January 11, 2024

For immediate release

Mitsui Fudosan Co., Ltd.
Takenaka Corporation

Construction Begins on the Largest and Tallest Timber Rental Office Building in Japan

"Creating a Forest in Nihonbashi": Contributing to the Realization of a Sustainable Society Through the Creation of "Never-ending Forests"

Key Points of this Press Release

1. **Construction begins on Japan's largest and tallest timber rental office building at 18 floors above ground, height of 84 m, and a total floor area of approximately 28,000 m^2**

   Introducing a number of timber construction and fire resistance technologies that will be applied for the first time in Japan, this building utilizes over 1,100 ㎥ of Japanese timber materials as structural materials, including timber from forests owned by the Mitsui Fudosan Group. It is estimated that this will effectively reduce CO_2 emissions during construction of the framing by approximately 30%[*1] compared to the typical steel-framed office building of the same size.

2. **Mitsui Fudosan strives to create new values unique to a timber office building under the concept of "Creating a Forest in Nihonbashi"**

   - A portion of the timber from the approximately 5,000 hectares of forestland in Hokkaido owned by the Mitsui Fudosan Group will be used as structural, interior, and finishing materials, contributing to the creation of "never-ending forests" through the cycle of planting, cultivating, and using wood
   - Mitsui Fudosan aims to create a building where people can feel the tranquility and warmth of wood with all their senses, an office where workers will want to go to, offering higher productivity and other advantages that can only be achieved through working at a timber office building
   - Through the development of green sidewalks and environments that preserve biodiversity, this project creates a new scenic green site where office workers, visitors, and area residents can relax in the heart of the city.
   - In addition to targeting ZEB Ready certification and certification from the Association for Business Innovation in Harmony with Nature and Community® (ABINC Certification), as a next-generation environmentally friendly office building, this project will incorporate advanced initiatives including the deployment of film-type perovskite

Tokyo, Japan, January 11, 2024 – Mitsui Fudosan Co., Ltd., a leading global real estate company headquartered in Tokyo, announced today that on January 4, construction began on its Nihonbashi Honcho 1-chome 3 Project (tentative name), currently underway in Nihonbashi, Chuo-ku, Tokyo. Design and construction are being undertaken by Takenaka Corporation, with completion scheduled for 2026.

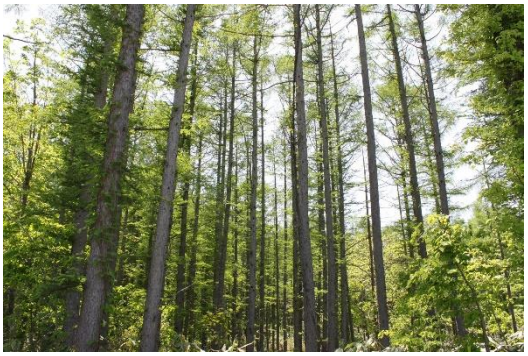
(Left) Perspective drawing of the completed exterior
(Right) Perspective drawing of the completed entrance hall

◆Background and Significance of the Project

Based on its philosophy of seeking to link diverse values, coexist in harmony with society and achieve a sustainable society, as symbolized by its "&" logo, the Mitsui Fudosan Group has adopted "& Earth" as its Group Vision, and is working to foster social and economic development as well as global environmental preservation. As one aspect of these conservation activities, the group owns approximately 5,000 hectares (equivalent in area to approx. 1,063 Tokyo Domes) and is implementing an ongoing cycle of creating sustainable, "never-ending forests,"*2 which involves the steps of planting, cultivating, and using.

This project is the Mitsui Fudosan Group's first timber rental office building aimed to put this "never-ending forest" creation cycle into practice. As the Japanese forestry industry faces the difficulty of utilizing timber that has been systematically harvested with the arrival of optimal harvesting season, and timber thinned as part of forest maintenance, this project will use more than 1,100 m^3 of domestic timber for structural material, including about 100 m^3 from forests owned by the Mitsui Fudosan Group. The project will also make proactive use of timber from those forests for finishing and interior materials. Through the challenge of building one of the largest timber buildings in Japan using timber, Mitsui Fudosan aims to contribute to a sustainable, virtuous cycle of forest resources and the local economy.

Mitsui Fudosan Group is Creating "Never-Ending Forests"



Forest owned by Mitsui Fudosan Group
in Akaigawa Village, Hokkaido

◆Project Feature

1. Japan's largest, tallest timber rental office building

This project constructs Japan's largest and tallest timber rental office building at 18 floors above ground, height of 84 m, and a total floor area of approximately 28,000 ㎡. The amount of timber to be used is one of the largest in Japan, at over 1,100 m^3, and the project is expected to fix approximately 800t-CO_2. Compared to a typical steel-frame office building of the same size, it is estimated that this architecture will effectively reduce CO_2 emissions by approximately 30% within construction of the building frame.

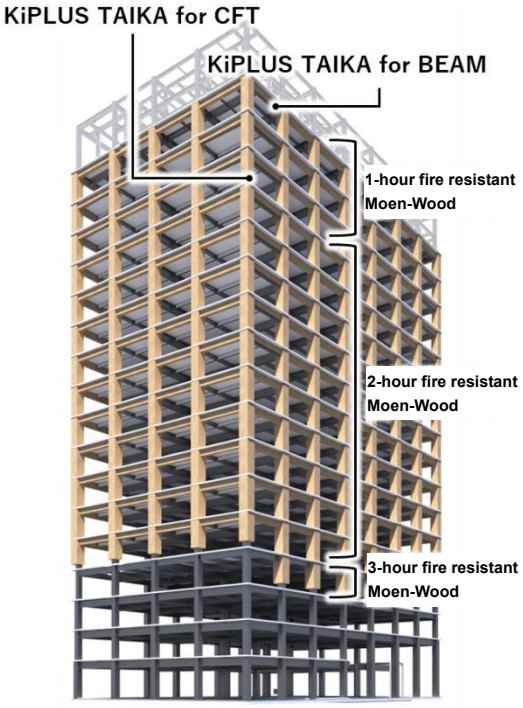
In addition, this will be the first office building property where the amount CO_2 emissions will be calculated by applying the "Manual for Calculating GHG Emissions During Construction,"[*3] formulated by the Real Estate Companies Association of Japan based on a manual created by Mitsui Fudosan and Nikken Sekkei Ltd.

Perspective drawing of the completed Low-rise exterior on the west side

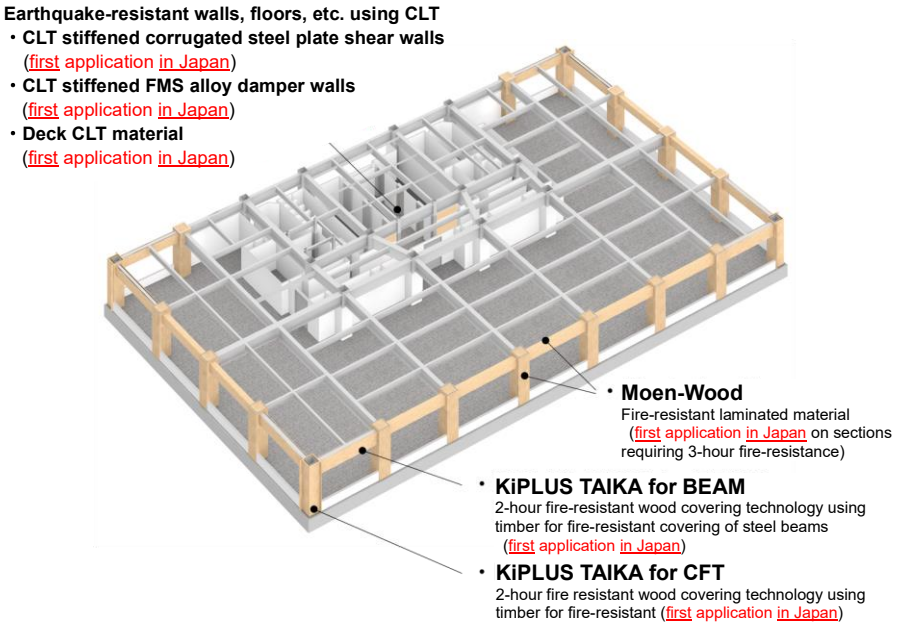
(1) Introduction of numerous timber construction and fire resistance technologies that will be applied for the first time in Japan

To realize this hybrid timber building, Mitsui Fudosan will deploy Ministry-certified fire-resistance and timber construction technologies developed by Takenaka Corporation utilizing timber as an essential structural material. For its use of timber construction technologies at the dissemination stage, the project has been chosen for the fiscal FY2023 Program to Promote the Development of Outstanding Wooden Buildings sponsored by the Ministry of Land, Infrastructure, Transport and Tourism.

- Moen-Wood, a three-hour fire-resistant laminated material[*4]
- KiPLUS TAIKA for CFT and KiPLUS TAIKA for BEAM, using wood for fire-resistant covering of steel framing[*4, *5]
- Earthquake-resistant and seismic damper walls using CLT[*6])



Structural Overview



Fire resistance and timber construction technology

(2) An "office where workers will want to go to," with features unique to a timber office building

This project will realize a timber office building that makes proactive use of wood not only as a structural material, but as an interior and finishing material as well, allowing people to feel the unique tranquility and warmth of wood with all of their senses.

The entrance hall will be a refined atrium space. Walls will be made of timber from forestlands owned by the Mitsui Fudosan Group, while ceilings will utilize a wood joining technology[*7] developed by Mitsui Home Co., Ltd. In addition, in dedicated office areas, wooden structural materials will be made visible, creating an office environment in which people can touch and smell the wood as they work.

Perspective drawing of dedicated office space (image)

Regarding the use of wood in office spaces, there is much attention on "biophilic design," a design approach based on the idea that people naturally want to feel a connection with nature. In particular, it is expected to improve office worker productivity, and academic research[*8] is underway on the connection between switching to woode office interiors and improvements in workers' concentration and reduced stress level.

Currently, as part of a joint research by the Mitsui Fudosan UTokyo Laboratory—an industry-academia collaboration project between Mitsui Fudosan and the University of Tokyo—Mitsui Fudosan is working with Associate Professor Yuko Tsunetsugu of the Department of Biomaterial Sciences, Graduate School of Agricultural and Life Sciences, to advance empirical research aimed scientifically prove how wooden spaces affect the body. Going forward, Mitsui Fudosan will continue this collaboration as part of this project in pursuit of the comfort and ease of working spaces that only timber office buildings can offer.

(Comment from Associate Professor Yuko Tsunetsugu of the Department of Biomaterial Sciences, Graduate School of Agricultural and Life Sciences, the University of Tokyo)

Area of expertise in wood environmental science. Studies the impact on people of wood and environments using wood on people, and quantitatively assesses the effect of the use of wood on global environmental preservation.

"We are beginning to understand that the appearance, smell and texture of wood have relaxing effects, including a lowering of blood pressure and heart rate. Biophilic design is attracting attention for leveraging such power of wood wood and in nature. Studies have shown that people today spend more than 90% of their time indoors, and how we go about incorporating natural elements in architecture and indoor spaces has become an important issue.

It is important to examine the short- and long-term impact of wooden spaces on us, both in the field and through research. If we are able to obtain on-site data through this project, including user evaluations and management advantages, it will be of great significance in uncovering the potential benefits of wood and its value."

Perspective drawing of dedicated office space (image)

(3) Mitsui Fudosan's first urban laboratory and office in Nihonbashi, one of Japan's leading areas for life sciences and business

Part of the floors will be designed as MITSUI LINK-Lab*9, which will be Mitsui Fudosan's first urban rental laboratory and office space in Nihonbashi. Mitsui Fudosan, together with members from academia and other fields, launched the Life Science Innovation Network Japan ("LINK-J") in 2016 and has established a thriving community with 761 members (as of December 31, 2023). In Nihonbashi, which also serves as the center of LINK-J activities, this project will provide a highly rare, full-scale research environment, primarily for companies in the life sciences field.

MITSUI LINK-Lab SHINKIBA 2 (reference)

2. Creating a new green site in the urban center

(1) A plan for lush plantings that lead to the preservation of biodiversity

Based on the concept of "creating a forest in Nihonbashi," this project will create a green space of approximately 480 m^2 as a new green site in Nihonbashi, with a lushly planted walking space where office workers, visitors and area residents can feel close to nature. Tree species will be selected to promote the creation of a biodiversity-friendly environment where butterflies and other creatures can easily live in the heart of the city, while remaining conscious of harmonizing with the local landscape.

Through these efforts, Mitsui Fudosan aims to obtain certification from the Association for Business Innovation in Harmony with Nature and Community® (ABINC Certification)*10 with a greening plan that allows people to feel nature even in the heart of the city.

Perspective drawing of the completed east side public space

Perspective drawing of the completed north side low-rise section exterior

(2) Deployment of new technology in greening rooftops

The rooftop of this project will be equipped with a state-of-the-art hydroponic growing system using organic fertilizers, as well as deployment of a system for planting sweet potatoes around external air conditioning units, which is expected to save energy in heating and cooling equipment.

The hydroponic cultivation system will deploy technology[*11] developed by NewSpace Co., Ltd. that will allow for environmentally friendly organic farming methods. While many conventional hydroponic systems use chemical fertilizers, this project will take on the challenge of creating a production system in the urban center with low environmental impact by cultivating without chemical fertilizers or pesticides. This will be the first installation of a rooftop hydroponic cultivation system using organic fertilizers on an office building in Japan.

Hydroponic growing system using organic fertilizers (image)
Source: NewSpace Co., Ltd.

The system for planting sweet potatoes around external air conditioning units[*12] will involve cultivating sweet potatoes around external units installed on the rooftop. This system is intended to reduce power consumption by lowering the temperature of the surrounding area through transpiration and shade created by the lush growth of leaves. This will be the first deployment of such system by the Mitsui Fudosan Group and will be undertaken as part of efforts toward a decarbonized society.

Rooftop system for planting sweet potatoes around external air conditioning units (image)
Source: Sumitomo Corporation

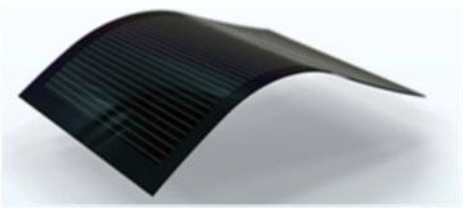
Technology developed jointly by Nikken Sekkei Ltd. and Sumitomo Corporation. Patent obtained in 2016.

3. A next-generation environmentally friendly office building incorporating cutting-edge technologies and products

Striving to realize a sustainable society, this project will proactively incorporate a variety of new technologies and products that are expected to be utilized across the real estate industry in the near future, and will also make active use of construction waste and recycled materials.

(1) Proof-of-concept testing of film-type perovskite solar cells

In this project, Mitsui Fudosan will work with Toshiba Energy Systems & Solutions Corporation to build and install a system of film-type perovskite solar cells.



Film-type perovskite solar cells (image)
Source: Toshiba Energy Systems & Solutions Corporation

Film-type perovskite solar cells are attracting attention as lightweight, flexible next-generation solar cells because they can be fabricated using printing technology on film substrates. The results of proof-of-concept testing through this project are expected to be utilized for a future full-scale rollout, aiming to applicate the system to new uses in places where conventional solar cells were difficult to be deployed, such as in urban office buildings.

(2) Installation of CO_2-absorbing vending machines

CO_2-absorbing vending machines from Asahi Soft Drinks Co., Ltd. will be installed in public areas of the project, a first for a new office building.

This product is equipped with a special material in the machine itself made from mining by-products that absorb CO_2 and is the first vending machine in Japan that absorbs CO_2 from the atmosphere simply by being installed. The amount of CO_2 absorbed per unit each year is expected to be up to 20% of CO_2 emissions generated by the electricity used to operate the unit, equivalent to the annual absorption of approximately 20 cedar trees (assuming an age of 56-60 years). It is expected that with more widespread installations going forward, this technology will contribute to the realization of a decarbonized society.

CO_2-absorbing vending machine (image)
Source: Asahi Soft Drinks Co., Ltd.

(3) Upcycling construction waste

This project is a model project under Takenaka Corporation's "Upcycling Construction Waste" initiative[*13]. By upcycling waste materials generated in the demolition of existing buildings and scrap materials from new construction into parts of buildings and their fixtures, Mitsui Fudosan will offer new values in its office buildings while working to achieve the sustainable development goals (SDGs).

<Upcycling example> Upcycled products may change with review going forward.

Bench made of trees (reference)
Source: Takenaka Corporation

Stone wall utilizing of concrete waste (reference)

(4) Use of environmentally friendly products

This project will make proactive use of environmentally friendly products in construction materials as well as interiors

Example of products planned for use	Details
ECM concrete[*4]	Concrete that can reduce concrete-derived CO_2 emissions by 60% by replacing some of the cement with a byproduct (blast furnace slag powder) generated in steel production
Eboldan[*4]	Uses recycled paper as a material. Noncombustible ducts are transported as flat sheets and assembled on site, reducing transport frequency, and cutting CO_2 emissions during manufacturing and transport
Soil-based paving blocks	Paving material that does not use cement Soil-based blocks that are both friendly to the environment and people, and that curb CO_2 emissions while using only natural materials
Fishing net carpet tile	Environmentally friendly floor carpet tiles made from recycled fishing nets, carpets, and other waste materials Reduces more CO_2 emissions more than common products

(5) Obtaining environmental certifications

In addition to the above efforts, Mitsui Fudosan aims to obtain the certifications noted below through initiatives such as the deployment of cutting-edge energy saving/creation technology.

- ZEB Ready Certification*14
- DBJ Green Building Certification (plan certification)*14
- S Rank under CASBEE Certification for Buildings (New Construction)*14
- Association for Business Innovation in Harmony with Nature and Community® Certification (ABINC Certification)*10

*1 Includes the amount of carbon dioxide fixed using wood, based on the Forestry Agency's "Guidelines for Labeling of Carbon Storage Amounts for Wood Used in Buildings," and the amount of CO_2 absorbed by trees planted after the harvest of trees used in manufacturing, based on the Forestry Agency's "Method for Calculating the Amount of Carbon Dioxide Absorbed by Forests."

*2 "Never-Ending Forests" Initiative by the Mitsui Fudosan Group https://www.mitsuifudosan.co.jp/and_forest/english/

*3 Press release regarding the distribution of a "Manual for Calculating GHG Emissions During Construction" by Mitsui Fudosan and Nikken Sekkei Ltd. https://www.mitsuifudosan.co.jp/corporate/news/2022/0331_03/

*4 Moen-Wood, KiPLUS, ECM Concrete and Eboldan are registered trademarks of Takenaka Corporation

*5 Japan's First Fire-Resistant Covering Technology for CFT Columns and Steel Beams Using Wood https://www.takenaka.co.jp/news/2023/10/03/

*6 CLT: Cross-Laminated Timber. A laminated panel material in which lamina are aligned in layers so that their grain runs at right angles to adjacent layers

*7 Wood-joining technology for large spaces by Mitsui Home Co. Ltd. https://www.mokuken.mitsuihome.co.jp/products/truss

*8 Survey in WORKPLACES: WELLNESS + WOOD = PRODUCTIVITY (Andrew Knox, Howard Parry-Husbands, Pollinate, 2018)

*9 Urban seeds proximity-type rental lab and office facility offered by Mitsui Fudosan https://www.mitsui-linklab.jp/

*10 Association for Business Innovation in Harmony with Nature and Community® Certification (ABINC Certification): A certification system designed to encourage harmony between nature and humans in corporate activities. Based on guidelines and other materials prepared by the Japan Business Initiative for Biodiversity, the Association for Business Innovation in Harmony with Nature and Community evaluates and certifies corporate efforts to create, manage and use green spaces that are biodiversity friendly.

*11 A chemical and pesticide-free cultivation system using organic fertilizers of natural origin. Proprietary temperature control technology enables the system to maintain the temperature of the plant root zone (nutrient solution) at a constant level, without being affected by the temperature.

*12 Technology developed jointly by Nikken Sekkei Ltd. and Sumitomo Corporation. Patent obtained in 2016.

*13 Efforts to add new value in the form of designs and ideas to waste that would normally be thrown away, transforming it into new, upgraded products.

*14 ZEB Ready Certification: Means reducing annual primary energy consumption by 50% or more

DBJ Green Building Certification: An environmental certification system for evaluating environmental and social considerations

CASBEE for Buildings (New Construction) Assessment Certification: An environmental certification system that comprehensively assesses the environmental performance of buildings and assigns a rating of "S," "A," "B+," or "B" (self-assessment planned)

【About the Sustainable Development Goals (SDGs)】

The Sustainable Development Goals (SDGs) are a series of international goals for the year 2030, adopted by a United Nations summit in 2015. They set out 169 targets across 17 goals, requiring a variety of entities to work together.

* The initiatives covered in this press release are contributing to eight of the UN's SDGs.

Goal 3	Good Health and Well-Being	Goal 11	Sustainable Cities and Communities
Goal 7	Affordable and Clean Energy	Goal 12	Responsible Consumption and Production
Goal 8	Decent Work and Economic Growth	Goal 13	Climate Action
Goal 9	Industry, Innovation and Infrastructure	Goal 15	Life On Land

【Project Overview】

Location	Nihonbashi Honcho 1-chome-3, Chuo-ku, Tokyo
Site Area	Approx. 2,500 m^2
Use	Offices, laboratories, shops
Total Floor Area	Approx. 28,000 m^2
Number of Floors and Height	18 floors above ground, 84 m
Standard Office Floor (dedicated area)	Approx. 1,180 m^2
Structure	Timber and steel frame construction
Architect	Takenaka Corporation
Constructor	Takenaka Corporation
Completion Date (planned)	September 2026

【Location Map】

【Mitsui Fudosan Group's Contribution to SDGs】 https://www.mitsuifudosan.co.jp/english/esg_csr/

The Mitsui Fudosan Group aims for a society that enriches both people and the planet under the principles of coexist in harmony with society, link diverse values and achieve a sustainable society, and advances business with an awareness of the environment (E), society (S) and governance (G), thus promoting ESG management. By further accelerating its ESG management, the Group will realize Society 5.0, which the Japanese government has been advocating, and contribute significantly to achieving the SDGs. Additionally, the Group formulated the following Group guidelines related to "Realize a Decarbonized Society" and "Diversity & Inclusion Promotion" in November 2021, and "Biodiversity" in March 2023. The Mitsui Fudosan Group will continue to work toward solving social issues through neighborhood creation.

【References】

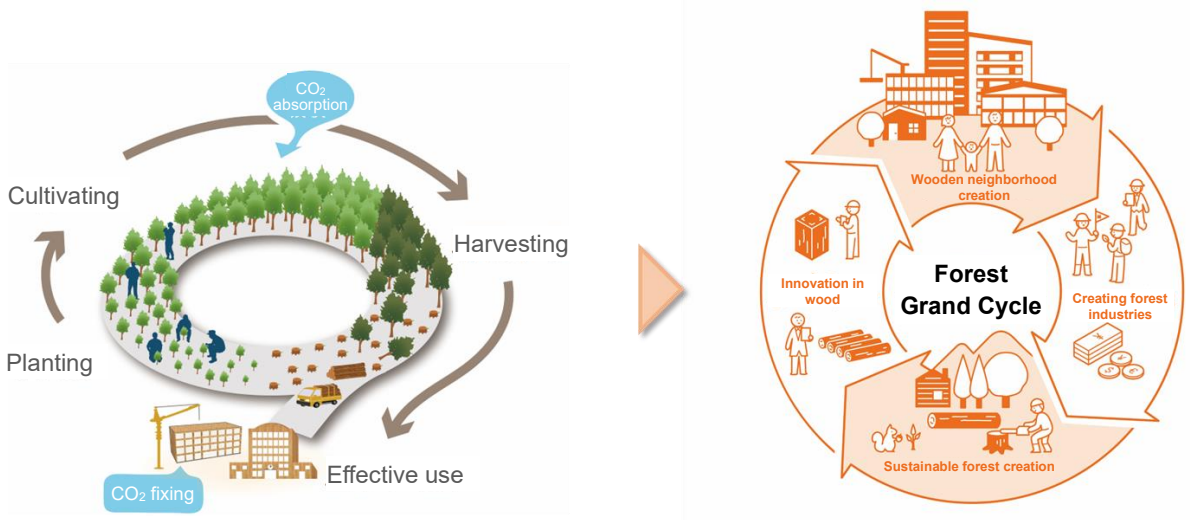
・Group Action Plan to Realize a Decarbonized Society
https://www.mitsuifudosan.co.jp/english/corporate/news/2021/1124/

・Formulated Diversity and Inclusion Promotion Declaration and Initiatives Policy
https://www.mitsuifudosan.co.jp/english/corporate/news/2021/1129_02/

・Mitsui Fudosan Group Biodiversity Policy
https://www.mitsuifudosan.co.jp/english/corporate/news/2023/0413/

【Takenaka Corporation Initiatives in Wooden Structures and Wood Construction】

Through technological innovation and the use of wood in its projects, Takenaka Corporation is promoting the economic circulation of Japan's forest resources and neighborhood creation that leads to regional development by solving problems related to forests in Japan. Urban buildings constructed of wood instead of steel and concrete are known as "urban wooden structures," and expected to serve as a model supporting the future of urban development. Through fire-resistant wood construction technologies and technologies for building medium- and high-rise wood structures, Takenaka Corporation works to promote the spread of wooden structures and wood-based construction and the utilization of domestic timber. The goal is to contribute to the realization of a decarbonized society by building the "Forest Grand Cycle," a sustainable, virtuous cycle of forest resources and regional economies.



From forest cycle to Forest Grand Cycle