# Promoting joint research and development with partners worldwide to contribute to society and the growth of the UACJ Group

UACJ's R&D Center is at the helm of the Group's research and development activities. Located next to Nagoya Works in central Japan, the center conducts highly advanced research on aluminum materials and related manufacturing processes, and oversees the development of the Group's mainstay products, including flat-rolled aluminum for can stock and automotive body sheet and components.

The R&D Center deals with customers directly, cooperates closely with UACJ's factories, and applies expertise accumulated for over a century of doing business. These unique advantages enable the center to become integrally involved in developing products according to customers' specifications and needs, and smoothly complete the products by installing prototypes onsite in advance. Consequently, UACJ has earned the trust of customers as the top aluminum product manufacturer in Japan.

In the industry today, however, manufacturing is being carried out at an increasingly fast pace. To achieve that speed, it is essential to share data and integrate a wide range of knowledge through open innovation. Accordingly, in fiscal 2018, the R&D Center initiated a policy of promoting collaborative research and development projects. Toward that end, it has been facilitating cooperation among its own researchers and with the Company's factories and sales divisions, while creating opportunities for collaboration with customers and leading research institutes in an effort to develop new technologies and products at an even faster pace.

In fiscal 2018, UACJ established two facilities for promoting collaborative R&D with other companies and

organizations: the U-Al Laboratory, an interactive exhibition space designed to appeal to potential collaborators, and an R&D facility on the premises of the National Institute of Advanced Industrial Science and Technology, one of Japan's largest public research organizations. This facility was established at the institute for the purpose of enabling highly specialized collaborative projects. Also in fiscal 2018, UACJ established its first R&D facility outside Japan in order to enable joint-research internationally. In addition, the R&D Center remodeled one of its floors, replacing private offices with an open innovation space as a means to stimulate collaboration among researchers.

Backed by the trust of customers, the R&D Center will continue to evolve by building on its expertise and capabilities through collaborative projects. Besides developing new technologies and products that meet the needs of customers and provide solutions, the center will work towards the Group's future vision: "Maximize the possibilities of aluminum in ways that contribute to society and the environment." In that way, we hope to continue earning the trust and meeting the expectations of customers and the public at large, and contribute to the growth of the UACJ Group and the communities it serves through research and development that is driven by the emerging needs of customers and society.

### Unique advantages of the R&D Center

#### **Direct interaction with customers**

The R&D Center responds to the product development needs of customers and helps optimize all of their manufacturing operations by modeling their production facilities to find solutions at the manufacturing stage.

#### Close cooperation with factories

In the event of a breakdown at a factory, relevant personnel are immediately dispatched to quickly return operations to normal, thereby helping prevent late deliveries and lower output.

## A long history of technologies and expertise

The R&D Center develops next-generation materials and manufacturing techniques by drawing from research findings and technological capabilities accumulated for over a century of business in the aluminum industry.





#### New facilities established for collaborative R&D

# New interactive exhibition space created to promote collaborative R&D with other companies

In February 2019, the R&D Center set up the U-Al Laboratory on its premises at Nagoya Works to allow visitors to observe and experience UACJ's technologies in an interactive exhibition space. The lab is showcasing UACJ's five core technologies, including not yet applied technologies and prototypes, with a view to combine them with technologies of other companies. It is also inviting academic researchers and suppliers to share a wide range of ideas for speeding up technological advances and product development.



#### R&D lab established with a national institute to jointly study advanced technologies

In June 2018, the R&D Center jointly established a research lab with the National Institute of Advanced Industrial Science and Technology as a facility for advanced research and development of aluminum. As one of Japan's largest public research organizations, the institute possesses a broad array of technology seeds. By integrating those technologies in areas being researched by UACJ,

the new lab is aiming to develop innovative aluminum materials and process technologies. It will also study ways to reduce the environmental impact of aluminum smelting and integrate AI and IoT in production processes in an effort to contribute to the development of the aluminum industry.

#### R&D facilities established in the U.S. and Thailand to support factories outside Japan

In April 2018, UACJ established a research and development center in the United States as its first such facility outside Japan. The new facility is developing advanced technologies and conducting market research while providing technical support to group companies that manufacture automotive aluminum body panels, which are increasingly in demand from the auto industry. UACJ also set up an R&D facility in Thailand in October 2018 to develop products tailored to local needs and help improve productivity at factories operated by UACJ (Thailand) Co., Ltd. Both new facilities are working closely with the Group's production plants to expand business in growing markets of North America and Asia.

