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### Financial Results for Fiscal 2023

# **Business Overview**

May 14, 2024 Tadashi Ishizuka Representative Director, President and COO JGC Holdings Corporation

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### Contents

#### **1. Total Engineering Business**

- 1. FY2024 Business Environment Outlook
- 2. Orders Target for FY2024
- 3. Progress in Major Projects
- 4. Recording of Loss: Background and Details
- 5. Recording of Loss: Causes, Issues, and Response (1)
- 6. Recording of Loss: Causes, Issues, and Response (2)
- 7. Strengthening JGC Corporation's Management team

#### 2. Functional Materials Manufacturing Business

- 1. FY2023 Results and FY2024 Targets
- 2. Moving Forward with Capital Investment to Strengthen Production Capacity





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# **Total Engineering Business**

### **FY2024 Business Environment Outlook**

### 🖰 Overseas

#### **Transitional energy**

Demand for natural gas (including LNG) remains high, driven by increasing energy demand, energy security issues, and
pursuit of decarbonization. Clients are moving ahead with capital investment plans while taking environmental measures such
as E-Drive (installing electric motors) and CCS facilities.

#### Sustainability, industrial infrastructure, and other fields

- National policies and other support is driving progress in plans involving hydrogen, ammonia, SAF, CCS, synthetic methane (e-methane), and the like.
- Steady progress is being made in capital investment plans for storage battery components, data centers, and similar applications in North America, Asia, and elsewhere.

Some clients whose initial investment costs had risen due to higher interest rates and construction expenses are considering the timing of investment decisions carefully.

### 🚽 Domestic

- In sustainable areas such as hydrogen, SAF, circular economy, and storage batteries, some client plans will apply government subsidies, but these investment plans may be postponed due to the time required to receive the subsidies, in consideration of factors such as higher investment costs.
- We are seeing continued capital investment for new modalities such as biopharmaceuticals, including high-potency formulations.
- This year is expected to be a major year for the Maintenance sector.

### **Orders Target for FY2024**

## Thoroughly selecting orders in the favorable plant market, considering a moderate number of orders.

FY2024

**Consolidated orders target :** 



### [Major projects to focus in FY2024]

Segment	Overseas : <b>840</b> Billion Yen	Domestic : <b>130</b> Billion Yen
Transition Energy	• UAE LNG • Africa LNG etc.	
Sustainable	<ul> <li>Asia CCS</li> <li>North America e-methane (FEED) etc.</li> </ul>	<ul> <li>Waste tire recycling plant</li> <li>Storage battery installation</li> <li>SAF (FEED) etc.</li> </ul>
Industrial and others	<ul> <li>North America</li> <li>Battery components manufacturing plant</li> <li>(FEED) etc.</li> </ul>	<ul> <li>Lab for Biomanufacturing</li> <li>Pharmaceutical plants</li> <li>Hospitals</li> <li>Food related factory</li> <li>Nuclear related plants</li> <li>Maintenance etc.</li> </ul>

**970** Billion Yen

5

### **Progress in Major Projects**

#### **Overseas**

#### LNG Canada

#### Starting Commercial Operations Middle of 2025 :

Construction site work is at its peak. Preparations for Gas-in to the 1st train are underway, and the transition from construction to the **commissioning phase** is progressing.



#### Basrah Refinery Upgrading in Iraq

Scheduled completion: 2025

#### Progress

The fabrication of equipment and transportation to the construction site are mostly complete. All modules have arrived at the construction site, and installation work is progressing.



#### Domestic

#### **API Facility in Shizuoka**

#### Completion : 2024

#### Progress

Construction of the building and installation of manufacturing equipment within the building have been completed. **Commissioning of the equipment is underway**, aiming for

completion in October.



#### **Nearshore FLNG in Malaysia**

#### Completion : 2027 Progress :

Design work is at its peak. Main equipment are being made and some are shipped to the construction site.



#### Ethylene plants in U.S.A

Completion : undisclosed Progress :

Awarded in FY2022. Design work is at its peak. At the construction site, **focus is on foundation work**, and equipment is arriving at the site in sequence.



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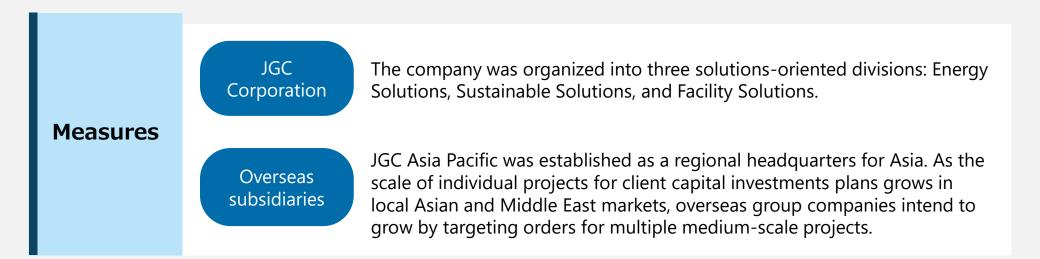
### **Recording of Loss: Background and Details**

 Business diversification is being pursued in five areas, including energy transition, in line with the medium-term business plan and long-term management vision (BSP 2025 and 2040 Vision).

#### Background

• The Group is also strengthening the framework for regional management, seeking business expansion through more capable local sales and project execution in growth markets.

#### These goal were promoted with speed



### **Recording of Loss: Causes, Issues, and Response (1)**

Causes	JGC Corp. was working to expand business, as well as the JGC Group was engaged in many sustainability-oriented business development feasibility studies. Therefore, it was unable as an organization to allocate suitable engineering resources. This led to inconsistent engineering quality in some EPC projects executed in Yokohama, resulting in delays. One negative development led to another, and as more resources were allocated to catch up, profitability declined.			
Issues	Suitable human resource allocation to execute design work and ensure quality			
	More effective human resource management			
Response	(1) Refining the criteria for determining which projects to pursue. We are focusing more closely on "pursuing projects that ensure profitability (current and medium-term) and have greater certainty", on "proper resource allocation", and on "work that will be valuable in the future".			
	(2) In resource allocation, we are giving the highest priority to reliable project execution, considering what is optimal for JGC Corp. instead of what is optimal for particular divisions. Based on (1), we are carefully determining promising FS and FEED, as well as other projects to bid. We will allocate resources accordingly.			
	(3) At overseas Subsidiaries (in the Philippines and India), we are expanding and reinforcing these offices' roles as engineering centers.			

### **Recording of Loss: Causes, Issues, and Response (2)**

Causes	As the scale of individual projects for client capital investments plans grows in local Asian and Middle East markets, we are securing and executing multiple medium-scale projects. However, our subsidiaries in Saudi Arabia and Indonesia are still in the process of building suitable risk management systems and project execution capabilities. As a result, profitability declined in some EPC projects.
Issues	Undertaking projects consistent with overseas group companies' execution capabilities
Response	<ul> <li>Pause efforts to build a stronger framework for regional management</li> <li>Redefining roles of each overseas subsidiaries, whether an engineering center (providing engineering support for JGC Corp. projects), a contracting entity for JGC Corp. projects, or in charge of securing and executing local EPC projects.</li> <li>As for the projects targeted by our overseas subsidiaries as a base for securing and executing local EPC projects and in fields where we hold a competitive advantage in technology or price.</li> </ul>

### **Strengthening JGC Corporation's Management team**

To enhance the implementation of countermeasures for issues (1) and (2), Mr. Yamada, the President of JGC Japan Corporation, has been appointed as the Representative Director and Senior Executive Vice President of JGC Corporation.

This aims to strengthen the management team.



In 1983, Mr. Yamada joined JGC Corporation (now JGC Holdings Corporation). He worked in the sales department for many years, leading efforts to explore new markets and clients in both domestic and African regions.

In 2018, he became an executive officer and held key positions in the domestic infrastructure division. As the head of JGC Japan Planning Office, he successfully led the integration of the former JGC domestic business division with group domestic subsidiaries. In 2019, following the transition to a holding company structure, he assumed the role of Representative Director and President at JGC Japan Corporation (current position). In 2021, he also became a Member of the Board at JGC Holdings Corporation (current position).

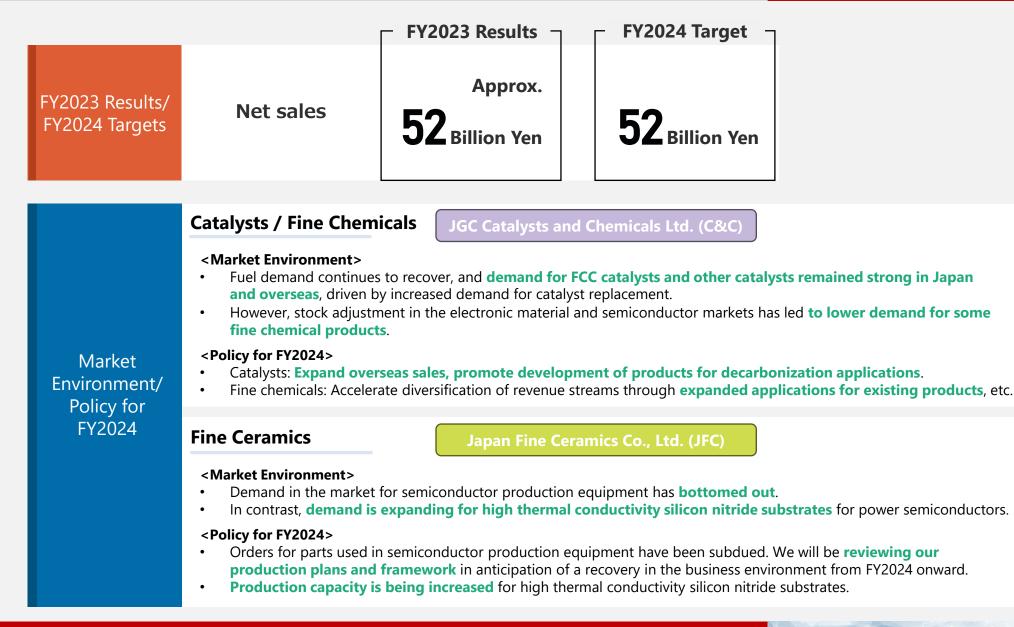


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# **Functional Materials Manufacturing**

### **Business**

### FY2023 Results and FY2024 Targets



12

#### **Moving Forward with Capital Investment to Strengthen Production Capacity**

Promoting investment to expand functional materials manufacturing business for functional materials, in line with the medium-term plan and long-term management vision

#### New sites acquired in Niigata and Fukuoka

JGC Catalysts and Chemicals Ltd. (C&C)

To expand Niigata and Kitakyushu operations, a site at the Eastern Industrial Park in Agano, Niigata, was acquired in June 2023, followed in July by a site in Wakamatsu in the city of Kitakyushu, Fukuoka.

#### <Overview>

- The sites will support JGC C&C in meeting client carbon-neutrality initiatives and a faster pace of digital transformation. This is part of
  investment in anticipation of greater demand for catalysts for carbon-neutral fuels (synthetic fuels), chemical recycling catalysts and
  adsorbents, and new fine chemical products such as high-speed communications materials and polishing particles for semiconductor applications.
- A total of about 20 billion yen in facility investment is planned between 2025 and 2030, which includes the current purchase of these sites.

### New plant underway for increased production of high thermal conductivity silicon nitride substrates for power semiconductors

A new plant under construction at a site recently acquired by JGC Holdings in Tomiya, Miyagi, will increase production of high thermal conductivity silicon nitride substrates for EV power semiconductors.

#### <Overview>

- Besides having high thermal conductivity, JFC's silicon nitride substrates for power semiconductors have **outstanding mechanical and insulation properties**. These have been mass-produced since 2020.
- **The new plant was planned** in order to meet requests for higher production volume from automakers and manufacturers of power semiconductor circuit boards. It is **scheduled to be fully operational in 2025**.

#### Japan Fine Ceramics Co., Ltd. (JFC)



Groundbreaking ceremony, January 2024



Rendering of the new plant



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## Appendix - Status of BSP2025 -

### **Progress and Outlook in the Three Key Strategies**

#### Maintaining the same policies for key strategies

	Current understanding, outlook	Future policies
Transformation of EPC operations	<ul> <li>Rebuilding our framework for executing EPC projects is a pressing need.</li> <li>The market for large-scale EPC projects is booming, especially for LNG projects.</li> <li>Steadily securing pharmaceutical projects, another booming market.</li> <li>In Asia, we have struggled with projects aimed at local production for local consumption.</li> </ul>	<ul> <li>In response to the booming market, narrow down projects to pursue and allocate resources appropriately.</li> <li>Strengthen the management team of JGC Corporation and take measures to restructure the framework for executing EPC projects.</li> <li>Pause efforts to build a stronger framework for regional management.</li> <li>Review roles of overseas group companies in Asia and elsewhere.</li> </ul>
Expansion of manufacturing business for high- performance functional materials	<ul> <li>Catalyst demand is recovering, driven by a recovery in demand for petroleum products.</li> <li>Carbon and chemical recycling initiatives by domestic manufacturers are accelerating.</li> <li>The semiconductor market slump is bottoming out.</li> <li>Demand for EV components remains strong.</li> </ul>	<ul> <li>Make capital investments for chemical catalysts, fine chemicals, and silicon nitride substrates at the production sites acquired for the two functional materials manufacturing companies.</li> <li>Prepare and streamline production lines in anticipation of a recovery in the semiconductor market.</li> </ul>
Establishment of future engines of growth	<ul> <li>Development of domestic offshore wind power systems have been delayed.</li> <li>We are taking the initiative in hydrogen and ammonia markets and applying government subsidies.</li> <li>SAF demand is beginning to emerge.</li> <li>Data center demand is surging.</li> </ul>	<ul> <li>Strategically select sustainability-oriented projects in Japan.</li> <li>Maintain our hydrogen and ammonia organizations and collaborate on bidding and implementing FS/FEED projects.</li> <li>Execute FS/FEED projects in the advanced industries in collaboration with Exyte.</li> </ul>

### **Progress and Outlook for Growth Strategy Investment**

Approx. 65 billion yen invested (mainly in R&D and facilities) out of 200 billion yen allocated.

Expecting approx. 120 billion yen of investment, Including projects to be invested in FY2024 and beyond (internal investment decisions have already been made).

	Investment results for FY2021-23	Future investment plans from FY2024 onward
Transformation of EPC operations	<ul> <li>Investment in EPC DX, project execution technology</li> <li>Establishment and operation of operation center in India</li> <li>An agreement with IHI Plant Services Corporation for the transfer of pharmaceutical EPC Business, etc.</li> </ul>	
Expansion of manufacturing business for high-performance functional materials	<ul> <li>Investment in high thermal conductivity silicon nitride substrate facilities</li> <li>Acquisition of factory land</li> <li>Renewal and expansion of production facilities, R&amp;D, etc.</li> </ul>	
Establishment of future	<ul> <li>Integnance VR</li> <li>Food tech related</li> <li>Investment in healthcare related field</li> </ul>	• Waste fiber recycling, etc.
engines of growth	<ul> <li>DDR Commercialization</li> <li>Biomanufacturing</li> <li>SAF</li> <li>Ammo</li> <li>CVC, et</li> </ul>	nia related c.

#### **Continue growth strategy investment, including M&As**

### **Note on Future Outlook**

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