

FY2022

SDGs・ESG Briefing

October 11, 2022

Today's Work, Tomorrow's Heritage



SHIMIZU CORPORATION supports the Sustainable Development Goals

SDGs / ESG Briefing

Opening remarks

Kazuyuki Inoue, President and Representative Director

Lecture 1: Improving Productivity Utilizing Digital Technology

Takeshi Sekiguchi, Senior Managing Officer in charge of Engineering Business, Director, LCV Headquarters, in charge of Information Management

Lecture 2: Creating Attractive Workplaces with Job Satisfaction

Hiroshi Murata, General Manager, Human Resources Dept., in charge of Workstyle Reforms

Lecture 3: Strengthening the Supply Chain

Akira Yamazaki, Director, Construction Technology Div., Building Construction Headquarters, in charge of Procurement, Building Construction Headquarters, Technology and Intellectual Property

Closing remarks

Kimio Handa, Executive Vice President and Representative Director

Lecture 1

Improving Productivity Utilizing Digital Technology

Takeshi Sekiguchi, Senior Managing Officer, In charge of Engineering Business,
Director of LCV Headquarters, In charge of Information Management



Agenda

- 1. Why is the construction industry accelerating digitalization?**
- 2. Shimz Digital General Contractor Mid-Term Digital Strategy 2020**
- 3. Main measures of digital strategy**
- 4. Outside assessment: DX Stock**



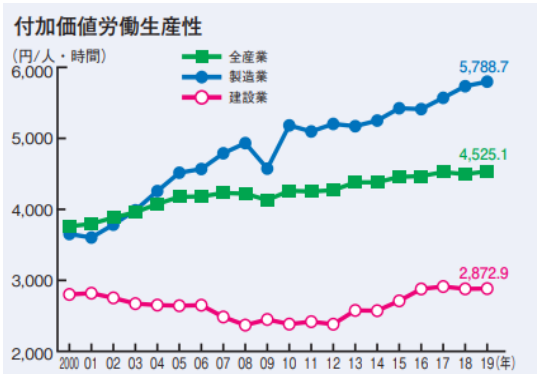


1. Why is the construction industry accelerating digitalization?



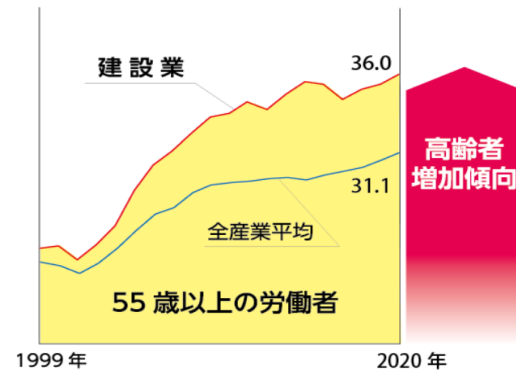
Challenges Faced by the Construction Industry

① Low labor productivity



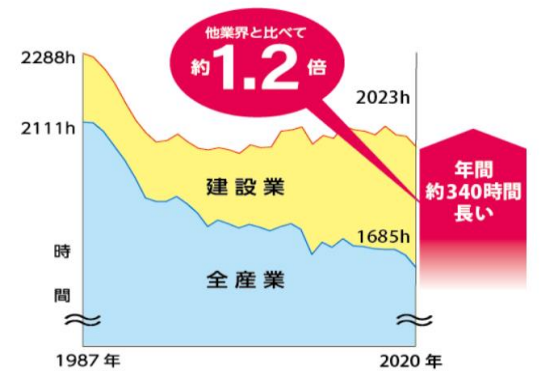
出典：日建連「建設業ハンドブック2021」

② Serious labor shortage



出典：日建連「建設業週休二日HP」

③ Long working hours



出典：日建連「建設業週休二日HP」

Through digitalization: Improving productivity
 Providing new working environments
 Providing new services



2. Shimz Digital General Contractor Mid-Term Digital Strategy 2020

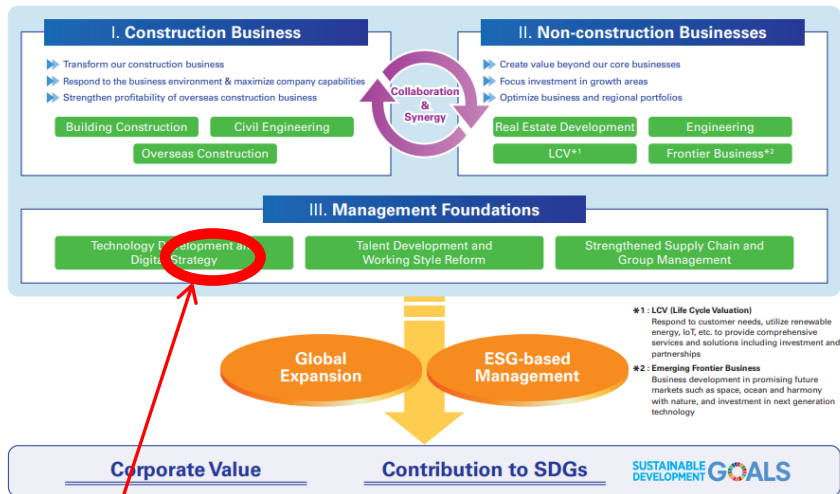
Positioning of the Digital Strategy within the Mid-Term Management Plan

Mid-Term Management Plan of Shimizu Group

(2019-2023)

2 Basic Policy

Our company's basic policy is to enhance the corporate value of Shimizu Group and contribute to the achievement of SDGs.



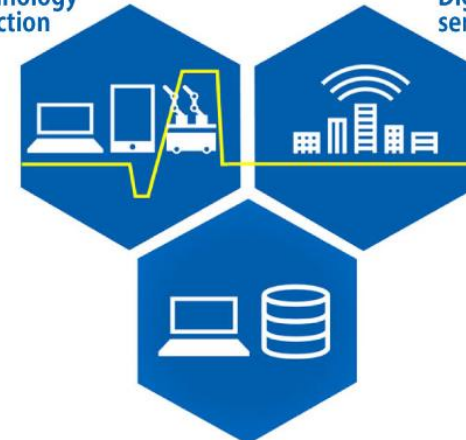
First appearance of the Digital Strategy within the Mid-Term Management Plan

SHIMZ Digital General Contractor

A digital contractor with the mindset of monozukuri (superb craftsmanship)

Digital technology for construction

Digital spaces and services provision



Digital support for all operations

3. Main Measures of Digital Strategy





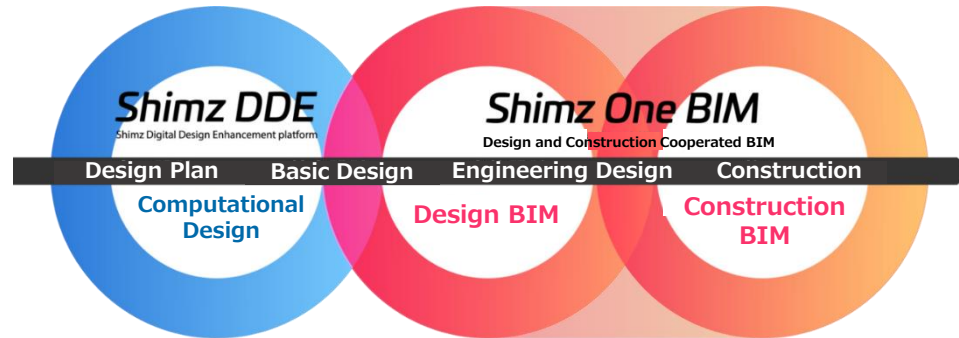
Digital support
for all operations

Monzukuri Using Digital Technology (Building Construction)

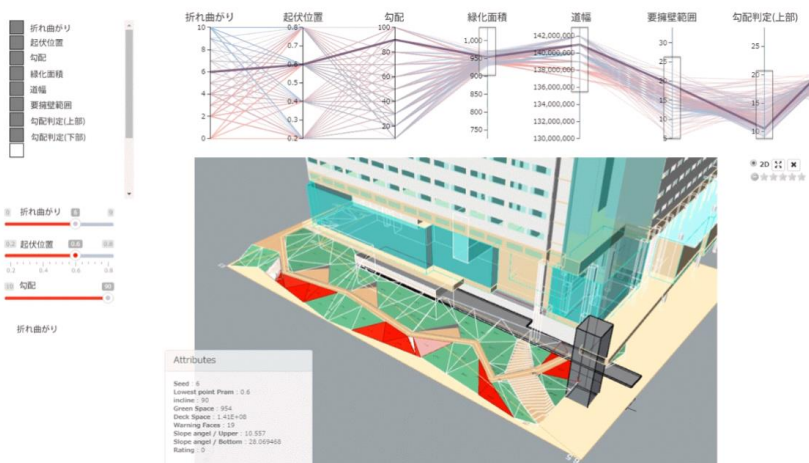
Using digital technology in building construction, from the initial design phase through completion of construction



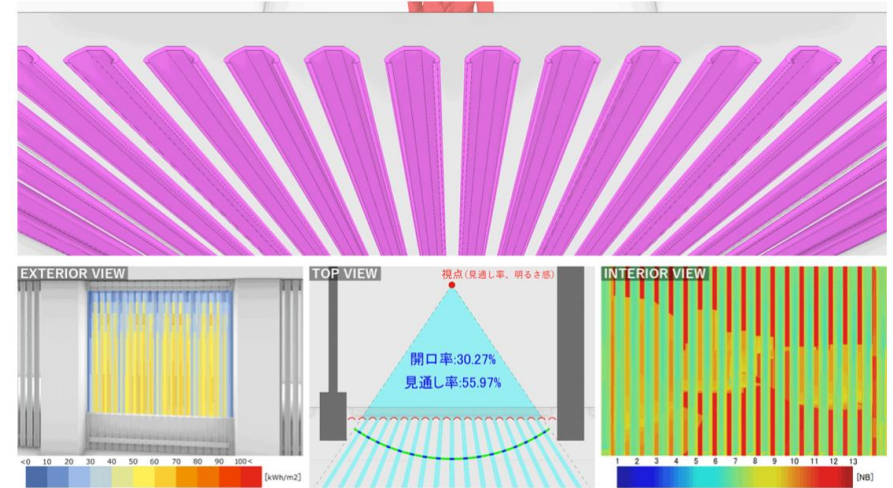
Shimizu's craftsmanship DNA fused with computational design, providing value that exceeds expectations.



The results of various try and errors performed in the upstream designing stages are linked to BIM.



Narrowing down design patterns with potential from several conditions



Various simulations of louver optimization

Data Management Software for 360° Images (OpenSpace)

Image management tool capable of recording 360° images collected at construction sites and linking them to positions on drawings



3D Printer for Construction

Fabricate structures of various shapes using 3D-printed molds



Mortal Discharge Nozzle



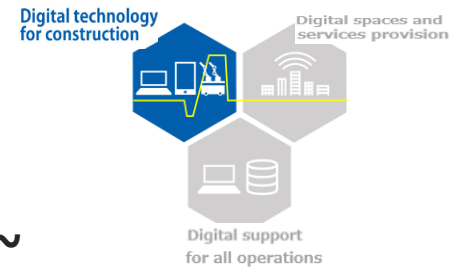
Bench



Louver



Monozukuri Using Digital Technology (Civil Engineering)



Digital Construction

~From planning, order to building and facility management~

Digital construction – Using digital technology in all aspects from planning and order receipt to construction and facility management



Shimz XR Vision

Cyber construction



Consideration of BIM and CIM construction



Ascertaining the job site through VR



Physical construction

Shimz Smart Site Civil®

Digital management



Smart Control Center



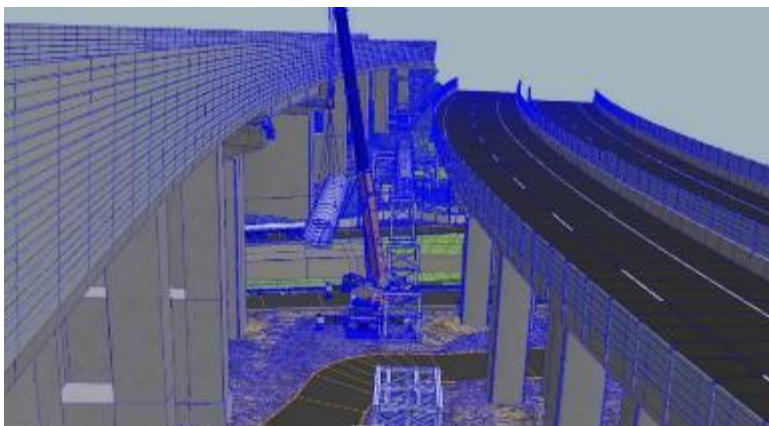
Completely autonomous robots



Cyber space ↔ Physical space

3D Construction Simulation

Prepare 3D models and simulate stages of construction



3D model①



3D model②



Construction simulation



Actual construction site

VR/AR Systems

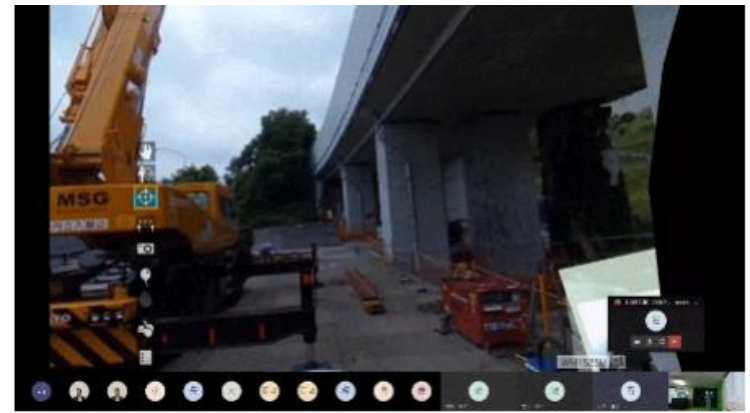
VR:Virtual Reality / AR:Augmented Reality

Conduct construction review meetings with multiple users from remote locations in the same VR space

Participate with customers using avatars



Perform remote patrols from HQ using VR models

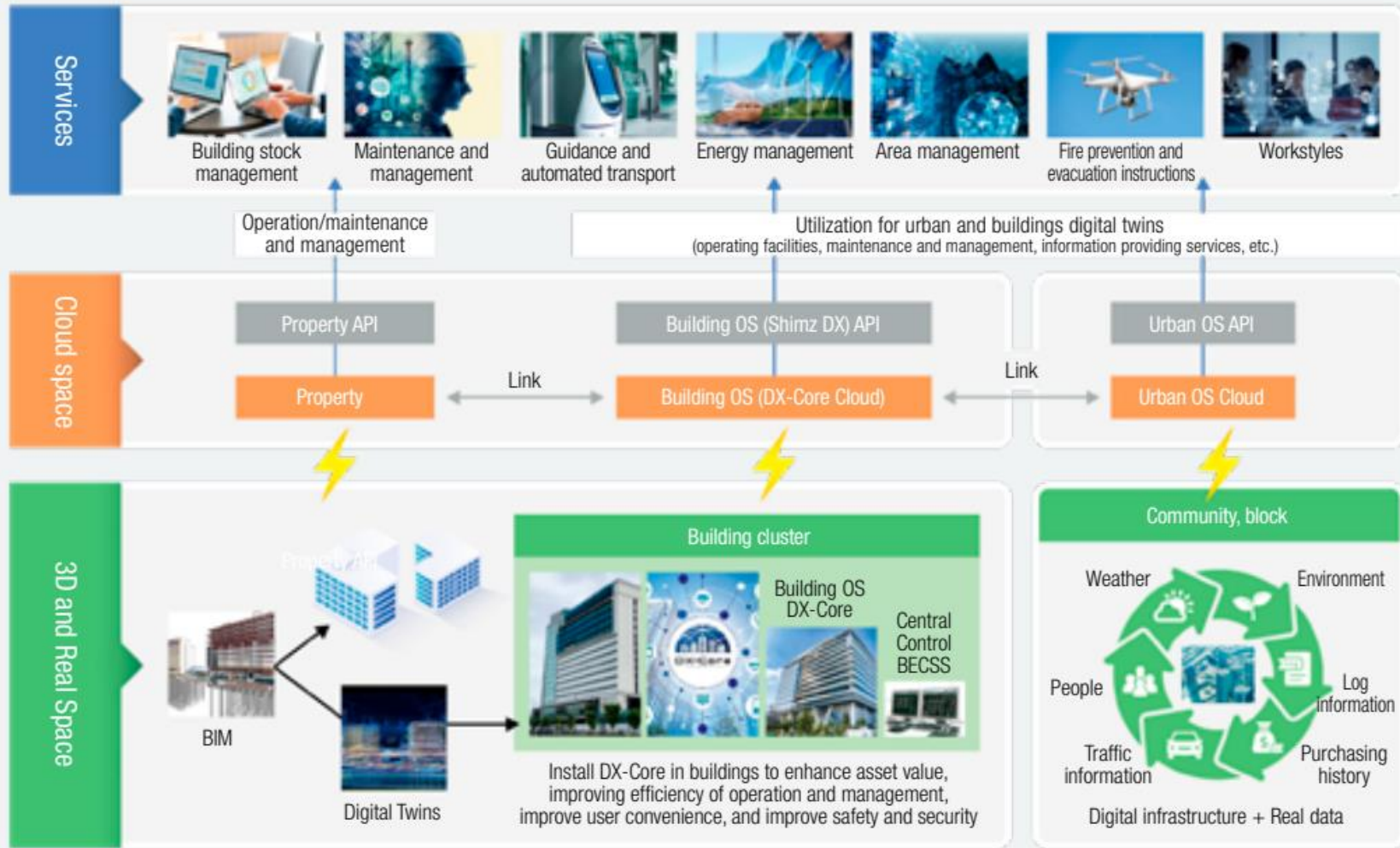




Digital Spaces and Services Provision

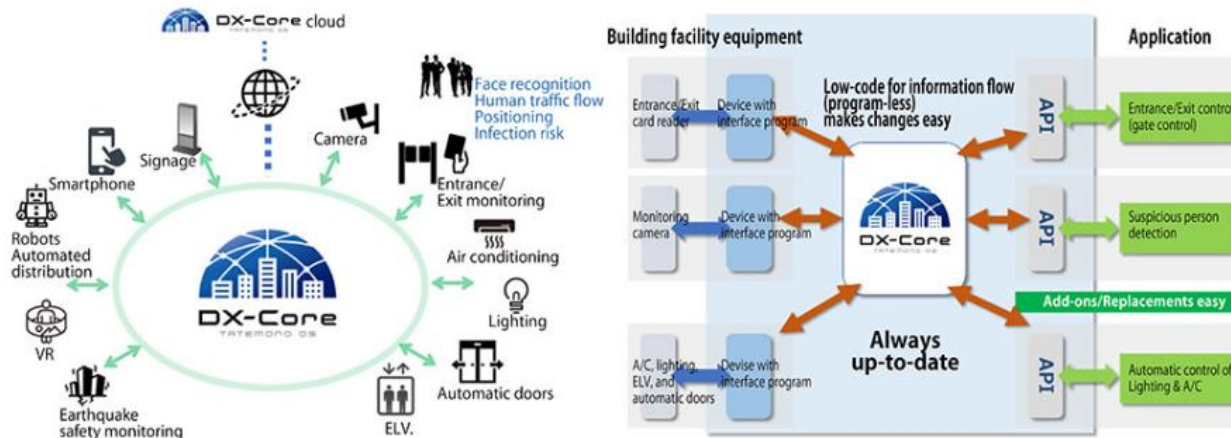
Using “city and building Digital Twin” to provide digital services

Provision of digital services through the use of urban and building digital twins



DX-Core Building OS

A building digitalization platform provided by Shimizu that is installed in buildings to increase asset value, improve operational and management efficiency, and enhance user convenience, safety, and security

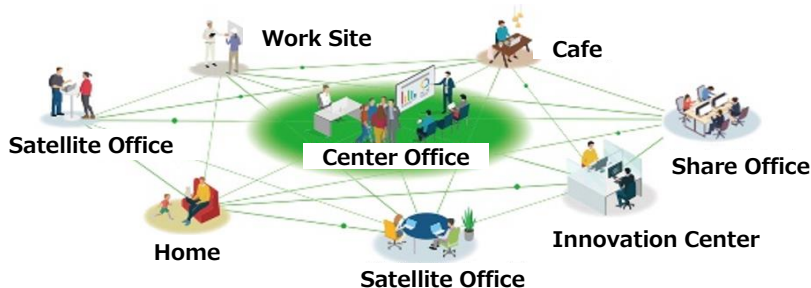


DX-Core conceptual diagram

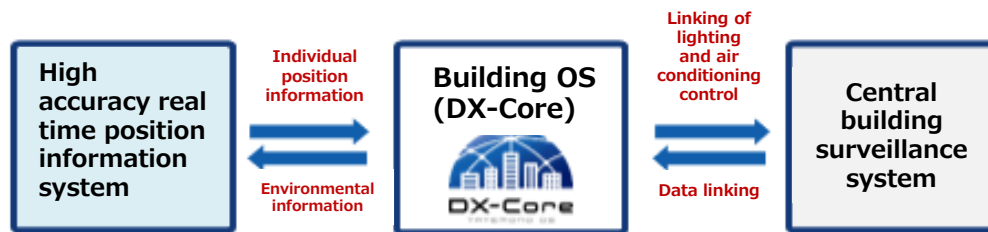


SHIMZ Creative Field®

A new office style for the new normal in which people work anytime and anywhere



SHIMZ Creative Field®

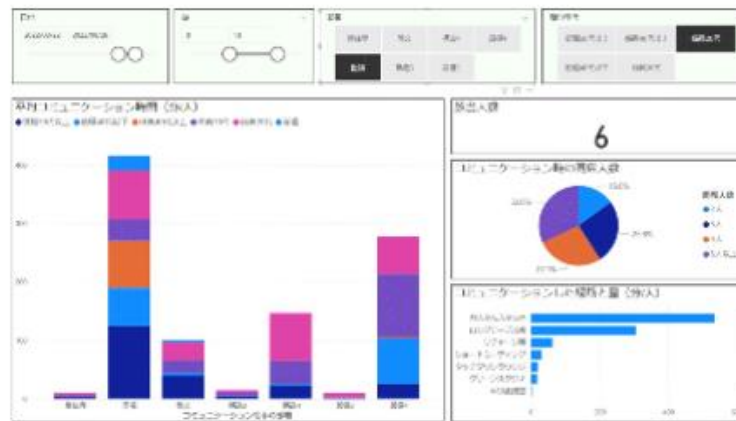


Equipment control using position information: Link to building OS (DX-Core)



Monitoring the position of people in the office

High accuracy real time position information system: Dashboard screen



Visualization of communication volume, performance analysis screen

Digitally Supported Monozukuri

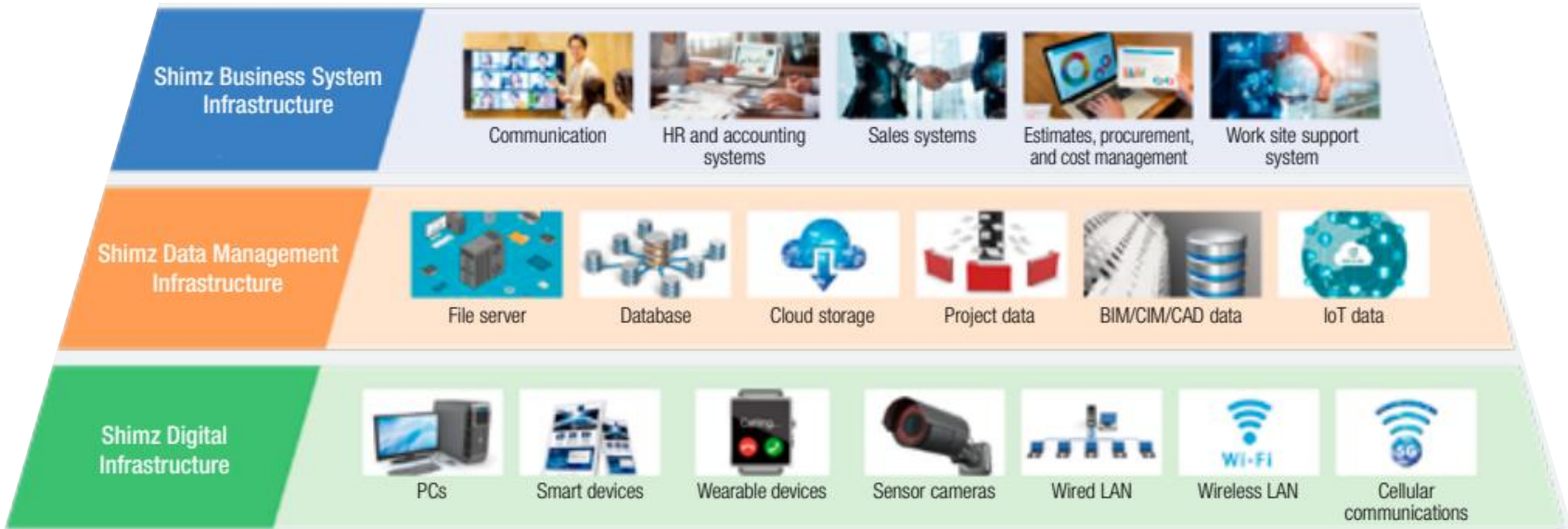
Digital technology
for construction

Digital spaces and
services provision



Digital support
for all operations

Digital support for all operations enables employees to work safely from anywhere at anytime



Improvement of remote work environment



Preparation and improvement of **computer/network environment**
Lending of **smartphones to all employees**

Promotion of RPA



Operational robots: **Approx. 320**
Execute **more than 2,200 tasks per month**

Electronic Approval in workflow



100% digitalization of documents for approval
Approx. 900 forms company-wide and
approx. 20,000 applications per month

Introduction of digital signage



Introduction at **around 900 work sites** nationwide
Contribution to **SDGs** through paperless operations

4. External Evaluation: DX Stock

Selected as DX Stock for second year running



DX銘柄2021
Digital Transformation



DX銘柄2022
Digital Transformation



Key points of assessment

1. The concept of digitalization of businesses and operations has been clearly set forth in the Shimz Digital General Contractor Mid-Term Digital Strategy 2020, and we are **implementing advanced initiatives**
2. We are **developing a vision and strategy** that strongly emphasize the peri- and post-COVID-19 situations in the aim of becoming a front runner in both the digital and environmental fields
3. We are **actively communicating our digital strategy** to concerned parties inside and outside the Company as we focus on creating a corporate culture that celebrates operational reform and a spirit of challenge
4. We are **steadily promoting DX** by promoting innovation involving a combination of DX efforts in human resources, engineering, and business structure rather than stand-alone efforts

Lecture 2

Creating Attractive Workplaces with Job Satisfaction

Hiroshi Murata, General Manager, Human Resources Dept.,
In charge of Workstyle Reforms

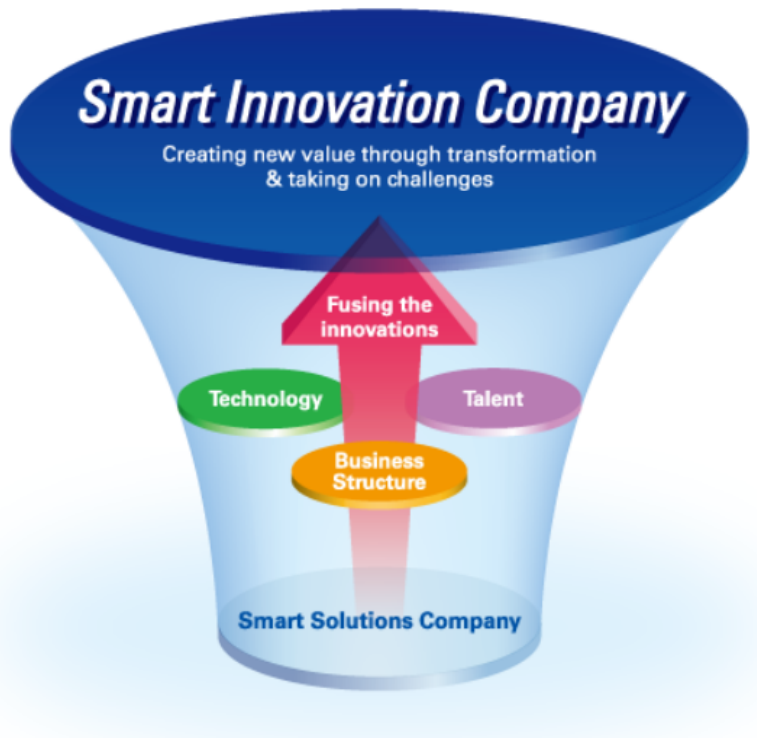


Today's agenda

- 1. Creating Attractive Workplaces with Job Satisfaction**
- 2. Initiatives for Improving Employee Satisfaction Scores**
- 3. Promoting Diversity & Inclusion**

1. Creating Attractive Workplaces with Job Satisfaction

SHIMZ VISION 2030



Business Structure Innovation

Diversify business models, accelerate global expansion, improve group management capabilities

Technology Innovation

Develop advanced technology to respond to the mega-trends of the future

Accelerate construction process technology development to increase competitive edge

Talent Innovation

Promote working style reforms that will enable diverse talent to thrive

Build knowledge/expertise through co-creation with others

Mid-Term Management Plan (2019-2023)

7 Key Strategies: Talent Development and Working Style Reform

- ▶ Hire and develop talent for the future of the global Shimizu Group, and create a workplace environment that accommodates diverse and flexible work styles and leads to higher employee satisfaction

1. Implement a global talent strategy

- Upgrade the Human Resource Management System and increase HR professionals to align with business expansion
- Implement a global strategy to hire and develop globally-capable talent with deep expertise to support each country and region, develop more entrepreneurial management, and enable flexible workforce planning across the Group

2. Improve employee satisfaction

- Design a vision for increasing job satisfaction, retention, and a vibrant workplace and launch targeted improvement initiatives
- Develop a career planning strategy with 100 year lifespan in mind

3. Roll out inclusive talent systems

- Roll out further measures to promote diversity and standardize highly flexible and efficient working styles
- Improve health management by promoting individual physical and mental health

Creating Attractive Workplaces with Job Satisfaction

Maintaining the physical and mental health of all employees, mutually recognizing individual characteristics and strengths, and fully leveraging them

Creating Attractive Workplaces with Job Satisfaction

Grand Design



Raising awareness and changing behavior through dialogue (communication)

Visualization of issues through surveys

Today's Work, Tomorrow's Heritage



2. Initiatives for Improving Employee Satisfaction Scores

Employee Satisfaction Scores

Since 2018, Shimizu has been conducting an annual job satisfaction survey among all employees every October.

Employee satisfaction scores have been established as a non-financial KPI in the Mid-Term Management Plan, and we aim to achieve a score of 4.0 in three categories of job satisfaction, mental and physical health, and relationships of trust in the workplace by FY2023.

Maintaining the physical and mental health of all employees (Mental and physical health)

Mutually recognizing individual characteristics and strengths (Relationships of trust in the workplace)

Fully leveraging individual characteristics and strengths (Job satisfaction)

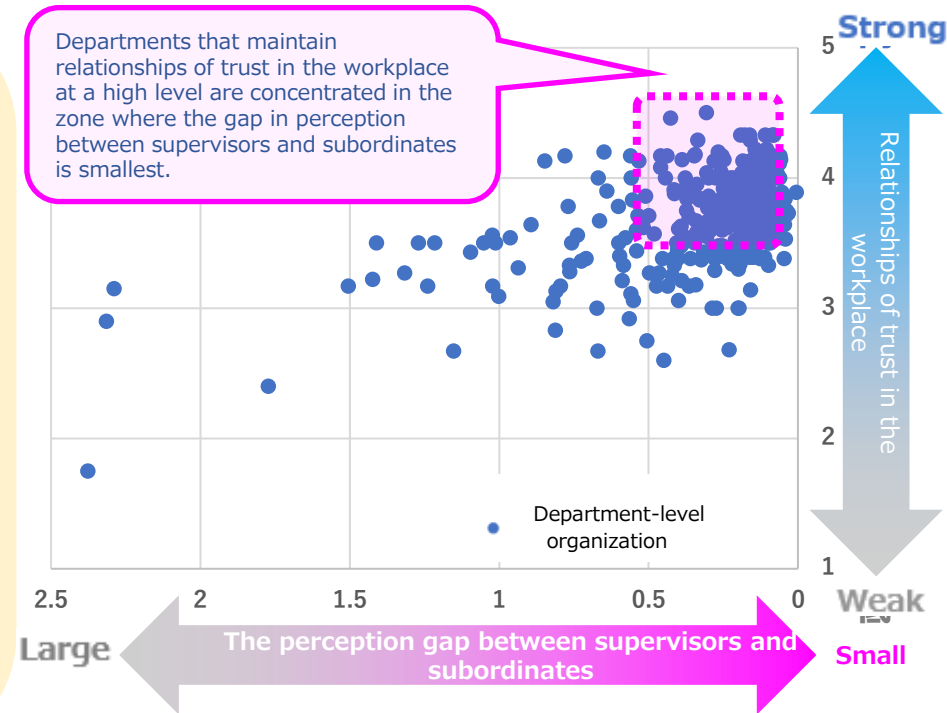
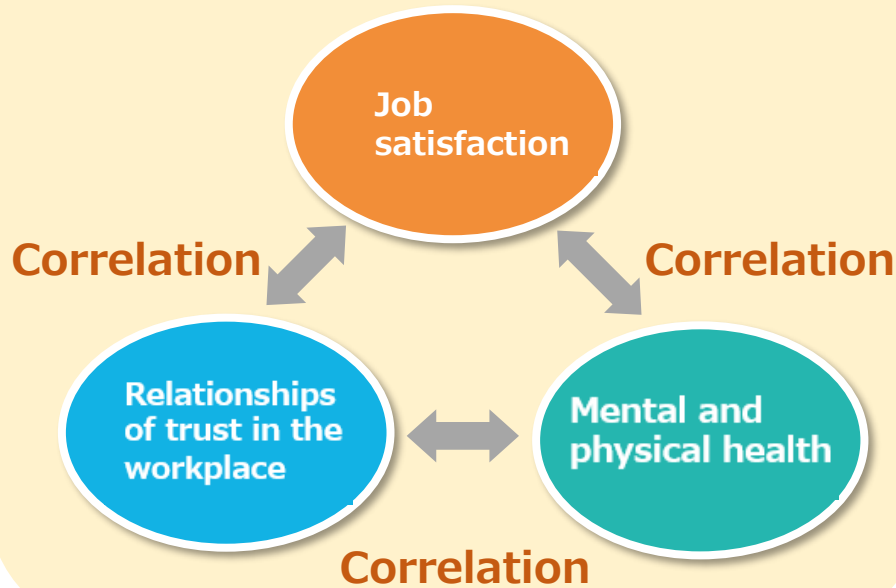
Employee Satisfaction Scores	FY2018	FY2019	FY2020	FY2021	Vs. previous year
Job satisfaction (Q: Do you find your current job satisfying?)	3.76	3.80	3.76	3.73	-0.03
Mental and physical health (Q: Are you able to work in good mental health and physical health?)	3.77	3.80	3.80	3.74	-0.06
Relationships of trust in the workplace (Q: Are relationships of trust built between supervisors and subordinates?)	3.63	3.67	3.69	3.69	0

Analysis of FY2020 Employee Satisfaction Scores

- Three categories of KPIs are correlated with each other.
- The score for relationships of trust in the workplace is lowest, but it is improving every year.

- Workplaces with strong relationships of trust in the Company are characterized by a small gap between supervisor self-assessments and assessments by subordinates.

Employee Satisfaction Scores



- Increasing trust by bridging the perception gap between supervisors and subordinates is important for improving the KPI

Main Initiatives for Creating Attractive Workplaces with Job Satisfaction

Three elements for realization

① Job satisfaction

- Aim for a situation in which employees understand the management philosophy, long-term vision, and targets of their own division well and are able to act autonomously and with enthusiasm

② Mental and physical health

- Create an environment in which people can play an active role in a healthy and vigorous manner to improve the job satisfaction and happiness of each employee

③ Relationships of trust in the workplace

- Aim to improve the quality of relationships of trust and communication between supervisors and subordinates

Main measures

- Revise the human resources system
- Establish targets for promoting women
- Introduce open recruitment system
- Improve working environment (Installation of prayer rooms, gender neutral restrooms, multilingual signage, etc.)

- Shimizu Group Health Management Declaration
- Increase health staff and enhance visiting interviews
- Promote measures for quitting smoking
- Reduce long work hours
- Support balancing treatment and work

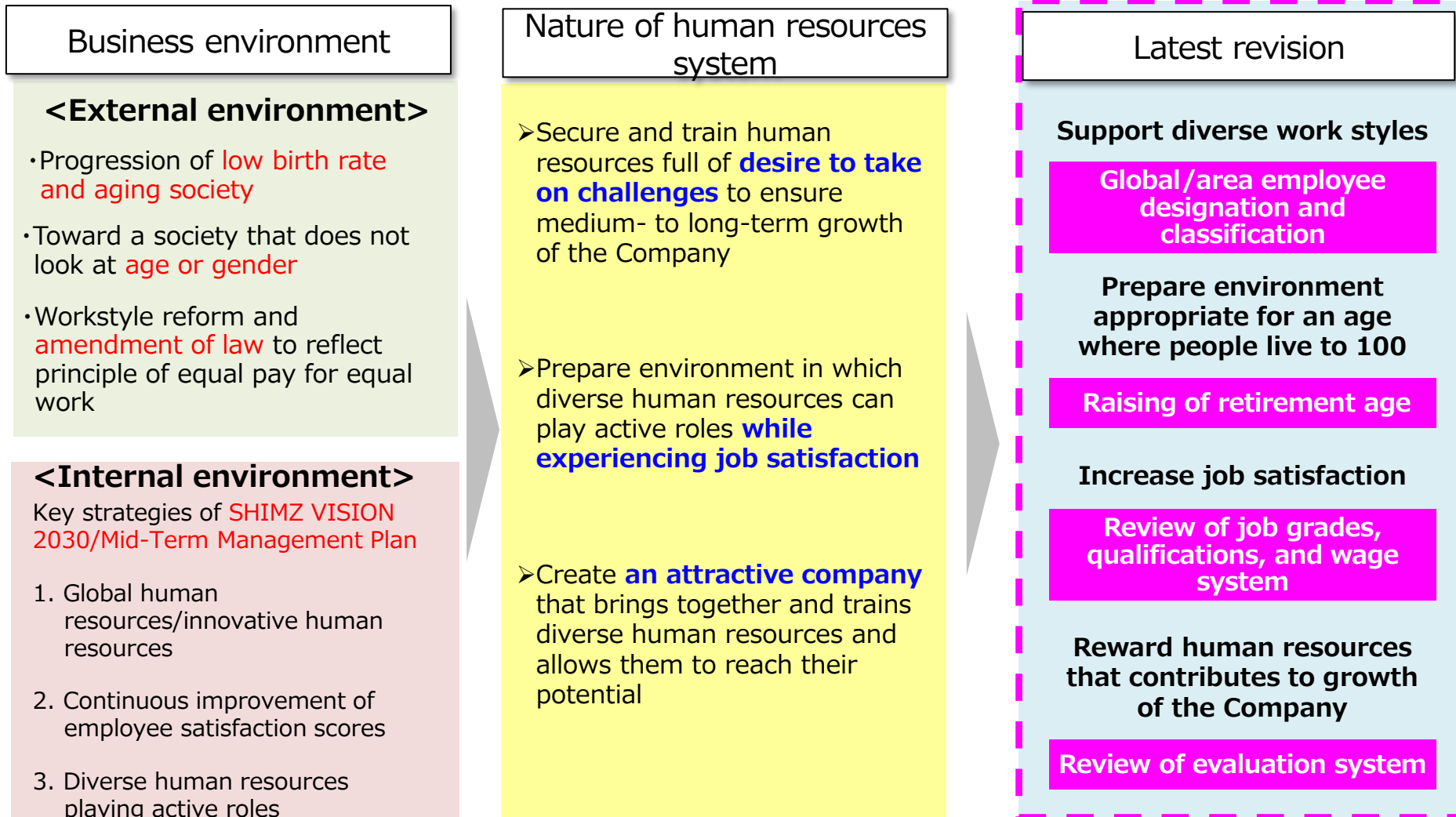
- Introduce 360-degree feedback
- Introduce one-on-one meetings
- Introduce Thank You Cards
- Introduce pulse surveys
- Conduct harassment surveys

Promotion of Diversity & Inclusion

Allow diverse human resources that are rich in personality and have various specialties to reach their full potential

Revision of Human Resources System (FY2021)

… (1) Job satisfaction



『 Health Management 』 … (2) Mental and physical health

Health Management Declaration

The Shimizu Group will provide an environment in which employees can be healthy and work energetically, and that will help improve the job satisfaction and happiness of all employees.

The Shimizu Group aims to be a company that advances each employee by ensuring that each employee can be healthy, work energetically, and demonstrate the skills they possess. To accomplish these things, we have established a company-wide structure for improving employee health and promoting improvements in the workplace environment, and continue to take the necessary steps. By pursuing these activities, we fulfill our corporate social responsibilities and improve the job satisfaction and happiness of every employee. This is health management in the Shimizu Group.



September 29, 2020

President and Director

Kazuyuki Inoue

(From the Company's website)

“Workstyle and Job Satisfaction Reform Month”

… (3) Relationships of trust in the workplace

Since FY2018, we have implemented Workstyle Reform Week to promote workstyle reform across the Group.

Starting this fiscal year, we have extended it to one month and are calling it “Workstyle and Job Satisfaction Reform Month.” The purpose is to work on thoroughly raising individual awareness and behavioral reform, which will lead to a virtuous cycle of improved relationships between individuals and organizational growth.

	2018	2019	2020	2021	2022
	Workstyle Reform Week				Workstyle and Job Satisfaction Reform Month
Theme	Change the usual, change Shimizu	Challenge and change	Now is the time to change the usual !	What job satisfaction means to me	—
Description	<ul style="list-style-type: none"> • Employee awareness survey • Workstyle reform award • Division-specific initiatives • Simultaneous closing recommendation • Lecture • No overtime + 1 	<ul style="list-style-type: none"> • Employee awareness survey • Workstyle reform award • Division-specific initiatives • Uniform Saturday closings • Lecture 	<ul style="list-style-type: none"> • Job satisfaction survey • Workstyle reform award • Division-specific initiatives • Uniform Saturday closings • Lecture • Declaration of changing the norm 	<ul style="list-style-type: none"> • Job satisfaction survey • Workstyle reform award • Division-specific initiatives • Gratitude and Appreciation Day • (Thank You Cards) • <u>360-degree feedback</u> 	<ul style="list-style-type: none"> • Job satisfaction survey • <u>One-on-one meetings</u> • Solicitation of essays on "what job satisfaction means to me" • Interval challenge • Sleep improvement initiative • 360-degree feedback

3. Promoting Diversity & Inclusion

About Promoting Diversity & Inclusion

Established Diversity Promotion Office in April 2009

【Policy on Promotion of Diversity & Inclusion】

Shimizu works to promote diversity. Our goal is to effectively utilize the diverse range of individuality that exists among our employees and enable each employee to manifest each skills to the fullest extent.

- **Our employees possess a diverse range of values, views, and skills that originate from differences in gender, presence or absence of disabilities, nationality, age, sexual orientation, gender identity and other background influences. Shimizu aims to be a company that can fully and actively utilize this diverse range of skills and individual characteristics to the fullest extent.**
- **Shimizu promotes work-life balance and creates a workplace that makes it easy to work.**

Shimizu's goal is to respond to changes in the business environment, increase corporate value, and improve business results by promoting diversity.

Create Organization to Promote Diversity & Inclusion

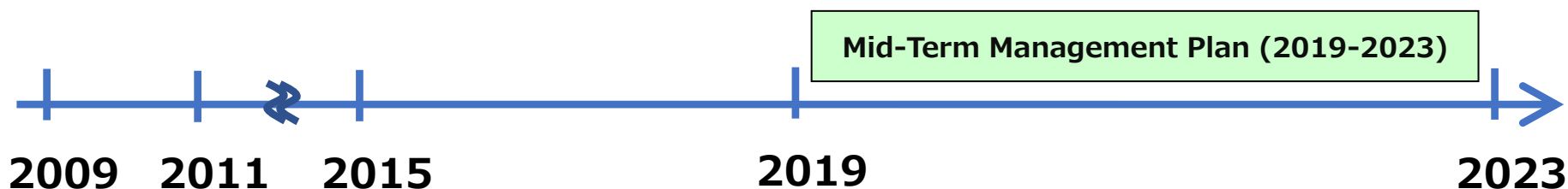
◇ Create organization capable of accepting diverse human resources

- Secure diverse human resources (not just in terms of gender and nationality but also values, experience, career, etc.)
- Prepare environments in which employees can work in good mental and physical health along with diverse and flexible work styles
- Introduce a human resources system suited to individual life stages (child/family care, etc.) and circumstances (illness, injury, family, etc.)

◇ Create organization that utilizes diversity

- Spread management that leverages individuality, spontaneity, and diversity
- Foster a workplace culture that leverages diversity (psychological security)
- Develop a system that draws out individual strengths and inherent potential
- Diversify career choice
- Human resources system that can keep track of diversity (values, abilities, personalities, attitudes, backgrounds, learning, etc.)

Main Initiatives for Creating an Organization Capable of Accepting Diverse Human Resources



FY 2008 • Introduction of a reemployment system for employees who resigned due to childbirth, childcare, etc.

FY 2009 • Start of work clothes production for female worker

FY 2012 • Barrier-free renovations at headquarters building

FY 2016 • Babysitter usage assistance program

FY2018 • Introduction of flexible working hours for childcare, family care, and treatment of injuries and illnesses

• Staggered working hours and hourly annual leave

FY2019 • Installation of prayer room

• Installation of gender-neutral restrooms

FY2020 • Multilingual signage at work sites

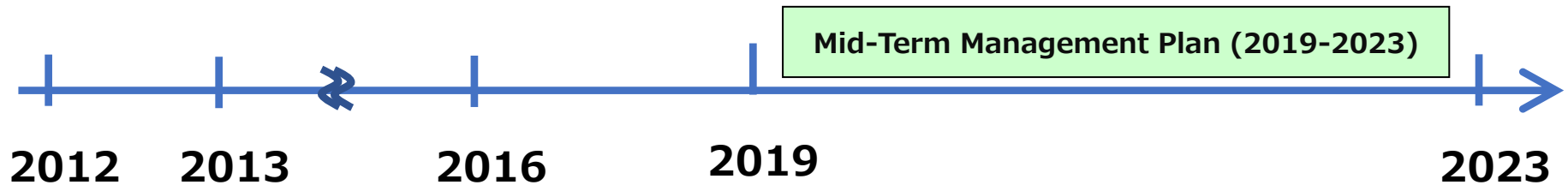
FY2021 • Raising of retirement age to 65

• Integration of administrative and area positions

• Introduction of paternity leave

FY 2022 • Launch of year-round hiring

Main Initiatives for Creating an Organization That Utilizes Diversity



FY 2011	<ul style="list-style-type: none"> • Establishment of KPI for promotion of women to managerial positions 	FY2019	<ul style="list-style-type: none"> • Seminars to support balancing family and career
FY 2012	<ul style="list-style-type: none"> • Diversity management seminars for officers and executives 	FY2020	<ul style="list-style-type: none"> • Promotion of utilization of paternity leave e-learning
FY 2013	<ul style="list-style-type: none"> • Forum on Promoting the Advancement of Women <p>⇒ FY2018~ Shift to Diversity & Inclusion Forum</p>	FY2020-FY2021	<ul style="list-style-type: none"> • Letter from president to employees eligible for paternity leave
FY 2015	<ul style="list-style-type: none"> • Establishment of managerial positions among administrative positions 	FY2021	<ul style="list-style-type: none"> • 360-degree feedback
FY 2016	<ul style="list-style-type: none"> • Holding of Iku-Boss seminars (Development of inclusive leaders) 	FY2022	<ul style="list-style-type: none"> • Pulse surveys • One-on-one meetings • Inclusive communication evangelist training
FY2018	<ul style="list-style-type: none"> • Challenge Forum (Promotion of advancement of persons with disabilities) 		<ul style="list-style-type: none"> • Shin Diversity Activities (Elimination of gender gap)

Status of Diversity & Inclusion Initiatives

Initiatives for creating an **organization capable of accepting diverse human resources**



All Gender restroom



Prayer room



Multilingual signage at work sites



Introduction of paternity leave

Initiatives for creating an **organization that utilizes diversity**



Holding of Iku-Boss seminars (Development of inclusive leaders)



• Forum on Promoting the Advancement of Female Employee (Shift to Diversity & Inclusion Forum)

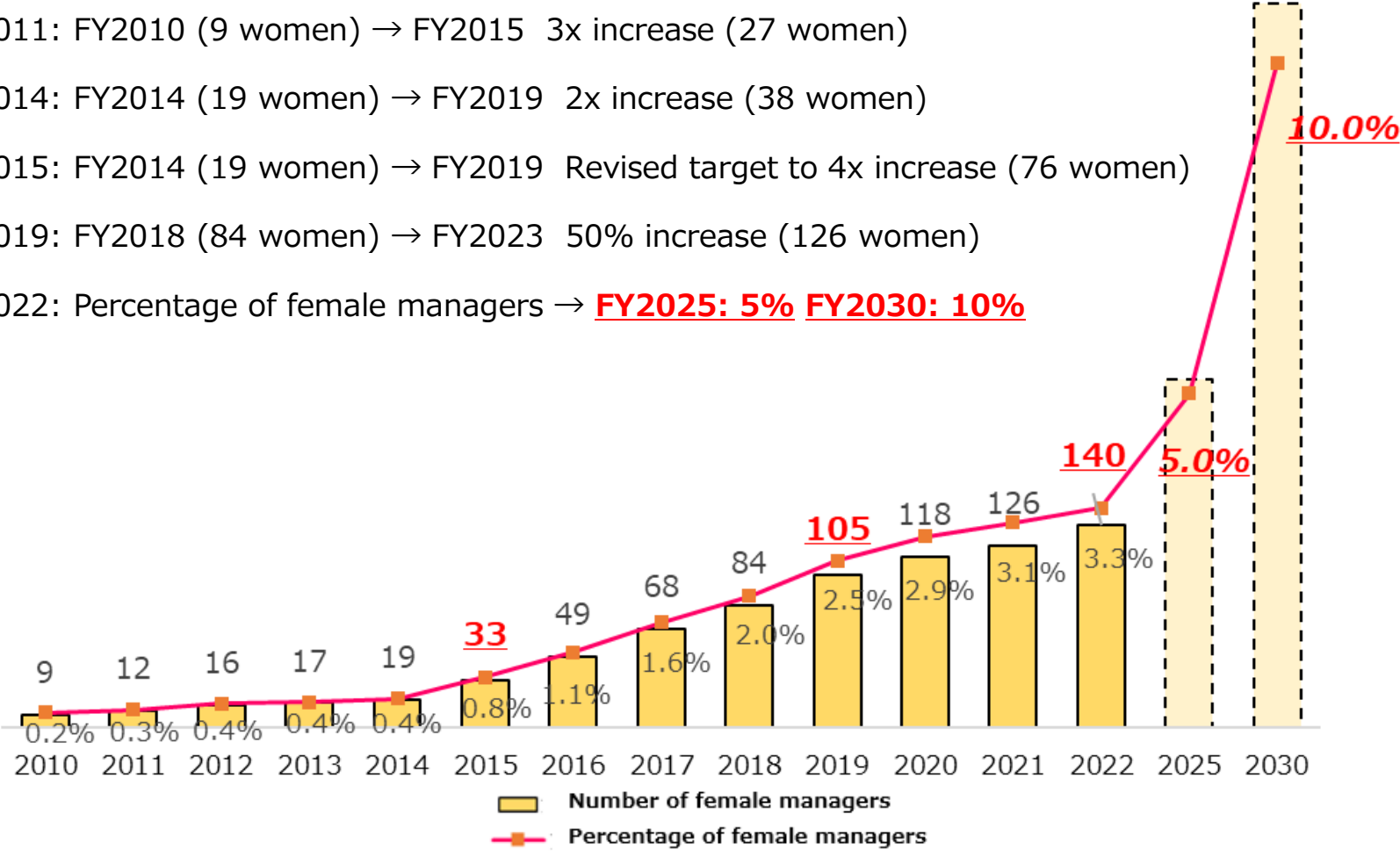


Shin Diversity Activities

Number of Women in Managerial Positions and Targets

<Targets for women promoted to managerial positions>

- FY2011: FY2010 (9 women) → FY2015 3x increase (27 women)
- FY2014: FY2014 (19 women) → FY2019 2x increase (38 women)
- FY2015: FY2014 (19 women) → FY2019 Revised target to 4x increase (76 women)
- FY2019: FY2018 (84 women) → FY2023 50% increase (126 women)
- FY2022: Percentage of female managers → **FY2025: 5% FY2030: 10%**



Road Map for Creating Attractive Workplaces with Job Satisfaction

Creating Attractive Workplaces with Job Satisfaction

Road Map

Realizing a “Creating Attractive Workplaces with Job Satisfaction” by maintaining the physical and mental health of all employees, mutually recognizing individual characteristics and strengths, and fully leveraging them.

Main measures

- ◆ Sharing Corporate Vision Through Top Message
- ◆ One-on-one Meetings
- ◆ Pulse Survey (Application to Engagement Improvement)
- ◆ Promoting Diversity and Health Management
- ◆ 360-degree Feedback
- ◆ Job Satisfaction Survey etc

The norm for working environments

2023

2024

2025

Attractive Workplaces with Job Satisfaction



Further Promotion of Diversity (Achieving KPIs for Advancement of Women Employee)

A new working style based on the application of the upper limit on overtime work

Achieving Job Satisfaction Scores

Addressing long working hours

Eradication of harassment

Measures for Better Working Environment

Realize a normal working environment that does not allow long working hours or harassment

- ◆ Reduce long working hours
- ◆ Research on pulse surveys and harassment, job site rounds for grasping actual work environment and following up on incidents
- ◆ Appropriate declaration of working hours etc

Today's Work, Tomorrow's Heritage



2022

Mid-Term Management Plan (2019-2023)

Toward Coexistence With All Our Stakeholders

9 Advancing ESG-based Management

▶ Fulfilling corporate social responsibilities through business activities to obtain stakeholder trust and achieve continuous increases in corporate value

1. E (Environment): Contribute to a sustainable global environment

- Steady promotion of the mid and long-term CO₂ reduction target "Ecology Mission 2030-2050"
- Conservation and indexing of biodiversity within our businesses
- Efforts for waste reduction and effective use of limited global resources

2. S (Society): Coexistence with all our Stakeholders

- Response to natural disasters with our supply chain to provide customers and society with safety and security
- Value that surpasses the expectations of our customers
- Consistent respect for Human Rights and implementing "Working Style Reform" for our entire workforce, including employees of our supply chain
- Coexisting with the local community as a good corporate citizen, contributing to the resolution of social issues

3. G (Governance): Strict Compliance & Strengthened Risk Management

- Strictly enforced compliance and strengthened risk management
- Dissemination of corporate ethics based on our company policy of "The Analects and Abacus"
- Comprehensive risk management (including investment risk, geopolitical risk, risk of natural disaster)
- Practice fair and transparent corporate activities
- Improved governance through accurate information disclosure and dialogue with all stakeholders

Lecture 3

Strengthening the Supply Chain

Akira Yamazaki, Director, Construction Technology Div., Building Construction Headquarters, in charge of Procurement, Building Construction Headquarters, Technology and Intellectual Property



Agenda

1. Supply Chain System

Current state of construction industry and supply chain system

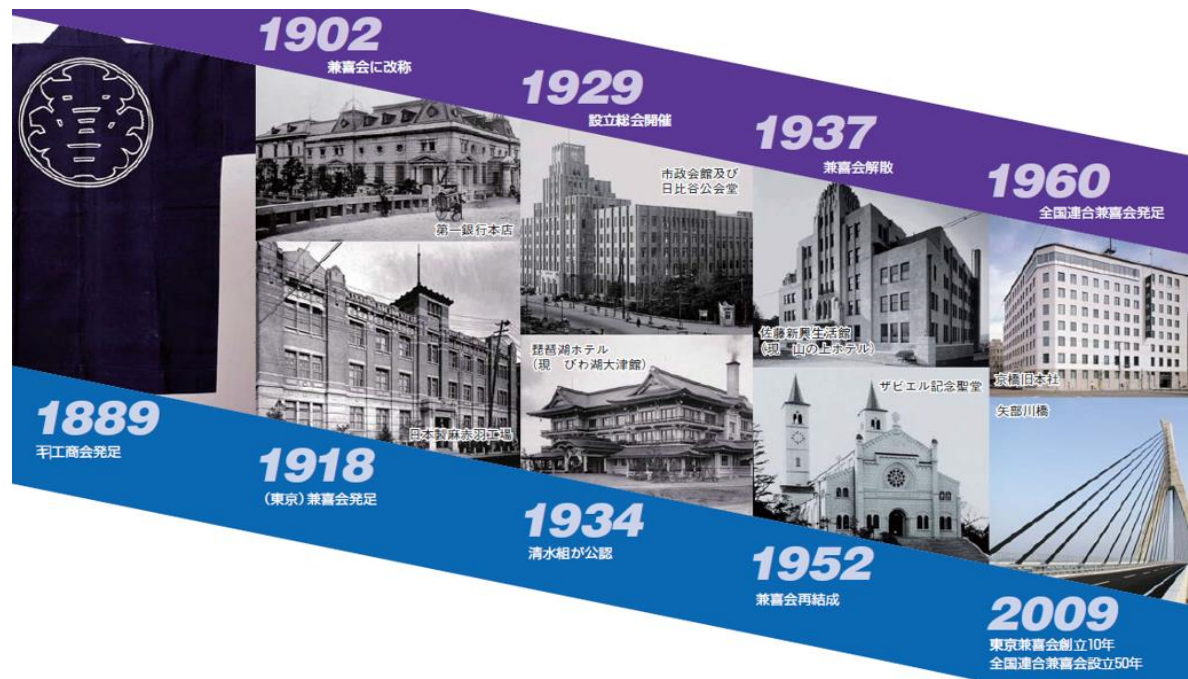
2. Measures for Strengthening the Supply Chain

TAKUMI TRAINING CENTER and Construction Career Up System (CCUS)

3. Collaboration for a Sustainable Future Society

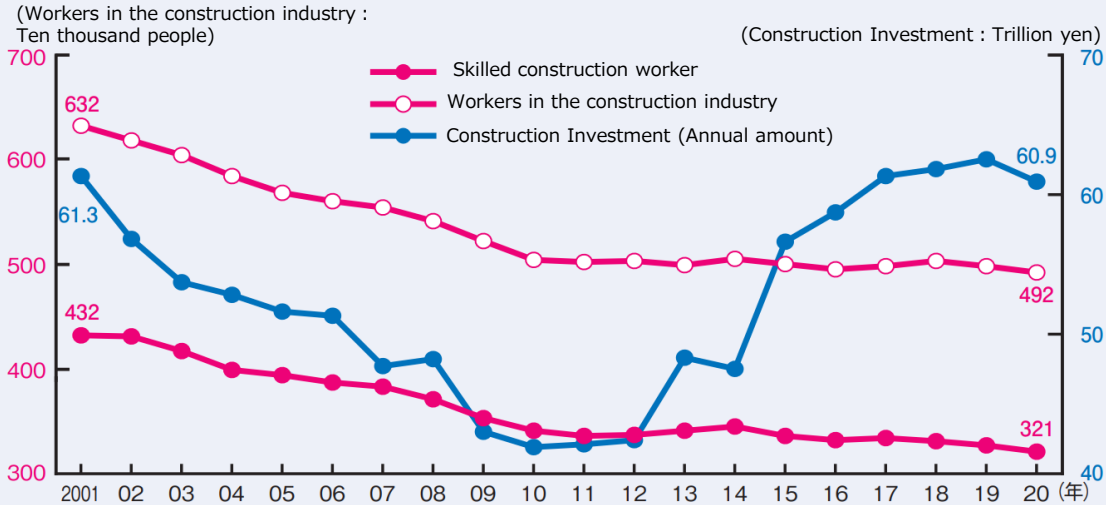
Decarbonization Partner, employment support, CSR Procurement Guidelines

1. Supply Chain System



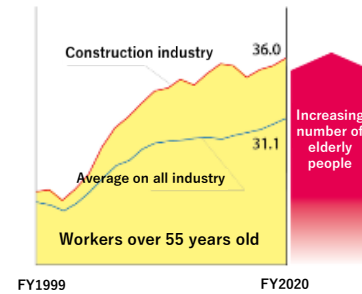
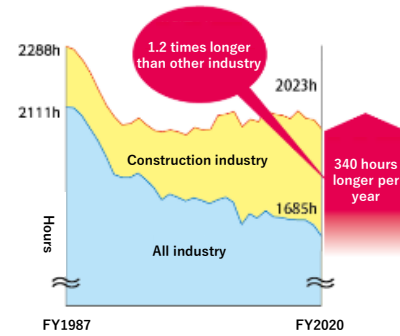
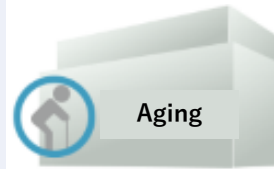
Current Status of Construction Industry

Changes in number of workers in the construction industry



Notice 1. Temporary workers included after FY2013
2. Building repair (renovation and repair) investment amount recorded after FY2015

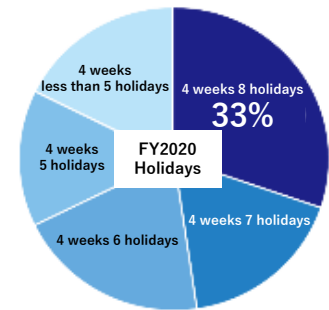
Source : MIC "Labor force survey", MLIT "Construction investment outlook"



Number of workers in construction industry:
6.85 million (1997)

↓ Approx. 30% decrease

4.92 million (2020)



In order to establish a **sustainable construction and production system**, it is essential, in addition to promoting **productivity improvement**, that we create an environment in which young people can enter the workforce by addressing long working hours, establishing a work week with two days off, and improving benefits.

Source: 2021 Construction Industry Handbook by Japan Federation of Construction Contractors

Soaring Prices and Delayed Deliveries of Construction Materials

The industry is coming together to ask customers for their understanding and cooperation in carrying out construction work with **appropriate prices and construction periods**

建設工事を発注する民間事業者・施主の皆様に対するお願い (2022年7月版)



昨年来、世界的な原材料の品薄・高騰の影響により、建設業においても幅広い資材において、かつて経験のない価格高騰・納期遅れが発生しています。こうした状況を踏まえ、当会は、政府から適正な価格転嫁のご指導をいただいています。もとより建設会社は経営努力を最大限に行っていますが、現下の資材高騰・品不足は建設会社のみで吸収することは困難であることから、適正な価格・適正な工期での建設工事の実施につき、以下の点についてご理解・ご協力をお願いいたします。

1. 直近の資材価格や調達状況を反映した価格・工期での契約締結

現在の急激な原油や原材料価格の上昇、世界的な物流の停滞に対して、政府では適正な価格転嫁、工期の確保の促進について以下のような取組を進めており、当会に対しても国土交通省から通知が发出されています。(2022年4月26日現在)

【政府における原材料高騰に係る対策 (建設関係)】

- [価格交渉時期における転嫁対策の強化について] (閣僚懇談会における閣内閣議大臣指示 (2022.3.4))
 - ・企業が買上げに積極的に取り組むことができるよう円滑な価格転嫁を進めることが重要
 - ・事業者皆が公平に、事業者団体に対して改めて価格転嫁への協力を働きかけるようお願い
- パートナースhipによる価値創造のための転嫁円滑化会議における齊藤国土交通大臣発言 (2021.12.27)
 - ・国土交通省としては、特に民間工事における取引適正化が重要と考えており、各団体の皆様には、適正な請負代金の設定や支払条件の改善、適正な工期の確保にご協力をお願い
- 「下請契約及び下請代金支払の適正化並びに施工管理の徹底等について」(国土交通省 課長通知 (2021.12.1))
 - ・発注者と元請人の関係においても、材料費や燃料費等について、市場価格を参考に適切な価格設定となるよう配慮いただくとともに、納期の長期化が見られる場合には、工期設定や工程管理においても十分な配慮をお願い
- 「労務費、原材料費、エネルギーコスト等の取引価格を反映した適正な請負代金の設定や適正な工期の確保について」(国土交通省 局長通知 (2022.4.26))
 - ・下請企業等との取引において価格転嫁を進める上での発注者と元請人の間の契約の適正化の重要性に鑑み、...適正な請負代金の設定や適正な工期の確保について適切に対応を仰うお願い



今後、当会会員企業は、
 (1) 直近の資材価格及び資材調達状況を反映した見積の提出
 (2) 見積提出後、契約前までに資材高騰等が生じた場合、契約前や工期への適切な反映等をお願いをさせていただきますので、ご理解をいただきますよう、お願いいたします。

3. 既に締結された契約における資材高騰に伴う個別協議

既に締結された契約における調達価格高騰への対応につきましては、民間事業者の皆様と建設会社との個別協議がありますが、事業者の皆様におかれましては、個別協議の際に、①短期間に多くの資材価格が上昇することは工事なかったこと、②契約法においては「事情変更の原則」が認められていること、を十分にご勘案いただき変更等に係る協議等に御対応いただきますようお願いいたします。
 ※契約締結の際に前提とされていた事情が、事後的に当事者の予想した範囲を超えて著しく変化し、当初の契約内容を新しい事情に適合するように改訂すること等を認める原則。

2. 民間建設工事標準請負契約約款等を活用した契約締結

長期の工事については、建設会社からの見積提出時・契約締結時に、将来の資材等調達価格を適切に

建設資材高騰等の現状 (2022年7月版)



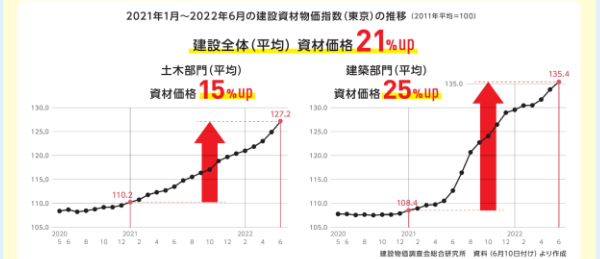
世界的な原材料及び原油等エネルギーの品不足や価格高騰の影響を受けて、建設工事の資材価格なども高騰しています。

- 新型コロナによる生産・供給制約
- コンテナ不足等、物流のひっ迫・停滞
- EVシフトに伴う半導体需要増大
- CN対応に伴う設備投資コスト上乗せ
- 生産拠点の被災
- ウクライナ危機

異形棒鋼 SD345 D19 2.23kg/m JIS G 3112 76%up	H形鋼 S340 300x300x10x15 62%up	鋼板 中厚板 (SPHC)S275HR 16-25x1,524x6,096 77%up	フラットデッキ 630x751x1.2 密→212 35%up
鋼矢板 SY295 UB 39%up	生コンクリート 標準(18-18-24)20 JIS A 5308 6%up	プレテン高強度PC杭 3mφ8 350x400x10m 8%up	鉄筋コンクリートU形 1根 3008 W300x300x600 20%up
コンクリート型枠用合板 標準厚(厚み) 12x900x1800 JIS規格品 76%up	管柱 杉KD 3mφ10.5cmx10.5cm 4000-0331 92%up	ステンレス鋼板 アルミ型材やアルミ足等に使われる(サンジューバー等)アルミ製品が10%程度上りしている 70%up^{※1}	アルミ地金 アルミ型材やアルミ足等に使われる(サンジューバー等)アルミ製品が10%程度上りしている 44%up^{※1}
ストレートアスファルト 車道用(厚み) 50 CN700 86%up	軽油 CR170-100 39%up	600Vビニル絶縁電線 約 1.6mm 標準 標準品 38%up	配管用炭素鋼鋼管 JIS 鋼種 50A 4m 41%up

資材のUP率: (一財)建設物価調査会の建設物価 2021年1月号掲載価格(東京)と本年6月号掲載価格(東京)との比較
 ※1: 日経新聞 2021年1月の高騰・安値の中盤値と2022年7月19日付け数値の比較 ※2: 会員会社からの情報

建設資材物価は、2021年1月と比較して21%上昇しています。(土木部門が15%上昇、建築部門が25%上昇) (一財)建設物価調査会の発表)



材料費割合を50~60%と仮定するとこの17ヶ月で労務費・仮設費・経費を含めた**全建設コスト(平均)は、10~12%上昇^{※1}**
 ※3: 例え100億円の建設工事で50~60億円の原材料費費が60~72億円に上昇(平均)(土木分野 8~9%上昇、建築分野 12~15%上昇)

- 価格上昇とは別に、設備関連や一部建築資材において、納期遅延が発生し、工期への影響が出ています。土木分野についても、一部資材(高力ボルト等)の納入がタイトになっています。
- 資材等の納期遅延は、工期への影響の他、仮引渡し対応のための代替品調達による費用増も惹起しています。
- ウクライナ危機の影響で、更に幅広い建設資材に納期遅延やひっ迫が発生する恐れがあります。

躯体 (アイアンショック機) <ul style="list-style-type: none"> BCP (鉄骨用コーム) トラス新付デッキ型枠 コンクリート配管材 	仕上 <ul style="list-style-type: none"> 木製建具・木質系床 (ウッドショック) 自動開閉装置 (中国のロックダウン) フック兼指付付塗装線 (半導体需要の高まり、価格対等によるフック兼指付付塗装線不足) 新熱処理クレタ・パネル (JIS規格品メーカーのバリエーション削減) ガラス 耐火ガラスを用いた防火・防災シッター等 (ロシア産耐火ガラスの高騰)
設備 (半導体不足・価格高騰) <ul style="list-style-type: none"> 電機設備 <ul style="list-style-type: none"> 変電設備 高低圧ケーブル 照明機軸 自動火災報知設備 中央空調設備 インバーター機 配管系コネクタ 空調設備 <ul style="list-style-type: none"> 冷凍機 冷却塔 PAC (パッケージエアコン) 昇降機設備 エレベーター 衛生設備 <ul style="list-style-type: none"> シャワートイレ 給湯機 スプリンクラーヘッド 厨房設備 冷蔵冷凍設備 コンプレッサー 	(注) 表中、赤字は過去に受注停止等が発生した品目。

Mid-Term Management Plan of Shimizu Group (2019-2023)

Management Foundations

7 Key Strategies: Strengthening the Supply Chain and Group Management

- ▶ Strengthen and expand the construction supply chain to reinforce reliability, expand alliances and implement a Group management structure that will enable diversification and global expansion

1. Strengthen construction supply chain

- Optimize production for the entire company
- Strengthen subcontractor alliances

2. Enter into new alliances

- Diversify company alliances in real estate and other business areas in Japan
- Increase competitiveness by expanding alliances with companies and suppliers that possess new construction methods and advanced technologies
- Support global expansion by strengthening the supply chain at the local level while establishing a global procurement network

3. Agile group management for new business and global expansion

- Implement a Group growth strategy that includes domestic and global partners (M&A, capital partnerships, and alliances) and a strengthened Group management structure
- Strengthen governance and promote growth through fair and transparent systems
- Move towards independent management of each region

Purchasing Division and Supply Chain Strengthening Center

Purchasing Division established in February 2021
Strengthen cost competitiveness for large-scale and increasingly diverse projects nationwide, **secure production systems**, and drive improvements in estimate and procurement work **across the entire company**

<Organizational Structure>

Purchasing Division

Project Procurement Dept.

Supply Chain Strengthening Center

Planning Dept.

Estimate
Planning Dept.

Administrative
Dept.

(Role of Supply Chain Strengthening Center)

- Subcontractor development
- Securing a subcontractor workforce for the future
- Strengthen collaboration with Kanekikai
- Promote industrial policy of Construction Career Up System (CCUS)

Important Partner “Kanekikai”

[What is Kanekikai?]

Around 1,300 of the roughly 10,000 specialized construction subcontractors that Shimizu trusts and relies on for their **outstanding skills and technology**

[Purpose of Kanekikai]

To promote welfare, improve construction technology, ensure quality, promote construction safety, and facilitate smooth operations, **thereby contributing to friendship among members and the development of Shimizu’s business and promoting co-existence and co-prosperity**



Kanekikai and Shimizu have a **strong partnership** that has been likened to the **Two wheels of a car**

Activities of Kanekikai

[Network]

Kanekikai heads activities at **12 branches nationwide**

It participates in board of directors meetings, executive board meetings, construction type-specific study groups, promotion of digitalization, regularly held meetings, and events held by Shimizu



【Kanekikai Young Division】

Enhancement of exchange between members for **self-improvement/friendly rivalry as next successors** in order to develop the construction industry



Successor training by officers of the Company

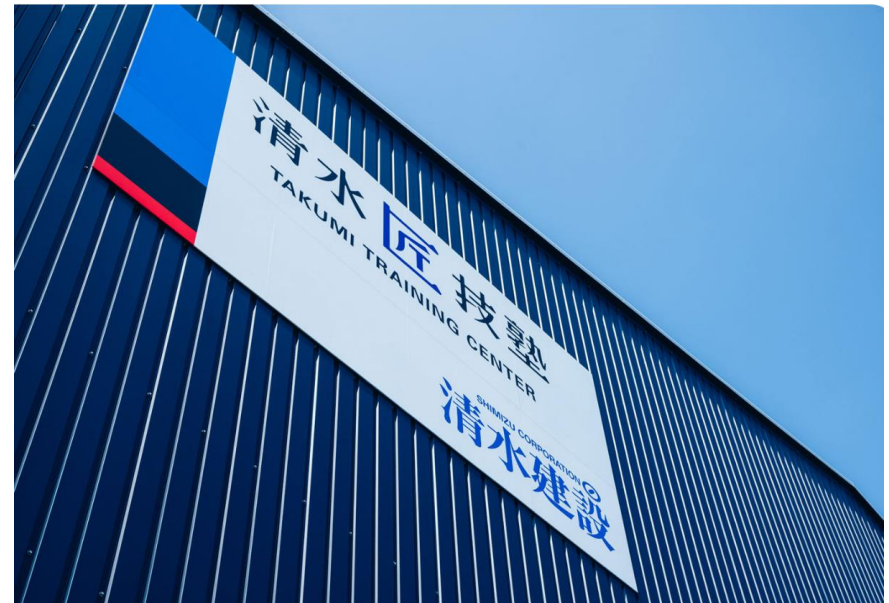


Kanekikai Young Division study group



Social contribution activities by Kanekikai Young Division members

2. Measures for Strengthening the Supply Chain



Skilled Worker Education and Training Facility 「 TAKUMI TRAINING CENTER 」

[Purpose of establishment]

To **secure and train skilled laborers of specialized construction companies as a workforce for the future** in the aim of **maintaining and securing a stable construction system** into the future **in response to concerns of a skilled worker shortage** at Shimizu work sites.

It has been in operation since July 2020 and has been used by **2,087 workers** to date (June 2022)

- ① **Eliminating labor shortages:**
Initiatives to develop **multiple skills, improve productivity**, and promote ICT tools
- ② **Support for entry into the workforce by young human resources, post-employment adaptation and retention**
- ③ **Improvement of skills** of skilled laborers and **development** of earning power



Building outline

Location : Funabashi-shi, Chiba

Total site area : 1,650m²

■ Classroom : S structure・2 floors,
total floor area 290.54m²

■ Work training area : S structure・1 floor,
total floor area 720m²

Characteristics of TAKUMI TRAINING CENTER

[Operations]

Development of activities tailored to the needs of the subcontractors **is led by the subcontractors**, while Shimizu provides **operational support** for the facilities that support the implementation of those activities.

Operations are carried out via a **collaborative system** that brings Shimizu and the subcontractors together.

[Tours]

In order to **secure and train a workforce for the future of the construction industry**, we actively hold **technical hands-on tours** for **technical high school students** and **children**.

This **helps lead** to a career path in the construction industry and support for entry into Kanekikai companies.



Kanekikai Youth Association members



Occupational experience for technical high school students

Human Resources Development for New Employees of Kanekikai Companies

Several years of **extensive human resource development** is provided for new hires at Kanekikai companies **as is provided for Shimizu employees**

Join Kanekikai company



New worker training
(at time of hiring)



(5-Day training)

First year follow-up training
(1 year later)



(1-Day training)

Second year follow-up training
(2 years later)



Further active roles
at Shimizu work sites



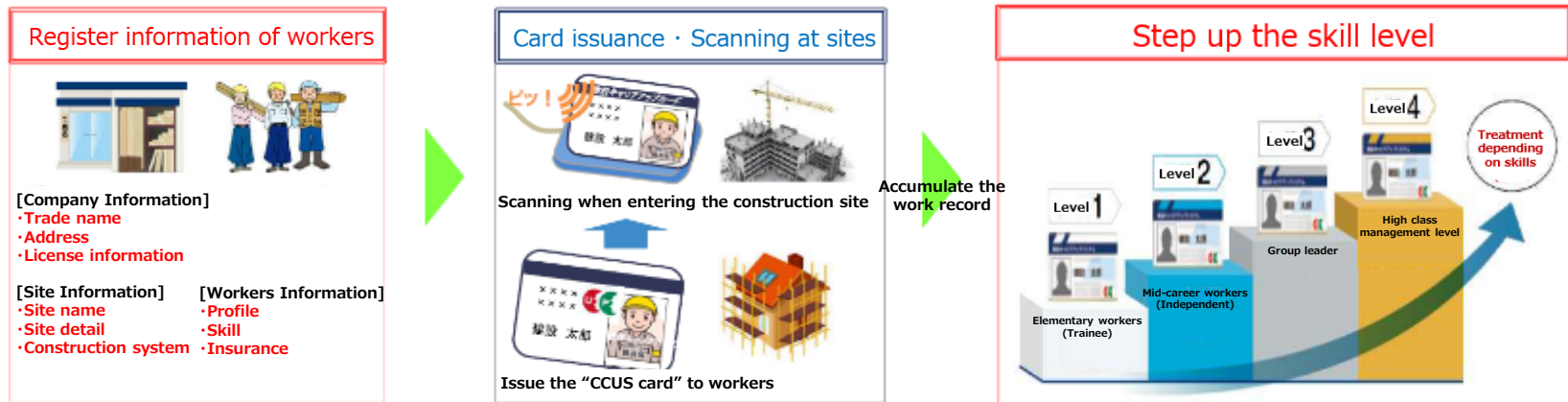
Construction Career Up System (CCUS)



【 Construction Career Up System (CCUS) 】

This system registers the employment record and qualifications of each skilled worker, which leads to fair evaluation of skills, improvement of construction quality, increased efficiency of on-site work, and more.

<Overview of CCUS>



Currently promoting three measures for full implementation of CCUS at all construction projects starting in FY2023

- (1) Full transition to CCUS in Retirement Allowance Mutual Aid System
- (2) In principle, utilization of CCUS to confirm social insurance coverage
- (3) Implementation of mandatory model construction under the direct control of the national government

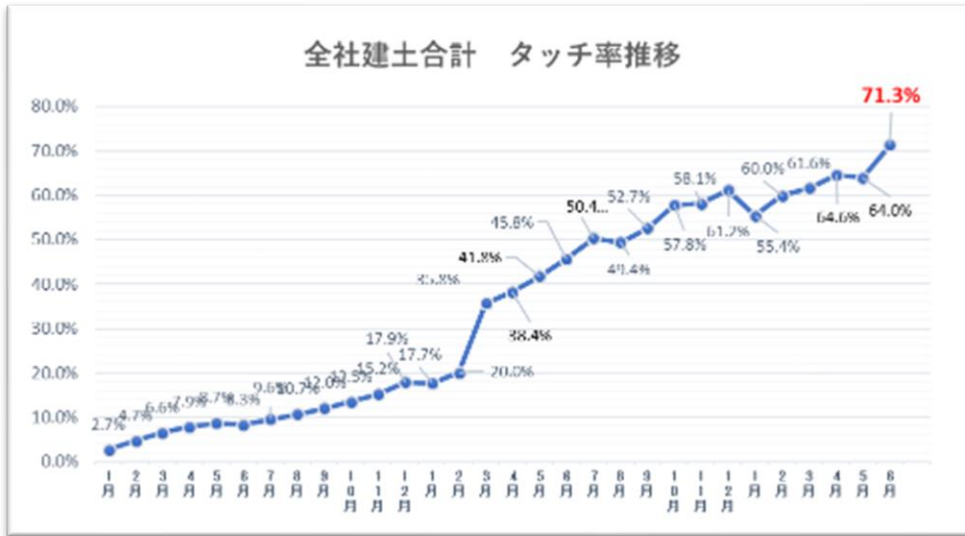


- Payment of skilled worker wages according to their level of skill
- Further improvement of convenience and productivity

CCUS Initiatives at Shimizu

As the chair of the Japan Federation of Construction Contractors (Chairman: Yoichi Miyamoto) and a key member of the association's Construction Career Advancement Promotion Division (General Manager: Kazuyuki Inoue), we will continue to promote and utilize CCUS to **visibly show** that construction is an attractive occupation and industry and contribute to the **sustainable development of the construction industry**.

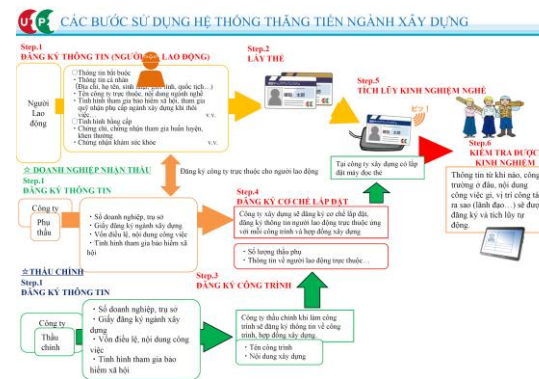
■ Current status of CCUS at Shimizu construction sites



Total number of touches at Shimizu work sites:
452,000
Approx. 14.1% touch rate in industry as a whole
(July 2022 results)



Kanekikai Young Division plays a central role in the spread of CCUS at work sites



Also preparing CCUS explanatory materials for skilled workers of other nationalities

(English, Chinese, Indonesian, Vietnamese, Burmese)

3. Collaboration for a Sustainable Future Society



Decarbonization Partner

脱炭素に取り組むパートナー企業の皆様へ

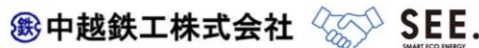


清水建設は、地球環境に配慮したサステナブルな社会の実現を目指しており、現在、脱炭素に取り組む企業と積極的なアライアンスを推進しております。

当社の脱炭素に向けた取り組みにご賛同いただき、当社のパートナーとしてサプライチェーンのメンバーに加わっていただける企業様のエントリーをお待ちしております。

エントリーする 取り組み事例 **NEW**

中越鉄工株式会社



中越鉄工株式会社が発電した再生可能エネルギーの価値を当社子会社SEE.が購入。
グリーン電力証書発行事業の普及拡大に向けて協業を開始



中越鉄工株式会社（以下、中越鉄工）は、工場の屋根に2019年よりソーラーパネルを設置しており、SDGsへの取り組みを強く推進されております。ソーラーパネルで発電した電力は工場の電力需要として全て消費し、環境負荷の低い経営に取り組まれています。

当社100%子会社であるスマートエコエナジー（以下、SEE.）は再生可能エネルギー電力及び環境価値の販売等の脱炭素ソリューション事業を展開していますが、中越鉄工が発電・消費した電力のうち、環境価値のみを「グリーン電力証書®」として取り出し、当社建設現場や環境先進企業等に提供するスキームを共同構築いたしました。この両社の取り組みは、当社グループとパートナー企業様との初の連携モデルであり、大変意義深い試みとなります。当社は今後もパートナー企業様との連携を強め、脱炭素社会に貢献して参ります。

※グリーン電力証書とは風力や太陽光、バイオマスなどの再生可能エネルギーで作ったグリーンな電気が持つ「環境価値」を「証書」化して取引すること。

- We are currently actively forming alliances with companies that are working on decarbonization in order to achieve carbon neutrality by 2050.
- Our subsidiary Smart Eco Energy (SEE) purchases renewable energy credits from Chuetsu Tekko Co., Ltd. We have launched collaboration on the spread of a renewable energy certificate issuance business.

中越鉄工株式会社

代表取締役社長 西村 大仁郎さん



現在、中越鉄工では、SDGsの推進、カーボンニュートラル社会の実現に向けて、様々な取り組みに着手しています。当社に今ある環境資源を最大限に活用し、建設業の発展に繋がる取り組みの一つとして、今回の協業をスタート致しました。

今後、自家消費型の発電所が更に拡大することが予想されます。今回の取り組みが広く認知され建設業の発展に繋がることを願っています。

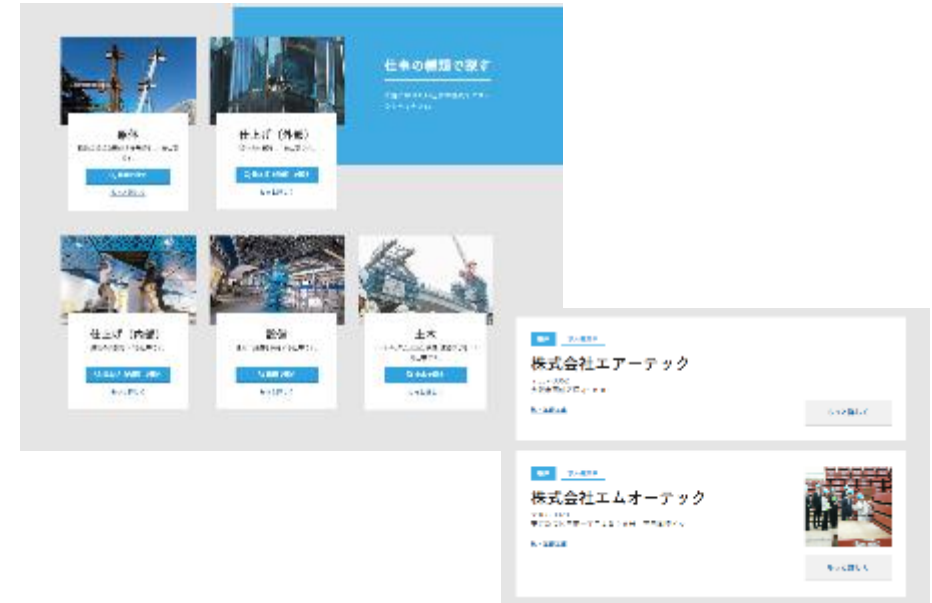


Support by Shimizu for Employment

“Jinsei Daiichi”
site introducing worker lifestyles



Subcontractor recruitment information site



Shimizu Group CSR Procurement Guidelines

In April 2022, we established the **Shimizu Group CSR Basic Procurement Policy** to build a sustainable supply chain with subcontractors that are good partners.

At the same time, we formulated the **Shimizu Group CSR Procurement Guidelines** to solve CSR challenges together, including legal compliance, respect for human rights, and environmental consideration.

[Guidelines]

- Compliance with laws and regulations and respect for social norms
- Fair, equitable, and good-faith transactions
- Building good partnerships with business partners
- Respect for human rights · Consideration for the environment
- Quality assurance · Promoting health and safety · Pursuing reasonable costs
- Ensuring information security · Contributions to society
- Disaster response · Improvement of internal system

Compliant with the JEITA Guidelines for Responsible Corporate Behavior, which many companies use as a reference for their CSR guidelines

This winter, we will conduct a **CSR survey** of around **1,300** of our main subcontractors, primarily those who are Kanekikai members
The results of the survey will be published on the corporate website when available.