

## Hibiya Engineering,Ltd.

(Stock code: 1982)

**Earnings Announcement for the Fiscal Year Ended March 2023** 

May 24, 2023

## Financial Summary for FYE March 2023

## Financial Highlights (consolidated)

- Orders received increased 8.4 billion yen (10.7%) YoY thanks to strong orders for large projects.
- Net sales rose 8.4 billion yen (11.2%) YoY due to steady progress in construction projects carried over and those for which orders were received in the fiscal year under review.
- Profits increased, despite a decrease in profitable large-scale projects from the previous fiscal year, as sales expanded and construction work was streamlined to a certain degree.
- ➤ Orders received, net sales, and profits all far exceeded the initial forecasts (business plan).

				202	23/3	
	2021/3 Actual	2022/3 Actual	Initial forecast*  Final year of the Seventh Management Plan	Actual	Yo	ρΥ
Orders received	74.3	78.9	80.0	87.3	+8.4	+10.7%
Net sales	73.1	75.4	80.0	83.9	+8.4	+11.2%
Operating profit	3.9	5.6	4.5	5.9	+0.2	+5.1%
Ordinary profit	4.5	6.1	5.0	6.6	+0.4	+7.4%
Profit attributable to owners of parent	3.0	4.3	3.5	4.6	+0.2	+6.2%
ROE	5.2%	7.1%		7.4%		

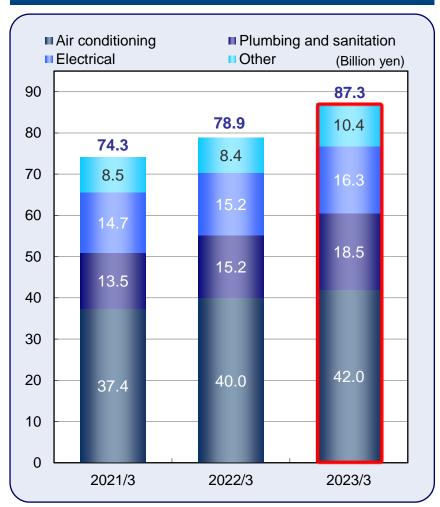
<sup>\*</sup> Announced on May 12, 2022
Disclosure of the Notice of Revision of Full-Year Forecast for the Fiscal Year Ended March 31, 2023 (April 28, 2023)

(Rillian van

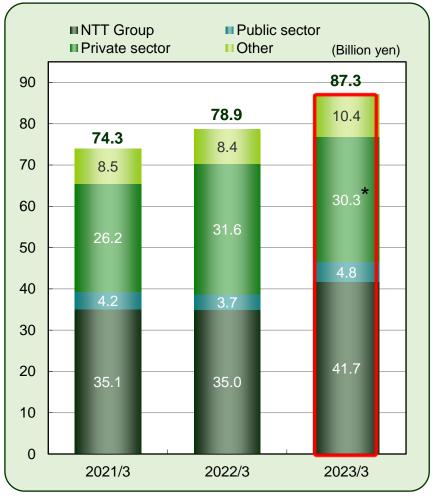
## Orders Received by Category & by Customer (consolidated)

Strong in all categories and customers (with significant YoY growth)

#### By category

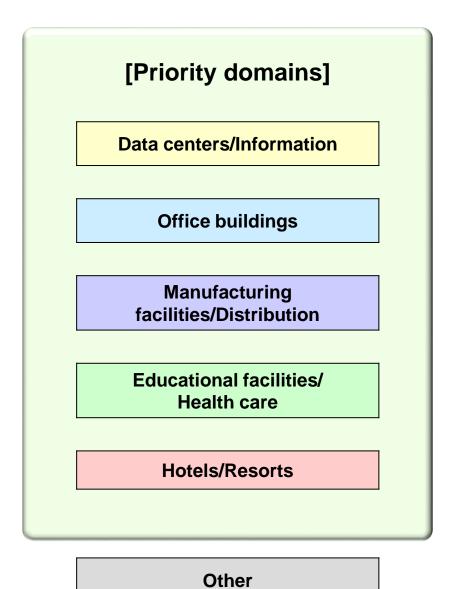


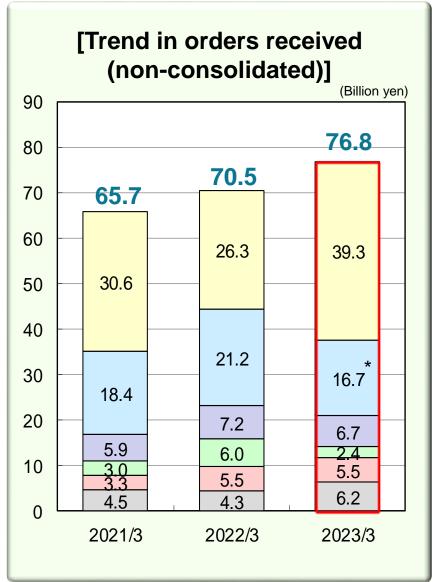
#### By customer



<sup>\*</sup> Affected by a reduction in orders received (cancellation of orders in past fiscal years)

## Orders Received by Priority Domains (non-consolidated)



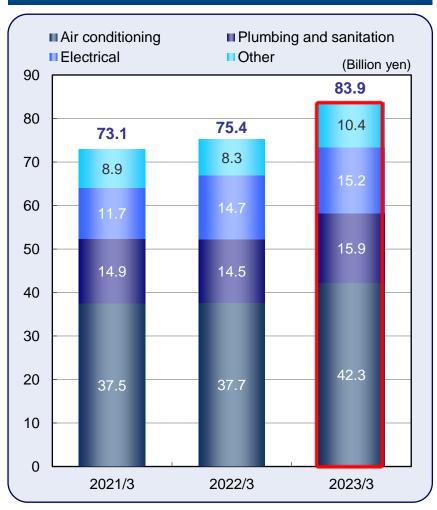


<sup>\*</sup> Affected by a reduction in orders received (cancellation of orders in past fiscal years)

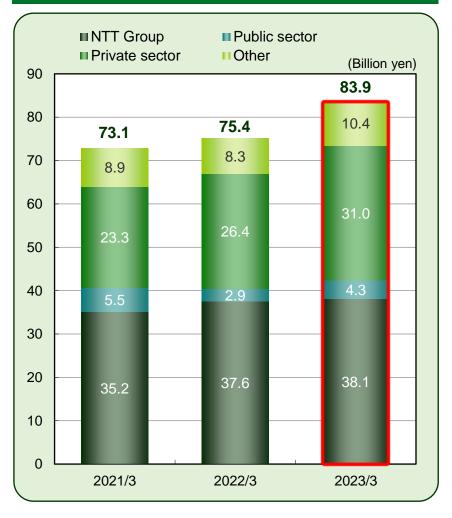
## Sales by Category & by Customer (consolidated)

Strong in all categories and customers (with significant YoY growth)

#### By category



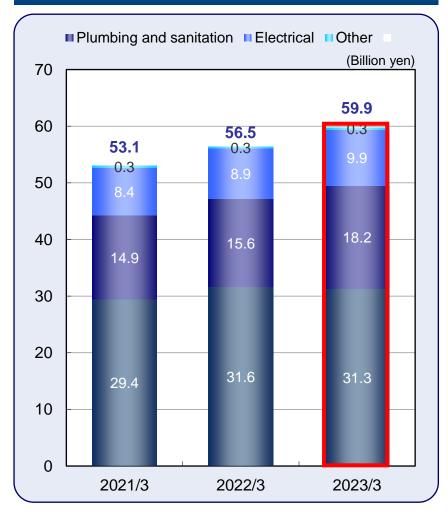
#### By customer



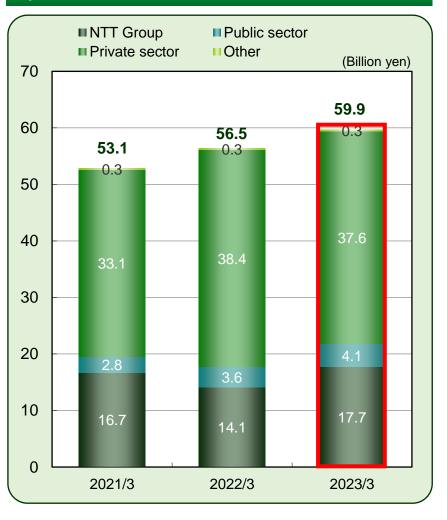
## **Projects Carried Over**

Projects carried over increased due to strong orders.

#### By category



#### By customer



## **Summary Income Statements (consolidated)**

■ The gross margin declined by 1.4 percentage points YoY. However, a high profit margin was secured due to the streamlining of construction work and presence of profitable large projects.

(Billion ven)

	2021/3 Actual	2022/3 Actual	2023/3 Actual	YoY
Net sales	73.1	75.4	83.9	+8.4
Cost of sales	60.8	60.8	68.8	+8.0
Gross profit (Gross profit ratio)	12.2 (16.8%)	14.6 (19.5%)	15.1 (18.0%)	+0.4 (-1.4%)
SG&A expenses	8.2	9.0	9.1	+0.1
Operating profit	3.9	5.6	5.9	+0.2
Non-operating income	0.5	0.5	0.6	+0.1
Ordinary profit	4.5	6.1	6.6	+0.4
Extraordinary income (losses)	0.0	0.2	-	-0.2
Income taxes	1.4	1.9	1.8	-0.0
Profit attributable to owners of parent	3.0	4.3	4.6	+0.2

## **Financial Targets**

- In FYE March 2024, net sales are expected to increase but profits will decline as profitable projects are expected to decrease and prices of materials will continue to rise.
- Implementing the Eighth Medium-term Management Plan steadily, aiming to improve profits toward the final fiscal year (FYE March 2026)

(Billion yen)

	2022/3 Actual	2023/3 Actual	2024/3 Plan
Orders received	78.9	87.3	86.5
Net sales	75.4	83.9	85.0
Operating profit	5.6	5.9	5.0
Profit attributable to owners of parent	4.3	4.6	3.8
ROE	7.1%	7.4%	6.0%

2026/3 Plan Final Year of the Eighth Management Plan
91.0
90.5
6.5
4.8
7% or higher

#### **Distributions to Shareholders**

#### Maintaining stable dividends and increasing dividends consistently, and buying back shares flexibly

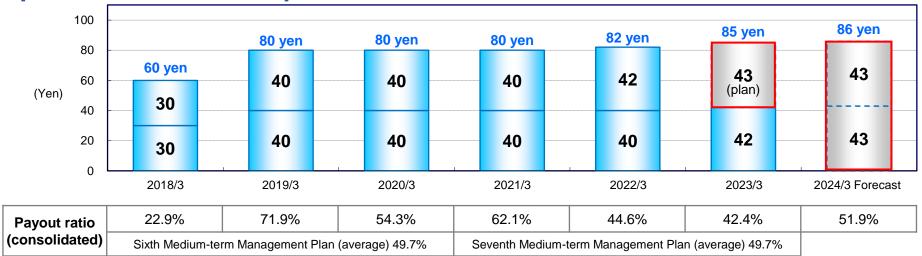
[Dividends]

- FYE March 2023: We plan to pay year-end dividends of 43 yen per share, and the annual dividend will be 85 yen.
- FYE March 2024: We plan to pay interim and year-end dividends of 43 yen per share. The annual dividend will be 86 yen.

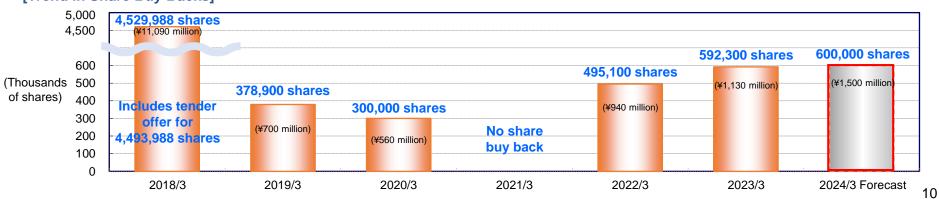
[Treasury shares]

- FYE March 2023: Plan (maximum): 600,000 shares and 1.2 billion yen/Actual: 592,300 shares and 1.13 billion yen
- FYE March 2024: Plan (maximum): 600,000 shares and 1.5 billion yen

#### [Trend in Annual Dividends Per Share]



#### [Trend in Share Buy Backs]



# Review of the Seventh Medium-term Management Plan and Major Initiatives

# Review of the Seventh Medium-term Management Plan (FY2020-FY2022)

# Achieved the financial targets set out in the seventh Medium-term Management Plan.

(Billion yen)

	Sixth Medium-term Management Plan			Seventh	Medium-ter	m Managem	ent Plan	
	Target value for each fiscal year	2018/3 Actual	2019/3 Actual	2020/3 Actual	Final fiscal year target	2021/3 Actual	2022/3 Actual	2023/3 Actual
Orders received	75.0	72.5	75.8	78.4	80.0	74.3	78.9	87.3
Net sales	75.0	66.8	70.0	75.8	80.0	73.1	75.4	83.9
Operating profit	4.0	3.1	2.0	3.6	4.5	3.9	5.6	5.9
Profit attributable to owners of parent	3.0	7.2	2.7	3.5	3.5	3.0	4.3	4.6
ROE	5.0%	12.3%	4.7%	6.1%	6.0%-	5.2%	7.1%	7.4%

<sup>\*</sup> Including gain on sale of shares

# Review of the Seventh Medium-term Management Plan (FY2020-FY2022)

- Business strategy
  - (1) Expanded business domains by creating customer bases
  - (2) Implemented smart business initiatives
- Technology strategy
  - (1) A stronger jobsite oversight system
  - (2) Used ICT technology to improve efficiency of construction management/Pursued BIM\*
- Human resources strategy Implemented Smart WORK working style reforms and diversity

■ ESG response

Pursued ESG to contribute to the realization of a sustainable society

<sup>\*</sup> BIM: An abbreviation of Building Information Modeling. A method for building virtual buildings on a virtual platform. It is used to integrate information on planning, design, construction, and maintenance and management. We use it to improve the efficiency of design and construction, reduce the hours of work involved, and improve quality.

# Major Initiatives under the Seventh Medium-term Management Plan: Business Strategy (1)

#### **■** Expanded business domains by creating customer bases

Provided services to customers through cooperation with alliance partners (NTT Group, leasing companies, consulting companies, energy suppliers, etc.).

#### [Results]

	FYE March 2021	FYE March 2022	FYE March 2023
Number of companies (cumulative total)	10	20	28
Number of initiatives	44	46	62

#### Decarbonization and CO<sub>2</sub> reduction

- ✓ A survey on LED lighting in public facilities
- ✓ Air-conditioning equipment work in public university buildings using leased equipment
- ✓ EV-charging equipment improvement work using renewable energy for local government

#### ZEB

- ✓ [Private] Consultation on the conversion of stores to ZEB and construction work for conversion of a technology institute building into ZEB
- ✓ [Local government] Conversion into ZEB and maintenance of local government building of Kamigori-cho, consultation on the conversion of a museum into ZEB, and surveys on potential for converting a town hall and three other facilities to ZEB

#### Energy

- ✓ Installed heating equipment in an energy center
- ✓ Suggested the upgrading of heating equipment of a nationwide hotel group, etc.

#### DX

✓ Developed and implemented gateways linking sensors and equipment to create smart buildings

# Major Initiatives under the Seventh Medium-term Management Plan: Business Strategy (2)

#### ■ Implemented smart business initiatives

Provided new value in urban development and to communities through IoT, AI, and other smart technologies.

#### [Results]

Details	Number of orders received	Result, etc.
Smart buildings (Data usage)	19	<ul> <li>Used sensors at buildings constructed in a redevelopment project in Tokyo</li> <li>Demonstrated image recognition authentication in office buildings</li> <li>Developed software to verify wireless sensors in a research facility in Western Japan</li> </ul>
Gateway (Cloud link)	15	<ul> <li>Designed conversion of a large building in the city center to a smart office building</li> <li>Developed software to connect robots in high-rise office buildings in the Greater Tokyo Metropolitan Area         <ul> <li>(including links to equipment and cloud communication)</li> </ul> </li> </ul>
Access control (Security)	6	<ul> <li>Upgraded security systems in government buildings</li> <li>Upgraded the security systems in multiple buildings in the Western Japan area (About 2,500 gates)</li> </ul>

# Major Initiatives under the Seventh Medium-term Management Plan: Technology Strategy (1)

#### ■ A stronger jobsite oversight system

### **ONE TEAM Project**

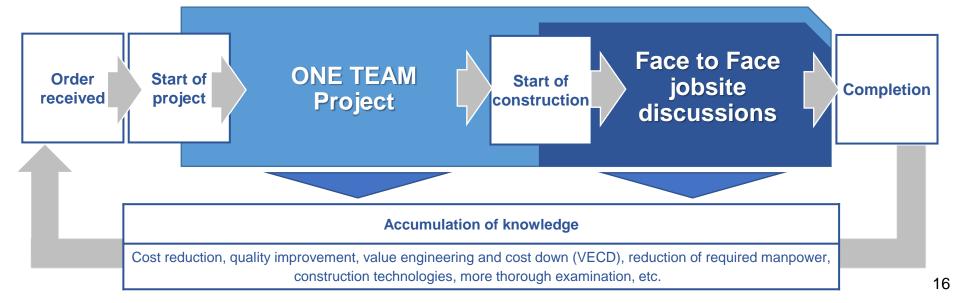
Established a team encompassing all tasks to support construction operations from the very first stage, aiming for cost reduction, quality improvement, and other benefits

	FYE March	FYE March	FYE March
	2021	2022	2023
Result	10 sites	22 sites	19 sites

### **Face to Face jobsite discussions**

Supervisors with extensive knowledge of the construction project visited the jobsite to strengthen communications and reduce the need to redo jobs and other risks

	FYE March	FYE March	FYE March
	2021	2022	2023
Result	75 sites/	74 sites/	79 sites/
	82 times	99 times	93 times



# Major Initiatives under the Seventh Medium-term Management Plan: Technology Strategy (2)

#### Used ICT technology to improve efficiency of construction management

Introduced camera systems and application software in construction divisions nationwide and performed checks and follow-up remotely, from one's desk

A remote site inspection being made using a wearable camera and a communication app

#### **Cost reductions**

- Reduced personnel transfers and stand-by time by roughly 8,200 hours (cumulative total over 21 months)
- Prevented defects, errors in advance

## Safety & quality improvements

- > Increased the number of inspections of each site
- ➤ Increased training and support of and opportunities to communicate for young employees

Category	360º Cameras	Wearable cameras for work	Remote monitoring cameras	MetaMoji application software
Number installed (as of March 31, 2023)	148 cameras	43 cameras	30 cameras	360 ID
Number of projects in which the technology was used (nationwide introduction in July 2021 to March 2022)	413 projects	190 projects	286 projects	428 projects
Number of projects in which the technology was used (April 2022 to March 2023)	670 projects	208 projects	379 projects	1,182 projects

#### **■ Pursued BIM**

Responded to on-site needs of customers for BIM for construction.

Responded to on-site needs of customers for bliving construction.				
	FYE March 2022	FYE March 2023		
Enhancement of on-site initiatives  ▶ Use of BIM in the construction stage	7	14		
Training engineers and improving their knowledge  ▶ Number of training sessions	3 sessions/ 33 participants	6 sessions/ 68 participants		

Drove initiatives as a founding member of the Setsubi BIM Kenkyu Renrakukai (equipment BIM research liaison committee) that was established by seven construction equipment companies

► In January 2023, a liaison committee aimed at standardizing, spreading, and promoting equipment BIM was established.

# Major Initiatives under the Seventh Medium-term Management Plan: Human Resources Strategy

#### ■ Smart WORK working style reforms and workforce diversity

Promoting diversity		FYE March 2021	FYE March 2022	FYE March 2023
Percentage of women among new graduate hires		22.2%	20.7%	25.0%
Percentage of women in management positions		4.8%	5.4%	6.1%
Percentage of mid-care	Percentage of mid-career employees among managerial staff		_	31.5%
Percentage of male	Male employees with children aged under 3	_	22.8%	32.8%
employees taking childcare leave	Male employees who had babies in the fiscal year	_	_	93.3%

#### Career design project for women

- Continued activities for promoting active participation of women, aiming to establish a community of women and build their career plans
- Held a talk session, on-site observation, and a career design presentation meeting



Presentations were given on career formation plans for continuing to work by balancing work and private life.

#### **Health improvement**

➤ In the second half of FY2021, we began to take steps to improve employees' health and increase their vitality.

#### Exercise

- ✓ Set a company-wide target number of steps to motivate employees to walk
- ✓ Number of times an event to encourage walking was held: 4

### Seminar training

 Number of times a video showing a seminar for training in a particular field was distributed: 6

#### Communication

✓ Provided employees with opportunities to communicate with each other by using internal social media

### Raising awareness

 Display of brief health advice for raising health awareness: Updated every week

#### Office upgrades

- Implemented at Kansai Branch, Okinawa Branch, and Toyama Sales Office
- Formed a project team at each location and considered working styles and office environment
- Stimulated communication by adopting a hot desking system, establishing a refreshment corner, etc.



Kansai Branch:(Left) Hot desking system/(Right) Refreshment corner

# Major Initiatives under the Seventh Medium-term Management Plan: ESG Response

#### ■ Pursued ESG to contribute to the realization of a sustainable society

Element	Important Issue	Action Item	
Environment	Environmental management	<ul> <li>Operated an environmental management system based on ISO 14001</li> <li>Collected and analyzed information about each disclosure item recommended by TCFD*1, in an attempt to enhance future disclosure in both quality and quantity</li> </ul>	
	Investment in human capital	■ Promotion of diversity and good health, etc. (See the previous page for "Human Resources Strategy.")	
S Society	Contributing to society and local communities	<ul> <li>Measures to contribute to society and local communities</li> <li>Conducted donation activities by adopting a matching gift*2 program and aided Ukrainian refugees in May 2022 and those affected by the earthquake in Turkey in March 2023</li> <li>Participated in a volunteer activity of creating roof tiles of Shuri Castle and enhanced initiatives on community cleanup activities and volunteer activities</li> </ul>	
	Ensuring safety & quality	■ Quality control based on ISO 9001	
<b>G</b> Governance	Sound management	<ul> <li>Ensuring compliance and full-scale implementation of risk management</li> <li>Information security management system (ISMS) based on ISO 27001</li> <li>Increased transparency of management (establishment of a Nomination and Compensation Advisory Committee, etc.)</li> <li>Took steps to enhance the Board of Directors (effectiveness evaluation, training for directors, etc.)</li> </ul>	

<sup>\*1</sup> Task Force on Climate-Related Financial Disclosures: Recommends that companies disclose information concerning the risks and opportunities associated with climate change.

<sup>\*2</sup> A method of donations, with which the amount of donations collected from employees is increased with additional donations made by the company at a certain rate

# Eighth Medium-term Management Plan [FY2023–FY2025]

## **Eighth Medium-term Management Plan Basic Policies**

#### **Deepening Core Business**

Strengthen and deepen sales and technical foundation, and increase earnings capacity through optimum allocation of management resources

#### **Expanding Business Areas**

**Expand growth areas through innovation** 

## Strengthening Management Foundation

Improve human capital value through enhanced human resources management

#### **ESG Management**

Create social value through the promotion of sustainability management

## **Deepening Core Business**

Strengthen and deepen sales and technical foundation, and increase earnings capacity through optimum allocation of management resources

## Strengthen and deepen the sales and technical foundation

Help major customers facilitate the transformation of their businesses

**Promote community-based sales** 

Expand business areas into production facilities

Offer data center solutions

Other priority areas

[Specific examples]

#### ▶ Promote community based sales

- Conduct community-focused businesses efficiently
- Sales strategies based on the market outlook for each community

Select and clarify business areas

9

focus on a region-by-region basis

#### Region

[Offices]

Tokyo Main Office Kansai Branch

Takai Dranah

Tokai Branch

Kyushu

Branch

Tohoku Branch

Chugoku Branch

Hokkaido Branch

#### **Business Areas**

Data centers

Office buildings

Manufacturing/ Distribution

**Education** 

Healthcare

Hotels

#### ▶ Offer data center solutions

- A sales strategy operated by a dedicated team with experience in data center (DC) operations
- Provide a one-stop solution, including planning, proposalmaking, design and installation

Strengthen sales activities upstream (owners)

Dedicated team familiar with DC operations

#### DC operators (Sales activities targeting owners)

- Strengthen sales activities targeting owners by promoting sales of solutions
- Aim to be recommended by owners or receive orders directly from them

+

General contractors, communication construction companies

## **Deepening Core Business**

Strengthen and deepen sales and technical foundation, and increase earnings capacity through optimum allocation of management resources

## Optimum allocation of management resources

Allocate human resources optimally and improve production efficiency

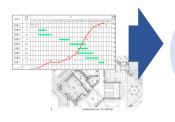
Ensure cost competitiveness and profitability

Safety & quality improvements

[Specific examples]

- ► Allocate human resources optimally and improve production efficiency
  - Receive orders strategically and equalize the amount of work by forecasting construction staff operations and analyzing related trends

Build a predictive model for the progress of work based on a range of conditions including the type and scale of projects and the use of facilities and analysis of past works



Collect
dataIdentify
features such as
attributes and
events



Data analysis based on type of work, construction period, use of facilities, etc.

Receive orders strategically, forecast the allocation of construction staff, forecast the amount of progress payment, and forecast values to be recorded with the percentage of completion method

#### ► Ensure cost competitiveness and profitability

- Build a robust cost structure to adapt flexibly to change in the business environment
- · Build a competitive cost structure

#### **Identify appropriate cost**

- Build a database of past projects
- Identify cost at an early stage by automating budgeting

## Increase purchase power and capability of cutting cost

- Operate a VE and CD management system
- Expand and upgrade the use of price tracking tools

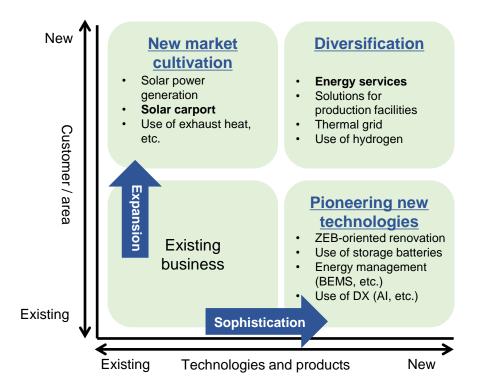
Identify information on cost and obtain price fluctuations at an early stage

Build a cost structure that makes it possible to adapt flexibly to changing times

## **Expanding Business Areas**

#### Expand growth areas and achieve sustainable growth through innovation

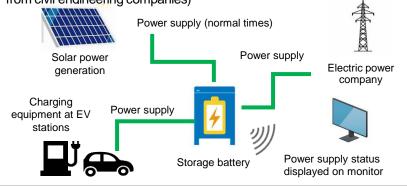
- Promote the carbon neutrality business Operate Create the Future of Hibiya
  - Cultivate new markets and develop new technologies
  - Expand business areas and solidify the earnings base



#### [Specific examples]

#### **Solar carports**

- Build solar carports with EV charging equipment and storage batteries
- Install storage batteries to secure energy to be supplied in the event of a disaster
- Design and implement electric work (Build parking spaces with support from civil engineering companies)

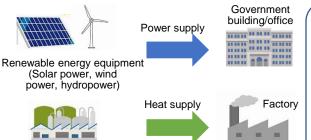


#### **Energy services**

Energy center

(Utilization of renewable energy)

- Drive local carbon neutrality initiatives
- Supply power and thermal energy to improve energy efficiency
- Ensure local production and local consumption of energy and secure energy to be supplied in the event of a disaster



## Main track record

- Project to convert the local government building of Kamigori-cho into ZEB
- ESP business for a pharmaceutical plant

## **Expanding Business Areas**

#### Expand growth areas and achieve sustainable growth through innovation

- Leveraging the innovation lab with a view toward the improvement of technology
  - Advance the carbon neutrality business
  - strengthen intellectual property that contributes to core and growth businesses
  - Conduct surveys and demonstration experiments regarding a list of technologies for energy saving, energy creation and unused thermal heating
  - Conduct a survey of technologies for the acquisition of further energy conservation technologies by data centers

[Specific proposals]

#### Pursue and test new technologies

- Test new construction methods and new technologies
- Evaluate and test new products, etc.

[Power storage systems, next-generation solar power generation systems, etc.]

#### **Open innovation platform**

 Introduce technologies on a timely basis through alliances with companies and industry-academia collaborations with universities

## On-site measures (Build an environment for on-site support)

- Perform designing, testing, and mock-up testing of construction
- Consider construction work by robots and automated construction work
- Trial use and monitoring of new products and overseas products, etc.

HIBIYA Innovation Lab

#### **Cultivate existing technologies deeply**

- Enhance the sophistication of energy management technologies
- Evolve package air conditioners, etc.

[Instrumentation technologies, cleanroom technologies, air-conditioning system for high-heat-generating data centers, etc.]

#### **Build an environment for basic training**

- Training opportunities and hands-on facilities for Group employees
- Visualize the effects of energy conservation technologies
- Opportunities to develop DX human resources, etc.

## **Strengthening the Management Foundations**

Improve the value of human capital through enhanced human resources management

Consider employees to be the most important asset and create a working environment in which diverse people can work actively with job satisfaction

Solidify management foundation

Improve human capital value

#### **Enhance human resources management**

## Recruitment and development

- Strengthen organizations and functions that facilitate human resources management
- Employ individuals with diverse attributes, values and backgrounds

#### **Diversity**

- Create a culture that encourages the active participation of diverse human resources
- Facilitate the promotion of female employees
- Encourage male employees to take childcare leave

#### **Improve workplace environment**

## **Employee engagement**

- Facilitate workstyle reforms that increase job satisfaction instead of simple workstyle reforms
- Provide opportunities for new challenges and career improvement

#### **Health and safety**

- Take measures to ensure compliance with upper limits on overtime work
- · Improve well-being
- Promote health and productivity management

## **ESG Management**

### Create social value by promoting sustainability-driven management

	Key issues to be addressed	Initiatives in the Eighth Medium-Term Management Plan
E	Environmental management	<ul> <li>Contributing actively to a decarbonized society</li> <li>Promote carbon neutrality solutions and enhance energy management</li> </ul>
	Investment in human capital	<ul> <li>Visualizing and utilizing human investment</li> <li>Facilitate the recruitment and development of human resources, well-being and diversity.</li> </ul>
S	Contributing to local communities and society	<ul> <li>Implementing and supporting regional and social contribution activities actively</li> <li>Co-exist in harmony with local communities and contribute to solving social issues</li> </ul>
	Ensuring safety & quality	<ul> <li>Establishing a safe and secure working environment</li> <li>Strengthen initiatives to eliminate accidents, defects and complaints</li> </ul>
G	Ensuring sound management	<ul> <li>Ensuring compliance and strengthening risk management</li> <li>Improve internal control systems, ensure the transparency of management and enhance the risk management structure</li> </ul>

#### Strengthen the Group's comprehensive competitiveness

#### **Demonstration of Group synergy**

- Develop businesses and differentiate ourselves from other companies with value-added technologies, products, etc.
- Build a Group-wide framework for implementing optimal PDCA

#### Sales

- Consider new business models
- Cooperation within the Group

#### **Technologies**

- Select new technologies (functions)
- Undertake evaluation and testing of technological aspects

#### **Procurement (cost)**

- Enhance new products and lower costs
- Consider advantageous VE and CD

#### **Human resources**

- Human resource exchange between Group companies
- Enhance education and training

#### **Strengthen Group management**

**Hibiya Group** 

- Leverage the properties of Group companies to ensure that contact points with customers are maintained throughout entire lifecycle of buildings
- Deepen and expand the Group value chain (Invest in the Group's growth, etc.)



#### Hibiya Tsushou Co., Ltd.

(Trading company: sales of facility equipment, maintenance of equipment, etc.)

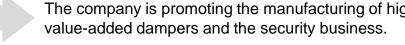
Nikkey Co., Ltd.

(Manufacturer: manufacture of disaster prevention equipment, security maintenance, etc.)



The company is promoting the environmental product and CFC recycling businesses.

The company is promoting the manufacturing of high value-added dampers and the security business.



## **Capital and Dividend Policies**

#### Secure a return on equity (ROE) that surpasses capital costs (shareholder capital costs)

#### **Expanding profits sustainably**

 Aim to achieve an ROE of 7% or higher in the final fiscal year of the Eighth Medium-term Management Plan through the sustainable expansion of earnings and improvement of profitability

#### Effective use of cash (cash flows/surplus funds)

- Growth investment (deepening and expansion of value chains)
- Investment in human capital, technologies, DX, etc. (increase the value of non-financial assets)
- Flexible acquisition of treasury shares (improvement of capital efficiency)



\* The ROE for FY2018/3 was calculated after deducting a gain on sale of investment securities of 4.3 billion yen (Actual ROE before the deduction (average) was 7.7%.)



#### **Shareholder Returns**

[Dividends]

#### Shareholder dividends/treasury shares

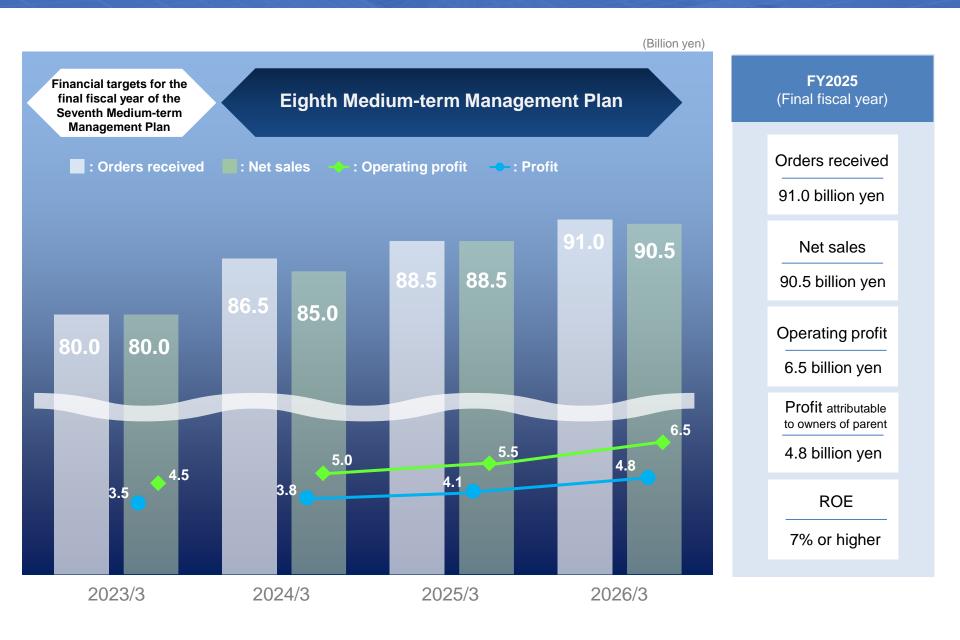
- Stable and continuous shareholder dividends
- Flexible acquisition of treasury shares



[Treasury shares] Number of shares acquired (thousand shares)

Acquisition cost (billion ven)

## **Financial Targets**



# Major Completed Projects under the Seventh Medium-term Management Plan

## **List of Major Completed Projects**

Priority Domain	Name of Property		Page Listed on
Data centers/ Information	Data center A (new construction/air-conditioning and sanitary equipment)  Data center B (new construction/air-conditioning and sanitary equipment)  Data center C (new construction/air-conditioning and sanitary equipment)		_
Commercial	Data center D (on-demand process/air-conditioning and MIYASHITA PARK (new construction/air-conditioning	sanitary equipment) WITH HARAJUKU (new construction/air-conditioning	
complex	equipment)	and sanitary equipment)	P33
Office	NTT WEST i-CAMPUS Head Office Building A (new construction/sanitary equipment)	Hakata East Terrace (new construction/air-conditioning equipment)	P34
buildings	JR Kawasaki Tower Office Building (new construction/ sanitary equipment)	Sumitomo Fudosan Tokyo Mita Garden Tower (new construction/air-conditioning equipment)	P35
Distribution facilities	ESR Amagasaki Distribution Center (new construction/sanitary equipment)	Himeji City Central Wholesale Market (new construction/air-conditioning equipment)	P36
Medical care/research facilities	Fukagawa Tachikawa Hospital (new construction/ electrical equipment)	Mitsui Link Lab Kashiwa-no-ha 1 (new construction/air-conditioning and sanitary equipment)	P37
Educational facilities	Research Building of Medical Science, Chiba University (Inohana) (new construction/air-conditioning equipment)	New school building of Kansai Ohkura Gakuen (new construction/air-conditioning and sanitary equipment)	P38
Hotels	La Vista Tokyo Bay (new construction/air-conditioning equipment)	Villa Fontaine Grand Tokyo Ariake (new construction/air-conditioning and sanitary equipment)	P39

## **Commercial Complex**

#### **MIYASHITA PARK**

A low-rise commercial complex that integrates a park, commercial facilities, and a hotel



Location	Shibuya-ku, Tokyo
Floor area	46,086 m <sup>2</sup>
Scale	18 stories above ground, 2 stories below ground
Our work	Air conditioning

### WITH HARAJUKU

A new presentation stage in Tokyo that delivers culture and creativity to the world



Photo by Yoji Watabe

Location	Shibuya-ku, Tokyo
Floor area	26,666 m <sup>2</sup>
Scale	10 stories above ground, 3 stories below ground
Our work	Air conditioning and sanitation

## Office Buildings (1)

# NTT WEST i-CAMPUS Head Office Building A

#### The head office building of NTT WEST



Location	Osaka City, Osaka
Floor area	38,541.87 m <sup>2</sup>
Scale	12 stories above ground, 1 story below ground
Our work	Sanitation

#### **Hakata East Terrace**

#### A new office building in front of Hakata Station



Location	Fukuoka City, Fukuoka
Floor area	29,200 m <sup>2</sup>
Scale	10 stories above ground
Our work	Air conditioning

## Office Buildings (2)

# JR Kawasaki Tower Office Building

One of the largest office buildings in the Kawasaki area



Location	Kawasaki City, Kanagawa
Floor area	134,673.12 m <sup>2</sup>
Scale	29 stories above ground, 2 stories below ground
Our work	Sanitation

## **Sumitomo Fudosan Tokyo Mita Garden Tower**

A new landmark tower of Tamachi and Mita area



Location	Minato-ku, Tokyo
Floor area	200,541 m <sup>2</sup>
Scale	42 stories above ground, 4 stories below ground
Our work	Air conditioning

## **Distribution Facilities**

## ESR Amagasaki Distribution Center

## One of Asia's largest state-of-the-art distribution facilities



Location	Amagasaki City, Hyogo
Floor area	388,570 m <sup>2</sup>
Scale	6 stories above ground
Our work	Sanitation

## Himeji City Central Wholesale Market

#### Food distribution hub of Harima area



Location	Himeji City ,Hyogo
Floor area	28,289.99 m <sup>2</sup>
Scale	2 stories above ground
Our work	Air conditioning

# **Medical Care/Research Facilities**

## **Fukagawa Tachikawa Hospital**

# A locally based hospital providing emergency medical services



Location	Koto-ku, Tokyo	
Floor area	4,255 m <sup>2</sup>	
Scale	6 stories above ground	
Our work	Electrical	

### Mitsui Link Lab Kashiwa-no-ha 1

# Rental lab facilities located close to the seeds of new industries



Location	Kashiwa City, Chiba		
Floor area 10,885 m <sup>2</sup>			
Scale 6 stories above ground			
Our work	rk Air conditioning and sanitation		

# **Educational Facilities**

# Research Building of Medical Science, Chiba University (Inohana)

A therapeutic research center leading the future of medical care



(Photo by FOTOTECA)

Location	Chiba City, Chiba	
Floor area	40,727 m <sup>2</sup>	
Scale	11 stories above ground	
Our work	Air conditioning	

### Kansai Ohkura Gakuen

A new school building for deeper learning



Location	Ibaraki City, Osaka	
Floor area	10,857 m <sup>2</sup>	
Scale 4 stories above ground		
Our work	Our work Air conditioning and sanitation	

# La Vista Tokyo Bay

### A waterfront resort hotel located in Tokyo Bay



Location	Koto-ku, Tokyo	
Floor area	31,997 m <sup>2</sup>	
Scale	10 stories above ground	
Our work	Air conditioning	

# Villa Fontaine Grand Tokyo Ariake

A large, high-grade hotel located in Ariake Garden, a national strategic special zone



Location	Koto-ku, Tokyo	
Floor area	33,522 m <sup>2</sup>	
Scale	16 stories above ground, 1 story below ground	
Our work	Air conditioning and sanitation	

# References

# Initiatives Aimed at Decarbonization and Energy Conservation Projects

### Decarbonization/energy conservation using alliances

**Project Group** 

Consultant, others

Alliance

Hibiya Engineering, Ltd. Roles: Survey of existing equipment for energy conservation/CO2 reduction, installation/maintenance of equipment, Use of local companies to support the local economy

#### Accomplishments (examples)

# Nagano prefecture government buildings

Used bulk lease for LED lights to reduce CO2 emissions

# Local government building of Kamigori-cho, Ako-gun, Hyogo

A ZEB Ready\* project involving an upgrade to a total heat exchanger and LED lighting installation



\* ZEB Ready: An architectural structure with energy consumption reduced by at least 50%

### Use accomplishments of prior years

# Public facility run by a local government in Nagano

Survey project for LED lighting installation

### Local government building in Nagano

Survey project for conversion into ZEB

#### Local government museum in Mie

ZEB demonstration project for increasing resilience

## **ZEB Business Initiatives**

## Examples of local government ZEB initiatives and private sector ZEB initiatives

### **Local government ZEB**

### City/Town halls, etc.

■ Survey project aimed at using subsidies from the Ministry of the Environment for ZEB conversion/creation

#### Group structure

Hibiya Engineering, Ltd. (representative)

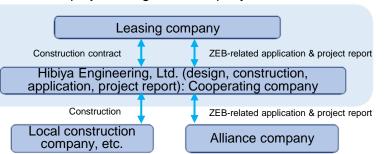
Company A

We surveyed the potential for converting a town hall and three other facilities to ZEB and reported that it was possible to achieve ZEB Ready status.

Target conversion to ZEB

### Local government museum

 A ZEB verification project to strengthen resilience using subsidies from the Ministry of the Environment
 ZEB conversion project using initial company leases



### **Private sector ZEB**

#### Research facilities

 Construction to build a new ZEB research facility for a building construction company

Role of Hibiya Engineering, Ltd.

Facility design

ZEB planner

Also provided guidance on achieving ZEB status during construction, as a ZEB planner

#### **Retail stores**

■ Provided consulting services to convert retail stores to ZEB

Hibiya Engineering, Ltd.

Consulting company

7 projects completed (1 of which has a BELS\* certification application in progress)

Aim to provide consulting services for stores nationwide

\* BELS: Refers to the Building-Housing Energy-efficiency Labeling System. This system provides thirdparty rating and certification of energy-saving performance.

# A Stronger Jobsite Oversight System

### ONE TEAM/Face to Face activities

### **ONE TEAM Project**

Established a team encompassing all tasks to support construction operations from the very first stage, aiming for cost reduction, quality improvement, and other benefits

### **Face to Face Project**

Supervisors with extensive knowledge of the construction project visit the jobsite to strengthen communications and reduce the need to redo jobs and other risks

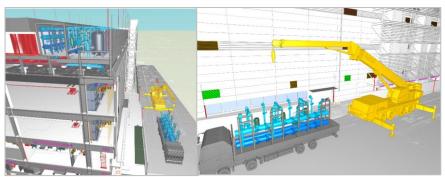
Support for creating proposals Start of \_ower procurement expenses Face to Face jobsite discussions Accumulation of knowledge Construction study group Reduce Support for determining expenses Quality construction diagram Order received Start of project objectives Use of ICT improvement VE/CD Labor-saving construction technologies Hibiya Cost Management **Working Group** A more thorough examination/ study of expenses, etc.

# **Examples of Building Information Modeling**

### BIM for constructing a building with greater efficiency

- 3D imaging for determining placements of pipes and ducts relative to steel beams, braces and many other obstacles eliminates the risk of needing to redo a job
- 3D presentations of the locations of equipment ensure trouble-free agreements between designers and project owners; customer response is very positive
- Initiatives for front-loading, such as the use of BIM for considering unitization and construction planning





▶ Use of BIM with the integration of architecture (customer) and equipment

► Simulated deliveries using a BIM model

### Features of BIM software (Rebro/Revit) and initiatives for the future

- > To be used in the on-site construction stage in response to the onsite needs of customers
- User-friendly software featuring superior operability demonstrated in 3D drawing, such as the creation of a construction diagram

Rebro (NYK Systems Inc.: Japan)

It is expected that this software will continued to be used as 3D drawing software which will replace CAD software for building construction equipment

### Revit (Autodesk, Inc.: US)

- ➤ At present, this software is used mainly in the architectural design stage.
- Excelling in functional linkage and expandability, as a design automation tool and for automatic computation, simulation, etc.
- Promising software that is likely to be used more widely in the equipment industry if standardization progresses
- Position them as **strategic tools** for the future and enhance initiatives for **human resource development** and tool **improvement**.
- Make maximum use of BIM information through database integration in an attempt to improve business efficiency.

# **Data Center Construction Technologies**

### Capabilities for all data center cooling needs, from new construction to updates

### An industry-leading track record of work

### **Extensive track record**

- Engaged in <u>equipment installation in computer rooms</u> for more than 50 years since the founding
- Renovation work in data centers in operation and installation work in newly constructed large data centers

	FYE March 2021	FYE March 2022	FYE March 2023
Number of air conditioners	1,593 units	1,502 units	1,747 units
Capacity	58.5 MW	78.7 MW	67.6 MW



Ready to install air conditioners in data centers ranging from those with low workloads to those with ultra-high workloads

# We also validate data centers before their completion and suggest operational improvements.

#### Heat load test

Simulating actual heat generation before completion to check if the facility will be cooled appropriately

✓ Doing validations, measurements, etc. by using simulated heating elements, thereby checking if the designed environment has been built

Operational improvement

Suggesting efficiency improvements that use our technologies for separating cool air from warm air, as well as simulations

✓ Preventing the mixing of cool air and warm air, prior confirmation of the flow of cool air, etc.

# What We Do for Data Centers (1)

### Technologies for addressing the increasing amount of heat generation from servers

Next-generation cooling technology for high-heat-generating servers (1)

Rear door cooling: A method featuring installation of an air-cooling unit (coils and fans) on the back of the rack (on the exhaust side of the server)

- Warm air exhausted from the server is cooled by coils and blown into the room at the set temperature, thereby maintaining a constant room temperature.
- It saves more energy and space than methods which cool the entire server room.



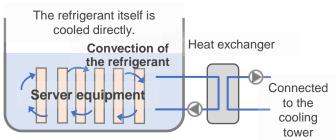
Water IN

# What We Do for Data Centers (2)

## **Next-generation cooling technology for high-heat-generating servers (2)**

<u>Liquid immersion cooling system</u>: Server equipment is immersed directly and cooled in a liquid bath

filled with dedicated refrigerant liquid.



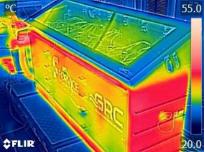


- The refrigerant itself is cooled directly through a heat exchange between the refrigerant liquid in the device and cooling water. Thus, the refrigerant in the device containing the server equipment is kept at a constant temperature.
- Typical example:
   Oil immersion cooling system which uses insulating oil as the refrigerant

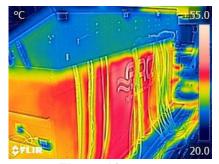
Operation of an oil immersion cooling system

\* Cooling effect being checked by using simulated heating elements





Thermal image: Front side of the liquid bath



Thermal image: Back side of the liquid bath

The refrigerant temperature is determined based on the balance between the cooling water temperature and the server's heat generation.

□ The system can be operated with cooling water at a temperature of around 35 degrees
 □ Celsius, which can be generated from the outdoor temperature in the summer.

#### Roles played in building a liquid immersion cooling system

#### Customers

- Oversight of overall project
- Checking the equipment performance and the operating performance of the liquid immersion cooling system and identifying issues in actual operation

#### Individual manufacturers and service providers

- Providing the system and deploying devices
- Providing technical support for devices and acquiring behavioral information
- Giving feedback for product development and improvement

#### Hibiya Engineering, Ltd.

- Construction work for introducing the system
- Acquiring knowledge on the operation
- Providing support for the testing and analysis of the cooling system



# Thank you for your attention.

### [Note]

This material contains information that constitutes forward-looking statements. These statements do not constitute a guarantee of future achievements. They are subject to risk and uncertainty.

Future results may differ from the forecast values stated in this material due to changes in the business environment and other factors.

Earnings Announcement Hibiya Engineering, Ltd. May 24, 2023