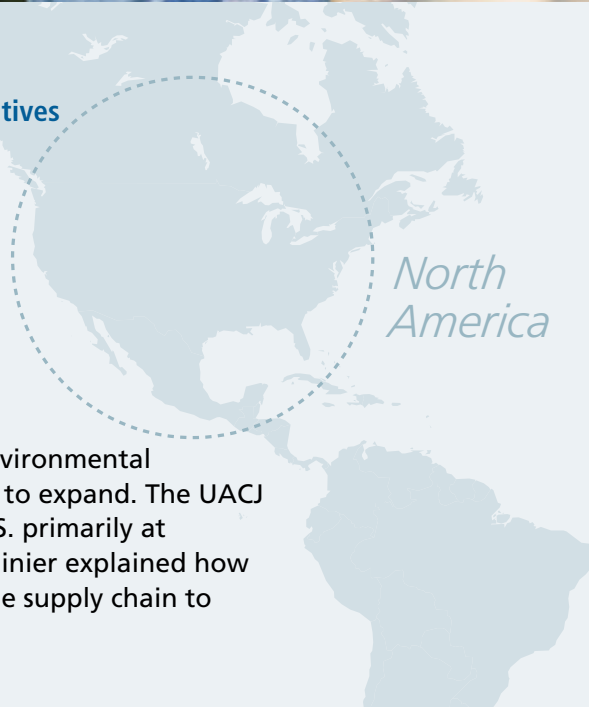




Special Feature | North American market | Recycling initiatives

Towards a sustainable supply chain in the world's largest can stock market

In the United States, the world's largest beverage can market, environmental awareness among consumers is growing as the market continues to expand. The UACJ Group manufactures flat-rolled aluminum for can stock in the U.S. primarily at Tri-Arrows Aluminum Inc. In this special feature, CEO Henry Gordinier explained how the company is promoting recycling and establishing a sustainable supply chain to ensure a stable supply of products.



North America

Supplying the growing can market

The U.S. is the world's largest consumer of can stock, with 93.2 billion cans used yearly compared with 22.2 billion in Japan. A reported 127,000 cans are recycled every minute, indicating the vast size of the recycling market.

At Tri-Arrows Aluminum, we see the growth in the U.S. can stock market as part of a longer term trend that is driven by two factors. Firstly, more brands are choosing the aluminum can for new product launches such as energy drinks, craft beers, and recently, even water. This past year, 60% of all new beverage products launched in North America were in cans, which is up from 35% just a couple of years ago. Secondly, the aluminum package supports environmental sustainability. Demand for the aluminum package has increased alongside a growing anti-plastic movement and consumer shifts to green products.

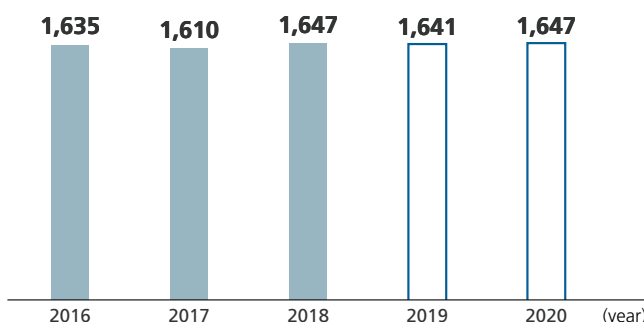
Notably, this growth in the U.S. can stock market is occurring alongside growth for aluminum auto body sheet, as well. The use of aluminum sheet provides for lighter vehicles and improvements in fuel economy standards. As a consequence of the market expansions, the overall balance between domestically produced supply and demand for aluminum sheet in the North American market is very tight. The market condition is exacerbated by U.S. trade policy and Section 232 of the Trade Expansion Act America, where imports, particularly from China, have decreased with the introduction of tariffs.

Against this backdrop, the Logan Mill has built a stable supply chain for can stock. The mill is co-owned by Tri-Arrows Aluminum, which is where the UACJ Group is mainly based in

North America, and has the number one productivity rate in the world as an aluminum rolling mill. Furthermore, the recycle furnace built last year, and the expansion of the cold rolling mill in September this year, will further maintain Logan Mills' position as the highest producer of can stock in the world. All these factors will help Logan Mill deliver high-quality value over the long-term, while meeting today's growing demands with its enhanced capabilities and capacity.

Past and projected demand for aluminum can stock in North America

(Thousands of tons)



Source: Aluminum Rolled Products Market Outlook published in May 2019 by CRU International Limited

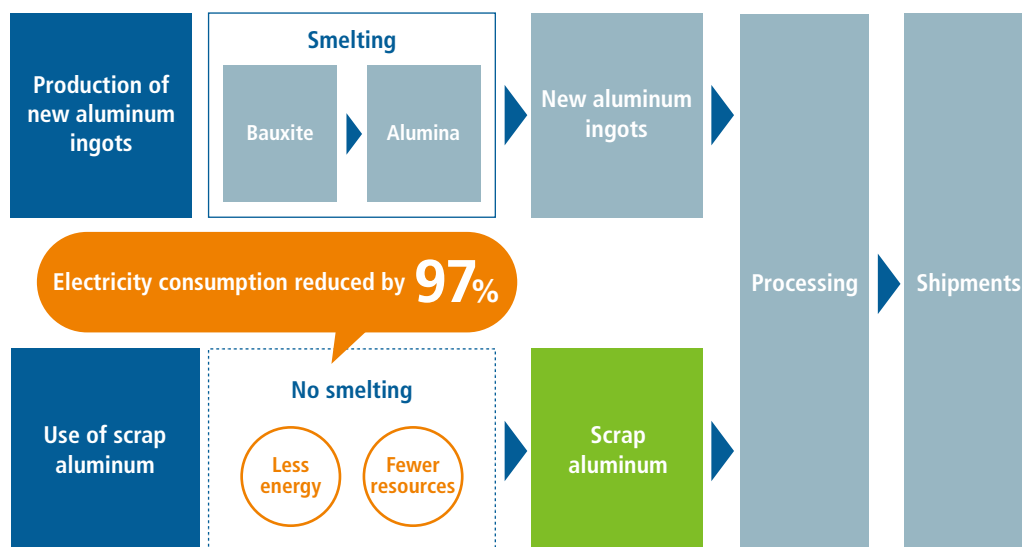
Scrap usage fuels our environmentally conscious business

Logan Mill operates within a sustainable supply chain that concludes in the U.S., meaning there is no need to use fuel for import or export purposes. Also, with the opening of the mill's recycling furnace in 2018, scraps have been used to make secondary metal instead of bauxite, which consumes less energy in the process. This is a sustainable initiative, especially when considering 80% of our materials for can stock is made from scrap. Now, nearly 40% of U.S. aluminum supply is created through secondary production in the largest can market in the world. By expanding its supply, Tri-Arrows Aluminum will contribute to aluminum recycling going forward.

Making aluminum from scraps is not only good for the environment, it is also cost effective. With the influence of new trade laws, aluminum scraps produced in the U.S. cannot be exported or sold to China. This has led to lowering the cost of scraps, resulting in more profit generated by Tri-Arrows Aluminum.

On top of that, we also use our recycling furnace to create ingots for can stock and supply our competitors, who are mainly focused on the automotive industry. This is all possible because of aluminum's high recyclability, which contributes a great deal to our environmentally friendly approach towards business.

Comparison of energy and resource usage in aluminum production



Henry Gordinier
CEO & President,
Tri-Arrows Aluminum Inc.



FOCUS ON

Logan Mill's drive for a sustainable planet

Logan Mill is very aggressive in terms of everything it can do to reduce its environmental footprint. It has a team focused on the running and environmental aspects of the plant, and are determined to find new ways to bring down CO₂ emissions, decrease the volume of chemicals used, and reduce the amount of wastewater produced.



The recycling furnace began operating in 2018.



Special Feature **Thailand** | Passing down technical skills

Contributing to Thailand's development by transferring UACJ's advanced manufacturing capabilities

In Thailand, a country undergoing rapid economic growth, two companies of the UACJ Group manufacture aluminum materials and products as key suppliers in Southeast Asia. While meeting growing demand in the region, the Group is contributing to Thailand's economy, providing employment opportunities, and developing the skills of workers.

UACJ Group contributions

Contributing to Thailand's economy High-quality aluminum products help drive Thailand's development

In Thailand, advanced industrial development is being promoted based on Thailand 4.0, a long-term economic model promoted by the Thai government. Aluminum is expected to be a key material for several of the 10 industries designated as important under the initiative, including next-generation vehicles, smart electronics, aerospace, and logistics. In the Southeast Asian market as a whole, demand for aluminum used for can stock and automotive heat exchangers is projected to grow as population and economic growth drive up personal consumption.

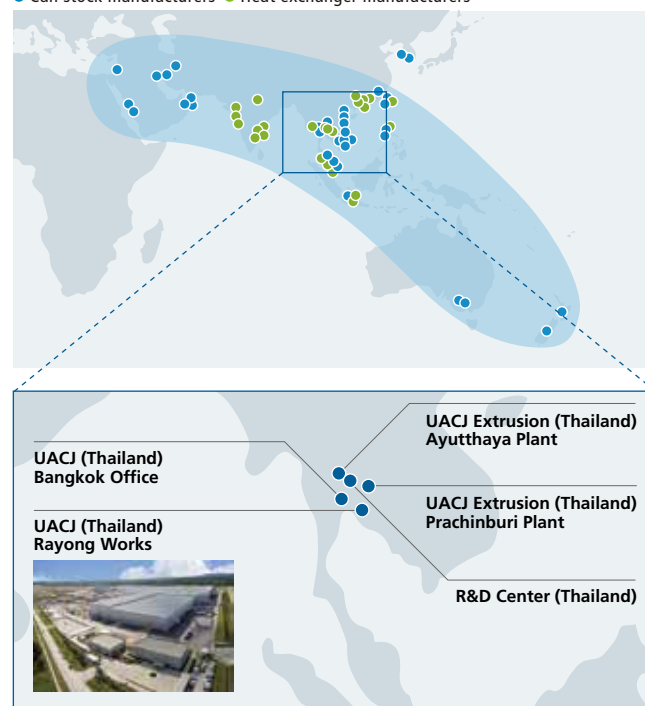
In 2015, UACJ (Thailand) Co., Ltd., established Rayong Works in Amata, a city in the province of Rayong, as Southeast Asia's first flat-rolled aluminum manufacturing facilities integrating all processes from casting to finishing. Since then, the factory has been supplying aluminum products to countries all over Asia. Amid rising demand in the canned beverage and automotive markets, the company steadily boosted annual production capacity to 320,000 tons by the autumn of 2019, making it a leading supplier in the region.

Meanwhile, UACJ Extrusion (Thailand) Co., Ltd., has been manufacturing aluminum materials for automotive heat exchangers at its Ayutthaya Plant and Prachinburi Plant, and supplying the products to the Asian factories of European automakers. The Prachinburi Plant is now planning to boost monthly production capacity to 600 tons in the near future.

While meeting demand from Asian countries, UACJ (Thailand) is also supplying products to the Middle East and Australia, and UACJ Extrusion (Thailand) has broadened its customer base to Mexico and Brazil, contributing to greater exports from Thailand.

UACJ Group offices and plants in Thailand

■ Area covered by UACJ Group companies
● Can stock manufacturers ● Heat exchanger manufacturers



● UACJ Group plants and offices

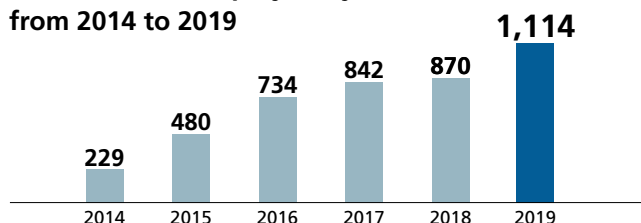
Recruiting and appointing employees to locally operate factories

UACJ recognizes the importance of hiring locally based workers to operate its factories. In line with this approach, UACJ (Thailand) has steadily increased the number of Thai employees since it began operating in 2014, and the total surpassed 1,000 employees in May 2019. In the future, UACJ's goal is to have its factories in Thailand run entirely by workers hired in Thailand.

When UACJ completes its third phase of investment in UACJ (Thailand)'s production facilities, they will be about the same size as UACJ's main factories in Japan. Preparations are being systematically undertaken to enable Thai employees to operate the facilities and lay the foundations for a domestic aluminum product manufacturing industry. In recent years, for example, Thai employees have been assigned to manage safety, an essential task at the factories. With the expansion of the factories, operating manuals for newly installed equipment are being created and inspections and follow-ups are being carried out to ensure the safety of employees.

UACJ Extrusion (Thailand) began operating several years before UACJ (Thailand), and its Thai employees already handle most operations of the Ayutthaya and Prachinburi plants. In recognition of this achievement, senior officials from the Thai government met with UACJ's executive officers in July 2018 and conveyed their support for the UACJ Group's business activities and hope for further investment in Thailand going forward.

Thai nationals employed by UACJ (Thailand) from 2014 to 2019



* Annual figures are as of May 31

Passing down UACJ's capabilities and improving employees' skills

Positioning human resources development as central to its business, UACJ works to improve the capabilities of employees and raise their productivity in order to enhance the market competitiveness of its products. It also recognizes that refining the skills of workers can contribute to their country's development over the long term.

When UACJ's two subsidiaries in Thailand began operating, skilled engineers were sent from Japan to coach the local employees and provide on-the-job training. Operational manuals were produced in Japanese, Thai and English, and detailed training programs covered work procedures as well as the underlying objectives of the procedures. While teaching the local employees about the quality and spirit of manufacturing that UACJ has refined in Japan, the instructors also adapted the work

processes to Thai culture and the viewpoints of the employees.

With the ongoing transfer of technology to UACJ Extrusion (Thailand), the local employees have continuously found innovative ways to improve production lines. In recent years, UACJ (Thailand)'s newly recruited employees have been gaining skills and knowledge through a three-year training program at UACJ's R&D Center in Japan.

In addition, UACJ established the R&D Center (Thailand) in October 2018, the Group's third such facility in addition to those in Japan and the United States. Led by employees who received technical training in Japan, the new facility is aiming to generate innovations by collaborating with both UACJ (Thailand) and UACJ Extrusion (Thailand), as well as public organizations and universities.

VOICE

Safety training leads to 600 consecutive accident-free days

I joined the company in 2016 and currently serve as a senior manager of the Safety Department. In August 2019, we achieved 600 consecutive accident-free days at our factory thanks to the Japanese engineers who assisted our safety management over the years. That accomplishment was not easy, and it attests to the refined skills of our local employees. The UACJ Group pays close attention to manufacturing and quality, so we want to keep maintaining safety at UACJ (Thailand) based on that corporate culture.



Ekaphat Poolsilpa

Senior manager, Safety Department
UACJ (Thailand) Co., Ltd.

Growing together with the company as a manager

I joined the company in 2013 with the hope of advancing my career in procurement at a large corporation. Now I am a senior manager supervising 13 subordinates. Procurement is closely linked to factory production schedules and profitability, so we must take great care in our work. Everyone on my team recognizes the importance of that, and works to contribute to the growth of UACJ (Thailand) while refining our individual skills. Other female managers work in the accounting and finance departments, so I think we have a culture of gender equality in the company.



Laksanai Aranyakornkun

Senior manager, Procurement Department
UACJ (Thailand) Co., Ltd.