## Nippon Denko Co., Ltd. Company Profile



## **Corporate Philosophy**

To help create an affluent future through sustainable growth by developing and providing distinctive products, technologies, and services

## **President's Message**

A company on a constant quest for a better future by supporting people's lives through materials and the environment

Nippon Denko group has consistently manufactured various ferroalloys since its foundation. In the ferroalloy business, which is the foundation of our business, we have concentrated our management resources on high-carbon ferromanganese and pursued cost reductions to the utmost limit. As a result, we now maintain a high level of international competitiveness and meet the requirements of the world's highest environmental standards, which is a great strength of our group.

In the meantime, we are also focusing on and steadily developing our businesses (Functional Materials, Incineration Ash Recycling, and Aqua Solutions), which are relatively insulated from market conditions and should deliver stable profits. With five core businesses, adding the Electric Power business, namely hydroelectric power generation, we are striving to further increase corporate value by building a business portfolio that is less susceptible to the market conditions for ferroalloys.

The Medium/Long-Term Business Plan formulated in November 2023 calls for executives and employees to work together to realize Our Ideal State in 2030 "a company on a constant quest for a better future by supporting people's lives through materials and the environment " under the basic policy of "balancing solving social issues through business activities and enhancing corporate value through sustainable growth". We intend to steadfastly search for solutions to management issues by leveraging the Group's strengths to the maximum extent and using every bit of our management resources. In addition, we will continue exploring new avenues to the future by providing a consistent supply of high-quality products and developing and delivering new technologies while providing new products.



President & CEO Yasushi Aoki

### **Contents**

1 Company Overview

- 6 Incineration Ash Recycling Business
- 2>3 Nippon Denko—Surrounding You in Your Daily Life
- 7 Aqua Solutions Business

4 Ferroalloys Business

Electric Power Business

5 Functional Materials Business

Research and Development

### **Company Overvew**

- Name: Nippon Denko Co., Ltd.
- Stock exchange listing: TSE Prime Market
- URL: www.nippondenko.co.jp/en/
- Executive Management



History



1925 Established Nippon Denki Yakin Co., Ltd.

1934 Established Toho Denka Co., Ltd.

1934 Established Chuo Denki Kogyo Co., Ltd.

1963 Merger to form Nippon Denko Co., Ltd.

(Nippon Denki Yakin and Toho Denka merged)

2014 Merger with Chuo Denki Kogyo Co., Ltd.

(Nippon Denko and Chuo Denki Kogyo incorporated)

■ Group Companies



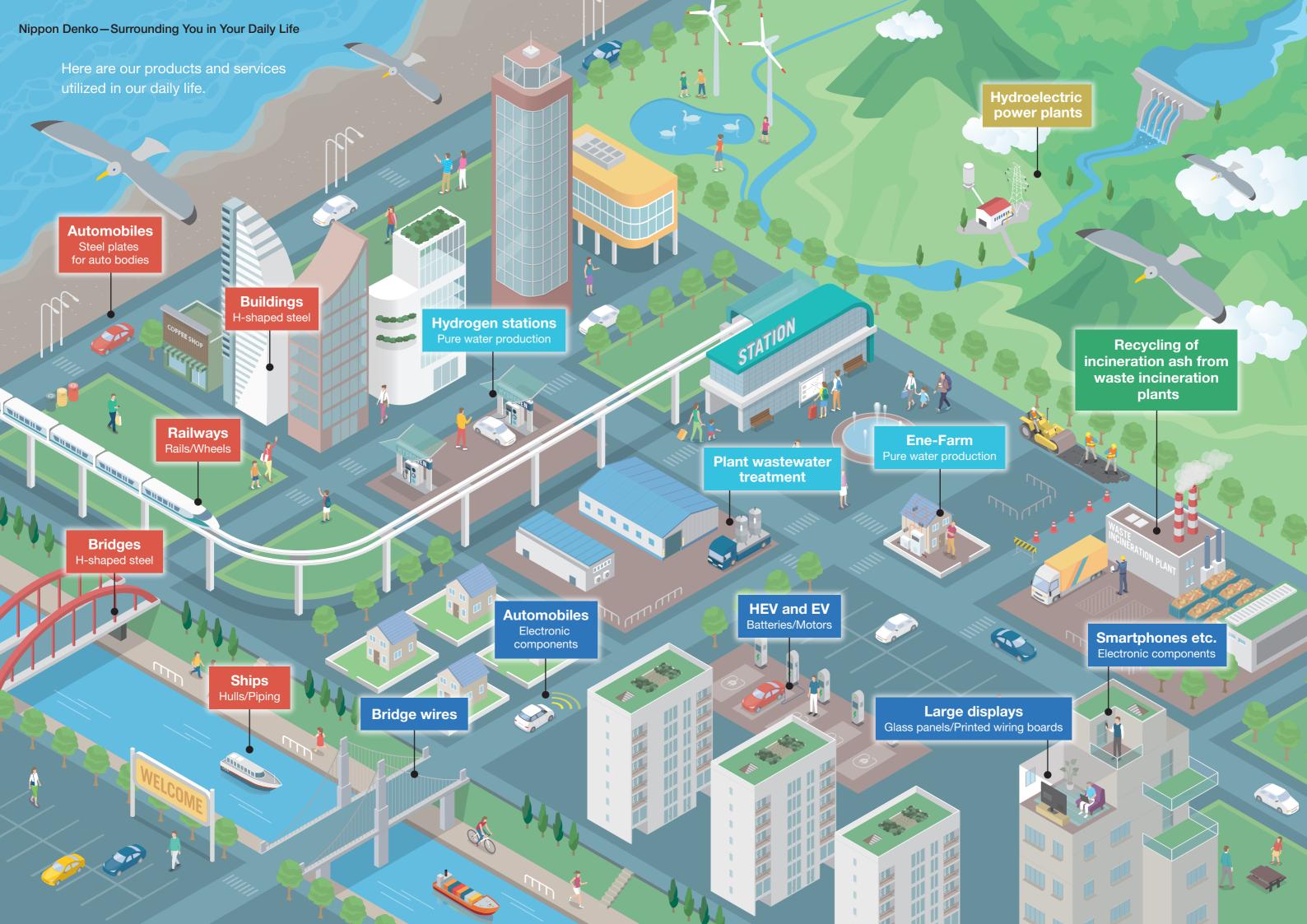


Locations



Kashima Plant

1



## **Ferroalloys**

### Responsibilities as the leading manufacturer

Ferroalloys are the most important materials due to their use as additives to all steel to improve properties such as strength, toughness, heat resistance, and anti-corrosiveness. Although we rarely see it in everyday life directly, ferroalloys are one of the materials that are indispensable for an affluent life. In particular, high-carbon ferromanganese, the main product of Nippon Denko Group, is an essential material for major steel products such as automobiles, ships, railways, and buildings.

With our production bases in Tokushima and Malaysia, we harness our proven technologies and time-tested techniques to provide our customers with stable supplies of high-quality manganese. Our portfolio includes not only ferromanganese but also other ferroalloy products. These quality products have been well received by our customers, sustaining our reputation as a leading manufacturer of ferroalloys. In this way, Nippon Denko Group is supporting people's daily lives through ferroalloys.

#### **Products**

- · High-carbon ferromanganese
- · Low-carbon ferromanganese (SLP)
- · Silicomanganese
- · Ferrosilicon







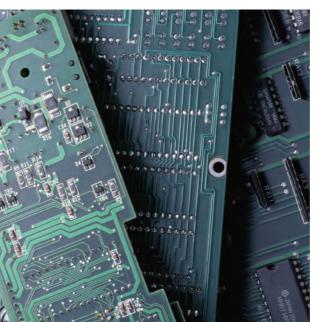
### **Functional Materials**

### Technology to create the future

We produce unique, high-performance, high-quality materials that are used in electronic parts and batteries, etc. on the strength of our long-cultivated electric furnace operation technologies.

Zirconium oxide and manganese inorganic chemical products for electronic parts, cathode materials for lithium-ion batteries, metal hydride alloys for batteries, and ferroboron for motors of EV, those advanced materials are contributing to the realization of a sustainable society and supporting our daily lives.





#### **Products**

- · Zirconium oxide
- · Boron oxide
- · Metal hydride alloys
- · Ferroboron
- · Manganese inorganic chemical products
- · Cathode materials for lithium-ion batteries



5

## **Incinerated Ash Recycling**

### **Perfect recycling**

Most incineration ash generated by waste incineration furnaces in municipalities is disposed of in landfills. As a result, the valuable resources contained in the ash are not reused, and there are also concerns that it would be difficult to secure new landfill sites.

To resolve this problem, we melt and solidify this incineration ash using dedicated electric furnaces, and in this way, we are contributing to the achievement of sustainable development goals (SDGs) by deploying a perfect recycling business in which generated slag (ECOLAROCK) and valuable metals are recycled.

In addition, by melting incinerated ash at high temperatures, dioxin is decomposed and heavy metals are detoxified and stabilized, helping to protect the environment.





#### Products

- · ECOLAROCK (molten slag)
- · Molten metal



### **Aqua Solutions**

### An affluent society with water and environment

We contribute to the achievement of a recycling-based and decarbonized society by providing wastewater treatment equipment that purifies and recycles wastewater and utilizes technology to recover valuables and recycle resources to promote water and resource recycling, in addition to a pure water production system that supplies the high-purity water indispensable for hydrogen production.

#### **Products**

Wastewater treatment equipment
By recovering metals and impurities in
wastewater from plating, coating, and
automotive industries, we can reuse them as
deionized and pure water.

In addition, we are working to recycle boron, nickel, and other materials collected at our recycling plants.



ND MINICHROPACK (Wastewater Treatment Equipment)



#### MR PACK (Pure Water Production System)

#### **Products**

· Pure water production system

It is used for on-site purified water manufacturing for hydrogen stations, etc. Demand for high-purity water (for cleaning, mixing, inspections, and other uses) continues to rise as industrial products become more advanced and it is used for maintenance for biomass power plants, and other industrial applications.

### **Electric Power**

### **Green** energy

We have two hydroelectric power plants in the Horomangawa River System located in the Hidaka region of Hokkaido. Hydroelectric power generation has a high profile as a renewable green energy source with no CO2 emissions and the facilities have been approved for the Feed-In Tariff (FIT) system for renewable energy. The Horomangawa River system is located in the rich natural environment of the Mt. Apoi Geopark-a UNESCO Global Geopark-in the town of Samani.

By engaging in a renewable green power generation business with environmentally consciousness, we will secure stable earnings and contribute to society by supplying electricity to neighboring communities.





## **Research and Development**

### **R&D** policy

The Nippon Denko Group strives to develop new products on the strength of technology for smelting and refining metal and manufacturing chemicals in addition to researching environmental technologies that promote environmental conservation and resource recycling.

#### **R&D** structure

The Nippon Denko Group has created an effective research and development system through robust collaboration between its two constituent groups — a Research Group that carries out research and development, and a New Product and New Business Group that anticipates customers' needs and explores research topics — and the plants that apply the outcomes of the development.

# Promoting research and development based on robust collaboration between groups

**New Product and New Business Group** 

#### Accommodates customers' requests and explores research topics

- · Tracks the latest market trends
- Strengthens relations with customers
- Matches our technology seeds with customers' needs
- · Explores and proposes research topics

#### **Research Group**

#### Carries out research and development

- Each team focuses on topics of research and moves forward with development after identifying the target outcomes
- Teams are assembled flexibly to accommodate the importance of the topic at any given time

#### **Plant Division**

#### Applies the outcomes of development

- Manufactures newly developed products
- · utilizes newly developed process technologies and solutions

9

