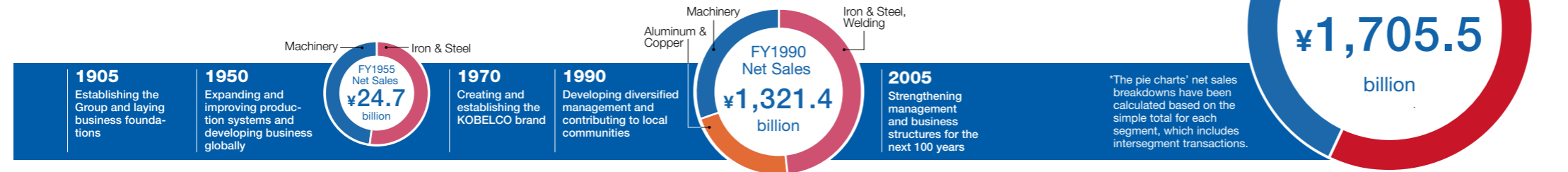


History of the KOBELCO Group

Celebrates 115th anniversary

In 1905, the general partnership trading company Suzuki Shoten acquired a steel business in Wakinohama, Kobe, called Kobayashi Seikoshō, operated by Seiichiro Kobayashi, and changed its name to Kobe Seikoshō. Then, in 1911, Suzuki Shoten spun off the company to establish Kobe Steel Works, Ltd. at Wakinohamacho, Kobe.



The KOBELCO Group will create new value and contribute to resolving issues faced by customers and society by leveraging its expertise, technologies, and manufacturing capabilities fostered in a broad range of business fields that cover the Steel & Aluminum, Advanced Materials, Welding, Machinery, Engineering, Construction Machinery, and Electric Power.

Materials

- 1905** Begins steel casting and forging business
- 1916** Begins steel products business
- 1917** Begins copper business
- 1937** Begins aluminum business
- 1940** Begins welding business
- 1955** Achieves first industrial production of titanium metal in Japan
- 1959** Establishes integrated steel production
- 1968** Establishes production base in Thailand for welding electrodes
- 1970** Completes Kakogawa Works
- 1979** Develops ARCMAN™ welding robot
- 2006** Starts up processing plant for special steel wire rod used in automobiles in China
- 2014** Establishes base in China for manufacture and sale of automotive cold-rolled, high-strength steel
- 2016** Begins producing aluminum panel material at Tianjin plant in China
- 2017** Consolidates upstream processes at Kakogawa Works
- 2018** Establishes production and sales base (KPEX) in the U.S. for aluminum extrusions and fabricated products
- 2020** Reorganizes materials segment

21 Core Technologies

Core technologies making contributions in the Materials field

- Coal conversion and application technology
- Melting, forging, and welding technology
- Metallographic structure control technology
- Structural deformation and breakdown evaluation technology
- Functional electronic materials technology
- Inclusions (in metal) control technology
- Metal working process technology
- Metal surface control technology
- Atomic-level analysis and evaluation technology
- Magnetic property control technology

Machinery

- 1914** Begins machinery business
- 1926** Begins engineering business
- 1930** Begins construction machinery business
- 1962** Begins overseas plant business
- 1975** Introduces automated guideway transit (AGT) system
- 1983** Acquires U.S. company Midrex Technologies, Inc.
- 2004** Establishes manufacturing and sales base for standard compressors in China
- 2006** Establishes manufacturing and sales base for nonstandard compressors in U.S.
- 2014** Celebrates 100th anniversary of machinery business
- 2017** Acquires world's leading isostatic press manufacturer, Quintus Technologies of Sweden

Core technologies making contributions in the Machinery field

- Machine vibration, noise, and dynamics characteristics control technology
- Thermal and fluid dynamics control technology
- Melting, forging, and welding technology
- Metal surface control technology
- Magnetic property control technology
- Welding mechanism modeling technology
- Adsorption and desorption technology
- Metal working process technology
- Direct-reduced-iron production technology
- Electric control technology

Electric Power

- 1996** Enters wholesale power supply (IPP) business
- 2002** Starts up Kobe Power Plant
- 2016** Begins Electric Power Business
- 2019** Starts commercial operations at Moka Power Plant

Core technologies making contributions in the Electric Power field

- Coal conversion and application technology
- Thermal and fluid dynamics control technology
- Adsorption and desorption technology
- Metal surface control technology
- Metallographic structure control technology

Companywide

- 1905** Company's establishment, propelling major pre-war conglomerate Suzuki Shoten into heavy industry field
- 1937** Becomes listed on stock exchanges in Tokyo, Osaka, and Kobe
- 1960** Opens office in New York
- 1979** Establishes KOBELCO as international unified trademark
- 1988** Establishes U.S. headquarters in New York
- 1995** Suffers damage in Great Hanshin-Awaji Earthquake
- 2000** Establishes Corporate Code of Ethics
- 2005** Celebrates 100th anniversary
- 2006** Establishes corporate philosophy
- 2011** Establishes China headquarters
- 2017** Launches Next 100 Project
- 2019** Establishes regional headquarters in Europe
- 2020** Formulates Group Corporate Philosophy
- 2021** Announces KOBELCO Group Medium-Term Management Plan (FY2021-FY2023)

Core technologies supporting monozukuri in the three fields

- Measurement technology under special conditions
- Process control technology
- Servicing technology
- OR (Operations Research) application technology
- ICT (Information-communication-technology) application technology

Value Creation Process Fulfilling the Needs of Society

The KOBELCO Group contributes to solving social issues by creating new value through the provision of technologies, products, and services under the sustainability management framework based on the newly established Group Corporate Philosophy. At the same time, we aim to improve corporate value while fulfilling our various social responsibilities.

Group Corporate Philosophy

Inputs

Major Operating Capital (Fiscal 2020)

Financial Capital

Consolidated net sales: ¥1,705.5 billion
Stockholders' equity: ¥719.7 billion
Interest-bearing debt: ¥785.7 billion
(Excluding project financing)

Human Capital

Number of employees (consolidated): 40,517

Production Capital

Tangible fixed assets: ¥1,078.6 billion
Depreciation: ¥100.8 billion

Intellectual Capital

21 core technologies
R&D expenses: ¥31.0 billion

Social and Relationship Capital

Communication with stakeholders

Natural Capital

The Challenge of Realizing Carbon Neutrality by 2050
CO₂ emissions: 15.3 million tons
Contribution to reducing CO₂ emissions: 40.9 million tons
Water recycling rate: 96%
Total energy consumption: 182PJ (1PJ = 10¹⁵J)

Materials businesses
→p. 52

Machinery businesses
→p. 56

Electric power business
→p. 60

Technical development
→p. 62

Raw Materials and Parts Procurement

Iron ore
Coal
Aluminum ingot
Titanium sponge
Other secondary materials, etc.
Various production facilities, repair parts, etc.

Parts
Equipment
Materials
Components
Various production facilities, repair parts, etc.

Coal
Natural gas
Generators
Repair parts

Outputs

Business Model

KOBELCO Group

Materials

Steel & Aluminum
Advanced Materials
Welding

Machinery

Machinery
Engineering
Construction Machinery

Electric Power

Electric Power

Customers

Mobility

Automobiles
Aircraft
Shipbuilding
Rolling stock

Energy & Infrastructure

Construction and civil engineering
Environmental and energy facilities
Urban transit systems
Electric power and gas

Life

Container materials
Electrical equipment and electronics

Outcomes

Value Provided

Social value

Contributing to a green society

Ensuring safety and security in community development and manufacturing

Providing solutions for the future connecting people and technology

Economic value

FY2023 Targets

ROIC of 5% or more

Corporate value

Promoting active participation of diverse human resources

Pursuing governance that supports sustainable growth

KOBELCO Group Medium-Term Management Plan (FY2021–FY2023)

KOBELCO Group FY2030 Targets

(1) Reduction of CO₂ emissions in production processes
Reduction target: Down 30–40% (vs. FY2013)

(2) Reduction of CO₂ emissions through technologies, products, and services
Reduction target: 61 million tons

Business Foundation

(1) Diversity and inclusion →p. 76
(2) Work style reforms →p. 75

(3) Human resources development →p. 74

(1) Compliance and risk management →p. 98
(2) Respect for human rights →p. 75
(3) Safety and health →p. 77

(4) Quality assurance →p. 102
(5) Corporate governance →p. 88

Distinctive Technologies, Products, and Services

Creating Products that Link the Present with the Future

Since its founding in 1905, the KOBELCO Group has created and supplied products needed by its customers for more than 100 years. Today, the KOBELCO Group operates businesses centered on seven segments, and its main customer fields can be divided into three categories of Mobility, Energy & Infrastructure, and Life.

Contributing to a green society

Automobiles



Reduce environmental burden
Non-copper coated solid wires (SE wires)

Reduce environmental burden through our original wire surface treatment technology, which eliminates the need for copper coating treatment during manufacturing

Automobiles



Japan's leading producer
Steel powder

For use in complex-shaped automotive parts and environmental applications such as purification of polluted soil and water

Automobiles



Japan's leading producer
Aluminum forged parts for automotive suspension systems

More than 40% lighter than conventional steel forged parts

Automobiles



40% share of the world market
Rubber mixers

Indispensable for production of tires and rubber products. Offer high productivity and energy efficiency based on our leading-edge technologies

Environment and energy



Industry-leading energy efficiency
Heat pumps

Energy-saving devices used for air conditioners and heaters in buildings and plants

Shipbuilding



Exclusive world-class technology
Compressors for LNG carriers

Compressors for supplying fuel in LNG carriers. Contribute substantially to reducing CO₂ emissions

Environment and energy



World-renowned high reliability
LNG vaporizers

Equipment for gasifying liquefied natural gas (LNG) for use in gas-fired power plants and city gas facilities

Environment and energy



Effective utilization of biogas
Sewage biogas city gas pipe injection facility

City gas facility that refines biogas from sewage sludge to the same quality as city gas

Environment and energy



World's top share
MIDREX® Process

World's leading direct reduction process, with over 80 plants in operation worldwide

Environment and energy



Effective use of biomass
Wood biomass power generation

Unused timber from forest thinning left in mountains is used as biomass fuel for boiler power generators

Environment and energy



Leading market share in Japan
Emeraude standard compressors

Oil-free compressors with best-in-class specs and energy efficiency

Environment and energy



Largest market share in Japan
Printed circuit heat exchanger (PCHE)

Compact heat exchangers for use in hydrogen fueling stations and natural gas-related equipment

Environment and energy



Full product lineup
Water treatment facilities

Meeting a wide range of water treatment needs by offering facilities for treating water, sewage, industrial water, wastewater, and sludge, as well as pure/ultra-pure water production facilities



Distinctive Technologies, Products, and Services

Creating the Essentials for Society

Construction and civil engineering

Improve quality and productivity of structural steel welding
REGARC™-equipped structural steel welding systems
 Enhancing quality and productivity of structural steel welding through our original REGARC™ welding process, which significantly reduces spatters and fumes during welding

Construction and civil engineering

Contribute to improved quality and efficiency
Flux-cored wires
 Enable high work efficiency and reduce spatter and fumes to improve workplace environments. Used in a wide variety of applications, including shipbuilding, architectural steel frames, and bridges

Construction and civil engineering

Contributions to reductions in lifecycle costs
KOBEMAG® corrosion resistant steel sheets
 Superior corrosion and abrasion resistance and high workability. Used in wide applications, including structural components, buildings, electric machinery, and automobiles; certified by the Ministry of Land, Infrastructure, Transport and Tourism for compliance with building standards in February 2020

Shipbuilding

Reduce welding time by roughly 20%
Robotic welding systems for hull assembly in shipbuilding
 Automated welding by robots contributes to improved productivity and robotization of welding for hull assembly in shipbuilding

Automobiles

High-strength aluminum alloys
Aluminum extrusions and fabricated products for automobiles
 Contributing to automobile weight reduction as components of bumpers and structural frames

Automobiles

Advanced surface processing technology
Aluminum sheets for automotive body panels
 Contributing to automobile weight reduction as a material for engine hoods, etc.

Construction and civil engineering

Excellent transportability
New model TK-G Series telescopic boom crawler cranes
 While being less than three meters wide during transport, retains the original series' sturdy structure capable of withstanding tough foundation and civil engineering work, compact layout with superior operability, and ability to lift to great heights

Ensuring safety and security in community development and manufacturing

Container materials

Holding approx. 70% market share in Japan
Aluminum bottle can stock
 Holding approx. 30% or more domestic market share of aluminum beverage can stock and approx. 70% of aluminum bottle can stock, which requires complex processing

Automobiles

Largest market share in Japan
Copper alloys for automotive terminals and connectors
 For use in wire harnesses that serve as the "nerves" of cars. Holding approximately 30% share of the domestic market

Providing solutions for the future connecting people and technology

Construction and civil engineering

ICT-enabled construction machinery with efficiency and safety
Computerized construction work brand "Dig Nav"
 ICT-enabled construction machinery with a navigation system that significantly increases work efficiency by incorporating monitor displays and alarms in the driver's cab as well as a machine control system that allows the operator to conduct complex work operations through simple manipulation of a lever

Urban transit systems

Building earth-friendly communities
Urban transit systems
 With the Company's system integration expertise in the urban transit sector, various transit systems have been delivered both in Japan and overseas, including an ODA project to construct the Jakarta Mass Rapid Transit

Rolling stock

Largest market share in Japan
Aluminum shapes for rolling stock
 Adopted both in Japan and overseas as materials that shape the bodies of rolling stock

Construction and civil engineering

Contribute to longer lifespans of steel bridges
Eco-View steel plates® for longer-lasting paint on bridges
 Eco-View steel plates offer excellent paint corrosion resistance, extending the interval for repainting bridges, even in high-salinity environments. Help reduce lifecycle costs

Automobiles

Japan's leading producer
High-strength steel sheets
 Leading producer in development and commercialization of ultrahigh-strength steel sheets

Aircraft

Major supplier in Asia
Aircraft gearboxes
 Aircraft parts utilizing aluminum casting, forging, analysis technologies, and alloy development capabilities

Electrical equipment and electronics

Holding approx. 15% market share in Asia
Materials for semiconductor leadframes
 Using proprietary elemental bonding to develop copper-alloy strip products that combine strength, conductivity, and heat resistance

