

# CHIYODA REPORT 2021

Energy and Environment in Harmony



# Unlocking the Future of Green Energy through the Power of Engineering

Initiatives aimed at a carbon-free, recycling-based society are rapidly proceeding worldwide. With our unique SPERA\* Hydrogen™ at the core of our technologies and by combining our engineering expertise with cutting-edge AI and digital technologies, we contribute to the realization of a carbon-neutral society.

\* A Latin word for “hope”

## Our Materiality



Following an assessment of our business goals and with the aim of resolving global issues and realizing economic growth, SDGs 7, 9 and 13 have been identified as high priority for the Group.





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Editorial Policy

CHIYODA REPORT 2021 is intended as a communication tool to comprehensively 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 strive to improve the quality of information contained in the report to strengthen the awareness of the Chiyoda Group among all stakeholders and the wider community.

Disclaimer Regarding Forward-Looking Statements

Statements in CHIYODA REPORT 2021 are forward-looking, based on information available at the time of issuance. Readers should be aware that actual results may differ materially from such statements due to a number of factors.

Please refer to the following website for further information on the Chiyoda Group.

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



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.

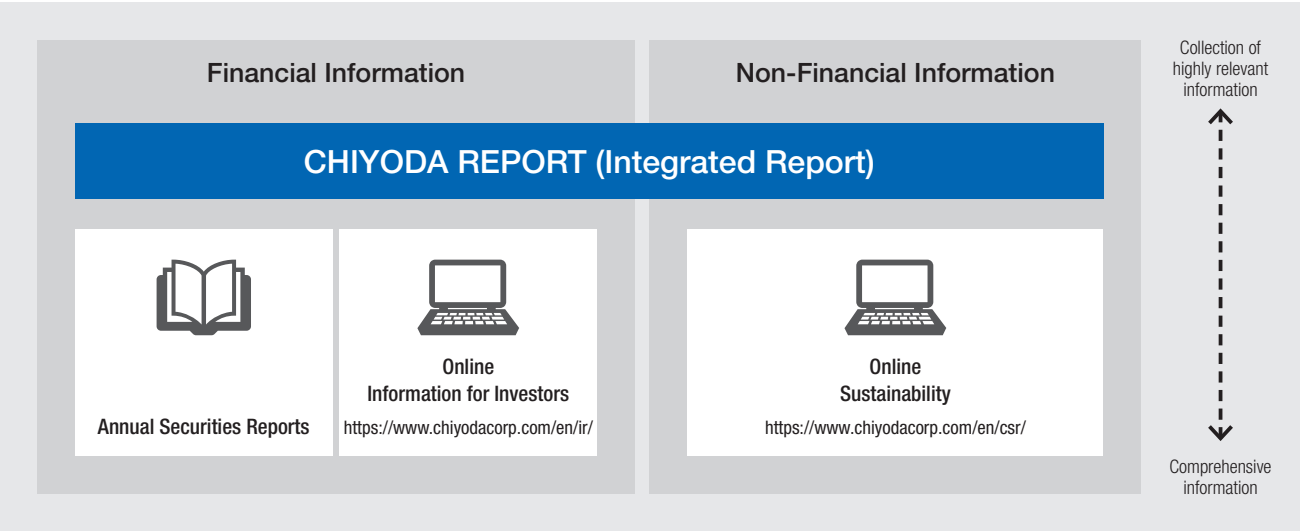
Business Vision

A Grand Opportunity for the Future

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



Supplementary Resources for the CHIYODA REPORT





# Message from the CEO and the COO



We will help realize harmony between energy and the environment in pursuit of sustainable growth in the rapidly changing business environment.

## Adapting to Our Changing Business Environment

We will continue to transform our business portfolio and use the rapid changes in our internal and external business environments, driven by the accelerating transition to a decarbonized society, the growth of life sciences from increasing health awareness in an aging society and digital innovation initiated by expanding AI and Information and Communications Technology (ICT), as growth opportunities.

The Chiyoda Group has improved its financial health, developed a sophisticated risk management structure, enhanced corporate governance, improved its EPC execution and management capabilities and reinforced its human resources on the basis of our medium-term management plan, 'Chiyoda's Revitalization Plan—Initiatives for Revitalization and the Future', released in May 2019. We have steadily executed projects around the globe, including large-scale LNG projects in the USA and Indonesia, and have secured an order for the world's largest LNG expansion project in Qatar.

We updated our medium-term management plan in May 2021, in line with steady growth, to strengthen existing businesses to realize stable revenue and accelerate our expansion into new fields.

## Strengthening Our Ability to Generate Consistent Earnings

As projects in the engineering industry increase in size, complexity and duration, stringent and comprehensive risk management procedures are required to mitigate escalating execution risks, while leveraging the Company's technical prowess and project management skills, to generate consistent revenue streams and strengthen our financial base.

By anticipating the changes in our business environments, effectively combining our technologies and collaborating with long-standing and trusted business partners, we will add value to our business by delivering pioneering engineering solutions to our customers that resolve society's challenges. We will also add value by expanding our new businesses in the growth fields of hydrogen, carbon recycling, renewable energy, energy management and life sciences and continuing with digital transformation.

## Contributing to the Realization of a Sustainable Society through Our Engineering Strengths

Chiyoda has grown and developed by adapting to its changing business environments while continuing our Company's founding principle of "serving society through technology", embraced by all Chiyoda colleagues.

As the business environment, industry structure and global society's needs increase in complexity, the Company's traditional engineering strengths will endure and Chiyoda will continue providing solutions to our customers that deliver on the needs of each generation.

We will continue implementing our medium-term management plan, while ambitiously working to resolve society's challenges by embracing our corporate philosophy of 'enhancing our business in aiming for harmony between energy and the environment and contributing to the sustainable development of society' to realize sustainable growth by fulfilling stakeholder expectations, and we look forward to their continued support.

**Masakazu Sakakida**  
Chairman of the Board, CEO & CWO\*1

**Masaji Santo**  
President, COO & CSO\*2

\*1 Chief Wellness Officer  
\*2 Chief Sustainability Officer



# Message from the CFO



We will continue strengthening our business foundations and implementing financial strategies to facilitate sustainable growth.

## Improving Our Financial Health

In the two years since launching our medium-term management plan, 'Chiyoda's Revitalization Plan—Initiatives for Revitalization and the Future', we have steadily accumulated profits and improved our financial health.

In the first quarter of fiscal year ending March 31, 2022, we posted an extraordinary loss to eliminate past project uncertainties and ensure future stability and growth.

Our aim is to proceed according to our medium-term management plan, transform our business portfolio and consistently generate profits, thereby increasing capital and improving our financial health.

## Allocating Funds for Future Growth

The transformation of our business portfolio is designed to upgrade our existing businesses while hastening the development of new businesses for our future, strengthen our business foundations and provide sustainable growth. We will therefore allocate funds through an optimal balance between enhancing our current businesses and accelerating the development of new ones.

Strengthening our existing businesses requires capital investment, primarily for reforming EPC work processes and enhancing our project execution capabilities. To accelerate the development of new businesses, we will inject additional funds into our carbon neutral and life sciences fields and increase investment in digital transformation, further adding value in these fields.

## Enhancing Our Ability to Secure Funds

As our external business environment changes, enhancing our ability to secure sufficient working capital from the stable execution of existing projects for use in strategic investments geared to sustainable growth is critical. We will therefore continue improving the estimation and monitoring of ongoing projects, in terms of profitability and financing, while stringently managing cash flows.

We will promptly secure funds by diversifying and enhancing our funding avenues by establishing cooperative operations with business partners and through dialogue with stakeholders, public funds and subsidy programs.

## Shareholder Returns

We are striving to fulfill shareholder expectations by accumulating profits and increasing capital to restore dividends as soon as possible.

In fiscal year ended March 31, 2021, the Group moved closer to reinstating dividends on common stock for shareholders by paying dividends on preferred shares. Our focus is to transform our business and earning structure according to the medium-term management plan and deliver on management's commitments to increase profits and provide dividends at the earliest opportunity.

I look forward to the continued understanding and support of all our stakeholders.

Koji Tarutani

Representative Director,  
Executive Vice President & CFO

# Medium-term Management Plan Update

In May 2019, Chiyoda announced its Medium-term Management Plan, 'Chiyoda's Revitalization Plan—Initiatives for Revitalization and the Future'. In the first two years of the plan, we strengthened our financial position and established a business structure geared to revitalization and growth.

Our business environment changed beyond expectations during this period, including the accelerating transition towards a carbon-free society, and Chiyoda announced its updated Medium-term Management Plan in May 2021. We will continue pursuing a stable revenue structure and consolidating our business portfolio by continuing to secure revenue in our existing businesses while reinforcing new ones.

Please refer to the website below for further information updates on our Medium-term Management Plan.

<https://www.chiyodacorp.com/en/ir/managementstrategy/plan/>

## Medium-term Management Plan in Review (fiscal years ending March 31, 2020 and 2021)

### 1. A Business Structure Geared to Revitalization and Growth

#### (1) A Solid Foundation for Revitalization

All measures required to establish a solid foundation towards revitalization are progressing as planned.

#### Measures and Progress

#### 1 Developing the Risk Management Structure

Developing risk management and project execution structures

- Developing the integrated risk management system through the Strategy & Risk Integration (SRI) Division, launched in July 2019
- Selecting projects in line with our human resources strategy

Enhanced corporate governance

- Ratio of 'outside directors' on the Board of Directors increased to approximately 40% and enhanced external monitoring functions
- Separated management supervision and business execution (restricting Directors who also serve as Executive Officers to the President and the CFO)

#### 2 Enhancing EPC Execution and Management

- Enhance EPC execution and management
- Strengthen construction execution

- Established a Construction Division in April 2020 and strengthened the organizational system
- Improved real-time monitoring of project execution and estimation accuracy through the introduction of Chiyoda AWP\* and integrated data management
- Strengthened contract and subcontract human resources and management

\* Chiyoda Advanced Work Packaging is a process whereby construction work is packaged through integrated management to optimize the EPC process from engineering and procurement to construction, commissioning and handover

#### 3 Reinforcing Human Resources

- Enforce meritocratic selection, diversify skill sets and proactively recruit external talent

- Deployed a new human resource system in April 2021

#### (2) A Solid Foundation for Future Growth

We are refining our organizational structure to promote hydrogen and carbon recycling, energy management, life sciences and digital transformation growth strategies.

Improved Organizational Structure	Strategies
Established the Frontier Business Division (October 2019)	Pursue new businesses in the fields of hydrogen and carbon recycling, new energy and life sciences
Established the Digital Transformation Division (July 2019)	<ul style="list-style-type: none"> <li>• Combine engineering expertise and digital and AI technologies to deliver innovative digital solutions</li> <li>• Promote workstyle reform through Company-wide digitalization</li> </ul>
Established TIS Chiyoda Systems Inc. in a joint venture with TIS Inc. (October 2020)	Reinforce the Group's IT infrastructure

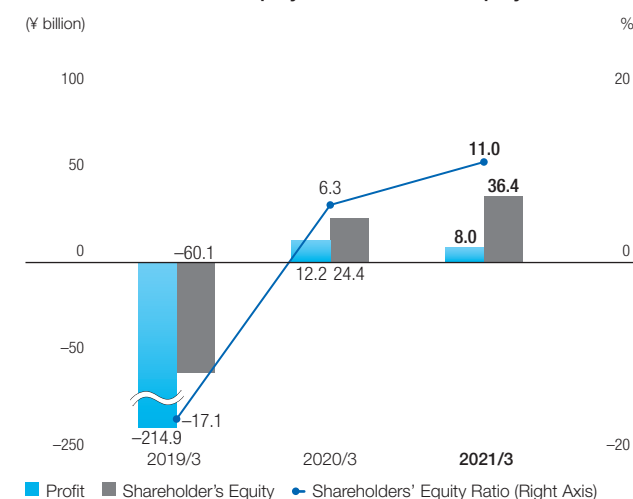
### 2. Quantitative Targets and Progress to Date

Increased shareholders equity ratio through profit growth, eliminated accumulated losses and reduced fixed costs while accepting orders as a result of the NFE LNG project in Qatar.

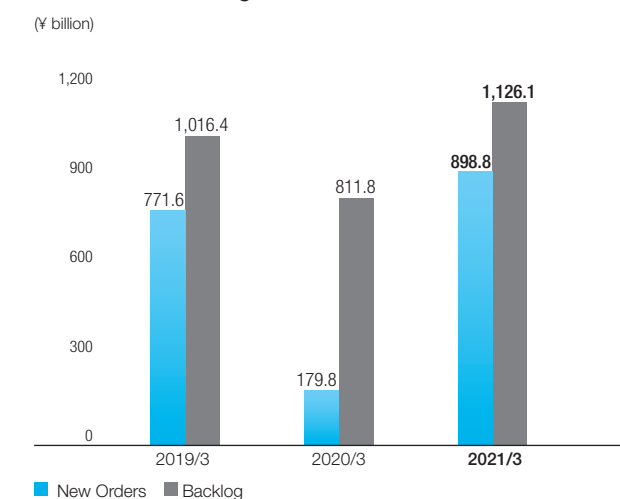
Achieving five-year net profit\*1 targets will likely be delayed due to the drastic changes in our business environment.

Objective	Our Five-Year Plan	Progress to Date (fiscal years ending March 31, 2020 and 2021)
Order target	Annual <ul style="list-style-type: none"> <li>• LNG and gas projects: ¥200.0 billion to ¥450.0 billion</li> <li>• Global environmental projects: ¥100.0 billion to ¥150.0 billion</li> </ul>	<ul style="list-style-type: none"> <li>• Two-year total*2</li> <li>• LNG and gas projects: Approximately ¥850.0 billion</li> <li>• Global environmental projects: Approximately ¥200.0 billion</li> <li>• Secured the NFE LNG project in Qatar</li> </ul>
Net profit	<ul style="list-style-type: none"> <li>• Transform the earnings structure to consistently generate ¥10.0 billion to ¥20.0 billion in net profit</li> <li>• Accumulate ¥90.0 billion in net profit over five years</li> </ul>	Realized profits of ¥20.0 billion
Increase share-holders equity ratio	Restore to 20% or greater	11% (as of March 31, 2021)
Eliminate accumulated losses	Eliminate accumulated losses during the Revitalization Plan period	Eliminated accumulated losses through profit growth and reduction of capital
Reduce fixed costs	Reduce consolidated selling, general and administrative (SG&A) expenses to ¥15.0 billion	Posted consolidated SG&A expenses of ¥13.0 billion in fiscal 2021

#### Profit / Shareholder's Equity / Shareholders' Equity Ratio



#### New Orders / Backlog



\*1 Net income (loss) attributable to owners of the parent

\*2 Global environmental projects include domestic refinery and petrochemical projects and international metal projects.



## Medium-term Management Plan Update

### Future Business Strategy

We will continue to monitor the macroeconomic accelerating transition to a carbon-free society as we advance towards carbon neutrality by 2050, while maintaining our vision for

2030. We will continue to transform our business portfolio and improve profits by leveraging our collective engineering strengths and commercialization capabilities.

### Awareness of the Business Environment - The Accelerating Transition to a Carbon-free Society

#### 1. Increasing the Use of Low-carbon and Green LNG

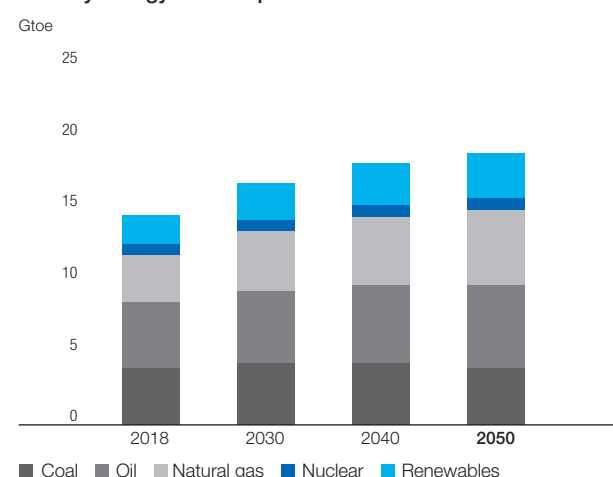
As pragmatic solutions for addressing increasing energy demand in the transition to a carbon-free society, demand for natural gas and LNG is expected to remain strong. Demand for renewable energy, such as solar and wind power, will likely experience dramatic growth.

#### 2. The Accelerating Transition to a Carbon-free and Hydrogen Society

The global drive towards carbon neutrality by 2050 is accelerating. Initiatives include using hydrogen as a viable energy source due its minimal greenhouse gases (GHG) emissions and targets are being established worldwide for hydrogen consumption and numbers of operational fuel-cell vehicles (FCVs) by 2030.

The transition to a hydrogen society is a business opportunity for Chiyoda and we are evaluating a number of initiatives using our proprietary SPERA Hydrogen™ technology.

Primary Energy Consumption Worldwide



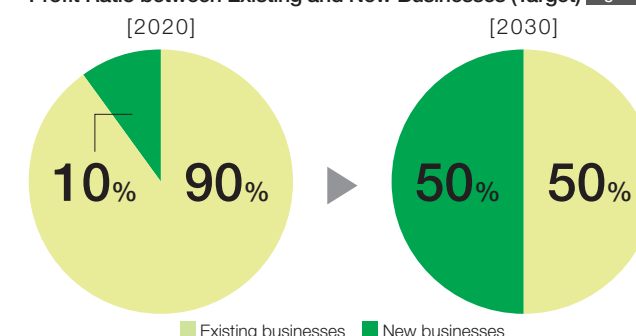
#### Public Policy Goals across the Globe

Country/Region	Public Policy Goals	
	GHG Emission Reduction Targets to be achieved by 2030	Hydrogen Utilization and Application Target
Japan	46% reduction compared to 2013 levels	Hydrogen Utilization and Application targets 2030: 3 million tons per year 2050: 20 million tons per year
USA	50%-52% reduction compared to 2005 levels	The number of operational FCVs: 1 million units Number of hydrogen stations: 200 locations Hydrogen production: 0.4 billion tons
State of California		
Europe	55% reduction compared to 1990 levels	Electrolytic hydrogen production capacity: 40 GW Supply: 10 million tons per year
China	Commence lowering CO <sub>2</sub> emissions by 2030 and achieve net-zero emissions by 2060	Develop an FCV supply chain
		The number of operational FCVs by 2025: 50,000 units per year 2030-2035: 1 million units per year Number of hydrogen stations by 2025: 300 2030-2035: 1,000

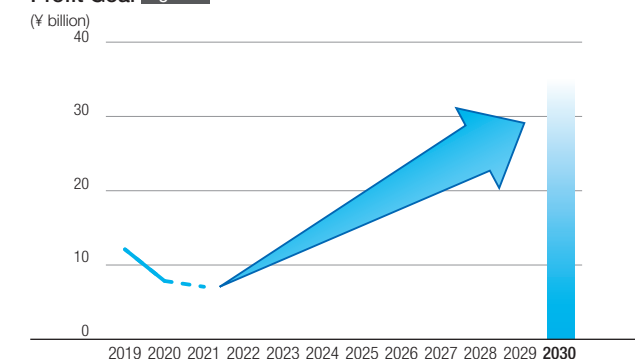
### Our Vision for 2030

1. We will contribute to the accelerating transition to a hydrogen, carbon-free society and the realization of carbon neutrality by 2050 by combining our unrivaled engineering expertise with our advanced technology prowess.
2. We will transform our business portfolio by pursuing growth in the carbon-neutrality and life sciences fields, generating a 50/50 split in profits from existing and new businesses, while creating and strengthening models for recurring business. **Figure 1**
3. By achieving 1. and 2. above, we will transform our earnings structure to generate a consolidated net profit of ¥30.0 billion or greater. **Figure 2**

Profit Ratio between Existing and New Businesses (Target) **Figure 1**



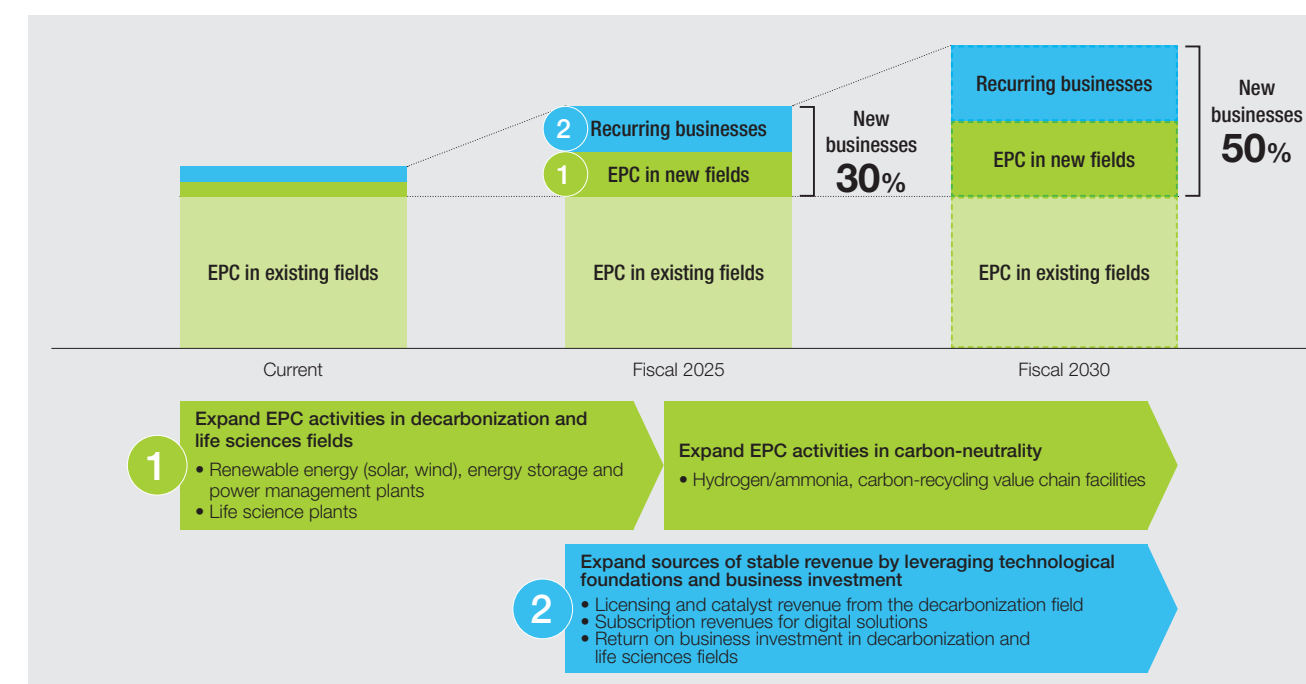
Profit Goal **Figure 2**



### Business Portfolio Transformation

EPC in existing fields currently accounts for the majority of the Chiyoda Group earnings. We will transform our business portfolio by increasing EPC activities in new decarbonization and life sciences fields to generate revenue, while expanding recurring businesses, including licensing, catalyst, digital solutions and business investment.

#### Breakdown of Pre-tax Profits Generated by the Business Portfolio Transformation (Planned)



# Chiyoda's Value Creation

In this section, we describe Chiyoda Corporation's vision for a sustainable society and our pursuit of "Energy and Environment in Harmony."

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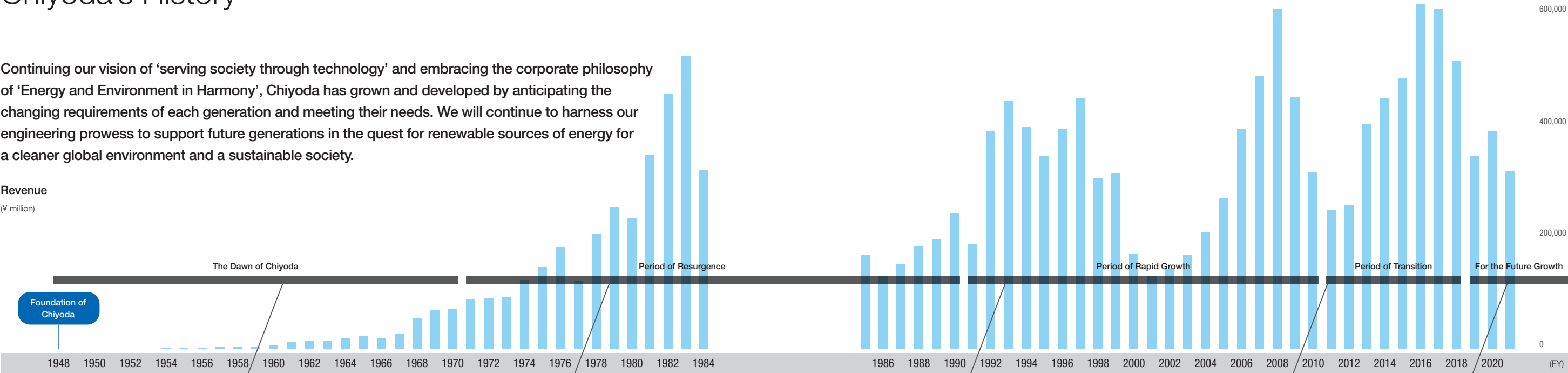




# Chiyoda's History

Continuing our vision of ‘serving society through technology’ and embracing the corporate philosophy of ‘Energy and Environment in Harmony’, Chiyoda has grown and developed by anticipating the changing requirements of each generation and meeting their needs. We will continue to harness our engineering prowess to support future generations in the quest for renewable sources of energy for a cleaner global environment and a sustainable society.

Revenue  
(¥ million)



	The Dawn of Chiyoda 1948—1970	Period of Resurgence 1971—1990
Social Trends	<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 the two oil crises</li><li>Accelerating overseas production as a result of the Plaza Accord (period of strong Japanese yen)</li></ul>
Chiyoda's Business Initiatives	<ul style="list-style-type: none"><li>Contributing to Japan's industrial reconstruction through engineering</li></ul>	<ul style="list-style-type: none"><li>Promoting 'Company-wide internationalization'</li><li>Executing large-scale petroleum/petrifaction projects overseas</li></ul>
Environment Technology		<ul style="list-style-type: none"><li>Commenced full-scale environmental conservation</li><li>Developed CT-121® flue gas desulphurization technology</li></ul>

	Period of Rapid Growth 1991—2010	Period of Transition 2011—2018	For the Future Growth 2019—
Social Trends	<ul style="list-style-type: none"><li>Collapse of the 'bubble economy' and surging oil prices</li><li>Growth in LNG demand worldwide</li></ul>	<ul style="list-style-type: none"><li>Adopting the Paris Agreement recommendations and the increase in climate change requirements worldwide</li><li>Shale gas revolution in the USA</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>
Chiyoda's Business Initiatives	<ul style="list-style-type: none"><li>Full-scale participation in LNG projects</li><li>Expanding into fields of general industrial facilities and non-ferrous metals</li></ul>	<ul style="list-style-type: none"><li>Executing large-scale LNG projects overseas</li><li>Entered renewable energy field</li></ul>	<ul style="list-style-type: none"><li>Executing Green LNG initiatives</li><li>Accelerating hydrogen and decarbonization measures</li><li>Promoting digital transformation</li><li>Strengthening life sciences fields</li></ul>
Environment Technology	<ul style="list-style-type: none"><li>Developed CT-CO<sub>2</sub>AR™ (CO<sub>2</sub> reforming technology)</li></ul>	<ul style="list-style-type: none"><li>Developed SPERA Hydrogen™</li><li>Commenced CCS* initiatives</li></ul>	<ul style="list-style-type: none"><li>Developing technology for storing and transporting large volumes of hydrogen over long distances at ambient temperature and pressure</li></ul>

\* Carbon dioxide capture and storage

Projects

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

**1976**  
Abu Dhabi Gas Liquefaction Company Limited (United Arab Emirates)  
Constructed an LNG plant on Das Island (Abu Dhabi)

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

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

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

**1989**  
PT Pupuk Kalimantan Timur (PKT)  
Constructed a fertilizer plant

**1994**  
Crown Prince and Princess visit LNG plant construction site in Ras Laffan Industrial City, Qatar

**2011**  
Secured order for the Nagasaki Solar Energy Co., Ltd.

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

**2014**  
Secured order for the Cameron LNG Plant in the USA

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



Value Creation Story

Framing the achievement of our selected three SDGs (“Chiyoda’s SDGs Materiality”) as our priority management issues, we will exploit our core competencies to implement our Medium-term Management Plan, ‘Chiyoda’s Revitalization Plan—Initiatives for Revitalization and the Future’, and support the realization of a hydrogen society and carbon neutrality.





# The Chiyoda Group's Green Energy Vision

By combining the Chiyoda Group's unrivaled engineering expertise and AI and digital technology prowess, and collaborating with partners to leverage their expertise, networks and technologies, we will contribute to the realization of a hydrogen, carbon-neutral society through the development of technological solutions for the green energy value chain.

## 1 Our Pursuit of a Green Energy Value Chain

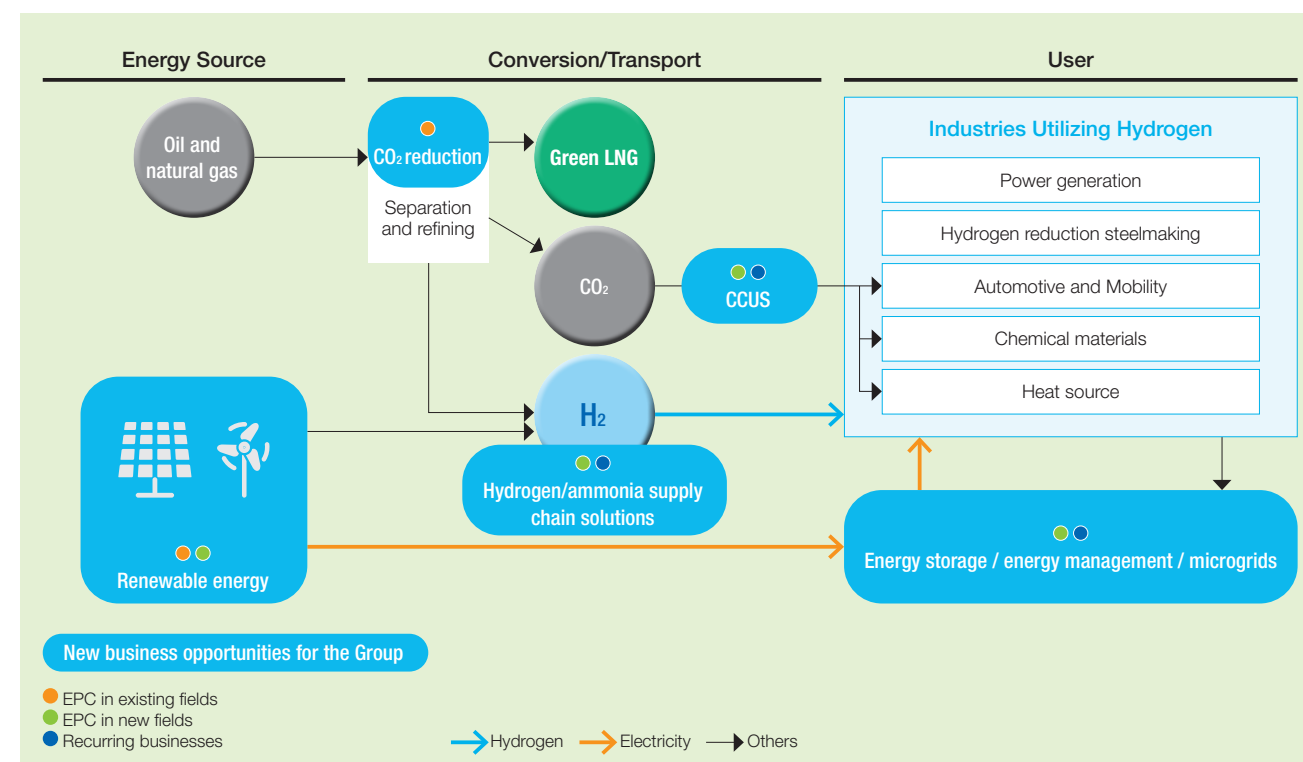
### (1) Our vision

- Promote the utilization and application of hydrogen in a wide range of industries to support the realization of a carbon-free society
- Optimize energy management to reduce costs and eliminate carbon emissions

### (2) Business Strategy Overview

We will exploit our technological expertise in CCUS\*, Green LNG, renewable energy and hydrogen, including Chiyoda's 'in-house' SPERA Hydrogen™ technology, and will optimize our energy management systems to develop a green energy value chain that meets industrial decarbonization requirements and supports the realization of a carbon neutral society.

\*Carbon dioxide capture, utilization and storage



## 2 Our Initiatives in Support of the Task Force on Climate-related Financial Disclosures (TCFD)

Chiyoda declared its support for the recommendations of the Task Force on Climate-related Financial Disclosures (TCFD) in 2019, and participated in the Ministry of the Environment's 'Project to Analyze Scenarios of Climate Risks and Opportunities in accordance with TCFD', including conducting a trial scenario

analysis on climate change in March 2020. We incorporated the scenario analyses results into our growth strategies to embrace the climate change challenge in our business practices and will continue to raise our information disclosure standards in line with the recommendations of the TCFD.



Please refer to the websites below for details of our scenario analysis.

- 'Practical Guide for Scenario Analysis in Line with the TCFD Recommendations Ver. 2.0' (3-29-3-36)

<http://www.env.go.jp/policy/tcfd.html>

- Chiyoda Corporation's corporate website

<https://www.chiyodacorp.com/en/csr/environment/business-activities.html>

### Scenario Analysis Assumptions

Assumptions	Target
Target year	2040
Scenario	2°C scenario: Promote countermeasures against climate change (introduction of carbon tax, etc.) 4°C scenario: Without countermeasures (no carbon tax, etc.)
Reference data	WEO* 2019 data (other data used as a reference in lieu of inadequate data)
Sectors subject to analysis	EPC fields • LNG, petroleum and petrifaction, green energy plants Non-EPC fields • Hydrogen • Carbon dioxide Capture and Utilization (CCU) • Distributed composite utilities

\* World Energy Outlook, announced by the International Energy Agency (IEA) each fall

### Policy on Countermeasures and Business Strategies for 2°C Scenario

Sectors Subject to Analysis	2°C Scenario	Policy on Countermeasures	Business Strategies	Disclosure within CHIYODA REPORT and references
LNG	→	Provided services tailored to business reorganization	• Green LNG initiatives Incorporated CO <sub>2</sub> capture and storage facilities into LNG plant construction to reduce GHG emissions	P32-33 Business Strategies Our Strategy to Reduce CO <sub>2</sub> Emissions and Realize a Carbon-free Society
Petroleum and petrifaction	→	Optimizing client assets through the use of digital AI technology	• Leveraging the EFEXISTM brand to deliver innovative digital solutions to optimize plant operation and maintenance and reduce GHG emissions	P38-39 Business Strategies Digital Transformation (DX) Business
Hydrogen	→	Early entry into markets to secure market share in lieu of increasing demand from the accelerating transition to a low-carbon/carbon-recycling society	• Created a value chain for Chiyoda's 'in-house' SPERA Hydrogen™ technology • Promotion, and participation in, cross-industry regional hydrogen deployment projects	P34-35 Business Strategies Hydrogen Business
CCU	→		• Commenced technology development for capture and storage of CO <sub>2</sub> to realize a future carbon-recycling supply chain	P32-33 Business Strategies Our Strategy to Reduce CO <sub>2</sub> Emissions and Realize a Carbon-free Society
Green energy plants	→	Launched a utility business to meet the increasing demand	• Expansion of EPC operations in renewable energy, energy storage and energy management systems • Launched an energy utilization optimization business	P36 Business Strategies Energy Management Business



# Roundtable Discussion: Our Vision for Addressing Climate Change

The global drive towards carbonization is accelerating in line with the increasing importance of climate change. Outside Director Nobuo Tanaka, an expert in energy-related issues, discussed how, as an engineering company, Chiyoda can contribute to the Japanese government's goal of achieving carbon neutrality by 2050 with a group of both young and experienced Chiyoda colleagues.



**Yukihiro Shibahara**  
Business Development Department 3,  
Business Development Division

**Aki Ikejiri**  
Corporate Services Department

**Takami Yao**  
Gas & LNG Process Engineering  
Department

**Osamu Ikeda**  
Hydrogen Business Department

**Haruna Takagawa**  
Carbon Management Business Office,  
Business Innovation Department

**Nobuo Tanaka**  
Outside Director  
Former Executive Director of International  
Energy Agency

**Taichiro Masagaki**  
Refinery Petrochem & New Energy Process Engi-  
neering Department, Carbon Management Business  
Office, Business Innovation Department

## Introduction

**Tanaka** Chiyoda Corporation is a socially responsible company and, in the six years since I became an Outside Director, the company has navigated the transition from coal and petroleum to LNG as a major source of global energy. By actively working towards more efficient and cleaner energy across the globe, Chiyoda actively contributes to society. LNG, the Company's core business since the 1990s, is evolving in parallel with the trend towards a carbon-free society and continues to grow, extending Chiyoda's successful track record of delivering projects worldwide, primarily in the USA and Qatar.

As the pursuit of decarbonization accelerates and headwinds against petroleum and gas increase, the world is proceeding along the correct path towards clean, renewable sources of energy. The actions of major corporations, such as the American IT giants of Google, Apple, Facebook, Amazon, and Microsoft in declaring their support for the realization of net-zero greenhouse gas (GHG) emissions throughout the entire supply chain by 2030, 20 years ahead of the target set by the government, is essential. Corporations on both sides of the supply and demand balance are realizing that collaboration and a common approach towards clean energy to



meet global environmental challenges for the benefit of society is essential to improve business performance.

We are also seeing considerable shifts on the financial front and the more than 450 Japanese companies declaring their support for the TCFD recommendations as of July 2021, following Chiyoda's support in 2019, has grown exponentially during COVID-19. I believe this increase is especially due to the propensity of younger generations to realize a sustainable global environment. The world will not return to pre-COVID-19 conditions and thriving companies need to adapt to the changing global business environment.

I am looking forward to hearing all your views and I trust that we can share our thoughts openly in discussing the issues to address, and other topics, and how Chiyoda and we as individuals can support the realization of a carbon-free society.

## Contributing to Society through Hydrogen and Carbon

**Ikeda** I have been involved in the development of SPERA Hydrogen™ since the hydrogen business was established in April 2011, not long after the Great East Japan Earthquake. Due to that devastating event, there was immense pressure to revise our energy policies, including reassessing the role of nuclear power.

Hydrogen began to attract attention as an alternative source of energy at that time. In 2014, three years after the launch of our SPERA Hydrogen™ initiative, the Japanese government became the world's first organization to unveil a strategic road map for hydrogen and fuel cells, followed by the 'Basic Hydrogen Strategy' announcement in 2017. However, factors such as the lack of widespread awareness of the importance of reducing CO<sub>2</sub> emissions, led to an inability to implement economic measures.

The challenges in our industry are changing according to the accelerating shift towards global decarbonization of the last two years. The importance of effectively managing environmental issues has become more recognized and a paradigm shift is taking place as companies address such issues through their business activities, presenting both risks and opportunities to our business.

As society continues with this change, our medium to long-term goal is to implement a hydrogen value chain and use our hydrogen technology to support the realization of a sustainable society. We will utilize our technological development and integration strengths and will collaboratively engage with energy and trading companies and other business

partners. Establishing a hydrogen value chain will hasten the development of an even more sustainable energy system from the perspective of making effective use of carbon. In the long term, renewable energy and hydrogen as the ultimate clean energy will be our main source of energy. Carbon will be integrated with hydrogen and converted into chemicals or used in battery production. Our goal is to integrate renewable energy, hydrogen and carbon.

Chiyoda is also pursuing commercializing the use of carbon and will leverage its strengths as an integrated engineering company while playing an important role by anticipating the changes that lie ahead.





## Roundtable Discussion: Our Vision for Addressing Climate Change

### Enhancing the Chiyoda Brand by Providing Cutting-edge Solutions

**Yao** Society's demands for decarbonization by reducing CO<sub>2</sub> emissions have increased since I joined Chiyoda in 2015 and the global transition to alternative, cleaner sources of energy is a business opportunity for our Company.

I have been involved in the process engineering of LNG plants since joining Chiyoda and have experienced the increased emphasis on reducing LNG plant CO<sub>2</sub> emissions to tackle climate change, including both minimizing CO<sub>2</sub> generation during LNG production and recovering CO<sub>2</sub> already emitted. Chiyoda uses AI to improve energy efficiency to tackle the former and our carbon dioxide capture and storage (CCS) technology, capturing and storing emitted CO<sub>2</sub>, and capture and utilization (CCU) technology to reuse the recovered CO<sub>2</sub>, to tackle the latter.

I am currently responsible for the NFE LNG Project in Qatar, secured in February 2021. Our client, QatarEnergy, has a declared goal of reducing all Qatar's LNG plant GHG

emissions by 25% by 2030. Our proposals to reduce CO<sub>2</sub> emissions from our plants, minimize on-site power generation facilities by receiving power from existing power plants and using CCS technology have been adopted by clients. Because the thermal efficiency of existing power plants is greater than our on-site power generation facilities and renewable energy is used to generate some power from the existing power plants, CO<sub>2</sub> emissions are reduced.

Chiyoda generates much of its business, including NFE, based on our successful track record of delivering world-class state-of-the-art projects and developing collaborative long-standing robust working relationships with our clients founded on reliability. By promptly responding to the changing needs of our clients and consistently providing cutting-edge solutions, we will further strengthen our existing client relationships and, by promoting our corporate brand, enhance our global presence.

**Tanaka** Chiyoda has a long history of successfully delivering LNG projects in Qatar and we will promote our hydrogen and CCS technology, in addition to LNG, based on our reputation for reliability and transparency. By delivering on our customers current requirements, while also proposing solutions to future needs, we will further strengthen our existing relationships and foster new associations with valued customers.



### Looking One Step Ahead of Decarbonization Technology

**Masagaki** When I joined Chiyoda in 1999, my wish was to work in an environment-related division. I have therefore observed the global drive towards decarbonization with great interest and, looking back over the last 20 years, am surprised that the trend did not commence sooner.

Realizing decarbonization, particularly using CCU, will encompass energy and material approaches.

In terms of urgency and handling volumes, CCU technology for the manufacture of energy carriers is taking precedence over similar technology geared to material production. Examples include creating methane and jet fuel through CO<sub>2</sub>

and, while different from CCU, creating ammonia for fuel from 'clean' hydrogen (from renewable energy). The low return on overhead costs from using environmentally friendly energy compared to conventional energy, such as coal and petroleum, was a disincentive for the shift to decarbonization which did not therefore commence due to economics. However, this obstacle was removed as a result of the increased importance of ESG investment and the scrutiny of financial institutions over conventional energy projects. The power of economic rationality therefore also provoked the shift to decarbonization, which I find ironic.

CCU for material production will likely gain popularity in the future. For example, CO<sub>2</sub> can be converted into plastic and concrete materials. While CCS technology can store CO<sub>2</sub> underground, storing all of the CO<sub>2</sub> emitted using CCS technology will be impossible, and monitoring the stored CO<sub>2</sub> will entail long-term costs. Because lifestyle needs will continue to be essential, we must be open to utilizing CO<sub>2</sub> by material means.

Regardless of whether CO<sub>2</sub> will be used to produce natural gas as synthetic methane or converted into materials such as plastic, an extensive amount of green hydrogen (from renewable energy sources), will be required in order reuse CO<sub>2</sub> in such forms. Hydrogen atoms are found in many objects in our daily lives, including plastic PET bottles and polyethylene. As such, the demand for CCU-related green hydrogen will strengthen drastically from 2030 onward, raising concerns over the intense competition for green energy that will likely take place on a global scale.

Based on these assumptions, Japan will be uncompetitive in terms of cost for hydrogen and energy transport, due to its geographical location and domestic industry challenges towards realizing decarbonization in the near future. For that reason, the Japanese government must seriously consider undertaking measures that will ensure that its country remains competitive on the global stage. Due to the high hurdles involved in realizing decarbonization from the perspective of ensuring energy security, I believe we are at a stage where bold action must be taken over the medium to long term in the form of the "Asia Super Grid" project, encompassing sharing natural energy between Asian countries.



**Tanaka** While it may be challenging to transport large volumes of energy from certain countries in light of energy security, the Asia Super Grid is certainly not 'out of reach' as long as hydrogen can be imported as another solution.

Extracting hydrogen from gas in Russia and using CCS or creating energy from hydropower for transportation via pipelines to Japan is also worthy of consideration. A range of options should be considered for Japan to remain globally competitive.

### Advancing the Energy Transition through CCU Technology

**Takagawa** I remember discussing global environmental issues and how the term "global warming" appeared in textbooks when I was a child in school. However, few people were then aware that this was a major problem. Over the last few years, we have witnessed a drastic shift in the approach towards decarbonization, which continues to this day.

I have been involved in plant design and construction in the EPC business since joining Chiyoda 10 years ago. My wish to contribute to realizing a sustainable global environment has strengthened as a result of the growing trend towards decarbonization, and is one reason I wanted to join a team tasked with developing new businesses in its pursuit. I have been able to converse with university students in the past and hear their views on the environment and was amazed at their awareness and detailed knowledge of the 17 SDG goals.





## Roundtable Discussion: Our Vision for Addressing Climate Change

When we study the measures being undertaken by the American and European governments, we can assess the urgency with which they are addressing environmental issues. Certain cases, such as when Royal Dutch Shell plc was ordered by a district court in the Netherlands to raise its decarbonization targets, have been a catalyst for change. In executing my responsibilities, I have also had the opportunity to talk with institutional investors in Japan and discovered that environmental awareness in Japan, both individually and organizational, was below that of Europe and the USA due, for the most part, to a 'passive' approach. Japanese institutional investors do not include factors such as GHG emissions when deciding on investments and this made me realize that Japanese ESG investment is lagging behind Europe and the USA. I also sensed that these regions are revamping existing profits and industry structures to accelerate the decarbonization progress more effectively. For these reasons, it may be a good idea for Chiyoda to initially advance into Europe, establish a market position there and familiarize ourselves with their technologies and services before expanding in Japan, in a reverse import kind of way.

### Establishing a Presence in New Domains by Leveraging Our Sophisticated Technologies and Expertise

**Shibahara** Chiyoda has continued to grow through its core business of large-scale, complex plant EPC work and leveraging its chemical engineering capabilities. However, the company will be unable to rely on these capabilities to the same degree in the future because of the global trend towards decarbonization, which includes renewable energy, hydrogen production through electrolysis and energy storage. Continuous and distributed type standalone equipment is now

I am currently involved in a CCU project that involves creating para-xylene from CO<sub>2</sub>. As previously stated by Mr. Masagaki, both CCS and CCU will be critical to realizing decarbonization. I hope to significantly contribute to energy transition as the world implements measures in the pursuit of decarbonization.

**Tanaka** The Royal Dutch Shell court order had an enormous impact on energy companies too as they have been highly respected since commencing scenario analysis in the early 1970's. Despite efforts to disclose measures for realizing carbon neutrality by 2050, the company was served with this court order. Such cases demonstrate how the world is rapidly changing.

As Ms. Takagawa stated, Europe and the USA are leading Japan in environmental awareness, an area of increasing importance for developing business in these regions. Conducting business with trading companies and other enterprises in Europe is very interesting.

mainstream for energy systems, meaning that Chiyoda's strengths differ from required technologies.

Under these circumstances, we are being urged to reshape our organization into a new Chiyoda by leveraging our cultivated strengths. While there may be some urgent technical obstacles to overcome, as long as we can effectively use our core competencies, we will be able to lead way towards decarbonization.

Our technological capabilities will be key to continued success. Even without the proprietary technologies for new types of energy, proposing optimal solutions by measuring the economical efficiency of our underlying technologies and equipment as a system integrator is an acknowledged value and is unique to the Company. The ability to market products manufactured through our distinctly Chiyoda craftsmanship reflect our experience and current endeavors in the digital transformation field, supplying electricity and distributed energy and our continuous dedication to technology is a further advantage. These products include complex energy systems, such as heat supply utilizing green energy and hydrogen and decarbonization applications in the industries of our expertise, and for sectors within which we will look to enhance asset values throughout the entire infrastructure life-cycle. From the perspective of leveraging our existing

technologies, we must propose technological assessments and scale-ups along the upstream section of our energy system development process and develop a framework conducive to the stable generation of earnings in non-EPC fields.

Our safety design technologies, cultivated through our EPC plant activities, have enabled us to secure orders for

large-scale battery energy storage projects. Our expertise as an engineering company can be used in many fields and I am confident our departments can collaborate to enhance our implementation capabilities.

## Enhancing Corporate Value through Consistent Stakeholder Engagement

**Ikejiri** I have managed sustainability and social contribution activities in the IR, PR & CSR Section since 2015.

Our most significant progress in CSR initiatives over the last few years has been conducting TCFD scenario analyses. As mentioned earlier by Director Tanaka, Chiyoda declared its support for the TCFD recommendations in 2019 and conducted trial analysis during participation in the Ministry of the Environment's Project to 'Analyze Scenarios of Climate Risks and Opportunities in Accordance with TCFD'. Scenario analyses were conducted based on a 4°C scenario, in which measures are not undertaken in response to climate change, and on a 2°C scenario, within which net-zero GHG emissions is the goal for the second half of the 21st century. However, the 2°C scenario will need to be updated following further scenarios, such as a 1.5°C scenario, by leading sustainability companies in Europe and the USA. In these regions, political measures and financial backing are in place to aggressively advance towards realizing carbon neutrality, with pressure from financial institutions and non-governmental organizations (NGOs) to mitigate CO<sub>2</sub> emissions and divest from fossil fuels. I hope we can conduct more in-depth scenario analysis in line with such advancements.

We have disclosed data for Scope 1 and Scope 2 emissions and aim to do the same for Scope 3 emissions in the future.

I understand the dichotomy between proposing technological solutions and implementing expensive environmental initiatives when controlling costs. Nonetheless, the extraordinary advances made by our clients to reduce CO<sub>2</sub> emissions will translate into tremendous business opportunities.

A priority issue for management under the current medium-term management plan is the promotion of climate change measures. We will promptly communicate the Company's diverse initiatives, aimed at realizing the corporate philosophy of 'Energy and Environment in Harmony', to stakeholders as part of the IR, PR & CSR Section's daily activities, fulfilling our role in promoting our business and enhancing corporate value.

**Tanaka** Today has been a tremendously valuable experience and I thank you all for expressing your opinions so candidly.

I sense that the drastic shifts taking place in our world are felt deeply by all of you. We must therefore think seriously about how Chiyoda can adapt our technologies to this changing environment. Successful companies have an abundance of exceptional talent and technological seeds and I look forward to watching the younger generation, such as yourselves, blossom into inspiring leaders in the years ahead.





# Special Feature: Our Priority Issues of Chiyoda's SDGs Materiality

Chiyoda implements a unique voluntary participation system whereby 70 employees are registered as CSR Promotion Staff, encouraging CSR activities as part of their work assignments.

11 CSR Promotion Staff share their thoughts on how they can address Chiyoda's SDGs Materiality through their work. (Department affiliations are as of September 30, 2021.)

Please refer to the website below for further information on our materiality identification process.  
<https://www.chiyodacorp.com/en/csr/csr/chiyoda-csr/materiality-assessment.html>

## Chiyoda's SDGs Materiality



## Chiyoda Group's Materiality

Following an assessment of our business goals and with the aim of resolving global issues and realizing economic growth, SDGs 7, 9 and 13 have been identified as high priority for the Group.

### AFFORDABLE AND CLEAN ENERGY



**Kohei Tashima**  
Electrical System & Smart Grid Engineering Department  
Joined the Company in 2015

My role is to design and procure electrical equipment for LNG plants. Working on the NFE project in Qatar, the world's largest ever LNG plant, I am thrilled to be contributing to ensuring a stable energy supply throughout the world. I will continue supporting Chiyoda's endeavors to reduce CO<sub>2</sub> emissions, and provide cleaner energy across the globe, by leveraging on our engineering expertise combined with cutting-edge technologies.



**Masaaki Oki**  
Hydrogen Business Department  
Joined the Company in 2005

My decision to join Chiyoda stemmed from my desire to help resolve environmental issues. I am delighted to be currently working in the hydrogen field, the ultimate clean energy with virtually no CO<sub>2</sub> emissions. My work includes explaining the features of our technologies to clients looking to utilize hydrogen in their business and proposing solutions to issues by presenting user-case scenarios. By creating a society within which people use hydrogen in their everyday lives, I am delighted to be contributing to realizing the goal of 'affordable and clean energy'.



**Jo Inaba**  
Hydrogen Business Department  
Joined the Company in 2015

With a view to realizing a hydrogen society, I work on optimizing SPERA Hydrogen™ energy-saving features and overall operation to help resolve global sustainability challenges. The technology enables hydrogen to be transported and stored at ambient temperature and pressure. By using SPERA Hydrogen™ to manage hydrogen generated with renewable energy sources, we aim to build the ultimate energy system with the ability to produce CO<sub>2</sub>-free clean energy.



**Masahito Tadauchi**  
Global Environment & Green Energy EPC Support Department  
Joined the Company in 2007

My department works alongside other departments of the Global Environment & Green Energy Project Operations Division to design and build equipment and provide maintenance services for the renewable energy projects such as wind power and battery storage systems. By collaborating with clients in renewable energy, we align ourselves with the global drive towards reducing CO<sub>2</sub> emissions and contribute to providing clean energy for society.



**Yorito Narui**  
SQEI Department  
Joined the Company in 2017

Safety is Chiyoda's core value and ensuring safety of all individuals, from many different disciplines and backgrounds, on our domestic and international construction sites is a priority in the SQEI Department. Projects are only considered successful if all employees go home safely to their loved ones at the end of their working day. I take pride in my role in Chiyoda, ensuring that employees can safely return home to lead enriched lives and creating a society where everyone has equal access to clean, renewable energy.



### INDUSTRY, INNOVATION AND INFRASTRUCTURE



**So Ishii**  
Business Development Department 2  
Joined the Company in 2016

All companies in the oil and gas and electrical industries are impacted by the global drive for clean, renewable energy and a decarbonized society. Clients are keen to use hydrogen and ammonia technologies, designed to reduce carbon emissions. Changing the world's energy infrastructure that has served society's energy needs to the present day, to one that supports a sustainable society, will require close collaboration with all clients and stakeholders. We are also enhancing our endeavors in developing insect foods, which will grow in demand as an alternative source of protein.



**Yoshihiro Arai**  
Downstream & Chemical Project Department  
Joined the Company in 2016

My role is on the construction of industrial plants in disaster-stricken regions. By combining engineering solutions with cutting-edge technologies to resolve society's global challenges, we rejuvenate disaster-affected regions by reinstating assets and restoring productivity. We also minimize the use of unnecessary and superfluous materials on our construction sites by monitoring on-site conditions in real time through the latest digital technology. Generated waste material is recycled and reused whenever possible, thereby making efficient use of resources.



**Takuma Miyamae**  
SCV Team  
Joined the Company in 2017

I am involved in the construction of facilities to manufacture COVID-19 vaccines. People spur scientific innovation and new technology, and the efficient completion of these facilities to supply domestically produced vaccines at the earliest opportunity is how society can soon conquer COVID-19, and further fuel industrial and technological innovation.



**Makie Shinoto**  
Business Innovation Department  
Joined the Company in 2015

My role is to support the establishment of new business tailored to developing more efficient, environmentally friendly pharmaceutical products through the use of continuous manufacturing technology. This method of streamlining production is still in its infancy in the healthcare sector, and we rely on Chiyoda's pharmaceutical plant construction and flow chemistry technology experience, accumulated over many years, to develop this revolutionary technology. We will continue working to realize SDGs through the continuous improvement of pharmaceutical products.

### CLIMATE ACTION



**Mayuko Funabashi**  
Legal Department  
Joined the Company in 2013

I provide legal and contractual support for R&D in technologies that mitigate the impact of global warming and for licensing 'in-house' developed technologies, such as exhaust gas treatment. Collaborating with companies and government bodies from early product development to demonstration is an essential part of my job. Despite possible conflicts of interest during production, I strive to ensure that Chiyoda's rights are protected and that we achieve our goal of providing clients with cutting-edge environmental conservation technology.



**Saki Fukuoka**  
Engineering Safety, Fire and Environment Department  
Joined the Company in 2019

I am currently working in the Environment Section of our department as a team member on an LNG plant construction project in the MENA region. By implementing, and further developing, measures to reduce greenhouse gases emitted from the construction of LNG plants, and reducing the impact on climate change, we are supporting the realization of a sustainable society.



# Business Strategies

In this section, we describe Chiyoda Corporation's business strategies and business model for creating sustainable value.

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Freeport LNG Plant  
Courtesy of Freeport LNG Development, L.P.



Special Feature



# Our Vision for the North Field East LNG Project in Qatar

In February 2021, Chiyoda secured an order from QatarEnergy\* for the EPC phase of the North Field East LNG project in Qatar, comprising four of the world’s largest ever liquefaction trains and with a construction period of approximately six years.

A CO<sub>2</sub> capture and storage facility is included in the project, contributing to significant reductions in greenhouse gas (GHG) emissions for a sustainable global environment.

Chiyoda has reformed its successful joint venture partnership with Technip Energies to form ‘CTJV’ and will deliver the cutting-edge LNG facility by combining our extensive LNG EPC experience with our unparalleled digital technology expertise.

\*1 Qatar Petroleum, a state-owned petroleum company, changed its name to QatarEnergy on October 11, 2021.

### Forming an ‘A Team’

Chiyoda and Technip Energies will use their unrivaled spectrum of world-class engineering and execution expertise to form an ‘A Team’ of experts from their combined resource pool. CTJV will also use its previous experience of developing six liquefaction trains of similar scale in Ras Laffan Industrial City, and will utilize its network of specialist international construction companies with local knowledge and successful track records in the region.

### Our Vision for Project Execution

### Reinforcing Risk Management by Using Lessons Learned from Previous Projects

CTJV will utilize its extensive database of lessons learned from the successful delivery of previous LNG projects in Qatar to effectively manage EPC risks, using comprehensive and stringent risk management techniques and procedures. CTJV’s risk management processes include the identification, analysis, standardization, response planning, mitigation and control of risks and rigorous procedures for compiling and distributing information, between CGH and the field office.

### Enhancing EPC Execution Capabilities through Chiyoda AWP\*

Chiyoda AWP is a project management tool that coordinates and integrates the management of the EPC processes, using digital technology. The AWP process will progress through EPC, commissioning and completion to handover to maximize the advantages of aligning engineering and procurement with construction and commissioning schedules.

### Health and Safety Management

Health and safety management is our core value and CTJV will demonstrate safety leadership and commitment by continuously focusing on the projects safe completion in a continuous safety improvement philosophy and an unwavering commitment to safety management.

### Quality Management

CTJV’s quality objective of delivering a fit-for-purpose and reliable LNG facility will be achieved through approved quality plans, processes and procedures, documenting compliance with specifications and meeting QatarEnergy’s requirements.

\* Advanced Work Packaging is a process whereby construction work is packaged through integrated management to optimize the EPC process from engineering and procurement to construction, commissioning and handover

### Project Overview

Client	QatarEnergy
Construction Site	Ras Laffan Industrial City, Qatar
Facility	<ul style="list-style-type: none"><li>• Four liquefaction trains, each with the capacity to produce 8 million tons of LNG annually</li><li>• Utility facilities</li><li>• Associated facilities</li><li>• CO<sub>2</sub> capture and storage facility (with the capacity to reduce GHG emissions by over 25% compared to existing LNG plants)</li></ul>
Year of Completion	2025-2027

### Message from the Project Director



Seiichiro Ikeda  
CTJV Project Director

### A ‘One Team’ Philosophy Is Key

QatarEnergy and CTJV share a ‘One Team’ project philosophy, promoting and rewarding a ‘One Team’ culture through a collaborative approach with subcontractors, vendors, personnel and all stakeholders and fostering a proactive ‘relationship’ management style through open and transparent communication.

A ‘One-Team’ philosophy driven by shared project goals, emphasizing operative welfare and fostering a ‘community’ culture through open communication will be key to the project’s successful completion.

### PROFILE

As Project Director on a large-scale LNG project for Qatargas Operating Company Limited from 2004 to 2009, a previous Chiyoda/Technip Energies joint venture, Seiichiro Ikeda was instrumental in the project’s successful completion.



# Our Strategy to Reduce CO<sub>2</sub> Emissions and Realize a Carbon-free Society

## Our Vision

We will support the provision of cleaner energy by combining our state-of-the-art AI and digital technologies with our decarbonization technical expertise to deliver solutions to our customers that minimize greenhouse gas (GHG) emissions.

## Our Goals and Strategies

We will construct facilities and offer solutions that optimize plant operations, with the aim of reducing CO<sub>2</sub> emissions, in our existing LNG, petroleum and petrifaction and other EPC businesses. LNG is a relatively low environmental impact source of energy and will be key to addressing the growing

demand for cleaner energy towards realizing a carbon-free society. We will therefore increase our LNG endeavors while providing CO<sub>2</sub> capture and storage facilities and carbon recycling solutions while promoting 'Green LNG'.

### Overview of Initiatives

#### Carbon Capture and Storage (CCS)

##### Technology for collecting and storing carbon dioxide

CCS is a technology that separates CO<sub>2</sub> from other gases emitted from power plants and chemical facilities for storage underground.

In addition to constructing a CCS demonstration plant (Page 33) at a biomass power plant, a CO<sub>2</sub> recovery facility has been planned on the North Field East LNG Project in Qatar (Pages 30-31) to reduce CO<sub>2</sub> emissions by over 25%.

#### Optimizing Plant Operations through the EFEXIS™ Brand

EFEXIS™ is Chiyoda's innovative digital solutions that combine our engineering expertise with cutting-edge AI and digital technologies to maximize the autonomy of, and optimize, plant operation and maintenance.

Improving plant operational efficiency and productivity reduces gas and energy use, thereby lowering GHG emissions. (Please refer to 'Digital Transformation' on Pages 38-39)

#### Carbon Capture and Utilization (CCU)

CCU is a technology for collecting and using carbon dioxide efficiently for synthetic gas, chemicals and other valuable resources.

We will continue to develop technologies to recover and use CO<sub>2</sub> to support the realization of a sustainable carbon-recycling supply chain.

#### Electrification at LNG Plants

##### Electrification of Cooling Devices at LNG Plants

Our Freeport LNG Project in the USA commenced full-scale operation in May 2020 and uses an electric motor cooling system, in lieu of ordinary gas turbines, to drive the LNG refrigerant compressors and reduce CO<sub>2</sub> emissions.

Please refer to the website below for further information of Chiyoda's 'in-house' developed environmental technologies.

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

## MESSAGE



**Yuichiro Suzuki**  
NFE Team

### North Field East LNG Project in Qatar

Qatar, a nation with one of the highest standards of living in the world and the host country for the 2022 Soccer World Cup, was, until 20 years ago, a relatively minor MENA country. Chiyoda's role as prime contractor in the engineering and construction of 14 LNG trains has been a driving force behind Qatar's economic expansion.

As a leading global integrated engineering company, we have a responsibility to contribute to society by offering effective sustainable energy solutions that deliver 'Energy and Environment in Harmony' to our customers. I was involved in sales and marketing on the NFE project prior to its award and reassignment to the execution team. I am permanently conscious that safety is Chiyoda's core value and strive to support the safe execution of our projects.

## Case Studies

### CCS

#### Environmentally Friendly CCS Demonstration Plant (Completion)

Chiyoda developed the world's first state-of-the-art demonstration plant, separating and collecting carbon dioxide emitted from biomass power plants.

The demonstration plant uses Toshiba ESS carbon capture and sequestration technology to collect over 500 tons of CO<sub>2</sub> (over 50% of CO<sub>2</sub> generated daily) from the Mikawa Power Plant in Omuta City, Fukuoka Prefecture, constructed by Chiyoda and operated by Sigma Power Ariake Corporation (a Toshiba ESS subsidiary).

The project, completed in October 2020, is currently undergoing trial operations by Toshiba ESS following its adoption as a 'Demonstration of Sustainable CCS Technology' sponsored by the Ministry of the Environment.

Chiyoda's flue gas desulfurization system (CT-121™) has also been installed on the demonstration plant, allowing for

sophisticated treatment of CO<sub>2</sub> prior to separation and collection. This is Japan's first facility capable of capturing over 50% of CO<sub>2</sub> emitted from a coal-fired thermal power plant.

The demonstration plant's technology can be installed in both new and existing coal-fired thermal power plants and we aim to rapidly expand CCS technology across the globe to combat climate change and support the realization of a carbon-free society.



Photograph courtesy of Toshiba Energy Systems & Solutions Corporation

### CCU

#### Existing Technology

##### CT-CO<sub>2</sub>AR™

Synthetic gas is traditionally produced through a steam reforming process. This technology uses less steam to produce synthetic gas more efficiently by using a catalyst that is highly resilient to carbon deposition (CT-CO<sub>2</sub>AR™) and CO<sub>2</sub> as a resource. CT-CO<sub>2</sub>AR™ is currently being used by chemical manufacturers in Japan.

#### New Technologies Currently under Development

##### Carbonate (Raw Material for Concrete)

Chiyoda is developing and investigating commercializing technology that uses CO<sub>2</sub> contained in exhaust gas to manufacture aggregates, a raw material in concrete, with Mitsubishi Corporation and Blue Planet Systems Corporation in the USA.

##### Para-xylene (Raw Material for Polyester)

With the support of NEDO,\* we are aiming to industrialize a catalyst technology that synthesizes para-xylene (used to produce polyester fiber and plastic bottles) from CO<sub>2</sub> and hydrogen.

##### Ethylene (Electrolytic Reduction)

NEDO is also supporting Chiyoda in the R&D of highly versatile ethylene from CO<sub>2</sub> and water through a single-stage reaction at ambient temperature and pressure.

\* New Energy and Industrial Technology Development Organization

## MESSAGE



**Hiroki Ichikawa**  
Process Development Section  
Technology Development Department

### Contributing to the Technical and Commercial Development of Carbon-Recycling

As a key weapon against climate change, the demand for carbon-recycling technology is expanding on a global scale. Chiyoda is at the forefront of its technological and commercial development. Our focus is currently on improving the competitiveness of our carbonation, para-xylene production, and electrolytic synthesis technologies, while establishing businesses in non-EPC domains. Chiyoda is unrelenting in its exertions to develop carbon-recycling technology as expeditiously as possible to support the realization of a global sustainable society.

# Hydrogen Business

## Our Vision

We support the realization of a hydrogen society by combining our engineering expertise with state-of-the-art technology, including our multiple hydrogen carriers, centered on our unique SPERA Hydrogen™ technology.

## Our Goals and Strategies

By promoting our hydrogen/ammonia engineering and hydrogen supply chain solution businesses, our goal is to increase the volume of hydrogen used in Chiyoda hydrogen/ammonia projects to 1.75 million tons (equivalent to approximately 6 GW) by 2030.

### Key business environment to the extensive use of hydrogen/fuel ammonia

The accelerating shift to a decarbonized society	Maximizing the use of existing facilities	Accelerating technological development	Improving economic efficiency	Importing hydrogen and ammonia	Diversified fuel cell vehicle (FCV) customers
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Goals	Strategies
<b>Hydrogen/Ammonia Engineering Business</b>	
Provide optimal solutions for equipment configurations, costs and schedules at every phase of the hydrogen value chain	<ul style="list-style-type: none"> <li>Expand hydrogen/ammonia infrastructure from production to import</li> <li>Develop SPERA Hydrogen™ supply chains</li> </ul>
<b>Hydrogen Supply Chain Solution Business</b>	
Promote cross-industry regional hydrogen deployment projects in Asia (Japan, Singapore etc.), Europe and other regions	<ul style="list-style-type: none"> <li>Offer hydrogen supply chain solutions in Asia, Europe and other regions with sufficient hydrogen import demand</li> <li>Leverage technological capabilities to offer licensing and catalysts</li> </ul>

### 2030 Target

Volume of hydrogen used in Chiyoda Corporation hydrogen/ammonia projects

**1.75** million tons  
(equivalent to approximately 6 GW)

## MESSAGE



Yusuke Nakajima

Process Development Section  
Technology Development Department

Contribution through technological development toward the early realization of a hydrogen society

As an integrated engineering company, we strive for harmony between energy and the environment by leveraging our technological strengths to realize a sustainable society.

Chiyoda's SPERA Hydrogen™ is the key technology and we can utilize its technological advantages to expand our global business for society's benefit. SPERA Hydrogen™ is technologically advanced and further upgrades can be made, incorporating efficiency improvements and cost reductions. As an engineer responsible for technological development, I continue striving to enhance our technology, supporting the realization of a hydrogen society.

## Leveraging SPERA Hydrogen™ to Realize a Hydrogen Society

Striving to Realize Carbon Neutrality (International hydrogen supply chain demonstration successfully completed)

In December 2020, the Advanced Hydrogen Energy Chain Association for Technology Development (AHEAD), of which Chiyoda is an organizational member, successfully completed the demonstration of the world's first international hydrogen supply chain (Brunei-Kawasaki, Japan), with the support of the New Energy and Industrial Technology Development

Organization (NEDO).

The project was the world's first international transport of hydrogen on an industrial scale and the first time that hydrogen produced overseas was used for gas turbine power plants in Japan. Following these achievements, we will pursue hydrogen commercialization worldwide.

### Features of SPERA Hydrogen™

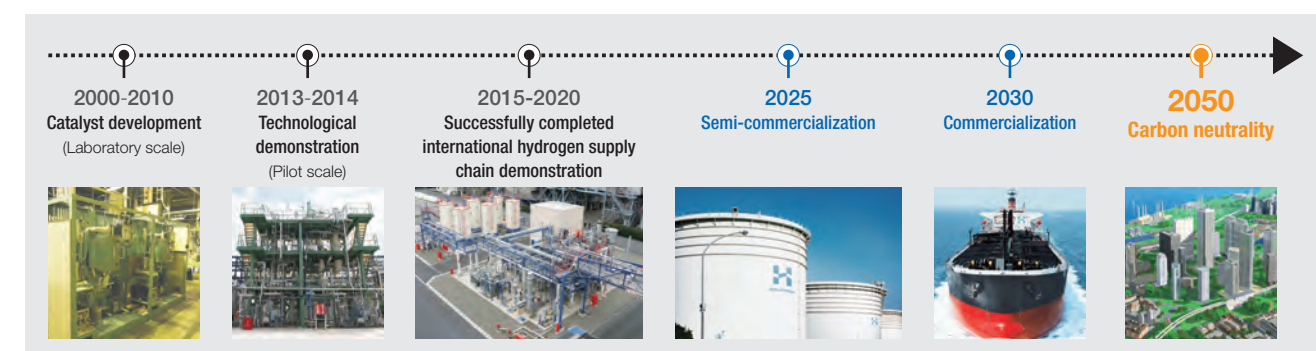
- A liquid at ambient temperature and pressure
- Safe and chemically stable
- Can utilize existing international standards and infrastructure
- Technologically adaptable to a commercial scale

## FEATURES

- Safe and economically efficient
- A practical and feasible solution to the extensive use of hydrogen
- A solution to manage energy supply and demand
- Early commercialization

## VALUES

### Road Map to 2050



Please refer to the website below for further information on our SPERA Hydrogen™ system.

<https://www.chiyodacorp.com/en/service/spera-hydrogen/innovations/>

Please refer to the website below for further information on our hydrogen supply chain business.

<https://www.chiyodacorp.com/en/service/spera-hydrogen/>

### Application Horizontal Expansion of Hydrogen Supply Chain Solution Business

**CASE: 01** Participation in the Hydrogen Utilization Study Group in Chubu  
The goal is to establish a large-scale hydrogen system utilizing 300,000 tons of hydrogen annually by 2030.

**CASE: 02** Feasibility Study on Receiving and Distributing Imported Hydrogen in the Chubu Region  
Appointed by NEDO to conduct a joint feasibility study together with Sumitomo Corporation, Toyota Motor Corporation, Japan Research Institute, Limited, Sumitomo Mitsui Banking Corporation.

**CASE: 03** Supply of Imported Hydrogen for a Hydrogen Supply Chain Demonstration  
Deliver and supply hydrogen through AHEAD from Brunei to a petroleum refinery used for a demonstration, conducted by the ENEOS Corporation, in anticipation of a hydrogen mass-consumption society.

**CASE: 04** Development of a Supply Chain Business in Singapore  
Chiyoda, Mitsubishi Corporation and five privately owned Singaporean enterprises signed a Memorandum of Understanding to collaborate on realizing a sustainable hydrogen economy in Singapore and develop a supply chain business.

**CASE: 05** Development of a Supply Chain Business in Europe (The Netherlands)  
Chiyoda, the Port of Rotterdam Authority (largest port in Europe), Koole Terminals, and Mitsubishi Corporation are collaborating in joint research to establish an international hydrogen supply chain and for the Port to become a hub for the import of hydrogen into the region.



# Energy Management Business

## Our Vision

- We will expand our EPC business in renewable energy, energy storage and Energy Management Systems (EMS) while developing an O&M business.
- We will create recurring businesses using our facility-related expertise, accumulated through our EPC business and digital solutions.

## Our Goals and Strategies

In renewable energy, energy storage and EMS engineering, we will exploit the offshore wind farm and energy storage markets potential, while developing an O&M business, with the aim of securing ¥50.0 billion of orders by 2030.

In energy utilization optimization, we will expand the EaaS\* business profit base and quickly realize profits.

\* Energy as a Service: A 'one-stop' business offering utility-related services and supporting our customers to reduce costs, increase asset values and lower CO<sub>2</sub> emissions

### The energy storage and energy management business environments

Establishing new global renewable energy goals	Realizing clean baseload power	Creating a market for energy adjustment	Accelerating P2X* technological development	Industrial decarbonization requirements
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Goals	Strategies	
<b>Renewable energy, energy storage and EMS engineering</b>		
Exploit the offshore wind farm industry's potential, expand the renewable energy, energy storage and EMS engineering businesses and develop an O&M business	<ul style="list-style-type: none"> <li>• Maximize our engineering expertise in offshore wind farms and energy storage</li> <li>• Develop an O&amp;M business for the facilities which we constructed</li> <li>• Strengthen our engineering capabilities to optimize the overall system in the P2X* field</li> </ul>	<b>2030 Order Target:</b> <b>¥ 50.0 billion</b>
<b>Energy utilization optimization</b>		
Deliver solutions that optimize utility use by connecting renewable energy, energy storage, EMS and plant facilities	<ul style="list-style-type: none"> <li>• Leverage our EPC expertise and AI-based renewable energy variability forecasting system to expand our range of energy storage solutions that effectively connect power and energy storage systems</li> <li>• Establish an EaaS business that optimizes existing processes and facilities</li> <li>• Develop advanced P2X technology</li> </ul>	<b>Expand the EaaS profit base and quickly realize profits while expanding into the regional utility business</b>

\*2 Power-to-X: Using compounds produced by electrolysis derived from renewable energy

Please refer to the website below for further information on our EMS initiatives.

<https://www.chiyodacorp.com/en/service/solar-power-station/>

## MESSAGE



**Yasumasa Okushima**

Power & Green Energy System  
Project Department

### For the realization of a sustainable society

Our department is executing the EPC phase of the world's largest battery energy storage project. The importance of energy storage is increasing with the growing global demand for a decarbonized society. We proactively respond to the new opportunities in the current transition to clean renewable energy. As a member of an integrated engineering company, one of my roles is to understand the needs of our stakeholders, effectively integrate our engineering expertise with state-of-the-art technology and work collaboratively with all stakeholders as 'One Team' to successfully deliver all our projects.

# Life Science Business

## Our Vision

We will provide life science solutions that add value for our customers and society by meeting unfulfilled medical demand around the world.

## Our Goals and Strategies

We will provide solutions that add value for our customers and society by exploiting our expertise, refined over many decades, and technology in life science.

We are targeting orders of ¥50.0 billion in life science engineering by 2030 and, in recurring businesses that utilize next-generation manufacturing process technologies, we aim to secure 10 pharmaceutical development and manufacturing projects per year in the same timescale.

### Changing the life science industry environment

The growing vulnerability of Japan's pharmaceutical supply chain	The return of domestic life science manufacturing facilities	COVID-19	Reduce pharmaceutical product manufacturing costs	The growth of advanced healthcare	Unfulfilled medical needs
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Goals	Strategies	
<b>Life science engineering</b>		
Become an EPC industry leader in the life science field	<ul style="list-style-type: none"> <li>• Increase project execution and manufacturing facility engineering capabilities Company-wide</li> <li>• Expand our EPC capability into areas that address society's medical needs, such as advanced bioprocess plants and COVID-19 vaccines</li> </ul>	<b>2030 Order Target:</b> <b>¥ 50.0 billion</b>
<b>Horizontal expansion and monetization of next-generation manufacturing process technologies</b>		
Ambitiously pursue continuous manufacturing of low molecular-weight pharmaceuticals and the cell-based CDMO*1 business through horizontal expansion and monetization of relevant technologies	<ul style="list-style-type: none"> <li>• Implement continuous manufacturing for pharmaceutical products using our continuous manufacturing process technologies</li> <li>• Industrialize the expansion cell culture process and exploit cell culture-based CRO*2 and CDMO businesses</li> </ul>	<b>2030 Project Target:</b> <b>10 per year</b> (contributing to the development and manufacture of pharmaceutical products)

\*1 Contract Development Manufacturing Organization (CDMO)

\*2 Contract Research Organization (CRO)

Please refer to the website below for further information on our core business segments and technologies in the life science business.

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

## MESSAGE



**Chiaki Hirota**

Life Science & General Industry Section  
Business Development Department 2

### Chiyoda's contribution in the life science field

As an integrated engineering company, our mission is to strengthen the Japanese pharmaceutical product supply chain while efficiently reducing manufacturing costs. We will therefore actively engage in biopharmaceutical plant development, implement continuous manufacturing technology for pharmaceuticals and enhance our presence in regenerative medicine and other cell-based fields, all of which will likely expand in future years.

Chiyoda plays a significant role improving global society's peace of mind through enhanced health management worldwide. I will continue striving to fulfill the evolving needs of our customers and the global community in the life science field.



# Digital Transformation (DX) Business

## Our Vision I

We will promote digital transformation to enhance the value of our core businesses models while establishing new businesses and realizing profits in a timely manner.

## Our DX Overview

We will proceed with the following four digital transformation initiatives as an “Innovative leading Engineering Company.”

- 1 Project DX
- 2 Corporate DX
- 3 DX Business
- 4 HR Mindset DX

## Our Goals and Strategies

We are accelerating Company-wide digital transformation, including establishing a CDO Office directly under the President & COO and the appointment of Digital Officers (DO's) and Digital Transformation Evangelists from each division.

### 1 Project DX

We will digitalize project execution and improve work efficiency, risk management and profitability.

Initiatives	Goals
<ul style="list-style-type: none"> <li>Accelerate deployment of project management data models and Chiyoda AWP<sup>*1</sup></li> <li>Deploy supply chain collaboration and digital materials/labor management initiatives</li> <li>Conduct autonomous engineering through digital technology via PlantStream™<sup>*2</sup> and accurate project forecasting by establishing concurrent engineering data models</li> </ul>	<ul style="list-style-type: none"> <li>Exploit data-centric project execution to increase the accuracy of project cost estimates and identify the factors for cost increases and address them in a timely manner</li> <li>Share data with suppliers and subcontractors to minimize changes</li> <li>Conduct efficient concurrent engineering and minimize redo work in the later stages of projects. Enhance engineering precision by advancing an autonomous engineering environment</li> </ul>

<sup>\*1</sup> Advanced Work Packaging: A project management tool using digital technology whereby construction work is packaged through integrated management to optimize the entire EPC process, from engineering and procurement through to construction, commissioning, and handover.

<sup>\*2</sup> PlantStream™: A standalone CAD system that reduces the number of space design processes involved in basic engineering by about 80% and that accelerates 3D model creation by up to five times. PlantStream™ has been awarded the 2021 Distinguished Engineer's Special Commendations Award by the Engineering Advancement Association of Japan as innovative technology.

Please refer to the website below for further information on PlantStream.

<https://plantstream3d.com/>

## MESSAGE



Junichiro Kaji

Section Leader  
Strategic Digital Products Section  
Digital Products Department

### The challenge of creating value through engineering and digital

Our Digital Business goal is to optimize the operation of customer production facilities by combining our engineering expertise and digital capabilities, based on our corporate philosophy of 'Energy and Environment in Harmony'. By identifying and addressing customer business challenges through digital transformation, we aim to benefit through the success of our customers. We collaborate closely with customers and appreciate their challenges and business environment, while generating hypothesis and verification.

### 2 Corporate DX

We will strengthen corporate management through digital technologies, promote diverse workstyle solutions, improve business performance and allocate resources more effectively.

Initiatives	Goals
<ul style="list-style-type: none"> <li>Develop digital workplaces and proactively deploy RPA<sup>*3</sup></li> <li>Further advance our corporate business management system</li> <li>Develop a human resource data management system</li> </ul>	<ul style="list-style-type: none"> <li>Establish efficient workstyles and a collaborative business environment conducive to achieving improved results</li> <li>Provide clear business performance feedback, strengthen risk management and facilitate effective decision-making</li> <li>Reinforce human resources (a key Revitalization Plan action) and optimize deployment of employees</li> </ul>

<sup>\*3</sup> Robotics Process Automation

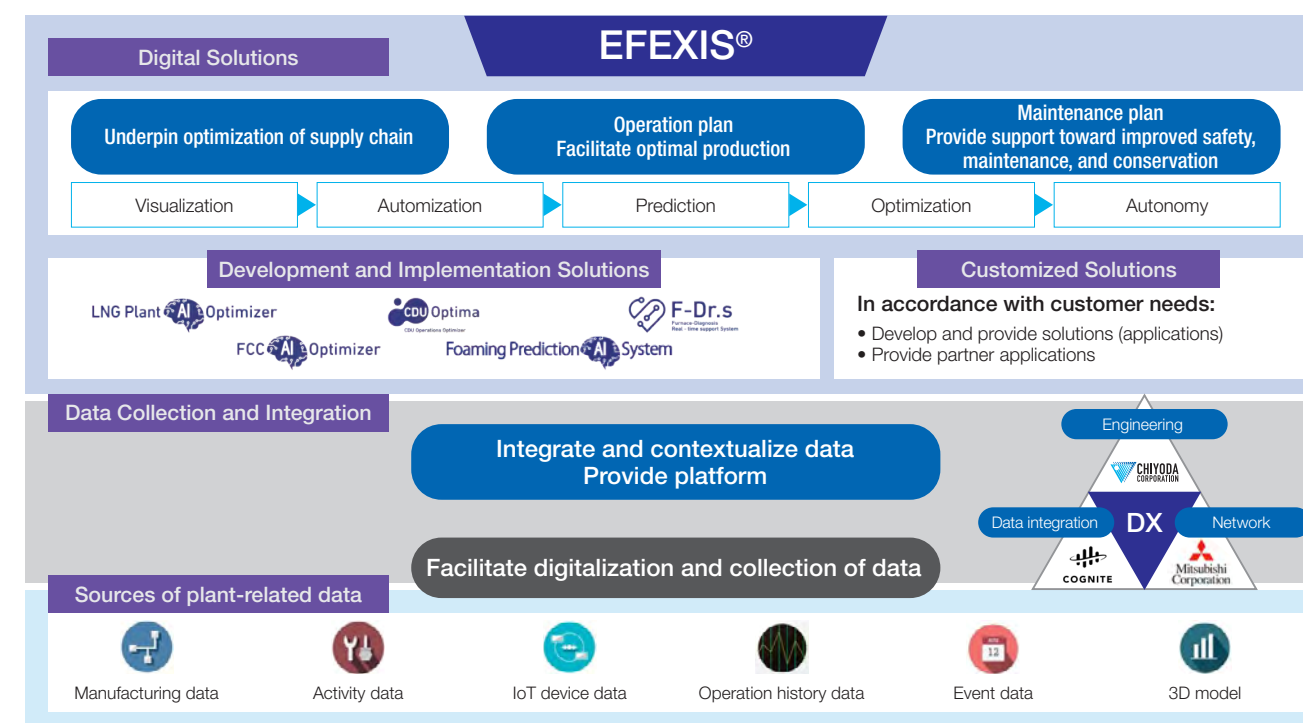
### 3 DX Business

We will enhance engineering value through AI and digital technologies, digitally transform customer plant production and operations and accelerate new business development.

Initiatives	Goals
<ul style="list-style-type: none"> <li>Optimize autonomous plant operations through EFEXIS™ by combining our engineering expertise and AI and digital technologies</li> <li>Establish energy management platforms for plants and local communities</li> <li>Develop and implement solutions to realize decarbonization and low-carbon emissions</li> </ul>	<p>Accelerate the pace of energy transformation through production, operational and supply chain digital transformation</p>

### Overview of EFEXIS™ Solution

We deliver digital AI products that optimize autonomous customer plant operations and maintenance under the EFEXIS™ brand. By combining our plant engineering expertise and state-of-the-art AI technologies, we offer innovative solutions that maximize customer asset values.





# Foundation Underpinning Sustainable Growth

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

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# Special Feature: Roundtable Discussion between Human Resources Officers



**Takuo Yasunishi**  
HRO of Business Incubation

**Nobutaka Nagahashi**  
HRO of Corporate Professional

**Ayako Shoda**  
HRO of Engineering Professional

**Katsuhiko Jogan**  
HRO of Project Management

To realize our human resource vision, we have defined strengthening our business execution capabilities, a Group strength, and the development of employees with exceptional organizational management capabilities as human resource development goals. Our four Human Resource Officers (HROs), appointed from each discipline to advance human resource development, discussed employee development, issues to be addressed and our goal of establishing more solid human resource foundations.

## Human Resource Strengths and Weaknesses

I would like to begin by discussing the strengths and weaknesses of our human resources. What are the views of our newly appointed HROs?

**Shoda** Our strengths are our ‘start to finish’ project execution skills and individual skill levels in resolving client issues. Our employees are mostly reluctant to admit their weaknesses however, and are not adept at self-disclosure.

**Jogan** Chiyoda’s strengths are our balanced group of employees, suited to a diverse range of technologies, and our ability to integrate our technologies to deliver optimal solutions to our clients, coupled with effective collaboration with vendors, licensors and other external partners to enhance our project execution capabilities. Conversely, the need to increase employee financial ambition and cognizance of Company profitability must be immediately addressed.

**Yasunishi** Our strengths and weaknesses stem from our EPC activities and our engineering and management capabilities are immense. Ms. Shoda highlighted our project execution skills and the Company’s traditional EPC prowess remains an area of focus. We should have a broader perspective beside EPC prowess to advance our growth strategy.

**Nagahashi** The ability to successfully complete projects with a deadline like EPC is certainly a tremendous strength of ours. However, our ability to actively engage in long-term tasks that have no deadline requires improvement and is noticeable in our internal projects. We must also respond more quickly to the changes taking place in our external business environment.

**Jogan** Due to the nature of the EPC business, tasks differ from project to project. Nonetheless, the EPC business must also adapt to the ongoing changes in society.

**Yasunishi** When there are prolonged projects of more than five years, employees become entrenched and it is challenging to enforce changes. The business environment and our client’s business model may change significantly over such a duration. The reality is that adapting as an organization to such changes is challenging due to the nature of our business.

## Developing Stronger Human Resource Foundations

There seems to be a consensus regarding issues to be addressed in terms of our EPC business. Mr. Jogan mentioned the lack of ambition of our employees towards Company profitability. How does everyone else feel about this issue?

**Shoda** It is imperative that employees improve their awareness of corporate management and profits. We must establish a framework to facilitate this.

**Yasunishi** Although we have secured relatively large projects since completing the Cameron LNG project in the USA, we should incorporate ‘lessons learned’ from the past project in their day-to-day activities to avoid repeating errors.

**Nagahashi** We should accept, understand and learn from positive and negative events on previous projects. We should remember the consequences of that project on our business and use the experience as a positive in rejuvenating our organization.

**Jogan** Relationships with all stakeholders, from clients, business partners and others on projects are not mutually exclusive, but are interdependent to a degree and reliability from all parties while ensuring profitability is challenging. As projects become larger and more complex, additional adjustments and extra work will be required but we must recognize the value offered by Chiyoda and always deliver projects that meet, or exceed, customer requirements.

**Shoda** Chiyoda’s systems, technologies, attitudes and project procedures are unique to the Company and this “Chiyoda-ism” is a deeply rooted culture that treasures our history and past successes. While cherishing our past successes is certainly important, simply continuing with traditional ways is unlikely to lead to new opportunities for growth. It is important

that we maintain the positive aspects of our traditional ways, while nurturing a sound sense of urgency and refining areas that need improvement to ensure the Company’s longevity.

**Nagahashi** Because “Chiyoda-ism” varies across divisions, dissecting divisional approaches, including our own, it will lead to new discoveries and we should systematically rotate jobs to enable employees to engage in work while gaining from a variety of perspectives.

**Yasunishi** Job rotation will enable employees to gain ‘first-hand’ experience in fields that would normally be impossible. To gain a deep understanding of anything, you must experience it for yourself. To enhance awareness of profitability for example, an employee from the technology division would transfer to a setting within which they can engage directly in assessing profitability from a project or marketing perspective. Gaining experience by performing a variety of roles will prove highly effective and we would distance ourselves from “Chiyoda-ism” through such initiatives.

## The Role of HROs

How will you fulfill your role as an HRO given that more organizational changes are on the horizon?

**Jogan** The great deal of time that employees spend on projects is inevitable as long as EPC remains our core business. Ensuring clear, concise and regular communication with employees is therefore a priority to improve employee mobility without impacting ongoing project progress.

**Shoda** I am aware that one of our duties as an HRO is to nurture a culture of clear communication and in 2021 we began holding career development discussions to promote communication between employees and their superiors and between employees and HROs. Through this initiative, I expect employees to understand what contributes to their sense of fulfillment and what their vision is for the future. Even when employee assignments and ambitions do not align, explaining

that their experience will benefit them in the future will improve motivation.

**Yasunishi** “Connection” is something I regard highly when interacting with employees. There is no more effective way to maximize employee benefit than by ensuring a connection between their day-to-day work activities and their ambitions. Maintaining solid communication with employees avoids discrepancies. Promoting effective communication also results in greater autonomy and is beneficial in terms of employee training and development.

**Jogan** Similar to Ms. Shoda, I believe that the company and its employees must clearly share their future visions. Employees have always adapted to organizational and project needs,



## Special Feature: Roundtable Discussion between Human Resources Officers

but I wish for more focus on employee ambitions from now on. **Nagahashi** Emphasizing the importance of employee ambitions and conveying your vision to them is a testament to the value placed by the Company in its employees. It may be

unsettling for some employees to be monitored so closely, but I hope they are able to relax knowing that their HRO is taking a multifaceted view.

**HRO Goals**

Please finally share your own visions and ambitions.

**Jogan** I wish to connect with as many employees as possible and support them in attaining their full potential, while doing everything in my power to contribute to their success and the success of their projects. I will also strive to develop the talent required to be successful in new fields such as hydrogen and renewable energy.

**Nagahashi** Through the HRO framework, I wish to create a working environment that enables employees to pursue their passion of contributing to society while nurturing a culture that values such a mindset from a variety of perspectives. This will form the foundation from which our employees can build a successful career.

**Shoda** As we have previously referred, I wish to establish and foster a culture committed to earnings in a working environment conducive for employees to reach their full potential. I wish to reshape the organization into one with such a positive human resource philosophy.

**Yasunishi** It is imperative that the Company adjusts in line with the paradigm shifts in society to remain invaluable by securing profits and beginning by reforming in familiar areas is key.

It is clear that all of you are implementing workstyle reforms through a process of trial and error to address the many issues in our organization and your vigorous efforts will result in wide-ranging new discoveries and opportunities for our employees. In your role as HROs, I am confident that you will continue to inspire all our employees.

(Facilitator: Aki Ikejiri, IR, PR & CSR Section, Corporate Services Department)



## Reinforcing Human Resources (Talent Management)

**Chiyoda's employees are our most valuable asset and we have formulated a Human Resource Development Policy, as a uniform set of guidelines, to nurture employee development and ensure they reach their full potential.**

**Our Human Resource Vision**

Chiyoda is a company of technical professionals that deliver engineering and cutting-edge technology solutions meeting customer, and other stakeholder, requirements to benefit society by using our unparalleled engineering and technological prowess.

**Human Resource Development****Human Resource Development Goals**

We will realize human resource development goals through our core competencies of 'Enhancing Business Execution Abilities' and 'Organizational Management Capabilities'

**Back to Basics**

~Professionalism as standard~

- Professional awareness and improvement
- Modesty and communication skills
- Independence and determination to conquer new challenges

**Enhancing Business Execution Abilities**

~Accelerating growth and enhancing our 'Business Execution Abilities'~

- Setting and completing tasks
- Customer oriented mind-set with a 'helicopter' perspective
- Responding to changes
- Contributing to the organization
- 'Adding Value' by combining engineering and digital technology expertise

**Organizational Management Capabilities**

~Early appointment and development of human resources with 'Organizational Management Capabilities'~

- Uniting as 'One Team'
- Embracing and exploiting diversity
- Developing human resources to benefit the organization

**Human Resource Development Initiatives**

Chiyoda's human resource development program is divided into the four disciplines listed on the right. A Human Resources Officer (HRO) is assigned to each discipline, and we implement initiatives and systems to optimize human resource development.

**Discipline**

- Engineering Professional
- Project Management
- Business Incubation
- Corporate Professional

**Key Human Resource Development Measures**

- Creating a human resource development policy for each discipline
- Engaging one-on-one career-related dialogue between employees, superiors and HROs
- Identifying and systematically hiring/assigning key personnel (professionals in specific fields, core project members and employees responsible for organizational management)
- Conducting organization administrator training sessions for all personnel in management roles to rejuvenate our corporate culture (three times during fiscal 2020)
- Systematically assigning employees between disciplines to ensure they benefit from a multifaceted view of the business and a comprehensive understanding of the Company's earnings structure and organizational management capabilities.

Please visit the website below (Japanese only) for further information on our employee education and training system.

<https://www.chiyodacorp.com/jp/recruit/graduate/career/>



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 23, 2021)

Organizational Structure	Company with Audit & Supervisory Committee
Executive Officer System	Yes
Number of Directors Of Whom, Outside Directors (Independent Directors)	11 4 (Independent Directors)
Term of Office of Director (Excluding members of the Audit & Supervisory Committee)	One year
Number of Audit & Supervisory Committee members Of Whom, Outside Directors	3 2
Number of Board of Directors’ Meetings Held (fiscal year ending March 31, 2021)	18
Number of Audit & Supervisory Committee Meetings Held (fiscal year ending March 31, 2021)	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

As a Company with 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 who 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 and determining Director remuneration through Independent Outside Directors and full-time Audit & Supervisory Committee members in decision-making, fulfilling a similar role to a voluntary nomination and remuneration committee.

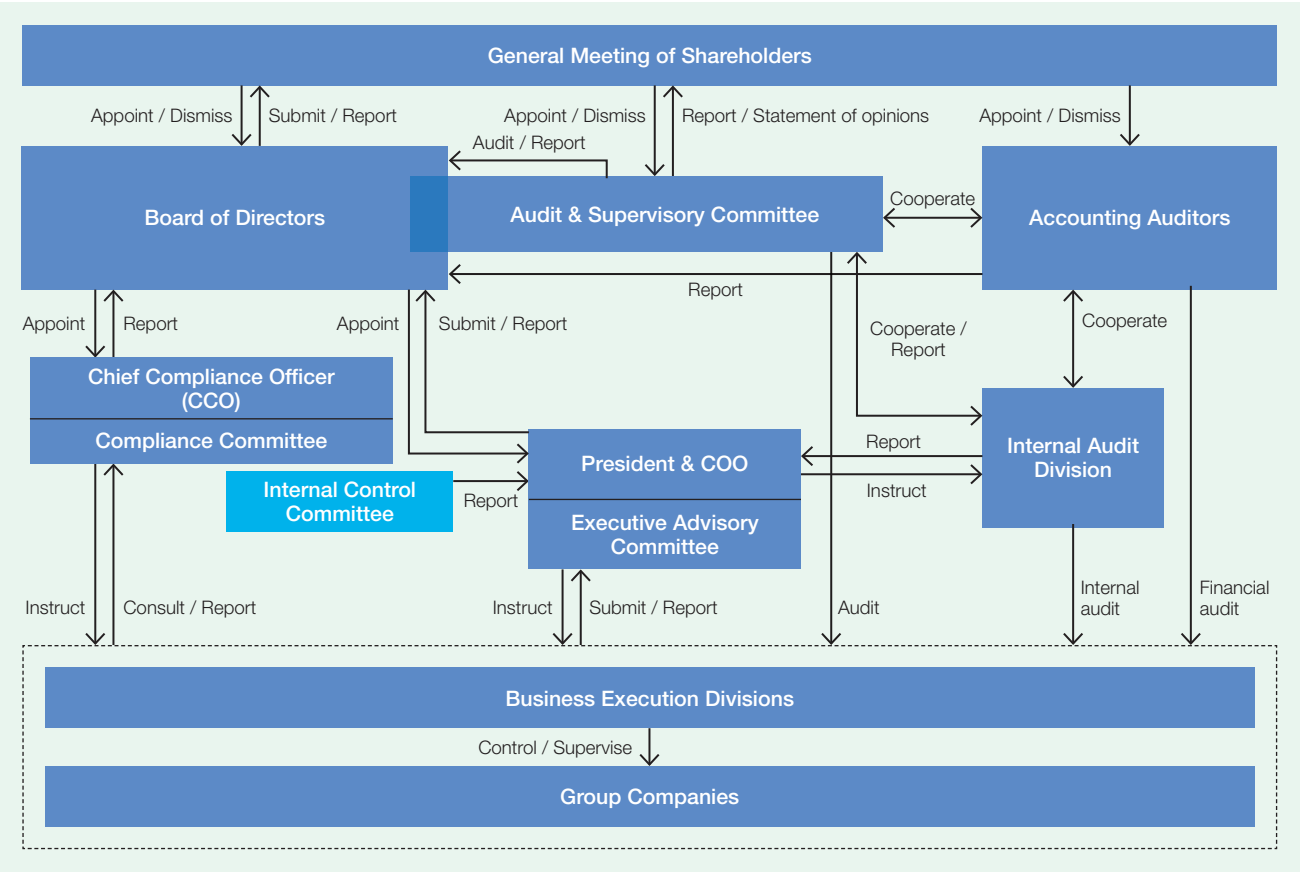
Committee	Composition and Roles/Responsibilities
Board of Directors	<ul style="list-style-type: none"><li>11 Directors, including Audit &amp; Supervisory Committee members. Monthly Board meetings.</li><li>Important management matters are determined and business execution is monitored. Appropriate decision-making 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 Representative Directors, who concurrently serve as Executive Officers, and other managers at Senior Vice President level or higher at Chiyoda Group Headquarters, including Operations Directors and Division Directors. Chiyoda stipulates the participation of the majority of those members as an advisory body to the President &amp; COO, responsible for business execution of Chiyoda, enabling prompt decision-making on matters related to business execution.</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, responsible for Chiyoda business execution.</li></ul>
Audit & Supervisory Committee	<ul style="list-style-type: none"><li>Three members (one of them is full time) consisting of two independent officers and one member 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 Chief Compliance Officer (CCO) 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  
[https://www.chiyodacorp.com/about/181227\\_GCPE.pdf](https://www.chiyodacorp.com/about/181227_GCPE.pdf)
- Corporate Governance Report  
[https://www.chiyodacorp.com/about/20190801\\_CGR\\_E.pdf](https://www.chiyodacorp.com/about/20190801_CGR_E.pdf)
- Basic Policy on Internal Control System (Japanese only)  
[https://www.chiyodacorp.com/about/20200401\\_internal\\_control.pdf](https://www.chiyodacorp.com/about/20200401_internal_control.pdf)



Corporate Governance

Board of Directors

Chiyoda's Board of Directors is composed of eight 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	Outside Officer	Gender ● Male ○ Female	Skills and experience				
				Management	Finance and accounting	Legal and compliance	Overseas experience	Project experience, technical expertise
Masakazu Sakakida	Representative Director, Chairman of the Board, CEO and CWO		●	●		●	●	●
Masaji Santo	Representative Director, President, COO and CSO		●	●			●	●
Koji Tarutani	Representative Director, Executive Vice President, CFO		●	●	●	●	●	
Tsunenori Kazama	Director		●				●	●
Masao Ishikawa	Director		●				●	●
Aiichiro Matsunaga	Director		●	●			●	●
Nobuo Tanaka	Outside Director*	●	●				●	●
Ryo Matsukawa	Outside Director*	●	●	●		●		●
Shingo Torii	Director (Full-Time Audit and Supervisory Committee Member)		●		●	●		
Mika Narahashi	Outside Director* (Director who is Audit and Supervisory Committee Member)	●	○			●		
Hisashi Ito	Outside Director* (Director who is Audit and Supervisory Committee Member)	●	●	●	●		●	●

\* Independent Director provided in Rule 436-2 of the Tokyo Stock Exchange Securities Listing Regulations

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 meetings of the Board of Directors to further enhance its effectiveness.

Initiatives to Enhance the Effectiveness of the Board of Directors in fiscal year ending March 31, 2021

Process	<ul style="list-style-type: none"><li>• A questionnaire on the effectiveness of the Board of Directors was provided annually to all Directors (including those who are Audit &amp; Supervisory Committee members)</li><li>• Improvements in 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 of the Board of Directors 2. Frequency and length of meetings of the Board of Directors 3. Matters for resolution by the Board of Directors and relevant materials 4. Agenda and management of meetings
Evaluation of the effectiveness and initiatives going forward	<p><b>Evaluation of the Board of Directors in fiscal year ended March 31, 2021</b></p> <ul style="list-style-type: none"><li>• Based on the criteria for deliberating on proposals, revised in fiscal year ending March 31, 2020 to strengthen the Board of Directors' monitoring of business execution, risks expected to arise before and after acceptance of project orders are assessed and risks were continuously managed in a timely and effective manner.</li><li>• Upon receiving reports on initiatives regarding decarbonization, digital transformation and other new fields, active and constructive discussions were held based on the expertise of internal and Outside Directors.</li></ul> <p><b>Issues to Address in fiscal year ending March 31, 2022</b></p> <p>In accordance with our Revitalization Plan, updated in accordance with significant changes in our business environment, we will: 1) increase profits through the steady execution of our existing projects and, 2) enhance the pace of business portfolio and earnings structure reforms to realize sustainable growth. We will therefore work to improve the delivery of information to Directors, while raising the quality of discussions on medium to long term improvements in corporate value, and provide timely and appropriate execution directions.</p>

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 Director's remuneration system, other than 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>• Remuneration for individual Directors is decided by the Board of Directors based on remuneration criteria resolved at meetings of the Board of Directors each year within the framework of total remuneration determined at the General Meeting of Shareholders and following discussion among Representative Directors regarding management content and economic conditions as well as an individual's annual evaluation.</li><li>• 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 heard through their participation in discussions. In addition, the structure of the remuneration system is reviewed as required by the Board of Directors.</li></ul>

Details of the Director Remuneration System

Position	Classification	Remuneration principles	Overview of remuneration system
Director (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)
	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	<ul style="list-style-type: none"><li>• The maximum cash we contribute is ¥70 million per annum.</li><li>• The maximum number of shares to be delivered to Directors, the proceeds of which will be paid to Directors, will not be greater than 240,000 shares per annum</li></ul> <p>* The initial eligible period is three fiscal years from the year ending March 31, 2022, to the year ending March 31, 2024</p>
Audit & Supervisory Committee members	Base remuneration	Linked to job duties	No greater than ¥60 million per annum



Corporate Governance

Directors and Audit & Supervisory Committee Members



Masakazu Sakakida

Representative Director, Chairman of the Board, CEO and CWO\*<sup>1</sup>

1981: Joined Mitsubishi Corporation  
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 Office, and Group CIO, Machinery Group of Mitsubishi Corporation  
2013: Senior Vice President, Chairman & Managing Director, Mitsubishi Corporation India Private Ltd., and Deputy Regional CEO, Asia & Oceania (South Asia) (New Delhi)  
2017: Executive Vice President, Corporate Functional Officer, Chief Compliance Officer and Officer for Emergency Crisis Management Headquarters of Mitsubishi Corporation  
Representative Director, 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 (current position)



Koji Tarutani

Representative Director, Executive Vice President & CFO,\*<sup>4</sup> Division Director, Finance & Accounting Division

1986: Joined The Mitsubishi Bank, Ltd.  
2012: Business Risk Management Division and General Manger (Special Assignment) of Global Compliance Division of The Bank of Tokyo-Mitsubishi UFJ, Ltd.  
2014: General Manager of Credit Examination Office of Internal Audit Division of The Bank of Tokyo-Mitsubishi UFJ, Ltd.  
2016: General Manager (Special Assignment) of Internal Audit Division of Mitsubishi UFJ Financial Group and General Manager of Credit Examination Office of Internal Audit Division of The Bank of Tokyo-Mitsubishi UFJ, Ltd.  
General Manager of Legal Division of Mitsubishi UFJ Financial Group and General Manager of Legal Division of The Bank of Tokyo-Mitsubishi UFJ, Ltd.  
2019: Senior Advisor of the Company  
Representative Director, Executive Vice President & CFO of the Company  
Representative Director, Executive Vice President, CFO and Division Director of Finance & Accounting Division of the Company (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)



Nobuo Tanaka

Outside Director\*<sup>5</sup>

1973: Joined Ministry of International Trade and Industry (currently Ministry of Economy, Trade and Industry)  
1991: Director of Directorate for Science, Technology and Engineering of Organisation for Economic Co-operation and Development (OECD)  
1995: Director, Industrial Finance Division of Industrial Policy Bureau of Ministry of International Trade and Industry  
1998: Minister of Embassy of Japan in the United States of America, Ministry of Foreign Affairs of Japan  
2000: Vice President of Research Institute of Economy, Trade and Industry  
2002: Director-General, Multilateral Trade System Department of Trade Policy Bureau of Ministry of Economy, Trade and Industry  
2004: Director of Directorate for Science, Technology and Industry of OECD  
2007: Executive Director of International Energy Agency  
2012: Outside Audit & Supervisory Board Member of TEIJIN LIMITED  
2013: Outside Audit & Supervisory Board Member of INNOTECH CORPORATION (current position)  
2015: President of The Sasakawa Peace Foundation  
Outside Director of the Company (current position)  
2016: Chairman of The Sasakawa Peace Foundation



Masaji Santo

Representative Director, President, COO\*<sup>2</sup> & CSO\*<sup>3</sup>

1981: Joined Mitsubishi Corporation  
2009: President of Mitsubishi Chile Ltda. (Santiago)  
2012: Senior Vice President of Mitsubishi Corporation  
President of Mitsubishi Chile Ltda. (Santiago)  
Senior Vice President, Division COO of Environment & Infrastructure Business Division of Mitsubishi Corporation  
2013: Director of the Company (retired in June 2016)  
Senior Vice President, Division COO of Infrastructure Business Division and Division COO of Environmental Business Division of Mitsubishi Corporation  
2015: Senior Vice President, Division COO of Infrastructure Business Division of Mitsubishi Corporation  
2016: Senior Vice President, Regional CEO for Latin America & the Caribbean of Mitsubishi Corporation  
2017: Senior Executive Vice President of the Company  
Representative Director, President & CEO of the Company  
2019: Representative Director, President, COO & CSO of the Company (current position)



Tsunenori Kazama

Director

1976: Joined the Company  
2005: Project Manager for RGX6 Team of the Company  
2014: Project Sponsor for Jangkrick FPU Project of the Company  
2016: Project Sponsor for Yamal LNG Project of the Company  
2018: Project Director for Tangguh LNG Project of the Company  
2019: Strategic Project Development Department, Energy Project Operations Division of the Company  
Director of the Company (current position)



Aiichiro Matsunaga

Director

1986: Joined Mitsubishi Corporation  
2013: General Manager of Power Systems International Dept., New Energy & Power Generation Division of Mitsubishi Corporation  
2014: President of Mitsubishi Corporation do Brasil S.A., Sao Paulo, and Deputy Regional CEO of Latin America and the Caribbean of Mitsubishi Corporation  
2017: Senior Vice President of Mitsubishi Corporation, Regional CEO of Latin America and the Caribbean, Sao Paulo, and President of Mitsubishi Corporation do Brasil S.A.  
2018: Senior Vice President, Regional CEO of Latin America and the Caribbean of Mitsubishi Corporation, and President of Mitsubishi Corporation do Brasil S.A.  
2019: Executive Vice President, Group CEO of Industrial Infrastructure Group of Mitsubishi Corporation (current position)  
Director of the Company (current position)



Ryo Matsukawa

Outside Director\*<sup>5</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)



Shingo Torii

Full-Time Audit and Supervisory Committee Member

1990: Joined Mitsubishi Corporation  
2012: General Manager, Corporate Accounting Department, Metal One Corporation  
2016: General Manager, Administration Dept., Chemicals Group, Mitsubishi Corporation  
2019: General Manager, Industrial Materials and Petroleum & Chemicals Administration Dept., Mitsubishi Corporation  
2021: Senior Advisor of the Company  
Full-Time Audit and Supervisory Committee Member of the Company (current position)



Hisashi Ito

Outside Audit & Supervisory Committee Member\*<sup>5</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, General Manager, London Branch, 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 and CIO, Mitsubishi UFJ Trust and Banking Corporation  
2016: 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. (current position)  
2020: Audit and Supervisory Committee Member of the Company (current position)



Mika Narahashi

Outside Audit & Supervisory Committee Member\*<sup>5</sup>

2000: Registered as a lawyer (Tokyo Bar Association)  
2003: Joined Anderson Mori & Tomotsune 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)

\*1 Chief Wellness Officer

\*2 Chief Operating Officer

\*3 Chief Sustainability Officer

\*4 Chief Financial Officer

\*5 Outside Director as stipulated in Article 2, Item 15 of the Companies Act

Executive Officers

Masaji Santo

President (COO & CSO)

Koji Tarutani

Executive Vice President (CFO)

Fuminori Hasegawa

Executive Vice President

Hiroyuki Shimizu

Executive Vice President

Shuichi Wada

Senior Vice President (CCO\*<sup>1</sup> and CHRO\*<sup>2</sup>)

Masao Fujiwara

Senior Vice President

Setsuo Iuchi

Senior Vice President

Hideo Matsui

Senior Vice President

Toshiya Momose

Senior Vice President

Norimasa Matsuoka

Senior Vice President

Toshiaki Furugori

Vice President

Masakazu Fujiwara

Vice President

Munetaka Horiguchi

Vice President

Yasuyuki Maeda

Vice President

Junichi Kunihiro

Vice President

Kenichi Ishiguro

Vice President

Masaaki Oishi

Vice President

Tetsuya Konno

Vice President

Masaki Kumagai

Vice President (CDO\*<sup>3</sup>)

Toshiaki Saito

Vice President

Takayuki Naito

Vice President

Hidehiko Suzuki

Vice President

Naoki Kobayashi

Vice President

\*1 Chief Compliance Officer

\*2 Chief Human Resources Officer

\*3 Chief Digital Officer

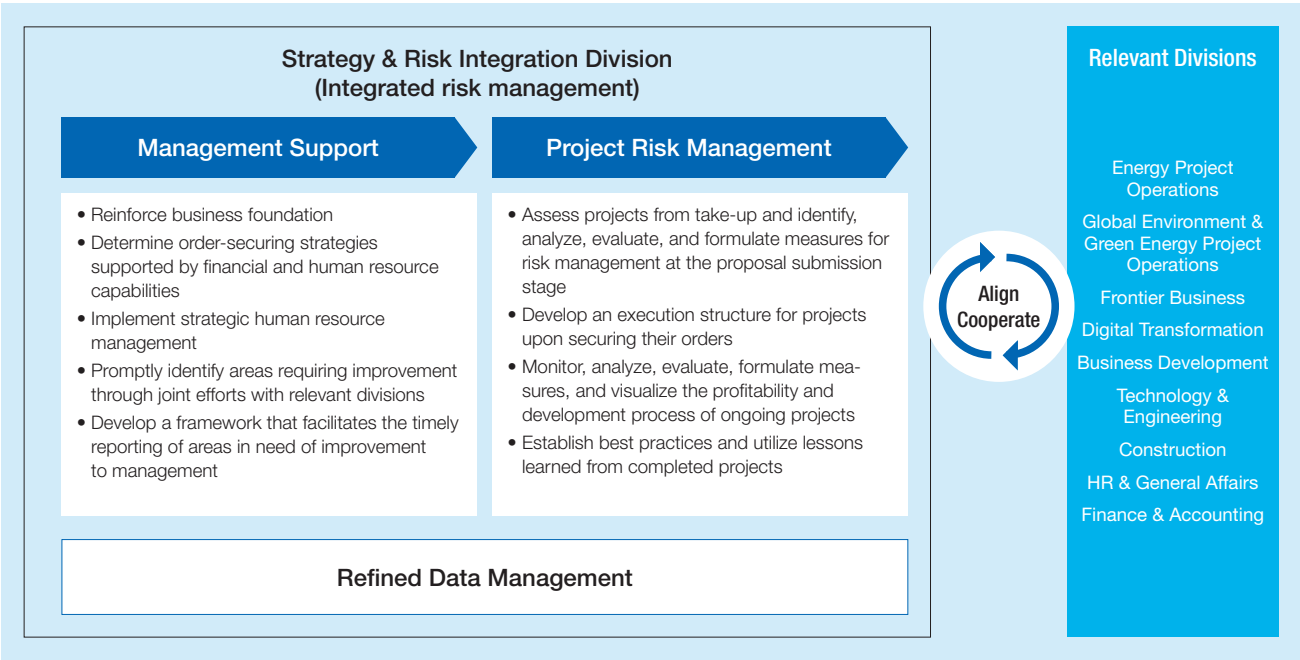


# Risk Management

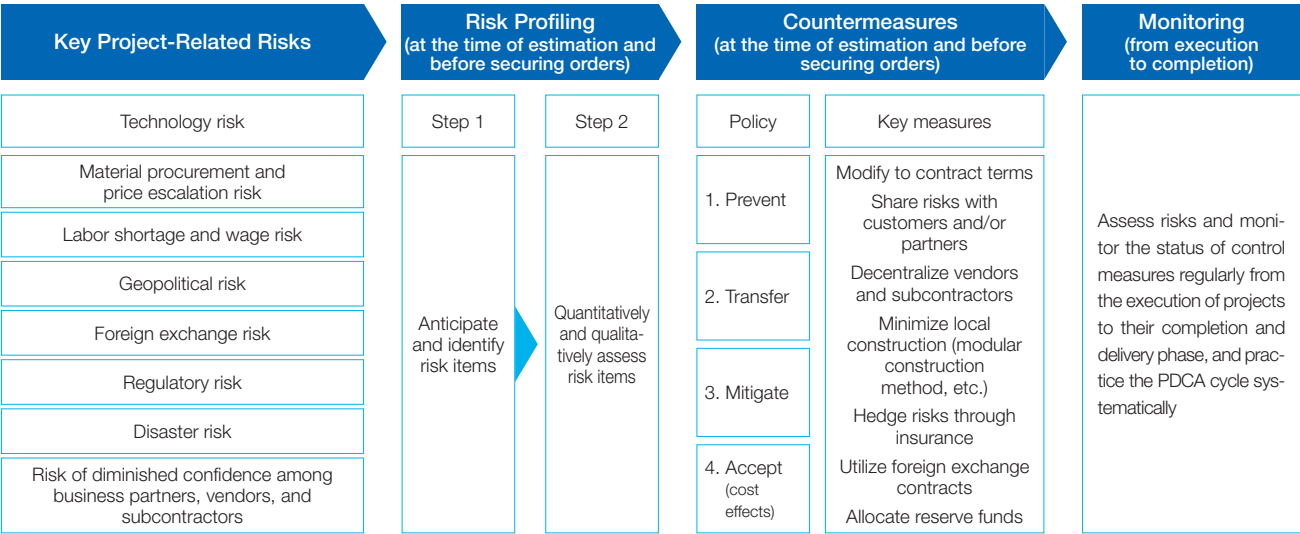
## Integration and Strengthening of Project Risk Management

- The key to executing and completing a project according to plan is risk management. At the Chiyoda Group, the Strategy & Risk Integration Division assumes the role of a control tower, assisting in strategies and managing risks throughout each stage of a project, thereby centrally managing project risks from the estimation phase prior to the receiving of orders through to the execution, completion, and delivery phases. The Strategy & Risk Integration Division is also tasked with providing management support.
- Under this integrated risk management system, we will continue to enhance the precision of our project management in terms of cost, scheduling, and quality by making more effective use of digital technology and improving data management. In so doing, we will ensure extensive risk management while continuing to aim for even higher standards in this regard.

Project Risk Management Structure



Project Risk Management Flow



# Compliance

Chiyoda has positioned compliance as a core value based on our conviction that the trust of society and its customers underpin a company's business activities. We are proactively enhancing our compliance education and training programs to prevent unlawful and fraudulent acts, while continuing to reinforce our compliance systems to ensure their early detection and a swift response. We are working to further strengthen compliance initiatives throughout the Group.

## The Group's Compliance System

- **Organizational Structure**  
The Chief Compliance Officer (CCO), appointed by the Board of Directors, is responsible for overseeing compliance in all divisions. Division Directors serve as Compliance Officers and are responsible for compliance policies and implementing compliance measures in their respective division. A Group company representative serves as the Group Company Compliance Officer and is responsible for compliance policies and implementing compliance measures throughout the Group.
- **Code of Conduct**  
We have formulated the 'Chiyoda Group Code of Conduct and Conduct Guidelines' to ensure that our business activities conform to social standards. We have also established a written declaration pledging our commitment that all officers and employees will adhere to the code and will comply with national and international laws and regulations and our own internal rules.

## Enhancing Compliance Awareness and Knowledge

We implement initiatives to prevent unlawful and fraudulent acts and work 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 annual compliance newsletters by email, containing news, topics and trivia to all Group employees in Japan
Seminars	Conducting compliance-related seminars. Eight seminars on bribery and harassment prevention were conducted in the fiscal year ending March 31, 2021.
Chiyoda Compliance Handbook	Distributing Chiyoda's compliance handbook to all Group employees in Japan

## Internal Whistleblowing System

We have implemented a whistleblowing system within the Group and have established external hotlines in Group companies (to lawyers, external specialists) 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 2020

Category	Number of consultations provided and whistleblowing reports received in fiscal 2020
Legal violations and bribery (including cartel and concerns)	0
Violation of internal rules	3
Power harassment (including consultations, canceled items, and concerns)	17
Sexual harassment and pregnancy discrimination	15
Workplace environment	21
Other consultations	37
Total	93

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



# Safety Management

## Fostering a Sustainable Safety Culture

All Chiyoda Group employees regularly and responsibly engage in educational training courses based on Safety, Quality and Environmental (SQE) policies, including our unique behavior based safety assurance program, 'C-SAFE'. We continuously strive to embed a sustainable culture of safety throughout our organization by tirelessly enhancing our employee SQE knowledge and skills through such training and promoting SQE activities through collective Group-wide efforts.

During the fiscal year ending March 31, 2021, there were no occupational accidents on our many construction sites, including our large-scale projects. This achievement is testament to our enduring endeavors to further develop and instill the culture of safety we have established over many years and will help foster an even more intense safety culture on all our projects.

We established our 'Health, Safety and Environment (HSE) Objectives for Fiscal 2020' based on our 'One Team' corporate leadership philosophy and the need to embrace change to facilitate continuous growth. Posters and information notices displaying our HSE objectives, using eye-catching visual images not subject to language barriers, are pinned on walls in our offices and at prominent locations on constructions sites and in accommodation camps and form part of our strategy to promote safety awareness.



Posters Geared toward Promoting Safety Awareness

We nurture a culture within which safety is the Company's core value by promoting safety as the principle objective in all our business activities. We understand that health and safety directly influences business performance and that our success depends on the continued commitment of every employee, in line with our management's dedication to health and safety as our first priority.

**Leadership**

To achieve our primary objective of an injury and incident free workplace, every level of management is unwavering in demonstrating their responsibility and commitment to all HSE aspects in an 'relationship' management style, offering support and guidance and encouraging open and candid expression of opinions within teams.

**'One Team' Approach**

We continuously strive to achieve our objectives in a 'One Team' philosophy through C-SAFE's concept of worker involvement and respecting and helping each other, and by every team member fulfilling their role. All Chiyoda employees are committed to consciously thinking about how their actions affect their own safety and the safety of others.

**Adaptability**

Through the active demonstration of safety commitment by every team member based on our 'One Team approach, we resolutely implement an adaptable 'continuous improvement' strategy to safety management.

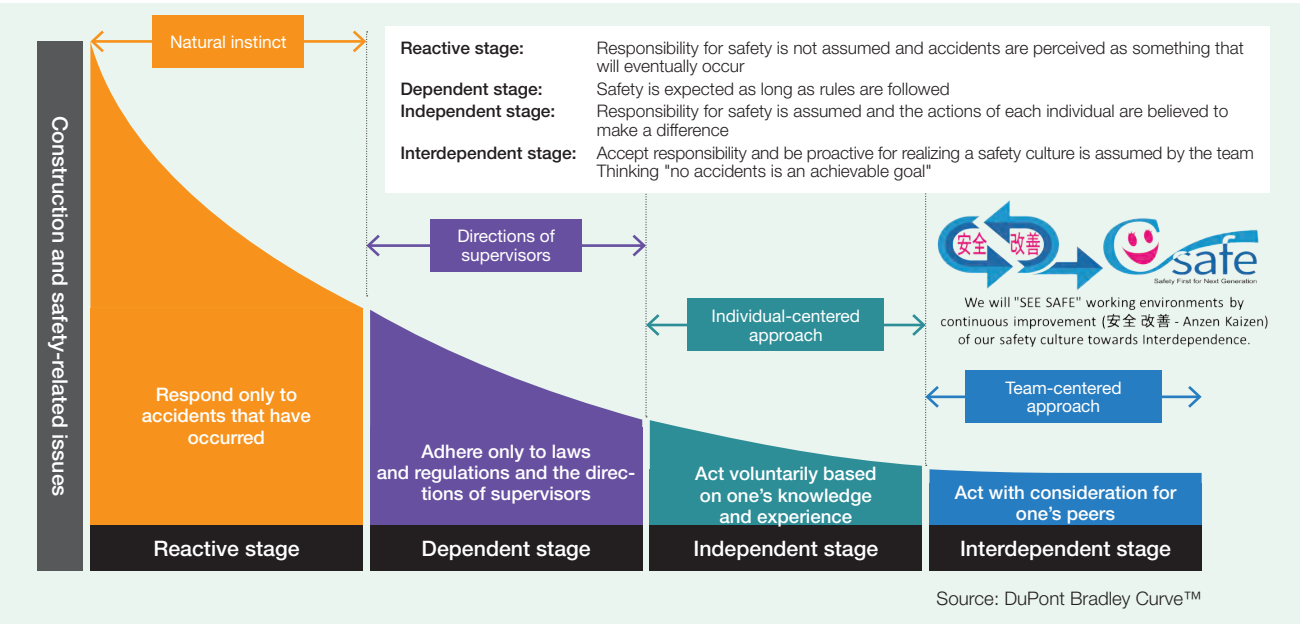
## C-Safe Program

In the fiscal year ended March 31, 2021, the Chiyoda Group adopted the DuPont Sustainable Solutions Bradley Curve™, 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.

Encouraging results from safety awareness surveys conducted on construction sites since the fiscal year ended March 31, 2020, demonstrate how the 'Better Together' concept, realized through collective effort and continuous coaching and support, is positively impacting employee health and

safety. We will continue with this initiative to realize our injury and incident free workplace objectives in our untiring endeavors to ensure peak safety performance.

We will carry on educating and training employees in fiscal year ending March 31, 2022, using knowledge and experience gained through the construction of many successful projects to 'continuously improve' our safety performance. By demonstrating safety leadership based on our 'One Team' approach, embracing change and creating workplaces that cultivate the skills geared to such change, we will continue to improve our business performance towards further growth.



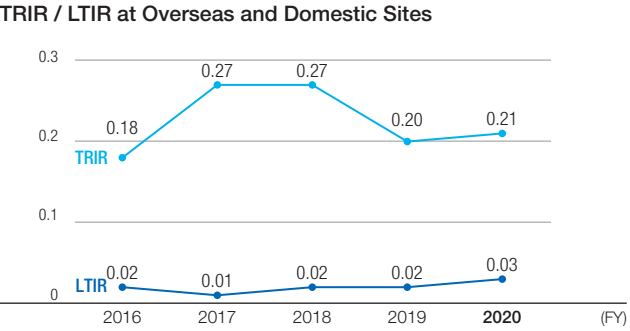
Please refer to the following website for details on our C-SAFE Program.  
<https://www.chiyodacorp.com/en/csr/safety/c-safe.html>

## Safety Performance

The graph on the right illustrates the Chiyoda Group's safety performance over the five calendar years up to 2020. LTIR\*1 and TRIR\*2 are lagging indicators, measuring the Company's safety performance, and although we have consistently achieved exceptionally high standards relative to industry peers for both metrics, we will continuously strive to improve these further.

Chiyoda believes that 'every incident is preventable' as we relentlessly pursue zero injuries in the workplace and strenuously instill a 'learner mindset' on all our construction sites.

\*1 Lost Time Incident Rate = Number of lost-time injuries (including fatalities) / Number of hours worked x 200,000  
\*2 Total Recordable Incident Rate (for injuries requiring medical treatment) = Number of injuries\* / Number of hours worked x 200,000  
\* Including fatalities, lost worktime, change in employment regulations and incidents medical support, including heat stroke



Please visit the website below for further safety information.  
<https://www.chiyodacorp.com/en/csr/safety/safety-performance.html>



# Global Human Resource Development

## Assigning Instructors to Sophia University to Conduct Global Human Resource Training Courses

Chiyoda has been assigning instructors to Sophia University to conduct global human resource training courses since 2018 and commenced a seminar program in 2020. Discussions and presentations are conducted with third-year students on how Chiyoda, as an integrated engineering company, can address the challenges in our rapidly changing business environment, including the accelerating transition towards decarbonization.

Through active debate, the training courses are a valuable opportunity to reflect on how we can confront the energy industry's paradigm shift in our business environment, enhance our business profile and increase society's knowledge of Chiyoda.

The fresh and objective student input enables us to consider other approaches for achieving a sustainable society through engineering and has been invaluable for our team of instructors.

The courses also inspire students wishing to pursue careers in the energy industry, either with Chiyoda or elsewhere. Through these engineering-related courses, we will establish outlets, nurture interest in the unlimited potential of engineering and develop diverse human resources to tackle new challenges, contributing to the realization of a sustainable society while enhancing the industry's profile.



Course in session at Sophia University (instructor: Norimitsu Yanagimachi, Human Resources Development Department)

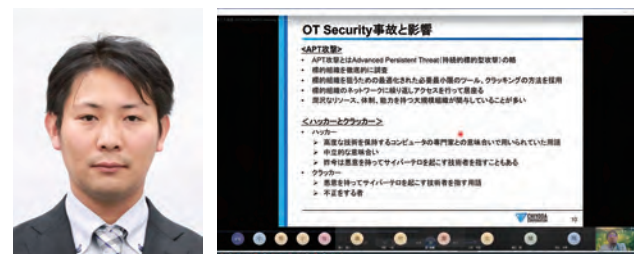
## Assigning Instructors to the Chiba Institute of Technology to Conduct Information-related Courses

Chiyoda has used its engineering expertise, experience and insight by assigning instructors to universities for many years. This forms part of our global human resource development initiative and is indispensable in cultivating the next generation of engineers. Following a request from the Chiba Institute of Technology, we also assigned part-time instructors for information-related courses in 2020.

The courses reflect the importance of digitalization and the rapid changes in society, organizations and for individuals. Chiyoda are currently focusing on improving work efficiency and adding value, but the next generation will also have added digital technology skills and additional armory with which to fight cyberattacks etc. The advanced persistent threat (APT) of targeted attacks includes inputting malware into electronic devices with potentially devastating consequences to our business

operations. The benefits of digitalization are offset by these cybersecurity risks and to ensure effective use of digital technology in adapting to the changes in society, such risks must be minimized and managed.

We hope that course participants will gain a detailed understanding of digitalization, its associated risks and its effective implementation to be able to adapt to future changes.



Course in session at the Chiba Institute of Technology (instructor: Yuki Hamada, Project Management Department)

Please visit the website below for further information on our global human resources development program.

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

# Social Contribution Activities

## Initiatives in Fiscal 2020

### Support for People with Special Needs

#### Japan's Philharmonic Orchestra concert of Beethoven's Ninth Symphony (Chiyoda Global Headquarters)

Chiyoda has supported Japan's Philharmonic Orchestra performance of Beethoven's Ninth Symphony since 2011 and provides 25 pairs of tickets annually to visually impaired people in Yokohama.



#### 'Heart Made Sale' (Chiyoda Group in Japan)

Chiyoda held nine in-house sales events for products made by disabled people in Yokohama, on a pre-order basis, as a measure against COVID-19.

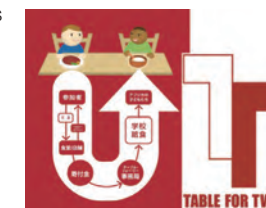


### Contribution to Health and Welfare

#### TABLE FOR TWO\* (Chiyoda Group in Japan)

Chiyoda provided 1,386 school lunches to children in developing countries.

\* For every order made through a TABLE FOR TWO menu in Chiyoda's company cafeteria, ¥20 is donated to school lunches in developing countries, enough to provide one meal.



© TABLE FOR TWO

#### Eco Cap Program\* (Chiyoda Group in Japan)

Chiyoda collected 178,063 plastic bottle caps 'in-house', contributing to vaccine doses for 207 children in developing countries.

\* Approximately 860 plastic bottle caps are required to provide a single vaccine dose.



#### Shuttle Bus Service for Employees (Chiyoda Philippines Corporation)

At Chiyoda Philippines Corporation, we operate 15 shuttle buses on a daily basis for the 261 employees who are unable to take public transit due to COVID-19. In such ways, we are working to ensure the safety and health of our employees in the country.



#### Donation to Healthcare Facilities (L&T-Chiyoda Limited in India)

Employees at L&T-Chiyoda Limited in India donated 15 oxygen concentrators, disinfectants and medical gloves to healthcare facilities to control the spread of COVID-19. They also provided two computers and one printer to promote digitalization at healthcare centers.



## Educational Support and Human Resource Development

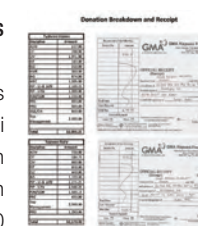
### Company Visits and Visiting Lectures at Chiyoda Global Headquarters

We conducted online lectures in lieu of company visits and visiting lectures at two junior high schools and one high school in fiscal 2020.

### Support for Disaster-stricken Areas

#### Financial Donations for Victims of Typhoons (Chiyoda Philippines Corporation)

Approximately 27,000 Philippine pesos was donated to victims of Typhoon Goni (aka Super Typhoon Rolly) and Typhoon Vamco (aka Typhoon Ulysses), which struck in October and November 2020 respectively.



Receipt for donations

#### "Yubeshi no Kai" (Chiyoda Group in Japan)

Chiyoda held five 'in-house' sales events of products from disaster-stricken areas.

### Environmental Conservation

#### Community Clean-up Activities (Chiyoda Group in Japan)

In November and December 2020, 25 Chiyoda employees participated in community clean-up activities in Yokohama's Minatomirai district.





# Data Section

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

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# Eleven-Year Summary

Chiyoda Corporation and Consolidated Subsidiaries

	2011/3	2012/3	2013/3	2014/3	2015/3	2016/3	2017/3	2018/3	2019/3	2020/3	2021/3
Results for the Year											
Revenue	247,082	254,675	398,918	446,147	480,979	611,548	603,745	510,873	341,952	385,925	315,393
Gross Profit (Loss)	31,519	38,891	42,515	41,462	45,651	41,520	38,223	8,618	(181,148)	42,823	20,061
SG&A Expenses	13,974	14,693	17,402	20,383	24,185	25,505	22,543	20,948	18,647	16,033	13,046
Operating Income (Loss)	17,544	24,197	25,113	21,079	21,466	16,015	15,680	(12,330)	(199,795)	26,789	7,015
Ordinary Income (Loss)	15,732	23,793	25,518	22,837	22,271	16,205	(3,080)	(10,100)	(192,998)	18,644	8,462
Net Income (Loss) Attributable to Owners of the Parent	7,979	14,364	16,077	13,447	11,029	3,375	(41,116)	6,445	(214,948)	12,177	7,993
Financial Position at Year-End											
Current Assets	316,196	320,478	383,206	409,096	444,578	455,030	425,244	374,470	326,929	360,387	305,891
Current Liabilities	181,887	193,687	230,431	261,679	294,339	311,106	301,182	247,847	392,505	319,878	244,657
Total Assets	353,392	365,795	435,379	475,288	515,839	528,219	461,331	420,337	352,341	385,051	329,583
Interest-Bearing Debt	10,208	10,198	10,220	11,305	11,010	10,348	10,211	10,000	15,989	35,871	45,747
Net Assets	155,758	168,737	189,356	198,031	208,405	202,128	157,125	159,418	(59,154)	24,943	36,747
Shareholders' Equity	155,242	168,120	188,386	196,411	206,395	200,166	155,339	157,557	(60,114)	24,423	36,399
Cash Flows											
Cash Flows from Operating Activities	(5,229)	55,615	14,147	(17,177)	(24,145)	55,526	(4,375)	(34,115)	(37,941)	(32,217)	(20,806)
Cash Flows from Investing Activities	(2,577)	(9,140)	(5,257)	(16,796)	(5,444)	(26,750)	10,433	(1,428)	778	(7,828)	(2,250)
Cash Flows from Financing Activities	(805)	(2,899)	(4,432)	(5,249)	(4,569)	(3,942)	(2,693)	(1,468)	4,020	89,200	9,478
Cash and Cash Equivalents, at End of Year	130,618	173,769	180,229	145,303	113,246	136,919	138,889	101,767	68,306	115,932	98,738
Key Ratios											
Gross Profit (Loss) Margin (%)	12.8	15.3	10.7	9.3	9.5	6.8	6.3	1.7	(53.0)	11.1	6.4
Return on Assets (ROA) (%)	4.6	6.6	6.4	5.0	4.5	3.1	(0.6)	(2.3)	(50.0)	5.1	2.4
Return on Equity (ROE) (%)	5.3	8.9	9.0	7.0	5.5	1.7	(23.1)	4.1	(441.2)	(68.2)	26.3
Shareholders' Equity Ratio (%)	43.9	46.0	43.3	41.3	40.0	37.9	33.7	37.5	(17.1)	6.3	11.0
Current Ratio (%)	173.8	165.5	166.3	156.3	151.0	146.3	141.2	153.0	83.3	112.7	125.0
Debt Equity Ratio (DER*1) (Times)	0.07	0.06	0.05	0.06	0.05	0.05	0.07	0.06	(0.27)	1.47	1.26
Earnings Per Share (EPS*2) (Yen)	30.79	55.44	62.06	51.91	42.58	13.03	(158.76)	24.89	(830.02)	40.94	22.76
Book-value Per Share (BPS*3) (Yen)	599.15	648.95	727.24	758.31	796.89	772.89	599.83	608.41	(232.13)	(182.07)	(143.94)
Dividend Per Common Share (Yen)	11	17	19	16	13	10	6	7.5	–	–	–
Common Dividend Payout Ratio (%)	35.7	30.7	30.6	30.8	30.5	76.7	38.7	30.1	–	–	–
Dividend Per Type A Preferred Share*4 (Yen)										–	20.78
Price Earning Ratio (PER*5) (%)	24.7	19.0	16.9	25.6	24.1	63.3	(4.5)	40.3	(0.31)	5.2	21.0

\*1 Debt Equity Ratio  
\*2 Earnings Per Share  
\*3 Book-value Per Share  
\*4 Type A Preferred Share was issued in July 2019  
\*5 Price Earnings Ratio



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	2017/3	2018/3	2019/3	2020/3	2021/3
Environmental Data of Domestic Construction Sites						
Industrial waste disposal quantity (excluding sludge)	Tons	7,670	12,242	17,138	22,223	13,549
Final landfill disposal quantity (excluding sludge and incinerated ash)	Tons	783	614	1,059	1,464	1,432
CO <sub>2</sub> emissions	Tons-CO <sub>2</sub>	1,146	901	5,665	4,642	5,362
Industrial waste recycling rate (excluding sludge)	%	87.8	91.5	76.8	92.8	89.7
Electronic manifest penetration rate	%	95.8	93.2	94.6	90.8	90.2
Adoption of environmental proposals	Cases	222	197	347	236	237
Environmental Data of Overseas Construction Sites (Released from March 2020)						
Industrial waste disposal quantity	Tons	—	—	—	6,868	4,097
Final landfill disposal quantity (excluding recyclable resources and incinerated ash)	Tons	—	—	—	4,624	3,075
CO <sub>2</sub> emissions	Tons-CO <sub>2</sub>	—	—	—	56,970	86,817
Industrial waste recycling rate	%	—	—	—	17.0	3.5
Adoption of environmental proposals	Cases	—	—	—	111	150
Environmental Data of Chiyoda Group Company Offices						
Power consumption	1,000 kWh	12,526	11,129	10,331	9,313	8,294
Energy consumption	kl	3,826	3,430	3,295	3,018	2,678
CO <sub>2</sub> emissions	Tons-CO <sub>2</sub>	7,287	6,367	6,083	5,685	4,647
Chilled water consumption	1,000 m <sup>3</sup>	17.5	15.5	17.5	15.2	9.8
Steam consumption	GJ	5,914	5,168	4,541	4,633	4,849
Cold water consumption	GJ	11,776	11,306	14,201	13,785	10,865
Waste disposal volume	Tons	262	233	241	281	214
Waste recycling rate	%	92.3	93.8	95.4	96.5	92.9
Printing paper consumed	Tons	88	66	80	70	43



Governance Initiatives

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

KPI	Unit	2017/3	2018/3	2019/3	2020/3	2021/3
Actions for Compliance						
Number of employees receiving compliance training (new recruits, mid-career hires, and executives and associate executives)	Persons	166	150	112	114	114
Number of employees receiving compliance training (overseas assignment, site managers at field offices, export control, and bribery prevention)	Persons	523	314	168	248	422
Number of employees attending compliance seminars held by external instructors	Persons	717	662	172	711	2,021*
Number of employees receiving compliance training via e-learning	Persons	2,841	5,213	4,669	5,704	5,189
Number of reports submitted under the Compliance Consultation and Whistleblowing System	Cases	24	25	36	98	93
Initiatives for Business Continuity						
Business continuity plan (BCP) training	Times	2	2	2	0	1
Actions for Information Security						
Number of serious information security-related incidents	Cases	0	0	0	0	0
Governance-Related Data						
Number of outside directors	Persons	4	4	5	5	4

\* Multiple seminars were held remotely for the fiscal year ended March 31, 2021.



Social Initiatives

The Chiyoda Group contributes to local communities through its business, 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	2017/3	2018/3	2019/3	2020/3	2021/3
Employee Status						
Average years of service	Years	12.9	13.2	12.3	12.7	14.2
Average age of employees	Years	40.9	41.6	41.0	41.3	41.2
Turnover rate excluding retirement	%	2.4	4.5	2.5	4.7	2.9
Employee Diversity						
Ratio of female employees among new recruits	%	25	33	25	27	31
Number of female employees among new recruits	Persons	18	19	12	14	11
Ratio of mid-career employment (Released from March 2019)	%	—	—	25.0	16.1	36.7
Ratio of women among all employees	%	14	19	16	16	16
Average years of service of female employees	Years	8.0	7.6	8.1	9.0	9.4
Number of women in management positions	Persons	23	24	25	28	28
Ratio of women in management positions	%	2.6	3.2	3.5	3.8	3.7
Ratio of employment of persons with disabilities	%	1.5	1.5	1.6	1.7	1.7
Number of non-Japanese employees	Persons	82	71	63	73	77
Employee Support						
Number of employees taking childcare leave	Persons	22	27	26	28	43
Number of employees taking sick/injured childcare leave	Persons	1	7	11	23	18
Number of employees taking nursing care leave	Persons	4	9	9	10	10
Number of employees taking temporary retirement for nursing care	Persons	0	0	0	1	0
Number of employees working reduced hours for childcare	Persons	19	14	12	27	24
Number of employees dispatched for on-site training/on-site instruction	Persons	70	54	42	47	24
Volunteer Activities						
Number of employees participating in reconstruction assistance	Persons	70	54	53	9	0
Number of employees participating in cleanup activities (around Chiyoda Global Headquarters and Koyasu Office)	Persons	127	157	110	120	25
Donation of vaccines through the collection of plastic bottle caps under ECOCAP Program	Vaccines	228	231	292	278	207
Donation of school lunches through TABLE FOR TWO	Lunches	1,860	1,581	1,561	1,557	1,386

# Corporate Information

(As of March 31, 2020)

## Company Profile

Company Name	Chiyoda Corporation
Established	January 20, 1948
Paid-In Capital	¥15,014 million
Number of Employees	5,200 (consolidated and equity-method affiliates)
Business Activities	Integrated engineering business
Main Offices	Chiyoda Global Headquarters Koyasu Office & Research Park
Project Experience	In over 70 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	1,000,000,000	
	Type A Preferred Shares	175,000,000	
Number of Issued and Outstanding Shares	Common Stock	260,324,529	
	Type A Preferred Shares	175,000,000	(1 unit = 1 share)
Number of Shareholders	Common Stock	43,494	
	Type A Preferred Shares	1	
Listing of Shares	Tokyo Stock Exchange, Second Section		
Stock Transaction Unit	100 shares		

## Major Shareholders

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

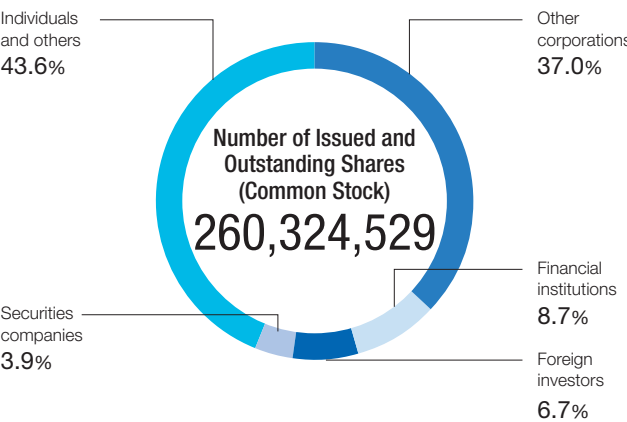
Shareholder	Number of Shares Owned (Thousands of Shares)	Ratio of Shares Owned (%)
Mitsubishi Corp.	86,931	33.57
MUFG Bank, Ltd.	9,033	3.49
The Mitsubishi UFJ Trust & Banking Corp.	4,274	1.65
Chiyoda Employee Shareholding Association	3,769	1.46
The Master Trust Bank of Japan, Ltd. (Trust Account)	2,502	0.97
Rakuten Securities, Inc.	2,500	0.97
Meiji Yasuda Life Insurance Company	2,265	0.88
Chiyoda Kyoeikai	1,926	0.74
Custody Bank of Japan, Ltd. (Trust Account)	1,840	0.71
BNY GCM CLIENT ACCOUNT JPRD AC ISG (FE-AC)	1,808	0.70

Note: Shareholding ratio is calculated exclusive of treasury stock.

### 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

#### Chiyoda Kosho Co., Ltd.

Services: Design, construction and maintenance for domestic projects

<https://www.cks-ykh.co.jp/>

#### Chiyoda TechnoAce Co., Ltd.

Services: Design and construction for pharmaceutical facilities

[https://www.cta.chiyoda.co.jp/en\\_corporate/](https://www.cta.chiyoda.co.jp/en_corporate/)

#### Chiyoda System Technologies Corporation

Services: Engineering, procurement, construction and maintenance of electrical and instrumentation, and of social infrastructures. Supplying spare part and materials.

<http://www.cst.chiyoda.co.jp/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

#### Arrow Business Consulting Corporation

Services: Consulting for finance and accounting

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

Services: Technical consulting of energy and environment, staffing of engineers and outsourcing services

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

## Inquiries

### Chiyoda Corporation

#### IR, PR & CSR 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>

## WE SUPPORT



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 220-8765, Japan  
<https://www.chiyodacorp.com/en/>

