

#### CORPORATE PROFILE English Version



## Taking advantage of the power of aluminum to contribute to society and protect the environment

With the growing importance of protecting the global environment today, aluminum has emerged as an indispensable material for society. UACJ is working to maximize the many possibilities of aluminum, which is now being used in a wide range of industries. By taking advantage of the environmentally friendly properties of aluminum, UACJ is striving to create new value and contribute to a better future for people around the world.

## Bringing out the maximum potential of aluminum as a corporate enterprise that is essential in today's world

Aluminum is widely used in industry and people's lives today.

Given the outstanding properties of aluminum, we are deeply convinced of the incredible possibilities it has to offer as a material. UACJ Corporation has been expanding internationally into one industry after another for over a century since its founding, driven by a desire to bring the benefits of aluminum to communities worldwide across an even broader range of applications.

Over the course of its history, the company continually refined its advanced aluminum production processes by applying world-class manufacturing capabilities and cutting-edge technical development. That enabled it to grow as one of the world's leading comprehensive manufacturers of aluminum. With the growth of the global economy, consumers have been increasing in number around the world. Consequently, the needs of their communities are broadening, including the need to reduce environmental burden through initiatives like aluminum can recycling and the development of lightweight automobiles. Against that backdrop, global demand for aluminum is on the rise.

Recognizing fresh opportunities for growth amid these trends, we are utilizing the unique properties of aluminum in R&D and applying our technical expertise to add value to products rather than supplying aluminum as a simple raw material. Making the most of the competitive advantages of each of the Group's businesses, we are offering that UACJ value in our products and solutions with a global outlook from our production network based in Japan, the United States, and Thailand.

Guided by our slogan, "Maximize the possibilities of aluminum in ways that contribute to society and the environment," all members of the Group are committed to making positive contributions to people's communities with aluminum as a corporate enterprise that is essential in today's world.



**Miyuki Ishihara** Representative Director & President

#### Management Philosophy

The UACJ Group strives to offer products and services deserving of our customers' satisfaction and trust, and believes that sound and sustainable business development is key to making broad-reaching contributions to society.

### Automobiles

#### Utilizing the benefits of aluminum to improve vehicle performance and mileage

UACJ leverages its technological capabilities and takes advantage of aluminum's light weight and exceptional strength to supply various aluminum parts and components to automakers. These products enhance vehicle performance and also improve mileage by reducing vehicle weight, thereby helping automakers reduce environmental burden.



Automotive body panels



Automotive structural materials



Heat exchanger materials



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#### Aerospace Applying highly advanced technologies to improve safety and fuel efficiency

UACJ developed ultra-strength duralumin, an aluminum alloy that is an essential material for airplanes. After being improved numerous times, this product contributes to making airplanes stronger and safer as the main alloy used for airplane components today.

# Aluminum's Power Utilized in **Diverse Applications**

ant munition



#### Making ships lighter and faster while also improving corrosion-resistance

UACJ offers aluminum products with the following benefits: light weight increases ship speed, corrosion resistance extends vessel lifetime, and temperature resistance allows for LNG tankers of gases under ultralow-temperature conditions.

### Beverage cans

## Producing easy to recycle aluminum cans as raw materials

Aluminum cans are used as recyclable beverage containers in various countries around the world. In Japan, for example, over 90% of aluminum cans are recycled. To help facilitate such efforts to lower the environmental impact of these products, UACJ has installed its own aluminum can recycling facilities.

# Pharmaceutical and food packaging materials

#### Utilizing aluminum's beneficial properties to keep products safe and dependable

Pharmaceutical and food packaging materials must be non-toxic and safely preserve and protect their contents. UACJ supplies user-friendly aluminum foil packaging materials that meet these requirements by applying its surface processing and lithography technologies.

## IT devices

## Improving mobile smart devices using lighter and stronger materials

Responding to the need for lightweight, durable, and stylish smartphones, tablet computers and other mobile devices that have become indispensable for people's lives, UACJ supplies aluminum components that allow its customers to manufacture a diverse range of products.

## **Building materials**

### Utilizing aluminum's diverse properties to improve productivity and urban design

UACJ supplies aluminum building materials to construction companies, helping them work more efficiently and make urban areas more attractive by taking advantage of aluminum's beauty, corrosion resistance and durability.



## Over one million tons of production capacity

As a world-leading aluminum manufacturer with over one million tons of annual production capacity, UACJ delivers high-precision and dependable products of the highest quality to customers all over the world.

# Aluminum's Power Naximized



Hot rolling line

# World-leading manufacturing facilities

The UACJ Group operates many uniquely equipped manufacturing facilities, including one of the world's largest hot rolling mills featuring a total length of 400 meters and a width of 4.3 meters. It also owns Japan's largest melting furnace and a highly productive four-stand hot finishing rolling mill. Leveraging these facilities, the Group can manufacture high-quality goods and massive products that its competitors cannot produce.



Four-stand hot finishing rolling mill



# Integrating R&D with manufacturing technologies

UACJ's manufacturing and research divisions work closely together to promptly respond to the needs of customers, allowing UACJ to supply highly dependable products that enable customers to raise product quality and boost productivity.

Using a trial rolling line

# Taking Aluminum's Power to the World

# A global supply network based in Japan, the U.S. and Thailand

Europe

As an international aluminum manufacturer, the UACJ Group has established a global supply network. From Japan, the Group efficiently supplies a wide range of products to markets in Asia by leveraging an optimized production system comprised of four factories at the helm of its flat rolled products business. The Group also utilizes its manufacturing plant in Thailand—the only fully integrated flat rolled aluminum facility in Southeast Asia—to supply can stock, automotive body sheet and heat exchanger materials, demand for which is on the rise in tandem with Asia's economic growth. From the United States, the Group supplies can stock to the North American market primarily manufacturing. It also supplies high-quality aluminum parts and components with the strongest brand power in North America in response to rapidly growing demand in the automotive market. In addition, the Group's manufacturing facilities in the Czech Republic supply heat exchanger materials to the European market. All of these production facilities work together to meet global demand while complementing each other's operations and regions.







# UACJ's Manufacturing Capabilities

UACJ supplies products that are indispensable for people's lives, their communities and society at large. Leveraging its diverse technologies and manufacturing capabilities, UACJ makes the most of aluminum's unique properties to meet customers' needs with comprehensive solutions.







#### Functions improved by adopting aluminum

**Reduces weight** 

Saves energy

Allows more design options

Enables more functions Lengthens product life

Ensures durability



# Flat rolled products business

As the UACJ Group's main business, the flat rolled products business boasts a global supply network, some of the largest facilities in the world, and world-leading productivity. Leveraging that productivity, the Group supplies a wide range of products such as flat rolled aluminum for can stock, for which it has the top market share in Japan.

#### Main products

#### Beverage can stock



Aluminum for can bodies, lids and caps

#### Airplane components



Aluminum sheet and components

#### Automotive components



Body sheet

#### Ship components



Aluminum plate for LNG tankers



near exchanger materials

#### Smart device components



Device casings and chassis

#### Air-conditioning equipment



compressor mis

#### Industrial machinery



Plates for liquid crystal/semiconductor manufacturing equipment

#### Advantage 1

## A production network optimized for meeting market demand

The UACJ Group manufactures products for various industries, including can stock for the beverage cans people use every day, as well as automobile parts and large components for airplanes and rockets. The Group supplies products that meet high standards for quality and are tailored to customers' needs by leveraging an optimized production network designed to enable each manufacturing plant to perform at its best in collaboration with the Group's R&D divisions. Meanwhile, the Group's production plant in Thailand, Rayong Works, supplies flat-rolled aluminum across a broad area spanning from the Middle East to Australia in response to widespread demand.



#### Advantage **2** Aluminum rolling facilities facilitate high quality and productivity

A hot rolling mill at one of the UACJ Group's production plants is 400 meters in length and 4.3 meters wide—making it among the largest in the world. Other plants are equipped with four-stand hot finish rolling mills capable of flattening 30-millimeter-thick aluminum to about two millimeters with a single roll, and six-high cold rolling mills featuring world-class speed and precision. By deploying these highly productive facilities, the Group supplies customers with top-quality products as well as items larger than what its competitors can produce.



Hot rolling mill





Six-high cold rolling mill

#### CLOSE UP

## Boosting production capacity of automotive body sheet amid the need for lighter vehicles

The auto industry has adopted aluminum as a material to reduce vehicle weight and improve mileage. In response, UACJ has been bolstering its supply network by newly installing automotive body sheet production lines at its Nagoya Works and Fukui Works in Japan.





## **Extrusion business**

The UACJ Group deploys a wide array of extrusion techniques to manufacture aluminum components of diverse shapes, such as pipes, rods, and formed materials for various kinds of vehicles. The Group responds to wide-ranging needs for extruded products that offer even more value, such as complex shapes and high strength.

#### Main products

#### Automotive components



Frames

#### Tractor-trailer components



Trailer side gates



Sub-frames

#### Smart device components



Smartphone casings



Heat exchanger materials and tubing

#### Office equipment



Magnetic rolls and heat rolls

#### Motorcycle components



Frames and front forks

#### **Pneumatic equipment**



Air cylinders



5,600-ton extrusion press

#### Advantage 1

#### Japan's largest and most advanced extrusion presses capable of delivering the quality required by the aerospace industry

Aluminum components for airplanes and rockets are very long and wide and require extremely precise measurements. To ensure these conditions are met, very powerful indirect extrusion presses are needed. Among only a dozen or so of such presses currently operating in Japan, UACJ owns eight, and works to meet the needs of the aerospace industry by making use of its huge 5,600-ton extrusion press and Swindell quenching furnace. At the same time, UACJ's extrusion business supplies high-quality parts and components with highly accurate dimensions, including small parts for motorcycles and office equipment.

#### Advantage **2** Ability to produce products that customers need to overcome challenges

UACJ has been building up expertise in aluminum alloys and mold design through many years of experience and is applying it to extrude irregularly shaped items and thin materials, and to extrude machine objects that are difficult to form because they have multiple passages inside. For example, UACJ manufactures multi-hole tubing for automotive heat exchangers with thinner materials in order to reduce weight and improve heat transfer, which are key challenges facing customers.

Swindell quenching furnace



Cross-sectional diagram of multi-hole tubing for automotive heat exchangers



Using software to design dies

#### CLOSE UP

## Contributing to raising the quality of automotive structural components as demand rises

Amid efforts to make automobiles lighter in weight, automakers are increasingly adopting aluminum structural components. UACJ's extrusion business has been working to meet growing demand by installing state-of-the-art equipment and teaming up with the Group's precision-machined components business.





# Foil business

Utilizing a strict inspection system and clean rooms that comply with good manufacturing practices, UACJ's foil business manufactures a wide range of products, including packaging foil for food and pharmaceutical goods as well as foil for lithium-ion batteries.

#### Main products

#### Battery components



Aluminum foil for lithium-ion batteries

#### Food packaging

#### Capacitor materials



Aluminum foil for electrolytic capacitors

#### Electrical components



Wire harnesses materials

#### Pharmaceutical packaging



Aluminum foil for pharmaceutical packaging

#### **Construction materials**



Aluminum foil for household goods



Aluminum foil for food packaging



Bottle cap foil



Hole-filling materials

#### Advantage 1

#### Comprehensive capabilities for developing and manufacturing various kinds of foil made from aluminum, copper, tin and lead

Easy to process and attractive in appearance, metallic foils are used in all kinds of everyday products. UACJ's foil business supplies products to a wide range of industries by manufacturing a diverse lineup of metallic foils made not only from aluminum but also copper, tin and lead.



Aluminum foil



Copper foil

### Advantage **2**

#### Production conditions complying with good manufacturing practices to ensure safe and dependable products

Since packaging materials for food and medical products require a very high level of hygienic management, our main foil factories maintain extremely hygienic production environments to prevent any foreign substances from affecting the products. All of these foil factories are equipped with air showers, cleanrooms, and separate booths for each production process. This strict production system complies with good manufacturing practices set for medical product manufacturing and quality control.





Packaging materials for medical instruments

#### CLOSE UP

## Japan's sole manufacturer of foil for each electrode of lithium-ion batteries

Lithium-ion batteries are used in a broad array of products, from smartphones and notebook computers to electric vehicles. The electrodes of these batteries are made from foil, specifically aluminum foil for the cathode and copper foil for the anode. UACJ is the only manufacturer in Japan that makes materials for both of these electrodes, and has secured a leading share of the market for cathode aluminum foil in particular. By drawing on its advanced alloying and flat-rolling technologies, UACJ's foil business contributes to the production of lithium-ion batteries with higher output, lighter weight, and longer service life.





# Casting and forging business

UACJ's casting and forging business primarily manufactures forged and cast aluminum products that are used in a wide range of vehicles, including airplanes, rockets, bullet trains, and automobiles. The business applies proprietary manufacturing technologies and makes use of specialized equipment to meet customers' expectations.

#### Main products

Automotive components



Compressor wheels

#### Aerospace components



Brake calipers



#### **Railcar parts**







Axle bearing housings



Air-conditioner parts

#### Ships



Engine pistons

Rings up to 4,000 mm in diameter



Structural components

#### Advantage 1

#### Large-scale forging facilities capable of manufacturing products for the aerospace industry

UACJ's forging plants are equipped with massive presses with forming loads of 15,000 tons as well as other facilities for manufacturing large-scale forged products, such as huge ring-shaped components for airplanes and rockets, and frame components for aircraft wings and fuselages. Having acquired certification for product quality under the National Aerospace and Defense Contractors Accreditation Program (Nadcap), the plants meet the strict quality requirements of the aerospace industry.



Die forging process





Open die forging process

Large-scale ring materials

#### Advantage **2**

#### A leading global market share for compressor wheels

As automakers produce smaller engines that consume less fuel in response to European exhaust gas emission regulations, demand for turbo chargers is growing in the automobile market. UACJ manufactures the compressor wheels that are fitted in these turbo chargers using two methods, and with a production volume of 10 million units annually, it has secured a leading global market share. UACJ applies casting technologies developed in its casting method to enable high strength and precise measurements. Its machining method is then applied to the compressor wheels using the Group's five-axis machining center, a machine which handles all processing from alloy development to integrated production.



Compressor wheels



Plaster mold production line

#### CLOSE UP

#### Working together with R&D divisions to supply high-performance products

Since compressor wheels are mainly used in automobiles and a broad range of vehicles, they require high strength and heat resistance. To supply such high-performance compressor wheels, UACJ's casting and forging business works together with R&D divisions to develop alloys of consistent quality.





With over a century of experience developing technology and cultivating know-how in the copper tubing business, UACJ manufactures pipes for air-conditioning equipment and cold and hot water facilities, copper parts for computers and electronic devices, and tubing for heat exchanger equipment. UACJ takes advantage of copper's heat-conductive and corrosion-resistant properties when developing products and expanding their applications.

#### Main products

#### Air-conditioning equipment



internally grooved copper tabes

#### Power generation equipment



Copper duplex tubes

#### Plumbing equipment



Cold and hot water pipe covers

#### **Copper pipe fittings**



Thick fittings for CO<sub>2</sub> refrigerants

#### EcoCute parts



Water heat exchange pipes

#### Mechanical pipe fittings



Specialized pipe fittings

#### Medical equipment



Clean tubes for gas pipes

#### Heat pipes



Heat pipes

Internally grooved copper tubes



#### Applying many years of expertise to develop high-performance products

The copper tubing business strives to accurately meet the diverse needs of customers by drawing from its many years of product development. Applying this extensive expertise, it has increased the heat transfer performance of copper tubes by improving the grooved coils inside them and developed a new product under the brand name DANT to prevent refrigerant gas leakages of air-conditioning equipment.

#### 700 Trapezoidal grooves and fins that are more numerou shorter and have a higher lead angle Comparative performance ratio of a single pipe (base value of 100%) Heat performance ratio (actual evaporation/potential evaporation coefficients) 600 Condensation performance ratio Trapezoidal grooves and taller and slimmer fins (condensation coefficient) 500 Trapezoidal gro and slimmer f /aporatio Trapezoidal 400 425 300 Condensation 275 275 250 250 200 200 200 175

1990

1995

2000

2005

2010 (vear)

### Advantage **2** A one-stop supplier of

high-performance machined copper tubing products The UACJ Group manufactures copper finished and machined products in addition to copper and copper-alloy tubes and pipes. It develops and supplies high-performance finished products that demonstrate excellent thermal efficiency based on

performance tests. Serving as a one-stop supplier handling everything from product design through to mass production, UACJ's copper tubing business helps customers

speed up their manufacturing operations.

History of improvements of internally

120

1985

1980

grooved copper tubes

100

0

Axle bearing oil coolant tube



Heat pipe-fitted heat sink

#### CLOSEUP

#### Developing products in response to needs at construction sites

Japan's construction industry is currently facing a shortage of construction workers and difficulties in passing down skills to new workers. In an effort to help deal with these issues, UACJ's copper tubing business has developed air-conditioner pipe joints called RG Press, which require no welding, as well as specialized tools for the product. By using this product, construction companies can reduce the time needed for installation work and maintain good piping quality independent of the skill levels of their workers.







# Precision-machined components business

UACJ's precision-machined components business applies technologies and operates facilities for all kinds of machining needs, ranging from roll forming and joining to surface treating and coating. While drawing from the UACJ Group's expertise in metallic materials, the business offers machining solutions optimally tailored to customers in a wide array of industries.

#### Main products

#### **Vehicle parts**



Automotive components

#### **Construction materials**



Expansion joint covers



Train interior components



Display cases

#### Industrial machinery



Aluminum vaporizers

#### Industrial crafts and facilities



Swimming pool fixtures



Parabolic antennas



Temple and shrine furnishings

#### Advantage **1** Expertise in metallic materials applied in machining technologies

Products manufactured by the precision-machined components business come in a wide variety of sizes and shapes and are used for a broad array of products and applications, including cars, trains, and other types of vehicles, as well as buildings, swimming pools, and even temples and shrines. All of these applications are made possible by UACJ's machining technologies. In addition to cutting-related machining, we can form objects into bent or compressed shapes, join together various materials and formed components, and treat the surface of objects with coatings, coloring, and films. With these capabilities, the precision-machined components business is able to handle customers' requests at every stage from product planning and design through to each production process.



#### Advantage **2** Specialized equipment for diverse machining processes

Factories operated by the precision-machined components business are equipped with machines designed for diverse machining processes. Among them are huge cutting machines capable of slicing through aluminum, copper, multi-alloyed metals and various other materials. The business's five-axis machining centers are also equipped with high-precision machining presses with the longest stroke lengths in Japan. Meanwhile, UACJ has installed friction stir welding equipment, which has attracted attention as a method for joining automotive parts made from different materials. The equipment enables high-quality joints to be formed with minimal strain and little impact from heat, and also results in fewer CO<sub>2</sub> emissions and lower costs. Through the use of these various types of equipment, the precision-machined components business offers optimally tailored solutions to customers.



Large cutting machine



Friction stir welding equipment



Brazing furnace



Anodized surface treatment line

#### CLOSE UP

#### Honeycomb panels enable incredible reductions in material weight

With air making up about 97% of their volume, honeycomb panels are the most lightweight type of aluminum panels, which makes them very useful for construction sites as easily transported materials. Honeycomb panels manufactured by UACJ are flat, extremely strong, highly rigid, and have been used in many structures from famous landmark buildings to airports, train stations, and schools.





## UACJ's R&D

UACJ develops products and technologies in partnership with its customers to realize valuable new ways of using aluminum. Its R&D Division plays a pivotal role in these endeavors as the UACJ Group's main research and development facility.

Aiming to promote innovation, the R&D Division carries out basic research with a long-term outlook for the purpose of discovering new possibilities for aluminum and copper, and pursues product development with the goal of responding to the needs of customers, which manufacture a wide range of products spanning from everyday items like beverage cans to highly advanced rockets.

Leveraging more than 100 years of expertise, the UACJ Group is striving to create new value by adding more value to materials and helping manufacturers develop better products.

#### Developing materials and production processes that bring out new possibilities of aluminum

Boasting a variety of unique properties, aluminum can be used for a wide range of applications if the right chemical elements are added for the intended purpose. UACJ develops materials and manufacturing processes that utilize this potential of aluminum by collaborating with leading universities and participating in national projects.

#### CLOSE UP

#### Creating an R&D network targeting local needs

With a global outlook, UACJ has been carrying out research and development at its R&D Division in Japan for many years. In addition, we have established R&D divisions in the United States and Thailand to respond to needs in their respective regions. All of these facilities collaborate with the Group's production plants and sales offices while promptly providing technical services precisely tailored to customers as well as developing new products and technologies in response to customers' needs.

#### Developing value-added materials that contribute to customers' products

UACJ carries out product development in close cooperation with its group companies and customers in order to tailor products to their respective needs. Through various means, such as recreating and assessing its customers' production environments, UACJ develops products that help its customers solve problems in their manufacturing operations.

#### **Examples of products developed by UACJ**



#### Helping reduce vehicle weight with lightweight aluminum bumper assemblies

UACJ has developed lightweight bumper assemblies in collaboration with major automakers. It helped optimize the materials and construction of each component of the assemblies while aiming for the highest level of strength, superior design, and light weight. As a result, the assemblies are about 30% lighter than conventional products.



## High-strength aluminum alloy for increasingly large smartphones

Manufacturers have been concerned about insufficient strength of smartphone bodies as screens have become increasingly larger. In response, UACJ developed ZK75, a high-strength 7000-series extruded aluminum alloy specifically for smartphones and similar devices. Featuring twice the strength of widely used 6000-series alloys and offering outstanding alumite properties, ZK75 is highly suited for products that require a stylish design and beautiful color finish.



## Preventing gas leakages from air conditioners with corrosion-resistant copper tubes

Gas leakages from air-conditioning systems, including room-size units, can occur due to the corrosion of copper tubes. To help prevent such leakages, UACJ has developed corrosion-resistant copper tubes made with an optimal amount of phosphorus, which greatly slows down the rate of corrosion.

#### CLOSE UP

#### Developing innovative materials for national projects

In addition to its own R&D, UACJ participates in national projects in Japan. For example, in a project led by the New Energy and Industrial Technology Development Organization intended to make airplanes lighter and more fuel-efficient, UACJ is developing the world's strongest aluminum alloy and

enabling it to be produced domestically. UACJ expects that the technologies developed through this project will also be useful in other areas, including product development in the auto industry.



#### **Product Quality**

## Ensuring and enhancing product quality to earn the satisfaction and trust of customers

The UACJ Group aims to offer products and services that earn the satisfaction and trust of customers, as stated in its Basic Product Quality Policy. Accordingly, it works to improve product quality by implementing quality control practices specific to each worksite in addition to deploying quality control measures across the Group. Strict quality inspections are conducted by highly experienced personnel, and state-of-the-art testing and inspection equipment are used to maintain a highly precise inspection system.

The vital importance of product quality for customer satisfaction is included as an item in UACJ's Management Philosophy and Basic Product Quality Policy. On that basis, the Group makes use of periodic customer satisfaction surveys and feedback directly obtained from customers to improve product quality.

#### **Basic Product Quality Policy**

- 1. We will constantly strive to improve our capabilities in technological development, quality management, and customer service to offer products and services that earn the satisfaction and trust of customers.
- 2. We will comply with all relevant requirements concerning product quality.
- 3. We will make ongoing improvements to our quality management systems.
- 4. We will carefully set product quality objectives and review results and allocate operational resources for that purpose as needed.
- 5. We will take steps to ensure that all members of the Group understand its policies on quality and participate in initiatives for improving quality.

## Maintaining quality control in line with the strict requirements of international standards

UACJ manages product quality in accordance with its own product quality control system as well as with internationally certifiable quality management systems. UACJ has earned a strong reputation for its pioneering quality control capabilities. For instance, it was the first company in Japan's aluminum industry to acquire AS9100 certification, the international standard for quality management systems in the aerospace industry, which sets extremely high requirements for quality.



A quality management certificate



**Human Resources** 

Promoting workplaces that enable employees to deal with the changing operating environment

## Utilizing the skills of experienced manufacturing personnel in human resources training

As a manufacturer, UACJ makes sure to pass down skills to younger generations of employees. Accordingly, experienced personnel act as trainers in various workplaces, teaching junior employees about the approaches, skills, and know-how they gained over many years. In these training sessions, participants are taught to take pride in and responsibility for their work, and to complete their duties individually while giving priority to customers and after-sales service. Through that approach, employees can help maintain product quality and continuously raise productivity. By passing down the refined skills of experienced personnel to develop human resources, UACJ has built a solid foundation to ensure ongoing customer satisfaction.

#### Empowering employees to realize their potential while recognizing diversity as a source of competitiveness

At UACJ, empowering diverse employees to realize their potential is recognized as important for the Group's international expansion and its ability to enter new markets. Therefore, UACJ promotes workplaces that are comfortable and accessible for all employees, regardless of their gender, age, nationality, or disability. Its initiatives include actively promoting the success of women in its workplaces, facilitating international exchanges among employees, and assisting personnel with career planning using a human resources database of skills and expertise.

## Making work more rewarding for employees through workplace reforms

In Japan, workplace reform initiatives are being implemented in earnest by employers across the country. UACJ is carrying out its own workplace reforms to raise productivity and make work more rewarding for its employees. This reform project is not limited to managing working hours, but is also driven by the conviction that services provided by highly motivated employees will please customers, and a company with such a workplace culture will be indispensable to society.





#### **The Environment**

## Helping reduce environmental impact by promoting wider adoption of aluminum

#### Making use of environmental management systems to successfully implement and enhance environmental initiatives

The UACJ Group has established an environmental management network for the purpose of reducing the environmental impact of its business activities and ensuring full compliance with environmental laws and regulations. The network is made up of various management organizations responsible for environment-related activities, including the Environmental Committee. Many of the Group's factories have acquired certification for environmental management systems, particularly the ISO 14001 international standard as well as the Eco-Action 21 system established by Japan's Ministry of the Environment. UACJ also sets fiscal year goals and action plans based on group-wide environmental policies, and all members of the Group work to beat targets and achieve continuous progress.

#### Main goals of environmental initiatives

	Goals
To prevent environmental accidents	Completely eliminate accidents
To fight global warming	Reduce the rate of energy consumption
To promote recycling in society	Reduce industrial waste and eliminate waste sent to landfills
To properly manage chemical substances	Reduce the use of regulated chemical substances

#### Aluminum stands out as a highly recyclable material

The UACJ Group actively promotes the recycling of aluminum cans because the amount of electricity consumption required to produce an aluminum ingot from recycled aluminum cans can be limited to only about 3% of the amount needed to produce a new ingot from ore. To take advantage of this, one of the Group's factories in the United States has installed a scrap melting furnace for recycled cans. As a result, melted cans now account for about 80% of the raw materials it uses to manufacture aluminum for cans.



The Group's scrap melting furnace in the United States



#### **Corporate Governance**

## Establishing a highly transparent governance system while working to raise corporate value

UACJ has been taking steps to diversify the membership of its Board of Directors in order to enhance the Board's supervisory function. The efficacy of the Board of Directors is also periodically evaluated and improvements are made based on the results. Moreover, four of the six members of the Audit & Supervisory Board are outside auditors, an arrangement that enhances its auditing function. Meanwhile, management appropriately discloses financial results and news concerning the UACJ Group's operations, and takes steps to ensure that all members of the Group comply with high standards of corporate ethics. With the international expansion of its operations, the UACJ Group has been putting in place a global management system, which includes risk management. As part of these efforts, non-Japanese nationals have been appointed to executive management positions and compliance-related training is provided at workplaces outside Japan.



#### **Corporate Governance System**

#### Group Companies (As of January, 2019)

## Europe Germany



UK



UACJ Extrusion Czech s.r.o. (Czech Republic)



RUYUAN DONGYANGGUANG UACJ FINE ALUMINUM FOIL CO., LTD. (China)



## Oceania

#### Overseas

#### Flat rolled products business

- UACJ (Thailand) Co., Ltd. (Thailand)
- Tri-Arrows Aluminum Holding Inc. (USA)
- Tri-Arrows Aluminum Inc. (USA)
- Logan Aluminum Inc. (USA)
- Bridgnorth Aluminium Ltd. (UK)
- RUYUAN DONGYANGGUANG UACJ FINE ALUMINUM FOIL CO., LTD. (China)
- UPIA Co., Ltd. (South Korea)

#### Extrusion business

- UACJ Extrusion (Tianjin) Corporation (China)
- PT. UACJ-Indal Aluminum (Indonesia)
- UACJ Extrusion (Thailand) Co., Ltd. (Thailand)
- UACJ Extrusion Czech s.r.o. (Czech Republic)

#### Foil business

• UACJ Foil Malaysia Sdn. Bhd. (Malaysia)

#### Casting and forging business

UACJ Foundry & Forging (Vietnam) Co., Ltd. (Vietnam)

#### **Copper tubing business**

• UACJ Copper Tube (Malaysia) Sdn. Bhd. (Malaysia)

#### Precision-machined components business

- UACJ Metal Components North America, Inc. (USA)
- UACJ Metal Components Mexico, S.A. de C.V. (Mexico)
- UACJ Metal Components Central Mexico, S.A. de C.V. (Mexico)
- UACJ Metal Components (Thailand) Co., Ltd. (Thailand)
- P.T. Yan Jin Indonesia (Indonesia)
- UACJ (Wuxi) Aluminum Products Corporation (China)

#### Others

- UACJ Automotive Whitehall Industries, Inc. (USA)
- UACJ North America, Inc. (USA)
- SHANGHAI UACJ DONGYANGGUANG ALUMINUM SALES CORPORATION (China)

- UACJ MH (Thailand) Co., Ltd. (Thailand)
- UACJ (Shanghai) Aluminum Corporation (China)
- UACJ ELVAL Consulting S.A. (Greece)
- UACJ ELVAL HEAT EXCHANGER MATERIALS GmbH (Germany)
- UACJ Trading (Thailand) Co., Ltd. (Thailand)
- UACJ Trading (Shanghai) Co., Ltd. (China)
- UACJ Trading (Kunshan) Metal Products Co., Ltd. (China)
- UACJ Trading (HongKong) Co., Ltd. (China)
- UACJ Trading (Dalian.F.T.Z.) Co., Ltd. (China)
- UACJ Trading Czech s.r.o. (Czech Republic)
- UACJ Trading (America) Co., Ltd. (USA)
- UACJ Marketing & Processing America, Inc. (USA)
  - UACJ Marketing & Processing Mexico, S.A. de C.V. (Mexico)
  - UACJ Australia Pty. Ltd. (Australia)
  - Boyne Smelters Ltd. (Australia)

## North America

USA

Mexico



Logan Aluminum Inc. (USA

## Japan



Fukui Works



Fukui

Nagoya Works



Head Office (Tokyo)

#### Japan

#### Flat rolled products business

- UACJ Color Aluminum Corporation
- UACJ Fukaya Service Corporation
- UACJ Nagoya Alupack Corporation
- Sansen Co., Ltd.
- Furukawa UACJ Memory Disk Co., Ltd.

#### Extrusion business

- UACJ Extrusion Corporation
- UACJ Extrusion Oyama Corporation
- UACJ Extrusion Nagoya Corporation
- UACJ Extrusion Gunma Corporation
- UACJ Extrusion Shiga Corporation
- Light Metals Extrusion Development Co., Ltd.
- Nihon Cooler Co., Ltd.

#### Foil business

- UACJ Foil Corporation
- Nikkin Co., Ltd.
- UACJ Foil Sangyo Corporation
- UACJ Foil Service Corporation

#### **Casting and forging business**

 UACJ Foundry & Forging Corporation • HIGASHI NIHON TANZO CO., LTD.

#### Copper tubing business

- UACJ Copper Tube Corporation
- UACJ Copper Tube Sales Corporation
- Toyo Fitting Co., Ltd.
- UACJ Copper Tube Packaging Corporation

#### Precision-machined components business

- UACJ Metal Components Corporation
- NALCO Koriyama Co., Ltd.

#### Others

- UACJ Trading Corporation
- Izumi Metal Corporation
- KAMAKURA INDUSTRY COMPANY LIMITED
- UACJ Marketing & Processing Corporation
- UACJ Aluminum Center Corporation
- ACE21 Corp.
- Metal Cut Co., Ltd.
- UACJ Logistics Corporation
- UACJ Green-net Corporation

#### History

#### Furukawa-Sky Aluminum Corp.

	1910	Started resea	rch of alumin	um electrio	c wire.		Oct. 200				,	uminum Cor	p. through r	merger of	
	1921	Started resea	rch and pilot	productior	n of duralumin.	of duralumin.			the companies' aluminum businesses. Established Furukawa-Sky Aluminum (Thailand) Co., Lt						
	<b>1933</b> Completed construction of plant for		manufacturing	manufacturing		10	Established	d Furukav	wa-Sky Alı	uminum (Tha	ailand) Co., l	_td.			
		aluminum pla	ates in Nikko,	Tochigi Pre	gi Prefecture.	Aug. 20		Jointly acquired shares with			1 3		2		
	Dec. 1964	Established Sł	<y aluminum<="" th=""><th>Co., Ltd. th</th><th>nrough a joint v</th><th colspan="3">ough a joint venture</th><th colspan="4">Sumitomo Light Metal Industries, Ltd. based in the U.S., and</th><th></th><th></th></y>	Co., Ltd. th	nrough a joint v	ough a joint venture			Sumitomo Light Metal Industries, Ltd. based in the U.S., and						
					ompanies of Showa Denko			rolled aluminum sheet manufacturer and supplier Tri-Arrows Aluminum Inc.			I-Arrows				
					A), and Yawata										
		(currently NIPI	PON STEEL & S	SUMITOMC	D METAL CORPO	ORATION).	Mar. 20'	12	Began con	structior	n of alumir	num rolling r	mill in Thaila	and.	
	May 1983	Completed c		f	10									Conter To	
		strip rolling fa			Concession of	- Aller						New York			
		Mikuni, Fukui	Prefecture.	-	a second	- San				-Hop				A	
	Jan. 1998	Initiated alum		al.	105 223	13 m						Can and	and the second second	13	
		business tie-u			and a	-							- A		
		Furukawa Ele and Sky Alum											No.	-	
			iniuni co., etc	*• FUKUI V	Works at the time of	completion						Rayong Worl	KS		
							_								
	<b>10</b> // Established SKY														
	<b>1964</b> Established SKY Aluminum Co., Ltd.														
												າດກາ		es merged to	
		101	0									2003	create Fu Aluminur	rukawa-Sky	
		17	Researc	h of alum	ninum electric	wire begur	n at Furukawa B	Elect	tric Co., Lt	d.			Aluminui	n corp.	
1890	1900	1910	<b>1920</b>	1930	1940	1950	1960	197	0 19	80	1990	2000			
							1959	Esta	ablished S	umitom	o Liaht N	Aetal Indus	tries, Ltd.		
							1/0/				- <b>J</b> -				
	1897 Established Sumitomo Shindo-io in Osaka Shindo-io in Osaka														
	107/	Shindo-jo in			1733	Established	Sumitomo Me	talli	ndustries,	Ltd.					

#### Sumitomo Light Metal Industries, Ltd.

- Apr. 1897 Established Sumitomo Copper Rolling Works in Osaka to commence copper rolling operations.
- **1898** Commenced aluminum rolling operations at same plant.
- Sep. 1935 Established Sumitomo Metal Industries Co. Ltd. through merger of Sumitomo Steel Tube and Copper Works and Sumitomo Steel Works Co., Ltd.
- Sep. 1941 Constructed Nagoya Light Alloy Works.

Aug. 1959 Copper products and aluminum divisions split from Sumitomo Metal Industries to form Sumitomo Light Metal Industries Co., Ltd. (commencing operations Sep. 1).



Nagoya Light Alloy Works (currently Nagoya Works) Mar. 1969 Constructed state-of-theart copper tube factory (copper rolling works) in the Hoi District of Aichi Prefecture (currently Toyokawa City) to expand wrought copper operations.





Copper tubing works (currently copper tubing works of UACJ Copper Tube Corporation)

Sep. 1993 Modernized Nagoya Works aluminum rolling equipment.

Aug. 2011 Jointly acquired shares with five companies including Furukawa-Sky Aluminum Corp. in U.S. rolled aluminum sheet manufacturer and supplier Tri-Arrows Aluminum Inc.

Jun. 1966 Commenced operation of new aluminum hot rolling equipment.

#### UACJ

Oct. 1, 2013	<b>UACJ Corporation</b> established by merging the businesses of Furukawa-Sky Aluminum Corp. and Sumitomo Light Metal Industries, Ltd.
Dec. 2013	<b>UACJ Foil Malaysia Sdn. Bhd.</b> established following the acquisition of aluminum foil manufacturing and sales company Hydro Aluminium Malaysia Sdn. Bhd. by consolidated subsidiary Nippon Foil Mfg. Co., Ltd.
Jan. 2014	<b>UACJ Foil Corporation</b> established by merging the businesses of consolidated subsidiaries Nippon Foil Mfg. Co., Ltd. and Sumikei Aluminum Foil Co., Ltd.
Jul. 2014	UACJ Trading (America) Co., Ltd. established by consolidated subsidiary UACJ Trading Corporation.
Oct. 2014	Automotive parts manufacturer and seller Iwai Metal Central Mexico, S.A. de C.V. (currently <b>UACJ Metal Components</b> Central Mexico, S.A. de C.V.) began operations.
Dec. 2014	First "Global Step I" mid-term management plan announced.
Aug. 2015	Furukawa UACJ Memory Disk Co., Ltd., manufacturer and seller of materials for aluminum memory disk substrates established through a joint venture with Furukawa Electric Co., Ltd., began operations.
Aug. 2015	Integrated production started at the Rayong Works of UACJ (Thailand) Co., Ltd.
Jan. 2016	UACJ ELVAL HEAT EXCHANGER MATERIALS GmbH, sales company of automotive heat exchanger materials for European

**2013** UACJ Corporation established.

markets, began operations in Germany.



Feb. 2016	Increased stake in <b>RUYUAN DONGYANGGUANG UACJ FINE ALUMINUM FOIL CO., LTD.</b> , a supplier of automotive heat exchanger materials in China, and decision made to establish a joint-venture company, <b>SHANGHAI UACJ</b> <b>DONGYANGGUANG ALUMINUM SALES CORPORATION</b> , a sales company of heat exchanger materials in Shanghai, collaborating with the parent company of the aforementioned entity.			
Apr. 2016	Acquired a leading company in the North American automotive aluminum structural materials/parts market and launched it under the name of <b>UACJ Automotive Whitehall Industries, Inc.</b>			
Apr. 2016	Established UACJ North American Inc., a regional headquarters in the USA.			
Apr. 2016	<b>UACJ Metal Components Corporation</b> formed by merging three group companies: Nalco Iwai, NIKKEI KAKOH Co., Ltd. and Nalco Ena.			
Mar. 2017	Capital stock increased to 52,277 million yen.			
Apr. 2017	UACJ Marketing & Processing Mexico, S.A. de C.V. a sales company of automotive parts, established in Mexico.			
Apr. 2018	Established R&D Division (North America), our first overseas R&D base, at UACJ North America, Inc.			
May 2018	Second mid-term management plan announced.			
Oct. 2018	UACJ Aluminum Center Co., Ltd. was established after the consolidation of the coil center business functions of cutting and machining aluminum coil materials.			

Oct. 2018 Established **R&D Division (Thailand)**, making this the third country where UACJ R&D facilities are located (following Japan and North America).

#### **Company Overview**

Corporate Name Headquarters Representative Director & President	UACJ Corporation Tokyo Sankei Bldg., Otemachi 1-7-2, Chiyoda-ku, Tokyo, Japan Miyuki Ishihara
Principal Business	Manufacture and sales of flat rolled products, casting products, forged products and precision-machined products of nonferrous metals, including aluminum and copper, and alloys thereof.
Capital	52,277 million yen
Fiscal Year End	March 31

#### Locations

Works	
Nagoya Works	Chitose 3-1-12, Minato-ku, Nagoya-shi, Aichi, Japan
Fukui Works	Kurome 21-1, Mikuni-cho, Sakai-shi, Fukui, Japan
Fukaya Works	Uwanodai 1351, Fukaya-shi, Saitama, Japan
Nikko Works	Kiyotaki Sakuragaokamachi 1, Nikko-shi, Tochigi, Japan
Branches and Offices	
Chubu Office	Kanayama Place, Kanayama 1-13-13, Naka-ku, Nagoya-shi, Aichi, Japan
Kansai Office	Nakanoshima Mitsui Building, Nakanoshima 3-3-3, Kita-ku, Osaka-shi, Osaka, Japan
Kyushu Branch	ACROS Fukuoka, Tenjin 1-1-1, Chuo-ku, Fukuoka-shi, Fukuoka, Japan

#### R&D

Research & Development Division	Chitose 3-1-12, Minato-ku, Nagoya-shi, Aichi, Japan
Fukui Development Office	Kurome 21-1, Mikuni-cho, Sakai-shi, Fukui, Japan
Fukaya Development Office	Uwanodai 1351, Fukaya-shi, Saitama, Japan
North America	200 W Madison St. Ste 2150 Chicago, IL 60606, U.S.A.
Thailand	Innovation Cluster 2 Building, Tower D, Phaholyothin Road 111 Thailand Science Park Amphoe Khlong Luang, Chang Wat Pathum Thani 12120, Thailand





## Creating a prosperous future through the power of aluminum

Aluminum is an essential material for society today. Having successfully exploited the power of aluminum for many years, UACJ will continue striving to maximize the metal's potential going forward.

Using the power of aluminum, UACJ aims to bring joy to people everywhere while working to help create a prosperous and sustainable future.















## **UACJ** Corporation

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