

# CHIYODA REPORT 2023

# CONTENTS

1 Purpose / Corporate Philosophy /  
Business Vision

## Value Creation Story

- 2 Chiyoda Group's Purpose
- 6 History of Transformation and Growth
- 8 Chiyoda Group's Strengths
- 10 Chiyoda Group's  
Value Creation Process
- 12 Engineering Value

## Towards Sustainable Growth

- 16 Message from the CEO
- 22 Message from the CFO
- 24 The Medium-term Management Plan:  
Chiyoda's Revitalization Plan  
– Initiatives for Revitalization and  
the Future
- 26 Sustainability Roundtable Discussion
- 32 Human Resource Management
- 38 Accelerating Companywide  
Digital Transformation (DX)

## Business Strategy

- 41 Business Domains / Business Models
- 42 Low Carbon and  
Carbon Recycling Initiatives
- 44 Hydrogen Business
- 46 Energy Management Business
- 48 Life Science Business
- 50 O&M-X Solutions Business

## Foundation Underpinning Sustainable Growth

- 54 Corporate Governance
- 60 Messages from Outside Directors
- 62 Risk Management
- 66 Compliance
- 67 Safety Management
- 68 Intellectual Property Initiatives

## Data Section

- 72 Key ESG Data
- 74 Eleven-Year Summary
- 76 Corporate Information

### Editorial Policy

CHIYODA REPORT 2023 is a communication tool to inform all stakeholders, including shareholders, investors, business partners, customers, directors, employees, and society, of the Chiyoda Group's management policies, business strategies, financial status, corporate values, growth potential, and activities toward realizing a sustainable global society.

We continuously strive to improve the quality of information contained in the report to strengthen stakeholder awareness of the Chiyoda Group.

### Disclaimer

CHIYODA REPORT 2023 is forward-looking, compiled from information available at the time of release, and actual results may differ materially from statements made within it.



Refer to the following website for further information on the Chiyoda Group.

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

## Purpose

# Enriching Society through Engineering Value

## Corporate Philosophy

**Enhance our business in aiming for harmony between energy and the environment and contribute to the sustainable development of society as an integrated engineering company through the use of our collective wisdom and painstakingly developed technology**

Every Chiyoda Group employee engages in corporate activities with this philosophy as we strive for corporate group management that earns the trust and empathy of all of our stakeholders, including shareholders, customers, business partners, employees, and local communities.

## Business Vision

### A Grand Opportunity for the Future

The Chiyoda Group is committed to being an Innovative Company shaping the future of energy and the global environment with passion and cutting-edge technology.

# Why Does the Chiyoda Group Exist?

## Enriching Society through Engineering Value

The Chiyoda Group is committed to realizing 'what society hopes for' through engineering value. We continue to design and engineer, with passion and empathy, a sustainable future for the Earth and prosperity for its inhabitants by unifying technologies and expertise from around the world.

**This is our purpose,  
which will remain through the ages.**

Today's society faces many complex challenges, such as limited global resources, climate change, natural disasters, geopolitical upheaval, limited guaranteed energy reserves, food and water supply instability, and social changes due to declining birthrates and aging populations. None of these issues can be resolved by a single entity, and to prevent them from accumulating for future generations, we must all share a new vision of the future and work together through collective strength.

Since its founding under the philosophy 'Serving Society through Technology' in 1948, the Chiyoda Group has applied its engineering and technological excellence in the construction of infrastructure to benefit society. Under our corporate philosophy of 'Energy and Environment in Harmony,' we continue to collaborate in partnerships with respected international organizations to support the realization of a sustainable global environment.

To conquer these social challenges and progress forward, the Chiyoda Group has expanded its mission and role as an integrated engineering company. We have established 'Enriching Society through Engineering Value' as our purpose, reflecting our desire to 'create a sustainable and prosperous future for people and the Earth by delivering engineering and technological solutions to enrich society and uniting expertise and experience from around the world with passion and empathy.'

Solutions to enrich society evolve over time and the Group will continue developing our vision, advancing innovative technological solutions and collaborating with respected international organizations in a 'One Team' environment for the benefit of communities with diverse cultures, values and abilities around the world. We will continue to meet the challenges of creating a society where all people can live in peace and prosperity to leave a positive legacy for future generations.

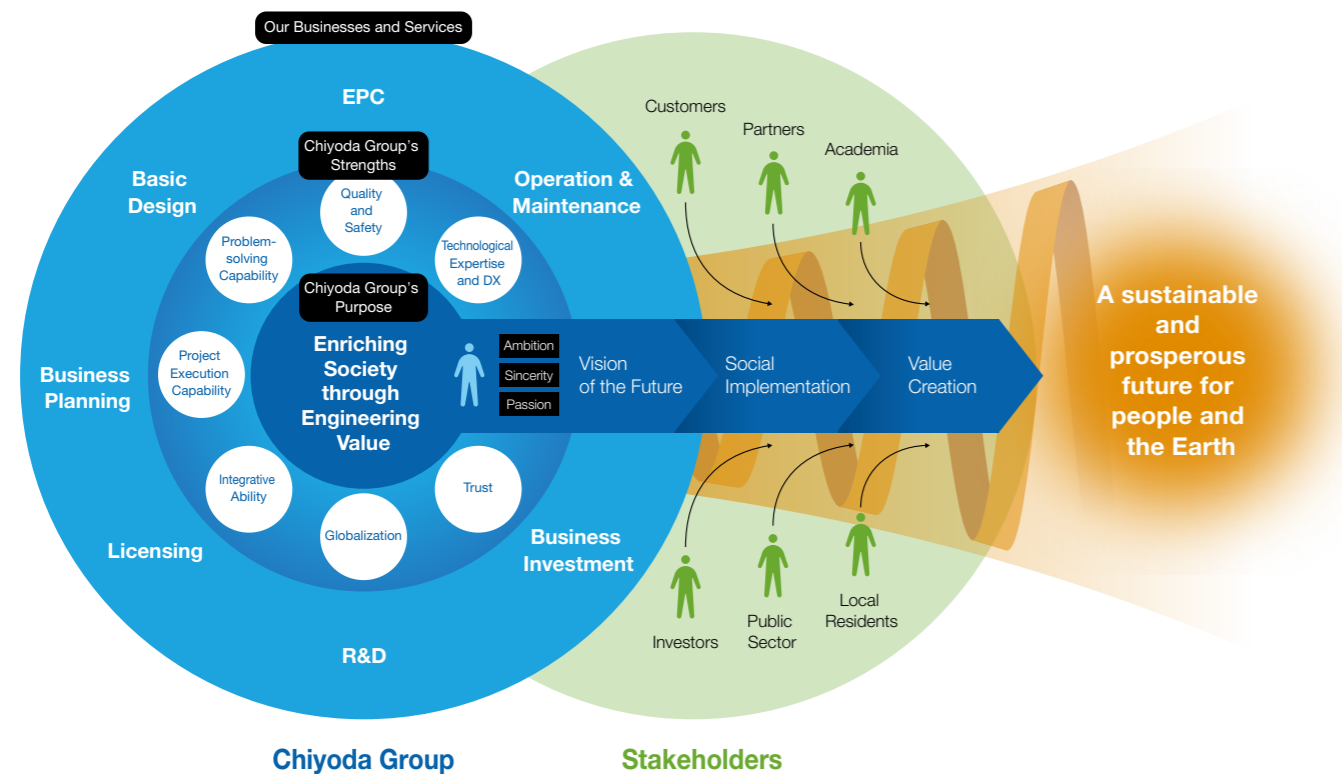
# Chiyoda Group's Concept of Engineering Value

## Engineering New Social Value with Our Purpose as the Starting Point

The Chiyoda Group's passion for engineering stems from a desire to enrich society's future. Our strategy to achieve this vision is to unite human and other resources and unify engineering expertise to deliver innovative solutions for the benefit of the international community.

This value creation drives original and enterprising initiatives to enrich society and an 'engineering value' chain to realize our vision.

By consolidating the proficiency of all personnel towards achieving this common vision, the Chiyoda Group aims to be pivotal in this 'engineering value' chain as we continue striving to realize a sustainable and prosperous future for people and the Earth.



## The Chiyoda Group's Origins

### Our Founding Philosophy of 'Serving Society through Technology'

The Chiyoda Group was founded as a pioneering engineering company committed to resolving social issues with advanced technology over 70 years ago, following the spinoff of the engineering division from Fuji Industry Company Ltd, part of Mitsubishi Oil Co. Ltd, after the breakup of the zai-batsu conglomerates after World War II.

The Chiyoda Group has applied its founding philosophy of 'Serving Society through Technology,' expanding and increasing its engineering capabilities in parallel with society's evolving requirements.

**'Is this for the good of Japan, for the benefit of the country?'  
'Be a conscientious and proud employee of Chiyoda.'**

Founder Akiyoshi Tamaki

As the founder of Chiyoda, Akiyoshi Tamaki developed the Company as an advanced engineering enterprise by focusing on technologies for the chemicals industry, supporting the growth of a national plant engineering industry by delivering pioneering technological solutions to its customers.

Since its founding, Chiyoda has emphasized that industrial growth must embrace the needs of the natural environment through its philosophy of 'Energy and Environment in Harmony.'



## Spirit that Transcends Generations

### Energy and Environment in Harmony

Focusing on the issues of rapid economic growth and environmental preservation, the Chiyoda Group published *Legacy for the Twenty-first Century* in 1972, advocating the advancement of the human race in harmony with nature, while declaring its commitment to resolve energy- and environment-related challenges through engineering and technological development.

In the 50 years since this declaration, the Group has continued to build on its progress under the philosophy of 'Energy and Environment in Harmony.'

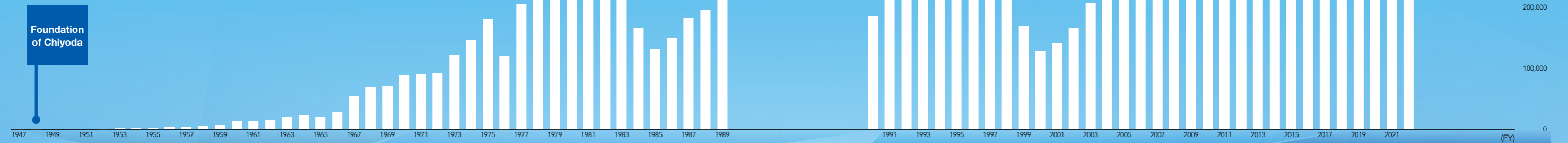
We will continue contributing to carbon neutrality by combining our corporate strengths with technological innovation and creating new value in engineering to support the global drive towards a carbon-free, hydrogen-based society.



# History of Transformation and Growth

## A History of Transformation, Growth and Meeting the Social Challenges of Each Generation Through Engineering Expertise

Revenue  
(Millions of yen)



	Founding of Chiyoda 1948–1970	Initial Transformation 1971–1990	Second Transformation 1991–2018	Future Growth 2019–
<b>Social Changes and Challenges</b>	<ul style="list-style-type: none"> <li>Growing demand for oil</li> <li>Period of high economic growth</li> </ul>	<ul style="list-style-type: none"> <li>Market changes resulting from two oil crises</li> <li>Accelerating overseas production under the Plaza Accord (period of strong Japanese yen)</li> </ul>	<ul style="list-style-type: none"> <li>Increase in global demand for LNG</li> <li>Increase in global needs to address climate change and environmental preservation</li> </ul>	<ul style="list-style-type: none"> <li>Accelerating transition towards decarbonization and carbon neutrality</li> <li>Innovation of AI and digital technologies</li> <li>Reinforcement of life sciences technologies</li> </ul>
<b>Applying Engineering Expertise in Response to Social Issues</b>	<ul style="list-style-type: none"> <li>Contributing to Japan's postwar industrial reconstruction</li> <li>Proactive engineering in the petroleum and petrochemical industries</li> </ul>	<ul style="list-style-type: none"> <li>Contributing to the stable supply of petroleum and petrochemical products through the construction of overseas petroleum and petrochemical plants</li> </ul>	<ul style="list-style-type: none"> <li>Contributing to meeting expanding LNG demand through the construction of large-scale overseas LNG plants</li> </ul>	<ul style="list-style-type: none"> <li>Contributing to the stable supply of clean energy and the transition towards carbon neutrality</li> </ul>
<b>Trajectory of Transformation and Growth</b>	<ul style="list-style-type: none"> <li>Restoring, constructing and modifying refineries and petroleum refining facilities in Japan</li> </ul>	<ul style="list-style-type: none"> <li>Promoting 'Companywide internationalization' and full-scale overseas expansion</li> <li>Publishing <i>Legacy for the Twenty-first Century</i> and promoting 'Energy and Environment in Harmony'</li> <li>Entering LNG plant construction (completed first LNG plant in Abu Dhabi in 1976)</li> </ul>	<ul style="list-style-type: none"> <li>Establishing a position as a global leader in LNG plant construction</li> <li>Expanding into renewable energy, general industrial facilities and metal resources</li> </ul>	<ul style="list-style-type: none"> <li>Positioning decarbonization, carbon neutrality and life science as growth areas and developing businesses through the application of energy plant construction expertise and experience</li> <li>O&amp;M-X solutions using digital AI in collaboration with Chiyoda X-One Engineering Corp.</li> </ul>
<b>Environment Technology</b>		<ul style="list-style-type: none"> <li>Commencing full-scale environmental conservation</li> <li>Developing CT-121® flue gas desulphurization technology</li> </ul>	<ul style="list-style-type: none"> <li>Developing the proprietary technology SPERA Hydrogen™</li> <li>Commencing CCS*1 initiatives</li> </ul>	<ul style="list-style-type: none"> <li>Completing the world's first international hydrogen supply chain demonstration project using Chiyoda's proprietary SPERA Hydrogen™ technology</li> <li>Developing carbon neutral technologies, including new ammonia production, CO<sub>2</sub> separation/capture, and CCU*2</li> </ul>

\*1 Carbon dioxide capture and storage

\*2 Carbon dioxide capture and utilization

### Projects



**1960**  
Mitsubishi Oil Co., Ltd.: Secured order for Mizushima grassroots refinery



**1969**  
Fuji Oil Company, Ltd.'s Sodegaura Refinery: Secured order for expansion of No. 2 plant



**1977**  
Secured order for the Kaduna Refinery for NNPC (Nigeria)



**1984**  
Constructed the Petromin-Mobil Yanbu Refinery (Saudi Arabia)



**2004**  
Secured orders for LNG plants for Qatargas Operating Company Limited (Plants 3 & 4)



**2014**  
SOL de Omura Mishima: Secured an order for solar power generation facility



**2020**  
Completed demonstration of the world's first international hydrogen supply chain (Brunei-Kawasaki, Japan)



**2021**  
Executing the large-scale North Field East LNG project in Qatar

Photo courtesy of Advanced Hydrogen Energy Chain Association for technology Development (AHEAD)

# Chiyoda Group's Strengths

The Chiyoda Group continues to apply unique competitive strengths to drive sustained growth, based on its founding principles, its 70-year history as an integrated engineering company and continuous improvements to its technological expertise.



## Examples of the Chiyoda Group's Combined Strengths

**Case 01**

### A Leading Company in LNG Plant Construction

The design and construction of LNG plants, which cool and liquefy natural gas to -162 °C, requires advanced technical expertise and execution capabilities. The Chiyoda Group has **the largest share of the global LNG plant construction market.**

Photo courtesy of QatarEnergy

**Case 02**

### Early Completion of One of the World's Largest Ethylene Plants

Despite the COVID-19 pandemic, the Chiyoda Group completed the design and construction of the world's first 'fully modularized' 1.8 million ton/year ethylene plant in the USA in 2021, within a shortened delivery period.

Photo courtesy of Gulf Coast Growth Ventures

**Case 03**

### Completion of the World's First International Hydrogen Supply Chain Demonstration Using Proprietary Technology

**The Chiyoda Group successfully developed their proprietary SPERA Hydrogen™ technology** using dehydrogenation catalysts developed in-house. The system utilizes methylcyclohexane (MCH) as the liquid organic hydrogen carrier (LOHC), enabling hydrogen to be safely and reliably stored in large quantities and transported over long distances under ambient conditions, and facilitated the completion of an international supply chain demonstration project\* in December 2020. Social implementation plans are progressing, with the goal of achieving large-scale commercialization later this decade.

Dehydrogenation plant at Kawasaki Waterfront

**Case 04**

### Early Completion of One of the World's Largest Storage Battery Systems

In March 2023, the Chiyoda Group completed one of the world's largest battery energy storage systems (BESS) in Hokkaido, half a month earlier than planned despite adverse weather conditions, and have since received a twenty year plant maintenance contract to support its stable operation. Chiyoda collaborated with the client to safely deliver the optimal solution to regional power system restrictions and deliver a stable power supply supporting further development of wind power generation, exemplifying Chiyoda's 'One Team' project execution culture.

Battery Energy Storage System (BESS)

\* Advanced Work Packaging

\* Chiyoda Corporation, Mitsubishi Corporation, Mitsui & Co., and Nippon Yusen formed the Advanced Hydrogen Energy Chain Association for Technology Development (AHEAD), a research association for next-generation energy chain technology subsidized by the New Energy and Industrial Technology Development Organization (NEDO).

# Chiyoda Group's Value Creation Process

As an integrated engineering company with a commanding presence in the global energy supply industry, the Chiyoda Group applies engineering expertise and technological proficiency to deliver optimum solutions to customers as we address society's modern challenges. Our vision to enrich society evolves with its ever-changing needs and we will continue creating value that leverages our accumulated strengths and collaborating with stakeholders who share our vision to engineer new value and implement innovative solutions in a society with increasingly diverse and complex challenges.

## Process of value creation leveraging our accumulated strengths

### Chiyoda Group's Priority Management Issues

Diversification and Complexity of Social Issues

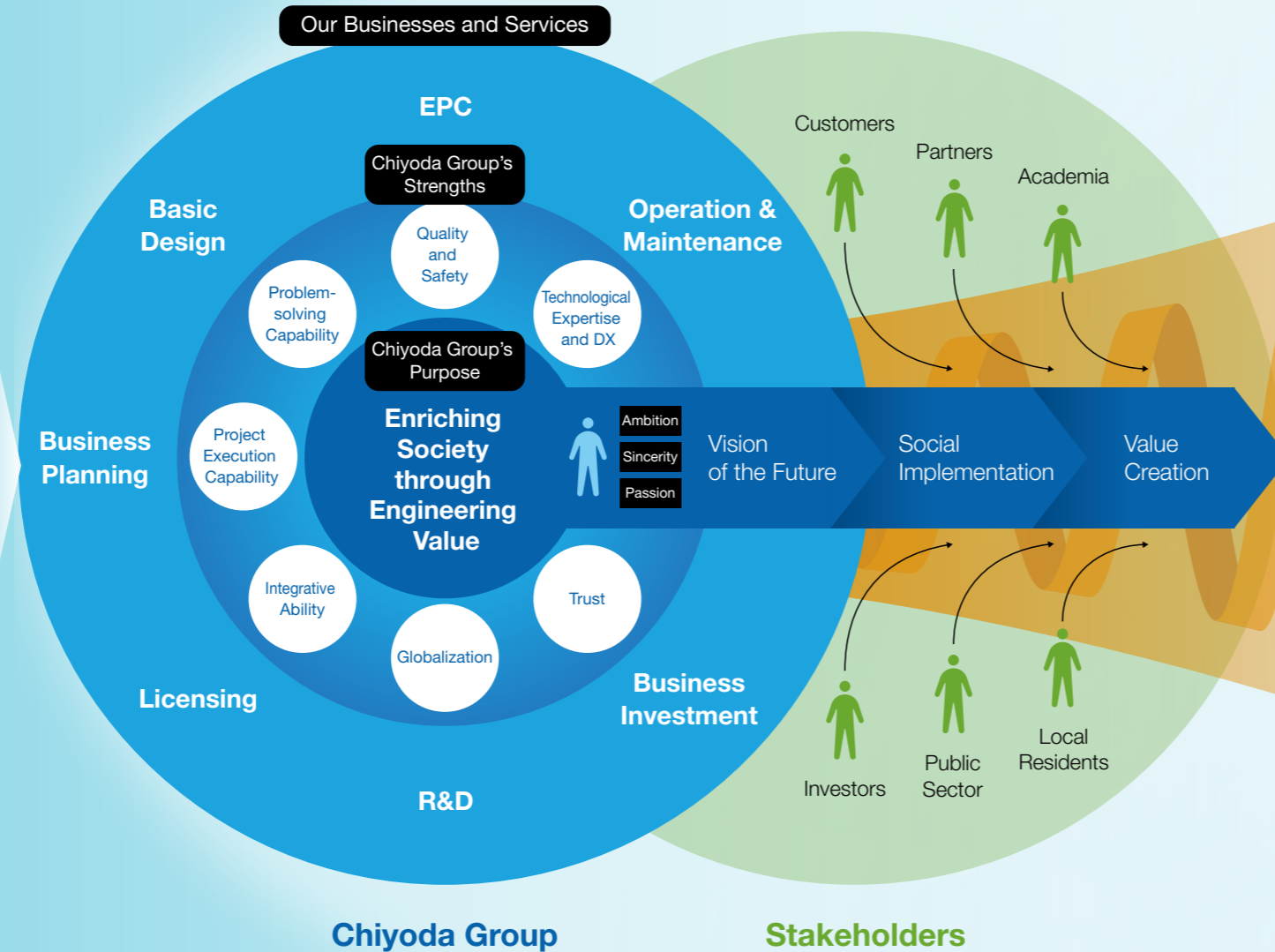
Limited resources

Global warming

Intensification of disasters

Concerns about stable food and water supplies

Social changes due to declining birthrates and aging populations



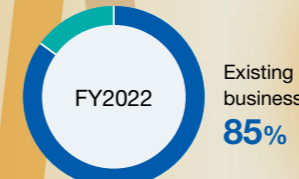
### Economic Value

**Our Vision for 2030:  
Create new value  
in engineering**

Innovate the **business portfolio** by deepening existing businesses and creating and strengthening new businesses

FY2030 Consolidated net profit of **¥30 billion** or higher

New business **15%**



New business **50%**



**New business**  
Hydrogen and carbon cycling, renewable energy, energy management, life science

**Existing business**  
LNG and gas, petroleum and petrochemical, metals, industrial facilities

### Engineering Value

**1 Stable supply of clean energy**

**2 Early realization of a hydrogen-based society**

**3 Contributing to realizing carbon neutrality**

**4 Contributing to healthy and fulfilling lives**

A sustainable and prosperous future for people and the Earth

# Engineering Value

The Chiyoda Group is creating new engineering value through digital transformation and other initiatives to realize a sustainable and prosperous future for people and the Earth.

## 1 Stable Supply of Clean Energy

### Promotion of Cleaner LNG

The Chiyoda Group will continue to promote the development of cleaner LNG to reduce CO<sub>2</sub> emissions, in line with rising demand for LNG and its increasing significance as a transitional energy source as the global drive towards decarbonization gains momentum.

### Construction of One of the Largest and Most Environmentally Friendly LNG Plants in the World

The North Field East LNG project (NFE LNG Project) for Qatargas in Qatar, comprising four LNG trains with an annual production capacity of 8 mtpa each and being executed in a joint venture partnership with Technip Energies of France, is one of the largest and most environmentally sustainable LNG plants in the world.

When fully operational, the NFE LNG Project trains will emit 25% less CO<sub>2</sub> than similar mega-trains. 20% of this reduction will be achieved through a large Carbon Capture and Storage (CCS) plant, where CO<sub>2</sub> is extracted from the feed gas and compressed for re-injection underground, avoiding discharge to the atmosphere.

The balance is achieved through improved energy efficiency using Waste Heat Recovery Units (WHRUs)



As of March 2023, Courtesy of Qatargas

installed on Gas Turbine Generator (GTGs) exhausts to recover heat from flue gases. Greenhouse gas (GHG) emissions are also reduced using technologies to cut NOx emissions.

### Adoption of Electrification Technology to Reduce CO<sub>2</sub> Emissions

The Freeport LNG project is a world-class natural gas liquefaction and export facility in the USA completed in 2020. The plant utilizes an electric motor (E-Drive) cooling system in lieu of gas turbines, contributing to reduced emissions, shorter restarts, increased operating flexibility and improved efficiency.

### Expanding Copper Supplies to Support the Realization of a Decarbonized Society

Copper has outstanding conductivity compared to other metals and is used in electrical components in areas such as wiring, storage batteries, motors and electric vehicles (EVs).

To meet demand, the Chiyoda Group is constructing a copper smelting plant in Indonesia with one of the world's largest single-line production capacities—480,000 tons per year—for PT Freeport Indonesia.



Courtesy of PT Freeport Indonesia

## 2 Early Realization of a Hydrogen-based Society

### Conceptual Design of a Hydrogen Supply Chain in Singapore

Chiyoda has commenced conceptual design work for the commercialization of a hydrogen supply chain in Singapore, leveraging our proprietary SPERA Hydrogen technology together with technology from Sembcorp Industries, one of Singapore's largest renewable energy companies, and Mitsubishi Corporation to transport clean hydrogen from Australia and the Middle East to Singapore. Similar to Japan, Singapore is heavily dependent on imported energy resources and the introduction of hydrogen is key to the city-state's sustainable future.



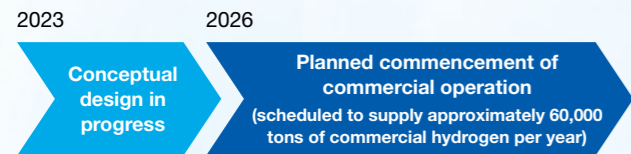
### Development of a Hydrogen Supply Chain Business in Europe

Chiyoda is actively participating in hydrogen import and hydrogen highway initiatives in Europe.



Commercial-scale import of hydrogen to the Port of Rotterdam in The Netherlands is under examination

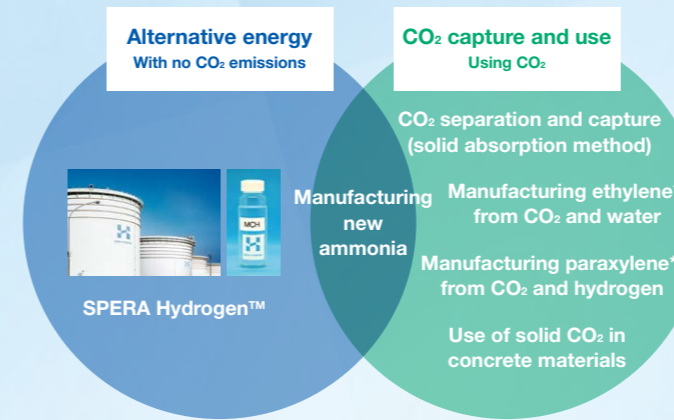
Illustration of the hydrogen highway between Scotland and Rotterdam



## 3 Contributing to Realizing Carbon Neutrality

### Technological Developments Relating to CO<sub>2</sub> Alternatives and CO<sub>2</sub> Capture and Use

Chiyoda is working on the development and demonstration of technology to realize a decarbonized society through alternative energy sources that either do not emit CO<sub>2</sub> or capture and use emitted CO<sub>2</sub>, aiming for commercialization by 2030.



\*1 Basic chemical  
\*2 Raw material for polyester

### Participation in Demonstration and Basic Engineering Projects

Chiyoda is involved in demonstration and basic engineering projects with the aim of achieving the practical application of technologies, particularly in the carbon neutrality field. By working with customers from the demonstration stage, we accumulate expertise that leads to the creation of new projects and the receipt of orders.

In this section, we discuss two examples of our work.

#### 1 Construction of One of the World's Largest CO<sub>2</sub> Methanation\*3 Test Facilities

Chiyoda has been awarded an EPC contract for one of the world's largest CO<sub>2</sub> methanation system test facilities of 400 Nm<sup>3</sup>-CO<sub>2</sub>/h capacity, equivalent to the quantity of methane consumed by approximately 10,000 Japanese households per day, for INPEX and Osaka Gas as part of a project subsidized by NEDO to develop the practical application of technology enabling carbon neutralization of natural gas.

\*3 Technology for synthesizing methane from CO<sub>2</sub> and hydrogen

#### 2 Construction of 1 BD\*4 Synthetic Fuel Production Test Plant

As part of a NEDO Green Innovation Fund Project, Chiyoda has been awarded an EPC contract by ENEOS for a test plant aimed at rapidly establishing technology for synthetic fuel production using hydrogen and CO<sub>2</sub> as raw materials.

\*4 Barrel per day

## 4 Contributing to Healthy and Fulfilling Lives

### Providing High Value-added Solutions in Life Science

As the study of living things, Life Science connects technical fields encompassing sustenance (food), life (medicine and medical care) and living (chemistry and environments). The Chiyoda Group will continue leveraging its experience accumulated through the design and construction of over 1,000 facilities in this field to provide high value-added solutions on a customer-driven basis.

#### Pharmaceutical Fields

##### Accelerating Pharmaceutical-related Engineering

The Chiyoda Group will also continue leveraging our more than 60 years of experience constructing over 620 pharmaceutical plants to accelerate the construction of vaccine constituent production and biopharmaceutical manufacturing facilities, and will further expand into next-generation pharmaceutical products and bioindustry.



A vaccine constituent manufacturing facility constructed by Chiyoda for Shionogi

### Application of Technology Cultivated in the Petrochemical Field

The introduction of continuous production technology to replace conventional batch production in manufacturing shortens development times, saves labor, improves efficiency and enhances quality control. The Chiyoda Group has entered into a joint venture with Shionogi Pharma to form Pharmira Co., Ltd, which engages in the contract development and manufacturing of active pharmaceutical ingredients and intermediates, and will continue contributing to the introduction and implementation of continuous production technology cultivated in the petrochemical field in the pharmaceutical field.



The Pharmira building



# Towards Sustainable Growth

In this section, we introduce our strategy and initiatives to realize the sustainable growth of the Chiyoda Group and a sustainable society.

## CONTENTS

- 16 Message from the CEO
- 22 Message from the CFO
- 24 The Medium-term Management Plan:  
Chiyoda's Revitalization Plan  
– Initiatives for Revitalization and  
the Future
- 26 Sustainability Roundtable Discussion
- 32 Human Resource Management
- 38 Accelerating Companywide  
Digital Transformation (DX)

## Message from the CEO

### Masakazu Sakakida

Chairman of the Board, President & CEO  
CSO\*<sup>1</sup> & CWO\*<sup>2</sup>

\*<sup>1</sup> Chief Sustainability Officer  
\*<sup>2</sup> Chief Wellness Officer



**Based on our purpose of ‘Enriching Society through Engineering Value,’ we will create social value and achieve sustainable growth by continuing to contribute to the realization of a decarbonized society.**

#### Recognizing the Rewards of Our Revitalization Plan

We have transformed our management structure based on our Medium-term Management Plan, ‘Chiyoda’s Revitalization Plan - Initiatives for Revitalization and the Future,’ released in 2019 and revised in 2021. We have built robust commercial foundations for revitalization and growth to realize our ‘Vision for 2030’ and transformed our business portfolio. This renaissance reaped tangible rewards in fiscal 2022 as we recorded further expansion in our earnings base. The evolution of a sophisticated risk management system and our dexterity in addressing the difficulties faced in our rapidly changing business environment, such as unexpected cost increases due to global inflation, procurement and logistical challenges as a fallout from COVID-19 and the geopolitical crisis in Ukraine, are fundamental to our success. Our skill in addressing these challenges meant that we were able to meet material and equipment procurement and transportation schedules to ensure that ongoing large-scale projects in Qatar, the USA and Indonesia continued as planned with minimal impact. Consistent with our ‘One Team’ project execution philosophy, we also collaborated with customers and partners to recover the impacts of force majeure events, ensuring continued profitability from existing projects.

Key to the effective transformation of our business portfolio is the continuing growth of new businesses, as demonstrated by the increasing requests for basic engineering and demonstrations in our four key business domains of low carbon

and carbon recycling, hydrogen, energy management and life science.

Our tireless endeavors since the release of our Revitalization Plan are reaping real rewards, such as exceeding ¥15 billion consolidated net profit in fiscal 2022, a ten-year high, and I am confident that, with your continued support, the Company will maintain its current trajectory and resume its commanding position in the global energy market.

#### Our Purpose Aiming for Transformation and Growth

The Chiyoda Group announced a fresh purpose in July 2023 of ‘Enriching Society through Engineering Value.’ Although we have generated steady progress towards achieving the goals of our 2019 Revitalization Plan with the aim of realizing our established corporate philosophy of ‘Energy and Environment in Harmony,’ this is the final year of the Plan and, we need to advance to the next stage as we look to the future. Our vision for society’s future continues to evolve with its ever-changing needs and, along with our corporate philosophy, our new purpose will guide our thoughts as we reflect upon ‘Why does the Chiyoda Group exist?’ and ‘What does the Chiyoda Group aspire to be?’ Over 100 participants, from top and middle management to younger, less experienced employees, attended ‘Purpose Design Sessions’ from April to June 2023, to focus on the meaning of our existence, visualize our future and progress the group from ‘Revitalization’ to a ‘New Birth’ stage.

## Message from the CEO

Using external and internal analysis, we discussed themes such as 'The uniqueness of the Chiyoda Group and the meaning of our existence' and 'My personal vision of where I want to be in the future' to establish the type of company we want to be and the type of future we want to create. The purpose of 'Enriching Society through Engineering Value' expresses our belief that our *raison d'être* is to utilize our engineering and technological prowess to contribute to realizing what society hopes for and to ensure a sustainable future for the Earth and prosperity for all its inhabitants. We all continue to develop as individuals, but being cognizant of the meaning of our existence as a company, embracing our purpose throughout the Group and advancing together in one direction to deliver what society hopes for, is key to delivering a bright and prosperous future for generations to come.

### Our Mission of Contributing to Decarbonization

The Chiyoda Group is committed to decarbonization as a major challenge facing society and we announced the Carbon Neutral Declaration in April 2022 as a basis for reducing CO<sub>2</sub> emissions and promoting carbon cycling. Contributing to a reduction in Scope 3 emissions (principally comprising supply chain CO<sub>2</sub> emissions) is a particular focus area. Although the Group's direct and indirect CO<sub>2</sub> emissions (Scope 1 and Scope 2) are minor, emissions from third party companies related to our value chain business activities, including customers, are significant, and we can contribute to decarbonization by leveraging our engineering expertise and technological proficiency to support customers in reducing their Scope 1 and 2 CO<sub>2</sub> emissions. Global circumstances, such as the geopolitical crisis in Ukraine, challenge the stable supply of energy and we help customers reduce the carbon intensity of existing energy sources

through the implementation of technology, such as carbon capture and storage (CCS) systems and the electrification of cooling equipment at LNG plants (E-Drive), as far as is reasonably practicable considering commercial viability.

As society transitions from more traditional energy sources such as coal, oil and gas towards cleaner energy sources with reduced CO<sub>2</sub> emissions, including renewable energy and hydrogen, we will continue to advance as an innovative engineering company, shaping the future of energy and contributing to society's sustainable development.

### Accelerating Business Portfolio Transformation

As part of our 'Vision for 2030,' we have established a profit contribution ratio of 50% between new and existing businesses. As a result of our efforts in this area, the contribution of profits from new businesses rose from approximately 10% in fiscal 2020 to 15% in fiscal 2022, and we will continue to secure profits through the steady execution of projects in existing businesses while promoting the expansion of new businesses as we carry on transforming our business portfolio.

#### Existing Businesses

##### Stable Earnings through Order Selection

Our existing businesses continue to be pillars generating stable earnings. As of March 2023, we had accumulated an order backlog of more than ¥1 trillion, and are working to profitably execute these projects as planned. We continue to profit from our LNG EPC business in line with rising demand for LNG, particularly in Asia, and its increasing significance as a transitional energy resource as the worldwide drive towards decarbonization gains momentum, despite global challenges, including supply chain disruption and global inflation in the fallout from COVID-19, and the geopolitical crisis in Ukraine. Further LNG plant construction project

orders are expected in the future. As a major development concept, we will also advance more environmentally friendly LNG with lower CO<sub>2</sub> emissions. Expanding stable earnings is central to the Revitalization Plan and is achieved through the implementation of stringent and comprehensive risk management procedures as we judiciously select projects that will not impede the successful achievement of the Chiyoda Group's overall objectives.

#### New Businesses

##### Accelerating Profit Contribution Growth by Receiving EPC Orders and Exploring New Business models

The completion of one of the world's largest battery energy storage systems for a wind power generation facility in northern Hokkaido in March 2023 exemplifies the growing contribution of energy management to the accelerating global transition to clean, renewable energy. The customer, Chiyoda Corporation and major subcontractors and vendors worked as 'One Team' over a five-year period to conquer many challenges, including the extreme weather conditions of northernmost Hokkaido. The Group has also commenced a 20-year O&M contract as we continue our culture of collaborative project execution in the facility's operational stage.

As one of our four new business domains, hydrogen is becoming a key clean and reliable source of energy. Having signed a memorandum of understanding with ten companies and governments, including the Net Zero Technology Centre, to explore the feasibility of developing a hydrogen supply chain in Singapore using our proprietary SPERA Hydrogen technology, we have now entered into the Pre-FEED phase and are discussing full commercialization while continuing research and development to reduce costs and increase efficiency. We are also a leading participant in a hydrogen marine transportation project exporting hydrogen from Scotland to Rotterdam in the



## Message from the CEO

Netherlands, and will establish a sustainable revenue model through licensing and catalyst sales while creating further EPC opportunities. The growth of the profit contribution from our four new business domains of low carbon and carbon recycling, hydrogen, energy management and life science is expected to accelerate further.

The Group established 'Chiyoda X-ONE Engineering Corporation' in April 2023 through the merger of three domestic Group companies. The name of the new company includes 'Engineering' as our core business and 'X-ONE' in reference to the combination of Transformation (X) and 'One Team' (ONE), representing 'transformation through Chiyoda Technology and One Team.' Chiyoda X-ONE Engineering Corporation advances our hybrid maintenance business, combining operation and maintenance operations with transformation (O&M-X) in solution services that leverage digital transformation (DX) in the O&M of customer facilities. The new company will collaborate with other Group companies and our business partners to implement our growth strategy in new business portfolio areas, as well as traditional energy sectors, and deliver solutions to customers more efficiently as a consolidated Group through our combined engineering and technological expertise and experience.

### Stabilizing Earnings

Our Revitalization Plan is reaping tangible rewards and, as we enter the next stage of our rejuvenation, we will continue to secure stable earnings through the execution of projects in existing businesses while also expanding new ones.

Commonly used traditional lump-sum 'fixed price' LNG contracts, coupled with the increase in larger, longer and more complex projects, carry significant cost and schedule risks for EPC contractors. Such contracts generally result in more expensive projects as contractors allocate larger financial contingencies to account for the increased risk, and this topic requires further collaborative industry-wide debate. The Chiyoda Group values

a philosophy of collaborative project execution based on relationships, with open and honest communication with customers, subcontractors and suppliers, and we will continue to cooperate with clients to explore cost reducing, risk-sharing arrangements.

### Expanding and Advancing Human Resources as a Key to Growth

Our most valuable asset is our human resources, and effective management in this area is a key competitive advantage, driving the Group's growth. Our human resource system, implemented as part of our Revitalization Plan, includes Human Resources Officers (HROs) for each job category, who report to a Chief Human Resources Officer (CHRO) and human resource development that, through career-focused interviews with employees to clarify their goals and desired career paths and align them with the Company's overall business objectives, supports employees in visualizing and developing their future career path. Chiyoda understands that the caliber of human resources is key to the Company's success and we continue to develop younger generation employees and mid-career managers, diversifying their knowledge and experience through job rotation. Chiyoda's training programs are consistent with employee 'needs and wants,' developing the required skills and expertise for career progression regardless of age, gender or external factors.

Where internal resources need to be invested in new businesses, the Group is endeavoring to steadily execute large-scale EPC projects, which traditionally require a considerable number of personnel, utilizing fewer employees by leveraging digital technology and other techniques to increase efficiency and add value.

The Chiyoda Group comprises technical and managerial professionals delivering engineering and state-of-the-art technological solutions to customers for the benefit of society. We will continue to realize our human resource development goals to benefit our customers by promoting a customer



oriented mindset, improving employee professional awareness, uniting as 'One Team' and embracing diversity, to enhance the collective strength of the Group.

### Enhancing Corporate Value

As we enter the final year of our Revitalization Plan, we will continue striving to achieve our 'Vision for 2030' and financial independence as soon as possible, facilitating Prime Market listing on the Tokyo Stock Exchange and delivering stable shareholder dividends. We will promote Chiyoda's philosophy of executing projects as 'One Team' by intensifying our 'relationship-based' approach during the next stage of our growth, maintaining open and honest communication with all stakeholders, including customers, partners, subcontractors and vendors, in the dissemination of financial and non-financial information. We will continue to expand upon opportunities for productive engagement with shareholders and investors to facilitate a deeper understanding as we work together to improve corporate value.

While enhancing our risk management capabilities, project competitiveness and organizational capabilities, including expanding and advancing human resources, operating income has increased year by year in the four years since the release of our Revitalization Plan, and we have expanded our stable earnings base, as demonstrated by our consolidated net profit exceeding ¥15 billion yen in fiscal 2022. Our newly established purpose will accelerate the transformation of our business portfolio under the next Medium-term Management Plan as we progress towards financial independence and sustainable growth.

Thank you for your understanding and continued support.

**Masakazu Sakakida**

Chairman of the Board, President & CEO  
CSO & CWO

## Message from the CFO



Steadily advancing business restructuring and accelerating financial measures supporting enhanced corporate value

### ▶ Current Situation and the Role of the CFO

In the four years since announcing the Medium-term Management Plan – ‘Chiyoda’s Revitalization Plan - Initiatives for Revitalization and the Future’ in 2019, the Chiyoda Group has made steady progress in reforming its business structure while strengthening our financial foundations. Since my appointment as CFO in April this year, I have been responsible

for the overall management of the Chiyoda Group’s financial activities while we continue to accelerate the implementation of financial measures supporting business restructuring and sustained growth, as detailed in our ‘Vision for 2030’ in the 2021 revised Revitalization Plan.

### ▶ Review of Fiscal 2022 and Outlook for Fiscal 2023

We reported a consolidated net profit of ¥15.2 billion in fiscal 2022, an upward revision from the initial forecast of ¥11.5 billion, as a result of further sophistication of the risk management structure announced as part of the Revitalization Plan and the evolution of our Engineering, Procurement and Construction (EPC) execution management capabilities, enabling us to safely execute world-class projects on schedule and within cost parameters.

In fiscal 2023, the final year of the Medium-term Management Plan, we will further accelerate these measures to increase stable earnings for the second consecutive year. We have also accumulated a backlog of contracts of ¥1.1 trillion, approximately three years of sustained revenue, and are collaborating with customers and partners to minimize the impacts of global inflation.

### ▶ Reinforcing Our Financial Foundations

Strengthening our financial foundations is key to facilitating business structure reform and responding promptly to changes in the business environment, such as the accelerating global transition to a decarbonized society.

We will continue increasing capital and further reinforce our financial foundations by enhancing stable earnings growth through the steady execution of projects in the backlog, while transforming our business portfolio and diversifying business models and sources of earnings.

We will continue to improve profit/loss and cash flow forecasting on ongoing projects and secure funding to accelerate strategic investments for sustained growth. By appropriately controlling consolidated fixed costs, we will also enhance our cash position and financial structure while implementing rigorous cash flow management.

### ▶ Optimizing Resource Allocation for Sustainable Growth

The Medium-term Management Plan achieves sustainable growth by transforming our business portfolio and earnings structure, strengthening existing businesses and accelerating new ones while optimizing allocation of human resources and finances to improve corporate value.

We will continue to refine our risk management structure and further strengthen our EPC project execution capabilities in existing businesses and the four new business domains of carbon recycling, hydrogen, energy management and life science. In addition to being a significant business opportunity, society’s hope for the realization of carbon neutrality is the origin of our fresh purpose of ‘Enriching Society through Engineering Value’ as we apply our engineering expertise and

proprietary technologies, such as SPERA Hydrogen, to creating a sustainable environment and a brighter, cleaner future.

We will continue accelerating the social implementation of these measures as we drive the transformation of our business structure in terms of finance and resource allocation.

### ▶ Improving Business Earning Power and Asset Efficiency

In fiscal 2022, we introduced new business management indicators and upgraded our management accounting system to strengthen budget and performance management on projects and visualize and enhance business segment profit structure analysis. We will continue promoting measures to improve financial awareness among officers and employees as leverage to reform Companywide awareness of earnings and costs, while also improving operational efficiency to increase earning power and asset efficiency.

We are also strengthening digital transformation (DX) Companywide, promoting the development of digital human resources, fostering a DX culture through increased awareness and enhancing the added value of our business model by promoting digital transformation in the three areas of projects, corporate and business, increasing our earning power and competitiveness.

### ▶ Enhancing Corporate Value

While the Group’s stable earnings base is expanding through the steady progress of the initiatives contained within the Medium-term Management Plan, the Group will continue growing to become financially independent and ensure robust commercial foundations, facilitating Prime Market listing on the Tokyo Stock Exchange and providing stable dividends to shareholders. Even with the success of our Medium-term Management Plan, we will intensify endeavors to realize our ‘Vision for 2030’ while operating to the highest ethical standards, maintaining fairness, transparency and open dialogue under a disciplined approach to corporate governance and stakeholder communication.

We remain resolutely committed to meeting the expectations of our stakeholders and will augment our endeavors to continuously improve our corporate value by transforming our business structure and earnings in line with the Medium-term Management Plan.

We appreciate your continued understanding and support.

**Atsushi Deguchi**

Representative Director, Executive Vice President,  
CFO & CCO

# The Medium-term Management Plan: Chiyoda's Revitalization Plan – Initiatives for Revitalization and the Future

The Chiyoda Group released its Medium-term Management Plan, 'Chiyoda's Revitalization Plan – Initiatives for Revitalization and the Future' in May 2019 and revised it in May 2021 to reflect changes in the business environment, such as the increasing drive towards a carbon-free society and the significance of emerging markets with the potential for future growth.

The Group is reinforcing its business foundations for revitalization and growth to achieve its 'Vision for 2030' objectives, published as part of the revised plan. We are fortifying stable earnings by reforming our business portfolio and creating new engineering value through digital transformation (DX) and other initiatives in the four business domains of low carbon and carbon recycling, hydrogen, energy management and life science, to realize sustainable growth and further improve corporate value.

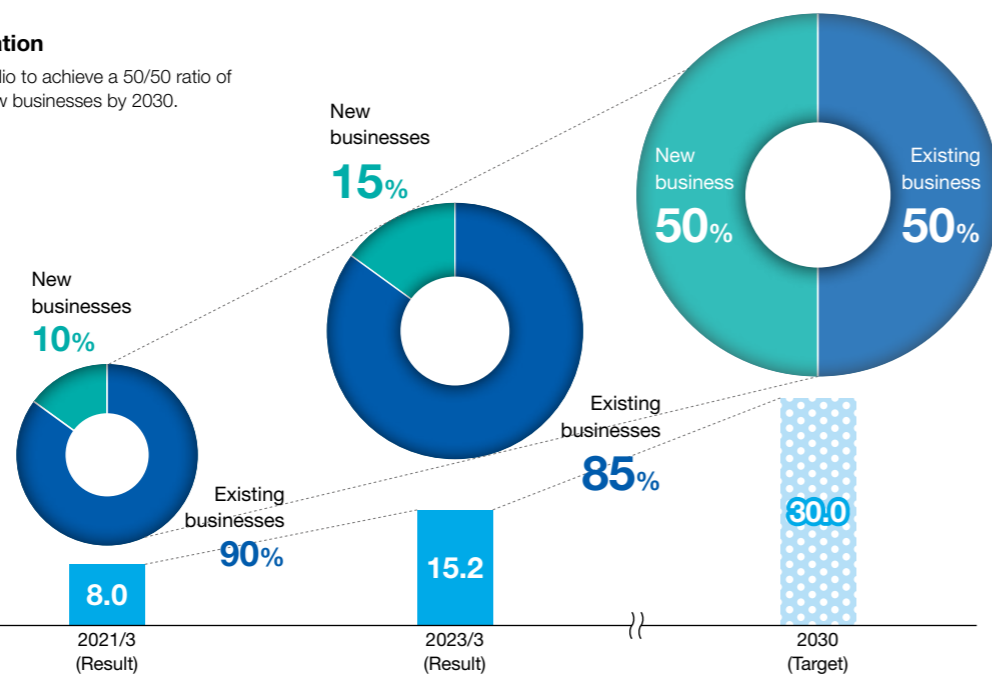
## Vision for 2030

- We will continue to apply our advanced technological expertise to accelerate the implementation of hydrogen energy and the global transition to a carbon-free society to achieve carbon neutrality by 2050.
- We will continue transforming our business portfolio and strengthening our earnings structure by rejuvenating existing businesses while accelerating new business initiatives.

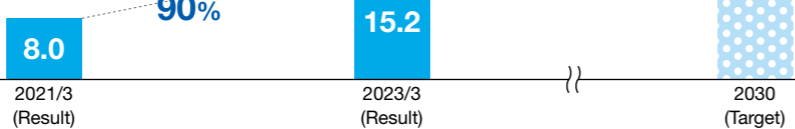
## Business Portfolio Transformation

We are transforming our business portfolio to achieve a 50/50 ratio of profit contributions from existing and new businesses by 2030.

- New businesses**  
Hydrogen and carbon cycling, renewable energy, energy management, life science
- Existing businesses**  
LNG and gas, petroleum and petrochemicals, metals, industrial facilities

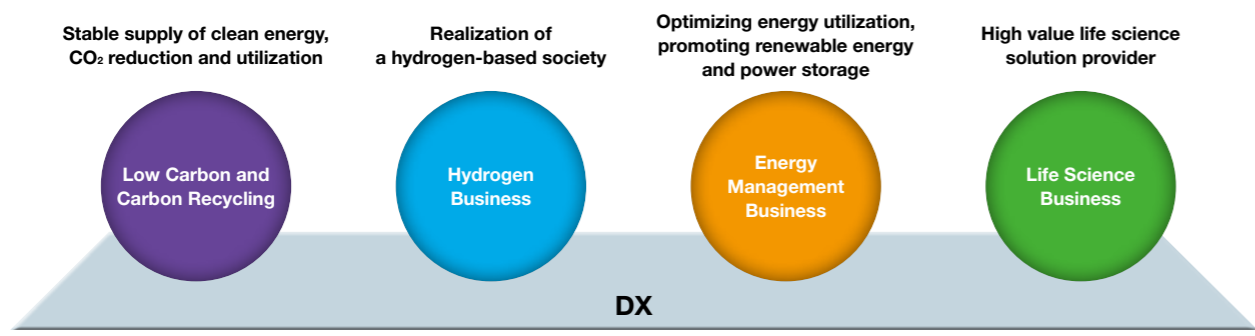


**Consolidated Net Profit**  
(Billions of yen)  
Quantitative Target:  
¥30 billion or higher  
in FY2030



## Growth Strategy: A Grand Opportunity for the Future

The Chiyoda Group continues to reform its business portfolio to create new value in engineering through DX and initiatives in the four business domains of low carbon and carbon recycling, hydrogen, energy management and life science.

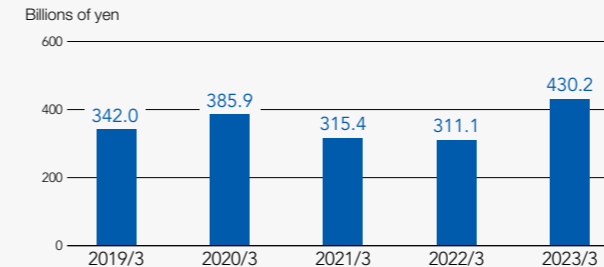


## Results from Fiscal 2019 to 2022 (Four Years of Revitalization)

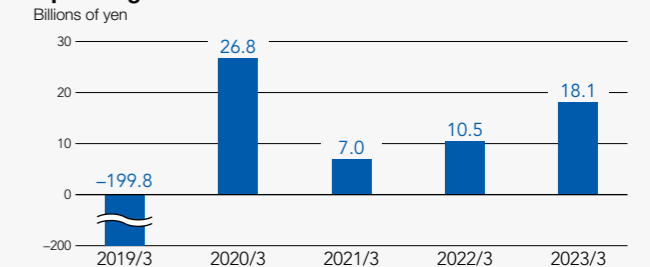
### Quantitative Results

- Expanded our stable earnings base through the implementation of sophisticated risk management, evolution of EPC execution management capabilities, optimization of resource allocation and appropriate control of fixed costs.
- Accumulated a ¥1.1 trillion backlog of contracts, equivalent to approximately three years of completed construction projects on a sustained basis.
- Executed ongoing projects as planned and strengthened our financial position.

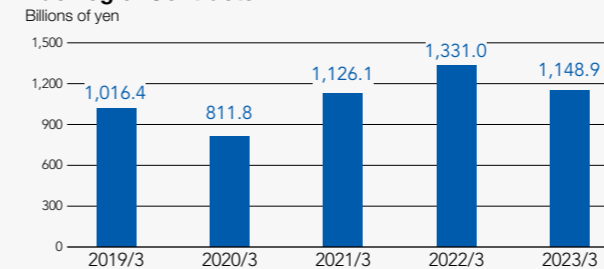
### Revenue



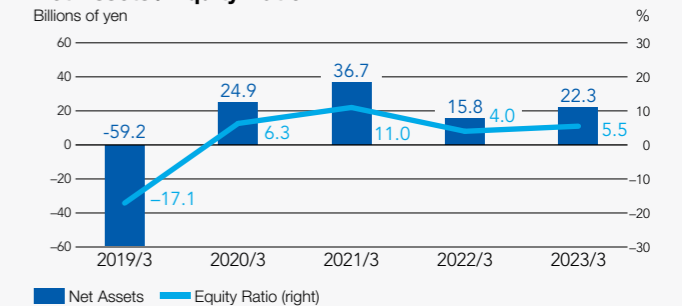
### Operating Income



### Backlog of Contracts



### Net Assets / Equity Ratio



## Progress of Major Measures

Major Measures	Four-year Progress	Evaluation of Progress
1 Implementation of a Sophisticated Risk Management Structure	· Implementation of a sophisticated centralized risk management system across all stages of the project life cycle, led by the Strategy & Risk Integration Division, and profitable projects awarded since the release of the revitalization plan · A ¥1.1 trillion order backlog for large projects, such as NFE LNG in Qatar and a copper smelting plant in Indonesia	✓
2 Advancing EPC Execution and Management Capabilities	· Full-scale implementation of Chiyoda AWP in major overseas projects to optimize EPC execution · Strengthening the execution of construction operations, significantly improving project profitability, by establishing a new Construction Division in April 2020 and implementing human resource, subcontract management and organizational enhancements	✓
3 Expanding and Enhancing Human Resources	· Introduction of a new Companywide human resource system in April 2021 (career categorization, improved personnel evaluation and systematic training of organizational management human resources) · Accumulation of human resource information and enhancement of employee career development through a Human Resources Officers (HRO) system	✓
4 Accelerating DX	· Accelerating DX and fostering DX awareness Companywide through a newly created CDO Office · Obtaining certification as a 'DX-Certified Operator' by the Ministry of Economy, Trade and Industry in December 2022	✓
5 Business Portfolio Transformation	· Steady progress in the development and creation of new businesses	✓

## Priority Measures for Fiscal 2023 (Final Year of the Revitalization Plan)

- Continue to secure stable earnings growth by consistently strengthening risk management and steady execution of ongoing projects
- Unrelenting enhancement of the management of human resources, our greatest asset
- Sustained business transformation and development of new businesses through DX
- Continue the development of new businesses and accelerate business portfolio transformation

## Sustainability Roundtable Discussion

# Enriching Society through Engineering Value

With 'Energy and Environment in Harmony' as our corporate philosophy, the Chiyoda Group contributes to the realization of a sustainable society.

As we expand our business portfolio and reflect on the company that Chiyoda should strive to be, we formulated a fresh purpose of 'Enriching Society through Engineering Value' in August 2023.

Young to mid-career employees participated in roundtable discussions regarding Chiyoda's vision, and how it should be achieved, with Chiyoda Outside Director Yutaka Kunigo.



## Introduction

**Kunigo** ■ To me, the 'engineering value' referred to in our new purpose means all stakeholders, including employees, customers, partners and shareholders, working together to create value. I was previously an employee at an energy infrastructure company and have been involved with Chiyoda from a variety of stakeholder perspectives. My experience as a customer and partner during LNG plant construction projects left a particularly strong impression. I was extremely impressed by Chiyoda's technical capabilities in resolving challenging customer requests and creating innovative equipment, together with the Company's ability to execute extremely large projects according to plan.

We are currently in an energy transition, moving towards achieving carbon neutrality in 2050. As an engineering company whose strengths are its technical and execution capabilities, we have an important part to play, and I am confident that we can fulfill our new role as a company. I also look forward to Chiyoda engineering value in areas beyond energy, as we transform our business portfolio in line with our 'Vision for 2030.'

Today's roundtable discussion was an ideal opportunity for me to learn how young to mid-career employees see Chiyoda's purpose as a company. We were able to discuss a wide range of topics, including their vision for the future, the efforts they are undertaking to realize that vision, Chiyoda's strengths and the challenges we face.

## Leveraging Technical and Execution Capabilities to Solve Social Issues with a Sense of Urgency

**Senna** ■ Chiyoda's most valuable asset is its employees and our greatest strengths are our technical and project execution capabilities, accumulated since our foundation in 1948. We provide quality services and high added value that exceeds customer expectations, building a rapport with our customers and society in general. That is our purpose to me. Our technical capabilities are acknowledged by customers and I know that people outside the Company recognize Chiyoda's technological expertise, which we regularly demonstrate through external presentations and workshops. Many employees refine their expertise in engineering and technological fields before moving on to project management, which results in Chiyoda's exceptional technical and project execution capabilities.

Society's needs are continually changing and have undergone a significant revolution in recent years, increasing the uncertainty in our business environment from social, economic and political perspectives. This means that, as an engineering company, we need to adapt to society's ever changing needs as we face increasingly complex and difficult challenges. Rather than focusing on LNG plant construction and other large-scale projects that take many years to complete, as the number of small to medium-sized projects has increased in recent years, we need to provide flexible services to complete such plants within shorter timeframes. While it will still be necessary to proceed with long-term research and development in parallel to support the realization of a sustainable society, in terms of our relationship with customers and society, it could be argued that we need to bring products and services into the world with even greater urgency. I hope Chiyoda addresses social issues in numerous fields and provides solutions with a sense of urgency by leveraging our strengths in technology and execution, and by working in collaboration with customers and partners as we strive to resolve shared global social challenges.



## Promoting Innovation to Enrich a Diversified Society

**Takimoto** ■ While economic growth has traditionally been society's main objective, people's goals are now more multifaceted, as exemplified by the SDGs, and this trend will continue. Society is experiencing dramatic changes in a manner incomparable to the past. As previously mentioned, collaboration with other companies is key and we at the Value Innovation Department are promoting open innovation to provide wide-ranging solutions to enrich a society with ever-changing values. Examples include our collaboration with partners on new business ventures and creating new businesses to resolve social issues. We are also accepting the challenge of creating new business models that strengthen our earning power, an area where Chiyoda historically requires improvement. Mr. Kunigo and Ms. Senna are correct that our customers acknowledge our technical and project execution capabilities, and adequate earning power is essential for these capabilities to materialize. I hope to see Chiyoda create new business models through open innovation and establish solid foundations, enabling us to provide unparalleled customer satisfaction in a rapidly changing society.

Creating new businesses and/or business models is not simply a case of applying new concepts. We must also conduct research and provide substantiation based on our experience. While new ideas are necessary, innovation can only be achieved by accumulating technical expertise over an extended period. As an engineering company, Chiyoda's strength is our intangible assets of experience and knowledge and colleagues with an abundance of each. To further



enhance this strength and accelerate innovation, we need to consider how to efficiently deploy and utilize these intangible assets using new technologies.

#### Actively Proposing Themes and Realizing Projects

**Nishioka** ■ To me, the purpose of an engineering company is to apply its expertise in numerous fields in the evaluation of specialist companies' technologies and capabilities, select the most suitable company on a project-by-project basis and collaborate based on a philosophy of flexible project execution as 'One Team' to meet common objectives. Chiyoda's ability to unite a wide variety of companies towards achieving common goals is a great strength.

Our future activities will concern both energy, as we contribute to the energy transition and decarbonization, and conquering challenges such as aging societies, Japan's declining population, and food shortages. We therefore need to be a company that leads projects by delivering innovative solutions in the fields in which we currently operate and in new areas. In the Life Science Project Department, we have commenced operations in new fields such as insect-based food and high molecule drugs, but a significant amount of our current operations remain in EPC projects. We need to create a system that allows us to continue meeting customer needs for EPC of industrial facilities while maximizing use of DX and AI technology in the labor-efficient implementation of projects, thereby enabling us to focus on new fields where we can meet customer requirements and actively set goals to be met by 2050, then disseminate them to our customers and society at large. I hope to see Chiyoda resolve social issues by uniting companies and working collaboratively to achieve common goals. In the medical field, for example, this could mean setting the goal of widespread dissemination of effective treatments for diseases for which none currently

exist, and proposing ways to achieve that goal. I want us to leverage our company's ability to assess technologies and capabilities, then incorporate a wide variety of companies into 'One Team,' leading projects that achieve goals and resolving issues.

**Kunigo** ■ Our purpose of 'Enriching Society through Engineering Value' has two aspects. The first is engineering the means by which society can be enriched. This is the area in which we have the greatest capabilities, having established a track record over many years, and is also one in which society has great expectations. The other aspect is engineering the concept of what enriching society looks like. This is what Mr. Nishioka was discussing. Although responding to the needs of society is important, there are currently very few companies with a clear vision for the future. The unique value Chiyoda brings is our ability to take the lead in proposing a vision for what enriching society looks like, then utilizing our capabilities as an engineering company to provide technology and solutions that carve out a path towards realizing that vision.

As Mr. Takimoto mentioned, there is a possibility that society will change significantly in the future. We have all witnessed how items such as refrigerators, washing machines, mobile telephones, televisions, air conditioners and automobiles became more widespread across the generations, dramatically improving lives and creating new lifestyles. When considering what we want to achieve in the future, we will require new ideas based on the premise that society is fundamentally changing. Establishing a vision for the future in an uncertain world is extremely challenging. However, Chiyoda's talented personnel with expertise, skills and experience in many fields place us in a unique position of being able to present a vision of what society should aim for, and I hope to see us realize this purpose by being leaders for our customers and society.



#### Leveraging Digital Technology to Optimize Solutions for the Efficient Use of Existing Equipment

**Fujii** ■ Social conditions and our business environment are changing significantly, and Chiyoda's purpose is to provide optimal solutions to deliver world-class projects, and to support the resolution of customer operation and maintenance issues that are challenging for business owners. What enriching society looks like is in constant flux and we are expected to apply technology through engineering that meets modern needs. Our strengths are that we have the engineering and technological expertise of engineers with a successful track record across many fields and that we have earned the trust of business owners.

The global population is expected to increase in future, while the population in Japan and other major industrialized countries continues to decline. The equipment operation and maintenance market is expected to decline in Japan due to the falling domestic population and resource allocation to decarbonization fields, and efficient operation of existing equipment will be required to overcome the labor shortages. Efficient use of existing equipment is also important given that new energy sources to replace existing sources are still under development. To address these issues, the O&M-X Solutions Department is leveraging Chiyoda's engineering and digital technology capabilities built up over many years and, together with the physical services of Chiyoda X-ONE Engineering Corporation, will focus on providing solutions that support the optimization of equipment operation and maintenance. We currently provide these services in Japan but will expand overseas and refine our competitiveness while enlarging our business beyond existing frameworks, such as extending the scope of our EPC projects to provide O&M services. My personal mission is to propose solutions that maximize synergies between EPC projects and develop plans for commercialization.

#### Chiyoda's Implementation Capabilities and Realizing 'Energy and Environment in Harmony'

**Kotani** ■ Our purpose is to implement our engineering and technological expertise to deliver optimum solutions to customers that benefit society. I am part of the Technology Development Department, and we 'scale up' technologies from customers and partners for practical application. This is the essence of engineering. Engineering companies collaborate with partners to unite technologies in numerous fields for practical application in projects worldwide. In that sense, they have great value. Our strength is our experience working on overseas projects while being based in Japan, which has an abundance of technologies with outstanding potential, and our record of practical application of technologies.

As the world seeks carbon neutrality by 2050, we will leverage our strengths and support the realization of a society that achieves the 'Energy and Environment in Harmony' that Chiyoda has long advocated. I am currently working on the development of CCUS\*1 technology that reduces CO<sub>2</sub> emissions and enables the reuse of CO<sub>2</sub> as a resource. CCUS will be a major step forward in the transition from a traditional energy resource society to one which focuses on 'Energy and Environment in Harmony.' We will focus on NET\*2 technologies that present even greater challenges, such as Direct Air Capture (DAC), a technology that efficiently extracts CO<sub>2</sub> from the atmosphere, and will progress towards their practical application.

To achieve 'Energy and Environment in Harmony,' it is important to explore new ways of using energy while reducing CO<sub>2</sub> levels. I hope Chiyoda will be at the forefront of realizing carbon neutrality and advocating new ways to use energy that are radically different from conventional energy conservation methods, including thermal recycling and improving equipment efficiency, along with the processes to implement these solutions.

\*1 Carbon dioxide Capture, Utilization and Storage

\*2 Negative Emissions Technologies: Technologies that remove CO<sub>2</sub> from the atmosphere through capture, storage and immobilization







### Contributing to the Development of Offshore Wind Power in Japan to Realize a Sustainable Society

**Katakura** ■ I also want to see a sustainable society centered on energy and the environment. In my area of offshore wind power generation, large-scale adoption and cost reductions are pending, which has ensuing economic ripple effects. This sector will be essential to making renewable energy a core power source as we progress towards carbon neutrality by 2050. Japan's offshore wind power generation industry is relatively new and it will be essential to introduce advanced technology, know-how and supply chains from Europe, while adapting to Japan's unique environmental and regulatory conditions, to achieve the national goal of introducing 10GW of offshore wind power generation by 2030. Chiyoda has extensive experience in overseas projects and we have demonstrated our philosophy of collaborative project execution, working with companies from Europe and around the world. As such, our involvement will facilitate the effective introduction of European technology into Japan and, looking ahead, expanding the scope of what can be handled domestically would be ideal from a national policy perspective. However, the reality is that



employing specialist talent is challenging and many areas cannot be covered by business operators alone. Conversations with customers have identified a strong need for the resources and knowledge that engineering companies, such as Chiyoda, provide. Although Chiyoda does not directly own assets such as transportation or construction equipment, we use our engineering expertise and project management experience to enable partner companies who do to effectively utilize their assets, and we provide flexible resources without the restrictions of asset ownership. As we adapt to the rapid changes in society and our business

environment, there will be challenges that business operators cannot conquer alone, and I want to see Chiyoda add value by providing tailored solutions to individual situations. We provide services encompassing software operations, such as Pre-FEED<sup>\*3</sup>, and will remain alert to future changes in offshore wind power generation, expanding the scope of our business as we contribute to the development of the industry in Japan.

<sup>\*3</sup> Front End Engineering Design

**Kunigo** ■ Although most current climate change measures to reduce CO<sub>2</sub> emissions are on the production and supply-side, carbon neutrality cannot be achieved through the supply side alone. Demand-side initiatives that focus on user behavior and consumption habits are equally important. Chiyoda has implemented advanced engineering solutions for plants and processes both on the energy supply side and the demand side. As Mr. Kodani mentioned, I want to see Chiyoda be proactive as we investigate alternative energy supply solutions while also incorporating demand-side perspectives. This approach can also apply to non-energy fields. In the automobile industry, for example, while supply-side initiatives such as electrification,

autonomous driving and car sharing are progressing, it is also necessary to transform how people travel and transportation logistics, i.e., the demand side. Significant changes will also be required in the use of mineral resources and food.

Achieving carbon neutrality requires creative engineering on both the supply and demand sides. As an engineering company, our purpose is to provide engineering and technological expertise to deliver optimal solutions for our customers that benefit society as a whole, and pursue this in fields ranging from energy to transportation, logistics, resources and food. Although this is a huge task, I believe we should work backwards from our goals, connecting our businesses to maximize internal synergy and understanding what we must do as a company to achieve them.

The scope of 'Enriching Society through Engineering Value' will expand in the future and it will benefit all roundtable discussion participants to take a moment to reflect on Chiyoda's purpose and vision for society.

# Human Resource Management

## Human Resource Management Policy (Materiality)

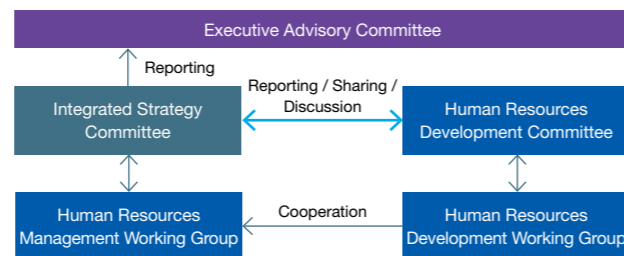
As Chiyoda's most valuable asset, expanding and advancing human resources is a key driving force for growth and we are advancing human resource management in the four areas of low carbon and carbon recycling, hydrogen, energy management and life science as part of our materiality in the transformation of our business portfolio.

### Human Resource Management Materiality

Human resource development policy	Expanding and enhancing human resources	The Chiyoda Group proactively contributes to resolving society's issues by leveraging its advanced engineering capabilities and expertise through the execution of business in our four new business areas, and develops human resources to further refine their problem-solving capabilities.
	Digital human resource development	We are strengthening our business foundations through digital transformation, changing employee mindsets and engineering digital transformation in project execution, corporate activities, society and industry, as we accelerate the development of new businesses.
Internal environment improvement policy	Health management and creation of an organizational culture in which diverse people can play an active role	Employees' mental and physical wellbeing directly influences business performance and we promote an organizational culture that embraces and leverages the diversity and individuality of our human resources.

## Advancing Human Resources

In April 2022, Chiyoda created a Human Resources Management Committee, operating under an Executive Advisory Committee, comprising all division directors and chaired by the Chief Human Resources Officer (CHRO), who is also currently Director of the HR & DX Division. The committee discusses topics such as human resource allocation, organizational functions and project execution systems to meet business plan goals and realize business portfolio transformation in each business domain, and promotes cross-division human resource allocation, external recruitment and the formulation of human resource development strategies.



To further strengthen the connection between business and human resource strategies, and following discussions regarding human resource allocation and recruitment strategies in a Human Resources Management Working Group (operating under the Integrated Strategy Committee), the Human Resources Management Committee was renamed the Human Resources Development Committee in April 2023. The CHRO continues to serve as chair and Human Resources Officers (HROs) from each of the four job categories are central to further accelerating the formulation of human resource development strategies.

## Human Resource Development Principles

Chiyoda has defined the following Human Resource Development Goals to expand and enhance human resources and is implementing human resource development measures to reach these goals.

Human Resource Development Goals	Basic Attitude	Business Execution Abilities	Organizational Management Capabilities
	<p>Professionalism as standard</p> <ul style="list-style-type: none"> <li>Awareness &amp; improvement as a professional</li> <li>Humbleness &amp; communication skills</li> <li>Independence &amp; determination to take on challenges</li> </ul>	<p>Accelerating growth and enhancing our 'Business Execution Abilities'</p> <ul style="list-style-type: none"> <li>Ability to set &amp; complete tasks</li> <li>Customer oriented with a bird's-eye view</li> <li>Ability to respond to changes</li> <li>Ability to contribute to organization</li> <li>Ability to mix digital technologies with value creation</li> <li>Expertise</li> </ul>	<p>Early appointment and development of human resources with 'Organizational Management Capabilities'</p> <ul style="list-style-type: none"> <li>Capability to unite a team</li> <li>Capability to embrace &amp; make the most of diversity</li> <li>Capability to improve &amp; develop human resources/organization</li> </ul>

## A Human Resource System Supporting Human Resource Development

In fiscal 2021, Chiyoda revised its human resource system to support human resource development, more favorably evaluating and rewarding employees who demonstrate business execution abilities and organizational management capabilities, and supporting the development of both traits, enabling employees to take on positions with added responsibility within the Company, regardless of age.

### System for Enhancing Business Execution Abilities

We are further developing the expertise and unique strengths of our human resources and their ability to independently identify and resolve social issues ('set and complete tasks.')

#### Fellow System

In fiscal 2022, we established a system for employees who demonstrate outstanding expertise and appointed three fellows, one from existing business fields and one from each of the new business fields of hydrogen and life science. Fellows are expected to be employee role models and leaders in terms of Chiyoda's business strategy.

#### Enhancing Our Ability to Set and Complete Tasks

Chiyoda commenced action learning-based training in fiscal 2021, principally intended for middle management. There were fifty participants in fiscal 2022 and further expansion of this training is planned from fiscal 2023.

#### Career Dialogue with Management

Chiyoda convenes career aspiration discussions between employees and managers at least once per year, enabling management to better understand employee career objectives and employees to evaluate their own careers and the roles expected of them, then reassess targets for personal growth.

#### Goal Setting Leading to Growth

Chiyoda also convenes annual Companywide discussions to ensure our goals will lead to growth from the perspective of HROs and fellow managers (diagonal) in addition to line managers (vertical).

### Further Enhancing Organizational Management Capabilities

To further enhance the organizational management capabilities (the ability to maintain and develop organizations and human resources) of leaders, Chiyoda puts organizational management into practice at an early stage.

#### Appointing the Right People to the Right Positions

Chiyoda encourages the development of younger employees by diversifying their knowledge and experience through job rotation, apportioning responsibilities commensurate with capabilities regardless of age. This has resulted in the emergence of young leaders achieving divisional director and company president positions early in their careers. HROs are key to this initiative, as discussions are held across operational and functional divisions prior to decisions being made.

#### A Results- and Merit-based System that Transcends Age

Chiyoda has established a human resource system under which talent is promoted to suitable positions regardless of age, with appropriate support, to foster the emergence of new leaders.

#### Evaluating and Monitoring Organizational Management Capabilities

Chiyoda conducts evaluations focused on organizational reform and human resource development (organizational management capability evaluations) for section leaders and above, encouraging these employees to continually enhance their organizational management capabilities. We also provide opportunities for colleagues and team members to offer input regarding 360° observation, enabling self-reflection and promoting transparency as an organization.

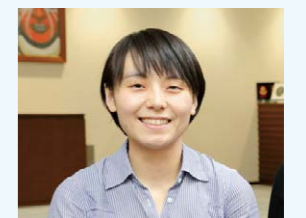
## Message

### Building a Foundation for Human Resource Development

I joined Chiyoda as a mid-career hire in fiscal 2021 and am now involved in employee evaluation and promotion in the HR Department.

Chiyoda's greatest asset is its human resources and we have transformed our human resource system, supporting the growth of employees as they assume new challenges. Having been personally involved in the transformation, I can attest to Chiyoda top management's commitment to these reforms.

I look forward to participating in our company's growth as we combine the new human resource system and human resource development measures with our established 'flat' organizational structure, and our culture of assigning employees to positions of responsibility regardless of age.



**Rika Terajima**  
Group Leader,  
Personnel Evaluation Group,  
Human Resources Planning Section,  
Human Resources Department

Human Resource Management

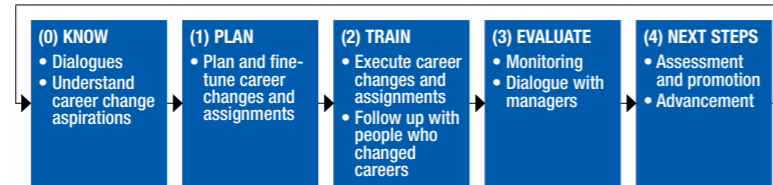
Human Resource Development Initiatives Led by the CHRO and HROs

Working under the CHRO, HROs lead the realization of Chiyoda's human resource vision, while leveraging the strength of our human resources cultivated over many years.

We will continue cooperating with the Human Resources Development Committee to formulate transfer strategies that optimize human resource development and, through regular discussions between HROs and employees (HRO interviews), will accelerate human resource development by aligning individual employee aims and personal goals with the Company's overall business objectives.

HRO Mission

1. Visualizing current position of human resource value  
Career development discussions → Job category decisions → HRO interviews
2. Identifying human resource visions
3. Propelling processes to realize visions



\* HROs will examine new measures with the HR Division based on opinions of employees and human resource-related issues identified through dialogue



**CHRO**  
**Masaki Kumagai**

Mr. Kumagai joined Chiyoda in 1985 and worked on overseas project instrumentation design and installation in the Instrumentation & Control Systems Department. In 2010, he was appointed the General Manager (GM) of the Construction Estimation Department and the Offshore Upstream Business Operation Department, prior to being relocated to the UK as Executive Director of the subsidiary Xodus Group Limited. In 2019, he was appointed Assistant to the Division Director of the DX Division and, after serving as Vice President of Energy Project Operations, was appointed Chief Digital Officer (CDO) and Division Director of the DX Division in April 2021. In April 2022, he was appointed CHRO, CDO and Division Director of the HR & DX Division.

<b>Four Job Categories</b>	<b>Ex: Engineering Professional</b>	Exemplary knowledge in specialized technology domains	<b>Px: Project Management</b>	Central figure in project orders and execution
	<b>Bx: Business Incubation</b>	Taking on challenge of new businesses and innovations	<b>Cx: Corporate Professional</b>	Supporting organizations and projects, in charge of steadily executing corporate functions

HRO-Ex



**Ayako Shoda**  
Ms. Shoda joined Chiyoda in 1997. She holds a master's degree in chemical engineering and Professional Engineer (PE - Chemical) certifications in Japan and the USA. She has years of experience in oil refining process design, including over five years as a section leader. In September 2020, she was appointed HRO-Ex and has also managed the Health Management & Diversity Promotion Office in the HRD Department since April 2022.

HRO-Px



**Shimpei Saito**  
Mr. Saito worked in the Civil Engineering Department after he joined Chiyoda in 1995, before being responsible for overseas projects following his relocation to the Project Division in 2000. Having worked on overseas projects for over 12 years, his extensive experience includes work at a copper smelting plant in Myanmar, a methanol plant in Saudi Arabia and LNG plants in Qatar and Australia. He was appointed GM of the SQEI Department in 2020 and HRO-Px in April 2022.

HRO-Bx



**Takuo Yasunishi**  
Mr. Yasunishi joined Chiyoda in 1994, working on process equipment and licensing operations for environmental equipment in the Environmental Technology Department. He was appointed to the Domestic Project Department in 2004, being responsible for petrochemicals in domestic projects and gaining further experience while on customer assignments for two years. He was appointed GM of the Technology Development Department in 2019 and HRO-Bx in September 2020. He has served as GM of the Business Innovation Department since April 2022.

HRO-Cx



**Hirotami Kubo**  
Having joined Chiyoda in 1992, Hirotami Kubo was assigned to the Sales Department, where he managed sales in industries such as pharmaceuticals and chemicals. He was also appointed as administration manager for the construction of a large LNG plant in Qatar and a polysilicon plant in Malaysia during this time. After eighteen years in the Sales Department, Mr. Kubo worked in the Overseas Project Division in the Company's headquarters and on sites overseas prior to being appointed GM of the Secretarial Office in 2018 and GM of the Human Resources Development and HRO-Cx in April 2023.

Introducing Professionals from Each Job Category

The following articles are from employees who have charted their own career paths, covering a wide range of experience, and who continue to play an active role in the Chiyoda Group.

Engineering

I love engineering and am delighted to be able to work in piping engineering in particular. Combining equipment to develop plants and solve technical problems is extremely rewarding. I have recently been assigned additional discretionary authority and this has made my work even more fulfilling. I also recently supplemented my Mechanical Professional Engineer (PE) qualification with a Professional Mechanical Engineer qualification through self-study, which has enabled me to gain further experience in process engineering. I hope to continue my development by acquiring a wide range of skills, including beyond my own field of engineering, to expand my capabilities as an engineer.

**Daisei Tanaka**  
Piping Engineering Department

Project Management

Having previously worked as a plot plan and piping engineer on large-scale overseas energy projects, I am currently responsible for FEED and cost estimation on a wide scope of pharmaceutical facilities in Japan. The fast pace and unique challenges of pharmaceutical projects have enabled me to gain a variety of experience, which is extremely rewarding. After gaining comprehensive experience in my current position, I wish to progress to become an Engineering Manager and Project Manager and I will continue working diligently to advance my career for my wife and three daughters.

**Ryuichi Watanabe**  
Life Science Project Department

Business Incubation

I am currently seconded to Pharmira Co., Ltd. and my duties include formulating business plans, compiling financial statements and other accounting activities, and managing meetings such as the Board of Directors' meetings and the General Meeting of Shareholders. I worked in the Finance Department prior to my secondment and progressing from working purely with numbers to experiencing how that information directly relates to business was extremely enlightening. I am the sole person responsible for finance at Pharmira Co., Ltd., and creating a new system from scratch, making proposals and designing my own way of working is challenging but rewarding. I look forward to expanding my capabilities and leading business execution in the future.

**Makie Shinoto**  
Seconded to Pharmira Co., Ltd.

**Junya Saka**  
Accounting Department

Corporate

The Chiyoda Group is transforming its business portfolio and, having been engaged in functional engineering for industrial plants since joining Chiyoda approximately nine years ago, after discussing career aspirations with my HRO, I asked to take on a new challenge in the Finance Department, where I currently work in accounting management. I am excited by the challenge of working in a completely different discipline and I am currently expanding my knowledge base while studying for additional qualifications. It is reassuring to know that I have the support of Chiyoda and can turn to my manager and colleagues at any time for advice. My initial goal is to refine my finance and accounting skills, whereupon I will be able to offer my support in resolving more complex challenges in fields such as new business and business investment.

Message

Aligning Business Strategy with Employee Career Aspirations

Large, complex industrial projects require the mobilization of large numbers of employees and assigning personnel in consideration of optimum human resource development becomes a challenge due to capacity restraints. Accumulating the relevant experience is essential for human resource development, however, and we will harvest the information gained from HRO/employee interviews as the basis for our continued efforts to align assignments that optimize personnel development with the Group's overall business strategy, as we expand and enhance our human resources.



**Mayuko Mori**  
Group Leader, Career Development Group, Human Resources Development Section, Human Resources Department

## Human Resource Management

### Voluntary Development Initiatives

The next generation DIGGING LAB (DIGLAB) is a voluntary employee project, launched in 2020, that transcends business division boundaries and promotes organizational revitalization by initiating and implementing organizational revitalization solutions in areas such as new business development, work-life balance, human resources, organizational development and project management. In April 2022, DIGLAB was upgraded beyond a voluntary activity framework to an official company activity under the 'Value Innovation Department.'



#### HR Award

An award that recognizes outstanding initiatives promoting the growth of companies and individuals in areas related to people and organizations.



#### Psychological Safety Award

An award celebrating teams and organizations working to enhance psychological safety.



#### Career Ownership Management Award

An award recognizing companies that promote career ownership management.

### Message

#### Organizational Support for DIGLAB

DIGLAB has energized the Chiyoda Group by proposing and implementing solutions that surpass individual organizational responsibilities, from creating new businesses to recommending public relations and human resource initiatives. Examples include the formulation of Chiyoda's new purpose, in-house radio, an insect-based food development initiative and the launch of an alumni group.

Providing organizational support for DIGLAB is key to reviewing and implementing organizational revitalization proposals, enabling us to reap the benefits of the results and apply the lessons learned to our core business.



**Akihiro Iwasa**  
General Manager,  
Value Innovation Department

### Diversity and Inclusion (D&I) Initiatives

#### D&I Policy

The Chiyoda Group responds to change, creates social value and fulfills its purpose of 'Enriching Society through Engineering Value' by respecting diversity in terms of gender, nationality, race, age, religion, sexual orientation, gender identity, disability, working style, role, etc. The Group promotes a working environment that unites diverse opinions, wisdom, experience, abilities and technological capabilities and in which all individuals are respected and can demonstrate their ability.

Enacted October 1, 2023

#### Women

To increase the percentage of women in management positions as an indicator, the Chiyoda Group supports the transition from women in general positions ('dedicated positions') to career-track roles and is implementing the following initiatives:

- Creation of a work-life balance support handbook summarizing work regulations, childcare and nursing care support rules and how to apply for specific programs, supporting female employees in balancing work with marriage, pregnancy, childbirth, childcare and nursing care
- Introduction of systems to subsidize childcare and day care services for sick children

#### More Experienced Employees

Chiyoda implemented career training in fiscal 2022, encouraging employees to develop a mindset responsive to changes in their environment.

#### Non-Japanese Employees

Chiyoda employs a significant number of non-Japanese personnel on large-scale overseas industrial projects in fields such as LNG. The ratio of non-Japanese employees in management positions was 3.1% in fiscal 2022 and we continue our strategy of promoting employees based on merit.

#### Work Style Reform

As a way of working post-covid, we continue to facilitate work style reforms, adopting a hybrid system that optimizes organizational performance by combining the efficiency of working from home with the creativity inspired by uniting in the office. Childcare leave taken by male employees increased significantly from 44.9% in fiscal 2021 to 75% in fiscal 2022.

### D&I Seminar

In May 2023, over four hundred employees participated in a workshop, with the aim of furthering efforts to create an environment that recognizes diversity, and allows people to thrive as their true selves.

### Mid-career Hires

The Chiyoda Group proactively recruits mid-career personnel, with the aim of securing diverse talent with the requisite knowledge and skills. Mid-career employees hired in fiscal 2020 to 2022 was approximately 3.8 times larger than the corresponding figure for fiscal 2017 to 2019 and mid-career hires occupy 31.7% of management positions. We will continue to hire personnel based on merit.

### TOPICS

#### SCEJ Award for Outstanding Women's Activity

In line with our corporate philosophy of 'Energy and Environment in Harmony,' Masayo Shinohara's achievements include contributing to the Environment Section while being consistently productive as an engineer. As a member of the Gender Equality Committee of the Society of Chemical Engineers, Japan (SCEJ) she is also dedicated to promoting the advancement of women, including through the planning of events such as the Japan Women Engineers Forum, and received an SCEJ Award for Outstanding Women's Activity in fiscal 2021.

She currently leads the Environment Section of the Engineering Safety, Fire and Environment Department, newly established in response to increasing environmental demands relating to plant construction. In addition to leading environmental management operations, she is also actively involved in the training of environmental managers and enhancing Chiyoda environment-related proposals.



**Masayo Shinohara**  
Section Leader, Environment Section  
Engineering Safety, Fire  
and Environment Department

### Health and Productivity Management Initiatives

Chiyoda released its 'Declaration of Health and Productivity Management' in April 2020, to promote a working environment that encourages employee mental and physical wellbeing and have also established a 'Health Management Promotion Council', chaired by the Chief Wellness Officer (CWO). In June 2023, the council's Chairman, Vice Chairman and occupational physician (a council member) held roundtable discussions on the theme of 'The goal of our Health Management' to review the efforts made in fiscal 2022, discuss the thoughts behind the 'Health Management Strategy Map' newly announced as a compass for health management, and discuss the direction to take.



**Masakazu Sakakida**  
Representative Director  
Chairman of the Board President,  
CEO and CWO, Health Management  
Promotion Council Chair

As CWO, I have always prioritized employee mental and physical well-being and increasing health awareness Companywide as a prerequisite to increasing workplace productivity, enhancing employee fulfillment and improving corporate value. Each employee is highly conscious of their health and our business will further develop by realizing the employee's well-being and productive workplace through health management, and our corporate value will increase through proactive disclosure of information. This is the corporate vision that I am aiming for. The Company will support the execution of health management initiatives to create a workplace where all employees are healthy both physically and mentally.



**Masaki Kumagai**  
Senior Vice President, CHRO & CDO  
Director of HR & DX Division  
Vice Chair of Health Management  
Promotion Council

It is essential that we clearly communicate the twin objectives of raising health awareness among all employees (health promotion activities) while protecting their health (occupational health activities) in a balanced fashion. As Chief Human Resources Officer (CHRO), I will continue to implement effective human resource initiatives according to our Health Management Strategy Map, and, from the perspective of 'Human Capital Disclosure,' we will diligently disclose initiatives and figures internally and externally related to health management. Human resources are Chiyoda's most valuable asset and we will continue cultivating a system whereby employees can enhance their awareness of company human resource initiatives, such as our priority commitment to reducing long working hours.



**Aya Kayano**  
Industrial Doctor,  
Exclusive Industrial Doctor,  
Health Management Promotion  
Council Member

We should utilize data from annual employee health checkups and health awareness surveys to initiate even more effective employee health enhancing programs, implemented through PDCA cycles. It is essential that we provide conscientious mental and physical care through our occupational health activities, including conducting medical examinations and checking fatigue levels, then proactively communicate results that merit further attention. We also conduct medical surveys overseas through on-location visits and organize employee interviews to proactively identify issues and take appropriate action. I will continue striving to ensure that all employees can travel and work with peace of mind.



Reference is made to the following website as a guide to Chiyoda's future employee health management vision.

<https://www.chiyodacorp.com/en/csr/society/employee/approach.html>

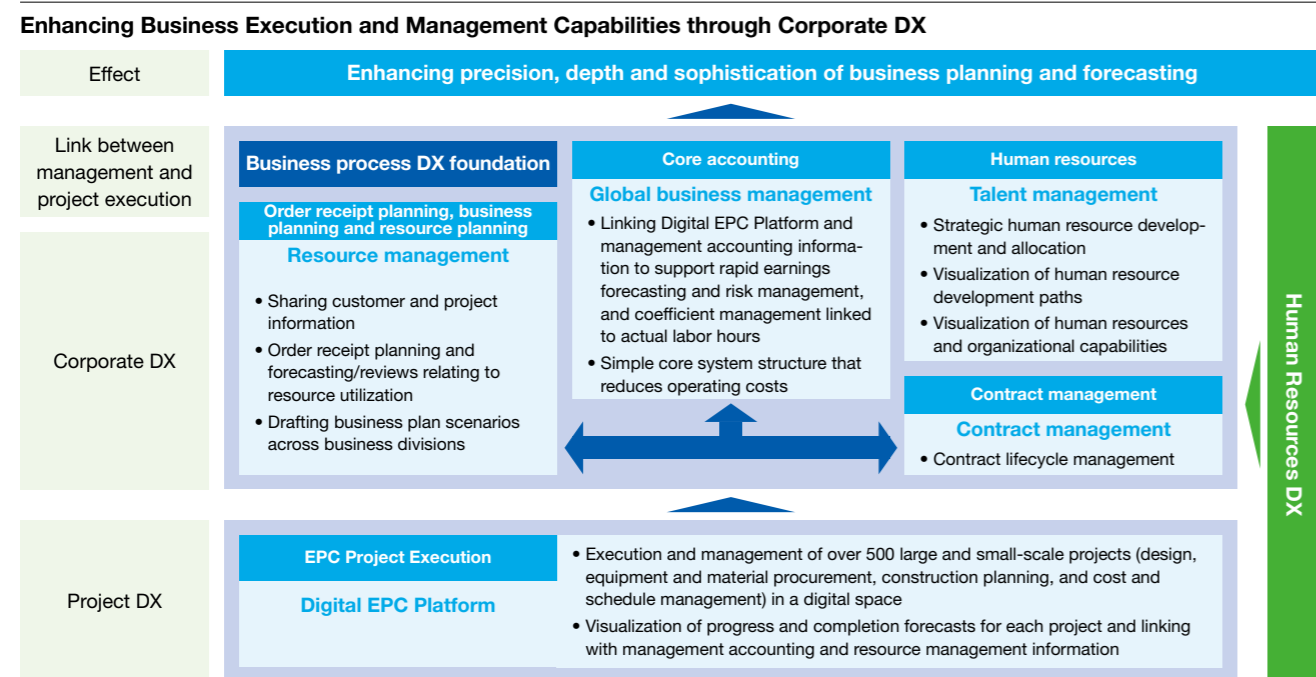
# Accelerating Companywide Digital Transformation (DX)

The Chiyoda Group is accelerating digital transformation (DX) in three areas: Project DX, Corporate DX and Human Resources DX.

Project DX encompasses the implementation of a Digital EPC Platform for the execution (design, material procurement, construction planning, and cost and schedule management) of complex FEED and EPC projects to minimize risks and reduce project lead times, while sharing information within the ecosystem surrounding each project.

Corporate DX involves linking our core accounting activities to projects to accelerate the dissemination of information to management and enable detailed auditing, while simplifying structures and limiting maintenance costs. We also coordinate resource management with order management to facilitate rapid examination of business plan scenarios and implement talent management that enables visualization of human resource capabilities and strategic allocation.

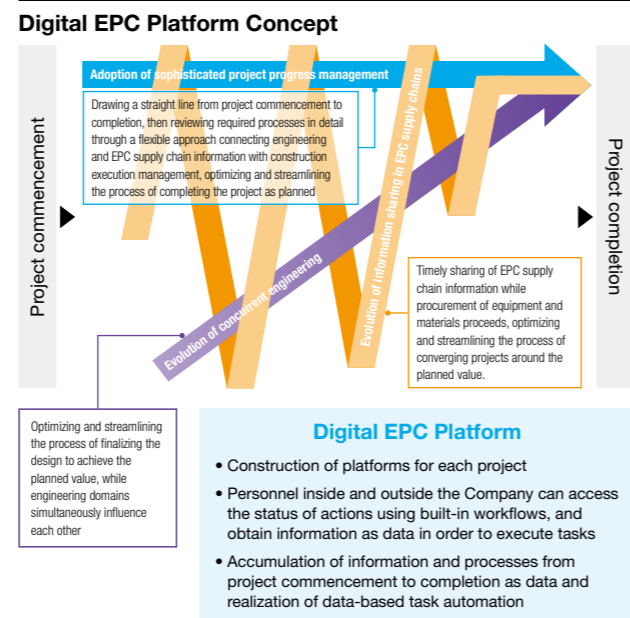
Human Resources DX is essential to enhancing our DX design capabilities by changing employee mindsets as an essential element to advancing DX.



## Improving EPC Project Execution Capabilities with the Digital EPC Platform

We are currently developing a Digital EPC Platform that uses digital technology to advance concurrent engineering and information sharing across the entire EPC supply chain while improving project progress management, which is key to expanding our EPC project execution capabilities.

Parties involved work using the platform from project commencement to completion and information is organized and integrated as data. This enables stress-free use of information that optimizes and streamlines business processes, such as visualizing the current status of the project and sharing this information with related parties. We have also commenced activities to dramatically improve the efficiency, sophistication and automation of operations by accumulating data on the same platform and linking it with applications that utilize digital and AI technology.



## Human Resources DX

We are progressing Human Resources DX as a foundation for Companywide DX by enhancing employee digital literacy and related skills. Centered on the Digital EPC Platform, examples of our progress are shown below.

**Anna Imai**  
Life Science Project Department

**Business activities**  
An EPC project engineer on domestic pharmaceutical plant projects

**Current issues**  
Salient design information is collated as process flows, P&IDs, plot plans and equipment lists. Design information is progressed, reviewed and revised to ensure accuracy and consistency, generating significant workload.

**Expected benefits of the Digital EPC Platform**  
Design documentation is updated based on revised information from within Chiyoda and from external parties such as vendors and customers, and consistency of design information is key. Developing the design in a data-centric manner through the platform enables work execution from the latest revision, even as initial estimated values are updated to final values, leading to improved design quality, efficiency and customer satisfaction.

**Ken Nameshida**  
Project Management Department

**Business activities**  
Planning and managing project costs and schedules at the proposal and execution stages

**Current issues**  
We manage a significant amount of data related to design, construction and procurement, in addition to referring to data from previous projects, and using Excel to collate data across different sources is inefficient.

**Expected benefits of the Digital EPC Platform**  
Being conscious of the need to allocate more time to evaluation and determination rather than simple data tabulation, the platform enables the efficient compilation of live data across many sources and enhances our ability to monitor project progress in real time, identify issues and take prompt remedial action. I look forward to using the platform further to enhance Chiyoda's execution capabilities, competitiveness and profitability.

**Yasushi Fukuzawa**  
Electrical System & Smart Grid Engineering Department

**Business activities**  
Designing power generation, transmission and distribution systems as a power source for plants

**Current issues**  
During design, the exchange of information with other departments and vendors takes place on a personal level, meaning considerable time is spent ensuring the validity and consistency of data.

**Expected benefits of the Digital EPC Platform**  
Organically connecting data across the entire design frees us from the requirement to constantly ensure data's validity and consistency, allowing engineers to concentrate on high value-added design optimization activities and proposing alternative design proposals to customers, positively impacting motivation and reinvigorating further value creation.

**Yuka Nishimura**  
Civil Engineering Department

**Business activities**  
Designing elements such as buildings, pipe racks and concrete foundations within plants

**Current issues**  
Foundation and pipe rack design are the most downstream end of concurrent plant design. Managing changes to design conditions as the design progresses is key, but poses challenges.

**Expected benefits of the Digital EPC Platform**  
Transmitting all information through the same platform enables us to manage upstream design changes and minimize their impacts at an early stage, while delivering competitive schedules and resource planning. Upstream design personnel can also visualize the status of our work, enabling them to more efficiently gauge the scale of impacts. More efficient and reliable change management enables us to propose more effective solutions for our customers with even greater added value.

**Ai Honma**  
Procurement Department

**Business activities**  
Procuring equipment and materials and managing transportation and delivery according to schedules

**Current issues**  
Creating and/or analyzing procurement reports requires the time-consuming process of collating information using inefficient methods, such as searching through previous organization folders, and processing it every time, because data is stored in separate locations using different methodologies.

**Expected benefits of the Digital EPC Platform**  
A supply chain platform releases us from time-consuming tasks, such as collecting order history and cost data, enabling us to focus on higher value-added duties. This standardization reduces workload and improves the quality of deliverables.

**Yusuke Temma**  
Construction Administration & Subcontracting Department

**Business activities**  
Construction planning, cost estimation, ordering and execution management

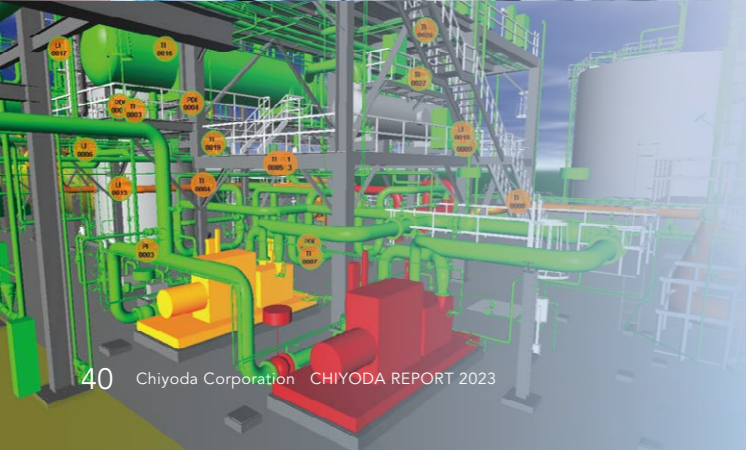
**Current issues**  
Revising schedules when construction is not proceeding as planned requires issuing design and procurement information, collating large quantities of information covering elements such as work volume, material orders and on-site inventory, validity confirmation and schedule revisions and adjustments by experienced personnel.

**Expected benefits of the Digital EPC Platform**  
Being able to collate all required information on one platform greatly increases efficiency using the schedule simulator, which is currently under development, enabling us to focus on coordination with partners and construction contractors, improving our onsite construction execution capabilities.



# Business Strategy

This section introduces the Chiyoda Group's business models and strategies to create sustainable value.

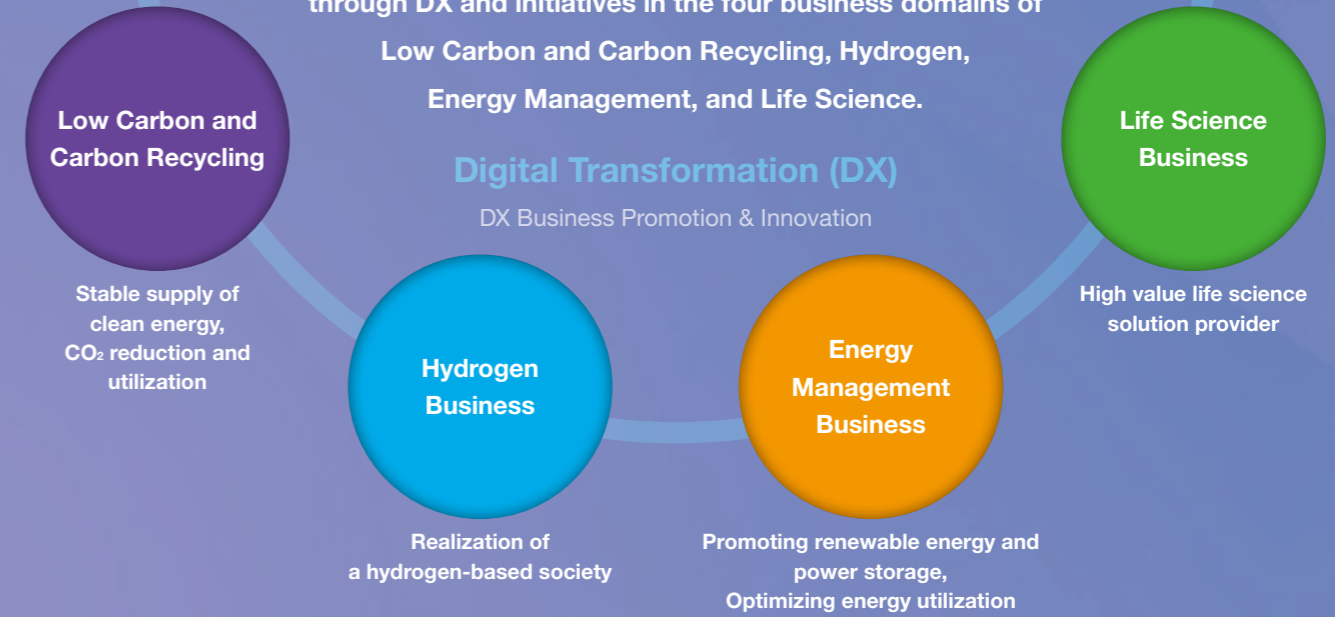


## CONTENTS

- 41 Business Domains / Business Models
- 42 Low Carbon and Carbon Recycling Initiatives
- 44 Hydrogen Business
- 46 Energy Management Business
- 48 Life Science Business
- 50 O&M-X Solutions Business

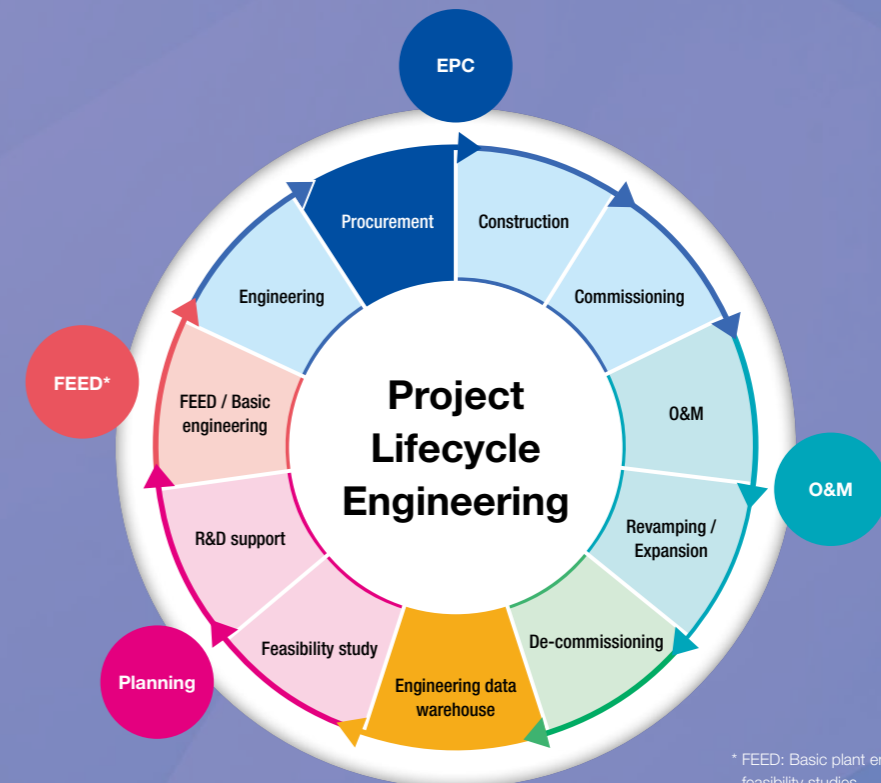
## Business Domains / Business Models

The Chiyoda Group is addressing the increasingly complex challenges faced by our customers and society in general, while **creating new value in engineering** through DX and initiatives in the four business domains of Low Carbon and Carbon Recycling, Hydrogen, Energy Management, and Life Science.



## Project Lifecycle Engineering

Chiyoda's project lifecycle engineering is core to our business model during all project stages, from planning to front end engineering design (FEED), EPC, commissioning, handover, and Operations and Maintenance (O&M).



\* FEED: Basic plant engineering including planning and feasibility studies

# Low Carbon and Carbon Recycling Initiatives



**Takuo Yasunishi**  
General Manager,  
Business Innovation Department,  
Frontier Business Division

## Top Message

Low carbon and carbon recycling is one of the Chiyoda Group's four new business domains. The rapidly changing energy supply market is expected to expand significantly in the short to medium term, and is an area where the Group can combine its engineering expertise and technological prowess to maximize business opportunities as society endeavors to realize a low carbon future.



\* Please refer to Stable Supply of Clean Energy on page 12 for LNG.

## Vision

**Commitment to LNG as a clean and reliable source of energy during the accelerating global energy transition, and further contributing to the social implementation of carbon recycling technology to realize a decarbonized society**

## Fiscal 2022 Review and Initiatives for Fiscal 2023

In fiscal 2022, we collaborated with companies from Japan and overseas to conduct several studies aiming for the application of decarbonization technologies such as SAF/e-Fuel and CCU/CCS.

Specifically, we have established a cooperative framework for e-fuel production with Pace CCS of the UK, which has a proven track record worldwide in CCS system design, and INERATEC of Germany, which has innovative Power-to-X technology. In terms of technological development, we have also begun the development of an innovative CO<sub>2</sub> separation and capture system, which has been selected by the GI Fund.

In addition, we have received orders for EPC work on methanation equipment for INPEX Corporation and EPC work on synthetic fuel demonstration facilities for ENEOS Corporation, and orders for several more FEED and EPC projects are planned for fiscal 2023.

Japan, which has lagged behind the rest of the world in its efforts to become carbon neutral, has moved from a discussion phase to a phase of establishing clear goals and implementing plans, as evidenced by the government's March 2023 release of its CCS Long-term Roadmap. In fiscal 2023, we will continue to accelerate our efforts in the decarbonization sector.

## Business Environment

Opportunities	Strengths	Risks
<ul style="list-style-type: none"> <li>Accelerating the application of low carbon and carbon recycling technology in response to the accelerating global transition to a decarbonized society</li> <li>Launch of the Japan Organization for Metals and Energy Security (JOGMEC) Advanced CCS Support Project in Japan and institutionalization of other effective and concrete support measures</li> </ul>	<ul style="list-style-type: none"> <li>The Group's engineering expertise and EPC project execution experience harnessed in the successful delivery of industrial facilities in over 60 countries</li> <li>State-of-the-art technology development capability and the ability to evaluate and integrate diverse technologies</li> </ul>	<ul style="list-style-type: none"> <li>Delayed policy development and policy/environmental changes</li> <li>Emergence of discontinuous, disruptive technologies</li> </ul>

## Goals and Strategies

- Further participation in Advanced CCS Support Project and International Oil Company (IOC) and National Oil Company (NOC) projects from the initial stages to receipt of orders for onshore facilities, partnership with companies possessing viable technologies and channeling the Group's refrigeration technologies in the field of liquefied CO<sub>2</sub> as a means of differentiation
- The award of multiple commercial CCU facility EPC projects in Japan and overseas by 2030 by contributing to client demonstration projects and partnering with companies possessing differentiated technologies
- Develop innovative technologies and contribute to external development through Chiyoda's implementation capabilities to establish a licensing business and win further EPC projects

## TOPICS

### ▶ Methanation

The equipment in the test plant contract awarded by INPEX Corporation will have one of the world's largest e-methane production capacities (400Nm<sup>3</sup> CO<sub>2</sub>/h). Through this project, the Group will contribute to the early social implementation of methanation technology, a key component for decarbonization.

### ▶ CCUS

The Group has collaborated with Mitsubishi Corporation and BLP Power, an independent power producer in Thailand, on projects to technically study and economically evaluate carbon dioxide capture, utilization and storage (CCUS), and other technologies to reduce CO<sub>2</sub> emissions. Chiyoda also entered into a joint study agreement with PT Pertamina, a state-owned oil company in Indonesia, to cooperate in decarbonization projects to develop CO<sub>2</sub> reforming of methane and CCU technology in Pertamina's upstream field, producing value-added chemical products.



Memorandum of understanding signing ceremony with PT Pertamina at the AZEC public-private investment forum (Left to right) Yasutoshi Nishimura (Minister of Economy, Trade and Industry), Setsuo Iuchi (Senior Vice President of Chiyoda), and Nicke Widayati (President of PT Pertamina)

### ▶ e-fuel Production

Through the order received from ENOS Corporation for the construction of a synthetic fuel demonstration facility and the memorandum of understanding for strategic collaboration signed with INERATEC, Chiyoda will continue contributing to the early social implementation of synthetic fuel production technology, key to realizing a carbon neutral society.

### ▶ Development of CO<sub>2</sub> Separation and Recovery Equipment

Chiyoda Corporation, JERA Co., Inc. and the Research Institute of Innovative Technology for the Earth (RITE) have commenced a technology development and demonstration project for large-scale separation and recovery of CO<sub>2</sub> from gas-fired power generation exhaust gas, under a NEDO Green Innovation Fund program. The project combines Chiyoda's experience of process development, scaling up, application of technology and LNG plant construction with JERA's gas fired power plant operation and maintenance expertise and RITE's CO<sub>2</sub> separation and recovery technology, and will contribute to decarbonization while utilizing existing infrastructure to realize low-carbon utilization of natural gas.



Industrial-scale containerized power-to-liquid plant module by INERATEC

## Message

### Contributing to the Technological and Business Development of Carbon Recycling Technology

We are engaged in technology and business development related to CCUS, which is to capture, utilize, and store emitted CO<sub>2</sub>, and NET, which is to capture and immobilize atmospheric CO<sub>2</sub>, in order to achieve carbon neutrality worldwide.

We will contribute to the early realization of carbon neutrality and the expansion of our business domain by developing new technologies and optimizing existing and new technologies based on our accumulated knowledge and experience in EPC while promoting business development with a wide range of possibilities, including beyond EPC.



**Ryutaro Hotta**  
Business Innovation Department

# Hydrogen Business



**Yasuhiro Inoue**  
General Manager,  
Hydrogen Business Department,  
Frontier Business Division

### Top Message

Hydrogen is one of Chiyoda's four new business domains and is expected to be key to achieving net-zero goals being established by countries and organizations worldwide. We will continue collaborating with all proponents in contributing to a decarbonized hydrogen society through the application of SPERA Hydrogen, the Group's proprietary LOHC-MCH technology. Using methylcyclohexane (MCH) as the liquid organic hydrogen carrier (LOHC), it enables hydrogen to be safely stored in large quantities and transported over long distances under ambient conditions.

### Vision

**Contribute to the early realization of a hydrogen society, centered on the Chiyoda Group's unique SPERA Hydrogen™ technology, while also leveraging the benefits of multiple hydrogen carriers**

## Fiscal 2022 Review and Initiatives for Fiscal 2023

- Hydrogen Supply Chain Development in Singapore: After signing a memorandum of understanding in October 2021 to explore the feasibility of a hydrogen supply chain in Singapore using LOHC-MCH technology, Chiyoda Corporation, Semcorp Industries and Mitsubishi Corporation agreed to proceed with Pre-FEED design in October 2022 and will enter into further detailed commercialization discussions.
- Scotland to Rotterdam Hydrogen Highway Project: Chiyoda is a leading participant in the hydrogen marine transportation project (LHyTS) to export hydrogen

between Scotland and Rotterdam in the Netherlands using our LOHC-MCH technology. Chiyoda signed a strategic commercial cooperation agreement with Axens of France, which owns the technology for the hydrogen export side of the study, in November 2022.

The Chiyoda Group will continue exploring opportunities to further develop hydrogen chain infrastructure, connecting countries and regions across the globe and facilitating the expansion of hydrogen as a clean and reliable source of energy, fueling industry and realizing society's hopes of realizing carbon neutrality by 2050.

## Business Environment

Opportunities	Strengths	Risks
<ul style="list-style-type: none"> <li>Industrial support measures announced by governments towards net zero, such as the Inflation Reduction Act (IRA) in the USA and the European Green Deal</li> <li>Hydrogen strategy presentations detailing hydrogen introduction in Japan and investment in public and private sectors</li> </ul>	<ul style="list-style-type: none"> <li>SPERA Hydrogen technology enabling hydrogen to be safely and reliably stored and transported under ambient temperature and pressure conditions using existing hydrocarbon infrastructure</li> <li>Integrated engineering capabilities enabling provision of technology and support</li> </ul>	<ul style="list-style-type: none"> <li>Delays in policy development and measures supporting deal structuring</li> <li>Advanced introduction of other hydrogen carriers, including ammonia and liquefied hydrogen</li> <li>Competing technologies</li> </ul>

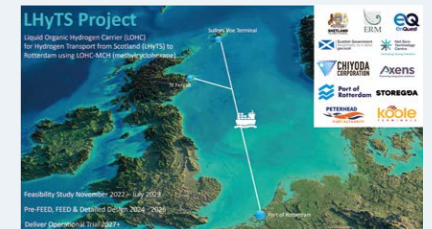
## Goals and Strategies

- Realize project commercialization within this decade and establish a leading market position in the expectation that hydrogen market expansion will accelerate in the following decade
- Continue development of the hydrogen new business domain, establish a sustainable revenue model by 2025 and grow revenue by 2030 through licensing and catalyst sales relating to our proprietary SPERA Hydrogen technology while also creating EPC opportunities
- Proactively continue initiatives to realize hydrogen supply chains in Singapore and Europe
- Position a hydrogen supply chain in Japan and create specific projects through discussions and studies with potential customers and partners
- Maximize the advantages of SPERA Hydrogen, including ease of handling, cost, early realization through utilization of existing assets and integration with peripheral facilities, while continuing research and development to reduce costs and increase efficiency
- Create new business opportunities, from hydrogen supply chain development to utilization, by capturing the synergy that exists between internal Chiyoda departments

## TOPICS

### Cutting-edge Technology for a Hydrogen Society: A Hydrogen Highway Concept in Europe

As the global drive towards decarbonization accelerates around the world, hydrogen is becoming a key clean and reliable source of energy, especially in Europe, where systems for hydrogen adoption and associated projects, such as the hydrogen highway concept, are actively being developed. The project, currently in the feasibility phase, is run by an international consortium of ten companies and governments, including the Net Zero Technology Centre. The Port of Rotterdam's vision is to become Europe's premier hydrogen import hub, connecting storage and transportation infrastructure across Northwest Europe, and this project is key to realizing this goal.



### Message

#### Toward the Realization of the Global Market Introduction of SPERA Hydrogen Technology

The LHyTS hydrogen highway project in Europe is pivotal to realizing the introduction of SPERA Hydrogen technology on a global scale. Europe, and other parts of the world, including Singapore, are rapidly developing marketing and policies surrounding hydrogen and, although there are challenges to conquer, we will continue with our goal of establishing a hydrogen supply chain in Europe using our SPERA Hydrogen technology, and developing new business relating to licensing and the supply of catalysts. We also want to contribute to the decarbonization of the world and pass the baton of a beautiful future to our children.



**Shunsuke Kato**  
Netherlands BV, Chiyoda Corporation



# Energy Management Business



**Yutaka Kawanabe**

General Manager,  
Power & Green Energy System  
Project Department,  
Global Environment & Green Energy  
Project Operations Division

### Top Message

We will continue to advance our energy management business by developing systems based on power generation technologies and more accurate forecasting of power market prices.

We will also continue contributing to the realization of a sustainable environment by promoting feasibility studies and FEED and EPC opportunities for renewable energy and energy storage systems, based on our engineering and technological expertise and EPC project execution experience, such as in large-scale battery energy storage system (BESS) construction and offshore wind power generation.

### Vision

**Continue strengthening our EPC business in the fields of renewable energy, energy storage and energy management systems (EMS), expanding into facility operation and maintenance (O&M) and creating new opportunities utilizing expertise and data accumulated through the successful completion of EPC projects**

## Fiscal 2022 Review and Initiatives for Fiscal 2023

The Chiyoda Group completed the construction phase of an EPC contract for one of the world's largest battery energy storage facilities at the Kita-Toyotomi Substation in Hokkaido in March 2023. The Group was also awarded a 20-year O&M contract for the same facility.

Chiyoda are also accelerating the expansion of our Virtual Power Plant (VPP) and Demand Response (DR) businesses in anticipation of the opening of the supply-demand adjustment market in April 2024, and we are proposing solutions

that combine the construction of storage and aggregation systems for system operators. Customers in energy storage and offshore wind power generation go through a public solicitation process in seeking information, proposals and quotations. The Group will proactively collaborate with customers through business plan and public solicitation support to link the realization of their projects to new work orders for the Group.

## Business Environment

Opportunities	Strengths	Risks
<ul style="list-style-type: none"> <li>Opening of the supply-demand adjustment market in April 2024</li> <li>Accelerating the introduction of grid energy storage batteries through subsidized projects</li> <li>Offshore wind power becoming a main source of renewable energy</li> </ul>	<ul style="list-style-type: none"> <li>Battery energy storage systems and power plants becoming an integral feature of construction sites</li> <li>Offshore wind power project engineering</li> <li>Systems for more accurate power market price forecasting and optimal market selection functions</li> <li>Battery energy storage system control technology using AI to accurately predict renewable energy generation developments</li> </ul>	<ul style="list-style-type: none"> <li>Extended delivery times and increased material, equipment and transportation costs due to raw material shortages and global inflation</li> <li>Project feasibility uncertainty due to operators being selected through public solicitation</li> <li>Lack of professional resources throughout the industry</li> </ul>

## Goals and Strategies

	2023	2030
<b>VPP/DR Business</b>	Accelerating commercialization	Ongoing business development
<b>Energy Storage</b>	EPC business development	Continued EPC business
<b>Offshore Wind Power Generation</b>	Public solicitation support Contracted engineering services	<ul style="list-style-type: none"> <li>Onshore electrical equipment EPC business development</li> <li>Realization of floating turbine commercialization</li> </ul>
<b>Locally Distributed Energy</b>		Participation in distributed energy supply business

## Strategy

- Expand business for regulating power demand, including energy storage EPC/O&M, resource aggregators, and other efforts
- Expand the scope of offshore wind power business and strengthen competitiveness through collaboration with partners regarding floating projects
- Accumulate knowledge and participate on the operator side through the expansion of operation and maintenance services

## TOPICS

### Completion of One of the World's Largest Battery Energy Storage Systems and Award of an O&M Contract

The completion of one of the world's largest battery energy storage facilities at the Kita-Toyotomi Substation in Hokkaido is essential to stabilize supply/demand of North Hokkaido Wind Energy Transmission Corporation's power grid by mitigating fluctuations in unstable wind turbine output, and will double Hokkaido's wind power generation capacity by connecting turbines with a 540MW output. The customer, Chiyoda Corporation and major subcontractors and vendors worked as 'One Team' over a five-year period to conquer many challenges, including the extreme weather conditions of northernmost Hokkaido. The Group has also commenced a 20-year O&M contract as we continue our culture of collaborative project execution in the facility's operational stage.



## Message

### Contributing to the Realization of a Decarbonized Society through Energy Storage

By capturing energy produced at one specific time for later use, energy storage is an essential constituent in the accelerating global transition to clean, renewable energy, enhancing power grid stability and offering flexibility through expanded storage and transmission capacity. Challenges in balancing supply and demand, particularly during peaks and troughs, are addressed by storing excess energy to be released when demand is high, thus equalizing the supply/demand curve and avoiding the need for additional power generation, reducing the strain on the grid, increasing efficiency and minimizing the reliance on expensive power plant produced electricity. Energy storage is therefore an essential component to delivering optimal solutions to customers as we collaborate to realize our Group's management philosophy of 'Energy and Environment in Harmony,' and I wish to use my experience in energy storage projects to contribute to achieving carbon neutrality.



**Kokichi Suzuki**  
Power & Green Energy Systems  
Project Department

# Life Science Business



**Shinji Nishida**  
General Manager,  
Life Science Project Department,  
Global Environment & Green Energy  
Project Operations Division

### Top Message

As one of the Chiyoda Group's four new business domains, the life science field, including pharmaceuticals and industrial equipment, is an essential component of Group earnings and is increasing in importance due to rapidly changing social needs in bioindustry.

The Chiyoda Group will continue responding to society's evolving requirements by applying our unique cutting-edge technological prowess as we develop and grow life science as an essential pillar of earnings.

### Vision

**Evolve into a high value-added biotechnology and life science solution provider**

## Fiscal 2022 Review and Initiatives for Fiscal 2023

The Chiyoda Group completed the construction of a bulk vaccine production facility for Shionogi & Company Limited in January 2023, as part of a national project subsidized by Japan's Ministry of Economy, Trade and Industry (METI) and the Ministry of Health, Labour and Welfare (MHLW). The Group has also applied its continuous production technology, cultivated in the petroleum and chemical fields, to pharmaceuticals and invested in the contracted development and manufacturing of bulk pharmaceuticals and

intermediates. Chiyoda is steadily completing projects in the domestic resource field and promoting expansion into new fields, such as battery materials. The Chiyoda Group will continue applying its philosophy of executing projects as 'One Team' by collaborating with all project stakeholders to overcome the current severe business environment and successfully deliver future EPC Life Science projects, planned through fiscal 2022 into fiscal 2023.

## Business Environment

Opportunities	Strengths	Risks
<ul style="list-style-type: none"> <li>Delivering solutions for a longer healthier life expectancy in an aging society</li> <li>Return of life science manufacturing facilities to Japan</li> <li>Contributing to realizing a decarbonized society</li> </ul>	<ul style="list-style-type: none"> <li>More than 60 years of extensive experience in the pharmaceutical field, completing over 600 projects</li> <li>History of successfully delivering industrial facilities, similar to pharmaceuticals, in the field of natural resources</li> <li>Continuous production technology expertise</li> </ul>	<ul style="list-style-type: none"> <li>Lack of investment opportunities during periods of strong demand or increased competition during periods of declining demand</li> <li>Changes in the business environment due to intense competition</li> </ul>

## Goals and Strategies

2023

- Pharmaceutical sector:** Subsidy support, biopharmaceuticals, etc.
- Industrial equipment:** Battery materials, etc.
- Resource sector:** Resource recycling-oriented measures, domestic resource projects

2030

- Expansion of existing areas
- Expansion into bioindustry
- Respond to needs of a decarbonized society
- Sustained business using next-generation manufacturing process technology

## Strategy

- Expansion and promotion of EPC projects
- Building of foundations in new fields
- Application of continuous production technology

## TOPICS

### Completion of a Vaccine Production Facility

The delivery of a bulk vaccine production facility for Shionogi & Company Limited is a national project of high social significance in the supply of domestically produced vaccines. The first urgently required production line was completed just eight months after construction commenced in August 2020. The second production line and ancillary equipment were also delivered on schedule, exemplifying the Chiyoda Group's project management and technical capabilities.



Vaccine production facility constructed for Shionogi & Company Limited

## Message

### Contributing to the Stable Supply of Pharmaceutical Products

I worked on the bulk vaccine production facility for Shionogi & Company Limited. I was responsible for culture facilities to produce raw materials for vaccines, from the initial design of the first production line through to delivery of the second. Being intimately involved in such a high-value-added pharmaceutical project from the initial design stages through to delivery was tremendously rewarding and I particularly enjoyed the challenge of meeting the tight project schedule, despite COVID-19. Particularly empowering was the strong sense of social significance in delivering vaccines to the people of Japan and contributing to a healthier future for generations to come, both in Japan and worldwide. As such, I hope to continue to support healthcare, contributing to a healthier society and helping save lives across the globe.



**Masashi Nomura**  
Life Science Project Department

# O&M-X Solutions (Plant Operation and Maintenance Transformation) Business



**Munenori Maekawa**  
General Manager  
O&M-X Solutions  
Business Department  
Global Environment & Green Energy  
Project Operations Division

### Top Message

The Chiyoda Group's O&M-X solutions business was launched in January 2023 and supports customers in overcoming the major challenges of maintaining safe and secure plant operations, optimizing plant efficiency and maximizing returns throughout the life cycle of the asset. The business provides O&M transformation solutions that combine the Group's EPC expertise with the latest digital technology, supporting customer labor saving initiatives, essential in areas with a shortage of available labor, and improving operational efficiency of deteriorating assets. The business cooperates with Chiyoda X-ONE Engineering Corporation, established in April 2023 through the merger of three domestic Group companies, to provide hybrid operation and maintenance (O&M) solutions combining cyber (digital) and physical (onsite) elements, supporting safe, secure and sustainable plant operation (business safety).

### Vision

**Provide solutions supporting safe, secure and sustainable plant operation and maintenance**

## Business Objectives

### Realizing Business Safety for Customers

Supporting sustainable, safe and secure business operations

#### Elements required to achieve Business Safety

Area Safety	Safety and security relating to physical equipment and spaces
Human Safety	Safety and security for people
Intelligence Safety	Safety and security of intangible assets, including know-how, technology, IP, data and information



Customers seek safety and security in their business activities, and the flexibility to adapt to environmental and social changes to facilitate business continuity. The Chiyoda Group considers this 'business safety' as a key value provided through our O&M-X (plant operation and maintenance transformation) business.

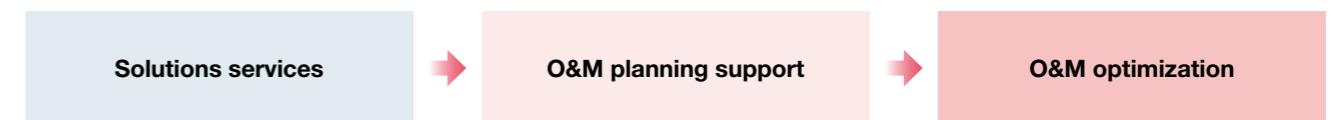
The four central requirements to maximizing 'business safety' are: the latest digital technology (centered on cloud

technology), engineering capabilities (data engineering and data science) cultivated since Chiyoda's founding in 1948, analysis and consulting capabilities utilizing advanced analysis and engineering, and EPC project experience accumulated through the successful completion of projects in over 60 countries around the world. By organically linking these elements, we provide advanced, integrated solution services from both cyber and physical perspectives.

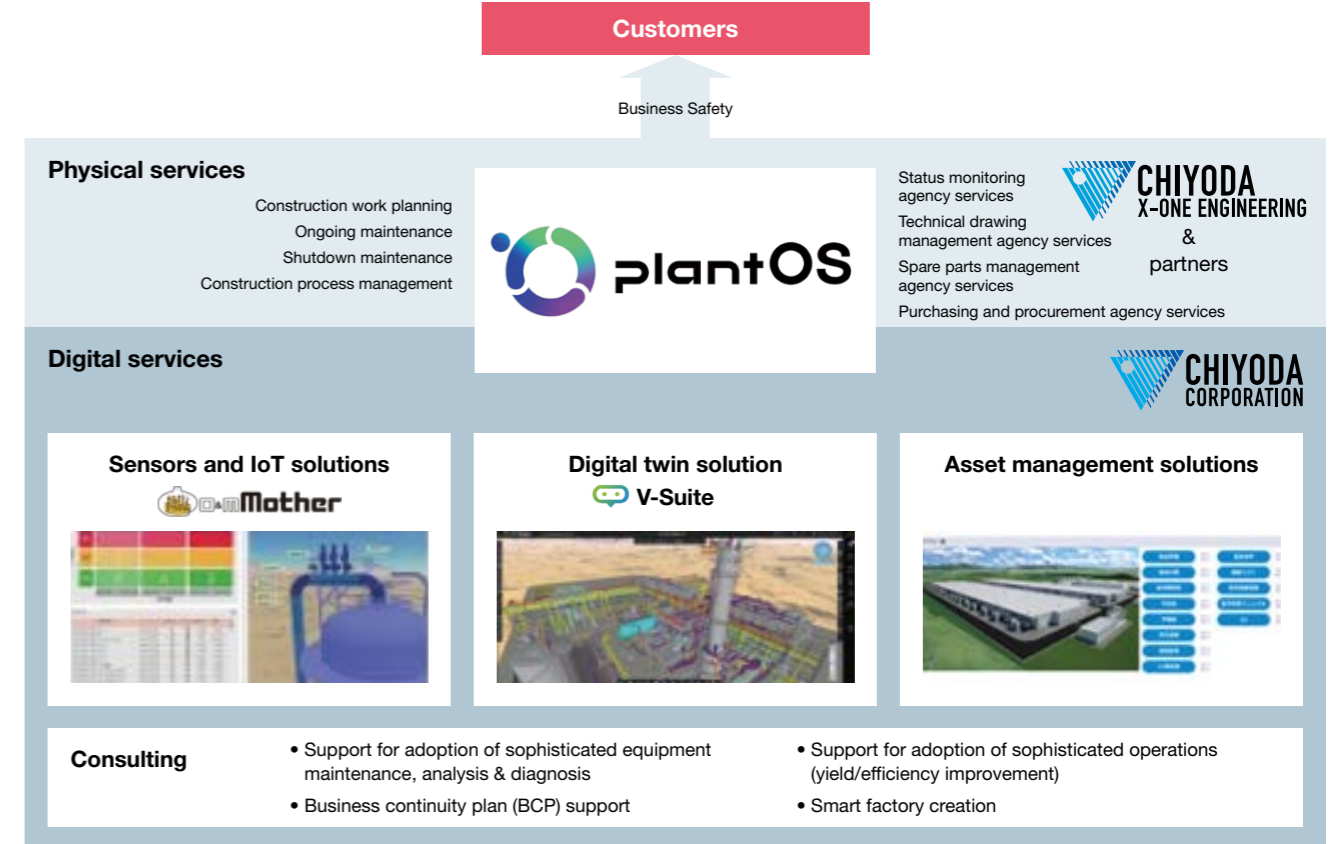
## Business Strategy

Chiyoda's solution service for realizing business safety, plantOS™, provides O&M solutions for domestic and international customers by combining physical onsite support provided by Chiyoda X-ONE Engineering with the Group's cutting-edge digital technologies in the areas of advanced analysis, analysis services, IoT, cloud technology

and AI. By building an operating system (OS) platform for the operation and maintenance of customer plants and providing services that combine the cyber and the physical, we will realize transformation (X) in operation and maintenance to support 'business safety' for our customers.



### plantOS™ overview



### Message

#### Taking on New Challenges with the O&M Transformation Solutions Business

As a business manager developing O&M-X solutions for overseas markets, I am primarily responsible for collaborating with our USA-based 3D digital twin partner Visionaize to refine our 3D digital twin strategy while proposing O&M transformation solutions based on 3D digital twins to customers, supporting safety and security in their business activities.



**Kiyori Koyama**  
O&M-X Solutions  
Business Department

# Foundation Underpinning Sustainable Growth

In this section, we describe Chiyoda Corporation's management structure for sustainable growth and other specific initiatives.

## CONTENTS

- 54 Corporate Governance
- 60 Messages from Outside Directors
- 62 Risk Management
- 66 Compliance
- 67 Safety Management
- 68 Intellectual Property Initiatives

# Corporate Governance

## Basic Principles

Chiyoda's vision is a management that maintains the trust and empathy of all its stakeholders, including shareholders, customers, business partners, creditors, employees, and local communities. This philosophy is the basis of our corporate activities and we continue to strengthen Chiyoda's business foundations, ensuring sound and transparent operations to realize sustainable growth over the medium to long term. We will also continue to strengthen corporate governance and reinforce our internal control system as material issues.

### Governance Structure (as of June 22, 2023)

Organizational Structure	Company with Audit & Supervisory Committee
Executive Officer System	Yes
Number of Directors, Number of Whom are Outside Directors (Independent Directors)	10 4 (Independent Directors)
Term of Office of Director (Excluding members of the Audit & Supervisory Committee)	One year
Number of Audit & Supervisory Committee Members, Number of Whom are Outside Directors	3 2
Number of Board of Directors' Meetings Held (fiscal 2022)	21
Number of Audit & Supervisory Committee Meetings Held (fiscal 2022)	14
Remuneration System for Directors and Audit & Supervisory Committee members	<ul style="list-style-type: none"> <li>Directors (excluding those who are Audit &amp; Supervisory Committee members): Base remuneration (according to roles and responsibilities and based on individual assessments), performance-linked remuneration (reflecting the Company's business performance each term), and performance-based stock compensation (linked to the Company's medium- to long-term business performance improvements)</li> <li>Directors who are Audit &amp; Supervisory Committee members: Base remuneration (according to roles and responsibilities)</li> </ul>

Note: Remuneration for Outside Directors consists solely of fixed remuneration in accordance with roles and responsibilities.

## Overview of Corporate Governance Structure

Chiyoda is a company with an Audit & Supervisory Committee composed mainly of Outside Directors. Chiyoda operates a system whereby Directors who are Audit & Supervisory Committee members have voting rights at Board of Directors' meetings and are involved in the nomination of Representative Directors and overall business execution decision-making (excluding decision-making responsibilities delegated to the Directors).

- Chiyoda has appointed four Outside Directors to ensure objective and neutral monitoring of its management functions.
- Chiyoda has improved objectivity and transparency and ensured the appropriateness of its processes for appointing Directors and determining Director remuneration through involvement of Independent Outside Directors and full-time Audit & Supervisory Committee members in decision-making, fulfilling a similar role to a voluntary nomination and remuneration committee.

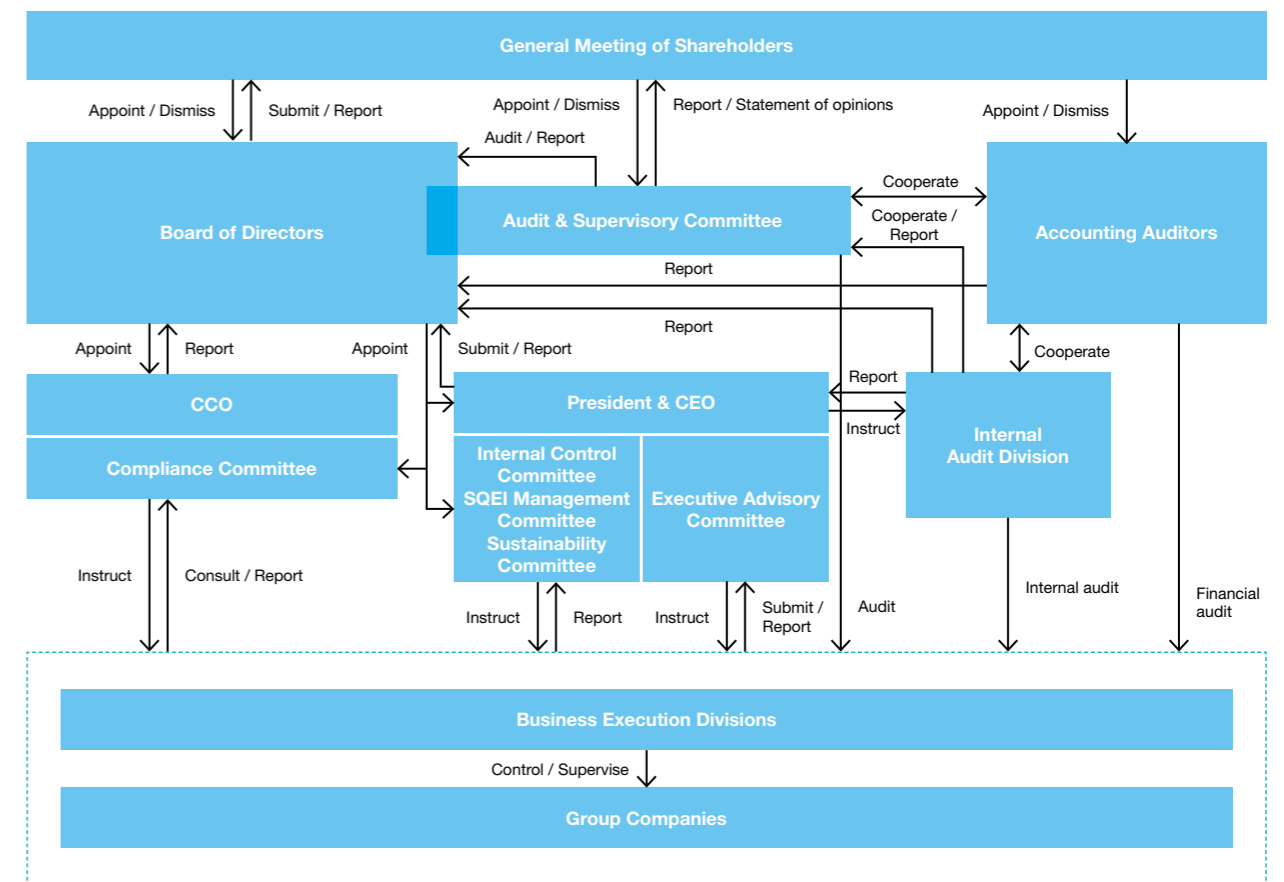
Committee	Composition and Roles / Responsibilities
Board of Directors	<ul style="list-style-type: none"> <li>10 Directors, including Audit &amp; Supervisory Committee members. Monthly Board meetings.</li> <li>Important management matters are determined and business execution is monitored. Appropriate decision-making and management supervision is ensured based on the objective and neutral perspectives of the Outside Directors.</li> <li>Matters to be decided include management plans, important matters regarding human resources and major investments and loans.</li> </ul>
Executive Advisory Committee	<ul style="list-style-type: none"> <li>Through a resolution of the Board of Directors, Chiyoda has established an Executive Advisory Committee, composed of a quorum of half of the Representative Directors concurrently serving as Executive Officers, Senior Vice Presidents and Division Directors, as an advisory body to the President &amp; COO to supervise business execution and enable prompt decision-making.</li> <li>The Committee decides matters regarding business execution adopted by a resolution of the Board of Directors and prior deliberation of matters to be decided by the Board of Directors, and reports to the President &amp; COO, who is responsible for Chiyoda business execution.</li> </ul>
Audit & Supervisory Committee	<ul style="list-style-type: none"> <li>Three members (one of whom is full time) consisting of two independent officers and two members with extensive finance and accounting expertise.</li> <li>The Committee conducts audits on the overall business execution of Directors.</li> <li>To strengthen its auditing activities, a dedicated staff member is assigned to assist the Audit &amp; Supervisory Committee in the execution of its duties.</li> </ul>

## Development and Management of the Internal Control System

In accordance with laws and regulations, Chiyoda manages an internal control system to ensure appropriate execution of operations.

- Chiyoda established an Internal Control Committee to coordinate and summarize member opinions and proposals. At the end of the term, or when required, the Internal Control Committee proposes internal control improvements to the President & COO.
- The President & COO, through the Executive Advisory Committee, review proposals from the Internal Control Committee and the Board of Directors makes decisions on the internal control system as required.
- To enhance the framework for compliance with laws and regulations, Chiyoda has established the position of CCO (Chief Compliance Officer) and a Compliance Committee.

### Corporate Governance and Internal Control System



## Compliance with the Corporate Governance Code

In compliance with the Corporate Governance Code of the Tokyo Stock Exchange, Chiyoda has formulated a Corporate Governance Policy, detailing its basic views and guidelines on corporate governance and promotes initiatives to strengthen corporate governance.

Please refer to the following for further information on corporate governance.

- Corporate Governance Policy (Japanese)  
[https://www.chiyodacorp.com/about/202304\\_CGP.pdf](https://www.chiyodacorp.com/about/202304_CGP.pdf)
- Corporate Governance Report  
[https://www.chiyodacorp.com/about/202307\\_CGR\\_E\\_R.pdf](https://www.chiyodacorp.com/about/202307_CGR_E_R.pdf)
- Basic Policy on Internal Control System  
[https://www.chiyodacorp.com/about/Basic Policy for Internal Control Systems\\_20230328.pdf](https://www.chiyodacorp.com/about/Basic Policy for Internal Control Systems_20230328.pdf)

Corporate Governance

Board of Directors

Chiyoda's Board of Directors is composed of seven Directors and three Directors who are Audit & Supervisory Committee members, thus ensuring balance and diversity through a combination of Outside Directors with experience in their fields of expertise and Directors with specialist skills and knowledge.

Name	Position and title	Skills and experience				
		Management	Finance Accounting	Legal and compliance	Overseas experience	Project experience, technical expertise
Masakazu Sakakida	Representative Director, Chairman of the Board, President & CEO, CSO*1 & CWO*2	●		●	●	●
Atsushi Deguchi	Representative Director, Executive Vice President, CFO*3 & CCO*4	●	●		●	
Naoki Kobayashi	Director, Senior Vice President				●	●
Masao Ishikawa	Director				●	●
Koji Ota	Director	●			●	●
Ryo Matsukawa	Outside Director*5	●		●		●
Yutaka Kunigo	Outside Director*5	●				●
Shuhei Watabe	Director (Full-Time Audit and Supervisory Committee Member)		●	●	●	
Mika Narahashi	Outside Director*5 (Director who is Audit and Supervisory Committee Member)			●		
Hisashi Ito	Outside Director*5 (Director who is Audit and Supervisory Committee Member)	●	●		●	●

\*1 Chief Sustainability Officer \*3 Chief Financial Officer \*5 Independent Director in accordance with Rule 436-2 of the Tokyo Stock Exchange Securities Listing Regulations  
 \*2 Chief Wellness Officer \*4 Chief Compliance Officer

Evaluation of the Effectiveness of the Board of Directors

Chiyoda evaluates the effectiveness of the Board of Directors annually. Improvements and issues are discussed at Board of Director meetings to further enhance effectiveness.

Enhancing the Effectiveness of the Board of Directors in Fiscal 2022

Process	<ul style="list-style-type: none"> <li>A questionnaire on the effectiveness of the Board of Directors was provided to all Directors (including Audit &amp; Supervisory Committee members)</li> <li>Improvements compared to previous evaluations were confirmed</li> <li>Opinions on the current fiscal year's evaluation and on further improvements to the Board's effectiveness were exchanged</li> <li>Results and issues going forward were confirmed by the Board of Directors</li> </ul>
Questionnaires	Main Items 1. Composition and Management of the Board of Directors 2. Management and Business Strategies 3. Business Ethics and Risk Management 4. Performance Monitoring and Management Evaluation 5. Dialogue with Shareholders
Evaluation of the effectiveness and initiatives going forward	<Response of the Board of Directors in Fiscal 2022 to Results of Effectiveness Evaluation Conducted in Fiscal 2021> In fiscal 2022, we continued transforming our business portfolio and strengthening our stable earnings base founded on the updated Revitalization Plan and, in response to society's accelerating drive towards decarbonization, deepened discussions on placing sustainability at the core of management while diligently sharing information with Directors to further invigorate discussions at Board of Directors' meetings and enhance corporate value. <Evaluation of the Board of Directors in Fiscal 2022> In fiscal 2022, the Board of Directors, of suitable size and member composition, provided each Director with opportunities to share information as required. Responsible Independent Outside Directors also participated in discussions, including providing constructive opinions to the executive side, and supervised the appropriate establishment and operation of internal control systems. Fiscal 2023 is the final year of our Revitalization Plan and we will review its previous five years to further invigorate and enhance deliberations at Board of Directors' meetings to promote business portfolio transformation, strengthen our stable earnings base and further increase corporate value.

Director Remuneration System

Basic Policy and Approval at the General Meeting of Shareholders	Chiyoda's Director remuneration system was approved at the 93rd Ordinary General Meeting of Shareholders held on June 23, 2021, based on its purpose of enhancing Director awareness of the importance of contributing to improvements in business performance and corporate value over the medium to long term.
Revisions to the Director Remuneration System	The following revisions were made to the remuneration system for Directors, not including those Directors who are Audit & Supervisory Committee members. <ul style="list-style-type: none"> <li>'Base remuneration' reflects an individual's job responsibilities and individual performance.</li> <li>'Remuneration for acquiring treasury stock' is abolished in favor of 'performance-based stock compensation.'</li> </ul>
Process	<ul style="list-style-type: none"> <li>Chiyoda's system of Director remuneration (excluding Audit and Supervisory Committee members) strengthens links with performance, value sharing with shareholders and increasing motivation to improve business results. The system consists of base remuneration (corresponding to roles and responsibilities and linked to individual performance evaluation), performance-linked remuneration (corresponding to results in each term, based on quantitative factors such as net income attributable to owners of the parent and shareholder dividends) and performance-based stock compensation (linked to long-term corporate value improvement). The total remuneration in each category is notified to shareholders. Director remuneration is determined by the Board of Directors based on factors such as internal remuneration standards, within the framework of total remuneration determined at the General Meeting of Shareholders.</li> <li>Individual performance evaluations reflected in remuneration are discussed between Representative Directors including management content and economic conditions. To enhance objectivity and transparency and ensure the appropriateness of decision-making, the opinions of Independent Outside Directors and full-time Audit &amp; Supervisory Committee members are also considered. The structure of the remuneration system is also reviewed by the Board of Directors as required.</li> </ul>

Details of the Director Remuneration System

Position	Classification	Remuneration principles	Overview of remuneration system
Directors (excluding those who are Audit & Supervisory Committee members)	Base remuneration	Linked to job duties and annual individual performance evaluations	No greater than ¥290 million per annum (no greater than ¥30 million per annum for Outside Directors)  • The maximum cash contribution by the Company shall be ¥70 million per annum. • The maximum number of shares to be delivered to Directors, the proceeds of which will be paid to Directors, shall not be greater than 240,000 shares per annum. * The initial eligible period is three fiscal years from the year ending March 31, 2022, to the year ending March 31, 2024
	Performance-linked remuneration	According to the year's business results, taking into consideration quantitative factors such as net profit and dividends attributable to the parent's shareholders	
	Performance-based stock compensation	Linked to medium- to long-term business performance improvement	
Audit & Supervisory Committee members	Base remuneration	Linked to job duties	No greater than ¥60 million per annum

Outside Director Activities

Classification	Name	Summary of attendance, statements and duties performed concerning role
Outside Director	Ryo Matsukawa	Mr. Matsukawa's role is to supervise the Company's management objectively and professionally based on his extensive knowledge and experience in the energy industry and corporate management. He attended all Board of Directors' meetings (21) in fiscal 2022 and provided comments ensuring appropriateness of decision-making. He fulfilled his role by providing suggestions, advice and other comments from a multifaceted and expert perspective on all aspects of Company management.
Outside Director	Yutaka Kunigo	Mr. Kunigo's role is to supervise the Company's management objectively and professionally based on his extensive knowledge and experience in the energy industry and corporate management. He attended all Board of Directors' meetings (16) following his appointment as director on June 23, 2022 and provided comments ensuring appropriateness of decision-making. He fulfilled his role by providing suggestions, advice and other comments from a multifaceted and expert perspective on all aspects of Company management.
Outside Director Audit & Supervisory Committee Member	Mika Narahashi	Ms. Narahashi is an experienced attorney in addition to her corporate legal affairs expertise. Her role is to contribute to strengthening the Company's legal, compliance and governance management by objectively auditing and supervising Company management with a high degree of expertise. She attended all Board of Directors' meetings (21) and Audit and Supervisory Committee meetings (14) in fiscal 2022 and provided comments ensuring appropriateness of decision-making. She provided recommendations, advice and statements from a legal perspective, including explaining the purpose of laws, and fulfilled the role expected of her.
Outside Director Audit & Supervisory Committee Member	Hisashi Ito	Mr. Ito's role is to apply his extensive overseas and corporate management experience to objectively audit and supervise Company management from a multifaceted perspective. He attended all Board of Directors' meetings (21) and Audit and Supervisory Committee meetings (14) during fiscal 2022 and provided comments ensuring appropriateness of decision-making. He fulfilled his role by using his knowledge of financial accounting, IT and digital technology to make proposals and provide advice regarding the Company's overall management.

Directors and Audit & Supervisory Committee Members



**Masakazu Sakakida**  
Representative Director,  
Chairman of the Board,  
President & CEO,  
CSO & CWO

1981: Joined Mitsubishi Corporation (Heavy Machinery Department)  
2001: Mitsubishi International Corporation, New York, USA  
2006: General Manager, Plant & Heavy Machinery Unit, Plant & Industrial Machinery Business Division of Mitsubishi Corporation  
2012: General Manager for Group Strategy Planning, Machinery Group CEO<sup>1</sup> Office, and Group CIO<sup>2</sup>, Machinery Group of Mitsubishi Corporation  
2013: Senior Vice President, Chairman & Managing Director, Mitsubishi Corporation India Private Ltd., and Deputy Regional CEO, Asia & Oceania (Southwest Asia) (New Delhi)

2017: Executive Vice President, Corporate Functional Officer, Chief Compliance Officer and Officer, Emergency Crisis Management Headquarters of Mitsubishi Corporation  
2021: Director of Mitsubishi Corporation Representative Director, Chairman of the Board, CEO and CWO of the Company  
2022: Representative Officer, Chairman, President & CEO, CSO & CWO of the Company (current position)



**Yutaka Kunigo**  
Outside Director<sup>\*3</sup>

1977: Joined Tokyo Gas Co., Ltd.  
2010: Managing Executive Officer, Chief Executive of Resources Business Division of Tokyo Gas Co., Ltd.  
2013: Director, Managing Executive Officer, Chief Executive of Energy Production Division of Tokyo Gas Co., Ltd.  
2014: Representative Director, Vice President, Executive Officer, Chief Executive of Energy Solution Division of Tokyo Gas Co., Ltd.  
2015: Representative Director, Vice President, Executive Officer responsible for Power Business Planning Department, Business Renovation Project Department, and Sales Innovation Project Department of Tokyo Gas Co., Ltd.

2016: Representative Director, Vice President, Executive Officer responsible for Power Business Control Department, Chief Executive of Energy Production Division responsible for Power Business Planning Department of Tokyo Gas Co., Ltd.  
2017: Director and Chairman, Tokyo Gas Engineering Solutions Corporation  
2020: Outside Director, Nippon Paper Industries Co., Ltd. (current position)  
2022: Outside Director, Ise Chemicals Corporation (current position)  
2023: Outside Director of the Company (current position)



**Atsushi Deguchi**  
Representative Director,  
Executive Vice President,  
CFO & CCO

1991: Joined The Bank of Tokyo Ltd. (now MUFG Bank, Ltd.)  
2016: President of Bank of Tokyo-Mitsubishi UFJ Turkey A.S. (now MUFG Bank Turkey A.S.)  
2018: President, MUFG Bank Turkey A.S.  
2019: Managing Director, Head of Corporate Banking Division 1, Corporate Banking Group 1, MUFG Bank, Ltd.  
2020: Executive Officer, Managing Director of Corporate Planning Department (Special Assignment), MUFG Bank, Ltd.  
2021: Executive Officer, Regional Executive, MUFG Bank of India and Sri Lanka

2023: Representative Director, Executive Vice President, CFO, CCO and Division Director of the Finance & Accounting Division of the Company (current position)



**Shuhei Watanabe**  
Director,  
Full-Time  
Audit and Supervisory  
Committee Member

1991: Joined Mitsubishi Corporation (Energy Administration Department)  
2013: Department Manager, MC Group Business Infrastructure Support Office and Team Leader, Planning & HR Team of Corporate Division, Mitsubishi Corporation  
2014: General Manager, Business Administration Department, Metal One Corporation  
2016: General Manager, Corporate Accounting Department, Metal One Corporation

2018: Chief Financial Officer, Latin America and Caribbean Region, Mitsubishi Corporation and Chief Financial Officer, Mitsubishi Corporation do Brasil S.A.  
2021: Board Director, Senior managing Executive Officer, Mitsubishi Corporation Life Sciences Limited  
2023: Director of the Company (Full-Time Audit and Supervisory Member) (current position)



**Naoki Kobayashi**  
Director,  
Senior Vice President

1998: Joined Mitsubishi Corporation (Heavy Machinery Department)  
2012: Executive Vice President, General Manager of Rio de Janeiro Branch, Mitsubishi Corporation (Brazil)  
2016: General Manager, Plant Projects Department, Mitsubishi Corporation  
2018: General Manager, Infrastructure & Industrial Projects Department, Mitsubishi Corporation  
2019: General Manager, Chiyoda Turnaround and Growth Management Office, Plant Engineering Division, Mitsubishi Corporation

2020: Assistant to Division Director, Strategy & Risk Integration Division of the Company  
2021: Vice President, Strategy & Risk Integration Division and Assistant to Division Director, Technology & Engineering Division of the Company  
2023: Senior Vice President and Division Director, Strategy & Risk Integration Division of the Company (current position)



**Mika Narahashi**  
Outside Director,  
Audit & Supervisory  
Committee Member<sup>\*3</sup>

2000: Registered as a lawyer (Tokyo Bar Association)  
2003: Joined Anderson Mori & Tomotsune  
2007: Joined Deutsche Securities Inc.  
2009: Joined American Life Insurance Company (currently MetLife, Inc.) Senior Manager of Legal Affairs Department of American Life Insurance Company  
2015: Joined AIG American Home Assurance Company, Ltd., Head of Legal Affairs Office of AIG American Home Assurance Company, Ltd.

2017: Senior Partner of TH Law Office (current position)  
2018: Director of the Company (Audit & Supervisory Committee Member) (current position)



**Masao Ishikawa**  
Director

1980: Joined the Company  
2011: General Manager, Gas LNG Process Engineering Department of the Company  
2013: Vice President and Deputy Division Director, Technology & Engineering Division of the Company  
2015: Senior Vice President and Division Director, Technology & Engineering Division of the Company  
2020: Executive Vice President and Division Director, Technology & Engineering Division of the Company  
2021: Senior Advisor of the Company Director of the Company (current position)

2020: Assistant to Division Director, Strategy & Risk Integration Division of the Company  
2021: Vice President, Strategy & Risk Integration Division and Assistant to Division Director, Technology & Engineering Division of the Company  
2023: Senior Vice President and Division Director, Strategy & Risk Integration Division of the Company (current position)



**Hisashi Ito**  
Outside Director,  
Audit & Supervisory  
Committee Member<sup>\*3</sup>

1983: Joined The Mitsubishi Trust and Banking Corporation  
2005: General Manager, Money Market Activities Division, Mitsubishi Trust and Banking Corporation  
2010: General Manager, London Branch, Mitsubishi UFJ Trust and Banking Corporation Executive Officer, Mitsubishi UFJ Trust and Banking Corporation  
2012: Managing Executive Officer, Mitsubishi UFJ Trust and Banking Corporation  
2013: Managing Director, Mitsubishi UFJ Trust and Banking Corporation

2015: Senior Managing Director (Representative Director) and CIO, Mitsubishi UFJ Trust and Banking Corporation  
2016: Representative Director, Senior Managing Executive Officer and CIO  
2017: Representative Director, President, The Master Trust Bank of Japan, Ltd.  
2019: Representative Director and Chairman, Mitsubishi UFJ Trust Systems Co., Ltd.  
2020: Audit and Supervisory Committee Member of the Company (current position)

\*1 Chief Executive Officer  
\*2 Chief Information Officer

\*3 Outside Director as stipulated in Article 2, Item 15 of the Companies Act



**Koji Ota**  
Director

1989: Joined Mitsubishi Corporation  
2012: General Manager, Smart Community Business Integration Unit, Environment & Infrastructure Business Division of Mitsubishi Corporation  
2013: General Manager, Environment Energy Business Unit, Environment & Infrastructure Business Division of Mitsubishi Corporation  
2015: Director, Lithium Energy Japan  
2018: Executive Vice President, Lithium Energy Japan  
2019: Senior Vice President, Division COO, Plant Engineering Division of Mitsubishi Corporation

2022: Executive Vice President, Group CEO, Industrial Infrastructure Group, Division COO, Plant Engineering Div. of Mitsubishi Corporation Director of the Company (current position)  
2023: Executive Vice President, Group CEO, Industrial Infrastructure Group of Mitsubishi Corporation (current position)



**Ryo Matsukawa**  
Outside Director<sup>\*3</sup>

1979: Joined Tokyo Shibaura Electric Co., Ltd. (currently Toshiba Corporation)  
2007: General Manager, Technology Management Div., Toshiba Corporation Power Systems Company  
2011: General Manager, Fuchu Complex, Toshiba Corporation  
2013: Executive Quality Leader, Toshiba Corporation Power Systems Company  
2014: Representative Director, President and Chief Executive Officer, Toshiba Plant Systems & Services Corporation  
2021: Outside Director of the Company (current position)

Executive Officers

President	Senior Vice President	Vice President	
<b>Masakazu Sakakida</b> (CSO & CWO)	<b>Naoki Kobayashi</b>	<b>Takayuki Naito</b>	<b>Toshiaki Saito</b>
	<b>Norimasa Matsuoka</b>	<b>Keio Naruko</b>	<b>Kimiho Sakurai</b>
	<b>Tetsuya Konno</b>	<b>Masami Tamura</b>	<b>Yuzo Masuda</b>
<b>Executive Vice President</b>	<b>Masaki Kumagai</b> (CHRO <sup>*4</sup> & CDO <sup>*5</sup> )	<b>Katsuhiko Jogan</b>	
<b>Atsushi Deguchi</b> (CFO & CCO)			
<b>Hiroyuki Shimizu</b>			

\*4 Chief Human Resources Officer  
\*5 Chief Digital Officer

## Messages from Outside Directors



**Ryo Matsukawa**  
Outside Director

### Leveraging Our Strengths in Contributing to Sustainable Management

Fiscal 2023 is the final year of Chiyoda's Revitalization Plan, released in 2019 to reflect changes in the business environment and the increasing drive towards a carbon free society, and we continue to implement measures such as comprehensive risk management and the transformation of our business portfolio. At Board of Directors' meetings, we discuss and review detailed proposals submitted by the executive side. As Outside Directors, our goal is to ensure Chiyoda meets shareholder expectations and we examine issues such as clarity of management and the thoroughness and effectiveness of measures designed for medium- to long-term growth. The Chiyoda Group combines our corporate strength of engineering expertise with state-of-the-art technology to meet social challenges, such as the accelerating drive towards carbon neutrality, the SDGs and diversity, and we apply these strengths to advance management with an awareness of continuity. We will continue executing the Revitalization Plan, strengthening our financial base and achieving stable business management while maintaining a virtuous cycle of employee motivation, increasing earnings and customer satisfaction. I hope to keep contributing to Chiyoda's continued growth from risk management and corporate governance perspectives.



**Mika Narahashi**  
Outside Director  
Audit & Supervisory Committee Member

### Supervising Management from a Legal Perspective

I have been an Outside Director and Audit & Supervisory Committee Member since June 2018. Listed companies are rapidly progressing their corporate governance reforms, and Chiyoda's Board of Directors has undergone significant changes since my appointment. The number of Internal Directors has been reduced, and the Board of Directors has been reduced from fourteen (of which five were Audit & Supervisory Committee Members) to ten members (of which three are Audit & Supervisory Committee Members). Concurrently, the number of Independent Outside Directors has increased from three to four, raising their ratio. The Board of Directors now convenes more effective meetings with fewer members while achieving a clearer separation between management execution and supervision. As an Independent Outside Director, this has afforded me greater opportunities to use my specialized knowledge at Board of Directors' meetings to provide input in terms of diversity. I communicate directly with Chiyoda personnel from many departments and am always impressed by the pride our employees, the most valuable asset of an engineering company, take in our technology and their sense of mission. Although some employees may feel uncertain as the world progresses towards a decarbonized society and Chiyoda transforms its business portfolio, these are the situations in which to prove our strengths of our sense of mission and pride in our technology.

I will continue with my diligent yet adaptable approach in my capacity as an Outside Director and Audit and Supervisory Committee Member, leveraging the strengths of all Chiyoda colleagues to improve our company even more.



**Hisashi Ito**  
Outside Director  
Audit & Supervisory Committee Member

### Leveraging Internal Controls to Support Our Transformation as a Value-creating Company

Chiyoda's value lies in combining our engineering expertise, cutting-edge technological proficiency and comprehensive EPC project execution capabilities to meet customers' sophisticated functional requirements. We released Chiyoda's Revitalization Plan - Initiatives for Revitalization and the Future in 2019, and continue transforming our business portfolio in response to the increasing global drive to realize environmental sustainability and a decarbonized society. The transition from conventional energy to environmental and frontier business fields, such as renewable energy and hydrogen, is steadily producing results. Outside Directors are essential, supervising management from an independent perspective conscious of the interests of our stakeholders and wider society. The Board of Directors values Outside Director opinions and makes transparent business decisions following free and open discussion between management personnel responsible for business execution.

As an Audit & Supervisory Committee Member, I also focus on Chiyoda's endeavors to autonomously enhance its internal controls and cooperate with the Internal Audit Department to drive internal control improvements, including compliance.

Chiyoda continues to positively respond to the accelerating drive towards a carbon-neutral society and I will continue to support our endeavors in my position as an Outside Director and Audit & Supervisory Committee Member, providing constructive recommendations and engaging in positive dialogue with management and frontline employees.



# Risk Management

## Risk Management in Business Operations

### Risk Management Policy

The Chiyoda Group continues to enhance the sophistication of its risk management and project execution systems to minimize risks and maximize opportunities. A Strategy & Risk Integration Division was established in 2019 to implement the Company's risk strategy, support project teams in managing risk throughout every stage of the project life cycle from feasibility study and cost estimation to project completion, handover, and operation and maintenance, and promote risk management Companywide.

Risk management measures include:

**Continual improvement of risk management** (see diagram below):

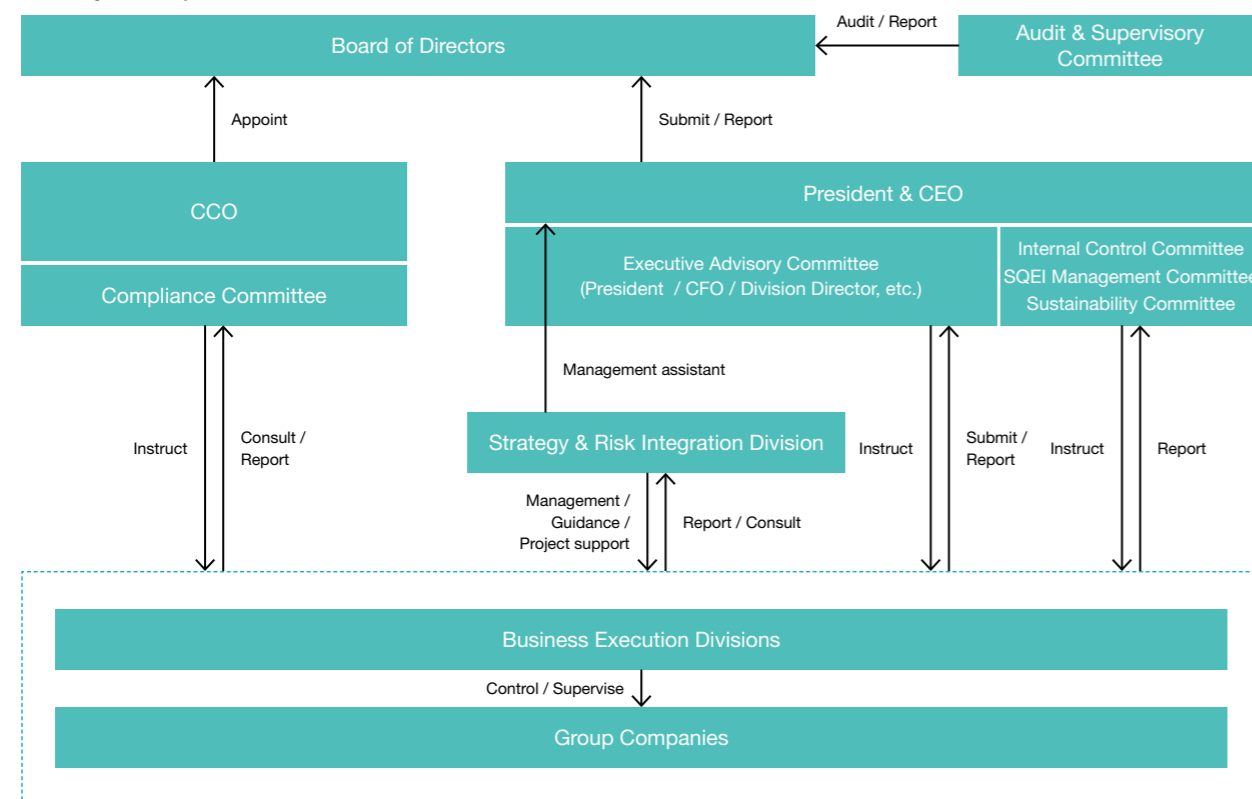
We continuously enhance the reporting, informing and consulting processes (known as the 'Ho-Ren-So' principle in Japanese business culture) as part of company regulations and harness employee feedback from regular risk management workshops organized to raise risk awareness and instill a risk-conscious culture throughout the Group.

**Risk analysis throughout the entire project life cycle:** We implement risk management plans and procedures to identify and mitigate risks from early feasibility analysis and cost estimation through to project award, front-end and detailed engineering, execution, completion, delivery, and operation and maintenance. Customer participation, project discipline input from key personnel within the Group, JV partners (where applicable), and major subcontractors is obtained at the earliest opportunity to obtain specialist advice into risk identification and mitigation, design and construction, construction and labor strategy, commissioning, operation and maintenance, productivity enhancement, etc. This early involvement in strategy ensures risks are identified and discussed early in an open and honest 'One Team' culture of collaborative project execution.

**Optimal resource allocation:** The Chiyoda Group has created human resource committees, under an Executive Advisory Committee, to optimize resource allocation and advance business vertically within divisions and horizontally across Group companies. The committees include an Integrated Strategy Committee to formulate business and key personnel plans for each division and establish human resource plans and allocate finances to maximize efficiency.

These initiatives have consolidated risk management within the Group, contributing to the steady execution of projects acquired since the release of the Revitalization Plan in 2019 and securing stable earnings growth.

Risk Management System



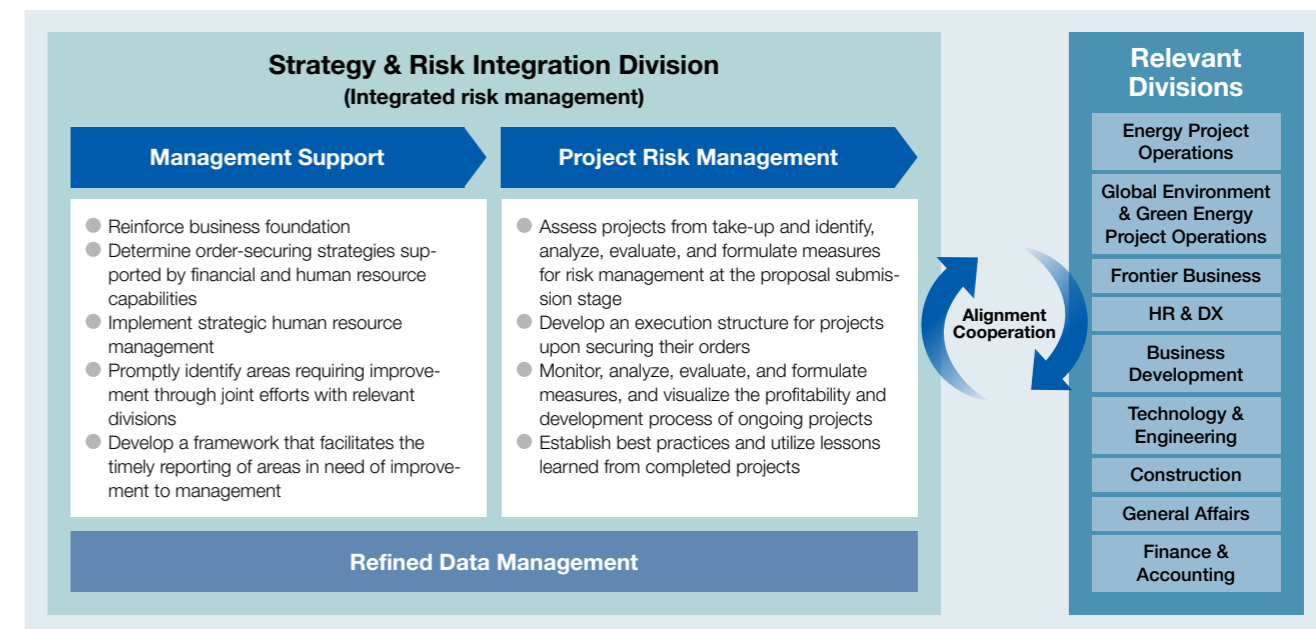
## Project Risk Management

### Approach

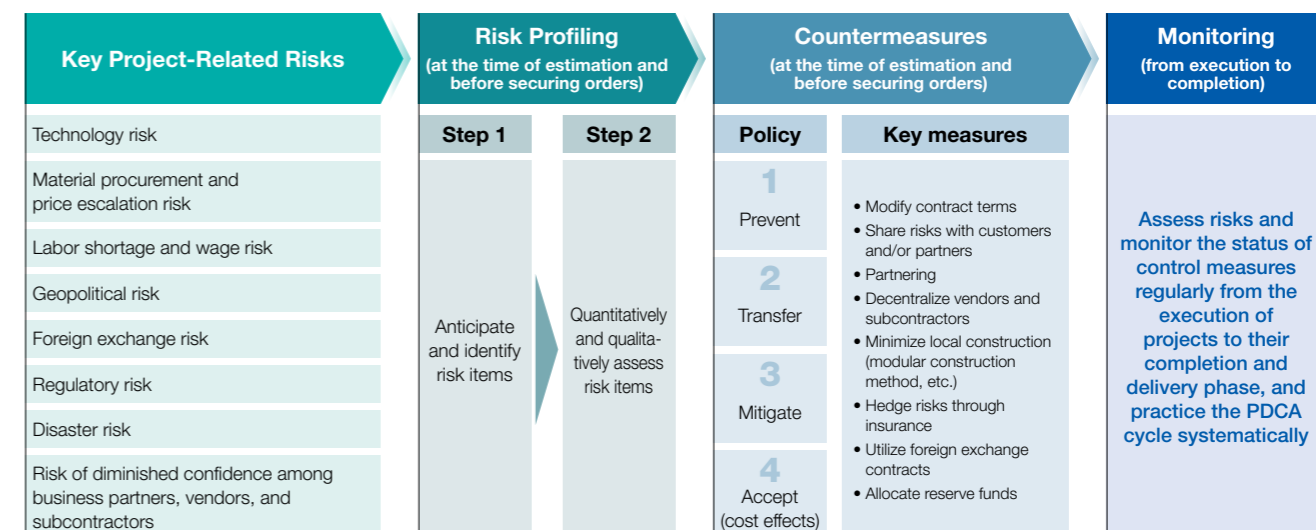
Effective and early risk management is key to successful project delivery. Our Strategy & Risk Integration Division assumes the role of a 'control tower,' centrally managing project risk identification and mitigation and providing management support throughout every stage of a project.

Under this integrated risk management system, the Chiyoda Group will continue to enhance the precision of our project management in terms of cost, scheduling and quality, ensure the most effective use of digital technology and improve data management to further enhance corporate competitiveness and increase profit.

Project Risk Management Structure



Project Risk Management Flow



Risk Management

Business Risk Management		
Major risks	Risks to our business	Countermeasures
(a) Business trends and effects of economic, social and political changes	<ul style="list-style-type: none"> <li>Global economic, social and political trends in the oil, LNG and metals markets causing customers to terminate, postpone or change investment plans</li> <li>Negative effects on customer and/or partner financial circumstances</li> </ul>	<ul style="list-style-type: none"> <li>Develop strategies based on analysis of factors such as project order certainty</li> <li>Formulate order receiving plans and back-up projects</li> <li>Risk sharing arrangements with customers</li> </ul>
(b) Natural disasters, infectious disease, geopolitical risks and force majeure events	<ul style="list-style-type: none"> <li>Loss of life and/or major injury</li> <li>Logistical challenges due to supply chain disruption</li> <li>Construction schedule delays</li> <li>Increased equipment, material and transportation costs</li> </ul>	<ul style="list-style-type: none"> <li>Comprehensive safety planning including emergency response procedures for natural disasters, etc.</li> <li>Employ security consultants, etc., as required to strengthen crisis management through information gathering and analysis</li> <li>Develop and manage a business continuity plan (BCP) for major natural disasters, encompassing initial response and safety procedures</li> </ul>
(c) Risks related to partners	<ul style="list-style-type: none"> <li>Business performance impacts as a result of contractual responsibility in the event of joint venture partner default or deteriorating financial circumstances</li> </ul>	<ul style="list-style-type: none"> <li>Stringent and comprehensive partner selection procedures to identify risks</li> </ul>
(d) Increasing equipment, material and transportation costs	<ul style="list-style-type: none"> <li>Increasing equipment material and transportation costs due to changes in the socio-political situation</li> <li>Material price fluctuations, including materials such as copper, nickel, aluminum and zinc</li> <li>Overseas transportation cost increases, including higher insurance premiums</li> </ul>	<ul style="list-style-type: none"> <li>Diversify procurement from suppliers around the world</li> <li>Early placement of equipment, material and transportation orders</li> <li>Foster good working relationships with top-tier suppliers</li> <li>Risk sharing arrangements with business partners, customers, vendors and subcontractors</li> </ul>
(e) Human resource, equipment and material-related risks	<ul style="list-style-type: none"> <li>Labor, material and/or equipment procurement risks causing schedule delays and additional recovery costs.</li> </ul>	<ul style="list-style-type: none"> <li>Evaluation of alternative construction methodologies (modularization, etc.)</li> <li>Collaboration with international and/or local contractors and vendors</li> <li>Local networking</li> <li>Verify project schedules prior to receiving orders and have planning specialists continually monitor schedules throughout the entire project life cycle</li> </ul>
(f) Risks associated with changes in the business environment	<ul style="list-style-type: none"> <li>Adverse business impacts due to changes in customer investment environments and business portfolios</li> </ul>	<ul style="list-style-type: none"> <li>Continually monitor energy supply markets, climate change policies, laws and regulations in each country and promptly harvest market intelligence</li> <li>Recognize global energy challenges as a business opportunity and formulate business plans accordingly towards realizing a decarbonized and carbon-recycling society</li> <li>Promote investment within the Chiyoda Group and in collaboration with startup companies to avoid excessive shifts to self-sufficiency</li> </ul>
(g) Plant incidents	<ul style="list-style-type: none"> <li>Loss of life and/or major injury</li> <li>Liability for compensation in the event of a major incident</li> </ul>	<ul style="list-style-type: none"> <li>Apply safety as our core value throughout all project life cycle stages from feasibility study to design, construction handover, operation and maintenance</li> <li>Adequate and appropriate insurance and contract terms that reasonably share the risk burden</li> <li>Promote C-Safe to foster a safety culture within the Group and between all stakeholders</li> </ul>
(h) Currency risk	<ul style="list-style-type: none"> <li>Currency fluctuations affecting business results</li> </ul>	<ul style="list-style-type: none"> <li>Receive payments from customers in the same currency in which payments are made</li> <li>Forward currency exchange contracts</li> </ul>
(i) Compliance violations	<ul style="list-style-type: none"> <li>Actions that violate, or raise suspicion of violating, the laws and regulations of the countries and regions in which we operate.</li> </ul>	<ul style="list-style-type: none"> <li>Continuous employee education through programs such as group training and e-learning</li> <li>Incorporation of compliance into business processes and continuation of a Compliance Committee chaired by the Chief Compliance Officer (CCO) with the divisional Compliance Officers as members and a Group Company Compliance Liaison Committee, also chaired by the CCO, with subsidiary presidents as members</li> </ul>
(j) Information security threats	<ul style="list-style-type: none"> <li>Incidents such as system failures due to unforeseen circumstances, confidential information leaks, fraud due to cyberattacks and loss of important business information</li> </ul>	<ul style="list-style-type: none"> <li>Enhance defensive measures in anticipation of cyberattacks</li> <li>ISMS certification for corporate headquarters and Group companies, and stringent and comprehensive information security management, including education and audits</li> <li>Sharing cyberattack-related risks with customers</li> </ul>
(k) Business investment losses	<ul style="list-style-type: none"> <li>Investees' earnings not meeting initial plans, losses on investments due to poor business results, need for additional financing</li> </ul>	<ul style="list-style-type: none"> <li>Stringent due diligence procedures as part of a comprehensive appraisal process</li> <li>Monitoring investee business plans following investment and providing personnel and/or capital support capital if required (regular reporting to the Executive Advisory Committee)</li> </ul>

## Compliance

Chiyoda considers compliance a core value, based on our conviction that the trust of society and its customers underpin a company's business activities. We proactively enhance compliance education and training programs to prevent unlawful and fraudulent acts and human right infringements, while continuing to reinforce our compliance systems to ensure their early detection, a swift response, and measures to prevent reoccurrence. We are unwavering in our commitment to further strengthening compliance throughout the Group.

### The Group's Compliance System

#### Organizational Structure

The CCO, appointed by the Board of Directors, is responsible for overseeing compliance in all divisions. Compliance Officers in each division are responsible for compliance policies and implementing compliance measures in their respective divisions. Group company representatives serve as Group Company Compliance Officers and are responsible for implementing compliance measures in their company.

#### Code of Conduct

The 'Chiyoda Group Code of Conduct and Conduct Guidelines' ensure our business activities conform to national and international laws and regulations, company rules, and social ethics. All officers and employees are expected to comply with, and base their decisions and actions upon, the standards set within the code and guidelines.

### Initiatives to Enhance Compliance Awareness and Knowledge

The Chiyoda Group advances compliance by implementing multi-faceted initiatives to enhance executive and employee compliance awareness and knowledge.

Key Initiatives	Details
e-learning	Conducting annual compliance-related e-learning for all Group employees
Email newsletter	Distributing monthly compliance newsletters by email, containing news, topics, and trivia, to all employees in Japan
Internal seminars	Chiyoda conducts seminars in Japanese and English on high-risk compliance issues, including: <ul style="list-style-type: none"> <li>Prevention of harassment</li> <li>Bribery prevention</li> <li>Business and human rights</li> </ul>
Evaluation of compliance risks affecting each organization <b>NEW</b>	Every Group company evaluates their own compliance risks and implements initiatives accordingly

### Internal Whistleblowing System

Chiyoda has implemented a whistleblowing system within the Group and has established external hotlines within Group companies (to lawyers, external specialists, etc.) as 'points of contact' to report unlawful and fraudulent acts, enabling early resolution and preventing recurrence. We have also distributed 'internal whistleblowing cards' to raise awareness of the internal whistleblowing system and inform officers and employees of the 'points of contact' inside and outside the Group.

#### Consultations Provided and Whistleblowing Reports Received in Fiscal 2022

Category	Number of consultations provided and whistleblowing reports received in fiscal 2022
Legal violations and bribery (including cartel and other concerns)	0
Violations of internal rules	14
Power harassment (including consultations, canceled items, and other concerns)	24
Sexual harassment and pregnancy discrimination	1
Workplace environment issues	7
Other consultations	30
Total	76

Please refer to the following for Group compliance details.  
<https://www.chiyodacorp.com/en/csr/risk-management/compliance/initiatives.html>

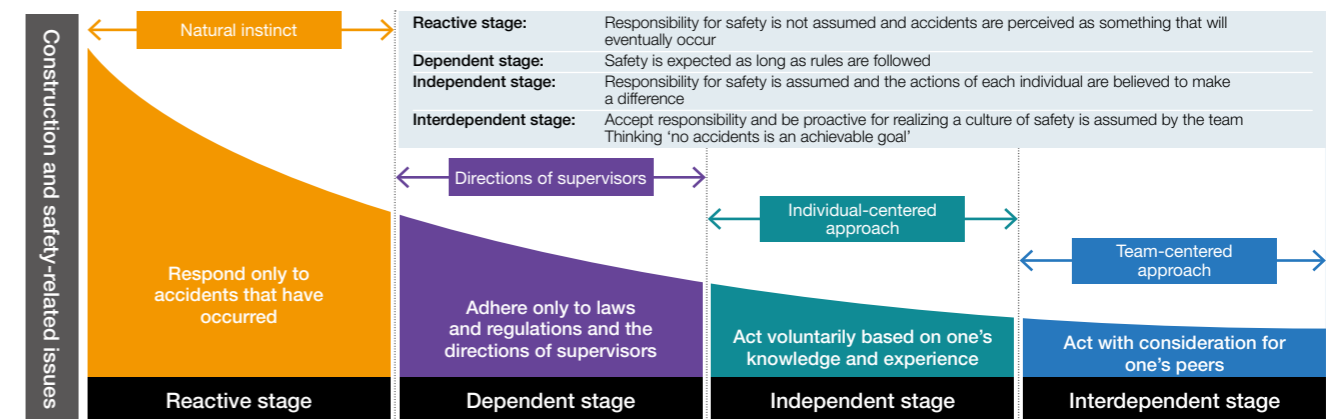
## Safety Management

### The Road to Establishing Safety Leadership

All Chiyoda Group directors and employees regularly engage in educational training courses based on our Safety, Quality and Environmental (SQE) policy, including our unique behavioral based safety program, 'C-Safe.' We continuously strive to embed a sustainable culture of safety throughout our organization by tirelessly enhancing employee SQE expertise and experience through training and promoting SQE activities through collective Groupwide endeavors.

### C-Safe Program

The Chiyoda Group adopted the DuPont Sustainable Solutions Bradley Curve™ in 2020, identifying four stages of safety culture maturity, with a view to assessing safety on its construction sites and, by combining this approach with our C-Safe Program, we are currently advancing from the independent stage to the interdependent stage. To meet our 'duty of care' obligations as a responsible employer, and recognizing that the health of employees is a key determinant of productivity, we have also initiated programs to maintain the physical and mental health of all Group personnel, focusing on improving our working environment and promoting a supportive management culture. The C-Safe management system is specifically designed to address the challenges and complexities of health and safety management on construction sites. With a strong focus on leadership, commitment and employee involvement, the program provides a foundation for a safe, healthy working environment by going further than merely addressing compliance to legislation, rules and regulations. Through the proactive involvement of all directors in leading improvements of working habits and employees changing unsatisfactory ingrained methods of working, C-Safe requires all Group personnel to consciously contemplate what actions we should demonstrate, tolerate and reward.

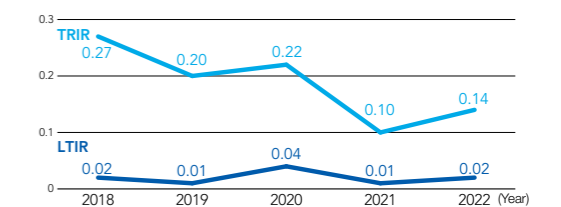


Source: DuPont Bradley Curve™

### Safety Performance

As stated in the Chiyoda Groups SQE policy, we believe that 'every incident is preventable,' and we relentlessly pursue zero accidents and incidents in the workplace, while instilling a 'learner mindset' on all our construction sites. The graph on the right illustrates the Chiyoda Group's safety performance over the five calendar years up to 2022 and we continue to monitor LTIR\*1 and TRIR\*2 on domestic and overseas construction sites as key safety indicators.

#### TRIR / LTIR at Overseas and Domestic Sites



\*1 LTIR (Lost Time Incident Rate) = Number of lost-worktime injuries/Number of hours worked × 200,000  
 \*2 TRIR (Total Recordable Incident Rate) = Number of lost-worktime injuries\*/Number of hours worked × 200,000  
 \* Including fatalities

### Environment Day

On World Environment Day, Chiyoda Group offices and construction sites worldwide organized events to share information about the importance of countermeasures against all forms of environmental pollution, to raise awareness regarding protecting the environment and to motivate all people to take action. The Group will continue such initiatives in the future to expand public awareness of the importance of a sustainable environment.



CTJV-World Environment Day 2023

# Intellectual Property Initiatives

## Basic Principles

Chiyoda's intellectual property fuels our position ahead of the competition, and rigorous measures are implemented to protect it. We also take appropriate action to prevent infringements on the intellectual property rights of others.

## Intellectual Property Strategies

Chiyoda applies three intellectual property strategies to entrench existing businesses and cultivate new ones in the transformation of our business portfolio, as detailed in our Revitalization Plan, and to maintain our competitive advantage.

### 1. Initiatives for new businesses

Contribute to the earnings of new businesses on which we are focused as part of our 'Vision for 2030' and secure intellectual property that will afford us competitive advantages

### 2. Initiatives for unexplored areas and businesses

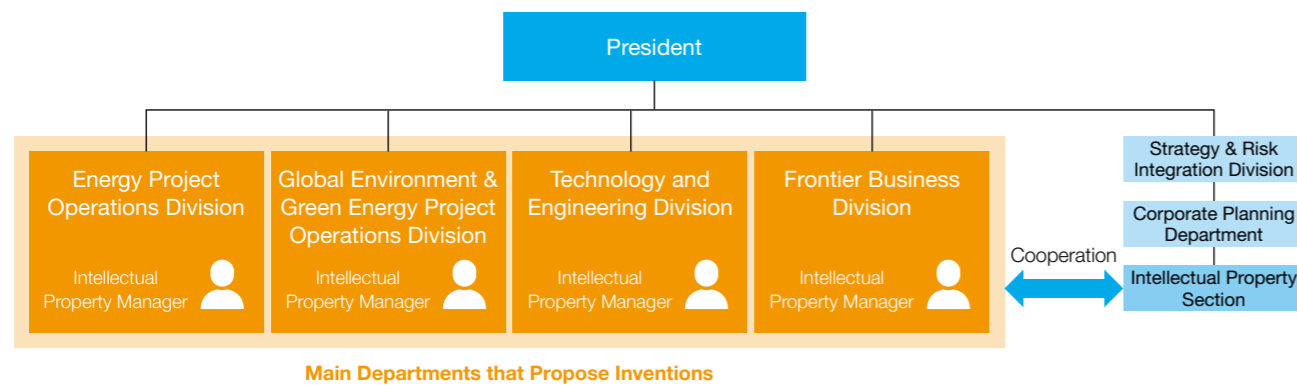
Identify focus points leading to profitable unexplored areas and businesses, evaluate technologies that initiate innovation and formulate strategies for new business development

### 3. Initiatives for innovation in EPC technologies

Visualize, codify and patent engineering knowledge and technologies that drive innovation in EPC businesses

## Organizational Structure

Chiyoda's Intellectual Property Section forms part of our Strategy & Risk Integration Division's Corporate Planning Department and is central to formulating and implementing intellectual property activities tailored to our business strategies, intellectual property management activities—such as filing patent applications—and managing intellectual property risk. An Intellectual Property Manager is appointed in each of the main departments that propose inventions to cooperate with the Intellectual Property Section to identify inventions, organize our patent portfolios and manage intellectual property risk.



### Message from the Expert

Chiyoda's intellectual property protects essential business assets integral to achieving our purpose of 'Enriching Society through Engineering Value.' The Intellectual Property Section collaborates with each division to drive business through intellectual property-related activities covering areas such as patent acquisition and intellectual property risk management.

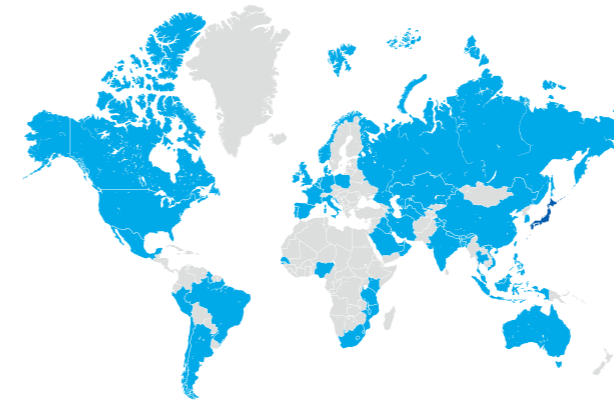


**Hiroshi Oinaka**  
(Patent Attorney)  
Intellectual Property Section,  
Corporate Planning Department

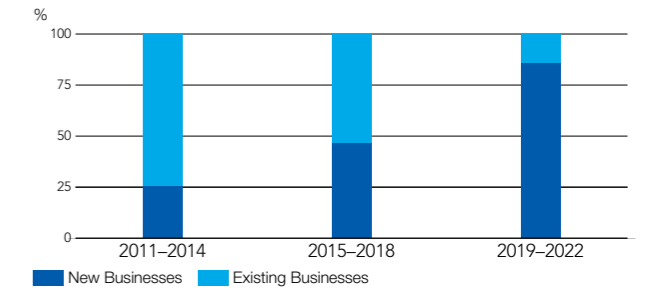
## Patent Portfolio

Chiyoda applies for patents across the globe and we currently hold patents in over 52 countries and regions. As part of our Revitalization Plan, we are transforming our business portfolio to realize a 50:50 profit contribution ratio from existing and new businesses by 2030, and are filing patent applications for technologies related to new businesses to achieve this goal.

### Countries and Regions in which Chiyoda Holds Patents (as of November 2022)



### Percentage of Filed Patent Applications Related to New / Existing Businesses by Four-year Period



## Risk Management

Chiyoda implements stringent and comprehensive research and reviews prior to commencing a new business to mitigate the risk of infringing the intellectual property rights of others.

## Trademarks

Chiyoda files applications to register new trademarks required for our operations and actively manages existing registered trademarks.

### Existing Registered Trademarks



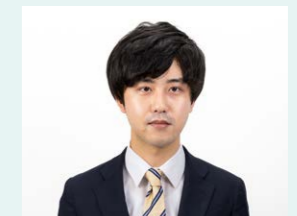
Logo from the Digital Transformation Business



Logo from the Hydrogen Supply Chain Business

### Message from the Expert

Chiyoda's intellectual property-related activities contribute to the transformation of our business portfolio. We continue to strengthen communications with business divisions such as Life Science and Energy Management to implement intellectual property activities in line with our business goals. The protection of intellectual property and the research of intellectual property held by others prior to commencing business also extends to digital technology in areas such as EPC and O&M.



**Yasunori Ono**  
(Patent Attorney)  
Intellectual Property Section,  
Corporate Planning Department

# Data Section

In this section, we provide key data on the Chiyoda Group, financial results over the past 11 years and ESG initiatives.

## CONTENTS

- 72 Key ESG Data
- 74 Eleven-Year Summary
- 76 Corporate Information

## Key ESG Data

## Environmental Initiatives

The Chiyoda Group strives to realize its corporate philosophy of 'Energy and Environment in Harmony' and further contribute to the sustainable development of society through its business activities.



KPI	Unit	2019/3	2020/3	2021/3	2022/3	2023/3
<b>CO<sub>2</sub> emissions**</b>						
Scope 1	t-CO <sub>2</sub>	-	-	52,942	60,395	86,336
Scope 2	t-CO <sub>2</sub>	-	-	16,870	8,843	7,293
Scope 1 + 2**	t-CO <sub>2</sub>	-	-	69,812	69,238	93,629
<b>Environmental Data for Domestic Construction Sites</b>						
Industrial waste disposal quantity (excluding sludge)	Tons	17,138	22,223	13,549	16,577	9,905
Final landfill disposal quantity (excluding sludge and incinerated ash)	Tons	1,059	1,464	1,432	828	787
CO <sub>2</sub> emissions	Tons-CO <sub>2</sub>	5,665	4,642	-	-	-
Industrial waste recycling rate (excluding sludge)	%	76.8	92.8	89.7	95.0	92.1
Electronic manifest penetration rate	%	94.6	90.8	90.2	98.98	99.50
Adoption of environmental proposals	Cases	347	236	237	132	138
<b>Environmental Data for Overseas Construction Sites (Released from March 2020)</b>						
Industrial waste disposal quantity	Tons	-	6,868	4,097	3,841	12,207
Final landfill disposal quantity (excluding recyclable resources and incinerated ash)	Tons	-	4,624	3,075	1,976	4,873
CO <sub>2</sub> emissions	Tons-CO <sub>2</sub>	-	56,970	-	-	-
Industrial waste recycling rate	%	-	17.0	3.5	5.6	49.5
Adoption of environmental proposals	Cases	-	111	150	98	59
<b>Environmental Data for Chiyoda Group Company Offices</b>						
Power consumption	1,000 kWh	10,331	9,313	8,294	8,426	8,415
Energy consumption	kl	3,295	3,018	2,678	2,754	2,807
CO <sub>2</sub> emissions	Tons-CO <sub>2</sub>	6,083	5,685	-	-	-
Chilled water consumption	1,000 m <sup>3</sup>	17.5	15.2	9.8	11.3	17.0
Steam consumption	GJ	4,541	4,633	4,849	5,428	5,434
Cold water consumption	GJ	14,201	13,785	10,865	10,938	11,880
Waste disposal volume	Tons	241	281	214	147	208
Waste recycling rate	%	95.4	96.5	92.9	89.7	88.2
Printing paper consumed	Tons	80	70	43	25	23

\*1 CO<sub>2</sub> emissions have been presented by scope since 2020. Chiyoda Group offices include overseas Group companies.

\*\*2 Chiyoda Global Headquarters and Koyasu Office & Research Park are included in domestic office category (Tokyo Office is not included). Joint Venture ratio is applied to overseas construction sites.

## Social Initiatives

The Chiyoda Group contributes to local communities through its business activities, such as human resource development, human rights and labor initiatives, and social contributions. We also cultivate a corporate culture that embraces diversity and individuality, as well as the uniqueness of each director and employee, and boost employee morale through our respect for individuals and their families.



KPI	Unit	2019/3	2020/3	2021/3	2022/3	2023/3
<b>Employee Status</b>						
Average years of service	Years	12.3	12.7	14.2	14.2	12.2
Average age of employees	Years	41.0	41.3	41.2	41.4	41.8
Turnover rate excluding retirement	%	2.5	4.7	2.9	3.6	3.3
<b>Employee Diversity</b>						
Ratio of female employees among new recruits	%	25	27	31	21	24
Number of female employees among new recruits	Persons	12	14	11	7	10
Ratio of mid-career employment	%	25.0	16.1	36.7	59.1	66.1
Ratio of women among all employees	%	16	16	16	17	17
Average years of service of female employees	Years	8.1	9.0	9.4	9.6	9.6
Number of women in management positions	Persons	25	28	28	54	90
Ratio of women in management positions	%	3.5	3.8	3.7	6.3	8.3
Ratio of employment of persons with disabilities	%	1.6	1.7	1.7	1.6	1.6
Number of non-Japanese employees	Persons	63	73	77	71	78
<b>Employee Support</b>						
Number of employees taking childcare leave	Persons	26	28	43	50	68
Number of employees taking sick/injured childcare leave	Persons	11	23	18	4	6
Number of employees taking nursing care leave	Persons	9	10	10	5	4
Number of employees taking temporary retirement for nursing care	Persons	0	1	0	0	0
Number of employees working reduced hours for childcare	Persons	12	27	24	31	39
Number of employees dispatched for on-site training/on-site instruction	Persons	42	47	24	25	30
<b>Volunteer Activities</b>						
Number of employees participating in reconstruction assistance	Persons	53	9	0	0	0
Number of employees participating in cleanup activities (around Chiyoda Global Headquarters and Koyasu Office)	Persons	110	120	25	8	12
Number of vaccines donated through the collection of plastic bottle caps under ECOCAP Program	Vaccines	292	278	207	184	210
Number of school lunches donated through TABLE FOR TWO	Lunches	1,561	1,557	1,386	1,288	1,285

## Governance Initiatives

The Chiyoda Group is dedicated to transparency and stability in its operations in accordance with the highest ethical standards.



KPI	Unit	2019/3	2020/3	2021/3	2022/3	2023/3
<b>Compliance-related Actions</b>						
Number of employees receiving compliance training (new recruits, mid-career hires, and executives and associate executives)	Persons	112	114	114	83	123
Number of employees receiving compliance training (overseas assignment, site managers at field offices, export control, and bribery prevention)	Persons	168	248	422	1,254	1,788
Number of employees attending compliance seminars held by external instructors	Persons	172	711	2,021	1,235	1,921
Number of employees receiving compliance training via e-learning	Persons	4,669	5,704	5,189	5,179	5,289
Number of reports submitted under the Compliance Consultation and Whistleblowing System	Cases	36	98	93	108	64
<b>Initiatives for Business Continuity</b>						
Business continuity plan (BCP) training	Times	2	0	1	0	2
<b>Actions for Information Security</b>						
Number of serious information security-related incidents	Cases	0	0	0	0	0
<b>Governance-related Data</b>						
Number of outside directors	Persons	5	5	4	4	4

# Eleven-Year Summary

Chiyoda Corporation and Consolidated Subsidiaries

Millions of yen (excluding key ratios)

	2013/3	2014/3	2015/3	2016/3	2017/3	2018/3	2019/3	2020/3	2021/3	2022/3	2023/3
<b>Results for the Year</b>											
Revenue	398,918	446,147	480,979	611,548	603,745	510,873	341,952	385,925	315,393	311,115	430,163
Gross Profit (Loss)	42,515	41,462	45,651	41,520	38,223	8,618	(181,148)	42,823	20,061	22,794	32,709
SG&A Expenses	17,402	20,383	24,185	25,505	22,543	20,948	18,647	16,033	13,046	12,249	14,592
Operating Income (Loss)	25,113	21,079	21,466	16,015	15,680	(12,330)	(199,795)	26,789	7,015	10,545	18,116
Ordinary Income (Loss)	25,518	22,837	22,271	16,205	(3,080)	(10,100)	(192,998)	18,644	8,462	11,431	20,322
Net Income (Loss) Attributable to Owners of the Parent	16,077	13,447	11,029	3,375	(41,116)	6,445	(214,948)	12,177	7,993	(12,629)	15,187
<b>Financial Position at Year-End</b>											
Current Assets	383,206	409,096	444,578	455,030	425,244	374,470	326,929	360,387	305,891	372,682	382,958
Current Liabilities	230,431	261,679	294,339	311,106	301,182	247,847	392,505	319,878	244,657	350,675	356,256
Total Assets	435,379	475,288	515,839	528,219	461,331	420,337	352,341	385,051	329,583	395,396	406,588
Interest-Bearing Debt	10,220	11,305	11,010	10,348	10,211	10,000	15,989	35,870	45,747	45,621	29,090
Net Assets	189,356	198,031	208,405	202,128	157,125	159,418	(59,154)	24,943	36,747	15,761	22,310
Shareholders' Equity	188,386	196,411	206,395	200,166	155,339	157,557	(60,114)	24,423	36,399	15,654	22,180
<b>Cash Flows</b>											
Cash Flows from Operating Activities	14,147	(17,177)	(24,145)	55,526	(4,375)	(34,115)	(37,941)	(32,217)	(20,806)	(25,591)	44,157
Cash Flows from Investing Activities	(5,257)	(16,796)	(5,444)	(26,750)	10,433	(1,428)	778	(7,828)	(2,250)	(3,787)	7,889
Cash Flows from Financing Activities	(4,432)	(5,249)	(4,569)	(3,942)	(2,693)	(1,468)	4,020	89,200	9,478	(4,197)	(17,057)
Cash and Cash Equivalents, at End of Year	180,229	145,303	113,246	136,919	138,889	101,767	68,306	115,932	98,738	69,099	106,682
<b>Key Ratios</b>											
Gross Profit (Loss) Margin (%)	10.7	9.3	9.5	6.8	6.3	1.7	(53.0)	11.1	6.4	7.3	7.6
Return on Assets (ROA) (%)	6.4	5.0	4.5	3.1	(0.6)	(2.3)	(50.0)	5.1	2.4	3.2	5.1
Return on Equity (ROE) (%)	9.0	7.0	5.5	1.7	(23.1)	4.1	(441.2)	(68.2)	26.3	(48.5)	80.3
Shareholders' Equity Ratio (%)	43.3	41.3	40.0	37.9	33.7	37.5	(17.1)	6.3	11.0	4.0	5.5
Current Ratio (%)	166.3	156.3	151.0	146.3	141.2	153.0	83.3	112.7	125.0	106.3	107.5
Debt Equity Ratio (DER) (Times)	0.05	0.06	0.05	0.05	0.07	0.06	(0.27)	1.47	1.26	2.91	1.31
Earnings Per Share (EPS) (Yen)	62.06	51.91	42.58	13.03	(158.76)	24.89	(830.02)	40.94	22.76	(56.88)	50.54
Book-value Per Share (BPS) (Yen)	727.24	758.31	796.89	772.89	599.83	608.41	(232.13)	(182.07)	(143.94)	(218.11)	(201.02)
Dividend Per Common Share (Yen)	19	16	13	10	6	7.5	–	–	–	–	–
Common Dividend Payout Ratio (%)	30.6	30.8	30.5	76.7	38.7	30.1	–	–	–	–	–
Dividend Per Type A Preferred Share* (Yen)								–	20.78	–	–
Price Earnings Ratio (PER) (%)	16.9	25.6	24.1	63.3	(4.5)	40.3	(0.3)	5.2	21.0	(8.3)	7.7

\* Type A Preferred Shares were issued in July 2019.

# Corporate Information

(As of March 31, 2023)

## Company Profile

Company Name	Chiyoda Corporation
Established	January 20, 1948
Paid-In Capital	¥15,014 million
Number of Employees	3,995 (consolidated and equity-method affiliates)
Business Activities	Integrated engineering business
Main Offices	Chiyoda Global Headquarters Koyasu Office & Research Park
Project Experience	In over 60 countries

## Stock Information

Fiscal Year	April 1 to March 31 of the following year	
Ordinary General Meeting of Shareholders	June	
Number of Authorized Shares	Common Stock	1,500,000,000
	Type A Preferred Shares	175,000,000
Number of Issued and Outstanding Shares	Common Stock	260,324,529 (1 unit = 100 shares)
	Type A Preferred Shares	175,000,000 (1 unit = 1 share)
Number of Shareholders	Common Stock	41,767
	Type A Preferred Shares	1
Listing of Shares	Tokyo Stock Exchange, Standard Market	
Stock Transaction Unit	100 shares	

## Major Shareholders

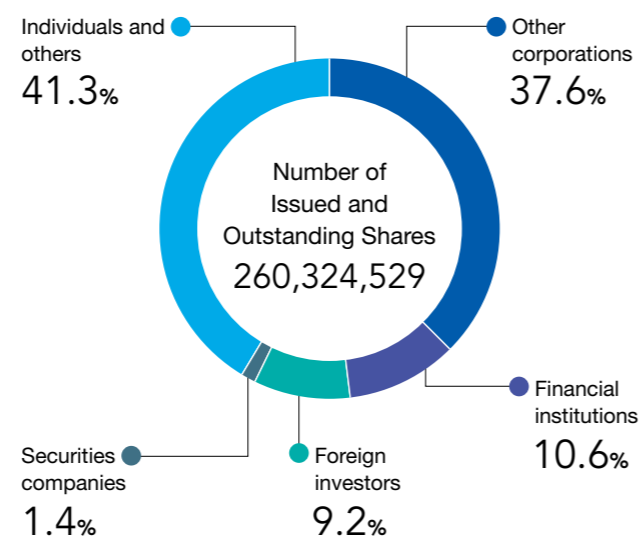
### 1. Common Stock (10 Largest Shareholders)

Shareholder	Number of Shares Owned (Thousands of Shares)	Ratio of Shares Owned (%)
Mitsubishi Corporation	86,931	33.39
MUFG Bank, Ltd.	9,033	3.47
The Master Trust Bank of Japan, Ltd. (Trust Account)	8,320	3.19
GOVERNMENT OF NORWAY	4,782	1.83
Chiyoda Employee Shareholding Association	4,365	1.67
The Mitsubishi UFJ Trust & Banking Corp.	3,874	1.48
SSBTC CLIENT OMNIBUS ACCOUNT	2,377	0.91
JP MORGAN CHASE BANK 385781	2,050	0.78
Meiji Yasuda Life Insurance Company	2,039	0.78
Chiyoda Kyoekai	2,031	0.78

### 2. Type A Preferred Shares

Shareholder	Number of Shares Owned (Thousands of Shares)	Ratio of Shares Owned (%)
Mitsubishi Corporation	175,000	100

## Breakdown of Shareholders



## Chiyoda's Global Network (Major Overseas Subsidiaries and Offices)



## Major Subsidiaries and Affiliated Companies

### Engineering (as of April 1, 2023)

#### Chiyoda X-ONE Engineering Corporation (CXO)

(Established on April 1, 2023 through a merger of three companies: Chiyoda Kosho Co., Ltd., Chiyoda System Technologies Corporation, and Chiyoda TechnoAce Co., Ltd.)

Services: Comprehensive engineering business (planning, engineering design, procurement, construction, commissioning, maintenance) and insurance business (non-life insurance and life insurance agency business) related to industrial equipment, etc.

<https://cxo.chiyodacorp.com/english/>

### Digital

#### TIS Chiyoda Systems Inc.

Services: Consulting, development, and operation for integrated IT systems

<https://www.tc-systems.co.jp/english/>

#### PlantStream Inc.

Services: Development and sales of 'PlantStream™'

<https://plantstream3d.com/>

### Business Support

#### Chiyoda U-Tech Co., Ltd.

Services: Technical consulting in energy and environmental fields, engineer staffing, and outsourcing services

<https://www.utc-yokohama.com/english/>

#### Arrow Business Consulting Corporation

Services: Consulting for finance and accounting

### Inquiries

Chiyoda Corporation

IR, PR & Sustainability Advanced Section, Corporate Services Department  
Minatomirai Grand Central Tower 4-6-2, Minatomirai, Nishi-ku, Yokohama 220-8765, Japan



Inquiries

<https://www.chiyodacorp.com/en/contact/index.php>



Chiyoda Corporation joined the UN Global Compact in 2012, declaring its commitment to 10 universal principles in the following four areas: human rights, labor, the environment, and anti-corruption. Guided also by the spirit of CSR Value, we are promoting initiatives in each of these four areas.





**Chiyoda Global Headquarters**

Minatomirai Grand Central Tower,  
4-6-2, Minatomirai, Nishi-ku,  
Yokohama, Kanagawa, Japan  
<https://www.chiyodacorp.com/en/>

