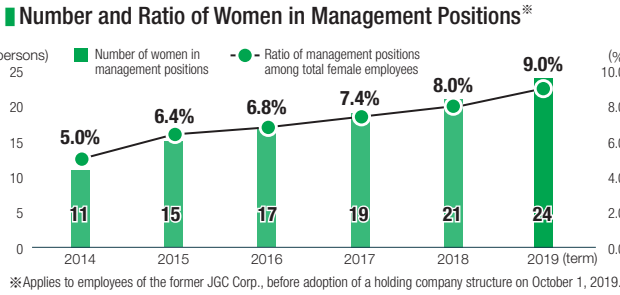
By raising the retirement age to 65, we support the work of seniors at the frontlines and promote the internal transfer of expertise

Global Human Resources

Promotion of recruitment and training of multicultural human resources able to work globally

Promotion of Women's Careers

In the energy plant business, technicians from science and technology backgrounds, few of them women, previously comprised the majority of company staff, and due to factors such as carrying out construction work under harsh environmental conditions or a multitude of projects in Islamic countries, the field was characterized by obstacles to women's careers. However, at JGC Group we have been advancing the promotion of women to leadership positions and the creation of a supportive work environment for women through, e.g. discussions with female employees and expansion of our family care system, including working from home, and in recent years the number of female employees and managers has been steadily increasing.



System for Athletes with Disabilities

A system supporting athletes with disabilities who are also competitive athletes was introduced in 2018. Through work style flexibility and management by objectives, JGC Group supports athletes with disabilities who are balancing a career with athletic endeavors as they pursue their dreams.

An athlete with a disability who is also a talented athlete

Kenta Awatari

Sport Para Taekwondo

Works in HR management in the Talent & Organization Development Department. Started Para Taekwondo in 2017, taking advantage of stamina and leg strength from playing soccer since elementary school. Awarded a silver medal at the Asian Para Taekwondo championships in May 2018.

S Energy Access



Recognized Social Issues	Group Initiatives
Meeting greater global energy demand	Construction of various types of energy plants in regions worldwide
Promoting wider use of renewable energy that contributes to sustained growth	Promoting wider use of renewable energy
Enhancing productivity through greater global energy efficiency	Making energy plants more efficient and reducing energy consumption

Construction of Renewable Energy Plants

Solar Power Plant Construction in Vietnam

To meet rising energy demand from the country's growing population while protecting the environment, Vietnam is promoting expanded use of renewable energy. In 2018 the Group was awarded construction of three large-scale solar power plants here. Each was completed successfully, applying ample experience from some of Japan's largest solar installations. In generation capacity, our record of solar plant construction in Vietnam has reached nearly 190 megawatts (DC), which provides power equivalent to the annual consumption of about 130,000 households.

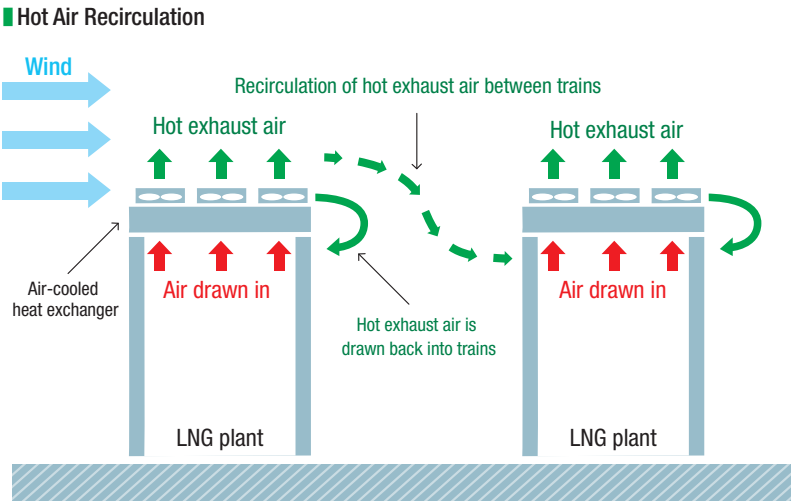


Solar power plant for Gia Lai Electricity Joint Stock Company

Making Energy Plants More Efficient, Reducing Energy Consumption

Measures to Improve LNG Plant Productivity

Many LNG plants built since the 1980s have air cooling that releases waste heat from heat exchangers into the atmosphere. However, in some, hot air from heat exchangers is drawn back into the intake. Plants affected by this hot air recirculation (HAR) have lower cooling capacity, which poses problems in lower productivity. The Group has developed Airlize LNG® services that can control airflow and enable optimal plant design, construction, and equipment layout to minimize the impact of HAR. Some 10 sites have already benefited from these services.



S Quality of Life



Recognized Social Issues	Group Initiatives
Responding to aging social and industrial infrastructure	Conducting maintenance business for social and industrial infrastructure
Promoting development of social and industrial infrastructure in emerging markets	Construction of various infrastructure facilities in Southeast Asia
Improving global medical standards	Construction of pharmaceutical plants and medical facilities
Making life more convenient and comfortable	Development and production of functional materials for electronics, everyday products, and more

Construction of Pharmaceutical Plants

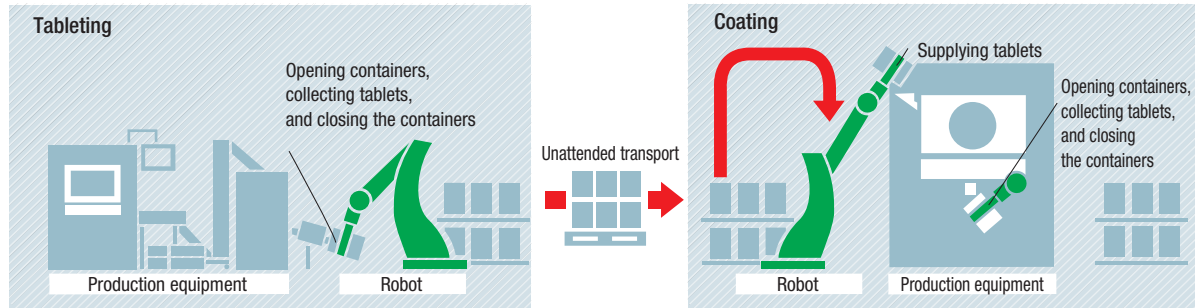
Construction of Pharmaceutical Plants Equipped with Advanced Technologies

For nearly half a century JGC Group has been involved in pharmaceutical plant construction in Japan and elsewhere. This record has surpassed 600 projects. Development of biopharmaceuticals and other groundbreaking advanced medicine continues amid rapid progress in sophisticated treatment such as gene therapy and regenerative medicine. Meanwhile, needs for streamlined production – manufacturing with fewer workers, for example – are growing. To keep pace with great technological progress in medicine, JGC Group engages in construction of advanced pharmaceutical plants, which includes developing unattended production lines automated with robots.



Pharmaceutical plant for Tamura Pharmaceutical Co., Ltd.

Automating Steps in Tablet Production with Robots



Development and Production of Functional Materials for Electronics, Everyday Products, and More

Supplying Parts for Advanced Medical Devices

Medical devices must be highly safe and reliable to fulfill their vital roles. The array of ceramics supplied by JGC Group are used in advanced medical devices including blood pumps, orthodontics, endoscope components, and ventricular assist devices, where they fulfill supportive roles in many lives.



Ensuring Occupational Health and Safety

Basic Stance

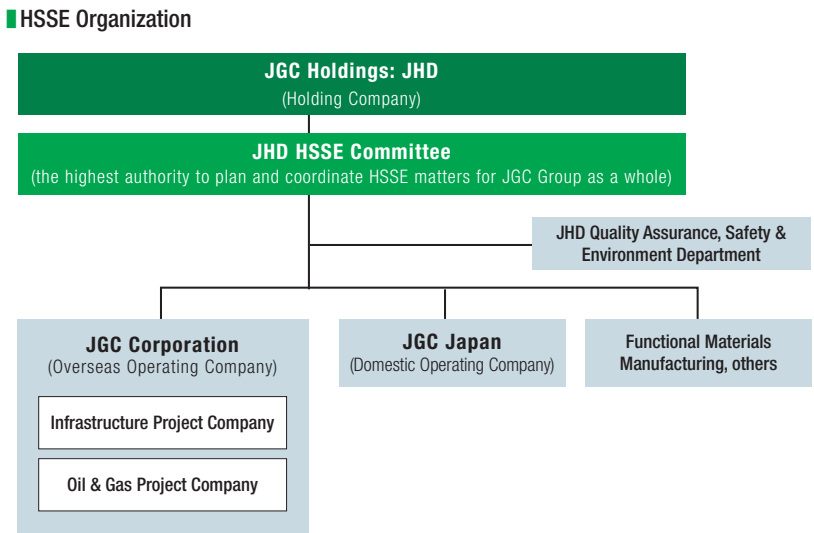
In accordance with group policy on health and safety and basic HSSE* guidelines, and under the leadership of senior management, JGC Group is committed to preventing worksite and traffic accidents

involving our own employees and those of partner companies. These practices are also appreciated by clients, and JGC Group will continue to maintain a rigorous approach to safety.

* HSSE: Health, Safety, Security and Environment

HSSE Organization

Following the adoption of a holding company structure in October 2019, the JHD HSSE Committee was established in the holding company as the highest authority to plan and coordinate HSSE matters for JGC Group as a whole. The Committee deliberates on and determines basic Group HSSE matters, establishes, maintains, and manages the HSSE management system, helps develop and maintain HSSE action plans, and oversees and manages measures to implement the plans. Results are regularly reported by the Committee to senior management.



Overview of Fiscal 2019 Activities

In fiscal 2019, domestic and overseas construction sites were kept aware of HSSE matters. For office workers as well, safety training was visual, auditory, and virtual. VR experiences also simulated accidental falls with vibration and wind pressure. In this way, opportunities for all employees to learn about basic safety were provided. As a result, Group companies around the world maintained an outstanding safety record compared to competitors.



Safety training using VR

Response to Covid-19

In response to the state of emergency declared in Japan on April 7, 2020 as the Covid-19 pandemic spread, JGC Group adopted teleworking and generally requested employees at the main office in Yokohama to refrain from commuting. Even after the emergency was lifted on May 25, commuting has

been combined with teleworking, among other steps to help contain the virus. As similar measures at active construction sites, work proceeded with the utmost attention to preventing infection and maintaining safety for employees and others alike.

ESG Data Highlights

This table introduces our initiatives related to the environment, society, and governance (ESG) and our key performance indicators (KPI).

JGC's main KPI		Units	Fiscal 2015	Fiscal 2016	Fiscal 2017	Fiscal 2018	Fiscal 2019 ^{*1}
E Report on Environmental Initiatives							
Environment-related Initiatives • Contribution to environmental protection • Environmental Improvement Activities in Line with Our Business • Promotion of the Zero Emissions Initiative	Industrial waste recycling rate (Domestic construction sites)	%	96.3	98.1	97.7	96.1	85.2
	Number of incidents of leaks of hazardous substances, etc. (Domestic and overseas construction sites)	Incidents	0	0	1	0	0
	Energy-related CO ₂ emissions (Domestic construction sites)	kgCO ₂ /hr	0.64	1.43	3.52	2.39	0.61
	Rate of diffusion of electronic manifests	%	79.4	96.0	64.2	79.5	69.5
	Energy consumption (Yokohama Head Office) ^{*2}	Crude oil equivalent (kl)	2,579	2,405	2,248	2,224	2,139
	Yokohama Head Office power consumption	1,000 kWh	6,720	5,974	5,571	5,497	5,221
	Consumption of chilled water by Yokohama Head Office	1,000 MJ	16,195	15,857	14,071	15,353	15,503
	Consumption of steam by Yokohama Head Office	1,000 MJ	8,021	8,886	9,153	7,724	7,170
	Volume of waste disposal by Yokohama Head Office	1,000 kg	224	209	212	206	191
	Rate of recycling of waste by Yokohama Head Office	%	66.6	64.9	65.7	61.4	59.5
S Report on Social Initiatives							
Initiatives related to human rights and labor practices • Promotion of diversity • Support for realization of work-life balance • Support for employee career formation	Number of women in management positions	Persons	15	17	19	21	24
	Rate of employment of people with disabilities	%	1.75	1.81	1.82	1.87	1.97
	Number of re-employed employees ^{*3}	Persons	208	189	159	109	55
	Number of non-Japanese employees ^{*3}	Persons	97	94	100	89	86
	Number of employees taking childcare leave (Male)	Persons	1	2	8	11	14
	Number of female employees taking childcare leave (Rate of reinstatement of female employees taking childcare leave)	Persons(%)	29(100)	27(96)	24(100)	24(100)	19(100)
	Number of employees taking spousal childbirth leave	Persons	72	81	81	64	80
	Number of employees taking sick or injured childcare leave	Persons	125	115	123	185	187
	Number of employees taking nursing care leave	Persons	4	8	20	22	11
	Number of employees taking temporary retirement for nursing care	Persons	2	2	1	0	0
	Number of employees working reduced hours for childcare	Persons	37	44	42	51	47
	Number of employees working reduced hours for nursing care	Persons	1	1	2	0	0
	Rate of utilization of annual leave	%	53	53	57	53	59
	Number of employees dispatched for onsite training/ onsite instruction	Persons	98	62	72	86	45
	Number of employees dispatched to overseas companies, etc.	Persons	2	5	5	2	4
	Total project working hours	1,000 hrs.	185,433	128,036	81,072	90,993	56,478
	Number of fatal accidents	Accidents	0	3	2	0	0
	Number of accidents accompanied by lost work time	Accidents	14	8	9	8	7
	Number of restrictions on work	Restrictions	37	25	6	11	18
Initiatives related to health and safety • Fostering of culture of health and safety • HSSE leadership by top management • Enhancement of HSSE management system for investment projects • Ongoing implementation of traffic safety measures • Further development of in-house health and safety education • Enhancement of Head Office construction HSSE functions	Number of conditions requiring specialized treatment	Conditions	99	65	41	31	46
	Rate of frequency of accidents accompanied by lost work time ^{*4}		0.015	0.012	0.022	0.018	0.025
	Rate of frequency of recordable accidents ^{*5}		0.16	0.16	0.14	0.11	0.25
G Report on Governance							
Initiatives related to fair business practices • Realization of increased compliance awareness	Number of times compliance training implemented/number of employees receiving compliance training	Times (People)	18(600)	12(373)	13(353)	6(199)	21(559)
	Number of reports received by hotlines	Numbers	5	12	18	28	47
Initiatives related to the promotion of information security • Information management awareness verification surveys and voluntary inspections • Drills against targeted threats	Number of serious information security-related incidents	Incidents	0	0	0	0	1 ^(*)
Reinforcement of governance system	Number of outside directors	Persons	1	2	2	2	3

^{*1} Data for Fiscal 2019 applies to the scope of business covered by the former JGC Corp., before adoption of a holding company structure on October 1, 2019.
^{*2} Energy consumption (Yokohama Head Office): Targets for fiscal 2015 and fiscal 2016 have been set as an average annual reduction of 1%, with 2013 as the base year.
^{*3} Number of re-employed employees and number of non-Japanese employees = (Number of employees in April + Number of employees in March) ÷ 2
^{*4} Rate of frequency of accidents accompanied by lost work time = Number of accidents accompanied by lost work time × 200,000 ÷ Total project working hours
^{*5} Rate of frequency of recordable accidents = (Number of fatal accidents + Number of accidents accompanied by lost work time + Number of restrictions on work + Number of conditions requiring specialized treatment) × 200,000 ÷ Total project working hours
^{*6} Number of serious information security-related incidents: 1 (Emails sent to external parties due to unauthorized access)Corrective measures for the above incident: introduction of measures to prevent unauthorized access through two-factor authentication

CHAPTER 4

Foundation for Creating Value

This chapter examines the basis of Group Value Creation. Observations of outside directors are followed by a look at our management framework and promotion of corporate governance, as well as risk management and compliance initiatives.

- 47** Messages from Outside Directors
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(information disclosure, IR activities)



Messages from Outside Directors

(Outside director profiles are provided on p. 56.)

Creating Value that Addresses Social Issues

Outside Director
Shigeru Endo



Amid harsher conditions in international politics, the coronavirus crisis has disrupted global supply chains and restricted movement, seriously affecting the world economy. Some have observed how the crisis seems to be fast-forwarding historical processes. Although this may be a factor that undermines JGC Group performance, it can also be taken as an excellent opportunity to enhance corporate resilience and promote reform.

Last fall, the JGC Group changed course and adopted a holding company structure. The move to a holding company represents the third major transformation following a move from oil refining to engineering business in the early years after the company was founded in the 1930s, and then another when it expanded internationally in the 1960s. Currently, the entire group is working to implement this transformation, and a notable development toward this end is the formulation of the 2040 vision. In the spirit of SDGs and ESG, the Group's determination to take on social challenges and protect the environment is becoming more apparent, and I believe we will see specific shapes this will take in the next medium-term business plan announced in 2021.

Here, I think that it may be necessary to reconsider the nature of corporate value. As a company, one must generate profit as a matter of course. However, this by itself is no longer sufficient. Companies must now create value that is useful not only for investors but also for society as a whole, including employees, their families, communities, and the environment. Recently, the supercomputer Fugaku won four

world rankings in computing speed and other areas. When I heard a developer at the announcement mention that rather than aiming to make the world's best system, they sought usability, I was impressed by their stance, which goes beyond functionality and emphasizes something responsive to user needs and valuable to society. Looking back in history, although Panasonic founder Konosuke Matsushita enjoyed early success in business, he later experienced stinging failure. He did some soul-searching after reflecting on his single-minded pursuit of profit and lack of founding ambition, and he decided that their corporate mission would be to bring happiness to people and make the world a better place.

The Group is also improving corporate governance, which is the foundation of this transformation. We also see this in recent developments, such as establishing the Nominating and Remuneration Committees, introducing restricted stock compensation, and ensuring that at least one-third of the directors are outside directors. Steady progress is being made. In the future, I hope we can hold more in-depth discussions on disclosure of non-financial information.

Many employees in the Group have strong feelings about social value. Taking on work with enthusiasm, doing all one can, and devoting oneself to it. I believe this corporate heritage is the Group's greatest core competency. Although many challenges remain, such as digital transformation, I expect the Group to continue working together and rising to the occasion with determination.

Viewing Crises as Opportunities, and Seizing the Future

Outside Director
Masayuki Matsushima



These are trying times for the JGC Group. Investment by oil majors and oil- and gas-producing countries rapidly came to a standstill this year from factors such as the Covid-19 pandemic. Meanwhile, as the global macrotrend toward decarbonization continues over the long term, it seems inevitable that companies seeking orders in oil and gas will face a headwind.

But the slump in oil and gas capital investment will not last forever; there is no need to be overly pessimistic, and it would also be a mistake to believe that continued overreliance on oil and gas poses no risk for the Group.

With this awareness, the Group is in the process of transforming its existing management strategy and sales structure in pursuit of lasting, sustainable growth. One facet of this was adopting a holding company structure as of October 2019. In 2020 the Group has also been mapping out, with input from various divisions and experts, new business that appears to be promising over the next 20 years. As these proposals are scrutinized relative to an array of criteria and prioritized, they will begin to take shape as soon as possible. To survive in the challenging world of the 21st century, the JGC Group is also planning a shift toward higher productivity, with both flexibility and tenacity, as a corporate group that has implemented digital transformation (DX).

I am of the opinion that companies may well respect their history and traditions, but unless they adapt to changes in their environment, they will fall into decline. I encourage the Group to move to their new

corporate structure with a sense of speed, undaunted by risks associated with the unknown, which come with any transformation. On this occasion, I have also advocated further promotion of efforts toward a personnel system where international and diverse human resources can play active roles. And especially at a stage such as this, I hope each member explores and vigorously discusses what the Group should be like in 20 years and the action they themselves should take.

Close monitoring will be needed, however, to prevent this far-reaching and rapid-fire transformation from causing undue friction or reform fatigue in the workplace. There is no concern that organizational reform will disrupt governance, however. Fairness and transparency have been enhanced by structural improvements to corporate governance over the past few years, such as refining the composition of the board and streamlining its management, as well as having a majority of outside directors in the Nominating and Remuneration Committees.

It is said that crises are also opportunities. Everyone is motivated when they share a sense of crisis. Getting through trying times is never easy, but I am convinced that when all members stand together and encourage each other, surely they can seize the future.

Messages from Outside Directors



It has been a year since I became an outside director of JGC Holdings in June 2019. This has given me a chance to ask many questions and make a variety of suggestions at board meetings, drawing on my expertise in finance. What interests me in particular, of course, is whether the company earns returns commensurate with risks, as expected by shareholders.

Risk and return varies greatly from one project to another. We have discussed the nature of risks, the returns expected, and the methods of risk management for each project of the JGC Group, and I have made various suggestions.

The Group has targeted 10% ROE as described in the current medium-term business plan, which took effect in 2016. At present, the rate of return on safe assets is near 0% internationally, with the equity risk premium generally placed around 3–6%. Considering that the rate of return on safe assets was previously higher than it is now, I believe this is an appropriate level.

However, if financial leverage is high—that is, the equity ratio is low—higher return is expected by shareholders, and if the business risk is high, naturally, the expected return also increases. As a textbook example of this, the expected return for each project is calculated according to the extent and nature of financial and business risk. If expected return exceeds this level, it will be adopted, but in actual business, it is not this easy.

For example, it is unrealistic to assume a statistical distribution of returns for projects in Africa and calculate risk and then cost of capital based on it. But many things are revealed if we attempt this anyway, and seeking to reduce unexpected events and keep risks

within a calculable range is a key component of risk management. As we actively engage in these kinds of discussions, I hope it helps improve decision-making.

In reality, Group earnings yielded an ROE of 1% in the fiscal year ended March 31, 2020, and the average over the past three years has been less than 4%, which is far from the target. We should not be too concerned about a low rate of return over a few short years, but this is a problem if it persists long-term.

As for the economic environment which will affect current and future return, the energy industry faces significant impact not only from short-term factors such as economic repercussions of the pandemic but also from medium and long-term influences, as well as a shift toward environmental conservation. Indeed, it is in this context that the Group itself is moving ahead in formulating a 2040 vision. Long-term corporate survival relies on an approach of determining a vision of the company far in the future and then calculating backward to plan for the near future.

For situations far in the future, it becomes more difficult to make reasonable economic calculations. However, calmly reviewing the distinctive knowledge and technologies that a company has built up over years in the context of the external environment will surely reveal the right path to take. Being competitive enough to be a player in the global arena, which relatively few Japanese enterprises can claim, will also be fundamental in the long-term vision. Looking ahead, I hope to continue contributing through these kinds of discussions.

Corporate Governance

Related SDGs >>



Basic Stance

The JGC Group remains aware that, in line with the JGC Way corporate philosophy, the foundation for management in pursuit of higher corporate value over the medium-to long-term and sustained growth is sound governance. We are therefore strengthening our corporate governance, which we view as one of the Group's priority material issues.

Our central mechanism for corporate governance is the Board of Directors, through which we continuously review governance structures, functions, and roles. Effectiveness of the board of directors itself is analyzed and assessed each year, as we seek progress through steady improvement. In shareholder and investor

engagement, we take a proactive stance in highly transparent information disclosure, and viewpoints from this dialogue are applied to strengthen governance and management.

In regulatory compliance and other matters essential to appropriate corporate governance as well, the JGC Way philosophy serves as a shared value that calls on each employee and officer to maintain high ethical standards in everything they do, so that the Group as a whole works to enhance medium- to long-term corporate value and achieve sustained growth.

Outline of Corporate Governance System

JGC maintains a board of directors and audit and supervisory board. JGC Group has adopted a holding company structure under which operating companies pursue the Group's core business. Separating management from execution provides greater clarity on roles and responsibilities of the holding company and operating companies. The holding company's role is to formulate management policies and oversee the operating companies from a medium- to long-term group perspective. Operating companies apply group management policies and strategies to respond flexibly and rapidly to market characteristics and seek further business expansion.

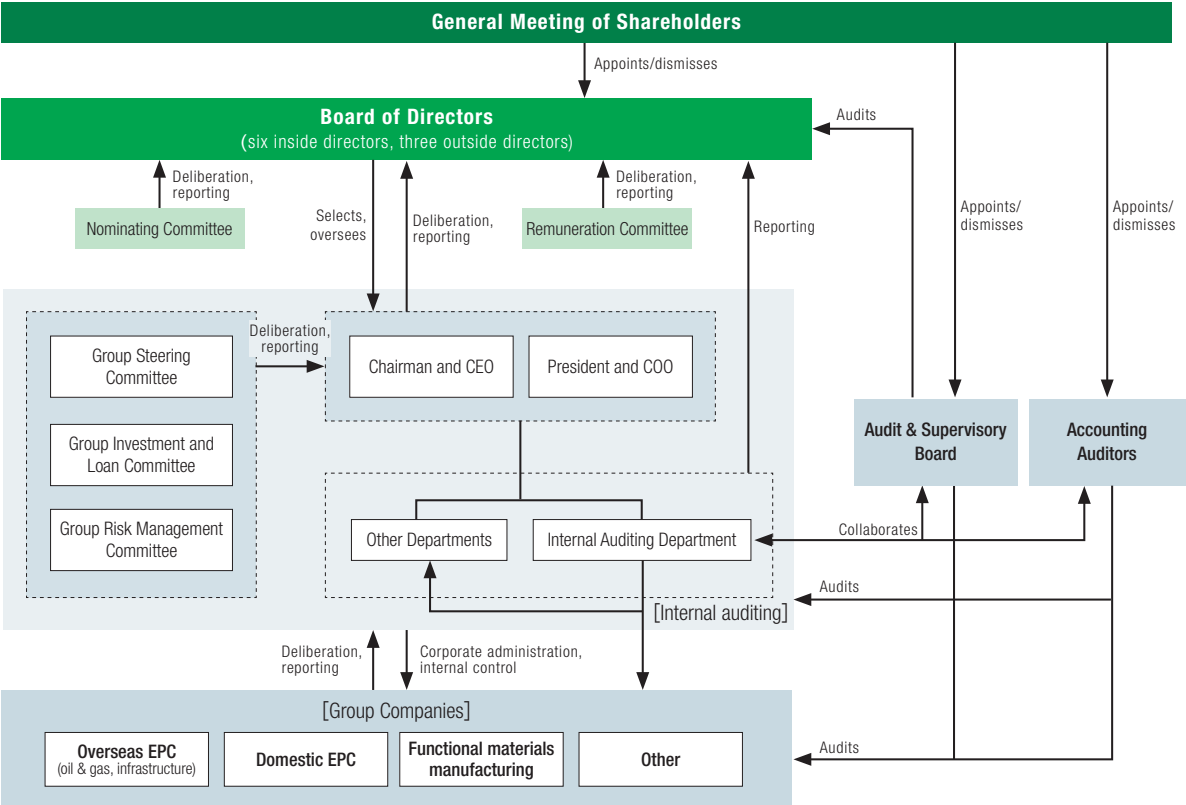
To reinforce management oversight and enhance transparency toward this end, we have appointed outside directors and outside audit/supervisory board members meeting the criteria for independent officers. Additionally, an executive officer system has been introduced to ensure rapid, efficient managerial decision-making and execution. This is intended to maximize corporate value and ensure optimal allocation of management resources for the Group as a whole while enhancing transparency of corporate management and strengthening overall group governance.

Main elements of the corporate governance system are as follows.

Body	Purpose	Meetings	Members	Head of organization
Board of Directors	<ul style="list-style-type: none">Resolves key matters of business executionOversees directors' executive actionsDeliberates on medium- to long-term strategies and issues	Generally monthly	Nine directors (including three outside directors) Five auditors (including three outside auditors) (For fuller discussions, others also attend as needed, such as operating company officers, executive officers in charge of certain areas, and those in relevant divisions)	Chairman and CEO Masayuki Sato
Audit & Supervisory Board	<ul style="list-style-type: none">Discusses and resolves issues based on reports of key auditing mattersPresents opinions based on the results to directors or the board of directors as necessary	Generally monthly	Five auditors (including three outside auditors)	Full-time Audit & Supervisory Board Member Yukihiro Makino
Nominating and Remuneration Committees	<ul style="list-style-type: none">Deliberates on appointment and dismissal of officers, remuneration, etc.	Annually (and as needed)	Chairman and CEO Masayuki Sato President and COO Tadashi Ishizuka Three outside directors* (Shigeru Endo, Masayuki Matsushima, and Kazuo Ueda) <small>*In order to improve fairness and transparency, the majority of the committee consists of outside directors.</small>	Chairman and CEO Masayuki Sato
Group Steering Committee	<ul style="list-style-type: none">Discusses the direction that the Group should take as well as steering matters such as management/ business strategies for the Group as a whole and each operating company	Generally monthly	Chairman and CEO Masayuki Sato President and COO Tadashi Ishizuka Auditors (rotating) (Consists of members such as group company officers appointed by the chairperson)	Chairman and CEO Masayuki Sato
Group Investment and Loan Committee	<ul style="list-style-type: none">Deliberates on holding company and group investment and lending projects	Generally monthly	Standing members: Eight directors, executive officers, and auditors of the holding company and Group. Non-standing members: Four executive officers of the holding company may attend, depending on the agenda.	Chairman and CEO Masayuki Sato
Accounting Auditors	<ul style="list-style-type: none">CPAs Michitaka Shishido, Takemitsu Nemoto, and Atsushi Nagata of KPMG AZSA LLC audit JGC accounts.Auditing support is provided by 11 other CPAs and nine assistants.			

Corporate Governance

Corporate Governance System



Improvement Status of Internal Control System

JGC's Board of Directors determines the basic principles of the internal control system and revises them as necessary.

[Improvement Status]

①The Internal Auditing Office monitors, evaluates, and improves the effectiveness of the internal control systems of JGC and the JGC Group and conducts separate audits as necessary

②Rules of Management Authority regulate the duties and authority of each role, and clarify the system of responsibilities in corporate management and business execution

③Management rules for Group companies have been formulated and implemented to ensure efficient and appropriate operations across the Group

About JGC's Response to the Corporate Governance Code

Since the implementation of the Tokyo Stock Exchange's Corporate Governance Code in June 2015, we have consistently held discussions on appropriate corporate governance for JGC and are making steady efforts to further solidify our corporate governance.

[Content]

- ①Implementation of all principles laid out in the CG Code
- ②Disclosure according to all 11 general principles, principles, and supplementary principles required by the Tokyo Stock Exchange

Board of Directors

Board Functions

The Board of Directors is responsible for decision-making on medium- to long-term group strategy and issues, and it provides oversight regarding business execution of group companies. Board composition is intended to enable effective and efficient execution of these functions.

Basic Policy on Board Composition and Diversity

From the standpoint of further enhancing discussions on medium- to long-term group strategies and issues and of strengthening oversight regarding business execution of group companies, the board consists of the following members.

①Consists mainly of directors with broad experience in business markets and directors with a high level of knowledge and expertise in engineering, procurement, and construction (EPC) operations, which is the primary group business.

②Independent outside directors are appointed in order to incorporate outside perspectives in management, with the expectation that these directors will provide objective advice to the board and fulfill oversight functions from an independent viewpoint.

As a matter of policy respecting the importance of diverse perspectives, members are appointed not solely based on professional experience and expertise but also on competence, regardless of nationality, race, or sex. Although there are currently no female or foreign members, members with various backgrounds and global experience have been appointed, and diversity will continue to be sought in the board.

Background of Directors (six internal, three outside) etc.

Name and position at JGC	Term as auditor (in years)	Outside director attendance at board meetings in Fiscal 2019	Background							
			Business planning and management	Project management	Technology	Sales and marketing	Human resources	Finance and accounting	Legal	Global experience
Masayuki Sato Chairman and CEO	10	—	●	●		●	●	●		●
Tadashi Ishizuka President and COO	3	—	●	●	●	●				●
Kiyotaka Terajima Director, Senior Executive Vice President and CFO	4	—	●				●	●	●	●
Masanori Suzuki Director and Senior Executive Officer	6	—	●			●	●	●	●	●
Keiji Nohira Director and Executive Officer	Newly appointed	—	●	●	●	●				●
Yutaka Yamazaki Director	15	—	●	●	●	●				●
Shigeru Endo Outside Director	7	15/15 (100%)	●				●			●
Masayuki Matsushima Outside Director	4	14/15 (93.3%)	●					●		●
Kazuo Ueda Outside Director	1	11/12* (91.6%)	●					●		

*appointed on June 27, 2019

Background of Auditors (two internal, three outside), etc.

Name and position at JGC	Term as auditor (in years)	Outside director attendance at Audit & Supervisory Board in Fiscal 2019	Background		
			Corporate management	Legal, finance, accounting	Economics
Yukihiro Makino Audit & Supervisory Board Member	4	—		●	
Yasumasa Isetani Audit & Supervisory Board Member	2	—		●	
Masao Mori Outside Audit & Supervisory Board Member	9	26/26 (100%)		●	
Koichi Ohno Outside Audit & Supervisory Board Member	6	26/26 (100%)		●	●
Norio Takamatsu Outside Audit & Supervisory Board Member	4	26/26 (100%)	●	●	

Corporate Governance

Board Effectiveness Evaluation

Board effectiveness is analyzed and evaluated annually, efforts toward improvement are reviewed, and issues linked to further gains in effectiveness are discussed by the board in pursuit of continuous improvement. Presented below are a summary of the process of evaluating board effectiveness in fiscal 2019, the survey, results, and future issues to address, and main past efforts to enhance efficacy.

Process	<ul style="list-style-type: none">● A third-party evaluator conducts an anonymous survey of directors and auditors● Progress is reviewed, including progress in areas for improvement when effectiveness was last evaluated● Opinions are collected on current board effectiveness and ways to enhance board effectiveness● The board reviews the results, focusing on key future issues
Content of survey	<ul style="list-style-type: none">● Checks compliance with principles of Section 4, "Responsibilities of the Board," of the Corporate Governance Code, including progress since the previous evaluation● Main evaluation items: Board composition, management, discussion, oversight functions, own involvement, and management of Nominating and Remuneration Committees● Solicits open-ended responses on board performance and areas for improvement
Evaluation results and future issues to address	<p>Evaluation results</p> <p>In addition to confirming steady progress in the establishment and operation of an internal control system for appropriate management and supervision of group companies since adoption of a holding company structure in fiscal 2019, we have confirmed that the increase in the number of outside directors has enlivened board discussions. Thus, we have confirmed improved board functions in the holding company and assurance of overall effectiveness.</p> <p>Issues to address for greater effectiveness, response policy</p> <p>Issues</p> <ul style="list-style-type: none">● Expanded discussion on medium- to long-term group strategies and issues● Expanded discussion on digital transformation (DX) and SDG initiatives● Expanded reporting to the board on the content of shareholder dialogue <p>Policy in responding</p> <ul style="list-style-type: none">● Expand discussion on strategies and issues in enhancing group corporate value and achieving sustained growth● Establish and maintain systems for prompt and accurate business decisions by group companies and proper management and oversight by the holding company

Main Efforts to Date for Improving Board Effectiveness

	From fiscal 2017	From fiscal 2018	From fiscal 2019
Main board and committee efforts	<ul style="list-style-type: none">● Expanded reporting to the board, including reporting on the internal control system● Increased the frequency of Risk Management Committee meetings from once to twice a year, to reinforce the risk management system	<ul style="list-style-type: none">● Expanded board discussions, especially on key project status and other matters in the context of adopting a holding company structure	<ul style="list-style-type: none">● Reduced inside directors by three and increased outside directors by one following the June 2019 general shareholders' meeting, to introduce a system of nine directors (including three outside directors)● Reorganized various committees under the holding company structure and revised matters discussed by the board
Director training*	<ul style="list-style-type: none">● On-site overseas visits by outside executives (Ichthys LNG Project)● Company seminars (general shareholders' meeting)● Various external seminars	<ul style="list-style-type: none">● Company seminars (D&O insurance, 2018 revisions to CG Code)● Various external seminars	<ul style="list-style-type: none">● Company seminars (board of the holding company)● Company seminars describing business of group operating companies involved in manufacturing and consulting● On-site plant and office visits by outside directors and auditors to workplaces of the manufacturing operating company

*【Policy on director training】
JGC bears costs for and provides opportunities and information for directors and auditors to acquire the knowledge and competence to fulfill their roles and responsibilities.

Director Compensation

Policy on Determining Director Compensation Amounts or Calculation Methods

Basic policy, general shareholders' meeting resolutions	<ul style="list-style-type: none">● Under a basic policy to secure the management personnel needed for greater global competitiveness and sustained gains in corporate value, a resolution made at the 113th general shareholders' meeting on June 26, 2009 set annual director compensation at an amount not exceeding 690 million yen, with auditor compensation not exceeding 88 million yen● As for the policy on determining the amount or calculation of director compensation, compensation shall not exceed the range resolved at the general shareholders' meeting, and details are discussed in advance by the Remuneration Committee, whose report is considered by the board to reach a decision
Process for determining amount of compensation	<ul style="list-style-type: none">● Amounts of director compensation are at the discretion of the chairman and CEO, within the range resolved at the general shareholders' meeting● To ensure fairness and transparency, the chairman and CEO takes the results of deliberation by Remuneration Committee into account when deciding
Fixed, performance-based, and restricted stock compensation (new)	<p>Fixed compensation</p> <ul style="list-style-type: none">● Determined according to each director's position and the value of their duties, accounting for the capabilities required and the weight and impact of those duties● Consists of base compensation and an allotment for directors or representative directors● Outside director compensation is limited to fixed compensation, to enable management oversight from a position independent of business execution <p>Performance-based compensation</p> <ul style="list-style-type: none">● Indexed to current-term net income attributable to owners of parent, a target in the medium-term business plan● Performance-based compensation is determined from an evaluation of each director's professional duties and contribution to fiscal-year performance, acknowledging that in the Group's main EPC operations, several years pass from when orders are sought until projects contribute to earnings, and accounting for whether the director contributed to gains in medium- to long-term corporate value● As a greater incentive for each director in attaining performance targets, performance-based compensation will more directly reflect the extent that targets have been met. Additionally, when targets are met, a higher proportion of variable compensation (consisting of performance-based compensation and the restricted stock compensation described below) is applied in overall compensation <p>Restricted stock compensation</p> <ul style="list-style-type: none">● Introduced so that directors share the benefits and risks of stock price fluctuations with shareholders and conduct business accordingly, and to further incentivize a higher stock price and greater medium- to long-term corporate value● Some 14,723 restricted shares corresponding to 10% of base compensation (equivalent to 22 million yen) were allocated to six directors on August 5, 2019● The restricted stock compensation system is summarized below Scope: Directors and executive officers of the holding company and directors of group companies Maximum monetary compensation: 90 million yen per year Total shares of restricted stock (maximum): 71,200 shares per year (approximately 0.03% of total issued shares) Restricted stock period: 3–30 years

Breakdown of Executive Remuneration

Category	Total value of remuneration, etc.	Breakdown of remuneration, etc.					
		Fixed remuneration		Performance-based remuneration		Restricted stock compensation	
		Number of eligible executives	Total amount provided	Number of eligible executives	Total amount provided	Number of eligible executives	Total amount provided
Nine directors (excluding outside directors)	316 million yen	nine	280 million yen	six	13 million yen	six	22 million yen
Two Audit & Supervisory Board Members (excluding outside Audit & Supervisory Board Members)	36 million yen	two	36 million yen	—	—	—	—
Six outside executives (three outside directors and three outside Audit & Supervisory Board Members)	55 million yen	six	55 million yen	—	—	—	—

※ 1: Directors for whom fixed compensation applies include three directors who stepped down at the end of the 123rd general shareholders' meeting on June 27, 2019 and one director who stepped down on January 30, 2020.
2: Directors for whom restricted stock compensation applies include one director who stepped down on January 30, 2020.
3: As of the end of fiscal 2019, there were eight directors (including three outside directors) and five auditors (including three outside auditors).

Corporate Governance

Policies and Procedures for Senior Management Appointment and Dismissal

Appointment process	Appointment of senior management and nomination of candidates for directors
	<p>①Deliberations of the Nomination Committee, which includes outside directors, are focused on the following items.</p> <p>(1) Qualities such as character and views</p> <p>(2) Senior management and inside directors: Qualities such as performance and management capabilities</p> <p>(3) Outside directors: Qualities such as independence and expertise</p> <p>②After comprehensive deliberation by the Nominating Committee, a decision is made by the Board.</p> <p>Appointment of senior management and nomination of director candidates follows this process and involves ample discussion before decisions are made, with the understanding that these individuals may one day be candidates to succeed the CEO.</p>
Dismissal process	Dismissal of senior management
	<p>In the event of any of the following, the board decides on dismissal after deliberation by the Nominating Committee.</p> <p>(1) Wrongdoing, impropriety, or breach of faith</p> <p>(2) Violation of laws or articles of incorporation</p> <p>(3) Loss of the qualities and capabilities initially required for appointment</p>

Succession Plan

In nominating a director or executive officer, the Nominating Committee addresses potential CEO succession by discussing whether the individual possesses the qualities required of a CEO, has demonstrated the requisite past performance, and can be viewed as a worthy successor. Only after this discussion will the board proceed with nomination.

Furthermore, in order to make the previously tacit succession plan more concrete and effective, relevant divisions are establishing detailed criteria on the personal qualities, experience, and other attributes required of the CEO to draw up a specific plan for cultivating leaders based on these criteria.



Introduction of Outside Directors

This section introduces JGC's outside directors, who serve an important role on its Board of Directors, Nominating Committee, Remuneration Committee, etc., as well as their resumes and reasons for their appointment.

Name	Resume	Reason for appointment
 Shigeru Endo Outside Director	<p>Apr. 1974 Joined the Ministry of Foreign Affairs</p> <p>Apr. 2001 Director-General, Middle Eastern and African Affairs Bureau</p> <p>Feb. 2002 Director-General, Consular and Migration Affairs Department</p> <p>Aug. 2003 Ambassador to The Permanent Mission of Japan to the United Nations and Other International Organizations in Geneva and Consul General, Consulate General of Japan in Geneva</p> <p>Mar. 2007 Ambassador Extraordinary and Plenipotentiary to the Republic of Tunisia</p> <p>Jul. 2009 Ambassador Extraordinary and Plenipotentiary to Saudi Arabia</p> <p>Oct. 2012 Retired from the Ministry of Foreign Affairs</p> <p>Jun. 2013 Outside Director, former JGC CORPORATION</p> <p>Jun. 2013 Outside Director, IINO KAIUN KAISHA, LTD. (current post)</p> <p>Apr. 2014 Special Assistant to the Minister for Foreign Affairs (current post)</p> <p>Jun. 2018 Outside Director, ADEKA Corporation (current post)</p> <p>Oct. 2019 Outside Director, JGC HOLDINGS CORPORATION (current post)</p>	<p>Mr. Shigeru Endo does not have direct experience in company management, but he has served as the Ambassador Extraordinary and Plenipotentiary to Saudi Arabia and Tunisia and possesses unique experience and knowledge of the Company's principal business market. He is nominated as an Outside Director because the Company believes that he will be able to appropriately perform his expected duties as an Outside Director, which includes providing accurate advice and opinions for the management and business of the Company and exerting a supervisory function from an independent standpoint, by making the most of the aforementioned experience and knowledge. He satisfies the requirements of an Independent Executive pursuant to the provision of the Tokyo Stock Exchange, and the Company will continue to designate him as an Independent Executive and notify the said Stock Exchange to that effect.</p>
 Masayuki Matsushima Outside Director	<p>Apr. 1968 Joined Bank of Japan</p> <p>Jun. 1998 Executive Director, in charge of the Bank's International Affairs</p> <p>Jun. 2002 Senior Advisor, the Boston Consulting Group</p> <p>Feb. 2005 Senior Executive Advisor, Credit Suisse Securities (Japan) Limited</p> <p>Jun. 2008 Chairman, Credit Suisse Securities (Japan) Limited</p> <p>May 2011 Senior Advisor, the Boston Consulting Group</p> <p>Jun. 2011 Outside Director, Mitsui Fudosan Co., Ltd.</p> <p>Jun. 2011 Outside Director, Mitsui O.S.K. Lines, Ltd. (current post)</p> <p>Sep. 2014 Senior Advisor, Integral Corporation (current post)</p> <p>Jun. 2016 Outside Director, former JGC CORPORATION</p> <p>Jul. 2017 External Councillor, Grant Thornton Taiyo LLC (current post)</p> <p>Oct. 2019 Outside Director, JGC HOLDINGS CORPORATION (current post)</p>	<p>Mr. Masayuki Matsushima has wide experience and knowledge in the fields of finance and corporate management, having served as Executive Director of Bank of Japan, and in other significant positions. He is nominated as an Outside Director because the Company believes that he will be able to appropriately perform his expected duties as an Outside Director, which includes providing accurate advice and opinions for the management and business of the Company and exerting a supervisory function from an independent standpoint, by making the most of the aforementioned experience and knowledge. He satisfies the requirements of an Independent Executive pursuant to the provision of the Tokyo Stock Exchange, and the Company will continue to designate him as an Independent Executive and notify the said Stock Exchange to that effect.</p>
 Kazuo Ueda Outside Director	<p>Apr. 1989 Assistant Professor, Faculty of Economics, The University of Tokyo</p> <p>Mar. 1993 Professor, Faculty of Economics, The University of Tokyo</p> <p>Apr. 1998 Member of the Policy Board, Bank of Japan</p> <p>Apr. 2005 Professor, Graduate School of Economics, The University of Tokyo</p> <p>Oct. 2005 Dean, Graduate School of Economics, The University of Tokyo</p> <p>Oct. 2005 Dean, Faculty of Economics, The University of Tokyo</p> <p>Oct. 2008 Outside Director, Development Bank of Japan Inc. (current post)</p> <p>Apr. 2017 Director, Center for Advanced Research in Finance, The University of Tokyo (current post)</p> <p>Apr. 2017 Professor, Faculty of International Studies, Kyoritsu Women's University</p> <p>Jun. 2017 Professor Emeritus, The University of Tokyo (current post)</p> <p>Jun. 2017 Outside Audit & Supervisory Board Member, MELCO HOLDINGS INC. (current post)</p> <p>Jun. 2019 Outside Director, former JGC CORPORATION</p> <p>Oct. 2019 Outside Director, JGC HOLDINGS CORPORATION (current post)</p> <p>Apr. 2020 Dean, Faculty of Business, Kyoritsu Women's University (current post)</p> <p>Apr. 2020 Professor, Faculty of Business, Kyoritsu Women's University (current post)</p>	<p>Mr. Kazuo Ueda does not have direct experience in company management, but he has abundant academic experience as an expert on macroeconomics. He is nominated as an Outside Director because the Company believes that he will be able to appropriately perform his expected duties as an Outside Director, which includes providing accurate advice and opinions for the management and business of the Company and exerting a supervisory function from an independent standpoint, by making the most of the aforementioned experience and knowledge. He satisfies the requirements of an Independent Executive pursuant to the provision of the Tokyo Stock Exchange, and the Company will designate him as an Independent Executive and notify the said Stock Exchange to that effect.</p>

Corporate Governance

Cross-shareholdings

1 Purpose

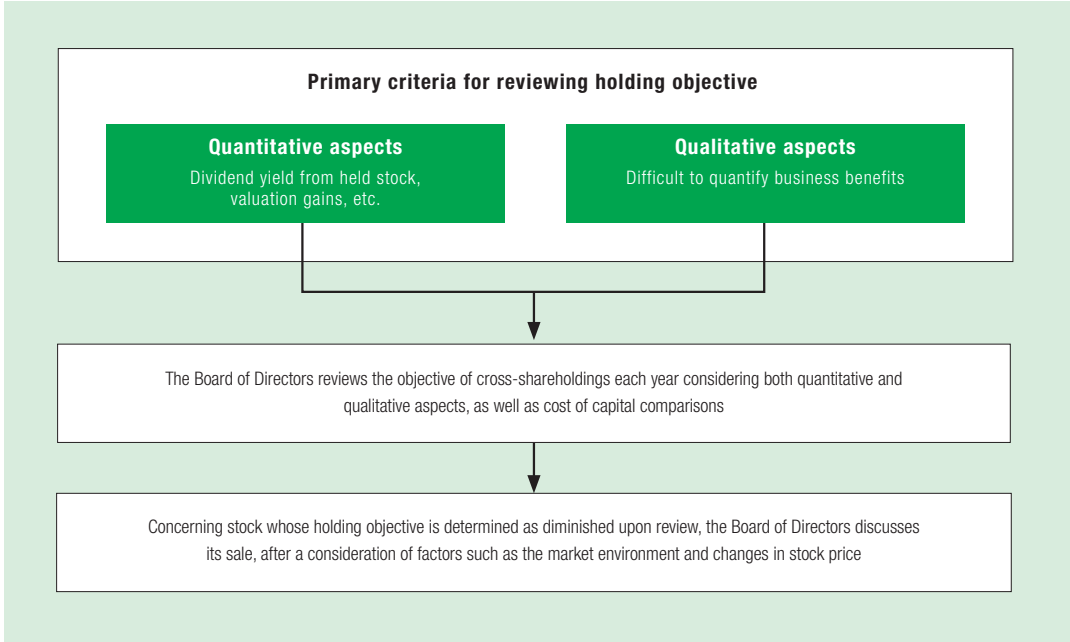
Following revision in June 2018, the CG Code now includes guidance on topics such as reduction of cross-shareholdings and the cost of capital. The Group refrains from cross-shareholdings except in cases where maintaining and strengthening relationships with clients and business partners will contribute to higher medium- to long-term corporate value for the Group. Moreover, each year, the board reviews the significance of maintaining each cross-shareholding. Both quantitative and qualitative aspects of the shares are reviewed. Specifically, quantitative considerations include dividend yield and valuation gains, and aspects that are difficult to quantify include whether business benefits and risks are commensurate with capital costs. Sale of

shares deemed to have lost their significance is investigated accounting for the market environment and changes in stock prices. The review process is described below, along with a record of past sales and reductions.

2 Basis for exercising voting rights

In exercising voting rights for cross-shareholdings, advantages and disadvantages are weighed based on whether the decision will contribute to sustained growth of the company involved, and thus, higher group corporate value over the medium to long term.

■ Review Process of Holding Objective and Stock to be Sold



■ History of Sales and Reductions in Cross-shareholdings Since the Introduction of the CG Code

	Number of companies whose stock was sold	Total value of sales (based on acquisition price)	Reduction rate*
Fiscal 2015 to fiscal 2019 (fiscal 2019 in parentheses)	32 companies (three companies)	4,457 million yen (626million yen)	Approx. 35%

* Represents the reduction rate for publicly listed stock held as of April 1, 2015 (ratio based on acquisition prices).

Quality Management System

Basic Stance

In our business, quality assurance is an essential part of achieving safe plant operation and stable production. The Quality Policy established by the JGC Group is to ensure "JGC Quality" satisfying all applicable requirements by globally using the knowledge, skills, systems, and

highly talented human resources that we have continually built up through many years of project execution. This effort is led by the Quality Assurance Committee, and a framework is in place for quality assurance.

Thorough QMS-Based Quality Assurance

JGC obtained ISO 9001 certification for its quality management system (QMS) in 1993. We have actively improved our organization on a continuous basis, led by the Quality Assurance Committee, with the aim of improving organizational performance as appropriate to the type of work performed. Every year, quality guidelines announced by the president of JGC are treated as a quality policy by each operating company, department, and section,

which set quality targets in line with the policy. Each fiscal year, they identify any organizational issues and formulate operating policies and action plans ("Plan"), implement them ("Do"), evaluate them ("Check"), and improve them on the basis of the evaluation process ("Act"). This PDCA cycle is designed to drive continuous improvement in organizational performance.

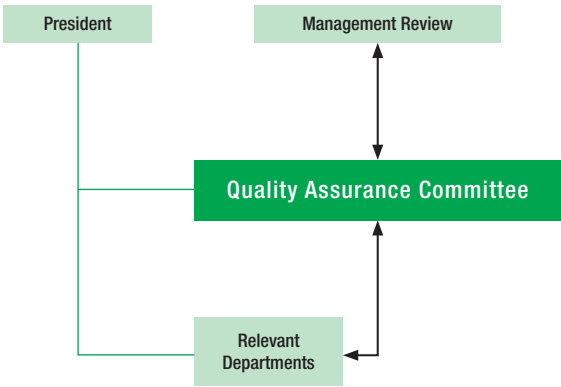
Quality Assurance Committee

The Quality Assurance Committee meets monthly and reports directly to the president. The committee is chaired and comprised of operating company senior general managers and members at the level of general manager. The Quality Assurance Committee implements a range of remedial measures to ensure the quality of products and services provided to clients consistently

meets their specifications. It also evaluates the impact of those measures to drive ongoing improvements. Once a year, the president conducts a management review of the Quality Assurance Committee's activities, with the president leading efforts to continuously improve the quality assurance organization.



■ Positioning of Quality Assurance Committee



Compliance

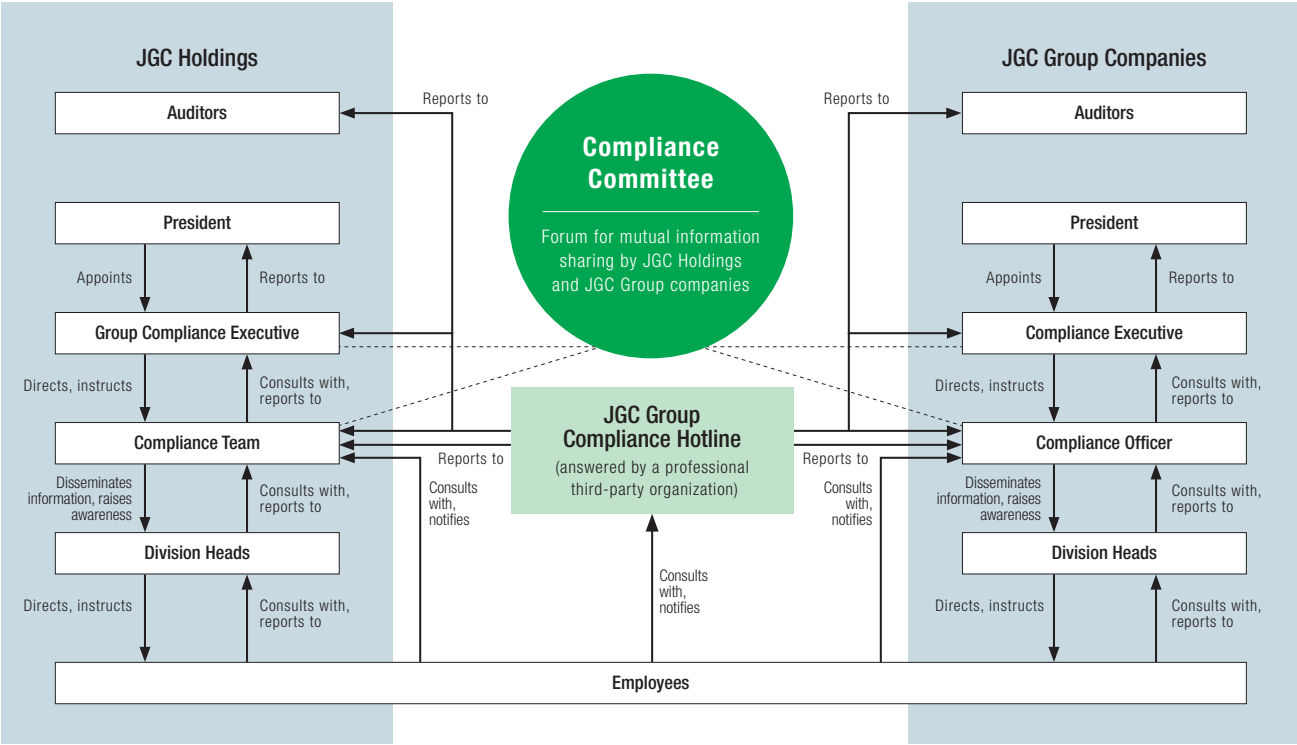
Basic Stance

Guided by our corporate philosophy, the JGC Way, the JGC Group has positioned compliance as the cornerstone of management, based on two keywords in its list of shared values – Respect and Integrity. As a member of the international community, the JGC Group believes that compliance with the laws of Japan and all other countries where the Group operates, as well as fair and equitable business practices

in accordance with corporate ethics, are essential to the pursuit of sustainable business development. Based on this belief, the Group has developed the JGC Group Code of Business Conduct. The code, which must be followed by all employees, contains key points to ensure that the JGC Group's corporate philosophy is implemented in practice.

Group Compliance System

The JGC Group has established a group compliance system to ensure each company carries out its business based on high ethical standards. Compliance Executives appointed by each company president are consolidating compliance activities throughout the Group and contributing to make the activities more effective. Compliance Executives, together with Compliance Officers, evaluate the risks and implement measures fit for each company. The JGC Group has also established Compliance Committee as a forum to share information and collaborate among group companies. We are aiming to achieve a sense of unity to the entire group through the Committee.



----- Indicates participation

Measures to Prevent Bribery

JGC works to ensure fair business practices, in line with its basic policy of complying with all anti-bribery rules and regulations, such as provisions in Japan's Unfair Competition Prevention Law prohibiting the bribing of foreign public officials, the US Foreign Corrupt Practices Act (FCPA) and the UK Bribery Act 2010. The table below shows the JGC Group's regulations and programs related to preventing bribery, based on provisions in the JGC Group's corporate philosophy and Code of Business Conduct.

JGC Group Corporate Philosophy		
JGC Group Code of Business Conduct		
Bribery Prevention Regulations		
Regulations to prevent bribery by employees	Regulations to prevent bribery by business partners	Regulations to ensure effective operation of bribery prevention programs
Gifts, entertainment, and travel policy	Anti-corruption policy for international commercial representative	Rules related to the JGC Group Compliance Hotline
Policy on charitable donations	Anti-corruption policy for joint ventures	Bribery risk management guidelines
Policy on political contributions	Anti-corruption policy for suppliers and subcontractors	Bribery prevention training guidelines
		Compliance monitoring guidelines

Compliance Training

To raise compliance awareness, the Group conducts a thematic and level-specific compliance training program. Training in fiscal 2019 was focused on preventing corruption and responding to organized crime, and in-person training was held for relevant divisions and projects. E-learning on workplace harassment was also introduced, providing employees with opportunities to learn about harassment.

Number of Training Courses, Participants (FY)					
	2015	2016	2017	2018	2019
Number of courses	18	12	13	6	21
Number of participants	600	373	353	199	559*

*Excluding 3,228 E-Learning participants

Compliance Hotline

For prompt identification and prevention of compliance risks, the JGC Group Compliance Hotline was established as a resource that employees can use without hesitation to seek advice or report any concerns about actual or potential violations. Calls are answered by a third-party organization, which also enables anonymous consultation and reporting. This fiscal year, the hotline was supplemented by new internal window for the two main operating companies, JGC and JGC Japan, in consideration of the new group management structure adopted. These are direct lines to the respective compliance officers, which enables faster investigation and response. Offering several ways to seek advice and report suspicions provides a more convenient environment for employees to receive assistance. In addition to accepting reports from employees, we also accept reports of violation of corporate ethics from all suppliers working with group companies.

Number of Reports Received by Hotlines (FY)				
2015	2016	2017	2018	2019
5	12	18	28	47

Risk Management

Basic Stance

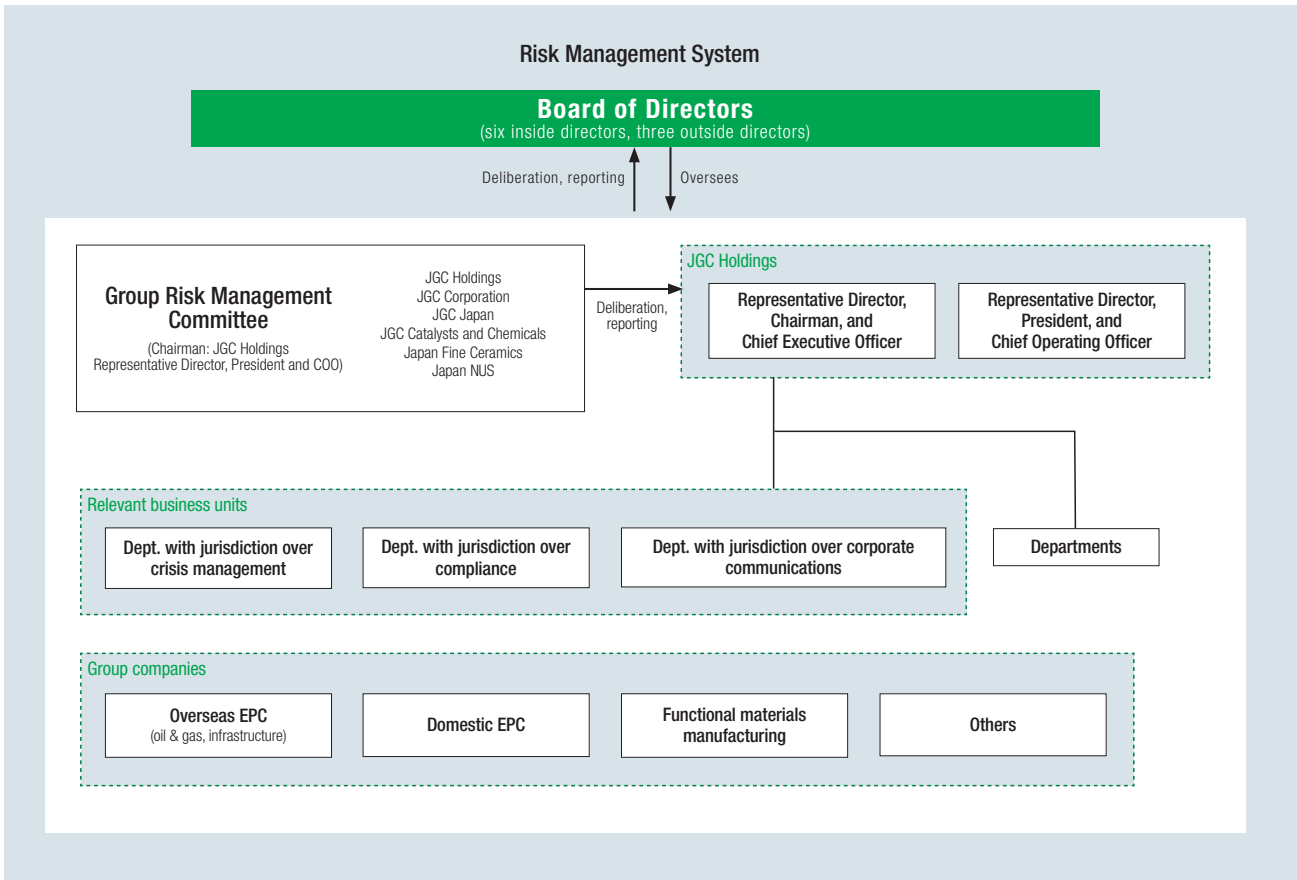
Recognizing that appropriate risk management reduces losses and contributes to profits for the Group, we strive to reduce and prevent risks routinely by understanding and organizing risks posed to the Group as

a whole and by building, maintaining, and refining our risk management system. If risks do materialize, we respond rapidly and appropriately to minimize the impact and associated loss.

Risk Management System

Based on Group Risk Management Committee rules, the JGC Group has established and uses a comprehensive risk management system for a systematic understanding of the risks posed to the Group as a whole. We are committed to further reducing these risks. Management of business risks of

the Group is mainly carried out by each operating company, with significant individual risks reported to the holding company board and discussed as necessary.



Related SDGs >>



Primary Group Risks and Responses

Primary Risk Area	Nature of Typical Risks	Countermeasures
Risk associated with receiving and executing projects	<ul style="list-style-type: none">Change of plans, cancellation, suspension, or postponement of projects in total engineering business after orders are receivedWorsening financial conditions of joint venture consortium partners as comprehensive engineering projects are executed	<ul style="list-style-type: none">Specific risk analysis by the holding company and operating companies, monitoring of project progress and profitability
Country risk	<ul style="list-style-type: none">Impact on business activities from political instability, war, revolution, domestic conflict, terrorism, sudden changes in economic policies or conditions, or economic sanctions	<ul style="list-style-type: none">Use of trade insuranceGathering information on country riskSetting reasonable contract conditions with clients, addressing force majeure clauses and regulatory changesStrengthening crisis management functions by the Crisis Management Dept.
Risk associated with natural disasters, epidemics, etc.	<ul style="list-style-type: none">Impact on business activities from natural disasters of unforeseen magnitude such as earthquakes, torrential rain, or typhoons, or from global pandemics such as new strains of influenza	<ul style="list-style-type: none">Establishing disaster response procedures, introducing systems to confirm safety, and implementing disaster trainingGathering information on riskSetting reasonable contract conditions with clients, addressing force majeure clauses and regulatory changes
Foreign exchange volatility risk	<ul style="list-style-type: none">Impact on sales and profit/loss from sharp fluctuations in foreign exchange rates	<ul style="list-style-type: none">Using project contracts denominated in multiple currencies, using overseas procurementIssuing orders denominated in foreign currencies, using forward foreign-exchange agreements
Risk of construction worker shortages, substantial wage increases	<ul style="list-style-type: none">Impact on business activities in total engineering from shortages of construction workers or substantial increases in wages	<ul style="list-style-type: none">Monitoring and forecasting trends in the construction industry labor force for primary plant marketsAdopting modular construction techniques to minimize on-site constructionWorking with companies that have extensive track records in local construction
Risk of substantial increases in material and equipment costs	<ul style="list-style-type: none">Increased procurement costs for material and equipment in total engineeringSubstantial rises in prices of raw materials or fuel in functional materials manufacturing	<ul style="list-style-type: none">Monitoring and forecasting price trends for raw materials and for materials and equipmentPlacing orders for materials and equipment early onDiversifying suppliersPassing on higher prices to clients
Investment risk	<ul style="list-style-type: none">Loss from unforeseen circumstances in the investment environment	<ul style="list-style-type: none">Closer monitoring of existing investment projectsCareful selection of new investments
Legal and regulatory risk	<ul style="list-style-type: none">Restrictions under business laws and regulations such as tax or construction laws, various domestic and international environmental laws, import/export trade regulations including those for security purposes, various laws and regulations to prevent corruption such as graft, or business or investment licenses	<ul style="list-style-type: none">Developing, implementing, monitoring, and improving compliance programs
Information security risk	<ul style="list-style-type: none">Leaks and loss of information from power outages, disasters, failure, loss, or theft of host computers, servers, or network equipment, external attacks, or virus infections	<ul style="list-style-type: none">Security measures such as preventing intrusion by establishing information security policies, adopting antivirus measures, and using encryption
Risk associated with quality	<ul style="list-style-type: none">Poor quality of supplies or items procured, recall of delivered products due to defects, liability for damages	<ul style="list-style-type: none">Promoting quality management system activities by establishing organizations with jurisdiction over quality assuranceUsing product liability insurance
Risk associated with changes in the macroeconomic environment	<ul style="list-style-type: none">Impact on business activities from declining energy prices or cooling of the global economyImpact on the oil and gas segment and catalyst segment served by the Group from acceleration of the shift to a low-carbon society	<ul style="list-style-type: none">Diversifying our business portfolio by shifting to a group management structureDeveloping technologies to reduce environmental impactBuilding value chains in collaboration with other companies that possess advanced technologies

Management Structure

(As of August 2020)

Directors



Representative Director,
Chairman and
Chief Executive Officer (CEO)
Masayuki Sato



Representative Director,
President and
Chief Operating Officer (COO)
Tadashi Ishizuka



Member of the Board
Kiyotaka Terajima



Member of the Board
Masanori Suzuki




Member of the Board
Keiji Nohira



Member of the Board
Yutaka Yamazaki



Outside Director
Shigeru Endo



Outside Director
Masayuki Matsushima



Outside Director
Kazuo Ueda

Audit and Supervisory Board Members

Audit and Supervisory Board Member

Yukihiro Makino

Audit and Supervisory Board Member

Yasumasa Isetani

Audit and Supervisory Board Member
(Outside Auditor)

Masao Mori

Audit and Supervisory Board Member
(Outside Auditor)

Koichi Ohno

Audit and Supervisory Board Member
(Outside Auditor)

Norio Takamatsu

Executive Officers

Senior Executive Vice President,
Chief Financial Officer (CFO)

Kiyotaka Terajima

Senior Executive Officer

Masanori Suzuki

Senior Executive Officer, General Manager,
Quality Assurance, Safety and Environment Dept.;
General Manager, Crisis Management Dept.

Yasuhiro Okuda

Senior Executive Officer,
General Manager, Sustainability Co-Creation Dept.

Masahiro Aika

Senior Executive Officer,
Chief Technology Officer (CTO)

Yutaka Yamanaka

Senior Executive Officer,
Chief Digital Officer (CDO),
General Manager, Group Strategic Planning Dept.

Takuya Hanada

Executive Officer

Masayasu Endo

Executive Officer,
Advisor, Group Strategic Planning Dept.

Aya Yamazaki

Executive Officer,
General Manager, Government/
Industry Relations Dept.

Takeshi Kawasaki

Executive Officer,
General Manager, Group Strategic Planning Dept.

Keiji Nohira

Executive Officer,
Advisor, Group Strategic Planning Dept.

Shigeru Adachi

Dialogue with Shareholders and Investors (Information Disclosure, IR activities)

Basic Stance

The Group considers shareholder and investor engagement indispensable to sustained growth and gains in corporate value. We are proactive in highly transparent information disclosure that serves as the basis for this dialogue. By listening to shareholders' and investors' opinions, providing feedback to management and relevant departments,

acting on this knowledge in management strategies, and striving to disclose not only financial but also non-financial information, we are creating an environment in which shareholders have a solid, long-term understanding of Group management policies.

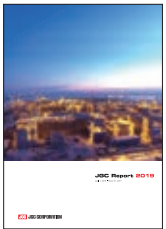
Main IR Activities (Fiscal 2019)

Dialog on Adopting a Holding Company Structure

We have actively engaged in dialogue to encourage an in-depth understanding among investors regarding the aims and objectives of moving to a holding company structure, which took effect on October 1, 2019. Our aims and objectives in adopting a holding company structure were carefully explained to investors through senior management and the IR Department. Not only did this ensure that the Group vision for growth was clear, it also gave us a better understanding of investor expectations, from the variety of feedback we received.

Enhancements to the JGC Report (Integrated Report)

Each year, JGC Report is designed to be more informative, as a key disclosure resource for investment decisions from a long-term perspective. JGC Report 2019 featured fuller information on the message from top management, project risk management system, and our adoption of a holding company structure, as well as expanded content on non-financial matters such as process to identify materiality, a key ESG topic. The report was selected as the "Most Improved Integrated Report" of 2019 by the domestic asset management arm of the Government Pension Investment Fund (GPIF).

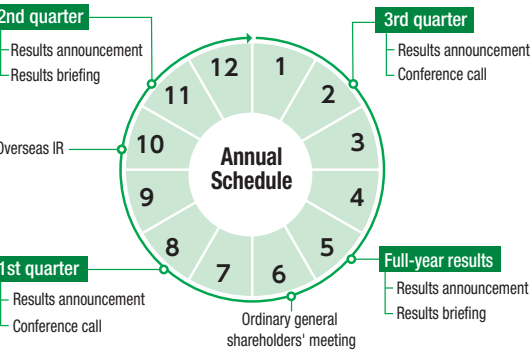


Website Expansion

Enhanced information disclosure for shareholders and investors is also sought online, through a more informative corporate website. We are committed to keeping shareholders, investors, and an array of other stakeholders informed through developing or updating webpages related to functional materials manufacturing and sustainability, among other topics.



IR Activities Schedule



Main IR Activities

Activity	No. of events	No. of companies
Responses to requests for information, phone calls from institutional investors in Japan/overseas	192	113
Results briefing conference calls	2	47
Results briefings by senior management	2	63
ESG-related meetings	4	4
Overseas IR roadshows by senior management	12	12

Ordinary General Shareholders' Meetings

	Fiscal year 2018	Fiscal year 2019	Fiscal year 2020
Date held	June 28 (Thu)	June 27 (Thu)	June 26 (Fri)
Shareholders attending	187	227	15*
Ratio of voting rights exercised	84.1%	82.6%	84.0%

※In Fiscal year 2019, we asked shareholders to avoid attending the meeting at the venue as much as possible, as part of measures to prevent the spread of COVID-19.

CHAPTER 5

Core Competencies & Management Resources

This chapter identifies the core competencies behind value created by the JGC Group, as well as efforts to reinforce their underlying management resources.

67 Core Competencies

Core Competencies
Project Execution Capabilities

74 Management Resources

Human Capital
Social and Relationship Capital
Manufactured Capital



Core Competencies



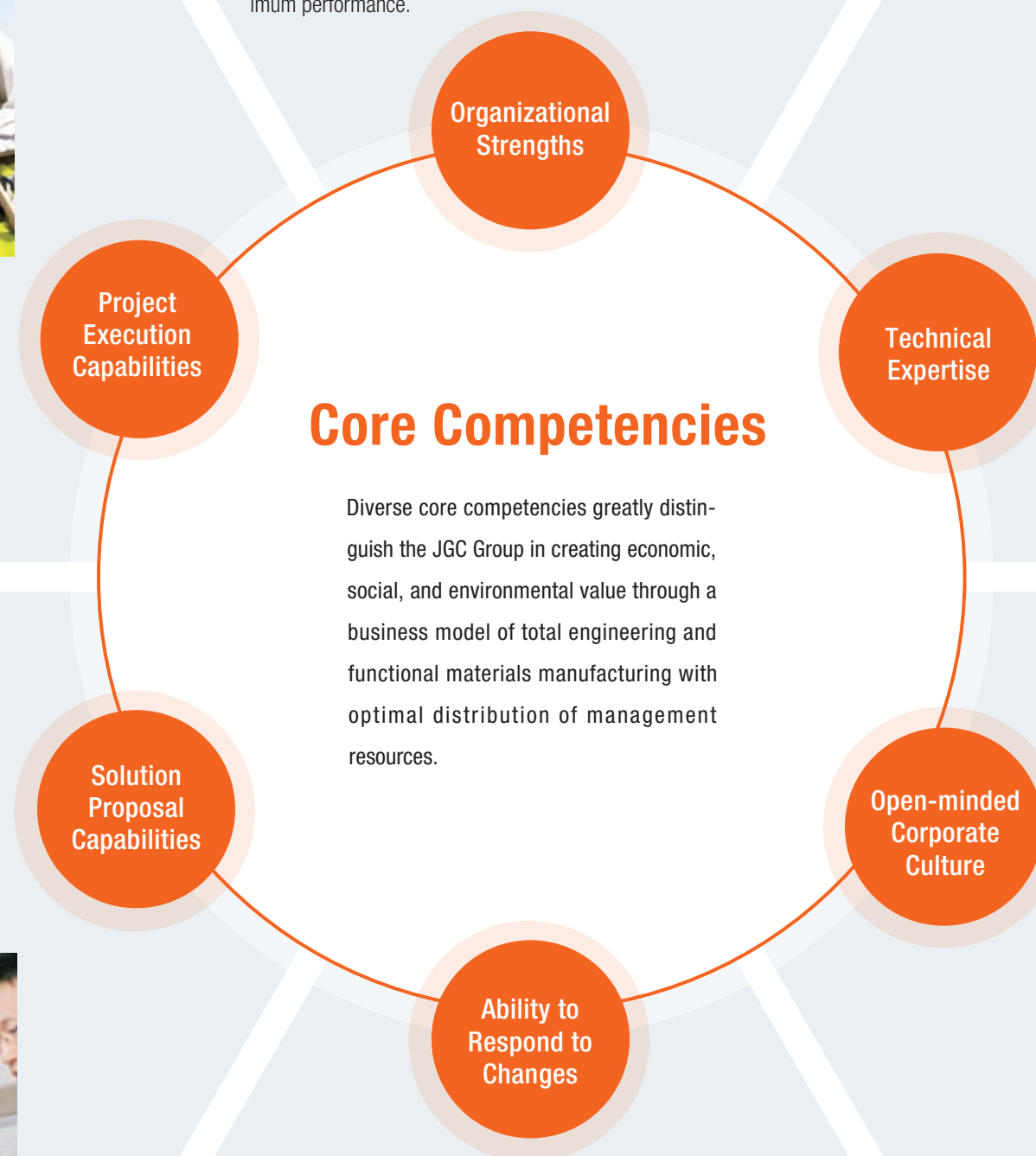
An optimal balance of quality, cost, and delivery is achieved while responding appropriately to project risks.



Our organizational strengths derive from a broad, highly skilled workforce, which allows us to offer maximum performance.



Superior plants, facilities, and materials supplied by the Group draw on extensive, advanced technical expertise.



An array of issues faced by clients are addressed in the plants, facilities, and functional materials supplied by the Group.



Pioneering and innovative technologies, products, and services provided by the Group anticipate social trends and changes in market environments.



The open corporate culture in place encourages each employee to pursue professional fulfillment as they work.

Total Engineering

Engineering Technologies

Many plants and facilities in energy and infrastructure segments draw on our extensive and advanced design and construction technologies.

Ethylene



Ethylene plant for Chevron Phillips Chemical

Track record
42

Liquefied Natural Gas (LNG)



LNG plant for JSC Yamal

Track record
48

Functional Materials Manufacturing

Nanomaterial Control Technologies

Materials with unmatched performance can be supplied by leveraging the four core nanotechnologies of nanoparticle preparation, alignment, pore structure control, and macro structure control.



Ceramic Production/Processing Technologies

Ceramic materials with original properties can be supplied through integrated R&D and production from raw material mixing to firing and processing.



Core Competencies

Project Execution Capabilities

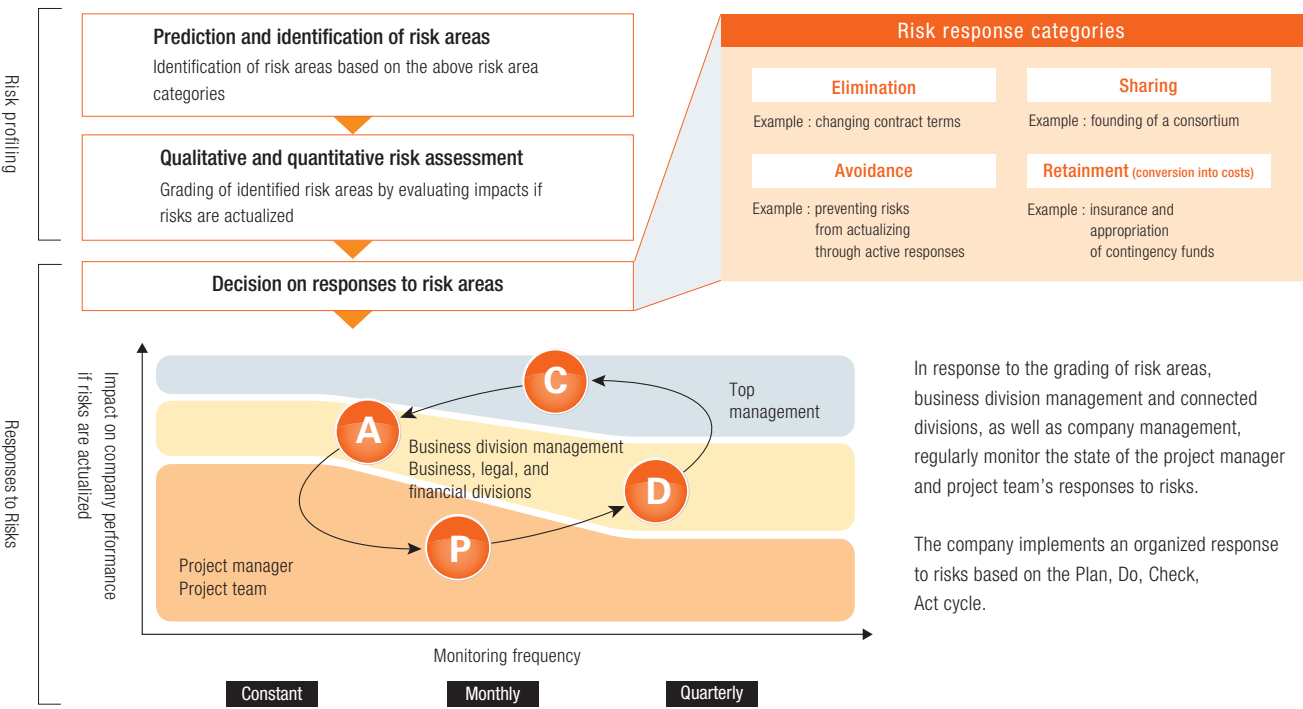
Project Risk Management System

The company is facing circumstances in which the diminishing profits of individual projects, along with their increasing scale, could have a significant impact on the profitability of the entire company. At the JGC Group we have long fostered a project implementation culture that holds that large-scale projects overseas represent an aggregation of many risks, an inappropriate response to which is the essence of project management. With this understanding, all staff involved in a project, not just project and company management, always respond to risks based on a high risk sensitivity in all EPC functions and phases.

Project Risk Areas

Technical Risks	Project Implementation Risks	Contract Terms and Other Consequent Risks
Risks that must be grasped from the perspective of technical specifications and scope of work. The project team and engineering sections cooperate to lead responses to these risks.	Risks that must be understood from the perspective of project implementation. The project team and PM lead responses to these risks.	Risks that must be grasped from the perspective of contract terms and project backgrounds. The PM leads the response to these risks in cooperation with company management.
E.g., disagreement with design requirements, new processes	E.g., securing of internal, vendor, and subcontractor resources	E.g., exchange rates, taxations, political instability, excessive requirements of performance and delivery guarantee

Risk Management Flow



Column

Compatibility of Appropriate Responses to Risks and Contracting Competitiveness

Appropriately predicting and identifying risk areas during the estimation and planning stage, based on past project experience and identification of corresponding project characteristics, is an essential prerequisite to securing revenue during the project execution stage. However, if responses to identified risks tend towards adding a risk buffer to the bidding price for risk retainment (establishment of contingencies), this may jeopardize cost competitiveness. At JGC Group we strive to balance appropriate risk management with securing of cost competitiveness by utilizing our entire expertise to aim for proactive responses to risk, such as avoidance, prevention, and reduction.

Core Competencies

Project Execution Capabilities

Cultivating Project Management Staff

The quality and number of PMs is one of the most important elements in assessing an engineering firm's capability, and JGC works on PM training in an organized fashion that also involves company management.

What Is a Project Manager (PM)?

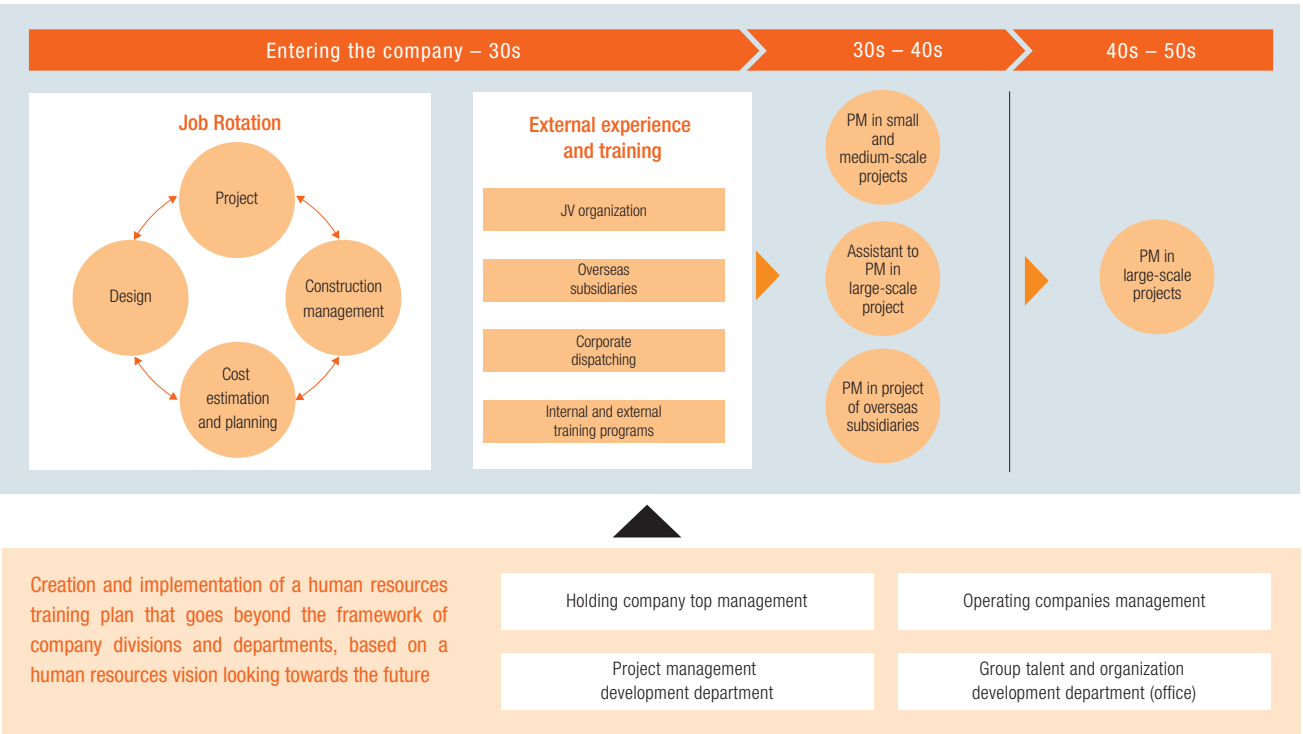
Utilizing project management techniques and tools in cooperation with internal and external partners to protect established delivery times, budgets, and quality, secure profits, complete a project, and ensure the client's satisfaction are the ultimate tasks of a PM. A PM is required to set short-term, mid-term, and long-term strategies for executing a project and to participate in all project phases ranging from design to procurement, construction, and commissioning.

Required Knowledge and Abilities	Required Assets
<ul style="list-style-type: none">Comprehensive knowledge of respective technical and commercial areas, management skillsAbility to set a master schedule and manning planAbility to grasp cost conditionsAbility to establish an outline of equipment composition/scale, costs, work processes, and man-hours based on plant capability requirements, and to explain this outline internally and externally	<ul style="list-style-type: none">Leadership, coordination and negotiation skillsStrength of character and stress resistanceBroad horizon and decision-making abilitiesLogicity, planning and scheduling abilities

Project Manager Training System

In order to cultivate outstanding PMs, it is important for them to undergo diverse experiences from a young age. That is why JGC Group has created a human resources training plan that goes beyond the framework of company divisions and departments, based on a human resources vision looking towards the future. In order to prevent specific divisions from holding back outstanding personnel and obstructing variation in their experiences, the talent and organization development department serves as an office that monitors the status of PM candidates and manages them from a mid- to long-term perspective to enable them to accumulate experience.

Project Manager Career Path



Core Competencies

Project Execution Capabilities

Project Management Experts in the JGC Group

Meet the next generation of project managers in the JGC Group



EPC Contractors Prove Their Worth Their Risk Management Capabilities

Nobuyoshi Mizutani

Joined JGC in 1994 after studying electrical and information engineering.
After a stint in instrument and control engineering and project control, moved to a project department.
With past experience in multiple projects as a project manager, he currently takes on large refinery projects as a project director.

Share your thoughts on project management.

Amid greater stakeholder diversity and complexity in larger projects and a faster pace of change in the world, the areas where we must respond with what are called soft skills have become increasingly important. One such skill is building a shared awareness among the companies involved, including clients. Another is managing risk, and yet another is managing human resources to maintain high performance from members. The essence of project management is to anticipate potential issues as projects unfold, to prevent them through far-reaching insight and imagination building on past experience and internal expertise garnered by the company, and, as we also apply new technologies, to maximize performance in project execution.

What is the key to risk management?

Thorough risk profiling at the planning stage is clearly vital, but in the execution stage as well, we must refine our profiling in response to constantly changing conditions and deal with risk promptly as part of PDCA cycles. It is easy to have a system in place for risk management, but making countermeasures work organically takes commitment and the ability to get things done. Through open risk-sharing discussions with all stakeholders, we

must also choose the most effective risk response, as we focus on the success of the project instead of the interests of any particular organization.

Describe an ideal project manager.

Their presence in projects is central. Every last participant, including clients and external stakeholders, is glad to have been involved and would be pleased to work with the same members again. They drive a team with a genuine passion for the project, making the most of members' shared sentiments, determination, and sense of achievement. Earning the trust of clients and all other stakeholders also calls for charisma.

Episode
Describe an experience that proved to be
a growth opportunity.

As I was gaining experience in design engineering and project control, I felt a strong desire to take on the responsibilities of a project manager and see projects through to completion. I wouldn't be who I am today without the chance to grow tremendously from my first experience as project manager, where I saw a refinery renovation project in Singapore through from estimation to completion.



Always Committed to Successful Projects, and Inspiring the Same Commitment in Others

Hiroshi Komiya

Joined JGC in 1998 after studying chemical system engineering.
After working in process and instrumentation/control engineering, moved to a project department in 2004.
Having served as an engineering and project manager in multiple projects, he currently focuses on LNG projects as a project director.

Share your thoughts on project management.

The key to a successful project is initially defining with those involved what will constitute success, sharing a vision of the ultimate goal, setting targets for each function and stage with this goal in mind, and managing the process of achieving it. The broader environment of projects is constantly changing, which makes it important to adjust our trajectory as needed, but the ultimate goal we envision must remain steady. Success in large projects is unattainable if we rely on the personal capabilities of a project manager. The role they must fulfill as project leaders is to create an organization that drives projects forward through the shared wisdom of many diverse members brought together from inside and outside of the company.

What is the key to risk management?

Eliminating, avoiding, and sharing risks should be prioritized as proactive responses to the risk factors we predict and extract. Only as a last resort should we also take the passive response of bearing risk by retaining risk factors as a cost. If risk emerges during a project, to avoid falling behind, I believe we must act decisively in implementing the response plans in place.

Describe an ideal project manager.

They always rise to challenges, and their leadership inspires team members to move ahead. Remaining aware of changes in conditions surrounding the project is also essential, as is the ability to make decisions flexibly and responsively. They also need unwavering faith that they will make their project a success in the end, regardless of the challenges, and this conviction inspires those around them.

Episode
Describe an experience that proved to be a growth
opportunity.

After joining the project department, I was fortunate to have opportunities to work closely with project directors and project managers on several projects. It was an invaluable learning experience, seeing how specific policies and strategies informed project leaders' decision-making, and observing their relationship-building and negotiation with clients and joint-venture partners.

Core Competencies

Project Execution Capabilities

Project Management Experts in the JGC Group



Defining Needs and Proposing Ideal Solutions in Line with Client Conditions

Mayumi Kannan

Joined JGC in 2002 after studying architectural engineering.
Began in a project department serving the healthcare sector. Through job rotation, also experienced overseas on-site assignment in oil & gas sector. Engaged as a project engineer and manager in many projects for hospitals and nursing care centers.

Describe the roles and capabilities expected of project managers serving the healthcare industry.

In my own area of healthcare (focused on hospitals and nursing care centers), JGC proposals often end up determining the specific requirements and functionality of the facilities planned. Building on an understanding of local healthcare and in line with client conditions, project managers must gain a clear vision of the medical care and nursing services that facilities should enable, and then put together proposals for suitable facilities. Design proposals are also an important factor. In the execution stage, each project manager must fulfill many roles, in part because we may have fewer project members than in other JGC business segments. This calls on me to gather information from far and wide, and to take the initiative and delve into any matters I feel should be investigated.

What is the key to risk management?

Close communication with internal and external stakeholders, a shared awareness of variables and concerns in project execution, and responsiveness. I try not to put off deciding how to deal with issues.

Describe an ideal project manager.

Although management capabilities are obviously necessary, perhaps the ideal project manager also possesses a good balance of technical expertise and skills for architecture, equipment, and electrical applications, and can apply these skills as needed. Having this flexibility in responding, though it may be subtle, is pivotal to smooth progress in projects. And ideally, project managers should be able to earn the trust of any client early on through a combination of good communication skills, persuasiveness grounded in an understanding of people and extensive experience, and other traits.

Episode

Describe an experience that proved to be a growth opportunity.

In my tenth year at JGC, job rotation gave me an opportunity to work on-site at an Indonesian LNG project. Not all construction companies' expertise and reliability is as consistent as we find in Japan, so my management duties took me on-site to see that relevant design and construction standards were met. Although I struggled to cope with some situations in this unfamiliar environment, I still draw on the experience in my current work.

Management Resources

Human Capital

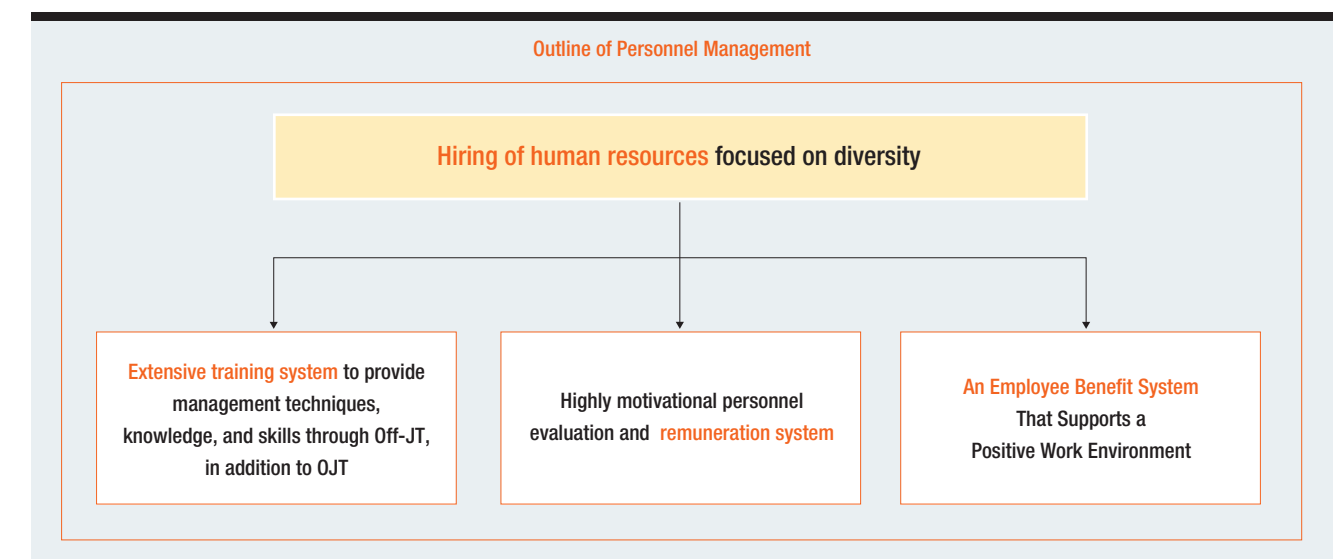
Human capital is the Group's most important management resource, whether in total engineering, functional materials manufacturing, or consulting. We are actively working to create a supportive work environment, establish training systems for our diverse workforce, and expand our human resources evaluation and remuneration systems to enhance employee motivation.

Human Resources Sought and Overview of Personnel Management

JGC Group employees are required to possess advanced technical capabilities and expertise, appreciate different cultures and diversity in order to work with others of many nationalities, and a mental attitude that helps us make the most of our organizational strengths. The Group seeks out the qualified workforce we envision through

well-rounded personnel policies centered on training, evaluation/remuneration, and employee benefits. Outstanding and ambitious members who share our respect for the social significance of Group business join us through a variety of ways, whether they are new graduates in Japan, recent graduates, mid-career, or individuals with disabilities.

Achieving Our Human Resources Vision Through Well-rounded HR Policies



Management Resources

Human Capital

Human Resources with a Wide Range of Expertise

Total Engineering

about
6,000
members

A workforce of experts with diverse expertise. Technical capabilities spanning all engineering fields: such as chemical, architectural, mechanical, electrical, control, safety, and IT Engineering. Project management skills to ensure an optimal balance of cost, scheduling, and quality control. Knowledgeable in commercial areas such as legal/contracts or accounting/tax.

Functional Materials Manufacturing

about
900
members

Members with a command of nanomaterial control technologies in the catalysts/fine chemicals field or ceramics production and processing technology in the fine ceramics field, who respond quickly and flexibly to client needs.

Consulting

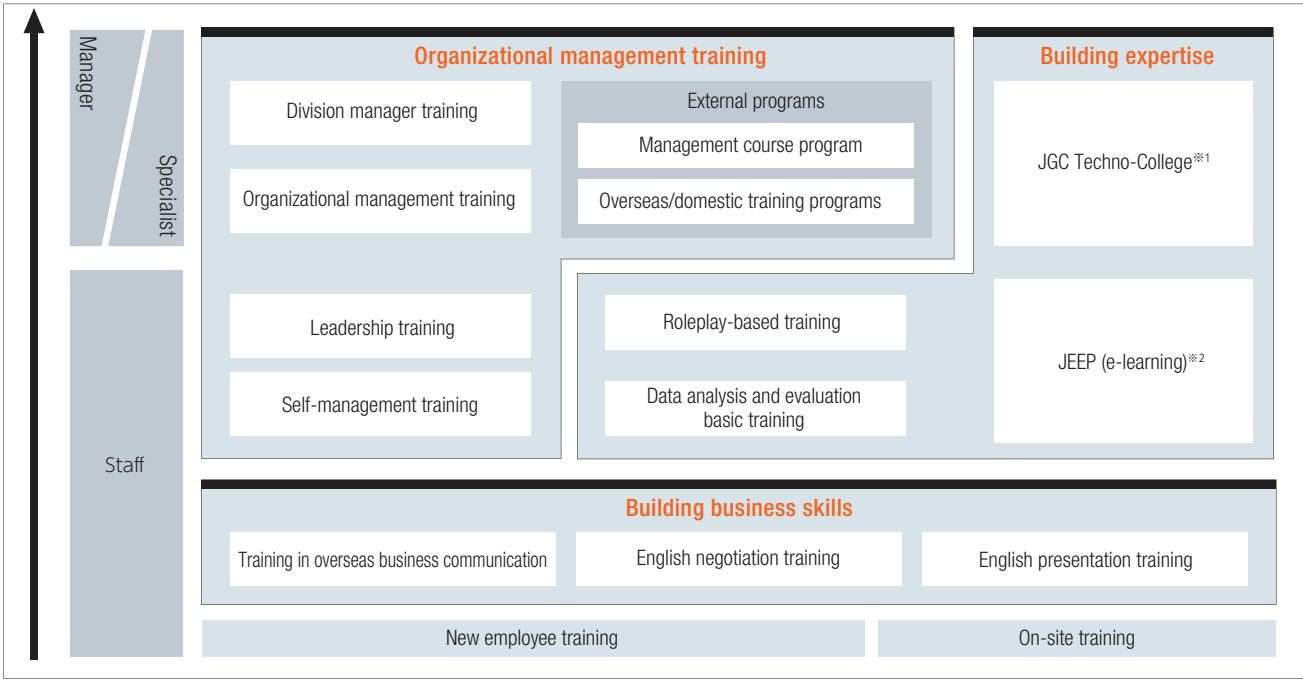
about
200
members

Members with academic knowledge in a variety of fields such as engineering, science, and agriculture who offer research and analysis to solve client challenges.

Training System

JGC Group cultivates human resources with high technical proficiency and expertise, awareness of other cultures and diversity, and the mentality required for teamwork through our training system consisting of three main pillars: on-the-job training (OJT), which includes an onsite training system and a job rotation system; off-the-job training (Off-JT), which comprises various training programs; and support for self-improvement, such as acquiring certifications or improving language skills. In our Off-JT, we cultivate personnel through stepwise implementation of differing types of training in response to the skills required of differing types of employees, as shown in the graphic below.

Overview of Diverse Off-the-job Training System



※ 1 Specialty lectures conducted by employee volunteers with the aim of passing on techniques, skills, and experience from senior to junior staff
※ 2 Various technical courses on process design, detailed design, project management, IT, and other topics

Management Resources

Social and Relationship Capital

Since the 1950s, the Group has provided plant and facility design and construction and maintenance services to clients in diverse energy infrastructure fields in Japan and overseas. In functional materials manufacturing, we supply a variety of products and materials with original properties, responding rapidly and flexibly to the needs of a broad range of clients from energy and chemical companies to semiconductor and electronic material companies. In consulting, we provide research and analysis services to utilities and government agencies through a collaborative network of experts and authorities in Japan and overseas. Through these operations, we have gained client trust and built a solid customer base.

Primary Clients by Segment

Total Engineering Business

Overseas Oil and Gas

- Oil majors
- National oil companies in oil- and gas-producing countries
- Petrochemical and chemical companies, others

Overseas Infrastructure

- Power producers
- Oil and gas producers
- Nonferrous metal companies, others

Domestic

- Oil and gas companies
- Petrochemical and chemical companies
- Electric power companies, power producers
- Pharmaceutical companies, hospitals, others

Featured Projects

LNG plant (Russia)

Solar power plant (Vietnam)

Pharmaceutical plant (Toyama Prefecture)

Functional Materials Manufacturing Business

Catalysts and Fine Chemicals

- Oil companies
- Petrochemical and chemical companies
- Electronic materials companies
- Optical device materials companies
- Cosmetics companies, others

Fine Ceramics

- Semiconductor materials/fabrication companies
- Electronic device materials/fabrication companies
- Optical device materials/fabrication companies
- Medical device materials/fabrication companies
- Manufacturing/fabrication companies, others

Consulting Business

- Utilities, gas companies
- Research institutes
- Government, municipalities, others

Management Resources

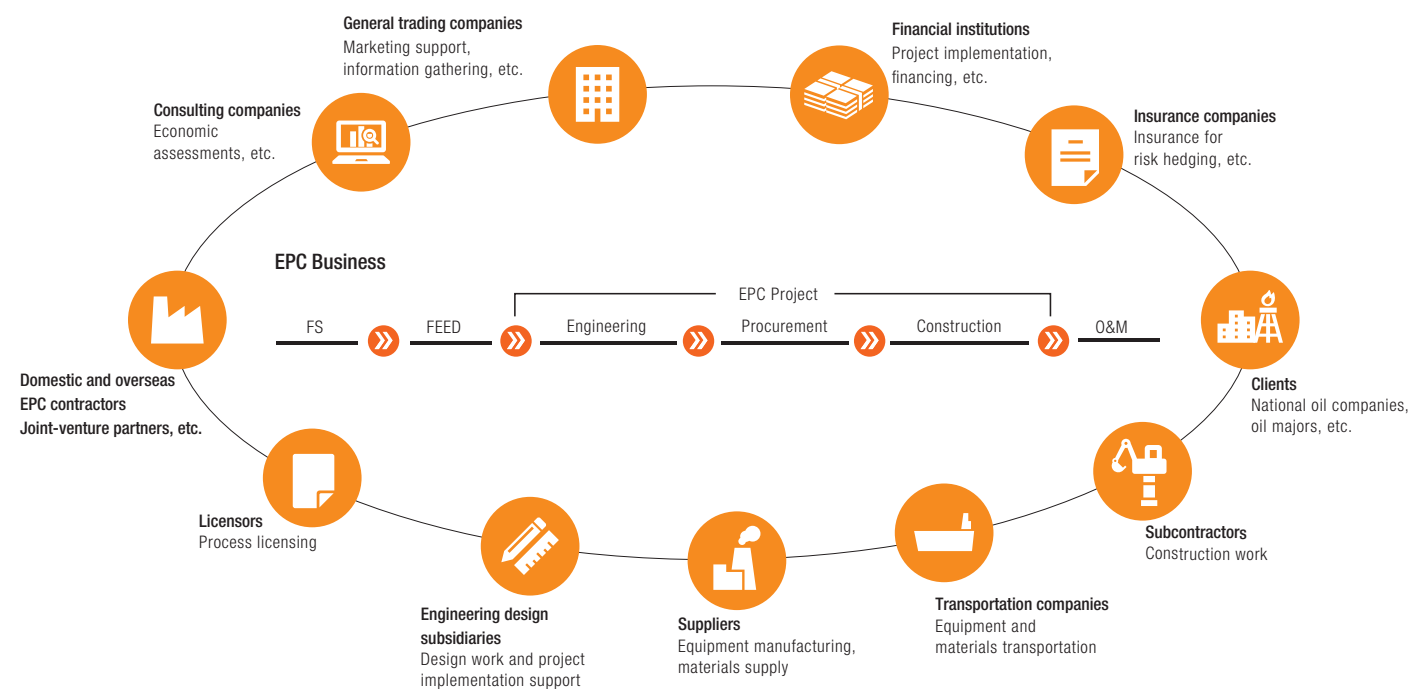
Social and Relationship Capital

JGC Group treats suppliers as partners in value creation, working with them to ensure mutual competitiveness and success through optimum quality, cost, and delivery. We select suppliers based on a fair and comprehensive assessment of factors such as quality, price, delivery, and technical capabilities, while also fully taking into account environmental considerations, human rights, health and safety, and information security during this process.

Global Supply Chain

Emphasizing the Importance of Suppliers as Partners in Value Creation

Cooperation with partner companies in countries around the world is essential for plant construction. JGC Group has created a global supply chain for plant construction, thanks to more than half a century of implementing numerous projects overseas. JGC Group treats suppliers as partners in value creation, working with them to ensure success through optimum quality, cost and delivery.



Topics

Vendor Technical Support Group Activities

In the Train 9 LNG plant construction project for Petronas that was completed in 2017, we stationed engineers from JGC vendor technical support group at four manufacturers in Malaysia from the start of the project to provide production support for a total of 140 units of equipment weighing 3,000 tons, including towers, vessels, and heat exchangers.

Thanks to the technical assistance provided based on comprehensive judgments made regarding the capabilities of each manufacturer and the difficulty of the specified equipment, these relatively inexperienced manufacturers succeeded in manufacturing equipment that fulfilled the quality requirements, on schedule. The new track record established through this project will help these manufacturers to obtain equipment orders for other projects. The company views the positive relationships with suppliers that have been achieved as a result of these efforts as valuable business partner assets, and for this reason, actively provides technical assistance to manufacturers.



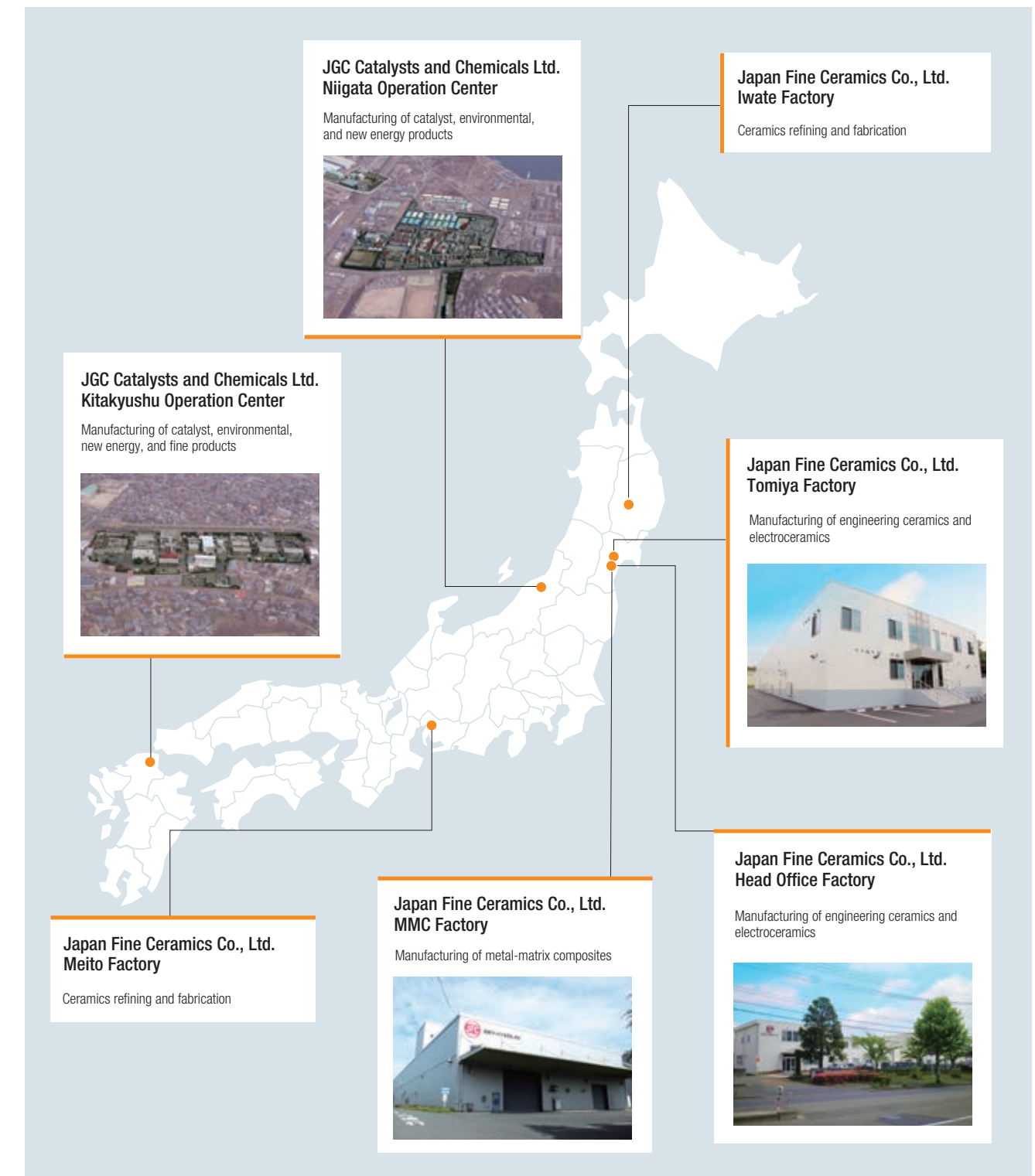
Training for welders

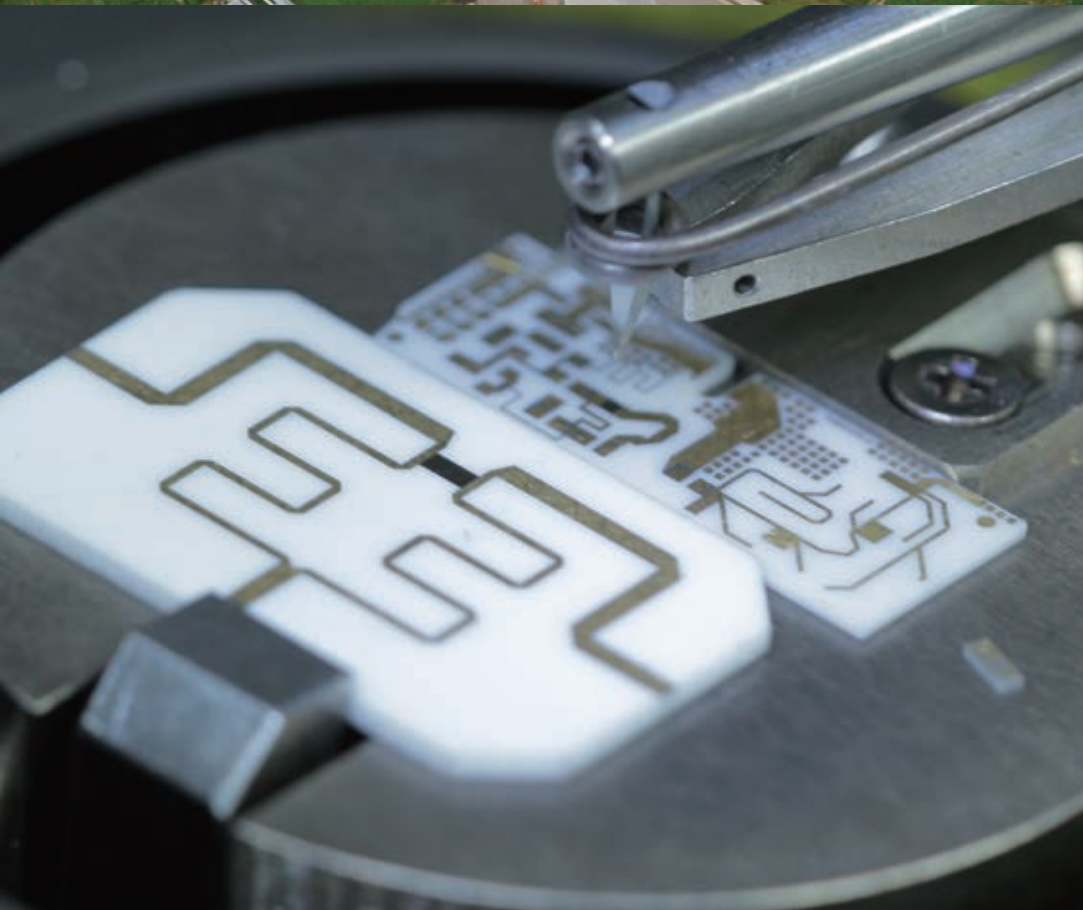
Management Resources

Manufactured Capital

JGC Group maintains a network of production sites in Kitakyushu, Niigata, Sendai, Aichi, and Iwate, Japan that provide a stable supply of superior functional materials in conjunction with the technological innovation of adjacent R&D centers.

Production Network for Superior Functional Materials





CHAPTER 6

Business Outlook

This chapter describes our Total Engineering and Functional Materials Manufacturing operations, growth opportunities in each segment, and mid-to long-term risks.

81 Total Engineering Business

Overseas Oil and Gas
Overseas Infrastructure
Domestic EPC

84 Functional Materials Manufacturing Business

Catalysts and Fine Chemicals
Fine Ceramics

Total Engineering Business

Overseas Oil & Gas Sector



Satoshi Sato
Director,
Company President,
Oil & Gas Project Company,
JGC CORPORATION

Covered Sectors

Engineering, procurement and construction of plants and facilities in sectors such as crude oil and gas gathering, refinery, gas processing, LNG (liquefied natural gas) and petrochemicals

New Contracts in Fiscal 2019

approx. **55** billion yen

New Contracts Targeted for Fiscal 2020

400 billion yen

Growth Opportunities

- Increasing energy demand, driven in part by global population growth
- Increased demand for LNG and other fossil fuels with lower environmental impact

Mid-to Long-term Risks

- Lower demand for fossil fuels as a whole
- Postponement of client capital investment plans from resource market stagnation

Business Policy

Orders in fiscal 2019 remained low. Factors included postponement of the final investment decision for a large-scale LNG plant construction project in Mozambique awarded in October 2019, in the wake of a global economic slowdown from the pandemic outbreak of COVID-19 and sharp drops in crude oil prices. Although the fiscal 2020 market environment is still uncertain, we will continue working to secure orders for projects expected to move ahead, such as a planned Middle East refinery upgrading

project. We are targeting 400 billion yen in orders.

In the medium to long term, solid capital investment in oil and gas is expected, in consideration of increasing energy demand from global population growth. Through greater competitiveness driven by digital technologies, and by introducing low-carbon / decarbonized technologies, we are pursuing sustained growth in this core JGC Group business.

Overseas Infrastructure Sector



Terumitsu Hayashi
Director,
Company President,
Infrastructure Project Company,
JGC CORPORATION

Covered Sectors

Engineering, procurement, and construction of infrastructure facilities focused on renewable energy power generation (solar, biomass, wind), LNG/LPG terminals, waste power generation, pharmaceuticals and food factories, hospitals, airports, non-ferrous metal smelting, etc.

New Contracts in Fiscal 2019

approx. **5** billion yen

New Contracts Targeted for Fiscal 2020

140 billion yen

Growth Opportunities

- Increasing demand for new infrastructure, as populations in emerging markets grow
- Increasing demand for renewable energy, toward a low-carbon society

Mid-to Long-term Risks

- Sluggish capital investment from an economic slowdown in emerging markets

Business Policy

The low level of orders in fiscal 2019 can be attributed to factors such as FID postponement for an LNG Receiving Terminal construction project in Southeast Asia for which JGC was a preferred bidder. The outlook in fiscal 2020 remains uncertain due to the impact of the pandemic, but we will be working toward steady orders for projects that are expected to advance, including Non-Ferrous Metals projects in Southeast Asia, as we continue to pursue order targets.

In this key Southeast Asia region, higher infrastructure demand is expected. We will be coordinating projects through attentive proposals to potential clients from the upstream planning stage, as we take an account-focused approach aimed at securing continuous orders. By steadily receiving and executing projects with ample margins, we will be developing overseas infrastructure as a second profitable pillar of JGC Group business following overseas oil and gas.

Total Engineering Business

Domestic Sector



Shoji Yamada
Representative Director,
President,
JGC JAPAN CORPORATION

Covered Sectors

Engineering, procurement, construction and maintenance of plants and facilities for oil and gas, chemicals, pharmaceuticals and laboratories, healthcare (medical and welfare), renewable energy power generation, nuclear energy-related, and more

New Contracts in Fiscal 2019

approx. **130** billion yen

New Contracts Targeted for Fiscal 2020

130 billion yen

Growth Opportunities

- Increasing demand for maintenance as refining and petrochemical plants deterioration
- Increasing demand for renewable energy, toward a low-carbon society
- Increased capital investment in life sciences from a declining birthrate and aging population
- Increased nuclear power plant decommissioning related

Mid-to Long-term Risks

- Less new large-scale capital investment in refining and petrochemicals from lower fossil fuel demand and stagnation of crude oil prices
- Sluggish capital investment in infrastructure field from a domestic economic slump

Business Policy

Orders on the level expected were secured in fiscal 2019, supported by a robust maintenance sector and a series of orders in areas such as biomass and solar power plants, pharmaceutical plants, laboratories, and health care facilities.

In fiscal 2020 as well, we will continue to fulfill a supporting role in steady group earnings by expanding orders centered on infrastructure projects not easily swayed by the pandemic or crude oil price

fluctuations, such as biomass power generation plants, decommissioning nuclear power facilities services, pharmaceutical plants, health care facilities, and chemical projects.

We will continue to hone our technologies and expand operations, hoping to contribute domestically as Japan pioneers solutions to a declining birthrate, aging population, and other issues faced by industrialized nations.

Functional Materials Manufacturing Business

Catalysts and Fine Chemicals Sector

Covered Sectors

Development and production of catalysts used in petroleum refining, chemical, and environmental conservation and of fine chemical products used as materials in semiconductor, IT/electronics, optics, cosmetics, and other applications

Growth Opportunities

- Expanding demand for new chemical refining catalysts at petroleum refineries
- Increased demand for environmental catalysts and cosmetics ingredients made with silica beads, reflecting increased environmental awareness
- Increased demand for anti-reflective materials, semiconductor abrasives, and other functional coating materials from adoption of HDTVs and 5G technology

Mid- to Long-term Risks

- Slowdown in exports of functional coating materials from economic stagnation in China
- Declining demand for petroleum refining catalysts from lower crude oil prices

Business Policy

Favorable orders for fluid catalytic cracking (FCC) catalysts, chemical catalysts, and environmental conservation catalysts in fiscal 2019 were offset by a slowdown in exports of functional coating materials and other fine chemicals due to factors such as U.S.-China trade friction.

Pandemic impact was minimal in fiscal 2019, but in fiscal 2020, it is expected to act in concert with lower crude oil prices to undermine catalyst demand. We are monitoring developments carefully. Looking ahead, we will seek expanded orders by enlarging our share of the domestic FCC catalyst market and branching out overseas, cultivating new chemical catalyst opportunities, promoting sales and developing more applications for functional coating materials, and enhancing productivity in cosmetics materials.



Toshiharu Hirai
Representative Director,
President,
JGC Catalysts and
Chemicals Ltd.



Oil Refining Catalysts (FCC Catalysts)



Silica Beads

Cosmetics Ingredients
(Silica Beads, an Environmentally Friendly
Inorganic Material)

Fine Ceramics Sector

Covered Sectors

Development and production of ceramic materials for semiconductor, automotive, telecommunications, industrial, medical, and aerospace applications

Growth Opportunities

- Increased demand for parts used in optical communication and semiconductor applications from adoption of 5G
- Increased demand for high-thermal-conductivity silicon nitride substrates from adoption of electric and hybrid vehicles

Mid- to Long-term Risks

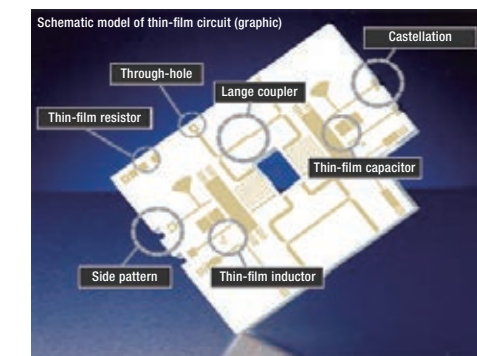
- Postponement of semiconductor investment plans from Chinese economic stagnation

Business Policy

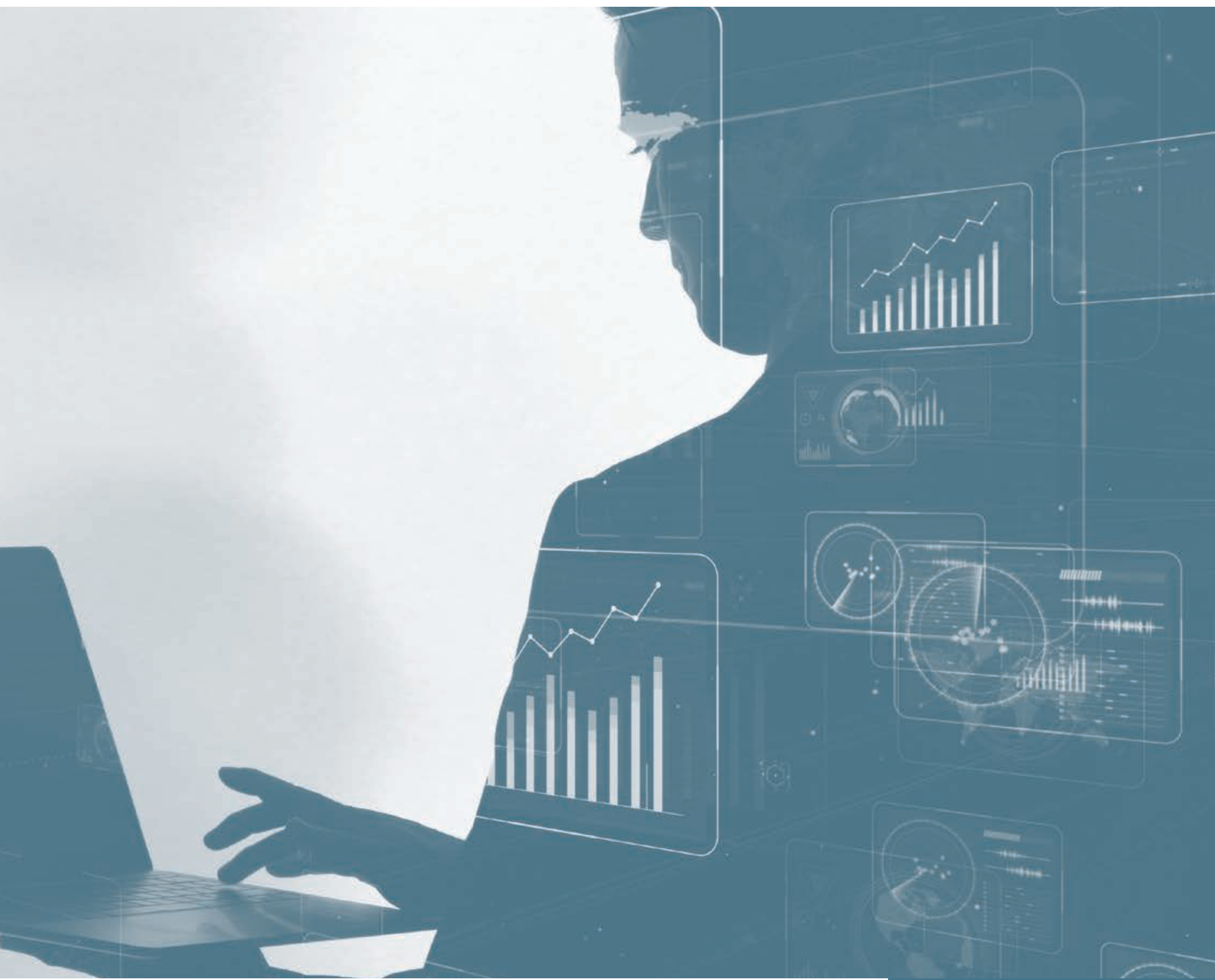
5G adoption in China was slower than expected in fiscal 2019, and orders were sluggish for components used in optical communication and in semiconductor deposition and etching equipment. In fiscal 2020, we will continue to monitor the market impact of the global economic slowdown from the pandemic. We will be seizing new opportunities in circuit boards used for optical communication and looking to venture into wireless communication, LEDs, sensors, and other fields. Meanwhile, we are looking forward to a smooth startup at a new factory for high-thermal-conductivity silicon nitride substrates used in power units of electric vehicles, where we will seek quality and productivity for volume production as we develop this business into a pillar of profitability.



Hiroshi Tanaka
Representative Director,
President,
Japan Fine Ceramics Co., Ltd.



Coated integrated circuit



Data Section

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Six-Year Summary

(As of March 31 of each year)

Consolidated

	(Millions of yen)					
	2015	2016	2017	2018	2019	2020
Net Sales	799,076	879,954	693,152	722,987	619,241	480,809
Operating Income (Loss)	29,740	49,661	△21,496	21,495	23,249	20,234
Net Income (Loss) Attributable to Owners of Parent	20,628	42,793	△22,057	16,589	24,005	4,117
Total Current Assets	533,538	522,747	480,865	521,320	541,747	537,955
Total Current Liabilities	286,533	225,203	226,457	215,773	223,559	228,386
Working Capital	247,005	297,544	254,408	317,200	318,188	309,569
Current Ratio (%)	186.2	232.1	212.3	241.6	242.3	235.5
Net Property and Equipment	78,560	76,255	69,877	55,222	55,440	49,794
Total Assets	719,754	689,782	646,291	684,921	708,855	671,273
Long-term loans payable	22,715	20,991	12,631	4,294	3,949	347
Total Net Assets	388,496	419,673	383,260	395,779	410,350	390,979
New Contracts	769,680	320,626	506,293	547,826	935,451	189,643
Outstanding Contracts	1,772,036	1,192,625	1,019,621	846,157	1,208,365	941,618
Net Income (Loss) per Share (in yen)	81.73	169.60	△87.42	65.75	95.14	16.32
Cash Dividends per Share (in yen)	21.0	42.5	30.0	25.0	28.5	12.0
Number of Employees	7,332	7,489	7,554	7,610	7,841	7,607

Analysis of Performance and Financial Position

Our View of the Operating Environment

In the consolidated fiscal year under review, toward the goal of steady and prompt attainment of further gains in corporate value, the Group adopted a holding company structure as of October 1, 2019, seeking to become a corporate group with stable, solid earnings from multiple businesses.

In the Total Engineering segment, those in the overseas oil and gas business (which includes oil refining, petrochemicals, gas processing, LNG, etc.) saw plans announced for several capital investment projects in oil- and gas-producing countries, centered on large-scale LNG plants and oil refineries. Similarly, those in the overseas infrastructure business (including power generation, nonferrous metals, pharmaceuticals, medical, etc.) of this segment expected renewable energy plants and other capital investment plans to be implemented in Asia and beyond, where populations and economies are growing. But with the spread of the coronavirus pandemic (hereafter, "Covid-19") since the beginning of 2020, the global economy has faced a slowdown, which, in conjunction with a sharp fall in crude oil prices as producers such as Saudi Arabia and Russia increased output, led to some client capital investment plans being postponed amid market uncertainty.

In the domestic business of this segment, continuous capital investment was seen in maintenance of existing refineries, construction of chemical plants, renewable energy plants and life science facilities.

Meanwhile, in current domestic and overseas projects, favorable progress was made overall. The spread of Covid-19 has restricted the movement of people and supplies, however, making it increasingly likely that equipment production and construction work will face delays.

In the Functional Materials Manufacturing segment, those in the catalyst business saw favorable sales of FCC, chemical, and environmental catalysts. However, those in the fine chemicals and fine ceramics businesses faced ongoing market adjustment and sluggish orders from factors such as a slowdown in functional paint material exports on prolonged U.S.-China trade friction and the postponement of capital investment by semiconductor manufacturers from slow 5G adoption in China.

Results of Operations

In the consolidated fiscal year under review, the JGC Group reported net sales of ¥480,809 million (down 22.4% year on year), an operating income of ¥20,234 million (compared with an operating income of ¥23,249 million in the previous fiscal year), an ordinary income of ¥22,367 million (compared with an ordinary income of ¥32,304 million in the previous fiscal year), and a net income attributable to owners of the parent of ¥4,117 million (compared with a net income of ¥24,005 million in the previous fiscal year). ROE was 1.0%.

● Assets

Current assets as of the end of the consolidated fiscal year stood at ¥537,955 million, a year-on-year decline of ¥3,792 million. As for main factors, although cash and deposits increased by ¥101,057 million, notes receivable, accounts receivable from completed construction contracts, and other declined by ¥87,406 million, accounts receivable by ¥9,471 million, and short-term loans receivable by ¥3,592 million, with suspense payments included in current assets and other declining by ¥3,457 million. Total non-current assets stood at ¥133,317 million, a year-on-year decline of ¥33,789 million. This was mainly attributable to a ¥28,281 million decline in investment and other assets. Accordingly, total assets amounted to ¥671,273 million, a year-on-year decline of ¥37,581 million.

● Liabilities

Current liabilities as of the end of the consolidated fiscal year stood at ¥228,386 million, a year-on-year increase of ¥4,826 million. As for main factors, although trade and accounts payable for construction contracts declined by ¥23,852 million, corporate bonds with payment due within one year increased by ¥20,000 million and advances received on uncompleted construction contracts by ¥9,123 million. Total non-current liabilities stood at ¥51,907 million, a year-on-year decline of ¥23,037 million. This was mainly attributable to corporate bonds declining by ¥20,000 million and long-term loans payable by ¥3,602 million.

Accordingly, total liabilities amounted to ¥280,293 million, a year-on-year decline of ¥18,211 million.

● Net Assets

Current net assets as of the end of the consolidated fiscal year stood at ¥390,979 million, a year-on-year decline of ¥19,370 million. As for main factors, although profit attributable to owners of the parent amounted to ¥4,117 million, cash dividends paid came to ¥7,190 million, with valuation difference on available-for-sale securities declining by ¥5,033 million and foreign currency translation adjustments by ¥12,522 million. Accordingly, the shareholders' equity ratio stood at 58.2%, compared to 57.7% at the end of the previous fiscal year.

Segment Information

● Total Engineering Business

In overseas oil and gas pursued orders in Southeast Asia, the Middle East, Africa, North America, and Russia/CIS. In June 2019, JGC was awarded a FEED contract for the LNG plant for maritime fuel in Oman, followed in October by an order for construction of a large-scale LNG plant in Mozambique. The project order amount will be recorded after the client's final investment decision.

In overseas infrastructure, client negotiations are underway in anticipation of formally concluding the contract for an LNG receiving terminal construction project in which the Group is a preferred bidder.

In the domestic, orders were secured for construction of pharmaceutical plants and medical facilities, as well as maintenance for existing oil refineries and other sites. In March 2020 JGC JAPAN also received a construction project order for a biomass power plant in Miyagi.

Although ¥800,000 million in orders for comprehensive engineering was targeted for the consolidated fiscal year, orders remained at ¥189,600 million due to client FID postponement on the spread of Covid-19 and falling crude oil prices.

Overall, progress in current projects has been favorable, but the pandemic has made delays in construction and other work increasingly likely.

To contribute toward sustainable societies by taking on the global challenge of environmental issues, and to respond to the growing market for environmental business, the Group established the Sustainability Co-Creation Department on October 1, 2019. The Department will build value chains centered on environmental technologies, aiming for rapid creation of environmental business.

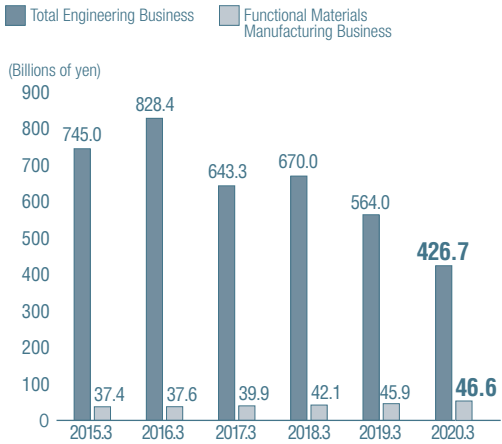
Discussions on potential collaboration with Ebara Environmental Plant Co., Ltd., Ube Industries, Ltd., and Showa Denko K.K. to promote gasification chemical recycling addressing the global issue of plastic waste began in August 2019, followed in February 2020 by the start of a feasibility study with Japan Airlines Co., Ltd., Marubeni Corporation, and JXTG Nippon Oil & Energy Corporation on domestic production and sales of sustainable aviation fuel made with industrial and municipal waste, including plastic waste.

● Functional Materials Manufacturing Business

In functional materials manufacturing, steady sales of FCC, chemical, and environmental catalysts stood in contrast to declining international sales of catalytic hydrotreating products. A slowdown was also seen in fine chemicals, in exports of products such as functional coating materials, on U.S.-China trade friction. In fine ceramics, as 5G adoption in China has been slower than expected, orders were sluggish for components used in optical communication and in semiconductor deposition and etching equipment.

These efforts by the Group form the basis for the following performance figures by segment for the consolidated fiscal year under review.

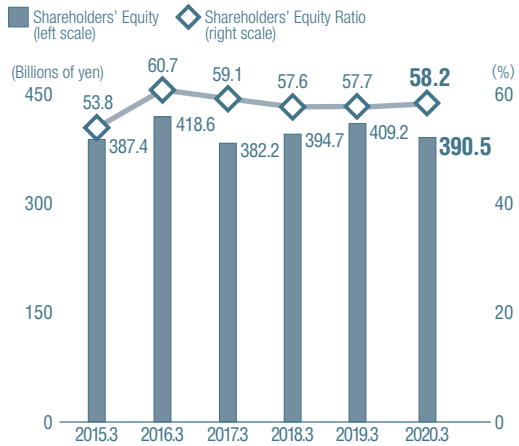
Net Sales by Reporting Segment



Cash Flow

Current cash and cash equivalents (hereafter, "net cash") on a consolidated basis as of the end of the consolidated fiscal year stood at ¥261,898 million, a year-on-year increase of ¥100,326 million. With regard to net cash used in operating activities, profit before income taxes amounted to ¥25,943 million, which with factors including a decline in notes and accounts receivable, trade, led to an increase of ¥92,442 million, compared to a decline of ¥55,259 million the previous fiscal year. Net cash used in investing activities increased by ¥19,364 million, mainly due to sales of investment securities, compared to a decline of ¥4,662 million the previous fiscal year. Net cash used in financing activities declined by ¥7,699 million, mainly due to cash dividends paid, compared to a decline of ¥13,878 million the previous fiscal year.

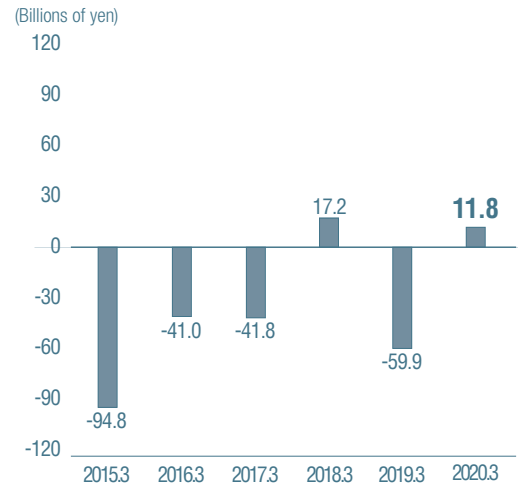
Shareholders' Equity and Shareholders' Equity Ratio



	2018.3	2019.3	2020.3
Shareholders' equity ratio	57.6	57.7	58.2
Shareholders' equity ratio (market basis)	85.2	52.4	32.6
Interest-bearing liabilities to cash flow ratio	12.2	—	0.6
Interest coverage ratio	12.1	—	600.9

Notes: Shareholders' equity ratio: (Total net assets – Minority interests) / Total assets
Shareholders' equity ratio (market basis): Total market capitalization / Total assets
Interest-bearing liabilities to cash flow ratio: Interest-bearing liabilities / Cash flow
Interest coverage ratio: Cash flow / Interest expense
* All indicators are calculated using consolidated financial figures.
* "Interest-bearing liabilities" includes all liabilities on the consolidated balance sheet on which interest is paid.
* "Cash flow" is cash flow from operating activities shown in the consolidated statements of cash flow. "Interest expense" is the amount of interest paid shown in the consolidated statements of cash flows.
* In fiscal years where cash flow is negative, the interest-bearing liabilities to cash flow ratio and the interest coverage ratio are denoted by a dash.

Free Cash Flows



Analysis of New Contracts

In the fiscal year under review, orders received totaled ¥189,643 million.

The tables below provide a breakdown of new contracts in the total engineering business by sector and region

New Contracts by Business Sector		(Billions of yen)	
	2019.3	2020.3	2020.3 (Percentage of new contracts)
Oil and gas development projects	37.5	10.1	5.3%
Petroleum refining projects	45.4	29.0	15.3%
LNG projects	665.9	13.9	7.4%
Chemical projects	94.8	50.7	26.7%
Power generation, nuclear power and new energy	32.2	42.4	22.4%
Living and general production facility	31.3	21.6	11.4%
Environmental protection, social development and IT	16.9	13.2	7.0%
Others	11.0	8.4	4.5%

New Contracts by Region		(Billions of yen)	
	2019.3	2020.3	2020.3 (Percentage of new contracts)
Japan	133.3	127.1	71.2%
Asia	94.8	30.2	17.0%
Africa	2.0	8.4	4.7%
Middle East	40.5	12.4	7.0%
North America and Other	664.6	11.2	0.1%

Business Outlook

● Total Engineering Business

The market environment for this segment is currently uncertain, in overseas oil and gas business, with some client capital investment plans postponed from the spread of Covid-19 and a drop in crude oil prices. However, in the medium to long term, it is anticipated that energy demand will increase and various needs will emerge with the growing population in emerging markets. Demand for infrastructure in Asia is also expected to remain steady in this time frame. Thus, capital investment plans that are currently at a standstill may gradually be implemented as the market environment recovers, and with economic growth, these projects are likely to become more diverse. In the domestic segment as well, continuous capital investment is expected for infrastructure facilities and other projects. As JGC Group continues efforts to prevent the spread of Covid-19 while monitoring changes in the market environment, we will work together toward higher added value and greater cost competitiveness

as we pursue steady orders for projects with ample margins. To respond to changes in overseas oil and gas and other areas of the business environment, we will also be accelerating expansion of our operations into overseas infrastructure and exploring new enterprises for an optimal business portfolio. In project execution as well, we will be accelerating digitization, in IT/IoT applications and elsewhere, as we move ahead in streamlining operations without limiting ourselves to conventional methods. Within the domestic segment, we will pursue business in hopes of contributing toward a low-carbon or decarbonized economy and helping Japan pioneer solutions to issues faced by industrialized nations. Meanwhile, we will also fulfill the role of an incubator in overseas expansion of new business originally developed in Japan. To the extent possible, our next earnings forecast reflects the impact of Covid-19 on performance, from construction delays and other aspects of current projects, but we will be closely monitoring developments

● Functional Materials Manufacturing Business

As for functional materials manufacturing segment, in catalysts, we will enlarge our share of the domestic FCC catalyst market and branch out overseas, as we cultivate new chemical catalyst opportunities. In fine chemicals, we will seek expanded orders by promoting sales and developing more applications for functional coating materials, and by enhancing productivity for cosmetics materials. In fine ceramics, we will be seizing new opportunities in circuit boards for optical communication and moving aggressively into areas such as wireless communication, LEDs, and sensors. We are also preparing for a smooth startup at a new factory that will produce high thermal conductivity silicon nitride substrates for electric and hybrid vehicles, where we will seek quality and productivity in anticipation of volume production. To the extent possible, the impact of Covid-19 on this business is accounted for in our next earnings forecast, but future developments will be monitored.

Consolidated Balance Sheets

(March 31, 2020 and 2019)

	March 31		March 31
ASSETS	2020	2019	2020
	(Millions of yen)		(Thousands of U.S. dollars)
			(Note 1)
CURRENT ASSETS:			
Cash and deposits (Notes 3, 12 & 15)	¥261,899	¥160,842	\$ 2,406,496
Notes and accounts receivable (Notes 2, 9 & 15)	145,276	232,683	1,334,889
Inventories (Note 4)	34,680	36,028	318,662
Short-term loans receivable (Notes 2, 9,12 & 15)	437	4,029	4,016
Other current assets (Notes 2, 9 & 15)	95,822	109,341	880,475
Allowance for doubtful accounts	(158)	(1,175)	(1,452)
TOTAL CURRENT ASSETS	537,956	541,748	4,943,086
PROPERTY AND EQUIPMENT (Notes 3 & 10):			
Land (Note 13)	18,581	18,491	170,734
Buildings and structures	59,852	59,915	549,959
Machinery and equipment	60,026	64,888	551,557
Construction in progress	910	935	8,362
Other	4,423	4,402	40,641
	143,792	148,631	1,321,253
Less accumulated depreciation	(93,997)	(93,191)	(863,705)
NET PROPERTY AND EQUIPMENT	49,795	55,440	457,548
INVESTMENTS AND OTHER ASSETS:			
Investments in unconsolidated subsidiaries and affiliates (Notes 8 & 15)	23,396	37,929	214,977
Investment securities (Notes 3, 8 & 15)	21,412	31,065	196,747
Long-term loans receivable (Note 15)	143	-	1,314
Deferred tax assets (Note 11)	21,713	25,197	199,513
Net defined benefit asset (Note 5)	569	605	5,228
Other	16,290	16,871	149,684
TOTAL INVESTMENTS AND OTHER ASSETS	83,523	111,667	767,463
TOTAL ASSETS	¥ 671,274	¥ 708,855	\$6,168,097

The accompanying notes are an integral part of these statements.

	March 31		March 31
LIABILITIES AND NET ASSETS	2020	2019	2020
	(Millions of yen)		(Thousands of U.S. dollars)
			(Note 1)
CURRENT LIABILITIES:			
Short-term loans and current maturities of long-term debt (Notes 2, 3 & 9)	¥ 20,227	¥ 614	\$ 185,859
Notes and accounts payable (Notes 2, 9 & 15)	68,239	92,092	627,024
Advances received on uncompleted contracts (Note 2)	83,228	74,105	764,752
Reserve for job warranty costs	976	1,154	8,968
Reserve for losses on contracts	11,109	17,765	102,077
Income taxes payable	1,956	3,011	17,973
Other current liabilities (Notes 2, 9 & 15)	42,651	34,819	391,904
TOTAL CURRENT LIABILITIES	228,386	223,560	2,098,557
LONG-TERM LIABILITIES			
Long-term debt, less current maturities (Notes 3, 9 & 15)	30,347	53,949	278,848
Net defined benefit liability (Note 5)	16,972	16,180	155,950
Deferred tax liabilities for land revaluation (Note 13)	1,015	1,015	9,326
Other long-term liabilities (Note 11)	3,574	3,801	32,840
TOTAL LONG-TERM LIABILITIES	51,908	74,945	476,964
TOTAL LIABILITIES	280,294	298,505	2,575,521
CONTINGENCIES (Note 6)			
NET ASSETS (Note 7):			
SHAREHOLDERS' EQUITY			
Common stock			
Authorized 600,000,000 shares, Issued 259,110,861 shares in 2020 and 259,052,929 shares in 2019	23,555	23,511	216,438
Capital surplus	25,653	25,609	235,716
Retained earnings	375,641	376,145	3,451,631
Treasury stock, at cost 6,748,713 shares in 2020, 6,746,081 shares in 2019	(6,739)	(6,739)	(61,921)
TOTAL SHAREHOLDERS' EQUITY	418,110	418,526	3,841,864
ACCUMULATED OTHER COMPREHENSIVE INCOME			
Net unrealized holding gains on securities (Notes 8 & 15)	2,206	7,240	20,270
Deferred losses on hedges (Note 9)	(1,005)	(277)	(9,234)
Revaluation reserve for land (Note 13)	(10,891)	(10,891)	(100,074)
Foreign currency translation adjustments	(16,491)	(3,968)	(151,530)
Remeasurements of defined benefit plans (Note 5)	(1,412)	(1,376)	(12,974)
TOTAL ACCUMULATED OTHER COMPREHENSIVE INCOME	(27,593)	(9,272)	(253,542)
NON-CONTROLLING INTERESTS	463	1,096	4,254
TOTAL NET ASSETS	390,980	410,350	3,592,576
TOTAL LIABILITIES AND NET ASSETS	¥ 671,274	¥ 708,855	\$ 6,168,097

Consolidated Statements of Income

(March 31, 2020 and 2019)

	Year ended March 31		Year ended March 31
	2020	2019	2020
	(Millions of yen)		(Thousands of U.S. dollars)
			(Note 1)
NET SALES (Note 10)	¥ 480,810	¥ 619,241	\$ 4,417,991
COST OF SALES	437,461	574,279	4,019,673
Gross profit	43,349	44,962	398,318
SELLING, GENERAL AND ADMINISTRATIVE EXPENSES	23,115	21,712	212,395
Operating income	20,234	23,250	185,923
OTHER INCOME (EXPENSES):			
Interest and dividend income	6,525	6,454	59,956
Interest expense	(187)	(393)	(1,718)
Gain on sales of investment securities (Note 8)	5,649	2,372	51,907
Loss on impairment of fixed assets (Note 10)	-	(574)	-
Exchange loss, net	(5,229)	(528)	(48,047)
Equity in earnings of affiliates	3,876	3,218	35,615
Loss on devaluation of investment securities (Note 8)	(866)	(8)	(7,957)
Provision for loss on business liquidation	-	(1,457)	-
Loss on sales of investment securities (Note 8)	-	(151)	-
Provision of allowance for doubtful accounts	(3,124)	-	(28,706)
Loss on sales of shares of subsidiaries and affiliates	(3,211)	-	(29,505)
Gain on sales of shares of subsidiaries and affiliates	2,247	-	20,647
Other, net (Note 8)	29	333	266
	5,709	9,266	52,458
Income before taxes on income	25,943	32,516	238,381
TAXES ON INCOME (Note 11):			
Current	16,091	15,081	147,855
Deferred	5,594	(6,804)	51,401
NET INCOME	4,258	24,239	39,125
NET INCOME ATTRIBUTABLE TO NON-CONTROLLING INTERESTS	141	233	1,296
NET INCOME ATTRIBUTABLE TO OWNERS OF THE PARENT	¥4,117	¥ 24,006	37,830
	Yen		U.S. dollars
AMOUNTS PER SHARE OF COMMON STOCK:			(Note 1)
Net income	¥ 16.32	¥ 95.14	\$ 0.15
Cash dividends applicable to the year	¥ 12.00	¥ 28.50	\$ 0.11

The accompanying notes are an integral part of these statements.

Consolidated Statements of Comprehensive Income

(March 31, 2020 and 2019)

	Year ended March 31		Year ended March 31
	2020	2019	2020
	(Millions of yen)		(Thousands of U.S. dollars)
			(Note 1)
NET INCOME	¥ 4,258	¥ 24,239	\$ 39,125
OTHER COMPREHENSIVE INCOME (Note 16)			
Net unrealized holding losses on securities (Notes 8 & 15)	(5,190)	(3,929)	(47,689)
Deferred gains (losses) on hedges (Note 9)	(728)	234	(6,689)
Translation adjustments	(12,165)	(3,157)	(111,780)
Remeasurements of defined benefit plans (Note 5)	(251)	480	(2,306)
Share of other comprehensive income of affiliates accounted for using equity method	(196)	86	(1,801)
TOTAL OTHER COMPREHENSIVE INCOME	¥ (18,530)	¥ (6,286)	\$ (170,265)
TOTAL COMPREHENSIVE INCOME	¥ (14,272)	¥ 17,953	\$ (131,140)
Comprehensive income attributable to owners of the parent	¥ (14,412)	¥ 17,727	\$ (132,427)
Comprehensive income attributable to non-controlling interests	¥ 140	¥ 226	\$ 1,287

The accompanying notes are an integral part of these statements.

Consolidated Statements of Changes in Net Assets

(March 31, 2020 and 2019)

	Common stock			
	Shares	Amount	Capital surplus	Retained earnings
	(Thousands of shares)	(Millions of yen)		
Balance at April 1, 2018	259,053	¥ 23,511	¥ 25,609	¥ 355,572
Net income attributable to owners of the parent				24,006
Cash dividends				(6,308)
Decrease of land revaluation				(28)
Gain on disposal of treasury stock			0	
Effect of change in scope of equity method accounting				2,903
Net unrealized holding losses on securities				
Net deferred gains on hedges				
Foreign currency translation adjustments				
Increase of treasury stock				
Remeasurements of defined benefit plans				
Net changes during the year				
Balance at March 31, 2019	259,053	¥ 23,511	¥ 25,609	¥ 376,145
Issuance of common stock	58	44	44	
Net income attributable to owners of the parent				4,117
Cash dividends				(7,191)
Effect of change in scope of consolidation				1,001
Gain on disposal of treasury stock				
Effect of change in scope of equity method accounting				1,569
Net unrealized holding losses on securities				
Net deferred losses on hedges				
Foreign currency translation adjustments				
Remeasurements of defined benefit plans				
Net changes during the year				
Balance at March 31, 2020	259,111	¥ 23,555	¥ 25,653	¥ 375,641

	Common stock		Capital surplus	Retained earnings
	(Thousands of U.S. dollars)(Note 1)			
Balance at April 1, 2019		\$ 216,034	\$ 235,312	\$ 3,456,262
Issuance of common stock		404	404	
Net income attributable to owners of the parent				37,830
Cash dividends				(66,076)
Effect of change in scope of consolidation				9,198
Gain on disposal of treasury stock				
Effect of change in scope of equity method accounting				14,417
Net unrealized holding losses on securities				
Net deferred losses on hedges				
Foreign currency translation adjustments				
Remeasurements of defined benefit plans				
Net changes during the year				
Balance at March 31, 2020		\$ 216,438	\$ 235,716	\$ 3,451,631

The accompanying notes are an integral part of these statements.

Treasury stock, at cost	Net unrealized holding losses on securities (Notes 8 & 15)	Deferred gains (losses) on hedges (Note 9)	Revaluation reserve for land (Note 13)	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Non-Controlling Interests
(Millions of yen)						
¥ (6,737)	¥ 11,169	¥ (518)	¥ (10,919)	¥ (1,170)	¥ (1,816)	¥ 1,078
0	(3,929)	241		(2,798)		
(2)			28		440	18
¥ (6,739)	¥ 7,240	¥ (277)	¥ (10,891)	¥ (3,968)	¥ (1,376)	¥ 1,096
(0)	(5,034)	(728)		(12,523)	(36)	(633)
¥ (6,739)	¥ 2,206	¥ (1,005)	¥ (10,891)	¥ (16,491)	¥ (1,412)	¥ 463

Treasury stock, at cost	Net unrealized holding losses on securities (Notes 8 & 15)	Deferred losses on hedges (Note 9)	Revaluation reserve for land (Note 13)	Foreign currency translation adjustments	Remeasurements of defined benefit plans	Non-Controlling Interests
(Thousands of U.S. dollars)(Note 1)						
\$ (61,921)	\$ 66,526	\$ (2,545)	\$ (100,074)	\$(36,461)	\$ (12,644)	\$ 10,070
(0)	(46,256)	(6,689)		(115,069)		
					(330)	(5,816)
\$ (61,921)	\$ 20,270	\$ (9,234)	\$ (100,074)	\$(151,530)	\$ (12,974)	\$ 4,254

Consolidated Statements of Cash Flows

(March 31, 2020 and 2019)

	Year ended March 31		Year ended March 31
	2020	2019	2020
	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
CASH FLOWS FROM OPERATING ACTIVITIES:			
Income before taxes on income	¥25,943	¥32,516	\$238,381
Adjustments to reconcile income before taxes on income to net cash provided by (used in) operating activities:			
Depreciation and amortization	7,016	7,291	64,468
Loss on impairment of fixed assets	-	574	-
Increase in allowance for doubtful accounts	3,893	887	35,771
Decrease in reserve for losses on contracts	(4,156)	(4,004)	(38,188)
Increase in net defined benefit plans	836	97	7,682
Interest and dividend income	(6,525)	(6,454)	(59,956)
Interest expense	187	393	1,718
Exchange (gain) loss	2,060	(581)	18,929
Equity in earnings of affiliates	(3,876)	(3,218)	(35,615)
Gain on sales of investment securities	(5,649)	(2,221)	(51,907)
Loss on devaluation of investment securities	866	8	7,957
Loss on sales of shares of subsidiaries and affiliates	964	-	8,858
(Gain) Loss on sales of property and equipment	(39)	6	(358)
(Increase) Decrease in notes and accounts receivable	86,286	(46,936)	792,851
(Increase) Decrease in inventories	1,345	(6,223)	12,359
Decrease in other assets	(1,343)	(52,533)	(12,340)
Increase (Decrease) in notes and accounts payable	(21,642)	4,011	(198,861)
Increase in advances received on uncompleted contracts	9,342	26,902	85,840
Other	7,158	4,116	65,772
Subtotal	102,666	(45,369)	943,361
Interest and dividends received	7,548	7,359	69,356
Interest paid	(154)	(471)	(1,415)
Income taxes paid	(17,618)	(16,778)	(161,886)
NET CASH PROVIDED BY (USED IN) OPERATING ACTIVITIES	92,442	(55,259)	849,416

	Year ended March 31		Year ended March 31
	2020	2019	2020
	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
CASH FLOWS FROM INVESTING ACTIVITIES:			
Payments for purchases of property and equipment	(4,435)	(7,321)	(40,752)
Proceeds from sales of property and equipment	39	83	358
Payments for purchase of investment securities	(1,463)	(2,451)	(13,443)
Payments for purchases of intangible assets	(2,234)	(2,344)	(20,527)
Proceeds from sales of investment securities	25,395	5,943	233,346
Proceeds from sales of shares of subsidiaries resulting in change in scope of consolidation	1,284	-	11,798
Proceeds from liquidation of subsidiaries and affiliates	-	1,867	-
Other	779	(439)	7,158
NET CASH PROVIDED BY (USED IN) INVESTING ACTIVITIES	19,365	(4,662)	177,938
CASH FLOWS FROM FINANCING ACTIVITIES:			
Net decrease in short-term loans	(13)	(5,222)	(119)
Proceeds from long-term loans	2	2	18
Repayments of long-term loans	(297)	(1,850)	(2,729)
Net (increase) decrease in treasury stock	0	(1)	0
Cash dividends paid	(7,193)	(6,311)	(66,094)
Cash dividends paid to non-controlling interests	(214)	(208)	(1,966)
Other	16	(289)	147
NET CASH USED IN FINANCING ACTIVITIES	(7,699)	(13,879)	(70,743)
EFFECT OF EXCHANGE RATE CHANGES ON CASH AND CASH EQUIVALENTS	(3,782)	(752)	(34,751)
NET INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	100,326	(74,552)	921,860
CASH AND CASH EQUIVALENTS AT BEGINNING OF YEAR	160,842	235,394	1,477,919
INCREASE IN CASH AND CASH EQUIVALENTS FROM NEWLY CONSOLIDATED SUBSIDIARIES	731	-	6,717
CASH AND CASH EQUIVALENTS AT END OF YEAR (Note 12)	¥ 261,899	¥ 160,842	\$ 2,406,496

The accompanying notes are an integral part of these statements.

Notes to Consolidated Financial Statements

Note 1 : SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES

(a)BASIS OF PRESENTING CONSOLIDATED FINANCIAL STATEMENTS

The accompanying consolidated financial statements of JGC HOLDINGS CORPORATION (Nikki Holdings Kabushiki Kaisha, the “Company”) and its consolidated subsidiaries have been prepared in accordance with the provisions set forth in the Japanese Financial Instruments and Exchange Act and its related accounting regulations, and in conformity with accounting principles generally accepted in Japan (“Japanese GAAP”), which are different in certain respects as to application and disclosure requirements from International Financial Reporting Standards.

The accounts of consolidated overseas subsidiaries are prepared in accordance with either International Financial Reporting Standards or U.S. generally accepted accounting principles, with adjustments for the specified five items as applicable. The accompanying consolidated financial statements have been translated into English (with some expanded descriptions) from the consolidated financial statements of the Company prepared in accordance with Japanese GAAP and filed with the appropriate Local Finance Bureau of the Ministry of Finance as required by the Japanese Financial Instruments and Exchange Act. Certain supplementary information included in the statutory Japanese language consolidated financial statements, but not required for fair presentation, is not presented in the accompanying consolidated financial statements.

In addition, certain reclassifications have been made to present the accompanying consolidated financial statements in a format which is more familiar to readers outside Japan. Furthermore, certain reclassifications of previously reported amounts have been made to reconcile the consolidated financial statements for the year ended March 31, 2019 to the 2020 presentation.

The translation of the Japanese yen amounts into U.S. dollars is included solely for the convenience of readers outside Japan, using the prevailing exchange rate at March 31, 2020, which was ¥108.83 to U.S. \$1. The convenience translations should not be construed as representations that the Japanese yen amounts could be converted into U.S. dollars at this or any other rate of exchange.

(b)PRINCIPLE OF CONSOLIDATION

The consolidated financial statements include the accounts of the Company and its significant subsidiaries that include less than 50% owned affiliates controlled through substantial ownership of majority voting rights or existence of substantial control. All significant inter-company transactions and account balances are eliminated in consolidation.

Investments in non-consolidated subsidiaries and affiliates over which the Company has the ability to exercise significant influence over operating and financial policies of the investees are accounted for by the equity method.

The number of consolidated subsidiaries and affiliates accounted for using the equity method at March 31, 2020 and 2019, was as follows:

	2020	2019
Consolidated subsidiaries	18	17
Affiliates under the equity method	4	2

Consolidated subsidiaries and affiliates accounted for using the equity method at March 31, 2020 and 2019, was as follows:

Consolidated subsidiaries	Location	Capital Share	
		2020	2019
JGC CORPORATION ^{*1}	Japan	100%	-
JGC JAPAN CORPORATION ^{*2}	Japan	100%	100%
JGC PLANTECH AOMORI CO., LTD.	Japan	100%	100%
JGC Catalysts and Chemicals Ltd.	Japan	100%	100%
JAPAN FINE CERAMICS CO., LTD.	Japan	100%	100%
Meito Giken Co.,Ltd. ^{*3}	Japan	100%	100%
NIKKI BUSINESS SERVICES CO., LTD.	Japan	100%	100%
JAPAN NUS CO., LTD.	Japan	89%	89%
JGC Mirai Solar Co., Ltd. ^{*4}	Japan	-	51%
JGC SINGAPORE PTE LTD	Singapore	100%	100%
JGC PHILIPPINES, INC.	Philippines	100%	100%
JGC Gulf International Co. Ltd.	Saudi Arabia	100%	100%
JGC Gulf Engineering Co. Ltd.	Saudi Arabia	75%	75%
JGC OCEANIA PTY LTD	Australia	100%	100%
JGC America, Inc.	U.S.A.	100%	100%
JGC (GULF COAST), LLC	U.S.A.	100%	100%
JGC Exploration Eagle Ford LLC	U.S.A.	100%	100%
JGC EXPLORATION CANADA LTD.	Canada	100%	100%
PT. JGC INDONESIA	Indonesia	49%	100%

Affiliates under the equity method	Location	Capital Share	
		2019	2018
Nikki -Universal Co., Ltd.	Japan	50%	50%
Swing Corporation ^{*5}	Japan	33%	33%
Swing AM Corporation ^{*5}	Japan	33%	33%
Swing Engineering Corporation ^{*5}	Japan	33%	33%
Rabigh Arabian Water and Electricity Company ^{*6}	Saudi Arabia	-	25%

Investments in non-consolidated subsidiaries and affiliates not accounted for by the equity method are carried at cost, adjusted for any substantial and non-recoverable decline in value. The effect on net income and retained earnings from those investments not accounted for under the equity method is immaterial.

^{*1} At the year ended March 31, 2020, JGC Corporation was included in the consolidation because it was newly established.
^{*2} JGC PLANT INNOVATION CO., LTD. changed the name to JGC JAPAN Corporation on October 1, 2019.
^{*3} At the year ended March 31, 2020, Meito Giken Co.,Ltd. was included in the consolidation because its effect on the consolidated financial statement became significant.
^{*4} At the year ended March 31, 2020, JGC Mirai Solar Co., Ltd. was excluded from the scope of consolidation because the Company sold its all shares.
^{*5} At the year ended March 31, 2020, Swing Corporation, Swing AM Corporation, and Swing Engineering Corporation were included in the scope of the equity method because its effect on the consolidated financial statement became significant.
^{*6} At the year ended March 31, 2020, Rabigh Arabian Water and Electricity Company was excluded in the scope of the equity method because the Company sold its all shares.

(c)CONSOLIDATED STATEMENTS OF CASH FLOWS

In preparing the consolidated statements of cash flows, cash on hand, readily available deposits and short-term highly liquid investments with negligible risk of changes in value, and maturities not exceeding three months at the time of purchase are considered to be cash and cash equivalents.

(d)CONVERSION OF FOREIGN CURRENCIES AND TRANSLATION OF STATEMENTS

Receivables and payables denominated in foreign currencies are translated into Japanese yen at the year-end rates. Balance sheets of consolidated overseas subsidiaries are translated into Japanese yen at the year-end rates except for net assets accounts, which are translated at the historical rates. Income statements of consolidated overseas subsidiaries are translated at average rates except for transactions with the Company, which are translated at the rates used by the Company.

(e)UNIFICATION OF ACCOUNTING POLICIES APPLIED TO FOREIGN SUBSIDIARIES FOR CONSOLIDATED FINANCIAL STATEMENTS

The Accounting Standards Board of Japan has issued ASBJ Practical Issues Task Force No. 18 “Practical Solution on Unification of Accounting Policies Applied to Foreign Subsidiaries for Consolidated Financial Statements” (“PITF No. 18”). PITF No. 18 requires that accounting policies and procedures applied by a parent company and its subsidiaries to similar transactions and events under similar circumstances should, in principle, be unified for the preparation of the consolidated financial statements. PITF No. 18, however, as a tentative measure, allows a parent company to prepare consolidated financial statements using foreign subsidiaries’ financial statements prepared in accordance with either International Financial Reporting Standards or U.S. generally accepted accounting principles. In this case, adjustments for the following five items are required in the consolidation process so that their impacts on net income are accounted for in accordance with Japanese GAAP unless the impact is not material.

- (1) Goodwill not subjected to amortization
- (2) Actuarial gains and losses of defined benefit plans recognized outside profit or loss
- (3) Capitalized expenditures for research and development activities
- (4) Fair value measurement of investment properties, and revaluation of property, plant and equipment, and intangible assets
- (5) Reclassification adjustments recognized in other comprehensive income on subsequent changes of fair value of equity instruments

(f)ALLOWANCE FOR DOUBTFUL ACCOUNTS

Notes and accounts receivable, including loans and other receivables, are valued by providing for individually estimated uncollectible amounts plus the amounts for probable losses calculated by applying a percentage based on collection experience to the remaining accounts. In Investments and other assets, the amount of Allowance for doubtful accounts is deducted from Long-term loans receivable and Other.

(g)MARKETABLE SECURITIES, INVESTMENTS IN UNCONSOLIDATED SUBSIDIARIES AND AFFILIATES, AND INVESTMENT SECURITIES

The Company and its consolidated subsidiaries are required to examine the intent of holding each security and classify those securities as (1) securities held for trading purposes, (2) debt securities intended to be held to maturities, (3) equity securities issued by subsidiaries and affiliates, and (4) all other securities that are not classified in any of the above categories (hereafter, “available-for-sale securities”). The Company and its consolidated subsidiaries did not have the securities defined as (1) above for the years ended March 31, 2020 and 2019.

Available-for-sale securities with available fair market values are stated at fair market value. Unrealized gains and losses on these securities are reported, net of applicable income taxes, as a separate component of net assets. Realized gains and losses on the sale of such securities are computed using the moving-average method. Other securities with no available fair market value are stated at moving-average cost. Equity securities issued by subsidiaries and affiliates, which are not consolidated or accounted for using the equity method, are stated at moving-average cost.

If the market value of available-for-sale securities declines significantly, such securities are restated at fair market value and the difference between fair market value and the carrying amount is recognized as loss in the period of decline (See Note 8). For equity securities with no available fair market value, if the net asset value of the investee declines significantly, such securities are required to be written down to the net asset value with the corresponding losses in the period of decline. In these cases, such fair market value or the net asset value will be the carrying amount of the securities at the beginning of the next year.

(h)RECOGNITION OF SALES, CONTRACT WORKS IN PROGRESS AND ADVANCES

RECEIVED ON UNCOMPLETED CONTRACTS

Sales on contracts for relatively large projects, which require long periods for completion and which generally include engineering, procurement (components, parts, etc.) and construction on a full-turnkey basis, are recognized on the percentage-of-completion method, primarily based on contract costs incurred to date compared with total estimated costs for contract completion.

Contract works in progress are stated at cost determined by a specific identification method and comprised of direct materials, components and parts, direct labor, subcontractors’ fees and other items directly attributable to the contract, and job-related overheads. Selling, general and administrative expenses are charged to operations as incurred and are not allocated to contract job work costs.

The Company normally receives payments from customers on a progress basis in accordance with the terms of the respective construction contracts.

(i)INVENTORIES

Inventories of the Company and its consolidated subsidiaries are stated at cost determined using the moving-average method (which writes off the book value of inventories based on decreases in profitability) except for contract works in progress as stated in Note 1(h).

(j)OPERATING CYCLE

Assets and liabilities related to long-term contract jobs are included in Current assets and Current liabilities in the accompanying consolidated balance sheets, as they will be liquidated in the normal course of contract completion, although it may require more than one year.

(k)PROPERTY AND EQUIPMENT, DEPRECIATION AND FINANCE LEASES

Property and equipment are stated at cost, except for certain revalued land as explained in Note 13. Depreciation of property and equipment is calculated primarily using the straight-line method for buildings used for business operation and structures which were acquired since April 1, 2016, and the declining-balance method for other property and equipment over the estimated useful lives of the assets based on the Corporate Tax Code of Japan.

Expenditures for new facilities and those that substantially increase the useful lives of existing property and equipment are capitalized. Maintenance, repair and minor renewals are charged to expenses as incurred.

The cost and accumulated depreciation applicable to assets retired or otherwise disposed of are eliminated from the related accounts and the gain or loss on disposal is credited or charged to income.

(l)IMPAIRMENT OF FIXED ASSETS

The Company and its consolidated subsidiaries review their long-lived assets for impairment whenever events or changes in circumstances indicate the carrying amount of an asset or asset group may not be recoverable. An impairment loss would be recognized if the carrying amount of an asset or asset group exceeds the sum of the undiscounted future cash flows expected to result from the continued use and eventual disposition of the asset or asset group. The impairment loss would be measured as the amount by which the carrying amount of the asset exceeds its recoverable amount, which is the higher of the discounted cash flows from the continued use and eventual disposition of the asset or the net selling price at disposition.

(m)RETIREMENT AND SEVERANCE BENEFITS AND PENSION COSTS

(1)Employees’ severance and retirement benefits

The Company and its consolidated subsidiaries provide two types of post-employment benefit plans, unfunded lump-sum payment plans and funded non-contributory pension plans, under which all eligible employees are entitled to benefits based on the level of wages and salaries at the time of retirement or termination, length of service and certain other factors.

The Company and its certain consolidated subsidiaries also have a defined contribution pension plan, which was transferred from a portion of defined benefit pension plan.

The Company and its consolidated subsidiaries provided allowance for employees' severance and retirement benefits at March 31, 2020 and 2019, based on the estimated amounts of projected benefit obligation, actuarially calculated using certain assumptions and the fair value of the plan assets at that date.

The method of attributing the amount of expected retirement benefit in each period is a benefit formula basis.

The Company and its consolidated subsidiaries recognize past service costs as expenses using the straight-line method over 12 years within the average of the estimated remaining service lives of the employees, and actuarial gains and losses as expenses using the declining-balance method over 12 years within the average of the estimated remaining service lives.

However, certain consolidated subsidiaries recognized actuarial differences as expenses in the period incurred.

(2)Officers' severance and retirement benefits

Consolidated domestic subsidiaries provide for liabilities in respect of lump-sum severance and retirement benefits to directors and corporate statutory auditors computed on the assumption that all officers retired at a year-end.

(n)RESEARCH AND DEVELOPMENT COSTS

Research and development costs for the improvement of existing skills and technologies or the development of new skills and technologies, including basic research and fundamental development costs, are charged to income in the period incurred. The total amount of research and development expenses, included in Costs of Sales and Selling, General and Administrative expenses, was ¥ 6,861 million (\$ 63,043 thousand) and ¥ 5,825 million, respectively, in 2020 and 2019.

(o)TAXES ON INCOME

The Company and its consolidated subsidiaries provide tax effects of temporary differences between the carrying amounts and the tax basis of assets and liabilities. The asset and liability approach is used to recognize deferred tax assets and liabilities for the expected future tax consequences of temporary differences.

(p)RESERVE FOR JOB WARRANTY COSTS

A reserve for the estimated cost of warranty obligations is provided for the Company's engineering, procurement and construction work at the time the related sales on contracts are recorded.

(q)RESERVE FOR LOSSES ON CONTRACTS

A reserve for losses on contracts is provided for an estimated amount of probable losses to be incurred in future years in respect of construction projects in progress. The reserve for losses on contracts and the related contract work in progress are offset, and the net amount of the reserve is presented in the consolidated balance sheets. The offset amount was ¥ 2,494 million (\$ 22,916 thousand) as of the year ended March 31, 2020.

(r)PROVISION FOR LOSS ON BUSINESSES LIQUIDATION

A reserve for business liquidation is provided for an estimated amount of probable losses to be incurred in future years in respect of losses associated with business reorganization and rationalization. Provision for loss on business liquidation was recorded in the amount of ¥ 1,464 million as of the year ended March 31, 2019, and it was the an estimated amount of probable losses to be incurred in future years in respect of losses associated with business reorganization and rationalization for the consolidated subsidiary JGC America, Inc.

(s)PER SHARE INFORMATION

Net income per share is computed by dividing net income available to common shareholders by the weighted-average number of common shares outstanding for the period.

Cash dividends per share have been presented on an accrual basis and include dividends to be approved after the balance sheet date but applicable to the year then ended.

(t)DERIVATIVE TRANSACTIONS AND HEDGE ACCOUNTING

The accounting standard for financial instruments requires companies to state derivative financial instruments at fair value and to recognize changes in the fair value as gains or losses unless the derivative financial instruments are used for hedging purposes.

If derivative financial instruments are used as hedges and meet certain hedging criteria, the Company and its consolidated domestic subsidiaries defer recognition of gains or losses resulting from changes in fair value of derivative financial instruments until the related losses or gains on the hedged items are recognized.

However, in cases where foreign exchange forward contracts are used as hedges and meet certain hedging criteria, foreign exchange forward contracts and hedged items are accounted for in the following manner (Allocation Method):

- (1)If a foreign exchange forward contract is executed to hedge an existing foreign currency receivable or payable,
- (i) The difference, if any, between the Japanese yen amount of the hedged foreign currency receivable or payable translated using the spot rate at the inception date of the contract and the book value of the receivable or payable is recognized in the statement of income in the period which includes the inception date, and
 - (ii) The discount or premium on the contract (that is, the difference between the Japanese yen amount of the contract translated using the contracted forward rate and that translated using the spot rate at the inception date of the contract) is recognized over the term of the contract.

- (2)If a foreign exchange forward contract is executed to hedge a future transaction denominated in a foreign currency, the future transaction will be recorded using the contracted forward rate, and no gains or losses on the foreign exchange forward contract are recognized.

Also, where interest rate swap contracts are used as hedges and meet certain hedging criteria, the net amount to be paid or received under the interest rate swap contract is added to or deducted from the interest on the liabilities for which the swap contract was executed (Special method for interest rate swap).

(u)ACCRUED BONUSES TO DIRECTORS AND CORPORATE AUDITORS

Accrued bonuses to directors and corporate auditors are provided by the estimated amounts, which are obligated to pay to directors and corporate auditors after the fiscal year-end, based on services provided during the current period.

(v)ACCRUED BONUSES TO EMPLOYEES

Accrued bonuses to employees are provided by the estimated amounts, which are obligated to pay to employees after the fiscal year-end, based on services provided during the current period.

(w)CONSOLIDATED TAX PAYMENT SYSTEM

The Company and its certain domestic consolidated subsidiaries adopt the consolidated taxation system from the first quarter of the fiscal year ended March 31, 2020.

(The application of Tax Effect Accounting for the Transition from the Consolidated Taxation System to the Group Tax Sharing System)
The Company and its certain domestic consolidated subsidiaries calculated the amount of deferred tax assets and liabilities according to the tax acts before amended based on

treatment of paragraph 3 of "Practical Solution on the Treatment of Tax Effect Accounting for the Transition from the Consolidated Taxation System to the Group Tax Sharing System" (ASBJ Practical Issues Task Force No.39, March 31, 2020) instead of applying the provision on paragraph 44 of "Implementation Guidance on Tax Effect Accounting" (ASBJ Guidance No. 28, February 16, 2018), regarding the transition to the group tax sharing system established in "Act for Partial Amendment of the Income Tax Act, etc." (Act No.8 of 2020), and items for which the non-consolidated taxation system were reviewed in line with the transition to the group tax sharing system.

(x)ACCOUNTING STANDARDS NOT YET APPLIED, ETC

(Accounting standards for revenue recognition)

- "Accounting Standard for Revenue Recognition" (ASBJ Statement No. 29 on March 30, 2020, Accounting Standards Board of Japan)
- "Implementation Guidance on Accounting Standard for Revenue Recognition" (ASBJ Guidance No.30 on March 30, 2020, Accounting Standards Board of Japan)
- "Guidance on Disclosures about Fair Value of Financial Instruments" (ASBJ Guidance No. 19 on March 31, 2020, Accounting Standards Board of Japan)

(1)Overview

The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) in the United States jointly developed comprehensive accounting standards for revenue recognition and published the "Revenue from Contracts with Customers" (IFRS 15 in the IASB and Topic 606 in the FASB) in May 2014. Given that IFRS 15 will be applied from a fiscal year starting on or after January 1, 2018 and that Topic 606 will be applied from a fiscal year starting after December 15, 2017, the Accounting Standards Board of Japan (ASBJ) has developed comprehensive accounting standards for revenue recognition and published them in step with the Implementation Guidance.

The basic policy of the ASBJ in developing accounting standards for revenue recognition is thought to be setting accounting standards, with the incorporation of the basic principles of IFRS 15 as a starting point, from a standpoint of comparability between financial statements, which is one of the benefits of ensuring consistency with IFRS 15, and to be adding alternative accounting treatments without losing comparability if there is an item that we should take into account in practices, etc. that have been conducted in Japan.

(2)Planned date of application

To be applied from the beginning of the fiscal year ending March 31, 2022.

(3)Impact of the application of the accounting standards, etc.

The amount of the impact on consolidated financial statements is currently under evaluation. (Accounting Standards for Fair Value Measurement, etc.)

- "Accounting Standard for Fair Value Measurement"(ASBJ Statement No. 30 on July 4, 2019, Accounting Standards Board of Japan)
- "Accounting Standard for Measurement of Inventories" (ASBJ Statement No. 9 on July 4, 2019, Accounting Standards Board of Japan)
- "Accounting Standard for Financial Instruments" (ASBJ Statement No. 10 on July 4, 2019, Accounting Standards Board of Japan)
- "Guidance on Accounting Standard for Fair Value Measurement" (ASBJ Guidance No. 31 Implementation July 4, 2019, Accounting Standards Board of Japan)
- "Guidance on Disclosures about Fair Value of Financial Instruments" (ASBJ Guidance No. 19 on March 31, 2020, Accounting Standards Board of Japan)

(1)Overview

The International Accounting Standards Board (IASB) and the Financial Accounting Standards Board (FASB) have established detailed guidance regarding fair value measurement (IFRS 13 "Fair Value Measurement" in IFRS and Topic 820 "Fair Value Measurement" in FASB). The ASBJ repeatedly considered the guidance regarding fair value of financial instruments and disclosure in order to improve the comparability with such international accounting standards, and issued the Accounting Standard for Fair Value Measurement and the Implementation Guidance on Accounting Standard for Fair Value Measurement.

ASBJ's basic policy in developing the new Fair Value measurement standards is to first

incorporate the core principle of IFRS 13 in the light of improving the international comparability of financial statements and then add additional alternative treatments to the extent that international comparability would not be significantly impaired where any business practices operated in Japan need to be considered.

(2)Planned date of application

To be applied from the beginning of the fiscal year ending March 31, 2022.

(3)Impact of the application of the accounting standards, etc.

The amount of the impact on consolidated financial statements is currently under evaluation. (Accounting standards for Disclosure of Accounting Estimates)

- "Accounting standards for Disclosure of Accounting Estimates" (ASBJ Statement No. 31 on March 31, 2020, Accounting Standards Board of Japan)

(1)Overview

Regarding to the causes of the estimation uncertainty, whose disclose are required in "The International Accounting Standards Board 1 "Presentation of Financial Statement" (IAS 1 in the IASB) chapter125 published by International Accounting Standards Board (IASB) in 2003, as highly useful information for financial statements users, there were requests to consider disclosure them as note information in Japan GAAP. Therefore, the Accounting Standards Board of Japan (ASBJ) has developed accounting standards for disclosure of accounting estimates and published them.

The basic policy of the ASBJ in developing accounting standards for disclosure of accounting estimates is not expanding individual notes, but decide principles (disclosure purpose) and each company decides concrete disclosures based on their presentation purpose referencing the IAS 1 chapter125.

(2)Planned date of application

To be applied from the ending of the fiscal year ending March 31, 2021.

(Accounting Standard for Accounting Policy Disclosures, Accounting Changes and Error Corrections)

- "Accounting Standard for Accounting Policy Disclosures, Accounting Changes and Error Corrections" (ASBJ Statement No. 24 on March 31, 2020, Accounting Standards Board of Japan)

(1)Overview

Accounting Standards Board of Japan (ASBJ) was requested to consider expanding the notes about "Accounting principles and procedures adopted when the related accounting standards are not clear". ASBJ made necessary revisions and published the accounting standard for accounting policy disclosures, accounting changes and error corrections.

In expanding the notes about "Accounting principles and procedures adopted when the related accounting standards are not clear", continue to apply the Corporate Accounting Principles (Note 1-2), in order not to affect any past business practices operated in Japan when the related accounting standards are clear.

(2)Planned date of application

To be applied from the ending of the fiscal year ending March 31, 2021.

(y)Additional Information

(Accounting estimates related to COVID-19 pandemic)

Under the influence of the COVID-19 pandemic and the government actions of each country, the total engineering business expects extended the project periods and extra costs for the ongoing projects due to reduced productivity because of work home, temporary evacuation from infected areas, and restrictions on movement of overseas construction workers and transportation of goods.

Therefore, the Company estimated extra costs at the moment for each of major projects that were affected by the COVID-19 pandemic, considering each contract condition, and reflected them in the total contract costs for those projects in recognizing net sales and cost of sales in the current consolidated fiscal year.

Future spread and settle down of COVID-19 will vary greatly depending on the country or region. The company estimated the impact by setting assumptions after carefully examining the situation in the main projects. The assumption is basically based on that the current situation will gradually improve in the future and our business environment will return to normal by the following year end.

In addition, this estimate was the best estimate at the date of preparation of consolidated financial statement, but there is great uncertainly in the assumptions using for the estimate. Therefore, if the settle down situation of COVID-19 and the effect for economic environment changes, this estimate may affects the financial position, financial performance and cash flows after the next consolidated fiscal year.

(z)CHANGES IN PRESENTATION

(Consolidated balance sheets)
“Provision for loss on business liquidation”, which was presented separately in the previous fiscal year, is included in “Other non-current liabilities” under “Long-term liabilities” for the fiscal year ended March 31, 2020 due to its decreased materiality. As a result, ¥ 1,464 million presented as “Provision for loss on business liquidation” on the consolidated balance sheets for the previous fiscal year has been reclassified as “Other non-current liabilities”.

(Consolidated statements of income)
“Loss on devaluation of investment securities”, which was included in “Other, net” under “Other income (expenses)” in the previous fiscal year, is presented separately for the fiscal year ended March 31, 2020 due to its increased materiality. As a result,¥ 8 million included in “Other, net” under “Other income (expenses)” on the consolidated statement of income for the previous fiscal year has been reclassified as “Loss on devaluation of investment securities”.

(Consolidated statements of cash flows)
“Loss on devaluation of investment securities”, which was included in “Other” under “Cash flows from operating activities” in the previous fiscal year, is presented separately for the fiscal year ended March 31, 2020 due to its increased materiality. As a result, ¥ 4,124 million presented as “Other” under “Cash flows from operating activities” on the consolidated statements of cash flows for the previous fiscal year has been reclassified as “Loss on devaluate of investment securities” ¥ 8 million and “Other” ¥4,116 million.

Note 2 : RECEIVABLES FROM AND PAYABLES TO UNCONSOLIDATED SUBSIDIARIES AND AFFILIATES

Significant receivables from and payables to unconsolidated subsidiaries and affiliates at March 31, 2019 and 2018, were as follows:

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Notes and accounts receivable	¥ 2,210	¥ 1,453	\$ 20,307
Short-term loans receivable	435	834	3,997
Other current assets	4,051	5,887	37,223
Short-term loans	107	121	983
Notes and accounts payable	1,040	1,316	9,556
Advances received on uncompleted contracts	230	1,869	2,113
Other current liabilities	603	608	5,541

Note 3 : BORROWINGS AND ASSETS PLEDGED AS COLLATERAL

Short-term loans consisted mainly of unsecured notes and bank overdrafts and bore interest at the annual rates of 0.30% and 0.27% at March 31, 2020 and 2019, respectively. Such loans are generally renewable at maturity.

Long-term debt consisted of the following:

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Secured Loans			
1.26% loans from banks			
due serially through 2032	¥ -	¥ 3,817	\$ -
Unsecured Debt			
0.4% – 0.48% loans from banks and insurance companies			
due serially through 2023(some debt has no fixed term)	367	525	3,372
0.09%-0.20% bonds due serially through 2022	50,000	50,000	459,432
	50,367	54,342	462,804
Less current maturities	(20,020)	(393)	(183,956)
Long-term debt due after one year	¥ 30,347	¥ 53,949	\$ 278,848

Assets pledged as collateral for Short-term loans and Long-term debt at March 31, 2020 and 2019, were as follows:

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Buildings and structures, at net book value	¥ -	¥ 188	\$ -
Machinery and equipment, at net book value	-	4,340	-
Cash and deposits	-	1,103	-
Investments securities	1,900	1,900	17,458
Total	¥ 1,900	¥ 7,531	\$ 17,458

The annual maturities of Long-term debt outstanding at March 31, 2020 were as follows:

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
Year ending March 31,			
2021	¥ 20,020		\$ 183,956
2022	20		184
2023	30,020		275,843
2024	3		28
2025 and thereafter	304		2,793
Total	¥ 50,367		\$ 462,804

Note 4 : INVENTORIES

Inventories at March 31, 2020 and 2019 were summarized as follows:

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Inventories:			
Contract works in progress	¥ 22,990	¥ 24,472	\$ 211,247
Finished goods and merchandise	5,366	4,765	49,306
Works in process	2,636	2,810	24,221
Raw materials and others	3,688	3,981	33,888
Total	¥ 34,680	¥ 36,028	\$318,662

Note 5 : RETIREMENT BENEFIT PLAN

The significant components of the pension plans as of and for the years ended March 31, 2020 and 2019 were summarized as follows:

(a)DEFINED BENEFIT PLAN

(1)Movement in retirement benefit obligations

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Balance at beginning of year	¥ 50,729	¥ 51,005	\$ 466,131
Service cost	2,040	2,040	18,745
Interest cost	294	257	2,701
Actuarial (gain) loss	130	(357)	1,195
Benefits paid	(2,183)	(1,904)	(20,059)
Past service costs	30	(155)	276
Increase in a newly consolidated subsidiary	30	-	276
Other	28	(157)	256
Balance at end of year	¥ 51,098	¥ 50,729	\$469,521

(2)Movement in plan assets

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Balance at beginning of year	¥ 35,459	¥ 35,601	\$ 325,820
Expected return on plan assets	577	529	5,302
Actuarial (gain) loss	(633)	(250)	(5,816)
Contributions paid by the employer	971	1,007	8,922
Benefits paid	(1,453)	(1,349)	(13,351)
Other	28	(79)	257
Balance at end of year	¥ 34,949	¥ 35,459	\$ 321,134

(3)Reconciliation from retirement benefit obligations and plan assets to net defined benefit liability and asset.

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Funded retirement benefit obligations	¥ 37,259	¥ 37,434	\$342,360
Plan assets	(34,949)	(35,459)	(321,134)
	2,310	1,975	21,226
Unfunded retirement benefit obligations	13,839	13,295	127,162
Allowance for officers’ lump-sum severance benefits	254	305	2,334
Total net defined benefit liability	¥ 16,403	¥ 15,575	\$ 150,722

Net defined benefit liability	16,972	16,180	155,950
Net defined benefit asset	(569)	(605)	(5,228)
Total net defined benefit liability	¥ 16,403	¥ 15,575	\$ 150,722

(4)Retirement benefit expenses

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Service cost	¥ 2,040	¥ 2,040	\$ 18,745
Interest cost	294	257	2,701
Expected return on plan assets	(577)	(529)	(5,302)
Net actuarial gain and loss amortization	790	716	7,259
Past service cost amortization	(220)	(234)	(2,021)
Total retirement benefit expenses	¥ 2,327	¥ 2,250	\$21,382

(5)Remeasurements of defined benefit plans

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Actuarial losses	¥ 28	¥ 820	\$257
Past service costs	(250)	(79)	(2,297)
Others	7	13	65
Total balance	¥ (215)	¥ 754	\$ (1,975)

(6)Cumulative effect of remeasurements of defined benefit plans

	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
March 31,	2020	2019	2020
Actuarial losses that are yet to be recognized	¥ (3,683)	¥ (3,736)	\$ (33,842)
Past service costs that are yet to be recognized	1,697	1,917	15,593
Total balance	¥ (1,986)	¥ (1,819)	\$ (18,249)

(7)Plan assets

Components of plan assets

	March 31, 2020	March 31, 2019
Bonds	68%	66%
Equity securities	16	19
Cash and cash equivalents	1	1
Other	15	14
Total	100%	100%

Long-term expected rate of return
Current and target asset allocations and historical and expected returns on various categories of plan assets have been considered in determining the long-term expected rate of return.

(8)Actuarial assumptions

The principal actuarial assumptions at March 31, 2020 and 2019 were as follows:

	March 31, 2020	March 31, 2019
Discount rate	Principally 0. 25%	Principally 0. 25%
Long-term expected rate of return	Principally 1.5%	Principally 1.5%
Expected rate of salary increase	Principally 4.4%	Principally 4.4%

(b)DEFINED CONTRIBUTION PENSION PLAN

The Company's contributions were ¥ 440 million (\$ 4,043 thousand) and ¥ 432 million for the years ended March 31, 2020 and 2019, respectively.

Note 6 : CONTINGENCIES

(1) It is a business practice in Japan for a company to guarantee the indebtedness of certain of its trading agents, suppliers, subcontractors and certain subsidiaries and affiliates. The aggregate amount of such guarantees was ¥7,432 million (\$68,290 thousand) and ¥ 10,633million at March 31, 2020 and 2019, respectively.

(2) The Company has guaranteed employees' housing loans and others from banks in the amount of ¥9 million (\$83 thousand) and ¥10 million at March 31, 2020 and 2019, respectively.

Note 7 : NET ASSETS

Under the Japanese Corporation Law ("the Law") and regulations, the entire amount paid for nUnder the Japanese Corporation Law ("the Law") and regulations, the entire amount paid for new shares is required to be designated as common stock. However, companies may, by a resolution of the Board of Directors, designate an amount not exceeding one-half of the price of the new shares as additional paid-in capital, which is included in capital surplus.

Under the Law, companies are required to set aside an amount equal to at least 10% of cash dividends and other cash appropriations in a legal earnings reserve until the total of the legal earnings reserve and additional paid-in capital equals 25% of common stock.

Under the Law, the legal earnings reserve and additional paid-in capital can be used to eliminate or reduce a deficit by a resolution of the shareholders' meeting or can be capitalized by a resolution of the Board of Directors.

Additional paid-in capital and legal earnings reserve may not be distributed as dividends. Under the Law, however, additional paid-in capital and legal earnings reserve may be transferred to retained earnings by a resolution of the shareholders' meeting as long as the total amount of the legal earnings reserve and additional paid-in capital remained equal to or exceeded 25% of common stock.

The maximum amount that the Company can distribute as dividends is calculated based on the non-consolidated financial statements of the Company in accordance with the Law.

At the annual shareholders' meeting of the Company held on June 26, 2020, the shareholders approved cash dividends amounting to ¥3,028 million (\$ 27,823 thousand). Such appropriations have not been accrued in the consolidated financial statements as of March 31, 2020. Such appropriations are recognized in the period in which they are approved by the shareholders.

Note 8 :INFORMATION ON SECURITIES

A.The following tables summarize acquisition costs and book values stated at the fair value of securities with available fair values as of March 31, 2020 and 2019.

AVAILABLE-FOR-SALE SECURITIES WITH AVAILABLE FAIR VALUES:

(1) Securities with book values exceeding acquisition costs:

(Millions of yen)			
March 31, 2020	Acquisition cost	Book value	Difference
Equity securities	¥ 4,672	¥ 8,179	¥ 3,507

(Millions of yen)			
March 31, 2019	Acquisition cost	Book value	Difference
Equity securities	¥ 8,563	¥ 18,468	¥ 9,905

(Thousands of U.S. dollars) (Note 1)			
March 31, 2020	Acquisition cost	Book value	Difference
Equity securities	\$ 42,929	\$ 75,154	\$ 32,225

(2)Securities with book values not exceeding acquisition costs:

(Millions of yen)			
March 31, 2020	Acquisition cost	Book value	Difference
Equity securities	¥ 3,270	¥ 2,438	¥ (832)

(Millions of yen)			
March 31, 2019	Acquisition cost	Book value	Difference
Equity securities	¥ 0	¥ 0	¥ (0)

(Thousands of U.S. dollars) (Note 1)			
March 31, 2020	Acquisition cost	Book value	Difference
Equity securities	\$ 30,047	\$ 22,402	\$ (7,645)

B.The following tables summarize book values of securities with no available fair values or securities not valued by fair market prices as of March 31, 2020 and 2019.

(a)AVAILABLE-FOR-SALE SECURITIES WITH NO AVAILABLE FAIR VALUES:

(Thousands of U.S. dollars) (Note 1)			
(Millions of yen)			
March 31,	2020	2019	2020
Non-listed equity securities	¥ 7,957	¥ 10,839	\$ 73,114
Subscription certificate	38	38	349
Non-listed affiliate's bond	2,800	1,720	25,728
Total	¥ 10,795	¥ 12,597	\$ 99,191

(b)UNCONSOLIDATED SUBSIDIARIES AND AFFILIATES:

(Thousands of U.S. dollars) (Note 1)			
(Millions of yen)			
March 31,	2020	2019	2020
Securities of unconsolidated subsidiaries	¥ 6,050	¥ 6,227	\$ 55,591
Securities of affiliates	17,346	31,702	159,386
Total	¥ 23,396	¥ 37,929	\$ 214,977

(c)LOSS ON VALUATION OF INVESTMENT SECURITIES:

The Company recognized loss on devaluation for investment securities in the amount of ¥ 866 million (\$ 7,957 thousand) and ¥ 8 million for the years ended March 31, 2020 and 2019, respectively.

The Company and its consolidated domestic subsidiaries follow a policy of devaluation of available-for-sale securities. The policy of devaluation for the Company and its consolidated domestic subsidiaries is that if the available fair value of the securities declines by 50% or more, compared with acquisition cost, all the corresponding securities are devalued as such decline is considered to be substantial and non-recoverable in value. In addition, in the case whereby the available fair value of the securities declines by more than 30% but by less than 50%, the Company and its consolidated domestic subsidiaries examine the recoverability of the fair value of the securities and devalueate if those securities are considered to be unrecoverable.

(d)SALES OF SECURITIES CLASSIFIED AS OTHER SECURITIES

	(Millions of yen)		(Thousands of U.S. dollars)
March 31,	2020	2019	2020
Equity securities:			
Sales proceeds	¥ 7,938	¥ 5,890	\$ 72,939
Aggregate gain	5,649	2,372	51,907
Aggregate loss	-	(151)	-

Note 9 : DERIVATIVE TRANSACTIONS AND HEDGE ACCOUNTING

As explained in Note 1 (v), the accounting standard for financial instruments requires companies to state derivative financial instruments at fair value and to recognize changes in the fair value as gains or losses unless derivative financial instruments are used for hedging purposes.

The Company utilizes foreign currency forward contracts and interest rate swap contracts as derivative financial instruments only for the purpose of mitigating future risks of fluctuation of foreign currency exchange rates with respect to foreign currency receivable and payable and mitigating future risks of interest rate increases and lowering the financing costs with respect to borrowings.

Foreign currency forward contracts and interest rate swap contracts are subject to risks of foreign exchange rate changes and interest rate changes, respectively.

The derivative transactions are executed and managed in accordance with the established policies and within the specified limit on the amounts of derivative transactions allowed.

The following summarizes hedging derivative financial instruments used by the Company and hedged items:

Hedging instruments:	Hedged items:
Foreign currency forward contracts	Foreign currency accounts receivable, accounts payable and future transactions denominated in a foreign currency
Interest rate swap contracts	Interest on loans payable

The Company evaluates hedge effectiveness semi-annually by comparing the cumulative changes in cash flows from or the changes in fair value of hedged items and the corresponding changes in the hedging derivative instruments. However, where the principal conditions underlying the hedging instruments and the hedged assets or liabilities are similar, the evaluation of hedge effectiveness is not performed.

The Company's financial instrument counter-parties are all prime banks with high ratings, and the Company does not expect non-performance by the counter-parties.

(a)FAIR VALUE OF UNDESIGNATED DERIVATIVE FINANCIAL INSTRUMENTS

Fair value of undesignated derivative financial instruments as of March 31, 2020 and 2019, is summarized as follows:

(Millions of yen)					
March 31, 2020	Contract amount			Fair value	Profit or loss evaluation
	Due within one year	Due after one year	Total		
Forward exchange contracts					
Sell U.S. dollars	¥ 71,170	¥ 13,214	¥ 84,384	¥ (878)	¥ (878)
Sell Euro	9,940	-	9,940	25	25
Sell CNY	2,554	13,509	16,063	(618)	(618)
Sell CAD	4,801	-	4,801	258	258
Buy CNY	2,554	13,509	16,063	618	618
Buy U.S. dollars	2,514	13,214	15,728	891	891
Buy AUD	1,164	-	1,164	(184)	(184)
Buy CAD	4,801	-	4,801	(258)	(258)

Product Swap					
Sell Nickel	88	-	88	15	15
Buy Nickel	88	-	88	(15)	(15)

(Millions of yen)					
March 31, 2019	Contract amount			Fair value	Profit or loss evaluation
	Due within one year	Due after one year	Total		
Forward exchange contracts					
Sell U.S. dollars	¥ 38,558	¥ -	¥ 38,558	¥ 27	¥ 27
Buy GBP	45	-	45	(0)	(0)

(Thousands of U.S. dollars) (Note 1)					
March 31, 2020	Contract amount			Fair value	Profit or loss evaluation
	Due within one year	Due after one year	Total		
Forward exchange contracts					
Sell U.S. dollars	\$ 653,955	\$ 121,419	\$ 775,374	\$ (8,068)	\$ (8,068)
Sell Euro	91,335	-	91,335	230	230
Sell CNY	23,468	124,129	147,597	(5,679)	(5,679)
Sell CAD	44,115	-	44,115	2,371	2,371
Buy CNY	23,468	124,129	147,597	5,679	5,679
Buy U.S. dollars	23,100	121,419	144,519	8,187	8,187
Buy AUD	10,696	-	10,696	(1,691)	(1,691)
Buy CAD	44,115	-	44,115	(2,371)	(2,371)

Product Swap					
Sell Nickel	809	-	809	138	138
Buy Nickel	809	-	809	(138)	(138)

Fair value of forward exchange contracts is stated based on the quoted price from banks.

(b)FAIR VALUE OF DERIVATIVE FINANCIAL INSTRUMENTS DESIGNATED AS HEDGING INSTRUMENTS

Fair value of derivative financial instruments designated as hedging instruments as of March 31, 2020 and 2019 is summarized as follows:

			(Millions of yen)		
March 31, 2020			Contract amount		Fair value
Accounting method	Hedging instruments	Hedged item	Contract amount	Portion over one year	
Allocation method (Note 1(t))	Forward exchange contracts Buy AUD	Accounts payable	¥ 8,619	¥ -	¥ (1,355)
Allocation method (Note 1(t))	Forward exchange contracts Buy U.S. dollars	Accounts payable	885	264	29
Allocation method (Note 1(t))	Forward exchange contracts Sell U.S. dollars	Accounts receivable	484	-	(4)
Allocation method (Note 1(t))	Forward exchange contracts Sell Euro	Accounts receivable	655	-	(2)

			(Millions of yen)		
March 31, 2019			Contract amount		Fair value
Accounting method	Hedging instruments	Hedged item	Contract amount	Portion over one year	
Allocation method (Note 1(t))	Forward exchange contracts Buy Euro	Accounts payable	¥ 758	¥ -	¥ (50)
Allocation method (Note 1(t))	Forward exchange contracts Buy AUD	Accounts payable	22,798	-	(215)
Allocation method (Note 1(t))	Forward exchange contracts Sell U.S. dollars	Accounts receivable	4,942	-	(6)
Principal method (Note 1(t))	Forward exchange contracts Sell Euro	Accounts receivable	113	-	(1)
Principal method (Note 1(t))	Interest rate swap contracts Receive variable rate and Pay fixed rate swap	Long-term debt	3,442	3,160	(239)

			(Thousands of U.S. dollars) (Note 1)		
March 31, 2020			Contract amount		Fair value
Accounting method	Hedging instruments	Hedged item	Contract amount	Portion over one year	
Allocation method (Note 1(t))	Forward exchange contracts Buy AUD	Accounts payable	\$ 79,197	\$ -	\$(12,451)
Allocation method (Note 1(t))	Forward exchange contracts Buy U.S. dollars	Accounts payable	8,132	2,426	266
Allocation method (Note 1(t))	Forward exchange contracts Sell U.S. dollars	Accounts receivable	4,447	-	(37)
Allocation method (Note 1(t))	Forward exchange contracts Sell Euro	Accounts receivable	6,019	-	(18)

Fair value of forward exchange contracts is stated based on the quoted price from banks.

Note 10 : SEGMENT INFORMATION
(a)OVERVIEW OF REPORTED SEGMENTS

The reported segments of the Company are those units for which separate financial statements can be obtained among the constituent units of the Company and regularly examined by Chief Executive Officer for decisions on the allocation of management resources and for assessing business performance. The operations of the Company and its consolidated subsidiaries are classified into two reportable segments: the total engineering business and the functional materials manufacturing business.

Major activities included in the total engineering business are design, procurement, construction and performance test services of machinery and plants for petroleum, petroleum refining, petrochemicals, gas, chemicals, nuclear energy, metal refining, biochemical, food, pharmaceuticals, medical, logistics, information technology, environment conservation and pollution control. Major activities in the functional materials manufacturing business include manufacturing and distribution of chemical and catalyst products (FCC catalysts, hydro treating catalysts, deNOx catalysts, petrochemical catalysts, etc) and new functional material products (colloidal silica, coating materials for surface treatment, material for semiconductors and cosmetic products, etc.).

In addition, since the Group changed to a holding company structure on October 1, 2019, the Company will be responsible for group administrative management operations.

As a result, the revenues and expenses associated with the group administrative management operations are allocated to each reportable segment. In addition, the corporate assets retained by the Company are processed as adjustment.

The accounting policies of the segments are substantially the same as those described in the significant accounting policies in Note 1.

The following is information about sales and profit or loss by reported segments for the years ended March 31, 2020 and 2019:

(Millions of yen)							
Year ended March 31, 2020	Reported Segment			Other	Total	Adjustment	Consolidated
	Total Engineering	Functional Materials Manufacturing	Sub-Total				
Net sales:							
External customers	¥ 426,765	¥ 46,653	¥ 473,418	¥7,392	¥ 480,810	¥ -	¥ 480,810
Inter-segment	423	13	436	2,305	2,741	(2,741)	-
Total	¥ 427,188	¥ 46,666	¥ 473,854	¥ 9,697	¥ 483,551	¥ (2,741)	¥ 480,810
Segment profit	¥ 12,071	¥ 6,743	¥ 18,814	¥ 1,542	¥ 20,356	¥ (122)	¥ 20,234
Segment assets	¥ 394,521	¥ 59,414	¥ 453,935	¥ 17,613	¥ 471,548	¥199,726	¥ 671,274
Depreciation and amortization	¥ 3,432	¥ 2,499	¥ 5,931	¥ 1,087	¥ 7,018	¥ (2)	¥ 7,016
Capital expenditures	¥ 1,887	¥ 3,569	¥ 5,456	¥ 417	¥ 5,873	¥ 1,941	¥ 7,814

- *1.The "Other" category includes business activities of consulting, management of real estate, power and water supply and oil and gas production.
- *2. "Adjustment" were as follows;
- (1) Adjustment for Segment profit and Depreciation and amortization represent the elimination of intersegment transactions.
- (2) Adjustment for Segment assets includes corporate assets unallocated to any reportable segment of ¥ 200,015 million (\$ 1,837,866 thousand). Corporate assets are mainly Cash and deposits, investment securities, and fixed assets (Buildings and structures, and Lands, etc) of the Company.
- (3) Adjustment for Capital expenditures represents corporate assets unallocated to any reportable segment.
- (4) The corporate assets are not allocated to any reportable segment, but Depreciation and amortization for the corporate assets are allocated to the reportable segments considering the burden rate.
- *3.Segment profit is reconciled to Operating income of consolidated statements of income.

(Millions of yen)							
Year ended March 31, 2019	Reported Segment			Other	Total	Adjustment	Consolidated
	Total Engineering	Functional Materials Manufacturing	Sub-Total				
Net sales:							
External customers	¥ 564,045	¥ 45,997	¥ 610,042	¥ 9,199	¥ 619,241	¥ -	¥ 619,241
Inter-segment	177	8	185	2,081	2,266	(2,266)	-
Total	¥ 564,222	¥ 46,005	¥ 610,227	¥ 11,280	¥ 621,507	¥ (2,266)	¥ 619,241
Segment profit	¥ 13,778	¥ 7,400	¥ 21,178	¥ 1,990	¥ 23,168	¥ 82	¥ 23,250
Segment assets	¥ 629,975	¥ 56,218	¥ 686,193	¥ 29,915	¥ 716,108	¥ (7,253)	¥ 708,855
Impairment	¥ 574	¥ -	¥ 574	¥ -	¥ 574	¥ -	¥ 574
Depreciation and amortization	¥ 3,353	¥ 2,496	¥ 5,849	¥ 1,446	¥ 7,295	¥ (4)	¥ 7,291
Capital expenditures	¥ 5,041	¥ 3,249	¥ 8,290	¥ 337	¥ 8,627	¥ -	¥ 8,627

- *1.The "Other" category includes business activities of consulting, management of real estate, power and water supply and oil and gas production.
- *2.Adjustments for Segment profit, Segment assets and other items represent the elimination of intersegment transactions.
- *3.Segment profit is reconciled to Operating income of consolidated statements of income.

(Thousands of U.S. dollars) (Note 1)							
Year ended March 31, 2020	Reported Segment			Other	Total	Adjustment	Consolidated
	Total Engineering	Functional Materials Manufacturing	Sub-Total				
Net sales:							
External customers	\$ 3,921,391	\$ 428,678	\$ 4,350,069	\$ 67,922	\$ 4,417,991	\$ -	\$ 4,417,991
Inter-segment	3,887	119	4,006	21,180	25,186	(25,186)	-
Total	\$ 3,925,278	\$ 428,797	\$ 4,354,075	\$ 89,102	\$ 4,443,177	\$ (25,186)	\$ 4,417,991
Segment profit	\$ 110,916	\$ 61,959	\$ 172,875	\$ 14,169	\$ 187,044	\$ (1,121)	\$ 185,923
Segment assets	\$ 3,625,113	\$ 545,934	\$ 4,171,047	\$ 161,840	\$ 4,332,887	\$ 1,835,210	\$ 6,168,097
Depreciation and amortization	\$ 31,535	\$ 22,963	\$ 54,498	\$ 9,988	\$ 64,486	\$ (18)	\$ 64,468
Capital expenditures	\$ 17,339	\$ 32,794	\$ 50,133	\$ 3,832	\$ 53,965	\$ 17,835	\$ 71,800

(b)RELATED INFORMATION
I.INFORMATION BY GEOGRAPHY

(1)Net Sales

Year ended March 31, 2020						
Japan	East and Southeast Asia	Middle East	Africa	North America	Other	Total
¥ 193,048	¥ 62,710	¥ 48,813	¥ 64,968	¥ 90,955	¥ 20,316	¥ 480,810

*1. Net sales are classified by the place of customers' address.
*2. Other includes Australia ¥ 7,662 million (\$ 70,403 thousand).

Year ended March 31, 2019						
Japan	East and Southeast Asia	Middle East	Africa	Oceania	Other	Total
¥ 195,329	¥ 64,058	¥ 92,302	¥ 93,126	¥ 30,669	¥ 143,757	¥ 619,241

*1. Net sales are classified by the place of customers' address.
*2. Oceania includes Australia ¥ 30,669 million.
*3. Other includes Russia ¥ 110,590 million.

Year ended March 31, 2020						
Japan	East and Southeast Asia	Middle East	Africa	North America	Other	Total
\$ 1,773,849	\$ 576,220	\$ 448,525	\$ 596,968	\$ 835,753	\$ 186,676	\$ 4,417,991

(2)Property and equipment

				(Thousands of U.S. dollars) (Note 1)
		(Millions of yen)		
Year ended March 31, 2020	Year ended March 31, 2019	March 31, 2020	March 31, 2019	March 31, 2020
Japan		¥ 46,382	¥ 49,734	\$ 426,188
Other		3,413	5,706	31,360
Total		¥ 49,795	¥ 55,440	\$ 457,548

II. INFORMATION BY MAJOR CUSTOMERS

The following is information on major customers which account for 10% or more of the Net sales on the consolidated statements of income for the years ended March 31, 2020 and 2019:

Year ended March 31, 2020	(Millions of yen)	(Thousands of U.S. dollars) (Note 1)	Related segments
LNG Canada	¥ 81,654	\$ 750,289	Total engineering

Year ended March 31, 2019	(Millions of yen)	Related segments
JSC YAMAL LNG	¥ 110,467	Total engineering
SONATRACH SPA	¥ 67,220	Total engineering

III.INFORMATION ON IMPAIRMENT LOSS

This information is not disclosed, as this information is disclosed in Note 10 (a) for the years ended March 31, 2020 and 2019.

Note 11 : TAXES ON INCOME

Income taxes applicable to the Company and its domestic consolidated subsidiaries comprise corporate taxes, inhabitants' taxes and enterprise taxes which, in the aggregate, resulted in statutory tax rates of 30.6% for the year ended March 31, 2020 and 2019, respectively.

(1)The following table summarizes the differences between the statutory tax rate and the Company's and its consolidated subsidiaries' effective tax rate for financial statement purposes for the years ended March 31, 2020 and 2019, were as follows:

	2020	2019
Statutory tax rate	30.6%	30.6%
Non-deductible expenses	1.6	0.9
Non-taxable dividend income	(2.9)	(2.0)
Tax credit for research and development expenses	(0.1)	(2.3)
Foreign tax credit	-	(2.3)
Tax loss carryforwards with unrecognized tax effects	2.7	2.0
Valuation allowances	6.3	2.6
Differences in tax bases of the enterprise tax	3.6	(4.0)
Deductible foreign corporate tax	37.4	-
Adjustment for gain on sales of shares of affiliate	8.8	-
Equity in earnings of affiliates	(4.6)	(3.0)
Past years corporate tax	0.5	2.2
Other	(0.3)	0.8
Effective tax rate	83.6%	25.5%

(2)Significant components of the Company's and its consolidated subsidiaries' deferred tax assets and liabilities as of March 31, 2020 and 2019, were as follows:

March 31,	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
	2020	2019	2020
Deferred tax assets:			
Accounts payable	¥ 5,354	¥12,371	\$ 49,196
Loss on devaluation of investment securities	6,125	5,826	56,280
Reserve for losses on contracts	4,016	5,350	36,902
Net defined benefit liability	4,863	4,794	44,685
Tax loss carryforward *2	17,877	14,442	164,265
Allowance for doubtful accounts	3,291	2,092	30,240
Accrued bonuses to employees	1,913	2,043	17,578
Foreign tax credit	-	1,586	-
Adjustment of percentage completion method	1,369	759	12,579
Depreciation	628	705	5,770
Reserve for job warranty costs	267	341	2,453
Loss on devaluation of fixed assets	132	311	1,213
Deferred losses on hedges	425	83	3,905
Accrued enterprise tax	350	214	3,216
Other	1,296	1,662	11,909
Subtotal deferred tax assets	47,906	52,579	440,191
Valuation allowance for tax loss carryforward *2	(15,369)	(14,442)	(141,220)
Valuation allowance for deductible temporary difference	(9,587)	(9,326)	(88,092)
Total valuation allowances *1	(24,956)	(23,768)	(229,312)
Total deferred tax assets	22,950	28,811	210,879

Deferred tax liabilities:			
Net unrealized holding gains on securities	(904)	(3,192)	(8,307)
Net defined benefit asset	(129)	(159)	(1,185)
Reserve for advanced depreciation of noncurrent assets	(204)	(263)	(1,874)
Total deferred tax liabilities	(1,237)	(3,614)	(11,366)
Net deferred tax assets	¥ 21,713	¥ 25,197	\$ 199,513

*1 For the year ended March 31, 2020, the valuation allowances increased by ¥1,188 million (\$10,916 thousand). This is mainly due to decrease valuation allowance for Foreign tax credit by ¥1,586 million (\$14,573 thousand), and increase valuation allowance for Allowance for doubtful accounts by ¥1,224 million (\$11,247 thousand), Loss on devaluation of investment securities by ¥598 million (\$5,495 thousand), and valuation allowance for Tax loss carryforward by ¥926 million (\$8,509 thousand).

*2 The amount of Tax loss carryforward and its deferred tax assets will expire as follows:
Year ending March 31, 2020

Year ended March 31, 2019						
Tax loss carryforward*1		Valuation allowance		Deferred tax assets*2		
(Millions of yen)	(Thousands of U.S. dollars) (Note 1)	(Millions of yen)	(Thousands of U.S. dollars) (Note 1)	(Millions of yen)	(Thousands of U.S. dollars) (Note 1)	
2021	¥ -	\$ -	¥ -	\$ -	¥ -	\$ -
2022	-	-	-	-	-	-
2023	-	-	-	-	-	-
2024	-	-	-	-	-	-
2025	-	-	-	-	-	-
2026 and thereafter	17,877	164,265	(15,369)	(141,220)	2,508	23,045
Total	¥ 17,877	\$ 164,265	¥ (15,369)	\$ (141,220)	¥ 2,508	\$ 23,045

*1 The amount of Tax loss carryforward is an amount multiplied by the statutory tax rates.
*2 The amount of Tax loss carryforward (amount measured using the statutory tax rates) ¥ 17,877 million (\$ 164,265 thousand) was mainly due to the loss before income tax at some foreign consolidated subsidiaries, the non-taxable dividend income, the deductible foreign corporate tax, and the deduction of deductible temporary difference of Notes and accounts payable at the Company and some consolidated subsidiaries. Regarding the deferred tax assets ¥ 2,508 million (\$ 23,045 thousand) of the Tax loss carryforward, a valuation allowance was not recognized for the portion deemed to be recoverable based on estimates of future taxable income.

Year ended March 31, 2019	(Millions of yen)		
	Tax loss carryforward*1	Valuation allowance	Deferred tax assets*2
2020	¥ -	¥ -	¥ -
2021	-	-	-
2022	-	-	-
2023	-	-	-
2024	-	-	-
2025 and thereafter	14,442	(14,442)	-
Total	¥ 14,442	¥ (14,442)	¥ -

*1 The amount of Tax loss carryforward is an amount multiplied by the statutory tax rates.

March 31,	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
	2020	2019	2020
Deferred tax liabilities			
Undistributed earnings of foreign consolidated subsidiaries	¥ 891	¥ 531	\$ 8,187
Others	69	118	634
Total deferred tax liabilities	¥ 960	¥ 649	\$ 8,821

Note 12 : NOTES TO THE CONSOLIDATED STATEMENTS OF CASH FLOWS

Reconciliation of cash in the consolidated balance sheets and Cash and cash equivalents in the consolidated statements of cash flows was as follows:

March 31,	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
	2020	2019	2020
Cash and deposits	¥ 261,899	¥ 160,842	\$ 2,406,496
Cash and cash equivalents	¥ 261,899	¥ 160,842	\$ 2,406,496

Note 13 : LAND REVALUATION

Pursuant to Article 2 of the Enforcement Ordinance for the Law Concerning Land Revaluation effective March 31, 1998, the Company recorded its owned land used for business at the fair value as of March 31, 2002, and the related revaluation difference, net of income taxes, was debited to Land revaluation, net of deferred tax portion in the Net Assets section. The applicable income tax portion was reported as Deferred tax liabilities for land revaluation in the consolidated balance sheets at March 31, 2020 and 2019. When such land is sold, land revaluation is reversed and debited to retained earnings.

Note 14 : RELATED PARTY TRANSACTIONS

This information is not disclosed, as this is immaterial for the years ended March 31, 2020 and 2019.

Note 15 : FINANCIAL INSTRUMENTS

A. QUALITATIVE INFORMATION ON FINANCIAL INSTRUMENTS

(a)POLICIES FOR USING FINANCIAL INSTRUMENTS

The Company manages surplus capital using financial instruments that are short-term and carry low risk. The Company uses derivatives to mitigate the risks that are described below, and does not use derivatives for speculative transactions.

(b)FINANCIAL INSTRUMENTS, ASSOCIATED RISKS AND THE RISK MANAGEMENT SYSTEM

Notes and accounts receivable expose the Company to customer credit risk. Investment securities are mainly related to the business and capital alliance companies and expose the Company to the changes in market prices. Loans receivable are mainly related to subsidiaries and affiliates.

Most Notes and accounts payable are due within one year. Some accounts payable associated with purchasing machines and construction contracts are denominated in foreign currencies, which expose the Company to the risks of exchange rate fluctuations. The Company generally procures capital required under its business plan through bank loans. Some bank loans and bond expose the Company to the risks of interest rate fluctuations.

The Company uses derivatives transactions including foreign exchange forward contracts to hedge the risk of exchange rate fluctuations associated with accounts receivable and payable denominated in foreign currencies and commodity swaps to hedge the risk of price fluctuations associated with commodities using in the EPC (Engineering, Procurement and Construction) business. The details of hedge accounting of the Company such as methods, hedging policies, hedged items and recognition of gain or loss on hedged positions are explained in Note 1(t) and Note 9 "Derivative Transactions and Hedge Accounting".

(c)RISK MANAGEMENT SYSTEM FOR FINANCIAL INSTRUMENTS

(1)Credit risk management (counter-party risk)

The Company has established internal procedures for receivables under which the related divisions are primarily responsible for periodically monitoring counter-party status. The department manages amounts and settlement dates by counter-party and works to quickly identify and mitigate payment risk that may result from situations including deterioration of the financial condition of counter-parties.

In using derivatives transactions, the Company mitigates counter-party risk by conducting transactions with highly creditworthy financial institutions.

(2)Market risk management (risk of exchange rate and prices fluctuations)

The Company monitors the balance of the foreign currency receivable and payable by each currency and every month and utilizes foreign currency forward contracts and foreign currency deposit to hedge the risk of fluctuations. The Company uses commodity swaps to mitigate the risk of price fluctuations associated with commodities using in the EPC (Engineering, Procurement and Construction) business.

Regarding marketable securities and investment securities, the Company periodically examines fair value and the financial condition of the issuing entities and revises its portfolio based on its relationships with issuing entities.

The derivative transactions are executed and managed by the Finance & Accounting Department in accordance with the established policies and within the specified limit on the amounts of derivative transactions allowed. The Department periodically provides administrative reports on the results to the financial director and treasurer. the amounts of derivative transactions allowed. The Department periodically provides administrative reports on the results to the financial director and treasurer.

(3)Management of liquidity risk associated with capital procurement (payment default risk)

The Company manages liquidity risk by creating and updating a capital deployment plan based on reports from each division.

(d)SUPPLEMENTAL INFORMATION ON THE FAIR VALUE OF FINANCIAL INSTRUMENTS

The fair value of financial instruments is based on market prices, or a reasonable estimate of fair value for instruments for which market prices are not available. Estimates of fair value are subject to fluctuation because they employ variable factors and assumptions.

In addition, the contractual amounts of the derivatives transactions discussed in B (a) below are not an indicator of the market risk associated with derivatives transactions.

B. FAIR VALUES OF FINANCIAL INFORMATION

(a)FAIR VALUES OF FINANCIAL INSTRUMENTS

Fair values of financial instruments as of March 31, 2020 and 2019 were summarized as follows:

The financial instruments, whose fair values were difficult to measure, were not included in the table below and were summarized in B (b).

	(Millions of yen)					
	March 31, 2020			March 31, 2019		
	Carrying amount	Estimated fair value	Difference	Carrying amount	Estimated fair value	Difference
Cash and deposits	¥ 261,899	¥ 261,899	¥ -	¥ 160,842	¥ 160,842	¥ -
Notes and accounts receivable, net ^{*1}	145,276	145,276	-	231,764	231,764	-
Short-term loans receivable	437	437	-	4,029	4,029	-
Other receivables ^{*2}	84,074	84,074	-	93,545	93,545	-
Investment securities	10,616	10,616	-	18,468	18,468	-
Long-term loans receivable, net ^{*1}	143	145	2	-	-	-
Total Assets	¥ 502,445	¥ 502,447	¥ 2	¥ 508,648	¥ 508,648	¥ -
Notes and accounts payable	¥ 68,239	¥ 68,239	¥ -	¥ 92,092	¥ 92,092	¥ -
Long-term debt ^{*3}	50,347	50,395	48	53,949	54,097	148
Total Liabilities	¥ 118,586	¥ 118,634	¥ 48	¥ 146,041	¥ 146,189	¥ 148
Derivative financial instruments, net	¥ (1,478)	¥ (1,478)	¥ -	¥ (484)	¥ (484)	¥ -

	(Thousands of U.S. dollars) (Note 1)		
	March 31, 2020		
	Carrying amount	Estimated fair value	Difference
Cash and deposits	\$ 2,406,496	\$ 2,406,496	\$ -
Notes and accounts receivable, net ^{*1}	1,334,889	1,334,889	-
Short-term loans receivable	4,016	4,016	-
Other receivables ^{*2}	772,526	772,526	-
Investment securities	97,547	97,547	-
Long-term loans receivable, net ^{*1}	1,314	1,332	18
Total Assets	\$ 4,616,788	\$ 4,616,806	\$ 18
Notes and accounts payable	\$ 627,024	\$ 627,024	\$ -
Long-term debt ^{*3}	462,620	463,061	441
Total Liabilities	\$ 1,089,644	\$ 1,090,085	\$ 441
Derivative financial instruments, net	\$ (13,581)	\$ (13,581)	\$ -

^{*1} The amount of individual allowance for doubtful accounts is deducted from Notes and accounts receivable and Long-term loans receivable.

^{*2} Other receivables are classified as Other current assets in the consolidated balance sheets.

^{*3} The current portion of bonds payable are included in Long-term debt.

The following methods and assumptions were used to estimate the fair value of the financial instruments.

Cash and deposits, and Marketable securities

All deposits and negotiable certificates of deposit are short-term. Therefore, the carrying amount is used for the fair value of these items because these amounts are essentially the same.

Notes and accounts receivable

Notes and accounts receivable are short-term. Therefore, the carrying amount is used for the fair value of short-term receivables because these amounts are essentially the same.

Short-term loans receivable

Short-term loans receivable are short-term. Therefore, the carrying amount is used for the fair value of short-term receivables because these amounts are essentially the same.

Other receivables

Other receivables are short-term. Therefore, the carrying amount is used for the fair value of short-term receivables because these amounts are essentially the same.

Investment securities

Fair value of Investment securities is the price listed on securities exchanges for equities. In addition, Note 8 provides information on marketable securities by holding intent.

Long-term loans receivable

Fair value of Long-term loans receivable is estimated as discounted present value of total principal and interest using assumed interest rates for equivalent new loans. With respect to doubtful claims, because the amount obtained by deducting the irrecoverable balance, which estimated based on collectable amounts from the amount stated in the consolidated balance sheet as of the current year approximate the fair value, this amount is deemed to be the fair value.

Notes and accounts payable

Notes and accounts payable are short-term. Therefore, carrying amount is used for the fair value of short-term payables because these amounts are essentially the same.

Long-Term Debt

Floating-rate long-term debt reflects market interest rates. In addition, fair value approximates carrying amount because the Company's creditworthiness does not vary significantly after assuming long-term debts. Therefore, carrying amount is used for fair value of floating-rate long-term debt. Fair value of fixed-rate long-term debt is the discounted value of total principal and interest using an assumed interest rate on equivalent new loans and bonds.

Derivative financial instruments

Please refer to "DERIVATIVE TRANSACTIONS AND HEDGE ACCOUNTING" in Note 1(t) and Note 9.

(b)FINANCIAL INSTRUMENTS, WHOSE FAIR VALUES WERE DIFFICULT TO MEASURE

The financial instruments, whose fair values were difficult to measure, as of March 31, 2019 and 2018, were summarized as follows:

March 31,	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
	2020	2019	2020
Unconsolidated subsidiaries and affiliates	¥ 23,396	¥ 37,929	\$ 214,977
Non-listed equity securities	7,957	10,839	73,114
Subscription certificate	38	38	349
Non-listed affiliate's bond	2,800	1,720	25,728

It is difficult to measure the fair value of these financial instruments because there is no market price available and it is not practical to calculate future cash flow. Therefore, these financial instruments were not included in the Investment securities described in B (a).

(c)MATURITIES OF FINANCIAL INSTRUMENTS

The maturities of the financial instruments at March 31, 2020 were as follows:

Year ending March 31	(Millions of yen)			
	2021	2022 - 2025	2026 - 2030	2031 and thereafter
Cash and deposits	¥ 261,899	¥ -	¥ -	¥ -
Notes and accounts receivable	145,276	-	-	-
Short-term loans receivable	437	-	-	-
Other receivable	84,074	-	-	-
Long-term loans receivable, net	-	143	-	-
Total Assets	¥ 491,686	¥ 143	¥ -	¥ -

Year ending March 31	(Thousands of U.S. dollars) (Note 1)			
	2021	2022 - 2025	2026 - 2030	2031 and thereafter
Cash and deposits	\$ 2,406,496	\$ -	\$ -	\$ -
Notes and accounts receivable	1,334,889	-	-	-
Short-term loans receivable	4,016	-	-	-
Other receivable	772,526	-	-	-
Long-term loans receivable, net	-	1,314	-	-
Total Assets	\$ 4,517,927	\$1,314	\$ -	\$ -

Please see Note 3 for the maturities of long term-debt.

Note 16 : OTHER COMPREHENSIVE INCOME

Reclassification adjustments of the Company's and consolidated subsidiaries' other comprehensive income for the years ended March 31, 2020 and 2019, were as follows:

March 31,	(Millions of yen)		(Thousands of U.S. dollars) (Note 1)
	2020	2019	2020
Net unrealized holding losses on securities			
Unrealized holding losses arising during the year	¥ (2,653)	¥ (3,440)	\$ (24,378)
Reclassification adjustment	(4,825)	(2,221)	(44,335)
Sub-total	(7,478)	(5,661)	(68,713)
Deferred gains (losses) on hedges			
Deferred gains (losses) on hedges arising during the year	(1,081)	298	(9,933)
Reclassification adjustment	108	40	992
Sub-total	(973)	338	(8,941)
Translation adjustments			
Translation adjustments arising during the year	(12,165)	(3,157)	(111,780)
Reclassification adjustment	-	-	-
Sub-total	(12,165)	(3,157)	(111,780)
Remeasurements of defined benefit plans			
Defined benefit plans during the year	(651)	272	(5,981)
Reclassification adjustment	436	482	4,006
Sub-total	(215)	754	(1,975)
Equity for equity method affiliates			
Share of other comprehensive income of affiliates accounted for using equity method arising during the year	(344)	86	(3,161)
Reclassification adjustment	148	-	1,360
Sub-total	(196)	86	(1,801)
Before-tax amount	(21,027)	(7,640)	(193,210)
Income tax effect	2,497	1,354	22,944
Total other comprehensive income	¥ (18,530)	¥ (6,286)	\$ (170,266)

Tax effects allocated to each component of other comprehensive income for the years ended March 31, 2020 and 2019, were as follows:

Year ended March 31, 2020	(Millions of yen)		
	Before-tax amount	Income tax effect	Net-of-tax amount
Net unrealized holding gains (losses) on securities	¥ (7,478)	¥ 2,288	¥ (5,190)
Deferred gains (losses) on hedges	(973)	245	(728)
Translation adjustments	(12,165)	-	(12,165)
Remeasurements of defined benefit plans	(215)	(36)	(251)
Equity for equity method affiliates	(196)	-	(196)
Other comprehensive income	¥ (21,027)	¥ 2,497	¥ (18,530)

Year ended March 31, 2019	(Millions of yen)		
	Before-tax amount	Income tax effect	Net-of-tax amount
Net unrealized holding gains (losses) on securities	¥ (5,661)	¥ 1,732	¥ (3,929)
Deferred gains (losses) on hedges	338	(104)	234
Translation adjustments	(3,157)	-	(3,157)
Remeasurements of defined benefit plans	754	(274)	480
Equity for equity method affiliates	86	-	86
Other comprehensive income	¥ (7,640)	¥ 1,354	¥ (6,286)

Year ended March 31, 2020	(Thousands of U.S. dollars) (Note 1)		
	Before-tax amount	Income tax effect	Net-of-tax amount
Net unrealized holding gains (losses) on securities	\$ (68,713)	\$ 21,024	\$ (47,689)
Deferred gains (losses) on hedges	(8,941)	2,251	(6,690)
Translation adjustments	(111,780)	-	(111,780)
Remeasurements of defined benefit plans	(1,975)	(331)	(2,306)
Equity for equity method affiliates	(1,801)	-	(1,801)
Other comprehensive income	\$ (193,210)	\$ 22,944	\$ (170,266)

Note 17 : BUSINESS COMBINATIONS

(Transition to a Holding Company Structure through a Corporate Separation)

After resolved at the general meeting of shareholders held on June 27, 2019, the Company entered an absorption-type corporate separation with JGC CORPORATION as the splitting company and the wholly owned two subsidiaries as the successor companies and the JGC group has adopted the form of a holding company structure.In addition, JGC CORPORATION has been changed the name to JGC HOLDINGS COPORATION as of October 1, 2019.

(Transactions under common control, etc.)

- Outline of the transaction
 - Details of the business subject to the business combination
EPC (Engineering, Procurement and Construction) business for various plants and facilities
 - Date of the business combination
October 1, 2019
 - Legal form of the business combination
Absorption-type corporate separation with the Company as the splitting company and the wholly owned two subsidiaries as the successor companies
The successor companies of the businesses are as follows;
EPC business for various plants and facilities overseas.....JGC CORPORATION
EPC business for various plants and facilities in Japan.....JGC JAPAN CORPORATION (JGC Plant Innovation Co. Ltd. has been changed the name to JGCJAPAN CORPORATION as of October 1, 2019)
- Other matters related to the outline of the transaction

Independent Auditor’s Report

To the Board of Directors of JGC Holdings Corporation:

Opinion

We have audited the accompanying consolidated financial statements of JGC Holdings Corporation (formerly JGC Corporation) and its consolidated subsidiaries (collectively referred to as “the Group”), which comprise the consolidated balance sheets as at March 31, 2020 and 2019, the consolidated statements of income, comprehensive income, changes in net assets and cash flows for the years then ended, and notes to the consolidated financial statements, comprising a summary of significant accounting policies, other explanatory information. In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at March 31, 2020 and 2019, and its consolidated financial performance and cash flows for the years then ended in accordance with accounting principles generally accepted in Japan.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in Japan. Our responsibilities under those standards are further described in the Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Japan, and we have fulfilled our other ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Responsibilities of Management and Audit & supervisory board members and audit & supervisory board for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. In preparing the consolidated financial statements, management is responsible for assessing the Group’s ability to continue as a going concern, disclosing, as applicable, matters related to going concern in accordance with accounting principles generally accepted in Japan. Audit & supervisory board members and audit & supervisory board are responsible for overseeing the directors’ performance of their duties including the design, implementation and maintenance of the Group’s financial reporting process.

Auditor’s Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor’s report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with auditing standards generally accepted in Japan will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of our audit in accordance with auditing standards generally accepted in Japan, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, while the objective of the audit is not to express an opinion on the effectiveness of the Group’s internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management’s use of the going concern basis of accounting and based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group’s ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor’s report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause the Group to cease to continue as a going concern.
 - Evaluate whether the presentation and disclosures in the consolidated financial statements are in accordance with accounting standards generally accepted in Japan, the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
 - Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.
- We communicate with audit & supervisory board members and audit & supervisory board regarding, among other matters, the planned scope and timing of the audit, significant audit findings, including any significant deficiencies in internal control that we identify during our audit. We also provide audit & supervisory board members and audit & supervisory board with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

Convenience Translation

The U.S. dollar amounts in the accompanying consolidated financial statements with respect to the year ended March 31, 2020 are presented solely for convenience. Our audit also included the translation of yen amounts into U.S. dollar amounts and, in our opinion, such translation has been made on the basis described in Note 1 to the consolidated financial statements.

Interest required to be disclosed by the Certified Public Accountants Act of Japan

We do not have any interest in the Group which is required to be disclosed pursuant to the provisions of the Certified Public Accountants Act of Japan.

Michitaka Shishido

Designated Engagement Partner
Certified Public Accountant

Takemitsu Nemoto

Designated Engagement Partner
Certified Public Accountant

Atsushi Nagata

Designated Engagement Partner
Certified Public Accountant

KPMG AZSA LLC
Yokohama Office, Japan
June 26, 2020

JGC group’s main business of EPC operations, the Beyond the Horizon medium-term business plan for fiscal 2016–2020 calls for an ongoing focus on the oil and gas sector while expanding further into the field of infrastructure. In non-EPC operations, the plan calls for stronger involvement in manufacturing, among other types of business. Further growth and expansion are sought in both areas of operations. To pursue this vision of a corporate group with greater corporate value steadily, but with a sense of speed, we have transited to a holding company as the group’s new management structure. The Company is seeking to grant more independence to future primary business operating companies, enable more proactive, agile business operations, and bring about globally optimal resource allocation and accurate governance of group management.

2. Outline of the accounting treatment applied

The Company treated the transaction as a transaction under common control in accordance with the Accounting Standard for Business Combination (ASBJ Statement No21 dated January 16, 2019), and the Implementation Guidance on the Accounting Standard for Business Combination and Accounting Standard for Business Divestitures (ASBJ Guidance No .10 dated January 16, 2019).

Note 18 : SUBSEQUENT EVENT

(Issue Bonds)

Based on the resolution made at the meeting of the Board of Directors of the Company held on June 8, 2020, the Company will issue the following unsecured bonds.

Total amount of issue	Under ¥20,000 million (\$183,773 thousand)
Issue price	¥100 per face value of ¥100 of bond
Interest rate	Under 1.000% per annum
Issue date	From July 1, 2020 to March 31, 2021
Maturity period	Within 5 years
Redemption method	Bullet repayment
Application of funds	Bonds redemption

Note 19 : OTHER

(Ichthys LNG Project)

JKC Australia LNG Pty Ltd, an Australian company operating as a joint venture among KBR, Chiyoda Corporation and the Company’s subsidiary, (hereinafter referred to as “JKC”) has contracted with INPEX Operations Australia Pty Ltd. (hereinafter referred to as the “Client”) to perform the engineering, procurement, construction and commissioning of onshore LNG facilities in Darwin, Australia (hereinafter referred to as the "Ichthys LNG project"). The execution of the Ichthys LNG project has been substantially completed and the plant handed over to the Client in August 2018.

Notwithstanding the above situation, JKC and the Client have not reached a final settlement about part of the additional costs incurred due to increase in services scope and other factors, and the parties are currently under a few arbitration processes.

In addition, to fulfill its obligations under the contract with the Client, JKC awarded a fixed-price EPC contract to a subcontractor for the design, procurement, construction and commissioning of the combined cycle power plant (hereinafter referred to as the "Power Plant"). The subcontractor was a consortium consisting of General Electric Company, General Electric International, Inc., UGL Engineering Pty Limited and CH2M Hill Australia Pty. Limited (hereinafter referred to as a "Consortium"). During the execution of the project, the Consortium unilaterally repudiated the contract and entered into an arbitration demanding damages. While JKC having hired another subcontractor and pay costs to complete the Power Plant, JKC is making a counter-claim under the arbitration, pursuing recourse against the Consortium to recover all of the costs.

In view of the above overall, if the arbitrations against the Client or the Consortium results in a disadvantageous result for JKC, this could have a negative impact on the Company’s consolidated financial position.

Supplemental Explanation

Internal Control over Financial Reporting in Japan

Under the Financial Instruments and Exchange Act in Japan (“the Act”), which was enacted in June 2006, the management of all listed companies in Japan are required to implement assessments of internal control over financial reporting (“ICOFR”) as of the end of the fiscal year and the management assessment shall be audited by independent auditors, effective from the fiscal year beginning on or after April 1, 2008.

We have evaluated our ICOFR as of March 31, 2020, in accordance with “On the Revision of the Standards and Practice Standards for Management Assessment and Audit concerning Internal Control Over Financial Reporting (Council Opinions)” published by the Business Accounting Council on March 30, 2011.

As a result of conducting the evaluation of ICOFR for the year ended March 31, 2020, we concluded that our internal control system over financial reporting as of March 31, 2020 was operating effectively and reported as such in the Internal Control Report.

Independent Auditor, KPMG AZSA LLC, performed an audit of our management assessment on the effectiveness of ICOFR under the Act.

An English translation of the Internal Control Report and the Independent Auditor’s Report filed under the Act is provided on the following pages.

JGC Holdings Corporation (formerly JGC Corporation)

Internal Control Report (Translation)

NOTE

The following is an English translation of the report on internal control over financial reporting filed under the Financial Instruments and Exchange Act in Japan (“ICOFR under the Act”). This report is presented merely as supplemental information.

There are differences between the management assessment of ICOFR under the Act and one conducted under the attestation standards established by the American Institute of Certified Public Accountants (“the AICPA”).

In the management assessment of ICOFR under the Act, there is detailed guidance on the scope of the management assessment of ICOFR, such as quantitative guidance on business location selection and/or account selection. In the management assessment of ICOFR under the attestation standards established by the AICPA, there is no such guidance. Accordingly, based on the quantitative guidance which provides an approximate measure for the scope of assessment of internal control over business processes, we used a measure of approximately two-thirds of total sales and others for the selection of significant locations and business units.

[TRANSLATION]

Internal Control Report

- 1

Framework of Internal Control Over Financial Reporting

Masayuki Sato, Representative Director, Chairman and Chief Executive Officer (CEO), and Kiyotaka Terajima, Chief Financial Officer (CFO) of JGC Holdings Corporation (formerly JGC Corporation) (“the Company”) are responsible for establishing and maintaining adequate internal control over financial reporting as defined in the rule “On the Revision of the Standards and Practice Standards for Management Assessment and Audit concerning Internal Control Over Financial Reporting (Council Opinions)”. Because of its inherent limitations, internal control over financial reporting (“ICOFR”) may not completely prevent or detect misstatements.
- 2

Assessment Scope, Timing and Procedures

We have assessed our ICOFR as of March 31, 2020 in accordance with assessment standards for internal control over financial reporting generally accepted in Japan. We assessed the design and operation of our company-level control and based on this assessment, we analyzed business processes within the scope of the internal control to be assessed, identified a key control that would have a material impact on the reliability of financial reporting and assessed whether the basic components of internal control are operating with regard to the key control. We assessed the effectiveness of ICOFR of the Company, consolidated subsidiaries and equity-method affiliates to the extent necessary in light of their degree of impact on the reliability of financial reporting. In assessing the effectiveness of internal control, we decided on reasonable scope of assessment for the significant business processes in light of their degree of quantitative and qualitative impact on financial reporting based on the assessment of the company-level control. Locations and business units that did not have a material effect on financial reporting were excluded from the scope of assessments. In assessing the period-end financial reporting process, we decided on reasonable scope of assessment in light of its degree of quantitative and qualitative impact on financial reporting in a similar manner as company-level control. In assessing the business processes other than described above, based on the assessment of the company-level controls, we assessed the significant business locations based on sales levels until combined sales amounts reach approximately two-thirds on a consolidated basis and the business processes which impact the accounts (sales, accounts receivable and inventory) that were closely associated with the significant business locations’ business objectives.
- 3

Results of Assessment

As a result of the above assessment, the Company’s management has concluded that, as of March 31, 2020, the Company’s ICOFR was effective.
- 4

Supplementary Information

Not applicable.
- 5

Other

Not applicable.

Independent Auditor’s Report on the financial Statements and Internal Control Over Financial Reporting (Translation)

NOTE

The following is an English translation of the Independent Auditor’s Report on the financial Statements and Internal Control Over Financial Reporting filed under the Financial Instruments and Exchange Act in Japan (“the Act”). This report is presented merely as supplemental information.

There are differences between an audit of ICOFR under the Act and one conducted under the attestation standards established by the American Institute of Certified Public Accountants (“the AICPA”). In an audit of ICOFR under the Act, the auditor expresses an opinion on management’s report on ICOFR and does not express an opinion on the company’s ICOFR directly. In an audit of ICOFR under the attestation standards established by the AICPA, the auditor expresses an opinion on the company’s ICOFR directly.

Also in an audit of ICOFR under the Act, there is detailed guidance on the scope of an audit of ICOFR, such as quantitative guidance on business location selection and/or account selection. In an audit of ICOFR under the attestation standards established by the AICPA, there is no such guidance. Accordingly, based on the quantitative guidance which provides an approximate measure for the scope of assessment of internal control over business processes, we used a measure of approximately two-thirds of total sales and others for the selection of significant locations and business units.

[TRANSLATION]	
	Independent Auditor’s Report
To the Board of Directors of JGC Corporation	June 26, 2020
	KPMG AZSA LLC
	Designated Limited Liability Partner, Engagement Partner, Certified Public Accountant: Michitaka Shishido
	Designated Limited Liability Partner, Engagement Partner, Certified Public Accountant: Takemitsu Nemoto
	Designated Limited Liability Partner, Engagement Partner, Certified Public Accountant: Yoshinori Saito

Audit of Consolidated Financial Statements

Pursuant to the first paragraph of Article 193-2 of the Financial Instruments and Exchange Act in Japan (“the Act”), we have audited the consolidated financial statements of JGC Corporation (the “Company”) and its consolidated subsidiaries included in the Financial Section, namely, the consolidated balance sheet as of March 31, 2019, the consolidated statement of income, consolidated statement of comprehensive income, consolidated statement of changes in net assets and consolidated statement of cash flows for the fiscal year from April 1, 2018 to March 31, 2019, and a summary of significant accounting policies, other explanatory information and consolidated supplementary schedules.

Management’s Responsibility for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with accounting principles generally accepted in Japan, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatements, whether due to fraud or error.

Auditor’s Responsibility

Our responsibility is to independently express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in Japan. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the entity’s preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, while the objective of the financial statement audit is not for the purpose of expressing an opinion on the effectiveness of the entity’s internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of JGC Corporation and its consolidated subsidiaries as of March 31, 2019 and their financial performance and cash flows for the year ended March 31, 2019, in accordance with accounting principles generally accepted in Japan.

Audit of Internal Control

Pursuant to the second paragraph of Article 193-2 of the Financial Instruments and Exchange Act in Japan, we also have audited the Company’s report on internal control over financial reporting of the consolidated financial statements of JGC Corporation as of March 31, 2019 (“Internal Control Report”).

Management’s Responsibility for the Internal Control Report

Management is responsible for the design and operation of internal control over financial reporting and the preparation and fair presentation of the Internal Control Report in conformity with assessment standards for internal control over financial reporting generally accepted in Japan. Internal control over financial reporting may not completely prevent or detect financial statement misstatements.

Auditor’s Responsibility

Our responsibility is to express an opinion on the Internal Control Report based on our internal control audit. We conducted our internal control audit in accordance with auditing standards for internal control over financial reporting generally accepted in Japan. Those standards require that we comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the Internal Control Report is free from material misstatement.

An internal control audit involves performing procedures to obtain audit evidence about the assessment of internal control over financial reporting in the Internal Control Report. The procedures selected depend on the auditor’s judgment, including significance of effect on the reliability of financial reporting. Also, an internal control audit includes evaluating the appropriateness of the scope, procedures and result of the assessment determined and presented by management as well as evaluating the overall internal control report presentation.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Opinion

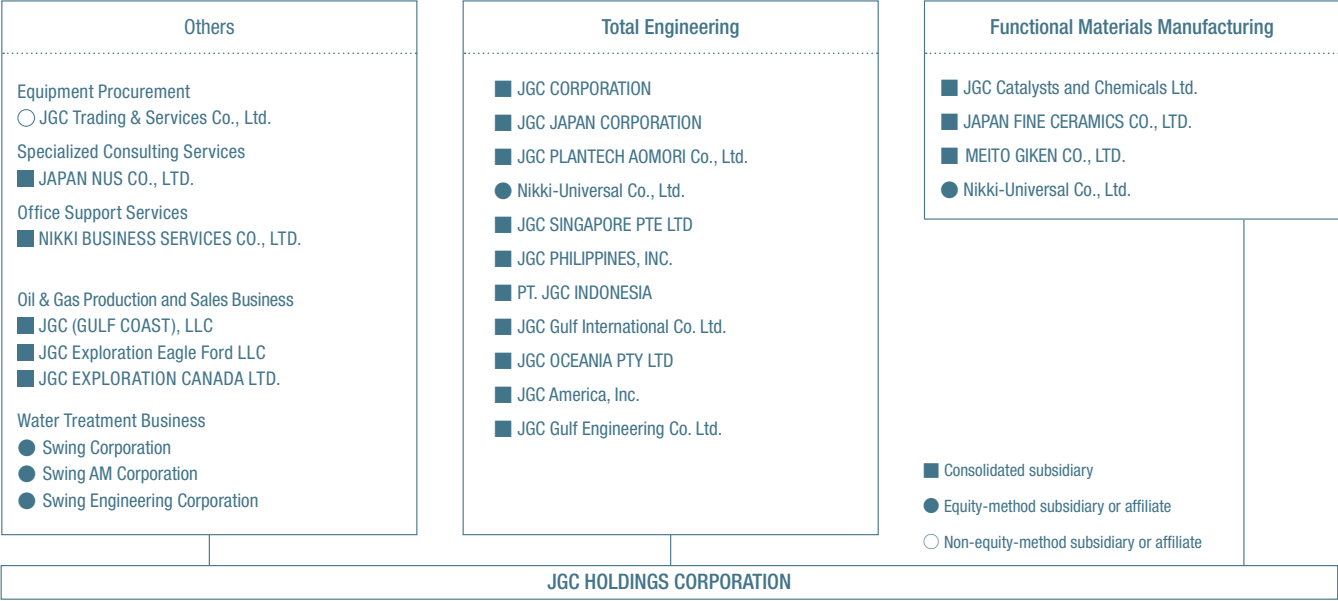
In our opinion, the Internal Control Report, in which JGC Corporation states that internal control over financial reporting was effective as of March 31, 2019, presents fairly, in all material respects, the assessment of internal control over financial reporting in conformity with assessment standards for internal control over financial reporting generally accepted in Japan.

Interest

The firm and the engagement partners do not have any interest in the Company for which disclosure is required under the provisions of the Certified Public Accountants Act of Japan.

JGC Group

As of March 31, 2020



Total Engineering					
Business	Company	Country	Capital	Proportion of Voting Rights Held	Other
Engineering & Construction Services	JGC CORPORATION	Japan	¥1,000,000,000	100%	
	JGC JAPAN CORPORATION	Japan	¥1,000,000,000	100%	
	JGC SINGAPORE PTE LTD	Singapore	S\$2,100,000	100%	
	JGC PHILIPPINES, INC.	Philippines	PHP1,300,000,000	100%	
	PT. JGC INDONESIA	Indonesia	US\$3,270,000	49%	JGC HOLDINGS CORPORATION 34% JGC JAPAN CORPORATION 14%
	JGC Gulf International Co. Ltd.	Saudi Arabia	SAR262,500,000	100%	JGC HOLDINGS CORPORATION 94% JGC SINGAPORE 5%
	JGC OCEANIA PTY LTD	Australia	A\$847,000,000	100%	
	JGC America, Inc.	U.S.A.	US\$51,000	100%	
	JGC Gulf Engineering Co. Ltd.	Saudi Arabia	SAR500,000	75%	
	JGC PLANTECH AOMORI Co., Ltd.	Japan	¥50,000,000	100%	JGC JAPAN CORPORATION 100%
Maintenance Services					
Process Licensing Services	Nikki-Universal Co., Ltd.	Japan	¥1,000,000,000	50%	

Functional Materials Manufacturing				
	Company	Country	Capital	Proportion of Voting Rights Held
	JGC Catalysts and Chemicals Ltd.	Japan	¥1,800,000,000	100%
	JAPAN FINE CERAMICS CO., LTD.	Japan	¥300,000,000	100%
	MEITO GIKEN CO., LTD.	Japan	¥10,000,000	100%
	Nikki-Universal Co., Ltd.	Japan	¥1,000,000,000	50%

Others				
Business	Company	Country	Capital	Proportion of Voting Rights Held
Equipment Procurement	JGC Trading and Services Co., Ltd.	Japan	¥40,000,000	24%
Specialized Consulting Services	JAPAN NUS CO., LTD.	Japan	¥50,000,000	88%
Office Support Services	NIKKI BUSINESS SERVICES CO., LTD.	Japan	¥1,455,000,000	100%
Water Treatment Business	Swing Corporation	Japan	¥5,500,000,000	33%
	Swing AM Corporation	Japan	¥100,000,000	—
	Swing Engineering Corporation	Japan	¥300,000,000	—
Oil & Gas Production and Sales Business	JGC (GULF COAST) , LLC	U.S.A.	US\$77,350,000	100%
	JGC Exploration Eagle Ford LLC	U.S.A.	US\$65,000,000	100%
	JGC EXPLORATION CANADA LTD.	Canada	C\$160,885,000	100%

Outline of JGC

As of March 31, 2020

Established	October 25, 1928
Capital	¥23,554,870,000
Number of Employees	236 (Consolidated: 7,607)

Major Shareholders		
	Number of shares (Thousands)	Percentage of total (%)
The Master Trust Bank of Japan, Ltd. (Trust Account)	37,264	14.76
Japan Trustee Services Bank, Ltd. (Trust Account)	27,083	10.73
JGC Trading and Services Co., Ltd.	12,112	4.79
JGC-S SCHOLARSHIP FOUNDATION	8,433	3.34
JP MORGAN CHASE BANK 385632(Standing Proxy: Mizuho Bank, Ltd.)	5,556	2.20
Sumitomo Mitsui Banking Corporation	5,500	2.17
Trust & Custody Services Bank, Ltd. (Securities Investment Trust Account)	4,150	1.64
Japan Trustee Services Bank, Ltd. (Trust Account 5)	3,926	1.55
JP MORGAN CHASE BANK 385151(Standing Proxy: Mizuho Bank, Ltd.)	3,778	1.49
THE BANK OF NEW YORK 133972(Standing Proxy: Mizuho Bank, Ltd.)	3,451	1.36

- (Notes)
- Number of shares is rounded down to the nearest thousand. Percentage of total is rounded down to the second decimal place.
 - The Company holds 6,748 thousand shares (2.60%) of treasury stock, but this is excluded from the above list of major shareholders.
 - Percentage of total is calculated excluding treasury stock.

Authorized Shares	600,000,000
Issued and Outstanding Shares	259,110,861
Number of Shareholders	19,613
Administrator of the Shareholders' Register	Mitsubishi UFJ Trust and Banking Corp. 1-4-5, Marunouchi, Chiyoda-ku, Tokyo 100-8212, Japan

