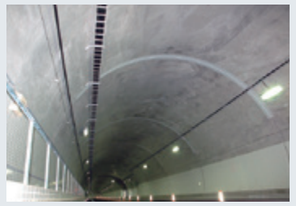
Broad Range of Structures We Work On

Inheriting and passing on social infrastructure to the next generation in good condition

We play an important role in the sustainability of cities by utilizing technologies acquired during more than 60 years in the infrastructure maintenance business for repairing and reinforcing a broad range of structures that are vital parts of the social infrastructure.

- Seismic retrofitting
- Prevention of concrete degradation

■ Bridges



- Prevention of ceiling and wall peeling
- Stop groundwater leaks

■ Tunnels

- Repair of expansion joints
- Noise reduction

■ Road structures

■ Harbor Quay

- Protection from salt damage
- Prevention of concrete degradation

■ Railways

- Repair of damage at elevated railways
- Seismic retrofitting

■ Irrigation Channels

- Prevention of cracking
- Prevention of water leaks

■ Water Supply and Sewer Systems

- Protection from corrosion

■ Buildings

- Seismic retrofitting

■ Silo

- Repair of wall surface degradation

History of SHO-BOND

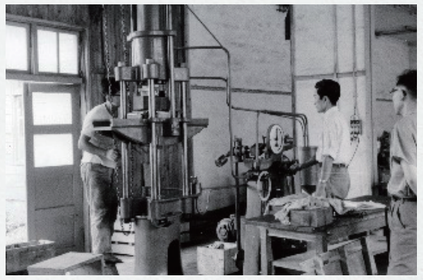
The Origin of “SHO-BOND”

Akira Ueda when Showa Kogyo was established

Showa Kogyo Corporation was established in Setagaya-ku, Tokyo on June 4, 1958 by Akira Ueda, who was 31 years old.

Initially, the main business was construction involving rigid PVC pipes. In 1959, Showa Kogyo quickly repaired cracks at the spillway of the Yakuwa Dam by using PVC boards and epoxy resin. This accomplishment led to the development in September 1959 of a high-strength epoxy resin adhesive (currently equivalent to #101 adhesive). This was followed by the development of adhesives for specific applications that used the registered trademark “SHO-BOND”. Production of these adhesives started in November 1959.

In 1960, the head office moved to Chiyoda-ku, Tokyo and the sale of “SHO-BOND” and construction processes using this material started. To sell this product for civil engineering applications, whole numbers were used for the ratios of base agents and hardeners for all versions of SHO-BOND. Synthetic resin adhesives were soon widely used at construction sites in Japan.



(left) The manufacture of “SHO-BOND” adhesives
(right) A SHO-BOND adhesive test at the Institute of Industrial Science, the University of Tokyo

The corporate DNA as a company specializing in infrastructure maintenance

In 1989, 31 years after its establishment, the stock listing was moved to the first section of the Tokyo Stock Exchange. This was the peak of Japan’s bubble economy as many companies were diversifying operations. At the Company-wide Sales Meeting, company president Akira Ueda declared that the company would focus exclusively on repair and reinforcement projects.

> We, SHO-BOND have dedicated ourselves to the comprehensive maintenance of concrete structures and this commitment will not change. We will steadily establish a sound foundation for business operations in this field. We do not deviate from the mission, do not branch out into other businesses in response to short-term trends, and concentrate on serving society.

The corporate DNA as an infrastructure maintenance specialist, based on growth prospects backed by the aging of Japan’s highway infrastructure, still defines the SHO-BOND Group today.

Akira Ueda at SHO-BOND’s 30th anniversary

History of SHO-BOND

1958-

The special website for SHO-BOND’s 60th anniversary (Japanese version only)
https://www.sho-bond.co.jp/60th/

June 4, 1958 Started operations as Showa Kogyo Corporation.

1963 The company was renamed SHO-BOND Co., Ltd. and the development of new products and construction methods started for the use of high-polymer materials at civil engineering and construction projects.

1964 SHO-BOND participated in the repair of cracks in the deck slab of the Showa Ohashi Bridge in Niigata, which collapsed during an earthquake shortly after the bridge was completed.

1964 Tokyo Olympics

1965 After a trial installation of the Cut-off Joint, an expansion device for highway bridge developed by SHO-BOND and Japan Highway Public Corporation, this innovation was used nationwide at expressway construction projects.

1965 Completion of the Meishin Expressway

1975 SHO-BOND split into two companies: SHO-BOND CORPORATION and SHO-BOND Chemical

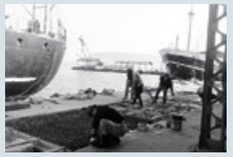
1977 Relocated the Central Technical Research Institute to Omiya (now the city of Saitama) and started strengthening R&D capabilities to reinforce SHO-BOND’s reputation as a technology-oriented organization. The institute develops new products and construction methods that combine chemical and civil engineering technologies.

1961 Founder Akira Ueda transports building materials to a dam construction site during a blizzard

1977 The Central Technical Research Institute in 1977

1981 The SHO-BOND BICS (Balloon Injection for Concrete Structures) Method for repairing cracks in concrete was used at the Japan-U.S. large earthquake resistance experiment at the Building Research Institute of the Ministry of Construction.

History of New Products and Construction Methods



1962 Concrete successive pour method using SHO-BOND #202 adhesive

1967 Installation of the Cut-off Joint at the Tomei Expressway Nagoya Interchange

1968 Developed and started sales of SHO-BOND Mini

1983 Developed the DD BICS Method

1982-

1982 Established an agreement with Straub, based on Switzerland, to manufacture Straub couplings in Japan.

1987 SHO-BOND was listed on the second section of the Tokyo Stock Exchange and moved to the first section in 1989 as progress continued as a provider of comprehensive maintenance services for concrete structures.

1989 Nikkei Stock Average reached an all-time high of ¥38,915

1995 Many elevated sections of the Hanshin Expressway collapsed during the 1995 Great Hanshin-Awaji Earthquake, but sections supported by columns with seismic reinforcement using SHO-BOND's steel plate jacketing method were not damaged. After this disaster, seismic reinforcement projects increased throughout Japan and SHO-BOND's sales and earnings increased significantly.

1995 The Great Hanshin-Awaji Earthquake

1996 The Technical Research Institute began operating. The development of new technologies and equipment at the institute for assessing durability and other properties have helped make SHO-BOND's construction methods and products even more reliable.

2005 Enactment of the Act on Promoting Quality Assurance in Public Works resulted in the use of a new evaluation method for the selection of winning bids by taking into account various considerations other than price. This gave SHO-BOND a big advantage due to the company's reliable technologies and long record of proven reliability at public-works projects.

1982 Signing the coupling manufacturing agreement with Straub

1991 Exterior work at the bridge over Nihonbashi

1995 A section of the Hanshin Expressway destroyed by the Great Hanshin-Awaji Earthquake

1995 Expressway columns reinforced shortly before the earthquake were intact

1996 The new Technical Research Institute

2008-

2008 Established SHO-BOND Holdings Co., Ltd.

2011 The Great East Japan Earthquake of 2011 showed the effectiveness of seismic reinforcement work that was done after the Great Hanshin-Awaji Earthquake. This disaster further increased the pace of work to make Japan's infrastructure more resistant to earthquakes. SHO-BOND established 12 regional construction subsidiaries (the Kako Group) as a framework for receiving orders from local governments.

2011 The Great East Japan Earthquake

2012 Sasago Tunnel ceiling collapse on the Chuo Expressway

2013 Amendment to the Road Traffic Act, and compilation of the Basic Plan for Life Extension of Infrastructure (the First Year of Social Infrastructures Maintenance)

2015 Beginning of the large-scale renewal and repair projects of expressway companies

2016 Kumamoto Earthquake

2017 Passing of Akira Ueda, founder and chairman.

2018 Reexamination of the Japanese government's Fundamental Plan for National Resilience

2019 SHO-BOND and MITSUI & CO., LTD. established SHO-BOND & MIT Infrastructure Maintenance Corp. (SB&M) to operate an infrastructure maintenance business outside Japan.

2020 SB&M and CPAC, a member of the Siam Cement Group of Thailand, established CPAC SB&M Lifetime Solution Co., Ltd. in Thailand.

2021 Opened the Tsukuba Training Center, which is adjacent to the Technical Research Institute.

2011 SHO-BOND's work at the Kobe Ohashi Bridge received a Technology Award from the Japan Society of Civil Engineers Kansai Branch

2011 Repairing Tohoku Shinkansen columns damaged by the Great East Japan Earthquake

2020 A trial construction project in Thailand

History of New Products and Construction Methods

1983 ST Joint

1997 Restraining Chain

2006 RAC-Sheet Method (prevents concrete degradation)

2006 Restraining Belt

2008 Shearing Stopper

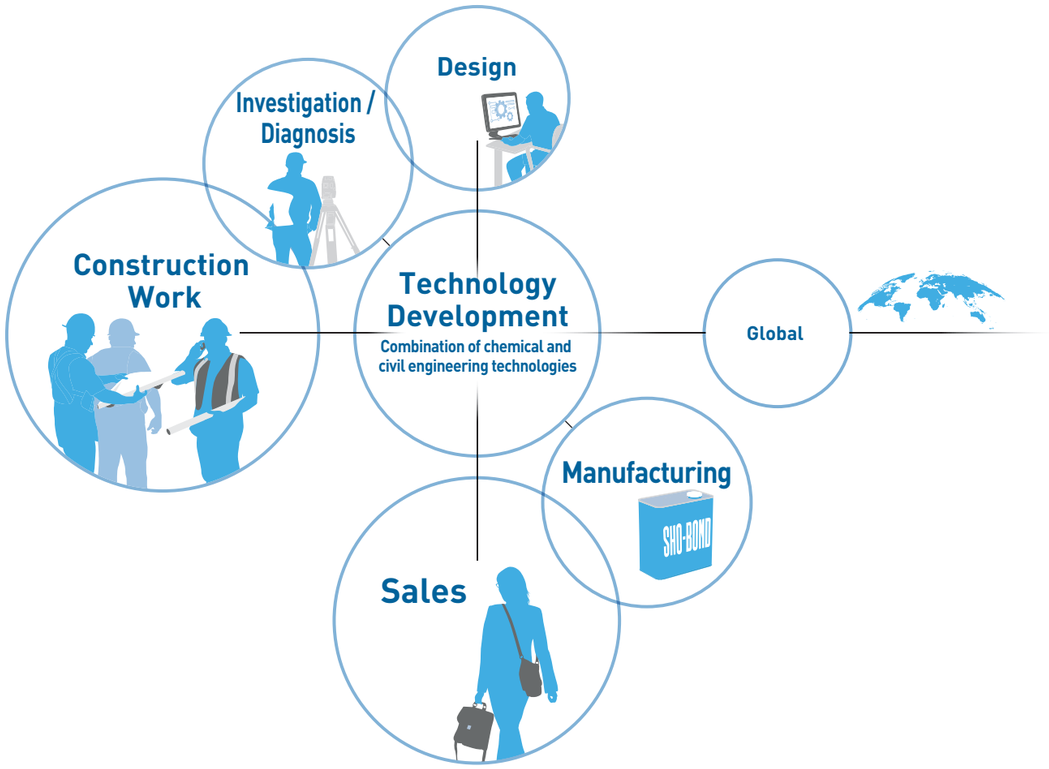
2011 AI Joint

2017 Clear Protect Method

2020 CPJ-L

Comprehensive Maintenance System

The SHO-BOND Group is a comprehensive maintenance company which specializes in repairing and reinforcing social infrastructures.
We provide extensive support in social infrastructure maintenance, with a focus on design and construction services as a construction company, together with services ranging from R&D of materials and construction methods, to manufacturing and sales of developed materials and construction methods.
The country's foremost and comprehensive maintenance system. This is SHO-BOND's characteristic, our strength.



Group Companies

SHO-BOND Holdings Co., Ltd.

- SHO-BOND CORPORATION Technical Research Institute
- SHO-BOND MATERIAL CO., LTD.
- SHO-BOND & MIT Infrastructure Maintenance Corporation (SB&M)
  - CPAC SB&M Lifetime Solution Co., Ltd.

KAKO-Group (Construction Subsidiary)

TOHOKU KAKO CORPORATION
KAKO CORPORATION
KANTO KAKO CORPORATION
YOKOHAMA KAKO CORPORATION
NIIGATA KAKO CORPORATION
CHUBU KAKO CORPORATION
KANSAI KAKO CORPORATION
CHUGOKU KAKO CORPORATION
SHIKOKU KAKO CORPORATION
KYUSHU KAKO CORPORATION

- Kyna-Tech
- Maintenance Technology Inc.
- SHO-BOND (HONG KONG) Ltd.

Business
https://www.sho-bondhd.jp/english/business/

Technology Development

Development of new construction methods and materials required by the times

We have a wide array of state-of-the-art research equipment specialized in repair and reinforcement. Our researchers specializing in chemistry and civil engineering work together with external research institutes to develop new construction methods and materials that meet the needs of the coming age.

Technical Research Institute (SHO-BOND CORPORATION)


Investigation / Diagnosis / Design

Exact proposals based on accurate investigation

We propose optimal design and construction methods by investigating and diagnosing, combining abundant knowledge and state-of-the-art technology in response to various structural damage problems.

Maintenance Technology Inc.


Construction Work

Construction system that can handle all types of construction

SHO-BOND CORPORATION handles large-scale, high-difficulty construction works, while construction subsidiaries (the KAKO-Group), which have their head offices in various locations, handle small and medium-scale construction works. We undertake maintenance works nationwide, regardless of scale or whether we are a main contract or a subcontractor.

SHO-BOND CORPORATION / KAKO-Group / Kyna-Tech


Manufacturing

Production system utilizing our factories and contract manufacturing

While manufacturing resin-based materials, which are our roots, in our factories, we develop and design structural construction materials in the Technical Research Institute and contract manufacturing to partner companies (fabless). We have an efficient and asset-light production system.

SHO-BOND MATERIAL CO., LTD.


Sales

Sales of a wide variety of repair and reinforcement products

Product sales and construction work are the two pillars of our businesses. With a lineup of organic, inorganic, and structural materials, our group companies approach a wide range of customers to expand our sales channels.

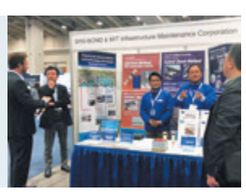
Group companies


Global

Bringing Japanese maintenance technology overseas

We take on the challenge of solving the social issue of aging infrastructure faced by many countries by combining our technological expertise in infrastructure maintenance with the network and business development capabilities of MITSUI & CO., LTD.

SB&M




Corporate Philosophy

With a sense of mission of “Inheriting and passing on social infrastructure to the next generation in good condition,” we will contribute to the realization of a safe and affluent society by utilizing our advanced technological development capability as a leading company in the structure maintenance business.

Social Issues

Accelerated aging of infrastructure

Increasingly severe and frequent natural disasters

Realization of a decarbonized society

Declining birthrate, aging population, and decreasing workforce

Heightened geopolitical risks and changes in economic conditions in Japan and overseas

Inputs

Financial capital
- Sound financial base with high profitability

Manufactured capital
- The Group’s strength for comprehensive infrastructure maintenance
- Construction methods and materials specialized in repair and reinforcement

Intellectual capital
- Accumulated technological development capabilities and knowledge centered on Technical Research Institute

Human capital
- Experienced and highly skilled engineers
- Multi-skilled workers with strengths as maintenance specialists

Social and relationship capital
- Engagement with stakeholders
- Strong network with partner companies

Natural capital
- Maintenance work with reduced environmental impact

Business Model

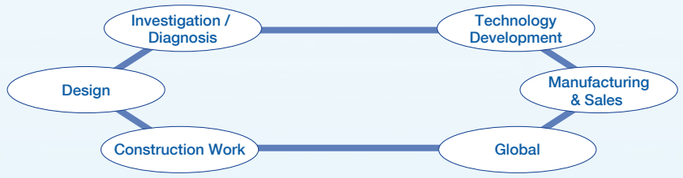
Our Vision

Fulfill our mission as a company specializing in maintenance

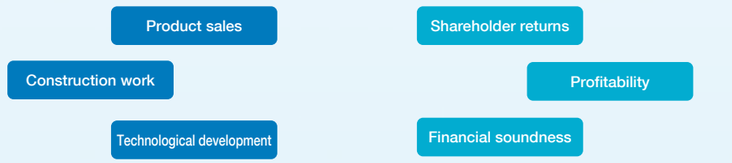
Be a technology-oriented organization
that combines chemical and civil engineering technologies to create new materials and construction methods

Place priority on profitability and efficiency

Comprehensive Maintenance



“Honing our inherent strengths what it is that makes us SHO-BOND”



Materiality

Comprehensive maintenance system backed by the organizational capabilities	Productivity improvement through technology development	Sound governance and measures for more improvements	Contribution to the development of sustainable cities

Contribution to society — Internal activities — Contribution to society

Outcomes

Resolution of social issues
- Measures against aging through preventive infrastructure maintenance
- Establishment of a safe and secure national, regional, and economic society with resilience
- Creation of sustainable and livable cities
- Curbing of greenhouse gas emissions (Reduction of environmental impact)

Improvement of economic value
- Sales ····· ¥87.5 billion
- Profit attributable to owners of parent ····· ¥12.0 billion
- ROE ····· 12%
- Total return ratio ····· 75%

Medium-term Business Plan (FY2022 - FY2024)

Mission

Inheriting and passing on social infrastructure to the next generation in good condition

Business Environment

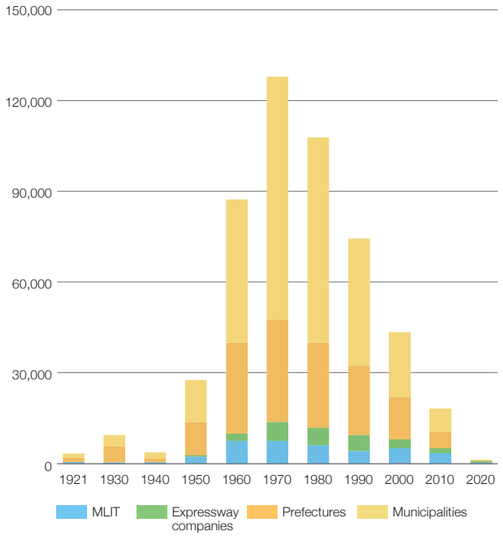
Accelerated Aging of Infrastructure

Most of the infrastructure in Japan was built after the high economic growth period, and its aging is expected to accelerate in the future.
In response to these social issues, national and local governments are taking action nationwide to formulate plans for appropriately maintaining, managing, and renewing infrastructure and extending the service life.

Number of Bridges by Year of Construction

Total: Approx. 500,000 bridges

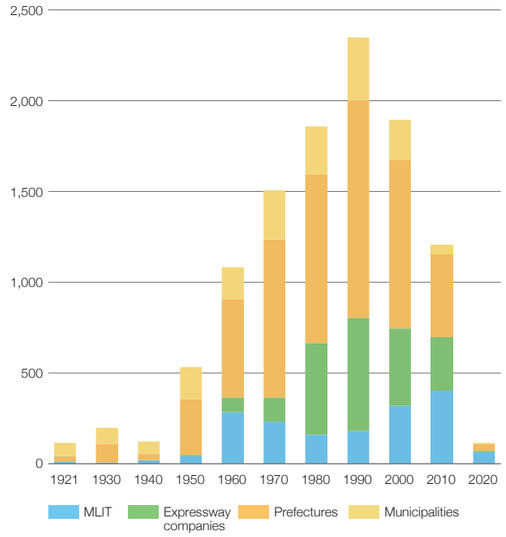
Average age: **43** years
(As of 2022)



Number of Tunnels by Year of Construction

Total: Approx. 10,000 tunnels

Average age: **35** years
(As of 2022)



Notes:
1. Prepared by SHO-BOND based on MLIT data
2. Number of managed facilities by road administrator
3. In addition to the above, there are approximately 230,000 bridges and 400 tunnels whose construction year is unknown.

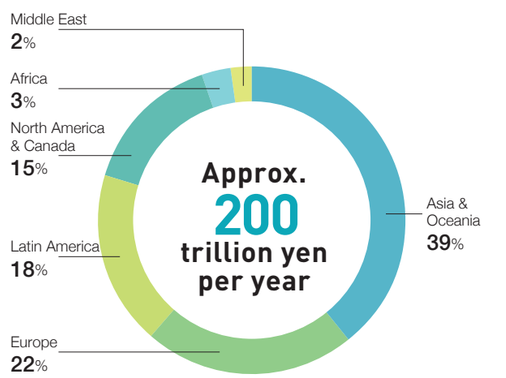
Estimated Costs of Domestic Infrastructure Maintenance and Renewal

MLIT	194.6 trillion yen
Railway companies	38.4 trillion yen
MAFF	29.3 trillion yen
Expressway companies	19.4 trillion yen

2018-2048 **282 trillion yen**

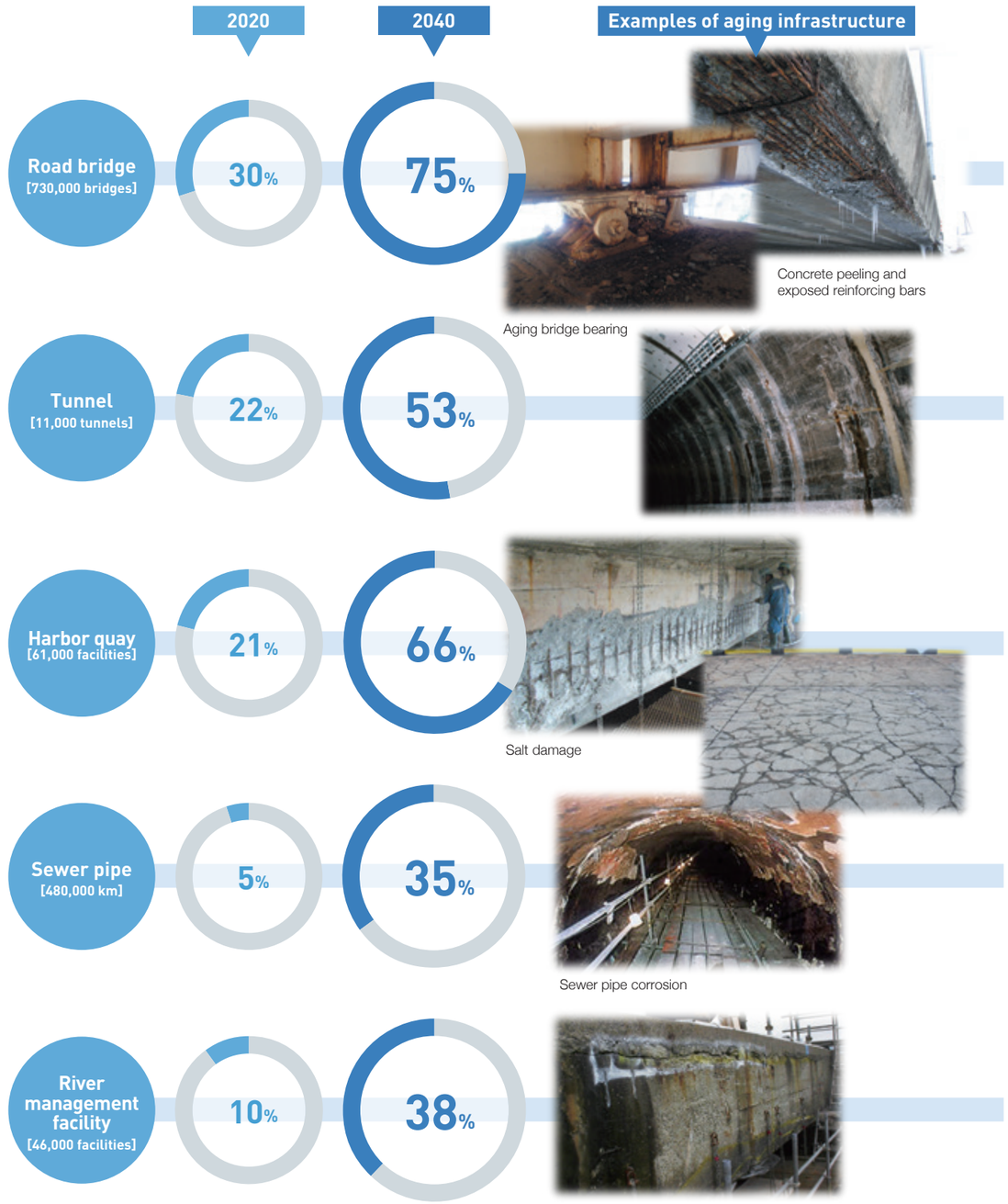
Note: Based on FY2019 and FY2020 estimates. The maximum amount of infrastructure maintenance/renewal expenses during the next 30 years is estimated based on the preventive maintenance concepts of various organizations. These expenses for MLIT are about 50% higher after 30 years when this estimate is based on the corrective maintenance concepts. (Source: National government materials, newspaper articles and other sources)

Estimated Market Size of Overseas Infrastructure Maintenance



Source: Prepared by SHO-BOND based on MLIT data

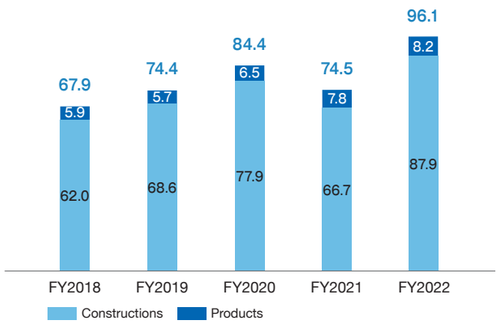
Percentage of Structural Infrastructures Built More Than 50 Years Ago



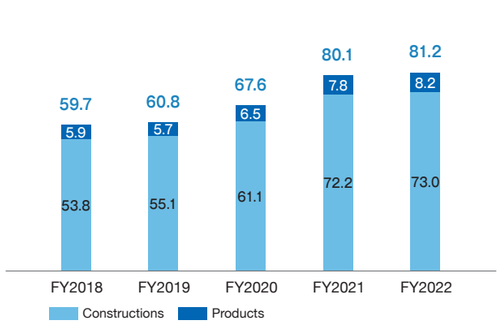
Financial and Non-financial Highlights

Financial

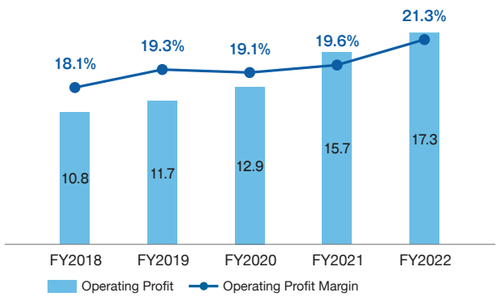
Orders (¥bn)



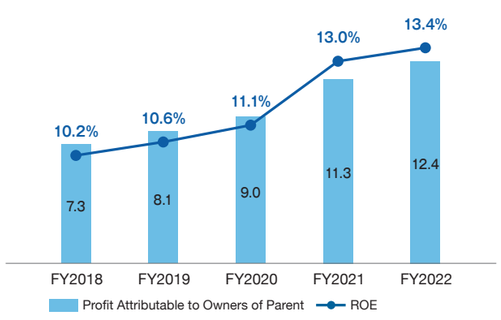
Net Sales (¥bn)



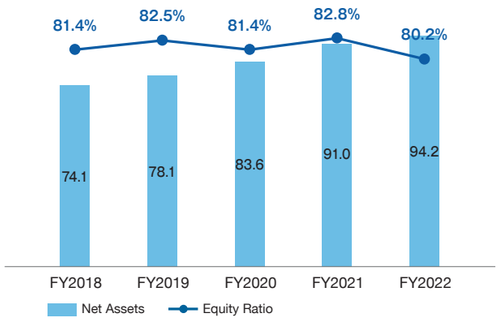
Operating Profit (¥bn) / Operating Profit Margin



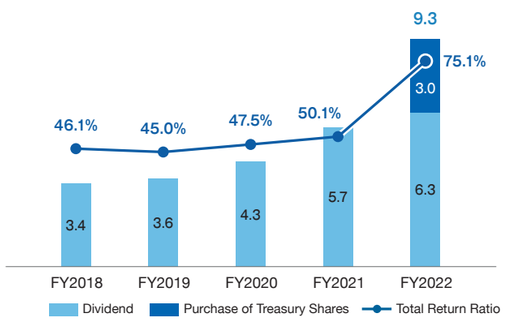
Profit Attributable to Owners of Parent (¥bn) / ROE



Net Assets (¥bn) / Equity Ratio

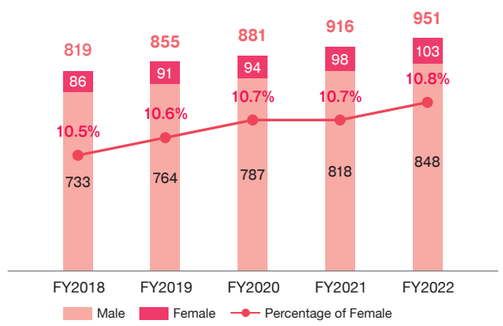


Dividend (¥bn) / Purchase of Treasury Shares (¥bn) / Total Return Ratio

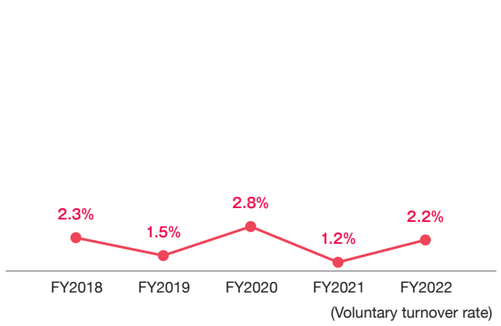


Non-financial

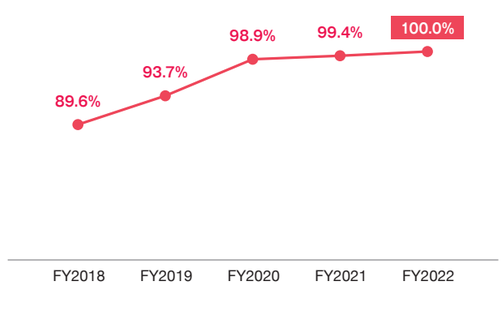
Number of Employees



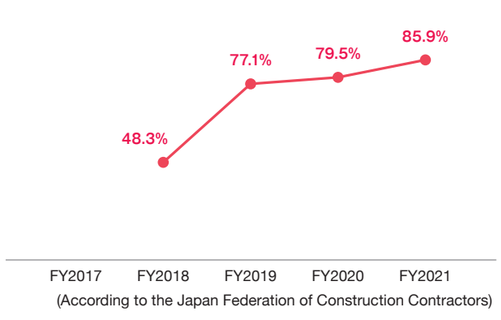
Turnover Rate



Percentage of Employees Taking 100 or More Days Off per Year

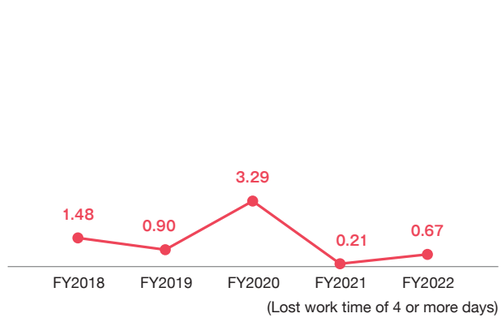


Percentage of Construction Sites where "8 Days Off in 4 Weeks" is Achieved



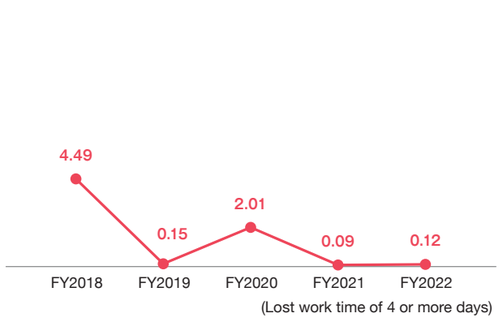
(According to the Japan Federation of Construction Contractors)

Lost Time Injury (LTI) Frequency Rate



(Lost work time of 4 or more days)

Lost Time Injury (LTI) Severity Rate



(Lost work time of 4 or more days)