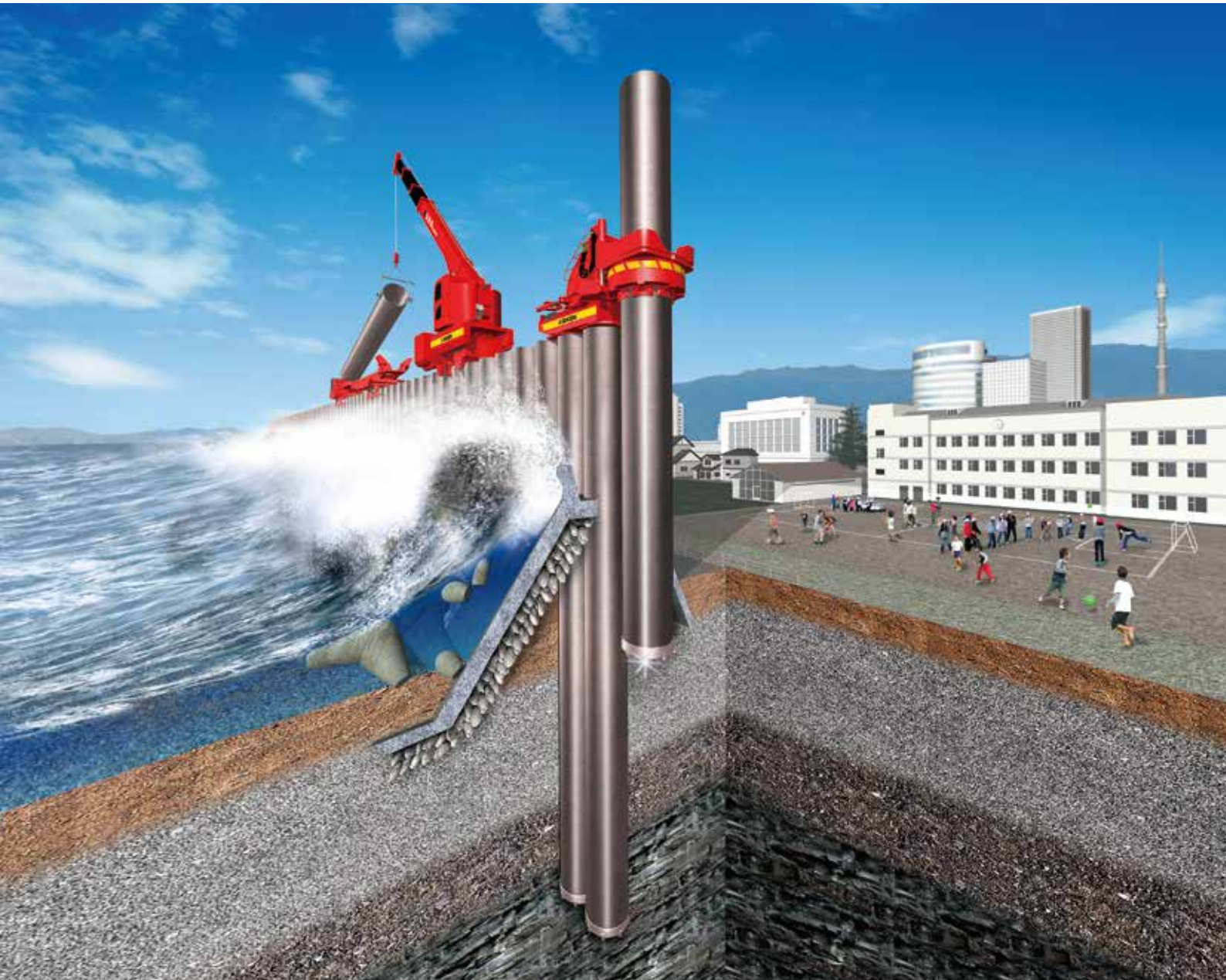
Construction Revolution

# The Implant Method Revolutionizing the Global Construction Industry

Corporate Profile

SEKO

GIKEN SEKO CO., LTD.



# Creating new value in construction to realize a safe and secure society

**The GIKEN Group was founded in 1967 with a dream of bringing mechanization and environmentally-friendly methods to construction. In 1975, GIKEN developed the SILENT PILER™ as the first ever environmentally-friendly pile press-in machine. It also established the Press-in Method of pile installation, which is a vibration- and noise-free method of construction that enables accurate placement of piles in a safe and compact space.**
**Since then, the Group has remained at the leading edge of a construction revolution that is changing construction globally. It has created a number of new construction methods and techniques based on the advantages of the press-in principle, and it provides high-quality press-in technologies from its position as head of the press-in movement.**

## Social business for the future

**GIKEN Group is contributing to the creation of a sustainable society, where the environment and civilization can coexist, by using its extensive experience and development capabilities to provide optimal solutions to society’ s many issues.**

※Skip Lock Method ＋ GRB System



# Making the impossible possible

The GIKEN Group has outstanding capabilities in terms of construction solutions, technical development, and construction management.
Based on its extensive experience, it is overcoming the constraints of sites that are generally impossible with any other construction method.

An innovation-oriented company creating new construction machines and methods based on the advantages of the press-in principle

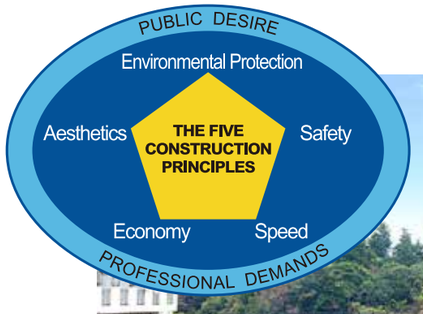
GIKEN
【GIKEN LTD.】

A development-oriented construction company implementing innovative construction methods using state-of-the-art machines

SEKO
【GIKEN SEKO CO., LTD.】

# High-level Compliance with New Construction Method

GIKEN promotes the Construction Revolution to establish new standards of delivery which surpass the current conventional approach.
Through consistent adherence to the “Five Construction Principles”, which includes consideration of environmental protection, safety, speed, economy and aesthetics in the form of a balanced equilateral pentagon, GIKEN works diligently to deliver a balanced approach to projects.
The balance is achieved by giving equal weight to the five principles at each stage of a project from conception through planning, design and construction phases.




※Skip Lock Method™ ・・・ A construction method in which piles are installed by skipping across the top of existing piles while retaining the advantages of the press-in principle
GRB System™ ・・・ A construction system in which all machinery operates from on top of existing piles, using reaction force by gripping already placed piles

# Disaster Prevention, Mitigation, and Recovery

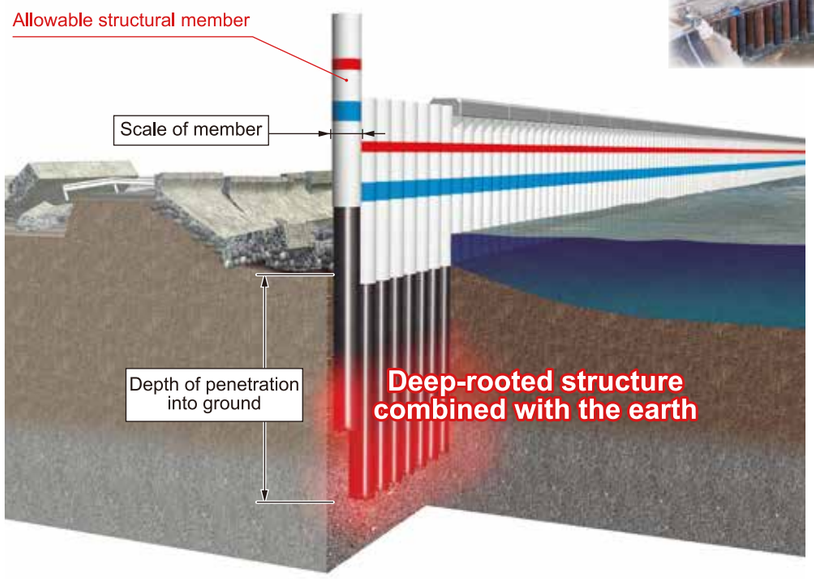
## Guarding land, life, culture, history, and property from disasters

Natural disasters have occurred frequently around the world over recent years, from earthquakes to tsunamis, volcanic eruptions, typhoons, heavy rains, floods, and landslides. Sounding a warning early on, GIKEN SEKO has been proposing preventive measures and recovery technologies based on the Implant™ Method, under the Guard Method™ and Rescue Method™ names, and developing a track record in Japan and overseas.

With the Great East Japan Earthquake providing an unexpected verification of these methods, the use of the Implant Method, which enables rapid construction of resilient disaster-mitigation infrastructure, has spread across Japan. Providing Functional Structure™ that promise to deliver the required functions, where and for as long as they are required, GIKEN SEKO is contributing to long-term continuation of business and society.


Gyropress Method™ + GRB System™+ Overhead Clearance Method


Gyropress Method™ + GRB System™

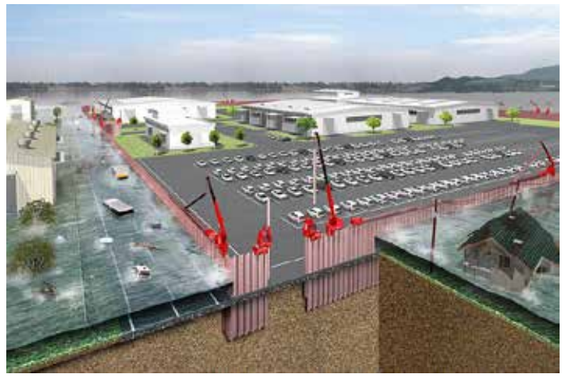





## Applications of the Implant Method protecting companies from disaster

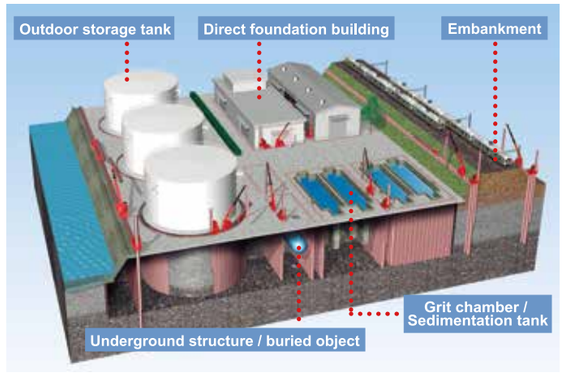
### Guard Method

Waterproof barriers around facilities to prevent water inflows and material discharges



### Confined ground seismic dampers

Dampers around critical infrastructure to prevent liquefaction-induced subsidence and lateral slippage




### Functional Structure lease/rental

A unique approach to leasing/renting Functional Structure

# International Business

## Global implementation and popularization of press-in construction technologies developed in Japan

GIKEN SEKO accepted its first overseas construction project in 1983 in the former West German city of Giessen. The following year, it undertook harbor improvement work in Port Louis, the capital city of Mauritius, a volcanic island in the Indian Ocean.
Since then, the company has successfully expanded the Press-in Method globally, even when environmental constraints are quite strict.

With a presence in six countries—Netherlands, Germany, USA, Singapore, Thailand, and China—at present, GIKEN SEKO has a track record of employing the Press-in Method in over 40 countries globally.

Going forward as well, it will continue implementing and popularizing trusted press-in technologies, that were developed in Japan, in diverse settings around the world.



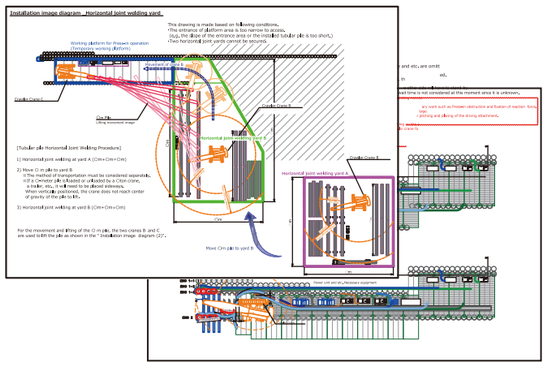

# Consulting

## Providing the know-how to achieve success onsite, and addressing issues in society through popularization of the Press-in Method

GIKEN SEKO has brought together and systematized construction know-how that it acquired around the world. From planning in advance of construction to arranging equipment and materials and managing construction, the company has the technologies and knowledge for achieving success in various types of worksites.
It is contributing to solutions for social issues globally, and to national disaster mitigation schemes, through an accurate understanding and popularization of the Press-in Method.

### Construction planning

| | |
|---|---|
| Advance planning | : Surveys of sites, reviews of construction, creation of construction plans, creation of operating budgets |
| Preparation of equipment and materials | : Creation of preparation lists, special auxiliary items |



### Onsite guidance

| | |
|---|---|
| Machine operation | : Operation, auto operation settings |
| Setup | : To enable workers to concentrate on press-in work |
| Management | : Work output management, work progress control |

# Technology Development

## Driving innovation with the Press-in Method, free from preconceived mindsets

GIKEN SEKO is developing new technologies and construction methods to expand the Press-in Method market further and improve productivity.
The department is working to find solutions to various issues by dividing the issues faced at challenging construction sites into three main themes.

By analyzing onsite issues and suggesting solutions, and then fully implementing them in-house through a process from design to verification testing and onsite implementation, it is able to solve issues in the shortest amount of time.

**Solutions to issues at challenging construction sites**

**3 themes**

- **Expanding construction site potential**
- **Improving working capacity**
- **Creating favorable conditions**

| Defining the issues | Proposing solutions | Design and manufacture | Verification testing | Onsite implementation |
|---|---|---|---|---|
| Issues that cannot be solved with current technologies | Propositions of specific solutions and special auxiliary items | Rapid progress through to manufacture | Where required, verification testing and confirmation through to onsite implementation | More efficient construction even at challenging sites |

### Development Achievements

**▶Expanding construction site potential**

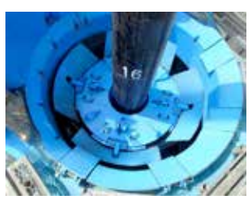
Creating new markets by overcoming the constraints of ground conditions and the surrounding environment, etc.

**▶Improving working capacity**

Developing and manufacturing equipment for pressing in as many piles as possible

**▶Creating favorable conditions**

Developing special auxiliary items that can reduce the number of construction workers and optimize the work

| Expanding construction | Improving working capacity | Creating favorable conditions |
|---|---|---|
|  |  |  |
| Construction method for waterproof walls between tubular piles based on the Gyropress Method™ | Holding Chuck | LS pipe attachments |
|  |  |  |
| Development of stronger cutting bits | Small Diameter Chuck | Reaction stand for the hydraulic |



# Underground Development

## Culture aboveground, function underground

The GIKEN Group developed ECO Park™, an earthquake-proof, fully automated mechanical underground car parking facility, and ECO Cycle™, the same for bicycles, under the concept of “culture aboveground, function underground.”

With press-in technologies developed over years by the Group, these systems are delivered as total packages offering everything from planning to construction and functional maintenance, and management after installation.
The role of GIKEN SEKO is to complete the construction part of these projects, from the press-in work required when constructing the frames to installation of mechanical equipment. The company has developed construction methods that use prefabrication, and do not need temporary works, to achieve rational and rapid construction. In this way, the continuous walls, constructed by installing piles in a cylindrical shape, can be used directly as earthquake-proof structural walls for the car and bicycle parking facilities.

**Completed projects**
(as of August 2022)

- **59 ECO Cycle units**
- **6 ECO Park units**

# Corporate Philosophy


## Implementing the “New 3Ks”

Japanese companies in the construction industry traditionally talk about the “3 Ks” of workplaces, being kitsui, kitanai, and kiken (difficult, dirty, and dangerous). As a leader of the new construction industry, GIKEN SEKO is advocating the new behavioral metrics of kakko-yoku, kashi-koku, and kimeta-tori-ni; the “New 3 Ks.”

美 **Kakko-yoku**
Emphasizing personal, systemic, and functional beauty

賢 **Kashi-koku**
Establishing intelligent parameters without waste

確 **Kimeta-tori-ni (as planned)**
Reliable technologies that deliver as planned

### Improving the working environment

Maintaining a clean and tidy working environment, from both physical and mental perspectives, enables work to be carried out accurately, safely, and efficiently. Improving the working environment has always been a pillar of corporate culture of GIKEN SEKO.

### M&M, a fusion of man and machine

Machines and tools help people do the things they cannot do by themselves. GIKEN Group implements an M&M (man and machine) policy of improving quality and productivity by appreciating machines and tools, and carefully maintaining them to ensure they continue delivering 100% of their original functionality.



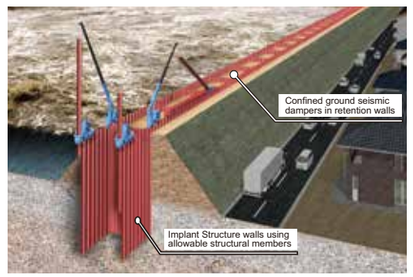
# Sustainability

## Growing individually and as a company by addressing social issues and contributing toward the achievement of the Sustainable Development Goals (SDGs)

By popularizing the Implant Method globally, GIKEN SEKO is reducing environmental impacts, protecting lives and property from earthquakes, tsunamis and other natural disasters, and contributing toward the achievement of the SDGs, which aim to create a sustainable society.

### Building robust infrastructure with high disaster resilience

GIKEN SEKO is developing robust and sustainable urban infrastructure by proposing and popularizing Implant Structure that can be built quickly and are highly resilient to earthquakes, tsunamis, and floods. Without requiring construction of temporary works, these structures enable rapid reconstruction even in dangerous, disaster-affected areas.




### Dramatically reducing $CO_2$ emissions through temporary work free construction

SILENT PILER is a self-moving press-in machine that completes the full press-in process while moving with all related equipment across the top of already installed piles. This eliminates the temporary works that are required with conventional construction methods, including manufacturing, transporting, installing and removing temporary materials. It also makes it possible to dramatically reduce $CO_2$ emissions while also reducing construction costs and construction periods.

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