

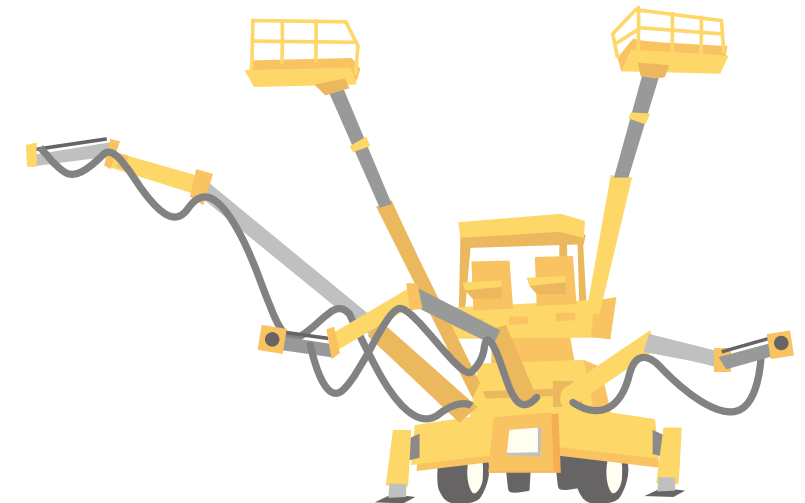
5 Minute Introduction to FURUKAWA

Also from
FURUKAWA!

Products

FURUKAWA products are supporting the foundations of industries but are also used in everyday life in places you would never imagine! Let us tell you how our products are used in various ways in our lives.

- ▶ Urban and Infrastructure Development 1
- ▶ Urban and Infrastructure Development 2
- ▶ Construction Sites, Cargo Handling and Logistics
- ▶ Providing Metals and Chemicals Indispensable to Industry
- ▶ Contributing to the IT and Electronics Industries
- ▶ Research & Development for our Future



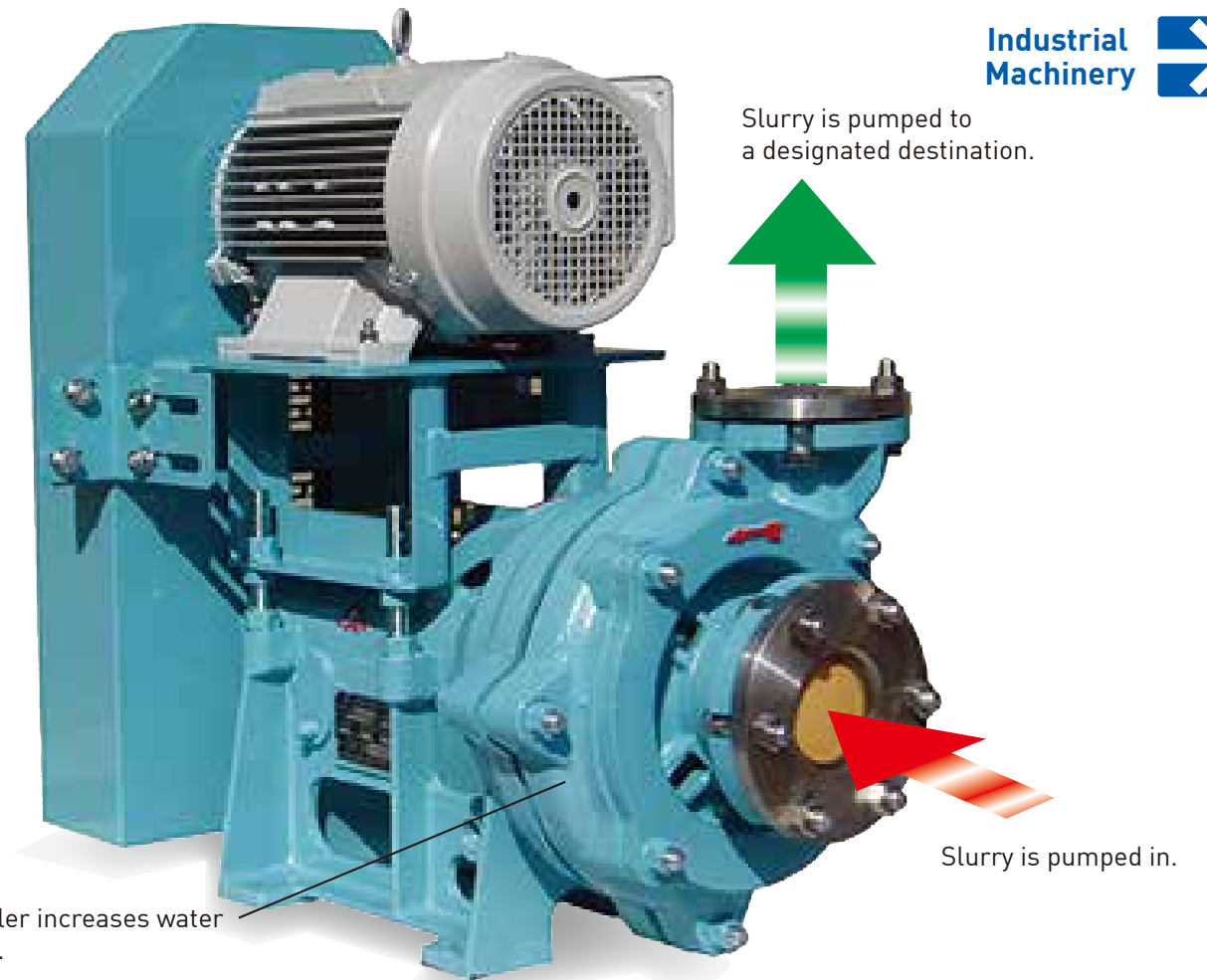


Pumps that made the construction of Tokyo Bay Aqua-Line possible



Pumps

Pumps to transport slurry (water mixed with stones, mud, metals, etc.) are a FURUKAWA specialty.



Used for the construction of Tsukuba Express and Bosphorus Strait tunnels

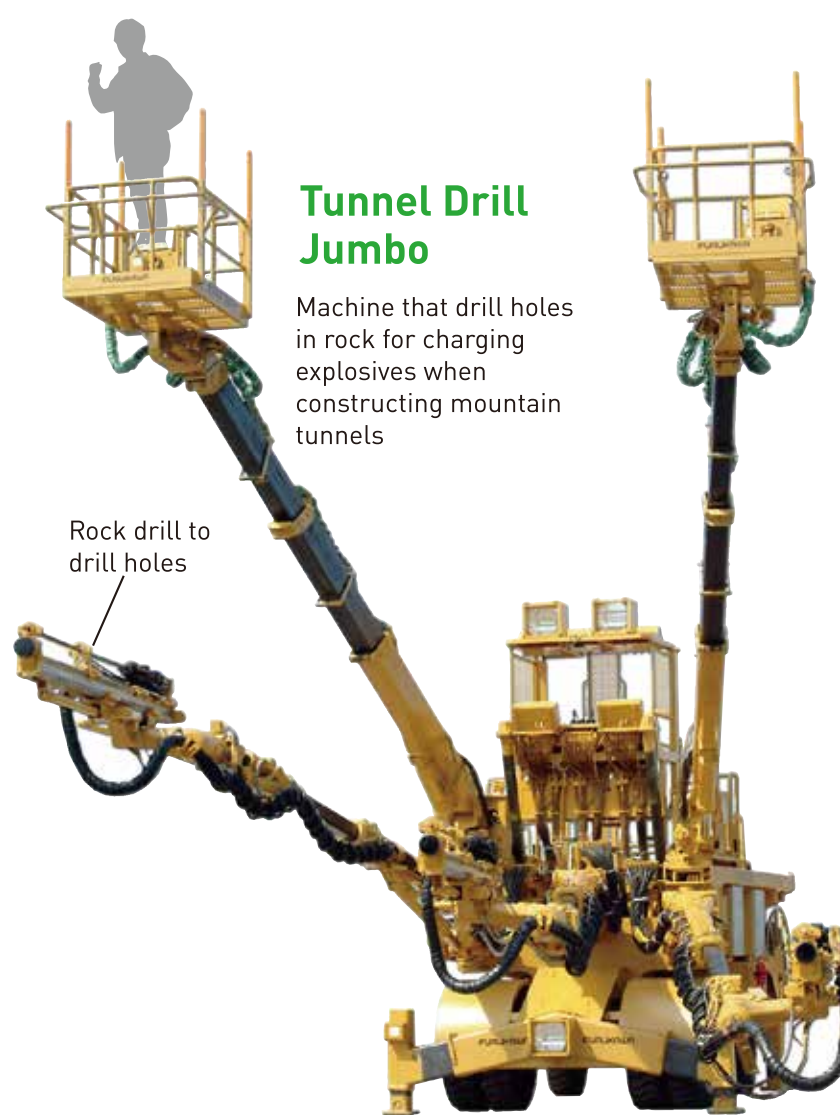
The slurry shield construction method can be said to be a major force in underground space development and FURUKAWA's slurry shield pumps are used to pump out watery soil using this method.

Our pumps have been used for shield tunnel construction in Japan and overseas including the Tokyo Bay Aqua-line, the Tsukuba Express and Bosphorus Straits tunnels and so on.

Most used pumps at sewage treatment plants across Japan

Our sludge transportation pumps, with dramatically improved durability for wet end parts, are the most used in Japan. They have become indispensable at sewage treatment plants and for slurry transportation at various types of plants.

Drill jumbos that made contributions to the Second Trans-Siberian Railway tunnel construction



Tunnel Drill Jumbo

Machine that drill holes in rock for charging explosives when constructing mountain tunnels

Rock drill to drill holes

Excavation of expressway and Shinkansen mountain tunnels

FURUKAWA's drill jumbos have been used in the excavation of the JR (former JNR) Hakkoda tunnel on the Kan-etsu tunnel on the Kan-etsu Expressway and others, and are used more than any other drill jumbos in Japan. They were also used for the construction of tunnels on the Linear Experiment Line and the Second Trans-Siberian Railway.



Hydraulic Breaker

Hydraulic Crawler Drill



One of three major manufacturers with a growing global share

FURUKAWA has the largest global market shares for hydraulic breakers and hydraulic crawler drills. In addition, we have become one of the three major rock drill manufacturers in the world and export volume has dramatically increased. Our drills have become indispensable for mine development and civil engineering works.



Also from
FURUKAWA!

Products

03

■ Construction Sites, Cargo Handling and Logistics



The winner of
the 2007 Energy Conservation Grand Prize
The ECCJ Chairman's Prize
Organized by the Ministry of Economy, Trade and Industry

**Energy Conservation
Grand Prize winning crane
with fuel efficiency improved
by up to 40%**
(compared to conventional products)



UNIC Crane

Revolutionized efficiency
with cargo-handling and
transportation functions on a single truck

**The red cranes that you see
on the streets have nearly
50% of the market share**

UNIC has become a synonym for truck-mounted cranes in Japan. These red cranes are often seen on the streets and are widely recognized. The U-can ECO series won the Energy Conservation Grand Prize for its improved fuel efficiency and reduced CO₂ emissions. This series also makes much less noise than other cranes.



**Higher efficiency
with radio controls**

Anyone can operate UNIC cranes smoothly with radio controls – a difficult feat up until now. We are making contributions to improved cargo-handling efficiency, labor-saving and safety by developing products in response to the demands of the times.



Stable supply of copper
indispensable to electrical
wires/electronics materials
and to industry



Electrolytic Copper

Highly conductive, used in various types of alloys, and to make familiar items such as electric wires and coins



Importing copper concentrates as raw materials and outsourcing the smelting process to create a stable supply

FURUKAWA's metal business began when the company was founded when the operation of copper mines started and it has produced some of the world's top-level copper smelting technologies. Copper is a basic material essential to industry as it is used to make various products such as electrical wires, electronics components and processed products. Today, we purchase copper concentrates as raw materials from other countries and outsource the smelting process to companies in which we invest to achieve a stable supply.

Cuprous Oxide



Used as antifoulant
for ship-bottom
paint to prevent
barnacle build-up



A large share of the Japanese cuprous oxide market

FURUKAWA has a large share of the Japanese cuprous oxide market. It is used as an antifoulant for ship-bottom paint, and recently, we have developed cuprous oxide that is both suitable for ship-bottom paint and also prevents marine pollution.

Metals



Chemicals



Also from
FURUKAWA!

Products

05

■ Contributing to the IT and Electronics Industries

A key technology supporting
mobile phones
and high-speed wireless LANs



Electronics
Materials



High-Purity Metallic Arsenic

We started research and development in 1960,
and we were the first Japanese manufacturer
to achieve 99.99995% purity.



For mobile phones and LED traffic lights

High-purity metallic arsenic is used to make gallium arsenide semiconductors which are used in the development of communications devices. As gallium arsenide semiconductors allow faster operation than conventional semiconductors and emit low levels of noise and are low in energy consumption, they are used for key components in mobile phones and high-speed wireless LANs. These semiconductors are also used in red LED traffic lights and laser diodes for Blu-ray players.

The largest share in the global market

FURUKAWA is the only high-purity metallic arsenic manufacturer in Japan and has the largest share in the global market.



▶ Products Index



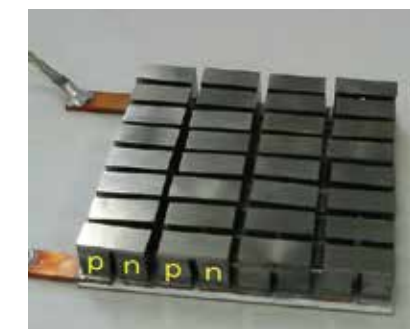
Nitride Semiconductor Substrate

Next-generation substrates suitable for manufacturing high-power laser diodes and high-intensity white light-emitting diodes

Energy-saving lighting, an alternative to fluorescent lighting

Nitride semiconductor substrates are used in blue-violet laser diodes which are fundamental components in Blu-ray players and are expected to be applied to energy-saving high-intensity white light-emitting diodes that will be an alternative to fluorescent lighting and power devices for electric cars. We are also working on the mass production of these nitride semiconductor substrates.

Thermoelectric Module



Converting waste heat into electricity

Approximately two-thirds of thermal energy consumed in Japan is emitted into the air as waste heat. We are conducting R&D into power generation methods using this waste heat.

Development of key materials
for blue-violet laser diodes
for Blu-ray players
and high-intensity
white light-emitting diodes



5 Minute Introduction to FURUKAWA

FURUKAWA
- Aha!

History

FURUKAWA's roots lie in the operation of copper mines and we have been contributing to industrial development in Japan for over 130 years. Let us tell you about our history from the beginning.

▶ 1868 - 1912
Meiji

Company Foundation to Expansion of Copper Mine Operations

▶ 1912 - 1989
Taisho to Showa

Further Diversification

▶ 1989 -
Heisei onwards

A Global FURUKAWA



History



FURUKAWA's roots lie in the operation of copper mines and we have been contributing to industrial development in Japan for over 130 years.
Let us tell you about our history from the beginning.

1868 ▶ 1912

Meiji

From Company Foundation to Expansion of Copper Mine Operations

Both the times and industry were changing dramatically. FURUKAWA was born in this time of changes and achieved significant development with the operation of copper mines.



Our head office
(late Meiji)



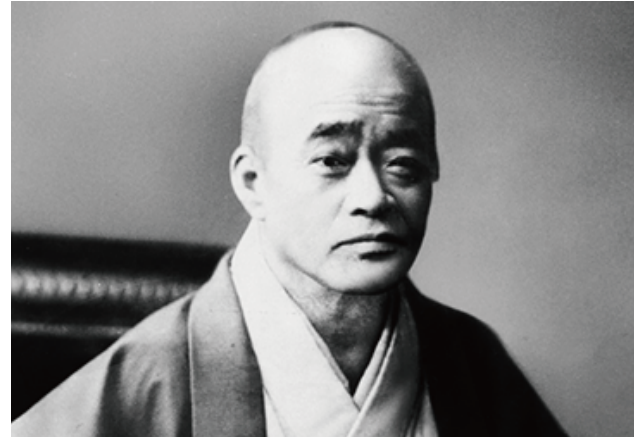


1868 ▶ 1912
Meiji

1875

[Meiji 8]

The foundations of FURUKAWA's development lie in the industry of the time – the Operation of **Copper Mines**



Founder
Ichibei Furukawa

The history of FURUKAWA dates back to when Ichibei Furukawa began the Kusakura Copper Mine operation in Niigata Prefecture in 1875. And two years later, when he obtained the management rights for the Ashio Copper Mine in Tochigi Prefecture in 1877, he decided to focus on the mining business.

At that time, when the world was about to enter the Era of Electricity, copper mine operation was a key industry as it produced copper, a raw material essential for electrical appliances.

1884

[Meiji 17]

Proactively adopted leading-edge Western technologies The **Ashio Copper Mine** produced the largest amount of copper in Japan



The Ashio Copper Mine at that time

Thanks to revolutionary technologies that were introduced one after another, improved work efficiency and the discovery of veins, the Ashio Copper Mine produced the largest amount of copper in Japan in 1884. At one time, almost 50% of copper produced in Japan was produced there and the success at Ashio became the foundation for the development of FURUKAWA.

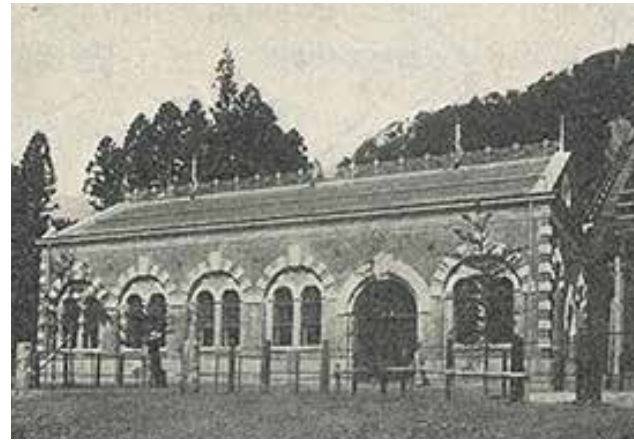
In addition, our initiatives at Ashio served as experiments on many leading-edge technologies, and through these we made significant contributions to the development of modern industry in Japan.



1868 ▶ 1912
Meiji

1890

[Meiji 23]

Constructed Japan's first **hydro-electric power plant**
Subsequently commenced the construction of
a large hydro-electric power plant in Nikko

No.1 Hosoo Hydro-electric Power Plant

As the mining and smelting technologies at the Ashio Copper Mine advanced, we aggressively improved and developed power supply and transportation methods. We focused on hydro-electric power as a new energy source and invited engineers from Siemens in Germany to help us construct, in 1890, the Mato Hydro-electric Power Plant at the Ashio Copper Mine, the first hydro-electric power plant in Japan. We also completed Hosoo Hydro-electric Power Plant in Nikko in 1906.

1900

[Meiji 33]

Set up a machinery works at the Ashio Copper Mine
and entered into the **machinery business**

Ashio Electric Machinery Repair Works

At Ashio, we began using imported rock drills in 1885. Compared to conventional excavation by hand, rock drills tripled the monthly excavation distance, improved work efficiency and dramatically reduced the burden on drilling workers. The Manufacturing Section was set up to repair machinery, and in 1900, a machinery works was set up and the company entered into the machinery business.





1912 ▶ 1989

Taisho to Showa

Further Diversification

Improvement and refinement of work at copper mines led to the diversification of businesses.

FURUKAWA is evolving and developing in diversified fields in response to the demands of the times.



Ashio Copper Mine
1920[Taisho 9]





1912 ▶ 1989

Taisho to Showa

1914

[Taisho 3]

**Manufactured the first rock drill in Japan -
the foundation of the subsequent rock drill business**



Drilling with imported rock drills



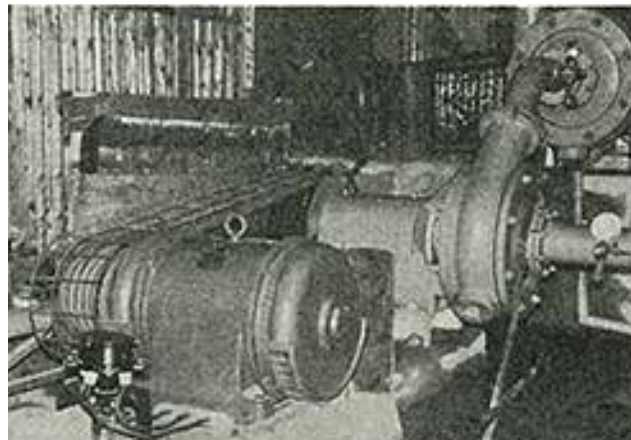
Japan's first rock drill

Ashio was mechanized through the use of many imported rock drills. When we were repairing machinery, replacing damaged parts and making new parts to replace them, we started thinking that we wanted to improve rock drills to accommodate the physique of the Japanese operators. In 1914, engineers at Ashio invented a hand-held rock drill. This was the first rock drill made in Japan and was the first step towards FURUKAWA's rock drill business that has become well-known throughout the world today.

1954

[Showa 29]

**FURUKAWA pump manufacturing began in the Taisho era
from a company-use pump at copper and coal mines**



Unmanned pump room at that time

At copper and coal mines, the transportation of water mixed with solids such as stones, mud and metals is as important as excavation. FURUKAWA began manufacturing company-use pumps needed for this transportation in the Taisho era and started selling pumps in the market in 1954.

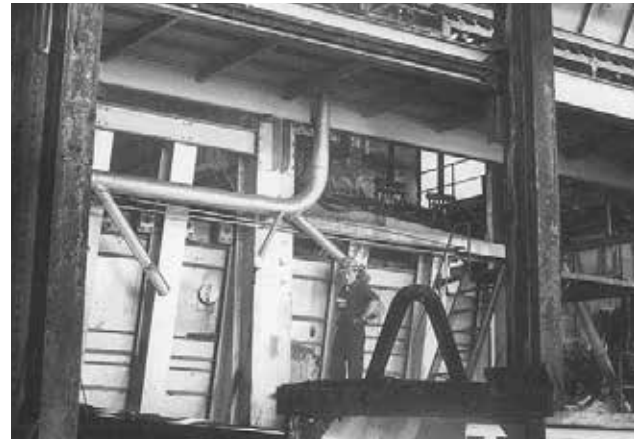




1956

[Showa 31]

FURUKAWA's combat against pollution led to the **completion of a flash smelting plant at Ashio Smelting and Refining**



Furukawa/Outokumpu flash smelting furnace

FURUKAWA, who owned the Ashio Copper Mine, was the first company to start to combat pollution. Our sincere efforts led to our current environmentally-friendly business. Our research and improvement on copper smelting methods produced a no-pollution smelting method that collects sulfur dioxide in a sophisticated manner. This flash smelting technology has supported our metals business and has been used at many copper smelting plants in Japan and abroad.

1912 ▶ 1989

Taisho to Showa

1962

[Showa 37]

Efficient use of by-products generated through the smelting process Research and development of **high-purity metallic arsenic**



High-purity metallic arsenic

Can we use by-products generated through the smelting process? One of our efforts towards this issue was the efficient use of arsenic. Arsenic started gathering attention as a material for semiconductors and we began research in 1961 and developed high-purity metallic arsenic with 99.99995% purity and commenced sales in 1962. It has become a material indispensable in leading-edge technologies and is the face of our electronic materials business.





1987
[Showa 62]

Bought UNIC Corporation UNIC has become a synonym for **truck-mounted cranes**



Transportation and cargo-handling functions on a single truck

FURUKAWA bought UNIC Corporation in order to expand into a new field in 1987. A line of UNIC products that revolutionized work efficiency by having transportation and cargo-handling functions on a single truck was added to FURUKAWA's product range. We continued to work on the development of new products in response to the demands of the times and we won the Energy Saving Grand Prize with the environmentally-friendly U-Can ECO series with improved fuel efficiency and low noise. Our efforts for progress will never cease.

1912 ▶ 1989

Taisho to Showa



History



1989 ▶ Heisei onwards

**A Global Furukawa
To the world,
to the future**

Aiming to become a company
that contributes
to the creation of
an affluent society





1989 ▶ Heisei onwards

1989

[Heisei 1]

The company's Japanese name changed from Furukawa Kogyo Kabushiki Kaisha to Furukawa Kikai Kinzoku Kabushiki Kaisha

FURUKAWA, having started as a copper mine business, has developed and we have applied our technologies and products in diversified fields, in response to the demands of the times during our history of over 100 years. In 1989, we changed the company name to one that represents what we are more precisely.

1998

[Heisei 10]

Established a sales company for rock drill products in the Netherlands Made our technologies available on the global market



FURUKAWA's rock drills are used around the world

In the rock drill business, we have strengthened our overseas sales network through various measures such as establishing a sales company in the Netherlands in 1998, etc. We are meeting overseas demands as one of the major international rock drill manufacturers. In the UNIC business, we are focusing on promotional activities in order to accelerate the expansion of our overseas business. Utilizing the Group's overseas development capabilities, we are aggressively developing the overseas markets for other products such as pumps.

A crane can be used even in an indoor space!?

As more and more of our products are exported, they are sometimes used in different ways in other countries. For example, our mini crawler cranes are often used in places that trucks cannot access, such as cemeteries in Japan, but in other countries, they are used to install windows/glass panels in rooms with high ceilings, etc. Our compact UNIC products that can enter through narrow openings are widening





1989 ▶ Heisei onwards

2005

[Heisei 17]

We spun off and incorporated businesses to enhance the management of the Furukawa Company Group



Head Office. (Marunouchi Nakadori Building)

In an environment where globalization is advancing and speed is an important factor, in 2005, we spun off and incorporated businesses, and have been moving forward as the Furukawa Company Group in order to provide products and services that precisely meet our customers' needs.

By promptly responding based on the characteristics of each business and market, we are aiming to enhance the management culture of the whole Group and to maximize corporate value.

2008

[Heisei 20]

Re-established our R&D system towards the introduction of next generation strategic products

In 2008, as part of the enhancement of development capabilities, we set up a new Nitride Semiconductors Department to promote the gallium nitride substrates business. We are working to develop high-value added products in order to respond to markets where rapid growth is expected.



**Responding to needs of the times
with traditions and technologies
for over 130 years...**

To the Future

We will continue to grow through challenge

FURUKAWA

