Industrial and Social Events

1945
The end of World War Ⅱ.
Economic activity restarted for reconstruction.

1950
The Korean War started. Investments in facilities by steel companies increased.

1952
National income per capita had almost returned to pre-war levels.

1954
The Defense Agency was established.
The Self-Defense Forces was founded.

1955
The Japanese economy entered a high-growth period.

1964
Tokyo Olympics

1965
Izanagi economic boom

1970
Osaka Expo
NOx started to be controlled due to the issue of photochemical smog

1971
Nixon shock

1973
1973 oil crisis

1975
Oil field excavation surged due to soaring oil prices.

1978
NOx control of industrial furnaces started.
1978 oil crisis

1992
The United Nations Framework Convention on Climate Change was established at the Earth Summit (The United Nations Conference on Environment and Development).

Company Milestones

1945 -1954
Supported post-war reconstruction as a leader of the modernization of industrial furnaces

1947
Received orders from Japanese National Railways (now JR) for about 30 units of furnaces, including forging furnaces, heat treatment furnaces, and drying furnaces


PLB oil burner


Large-scale bogie hearth furnace

1952
Received an order for a holding furnace from Yawata Steel Works (now Nippon Steel Corporation)

1954
Signed a technical collaboration agreement with Surface Combustion, Inc. (SC Inc.), U.S.A., and **introduced atmosphere gas heat treatment into Japan for the first time**


Entered into a technical cooperation with SC Inc., U.S.A.

1955 -1964
Consistently delivered modern equipment during the Japanese period of the high growth of economy

1955
Delivered **a batch-type gas carburizing furnace (allcase furnace) and the first domestically produced gas generator** to Shin-Mitsubishi Jukogyo K.K.


Allcase furnace and atmosphere gas generator

1959
Received the first overseas construction order for holding furnace and pusher type reheat furnace from Usiminas Steel Works in Brazil


Usiminas Steel Works (Brazil)

1961
SC Inc. came under the umbrella of Midland-Ross Corporation (MR Co.). Secondary processing units, such as **coating lines for film, paper, and metal,** were added to the technical agreement, enabling Chugai Ro to branch out into the industrial machinery field.


Tire cord heat treatment system

1965-1974
Underwent a new evolution through the high growth, following a severe recession and environmental problems

1967
Delivered **the first and second walking beam-type reheating furnaces** to Tokai Steel and Fuji Iron & Steel (now Nippon Steel)
Provided technology to overseas industrial furnace manufacturers and contributed to the world's steel production development

Delivered large numbers of heat treatment furnaces for TV cathode ray tubes both domestically and overseas


Walking beam-type reheating furnace


Low-NOx burner that complied with environmental regulations

Launched advertisement to introduce energy-saving technology to overcome the oil crisis

1973
Introduced the technology of **multiple hearth-type sewage sludge incinerating system** from MSI Industries, U.S.A.

1975-1984
Accelerated the development of energy-saving technology to survive the oil crisis

1975
Received an order from Nishinomiya City for **the first multiple hearth-type sewage sludge incinerating system**

Orders for seamless steel pipe heat treatment furnaces increased.


Sewage sludge incinerating system

1976
Delivered the first clean room to Santen Pharmaceutical

1978
Developed burn-off furnace that vaporize and burn cutting oil that adheres to energy-saving carburizing furnace and machine and that use exhaust heat as a heat source for burning

H-PLB burner, which uses preheated air, won Prize for Excellent Energy Conservation Product in 1978.


H-PLB burner

1981
Entered into technical cooperation with Escher WyssAG in Switzerland and developed an energy-saving fluidized bed-type sewage sludge incinerating system

1982
Delivered an energy-saving CAL


Continuous Annealing line for Cold Rolled Steel Strip (CAL)

1983
Delivered the first new material high-temperature sintering furnace to Toshiba Ceramics Co., Ltd.

Developed and then started selling the CRX gas generator

1984
Received an order from Toyo Kogyo Co., Ltd. (now Mazda Motor Corporation) for the first high-temperature hot press

1985-1994
Business related to energy saving and the environment was expanded, and corporate reform was undertaken before and after the the Japanese economy bubble

1985
Received in rapid succession orders for **continuous annealing lines for cold rolled steel strip (CAL)** from companies in Japan, Korea, and Taiwan

1988
Received an order for a process line for highly functional steel plates

1989
Received an order from the Tokyo Metropolitan Government of Japan for the **ash brick manufacturing system** to recycle sewage sludge ash


Sewage sludge ash press brick manufacturing system

1991
A burner for the co-generation system that was jointly developed with Osaka Gas Co., Ltd. received the Energy-Efficient Machinery Award by the Japan Machinery Federation

1993
Introduced the technology of **regenerative burner system** from Hotwork Ltd, UK


RCB regenerative burner

1994
Received an order from Acerinox, S.A. Spain for the world's first **combination-type stainless steel bright annealing line (BAL)**

President	Minoru Tamura	Masao Tanigawa (Representative Executive Director)	Masao Tanigawa	Muneyuki Komo	Hiromasa Maekawa	Tadashi Tanigawa

April 25, 1945
Established Chugai Ro Co., Ltd.

1962
Listed on the Osaka Securities Exchange 2nd Section
Introduced the five-day working week (the first in Japan)

1970
Listed on the Tokyo Stock Exchange 1st Section

1974
Placed an advertisement in the Nikkei newspaper titled "Save Oil"

1975
Construction of Sakai Factory (now Sakai Works) was completed.


At that time Sakai Factory (now Sakai Works)

1987
Established TAIWAN CHUGAI RO CO., LTD.
(the first overseas branch)

Industrial and Social Events

1995
The Great Hanshin-Awaji Earthquake

1997
The Kyoto Protocol was adopted at The Third Conference of the Parties (COP3) to The United Nations Framework Convention on Climate Change.
* Japan was obliged to reduce greenhouse gas emissions by 6% compared to 1990 levels by 2012.

2007
Apple launched the iPhone.

2008
The Global Financial Crisis

2011
The Great East Japan Earthquake occurred, and the yen significantly strengthened (92 to 75 yen/$).

2015
The Paris Agreement was adopted at COP21.
*Japan declared its target was a 26% reduction in greenhouse gas emissions by 2030.

2020
The Japanese government made the "Declaration of Carbon Neutrality by 2050."
The Green Growth Strategy was formulated to achieve carbon neutrality by 2050.
*Japan declared its target was a 46% reduction in greenhouse gas emissions by 2030.

Company Milestones

1995-2004
Aggressively conducted development and created new products one after another

1995
The intelligent burner system (IBS) received the Energy-Efficient Machinery Award of the Japan Machinery Federation.


Intelligent Burner System (IBS)

1996
Received orders for **a precision coater system for plasma display panels (PDP), MgO deposition system frit sealing exhausting equipment and continuous sealing furnace**


SUPLaDUO, MgO deposition system for mass production of PDPs

2000
Delivered **the first regenerative dioxin destruction system** in Nomura Town, Ehime Prefecture, Japan


Regenerative dioxin destruction system

2004
Received orders from Japan International Corporation Agency (JICA) for energy-saving promotion equipments for China and Iran

2005-2014
Performance was improved with new products, gaining a foothold for growth.

2005
The biomass gasification and co-generation technology won **the Global 100 Eco-Tech Awards** of the Nihon Keizai Shimbun, Inc. and the Japan Association for the 2005 World Exposition.

2006
Received orders for **biomass gasification and co-generation system** from Aso City, Kumamoto Prefecture, and Iwakuni City, Yamaguchi Prefecture, Japan.


Biomass gasification and co-generation system

2010
Received an order for **a mass production system for CIS solar batteries** jointly developed with Showa Shell Sekiyu K.K. and Solar Frontier K.K. (now Idemitsu Kosan Co., Ltd.)

2011
Received a large number of orders for precision coaters for touch panels from companies in Taiwan and China


Precision coater system "FLOLIA® 3000"

2014
Received an order for **the vacuum carburizing system HIFALCON®** from Fuji Heavy Industries Ltd. (now SUBARU Corporation)


Vacuum carburizing system for mass production "HIFALCON®"

2016
Received multiple orders one after another from companies in Japan and overseas for precision coater systems for flexible organic EL displays

2018
Developed the world' s first **general-purpose hydrogen burner** for industrial use in collaboration with Toyota Motor Corporation


H_2-HSGB type hydrogen burner

2019
Received a large number of orders for functional materials and carbon heat treatment furnaces for semiconductors

2020
Developed **combustion technology powered solely by ammonia** (joint research with Osaka University)

Stronger support was gained for **solid-state battery electrolyte manufacturing equipment** for mass production.


Burner powered solely by ammonia

2022
Received an order from Toyota Motor Corporation for **the first radiant tube-type hydrogen burner**

2023
Received an order from Denso Corporation for a hydrogen combustion-type afterburner furnace

Jointly developed a gun-type hydrogen burner with Olympia Kogyo Co., Ltd.

Concluded a contract for **"Green Innovation Fund Projects / Decarbonization of Thermal Processes in Manufacturing"** from NEDO

2021
Launched "the Decarbonization Project" to accelerate the development of decarbonization technology, including ammonia and hydrogen burners

Concluded a contract for **"the Research, Development, and Demonstration of Technologies for Ammonia Co-Firing Thermal Power Generation program"** from NEDO

Launched the IoT package "CRism®" for heat treatment equipment

Was selected as a "Zero-Emission Challenge" company by the Japanese Ministry of Economy, Trade and Industry

2015 -
Addressed the challenges of creating value for thermal technology

President	Tadashi Tanigawa	Yoshihiko Sato	Yuji Nishimoto	Akira Ozaki

1997
Established CHUGAI RO (SHANGHAI) CO., LTD.

2005
Construction of the Sakai Works Engineering Center was completed.
CHUGAI RO THERMAL ENGINEERING (SHANGHAI) CO., LTD. was established.


Sakai Works Engineering Center

2012
CHUGAI RO (THAILAND) CO., LTD.,
PT. CHUGAI RO INDONESIA. and CHUGAI RO (SHANGHAI) CO., LTD. were established.

2016
CHUGAI RO DE MEXICO, S.A. DE C.V. was established.

ChugaiRo