

# Project Cargo Summit 2024

## Logistics Challenge on Large Scale Modularized Project

Enhancing planetary health

18/Sep/2024

JGC Corporation

Project Operations Division

Koichi Kaizu



# CONTENTS

- 1. Company Profile – About JGC**
- 2. Modularized Project – Freight Profile**
- 3. Challenges – Project Cargo Logistics**
- 4. Path Forward – How can we contribute**



# 1. Company Profile



Enhancing planetary health



# Company Profile

## JGC HOLDINGS CORPORATION



Established

**1928**

October 25



Total Group  
Manpower

Approx. **9,500**

(EPC Business only)



Capital

**¥23,798 million**

(As of March 31, 2024)



Shares issued  
and outstanding

**259,481,819**

(As of March 31, 2024)



Our Business

### EPC Business

EPC business(engineering, procurement, construction) and maintenance business for various plants and facilities.

### Functional Materials Manufacturing

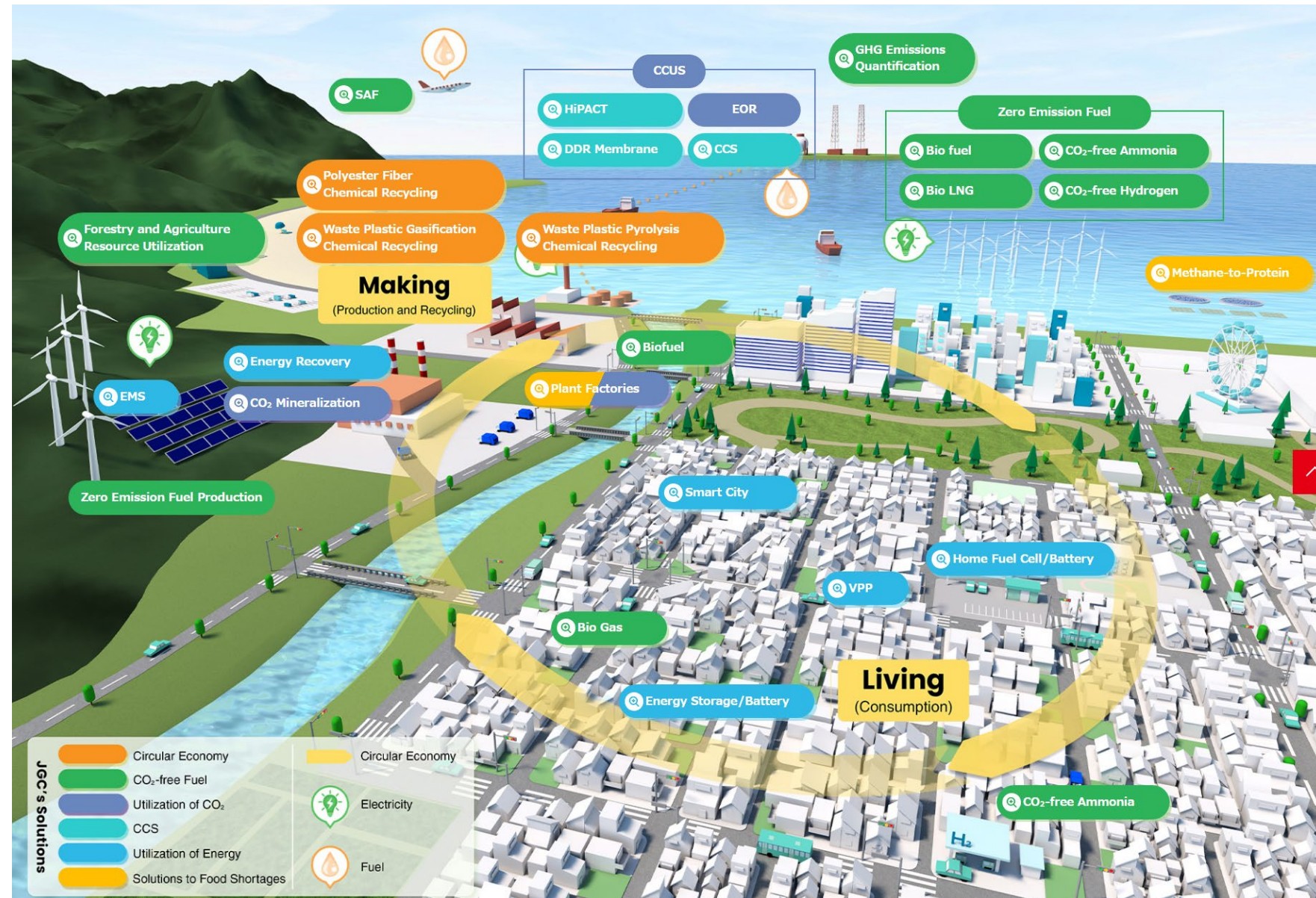
Production and sales of various catalysts, Fine Chemical products and Fine Ceramic products.

# JGC Group's Initiatives - Realizing a Sustainable Society

To help build a sustainable society, JGC Group is commercializing environmental technologies that we have developed independently and with partners.

<https://www.jgc.com/en/esg-hsse/initiative/>

<https://www.jgc.com/en/business/tech-innovation/open-innovation/>



## 2. Modularized Project - Freight Profile

Enhancing planetary health

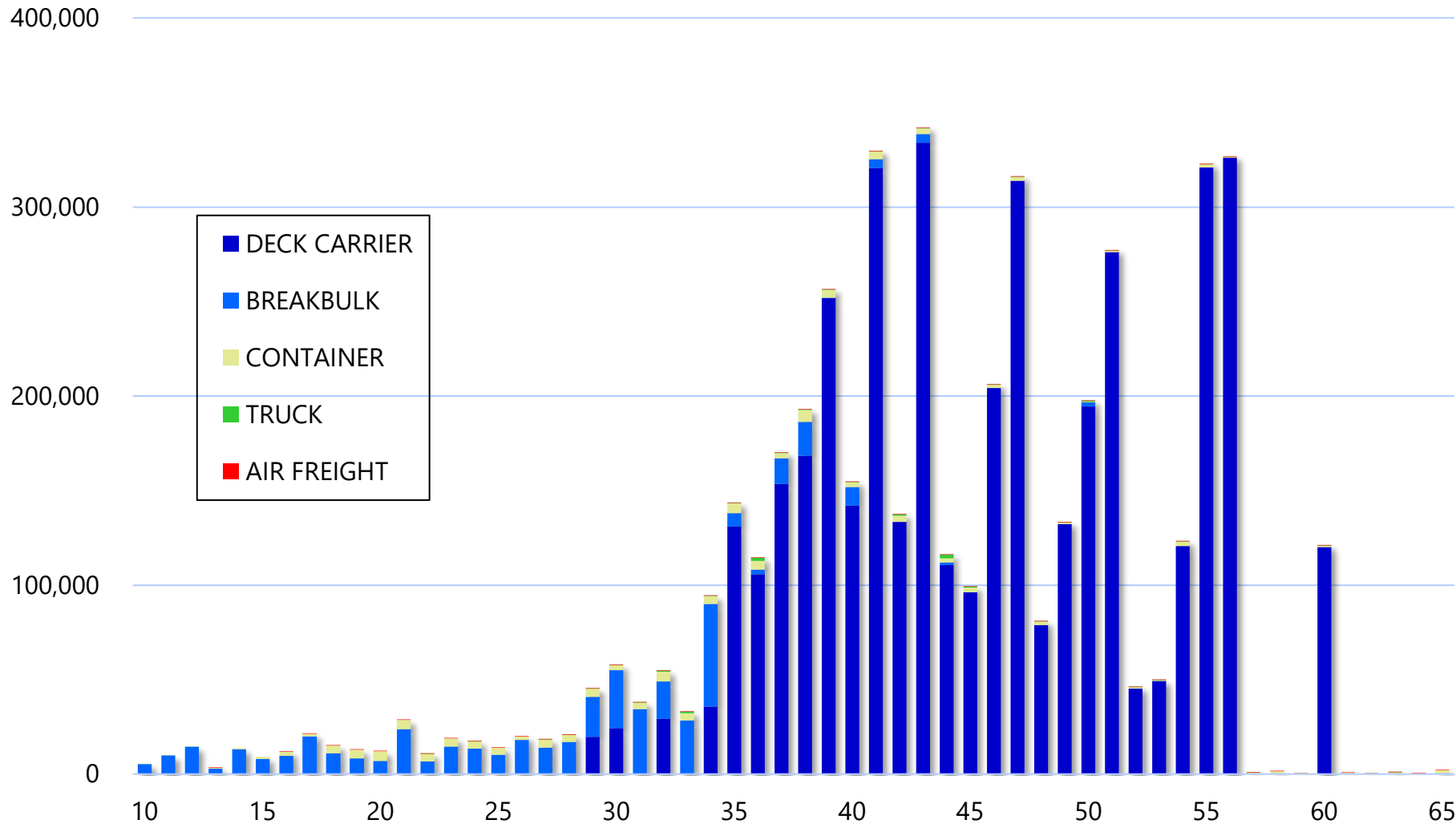


# J.I.Module™ (JGC Integrated Module) – Short Movie



The first half is for free issue & stick built deliveries to various destinations simultaneously, while the second half is for fabricated module deliveries.

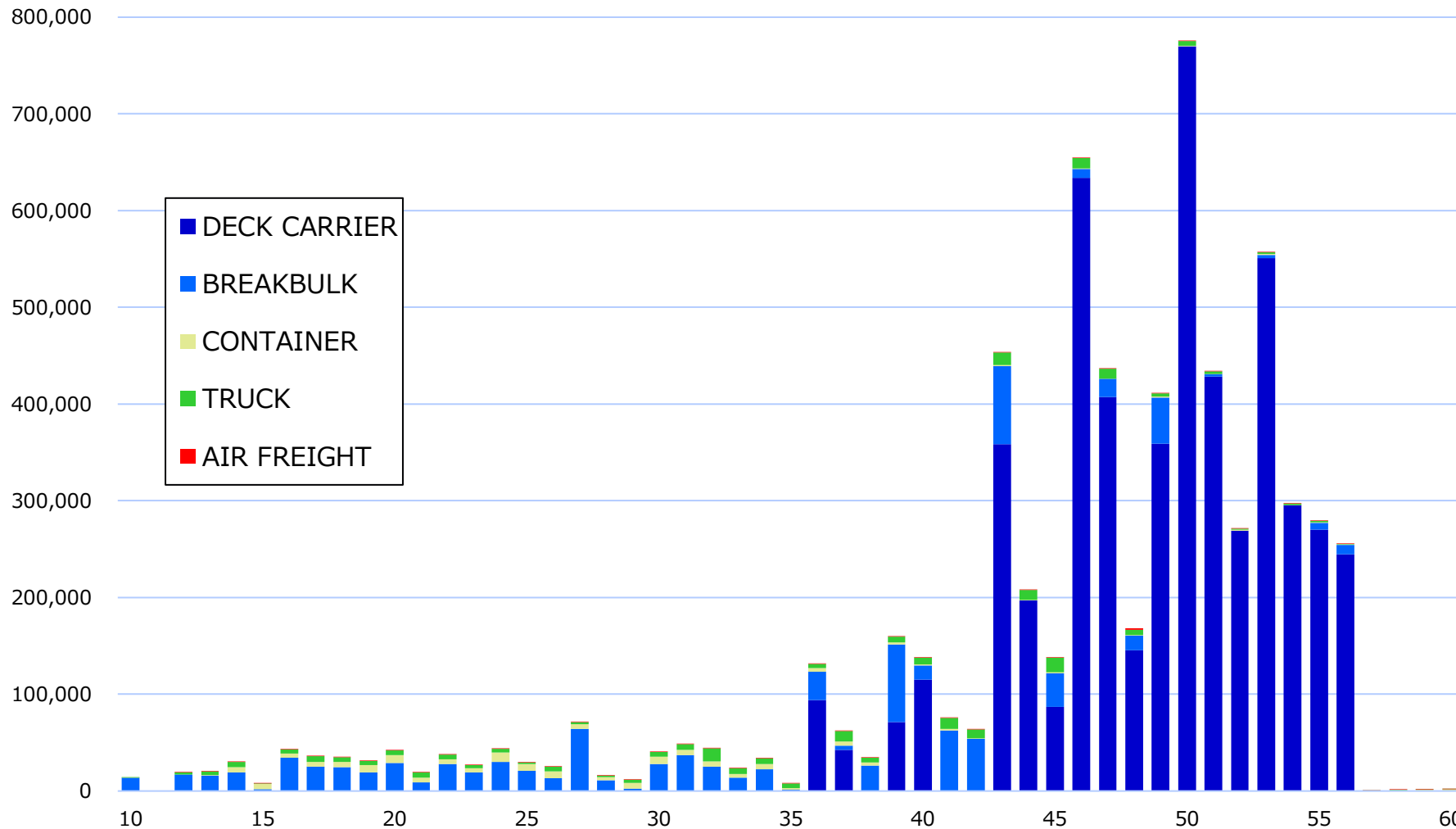
Monthly Delivery in F/T per Transportation Mode





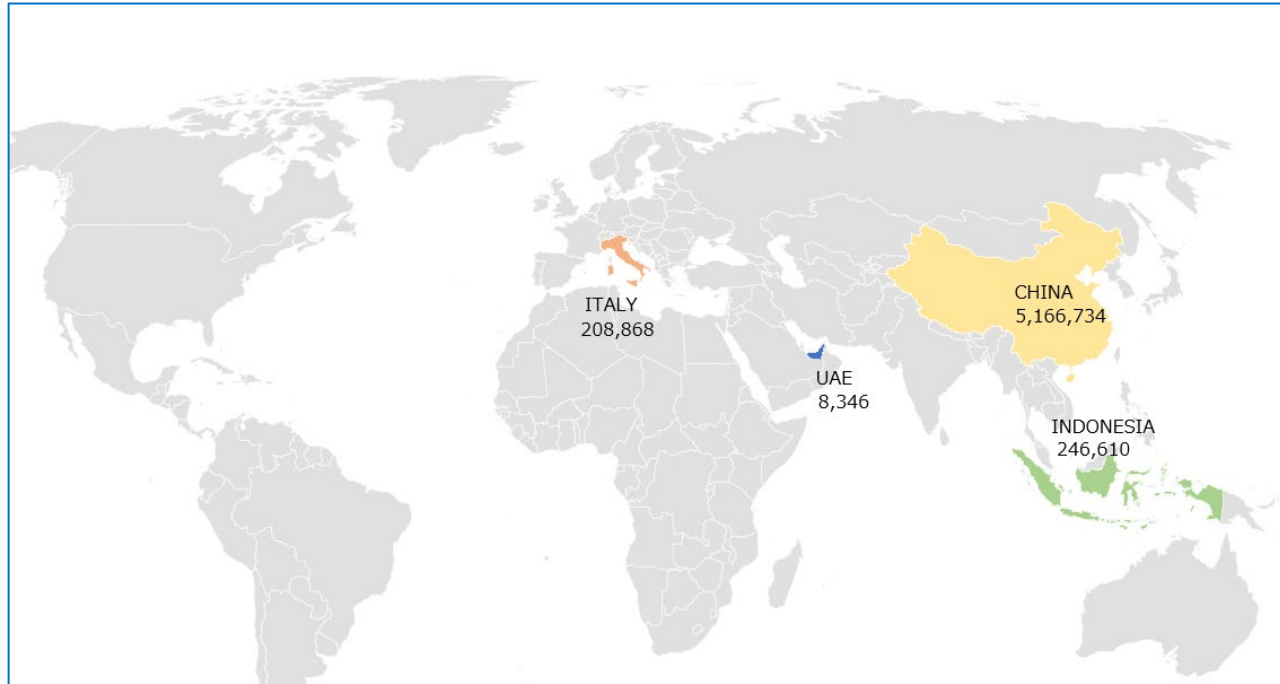
The Modularized Project Cargo Volume is significant, and it is at a level that cannot be compared with conventional projects.

Monthly Delivery in F/T per Transportation Mode

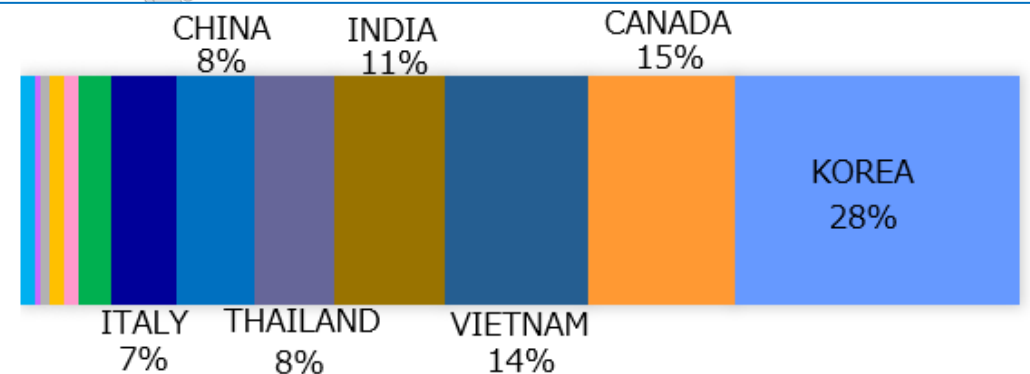
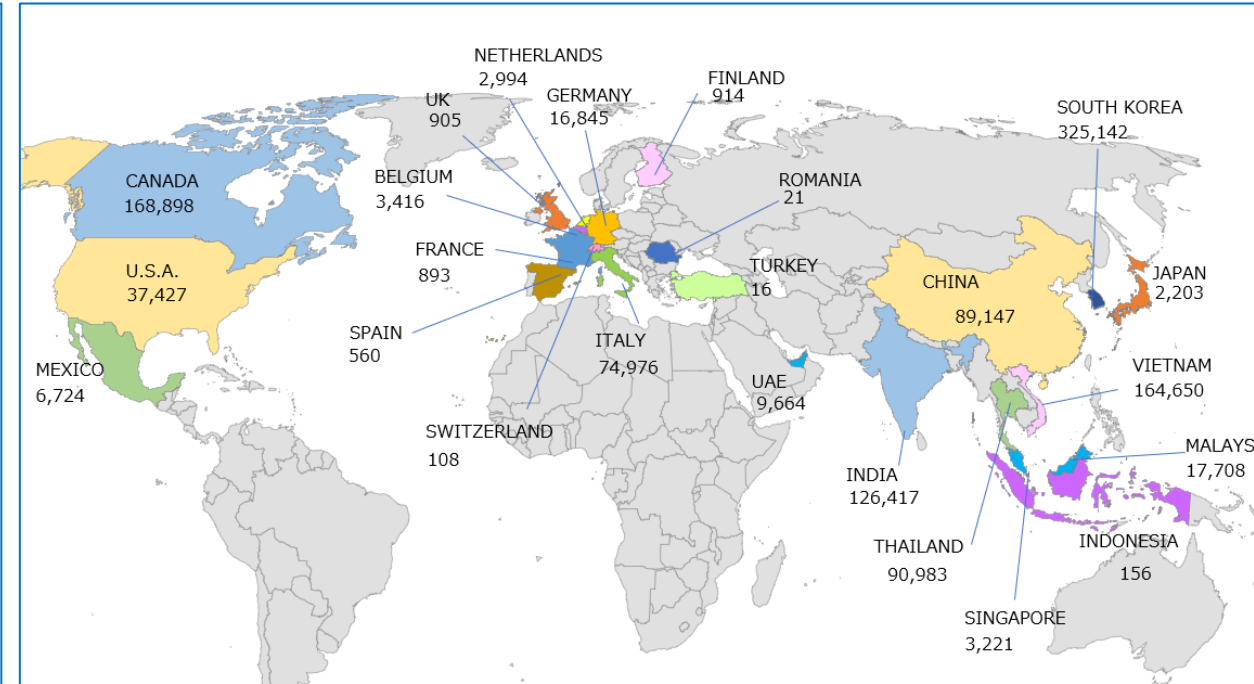


The number of shipments on a modularized project is much greater than that of a conventional project because of the multiple destinations of delivery.

Freight volume per origin (Module)



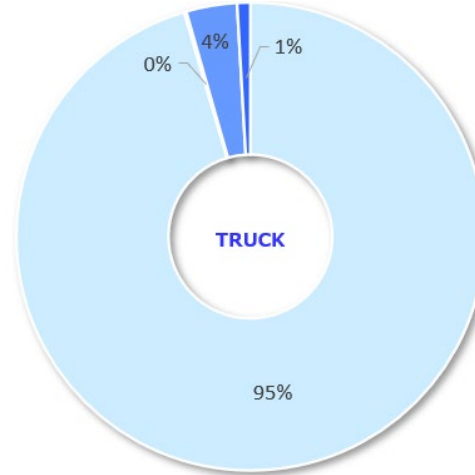
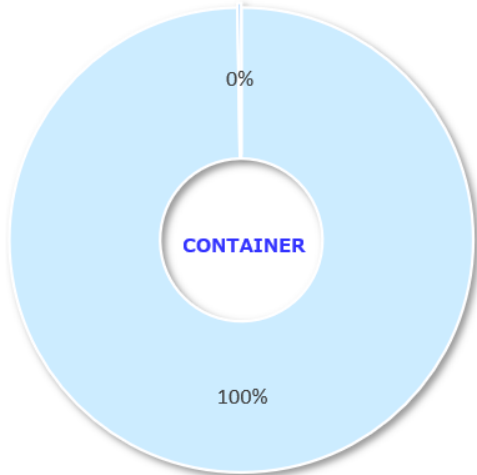
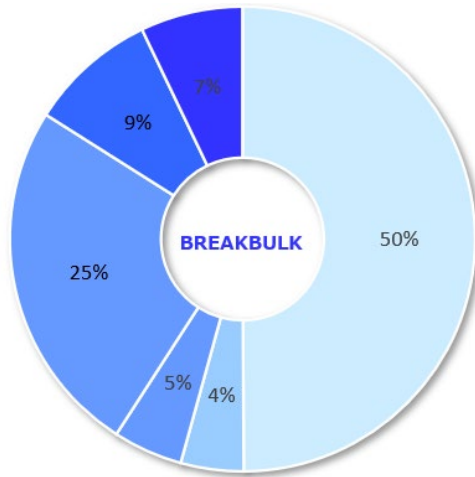
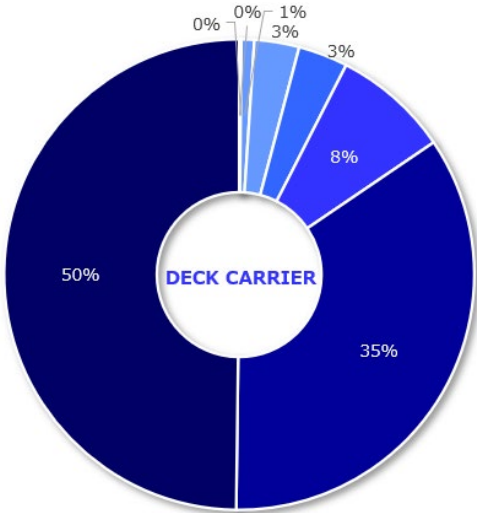
Freight volume per origin (Free Issue & Stick Built)



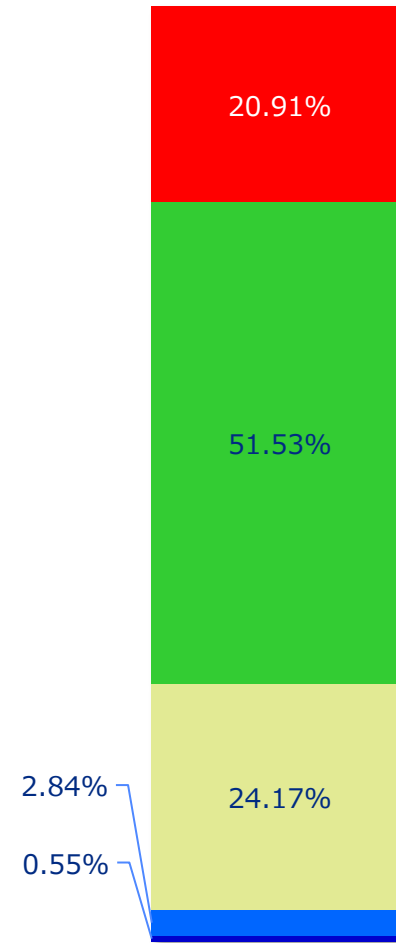
The free issue for Module Yard(s) and stick built at the Site are almost equivalent to the total volume of a conventional project.

### Ratio & Breakdown per Transportation Mode

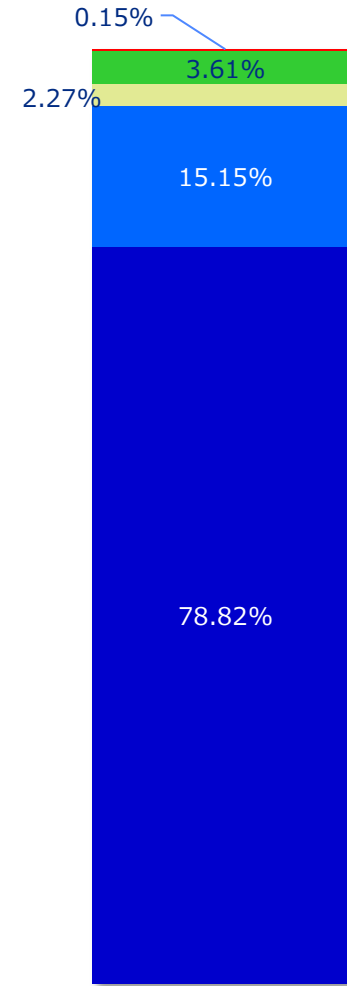
General Over 20ton Over 50ton Over 100ton Over 250ton Over 500ton Over 1,000ton Over 5,000ton



### Shipment Q'ty Ratio



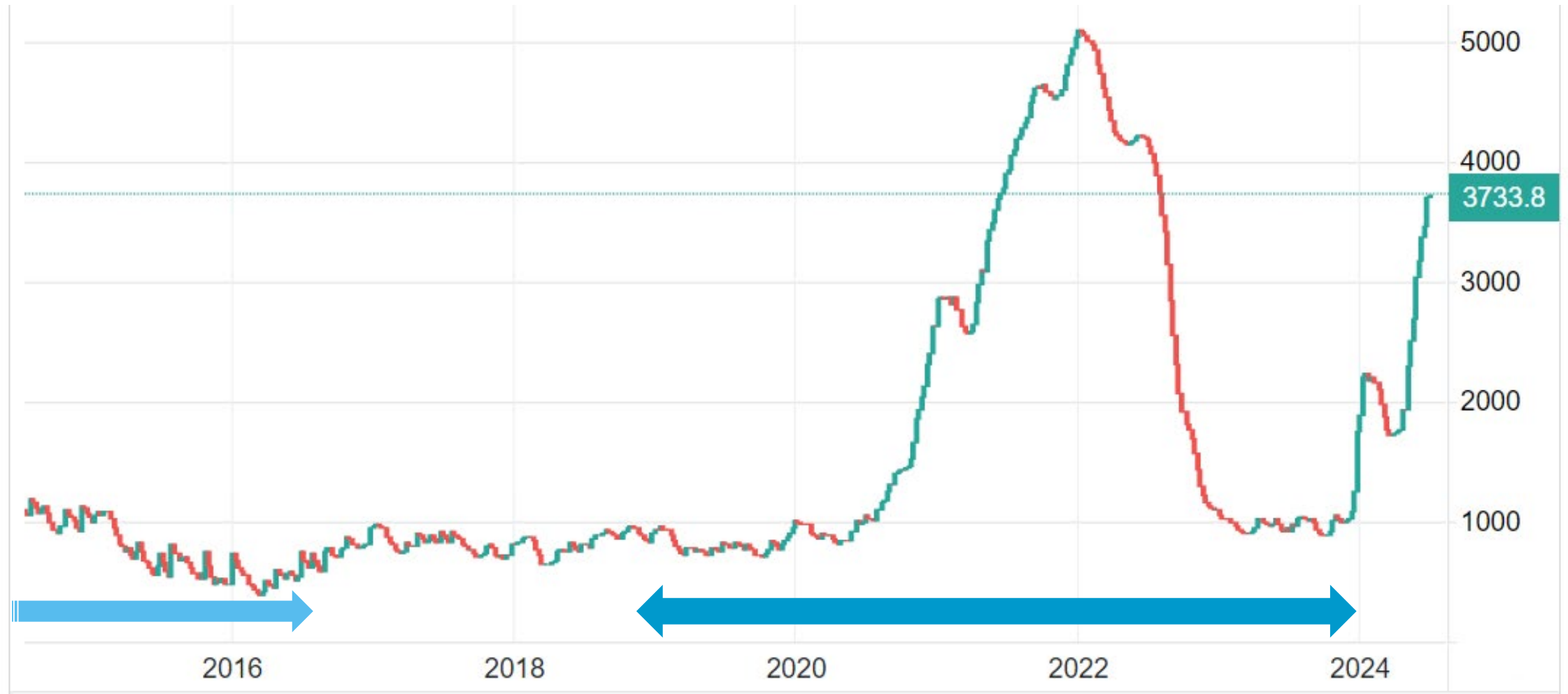
### Volume Ratio



DECK CARRIER BREAKBULK CONTAINER TRUCK AIR FREIGHT

The extreme logistics or supply chain market volatility experienced during the COVID-19 pandemic was not a one-time event.

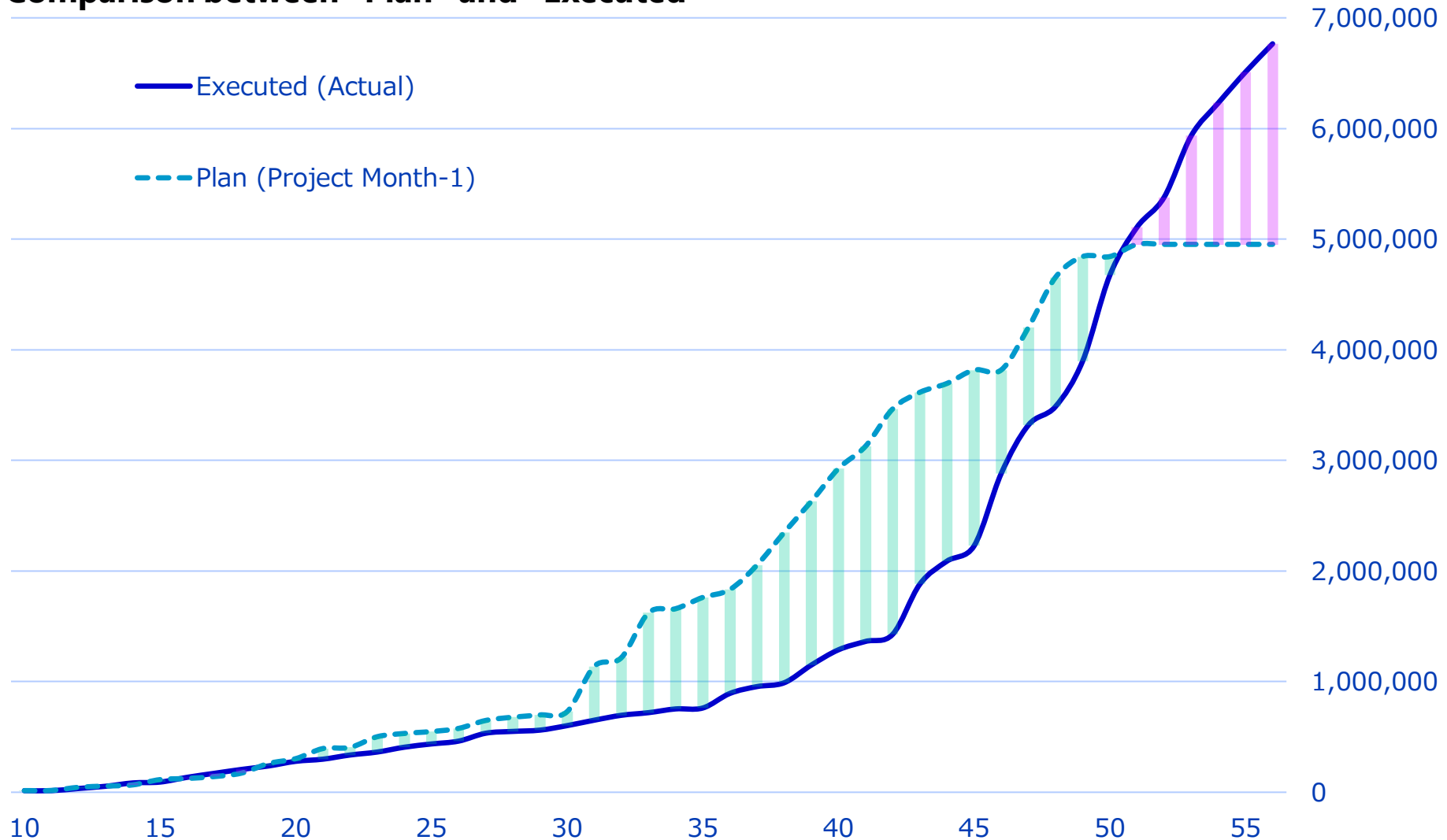
### Container Freight INDEX Y2013 thru Y2024 Jun



Copyright ©2024 TRADING ECONOMICS

Deviations from the initial "Plan" bring a knock-on impact, including an extra resource requirement for readjustment of logistics plan.

### Freight Profile Comparison between "Plan" and "Executed"



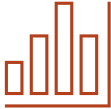



# 3. Challenges – Project Cargo Logistics

Enhancing planetary health

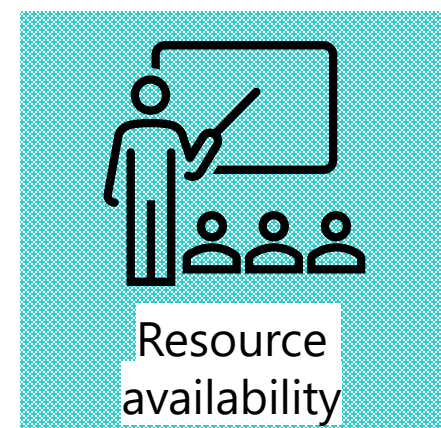
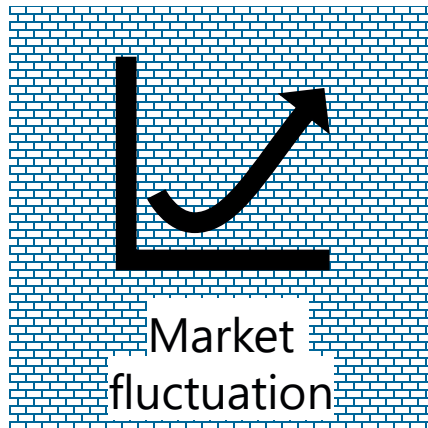
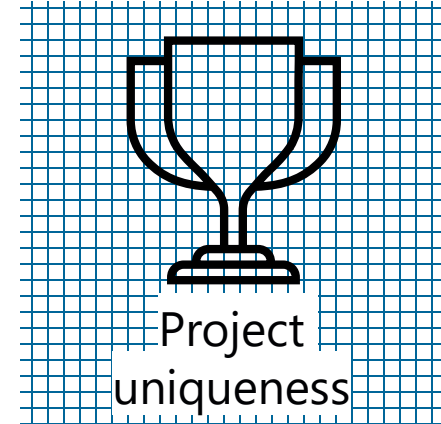
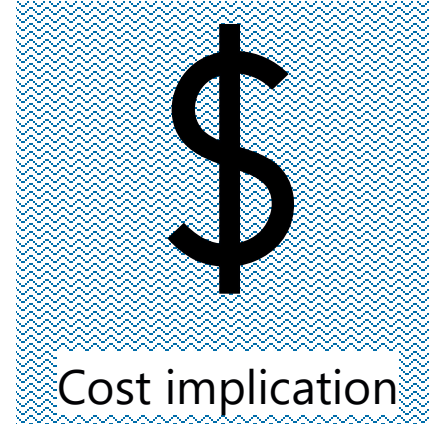
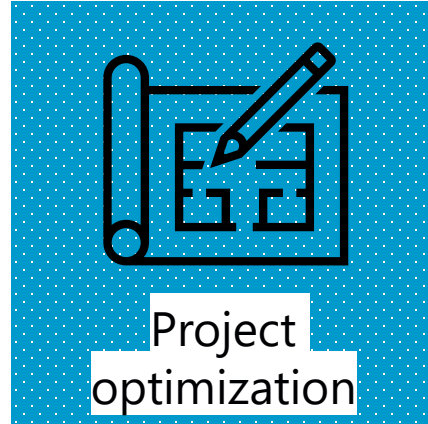


# Variations in large & complex projects induce more challenges in logistics execution management.

## Variance of key element between Plan and Executed

PLAN (Project Month 1)	VS	EXECUTED (Actual)
<b>5.0 Million F/T</b>	 Freight volume	<b>6.8 Million F/T</b>
<b>40 Months</b> 26 Months >30K F/T	 Logistics duration	<b>47 Months</b> 34 Months >30K F/T
<b>17 Vessels</b> Deck Carrier 8 Heavylift 9	 Time chartered vessel	<b>20 Vessels</b> Deck Carrier 13 Heavylift 7
<b>3,600 Days</b> Running days in total	 On hire period	<b>5,300 Days</b> Running days in total

Risk profiling is required for mitigation measures for internal oriented challenges and external factor challenges. However, it may not suffice.





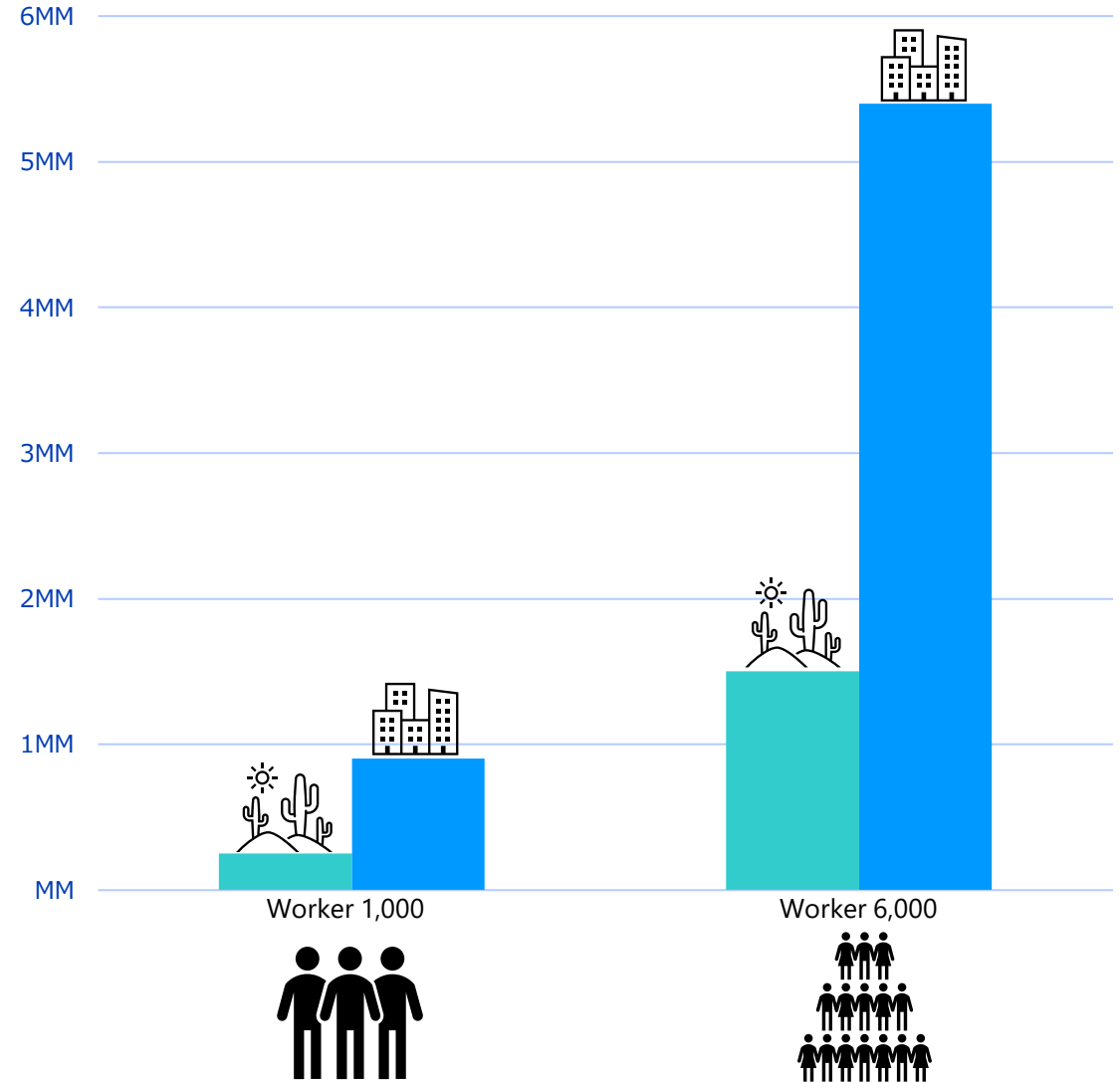
As the scale and complexity of the project increase, the logistics have a significant impact on the overall project schedule and cost.

The on-site management cost becomes even more pronounced in large-scale projects.

Especially, the sites with labor resource concerns have a larger impact, and delays in delivery incur significant cost impacts.

The crisis response capabilities that enable effective mitigation measures to materialize are key capabilities for leading logistics contributions in large-scale projects.

Typical on-site management daily cost gap



# 4. Path Forward – How we can contribute

Enhancing planetary health



An alternative approach provides an effective measure for mega project logistics, while the conventional approach remains valid.



- **Risk Profiling**

Review the emerging logistics-related risks on past projects. Lessons learnt from the experienced issue, problems, difficulty and challenge from past projects. Assessment of near-term, mid-term, and long-term commodity market outlook and insights (freight index, fuel index).



- **Robust Planning**

Implement data-oriented logistics planning, including benchmark data analysis. Freight profiling is very basic data but remains a key factor to initiate the right planning. The accuracy of the freight profile is directly linked to the ability to alter plans when necessary.



- **Adaptive Logistics Management**

Prioritize learning from previous outcomes and decisions to improve future practices. Adaptive logistics management enables us to respond to changes with agility as they occur. Rationalization remains a crucial backbone of project logistics planning. Adaptive logistics management is a value-added approach that diversifies our response to change.



- **Collaboration with Reliable & Trusted Partners**

Partners who can provide us with sustainable service and stable performance when the Project experiences issues, problems, difficulties, and/or challenges. Trust isn't built in a day. Respect and care are JGC's priorities to deepen the constructive relationship with our partners.

# JGC's initiative to upgrade logistics management for future mega projects.

## Last Mile Management

- Extension of delivery goal extension from FOT Laydown to FOT Workforce in conjunction with material management

## Talent Management for Project Cargo Logistics

- Expansion of capability to manage HSSE, Quality, and Compliance, including the support and implementation of decarbonization program
- Expansion of simulation technique usage to reinforce risk prediction and evaluation (ease to run "what if" scenario studies)



## Contact us

Koichi KAIZU

[kaizu.koichi@jgc.com](mailto:kaizu.koichi@jgc.com)

<https://www.jgc.com/en/inquiries/>

<https://www.jgc.com/en/>



Enhancing planetary health

## Contact us

Europe +44-20-4505-0440

America +1-832-591-2000

Asia-Pacific +65-6-227-0122

