

Corporate Profile

Trade name	Nippon Light Metal Holdings Company, Ltd.
Headquarters	Urbannet Uchisaiwaicho Building, 1-1-13 Shimbashi, Minato-ku, Tokyo 105-8681 Japan

Main Group Companies

Japan

- Aluminium Wire Rod Co., Ltd. ●
- NLM ECAL Co., Ltd. ●
- Toyo Aluminium Ekco Products Co., Ltd. ●
- Toyo Aluminium K.K. ●
- Toyo Rikagaku Kenkyusho Co., Ltd. ●
- Nikkei MC Aluminium Co., Ltd. ●
- Nikkei Engineering Co., Ltd. ●
- Nikkei Extrusions Co., Ltd. ●
- Nikkeikin Aluminium Core Technology Co., Ltd. (Nikkeikin ACT) ●
- Nikkeikin Aluminum for Mobility Co., Ltd. (Nikkeikin ALMO) ●
- Nikkeikin Kakoh Kaihatsu Holdings Co., Ltd. ●
- Nikkei Sangyo Co., Ltd. ●
- Nikkei Information System Co., Ltd. ●
- Nikkei Panel System Co., Ltd. ●
- Nikkei Logistics Co., Ltd. ●
- Nikkei Matsuo Co., Ltd. ●
- Nippon Light Metal Co., Ltd. ●
- Nippon Fruehauf Co., Ltd. ●
- Nippon Electrode Co., Ltd. ●
- Riken Light Metal Industry Co., Ltd. ●

Outside Japan

- Nikkei (Suzhou) Precision Parts Co., Ltd. ●
- Hunan Ningxiang JiWeiXin Metal Powder Co., Ltd. ●
- Nikkei MC Aluminum (Kunshan) Co., Ltd. ●
- Toyal MMP India Pvt. Ltd. ●
- Nikkei MC Aluminum (Thailand) Co., Ltd. ●
- Nikkei Siam Aluminium Ltd. ●
- Fruehauf Mahajak Co., Ltd. ●
- Toyal America, Inc. ●
- Nikkei MC Aluminum America, Inc. ●
- Nippon Light Metal Georgia, Inc. ●
- Nippon Light Metal North America, Inc. ●
- Toyal Europe S.A.S.U. ●

● Aluminum Ingot and Chemicals ● Aluminum Sheet and Extrusions ● Fabricated Products and Others ● Aluminum Foil, Powder and Paste



NLM Nippon Light Metal Holdings Company, Ltd.

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<https://www.nikkeikinholdings.com/>



Leveraging Team Power to Create Value for Customers

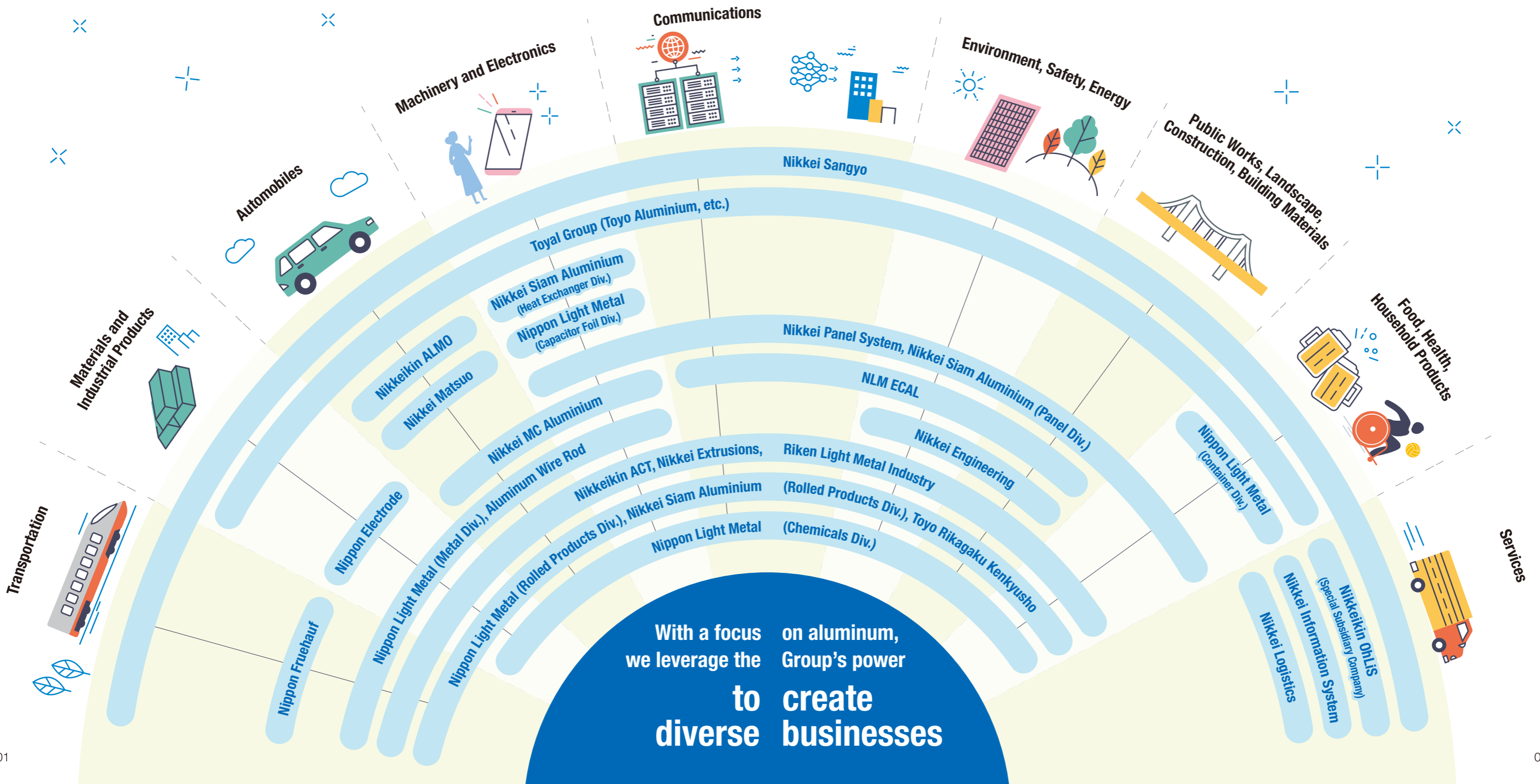
The NLM Group is made up of companies and divisions with diverse areas of expertise in the field of aluminum, a material brimming with potential. We create value to help solve the issues faced by our customers and the broader society by leveraging the power of all these different companies and divisions as a single team. At "Team NLM," our mission is improving people's quality of life and protecting the environment by creating businesses focused on aluminum.

Bringing Out the Potential of Aluminum with One-of-a-Kind Innovation

We address the issues faced by our customers and the broader society by making the most of the fundamental value of aluminum. Leveraging the many advantages of the material, we apply our unique approach to innovation to create value that only Team NLM can achieve.



R&D center: Nikkei Research and Development Center of the Nippon Light Metal Co., Ltd.



GLOBAL ENVIRONMENT



Provided by: JR Central

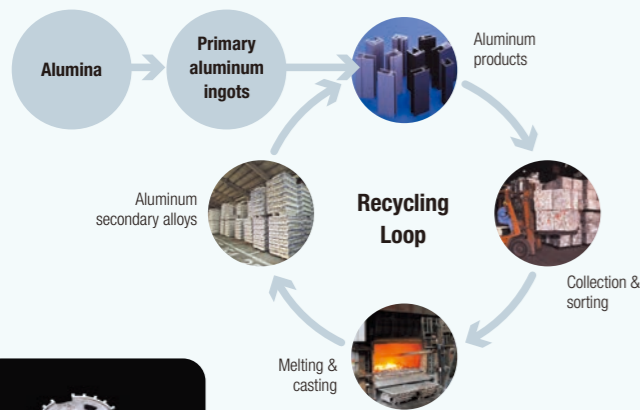
NLM Group × Global Environment

Moving Forward with Advanced Recycling for a Sustainable Earth



Building a Sustainable World Through Aluminum Recycling

Aluminum has many excellent properties: it is lightweight, highly workable, and strong for its weight. Another optimal property is that it is easy to recycle. Aluminum can be reused endlessly by remelting, and recycling aluminum takes just 3% of the energy required to manufacture it new. By recycling aluminum, we help reduce CO₂ emissions, which cause global warming. The NLM Group actively promotes aluminum recycling to help build a sustainable world.



An example of processing by one of our clients

For **Automobile Drivetrain Systems**
 "Wear resistant alloy NH41" made with our original recycled aluminum alloy

▶ Nikkei MC Aluminium

From Shinkansen to Shinkansen: Promoting Carbon Neutrality Through Closed Loop Recycling of Shinkansen Car Bodies*

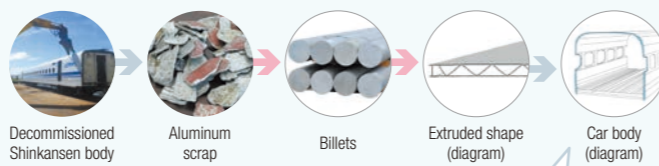
One project in the NLM Group's recycling initiative is the closed loop recycling of Shinkansen car body materials. This project is being driven by group company Nikkeikin ACT in collaboration with companies such as JR Central. Previously, decommissioned Shinkansen cars were recycled into impure aluminum cast, which could not be used in the body material of a Shinkansen car, which has a skeletal structure requiring high strength, quality, and reliability from the material. Now, however, the NLM Group's recycling and manufacturing technologies deliver the same quality as the original material, making closed loop recycling possible, with the material going directly back into Shinkansen car body parts. This reduces CO₂ emissions in the manufacturing process by approximately 50 tons per train.

The NLM Group is planning to expand the closed loop recycling of aluminum to other products, as well. We will leverage the power of "Team NLM" to accelerate our carbon neutrality initiatives.

*Railway car bodies mentioned include the underframe, framework, and outer panels, all of which ensure strength.

▶ Process of Shinkansen Closed Loop Recycling (Information from JR Central)

Aluminum scrap from decommissioned Shinkansen cars is melted by Nikkei MC Aluminium, cast at the Nippon Light Metal Kambara Complex, and then extruded at Nikkeikin ACT's Niigata Plant to become Shinkansen car body materials once again.



(Cross-sectional of a Shinkansen car body)



Used in the N700S train body (roof)

Material Issues of the NLM Group

Providing sustainable value

- ▶ Developing and providing robust infrastructure
- ▶ Shaping the future through innovation

Happiness of employees

- ▶ Developing a fulfilling workplace
- ▶ Diversity & inclusion

Responsible procurement, production and supply

- ▶ Providing safe and secure products and services
- ▶ Protecting and respecting human rights



Manufacturing Strong, Lightweight Products to Help People Transcend Social Barriers



NLM Group Supports the Japan Wheelchair Rugby Federation

The NLM Group signed an official partner agreement with the Japan Wheelchair Rugby Federation in 2020. This step came from our determination to be a company where people are proud to work and to enhance our social contributions. Under the partnership, we promote employee volunteering, offer study sessions on wheelchair rugby, and encourage employees and their families to attend games. One of our initiatives is the development of hand rims for the custom wheelchairs used by wheelchair rugby players.

The hand rim is a metal ring attached to the outside of the wheels of the wheelchair. Since wheelchair rugby involves intense collisions between chairs, the hand rims often get bent out of shape. Using aluminum, the NLM Group developed lightweight yet highly deformation-resistant hand rims. These first-ever Japan-produced hand rims, provided to the Federation, are contributing to the promotion and popularization of wheelchair rugby.

New Hand Rims Excelling in International Competitions

NLM Group companies* have produced hand rims featuring plates (ribs) inserted into the rim tubing. This increases strength while maintaining lightness and successfully suppresses deformation on impact. They have also realized low-cost manufacturing with less material loss by extrusion molding the ribbed tubing and connecting plate (for attachment to the wheel) in one piece.

The rugby chairs equipped with the new hand rims have earned high praise from players for their durability, ability to withstand hard collisions, low cost, and maneuverability. Japan's national team has used them in international competitions since 2021, contributing to their success.

In 2021, the NLM Group renovated its gymnasium, Nikkei Arena, located at the Nippon Light Metal Tomakomai Complex, to make it more accessible for parasports. It is now popular among many people as a local base for wheelchair basketball and other parasports.

From making aluminum products leveraging the material's advantages to various other initiatives, the NLM Group is helping to shape a society where everyone can thrive and excel.

*Nikkei Metal, Nikkeikin ACT, Nippon Light Metal

NLM Group × Quality of Life

SOCIETY AND LIFE



Hand rim



Nikkei Arena



Wheelchair for wheelchair rugby

Material Issues of the NLM Group

Protecting the global environment

- ▶ Reducing greenhouse gas emissions from company activities (scope 1, 2)
- ▶ Reducing greenhouse gas emissions in the supply chain (scope 3)
- ▶ Action on climate change (TCFD)

Providing sustainable value

- ▶ Developing and providing low-carbon products and services
- ▶ Promoting a recycling-oriented economy and society
- ▶ Shaping the future through innovation

Responsible procurement, production and supply

- ▶ Providing safe and secure products and services

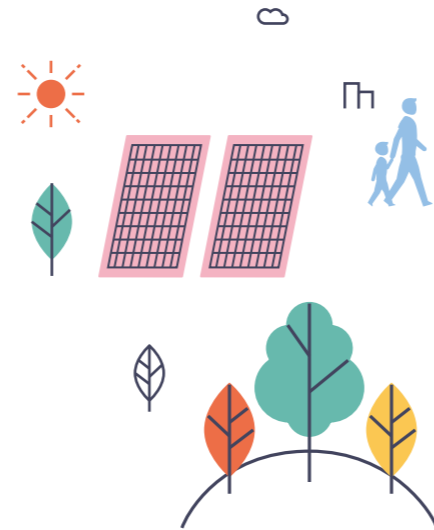


The NLM Group is an official partner of the Japan Wheelchair Rugby Federation.

THERMAL MANAGEMENT

NLM Group X Thermal Management

From Energy Saving to Mitigating Global Warming—The NLM Group's Efforts to Protect Our Planet



Material Issues of the NLM Group

Protecting the global environment

- ▶ Reducing greenhouse gas emissions from company activities (scope 1, 2)
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- ▶ Action on climate change (TCFD)

Providing sustainable value

- ▶ Developing and providing low-carbon products and services
- ▶ Promoting a recycling-oriented economy and society
- ▶ Shaping the future through innovation

Responsible procurement, production and supply

- ▶ Providing safe and secure products and services



Comfortably and Safely Managing Heat—The NLM Group's Product Lineup

The NLM Group's Thermal Management Solutions: Paving the Way for the Era of Electric Vehicles

Aluminum has high thermal conductivity, a property that is used to achieve thermal management in products across many fields.

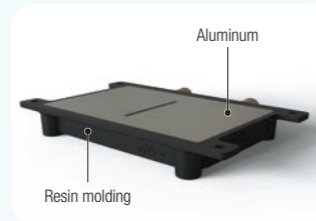
Thermal management is especially important for hybrid and electric vehicles, collectively known as xEVs. The power control unit, power semiconductors, lithium-ion batteries and other such components represent the "heart" of the xEV, safely controlling the vehicle. When these components convert electrical energy into drive power, a lot of heat is generated. Aluminum cooling plates protect the heart of the xEV by removing this heat. To meet the needs of automakers and parts manufacturers, we propose optimal solutions for customers who appreciate the way Team NLM brings together group companies and divisions to share information and technologies. In this way, the NLM Group is supporting the widespread adoption of xEVs as the automobiles of the future.

The alumina and aluminum hydroxide handled by Nippon Light Metal's Chemicals Division also boast excellent thermal conductivity. Our independently developed particle size, shape, and particle surface finishing technology are highly regarded, and these are employed in heat dissipating fillers for the resin used in xEVs.

Innovations in Thermal Management Contributing to a Sustainable World

The NLM Group also pursues technological development to further enhance thermal solutions. One example is our "Aluminum+1" technology that addresses the increasing sophistication of electronic devices by bonding aluminum with other materials such as copper or resin to create multi-materials that offer benefits such as thermal conductivity, weight saving and strength, tackling diverse challenges that cannot be solved by a single material alone.

Our thermal management solutions utilizing aluminum and chemicals and derivative technologies not only protect automobiles and electronic components from heat, but also facilitate energy savings by delivering more efficient heat utilization. This supports decarbonization by enabling the spread and development of xEVs, and the advent of a hydrogen-powered world. The NLM Group will continue to advance thermal management as an indispensable tool for building a sustainable world.



For Bonding Technology

PAL-fit™, a bonding technology that integrates metal and resin

- ▶ Nippon Light Metal
- ▶ Nikkeikin ACT
- ▶ Nikkeikin ALMO



<https://www.nikkeikin.com/pal-fit/>

Insulation

▶ Panels, etc.

For **Food Factories, Refrigerated/Freezer Warehouses, Clean Rooms**

GENESTA Incombustible CFC-free thermal insulated, incombustible panels

▶ Nikkei Panel System



For **Freight Transportation**

Temperature controlled vans

▶ Nippon Fruehauf



<https://www.fruehauf.co.jp/en/index.html>



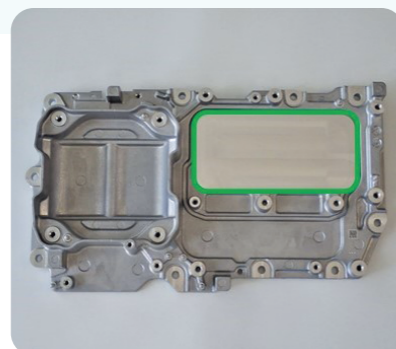
Cooling

▶ xEVs, electronic devices, etc.

For **Power Control Units (PCU)**

Baseplate
Cooling plate with FSW of high-quality diecast product and high heat cooling performance fins for PCU cooling

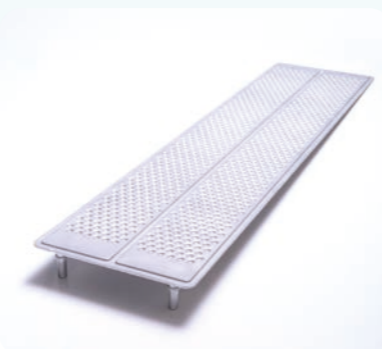
- ▶ Nikkeikin ALMO
- ▶ Nikkei Matsuo



For **Automotive Batteries**

Battery cooling plate

▶ Nikkeikin ALMO



Flame retardancy

▶ Electronic materials, various plastic materials, non-combustible materials for wallpaper, curtains, carpeting



For **Flame Retardants**

Aluminum hydroxide

▶ Nippon Light Metal (Chemicals Div.)

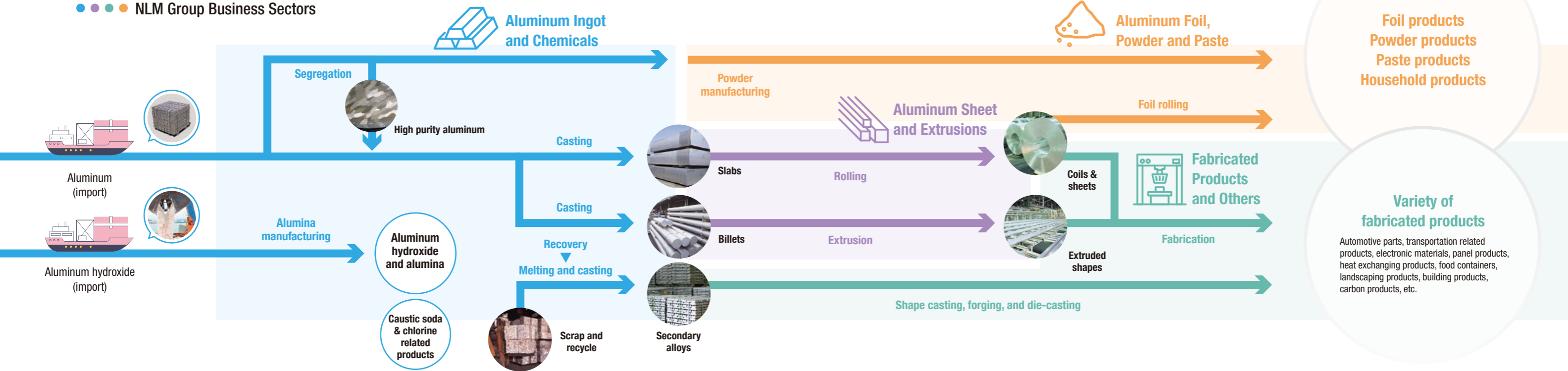


<https://www.nikkeikin.com/products/chemical/index.html>

Markets & Products

●●●● NLM Group Business Sectors

One-stop solutions from material development to product provision—the NLM Group's technologies and products are present across many scenes of daily life and industry.



Foil products
Powder products
Paste products
Household products

Variety of fabricated products
Automotive parts, transportation related products, electronic materials, panel products, heat exchanging products, food containers, landscaping products, building products, carbon products, etc.

Machinery, Electronics, Communications

- For Electronic Devices**
Bright anodizing die-cast alloys
▶ Nikkei MC Aluminium
- For Semiconductor Manufacturing Equipment**
Thick gauge plate for semiconductor manufacturing equipment
▶ Nippon Light Metal (Rolled Products Div.)
- For Electronics**
Chemical foil for aluminum electrolytic capacitors
▶ Nippon Light Metal (Capacitor Foil Div.)
- For Semiconductor Plants**
CFC-free thermal insulated panels for clean rooms
▶ Nikkei Panel System

Environment, Safety, Energy

- For Nuclear Power Plants**
MAXUS® neutron absorber for spent fuel pool racks and dry storage casks
▶ Nikkeikin ACT
Provided by: NAC International Inc.
- For Seismic Motion Control**
Aluminum seismic brace for wooden house "BRACEREE™"
▶ Nikkeikin ACT
- For Disaster Prevention Equipment**
Emergency supply storage sheds
▶ NLM ECAL
- For Flood Control Measures**
Flood and water gates
▶ Nikkei Engineering

Public Works, Landscape, Construction, Building Materials

- For Colored Titanium Materials for Building Exteriors**
TranTixxii™ designing titanium
▶ Toyo Rikagaku Kenkyusho
Titanium roof of Kyushu National Museum (Provided by: Nippon Steel)
- For Buildings (interior and exterior design)**
Interior/exterior louvers
▶ Riken Light Metal Industry
- For Shaping Public Spaces**
Train station complexes
▶ Nikkei Engineering
- For Buildings (ceilings)**
NEQRES series of quakeproof ceilings
▶ Nikkei Panel System

Automobiles

- For Wire Harnesses**
Aluminum conductors for automobiles
▶ Nippon Light Metal (Metal Div.)
▶ Aluminum Wire Rod
- For Brakes**
Opposed piston brake calipers
▶ Nikkeikin ALMO
- For Suspensions**
Suspension components
▶ Nikkeikin ALMO

Food, Health, Industrial Products

- For Various Industries**
Oxidizer for chemical synthesis
▶ Nippon Light Metal (Chemicals Div.)
- For Food**
Aluminum cans and dispenser cleaning cans
▶ Nippon Light Metal (Container Div.)
- For Food, Medical & Industrial Materials**
TOYAL LOTUS® water-repellent packaging
▶ Toyo Aluminium

Transportation

- For Railways**
Shinkansen interior materials (N700S Green Car central ceiling)
▶ Nippon Light Metal (Rolled Products Div.)
Provided by: JR Central
- For Freight Transportation**
Wing roofs
▶ Nippon Fruehauf



Message from the CEO

Team NLM — Toward Becoming a Global Leading Company in Circular Value Creation



Shuichi Asakuno
President and Chief Executive Officer

Since its establishment, the NLM Group has been a comprehensive manufacturer of aluminum products, with a broad range of offerings from aluminum raw materials to fabricated products.

Drawing on our accumulated knowledge, expertise, and proprietary technologies, we have continued to deliver a diverse portfolio of aluminum-focused products while leveraging the collective strengths of Team NLM to grow in step with society.

By fully utilizing the Group's long-cultivated experience and achievements, we remain steadfast in our commitment to advancing our evolution toward our vision of becoming a *Global Leading Company in Circular Value Creation*, while helping realize a sustainable society centered on resource circulation and decarbonization.

Guided by integrity and fairness and dedicated to reliably delivering the value that society truly demands, we, as a corporate group, endeavor to address social issues while growing sustainably, thereby contributing to both a higher quality of life and the protection of the global environment.

Corporate Philosophy


Contribute to improving people's quality of life and environmental protection by continuing to create business, focused on aluminum.

Basic Policies

- ▶ The Group will create healthy, safe workplaces, and achieve zero-accident operations.
- ▶ The Group will continuously provide diverse value to customers by deepening the level of collaboration and coordination within and outside the Group.
- ▶ The Group will work actively to achieve carbon neutrality, to help create a sustainable society.
- ▶ The Group will engage in fair and honest business operations, with respect for human rights and an emphasis on ethics.
- ▶ The Group will respect diverse values, and develop human resources from a long-term global perspective.

From materials manufacturer to value-creating company, the NLM Group evolves with the times.

- 1939** Nippon Light Metal Co., Ltd. (NLM) established jointly by Tokyo Dento Co., Ltd. and Furukawa Electric Co., Ltd. as an aluminum smelting company.
- Late 1970s** Transition to fabrication business accelerates, triggered by the oil crisis.
- 2012** Nippon Light Metal Holdings Co., Ltd. established.
- 2014** NLM discontinues aluminum electrolysis business, the only one in Japan, and expands into broader business areas.
- And now** We are transforming into a corporate group that contributes to people's lives and the global environment by creating value driven by aluminum.

History of the NLM Group ▶ 

<https://www.nikkeihinholdings.com/company/nlm-enkaku.html>



Group headquarters, Shimbashi Office

Sustainability at the NLM Group ▶ 

<https://www.nikkeihinholdings.com/sustainability/index.html>

Material Issues of the NLM Group



Protecting the global environment

- ▶ Reducing greenhouse gas emissions from company activities (scope 1, 2)
- ▶ Reducing greenhouse gas emissions in the supply chain (scope 3)
- ▶ Action on climate change (TCFD)
- ▶ Responding to water stress
- ▶ Preventing environmental pollution

Providing sustainable value



- ▶ Efforts to expand the use of renewable energy
- ▶ Developing and providing low-carbon products and services
- ▶ Promoting a recycling-oriented economy and society
- ▶ Developing and providing robust infrastructure
- ▶ Contributing to the stable supply of food
- ▶ Shaping the future through innovation



Happiness of employees

- ▶ Occupational health and safety
- ▶ Developing a fulfilling workplace
- ▶ Diversity & inclusion
- ▶ Securing and cultivating human resources

Responsible procurement, production and supply



- ▶ Providing safe and secure products and services
- ▶ Protecting and respecting human rights
- ▶ Developing a stable supply chain
- ▶ A resilient value chain that is flexible to changes



Corporate ethics and governance

- ▶ Strengthening governance
- ▶ Reinforcing the compliance framework