THE REAL STANDARD FOR
REAL ALLOY is the global market leader in third-party aluminum and magnesium recycling and specification alloy production. We convert aluminum and magnesium scrap and by-products into reusable aluminum metal for a growing number of applications across various industries. Our customers can choose from an extensive range of cast and wrought products made from aluminum and magnesium alloys, delivered to their door in the form of molten metal, ingots, or sows.

With 27 facilities in six countries across North America and Europe, REAL ALLOY is ideally positioned to respond to the needs of an increasingly recycling-conscious world. Advanced technologies enable us to process a high proportion of drosses and thereby reduce the amount of residual waste from aluminum and magnesium manufacturing that would otherwise end up in landfill.
REAL ALLOY
HISTORY

Erftwerk AG
Grevenbroich
founded 09.16.1916

Vereinigte Aluminium-Werke AG (VAW AG)
founded 04.21.1917 in Berlin

VIAG becomes owner of VAW AG

Vereinigte Aluminium-Werke AG (VAW AG)
founded 04.21.1917 in Berlin

Innwerk AG, Töging am Inn
founded 04.27.1917 as a hydroelectric power plant

Al electrolysis added 1920/21

1916
1917
1923
1925
1985

Innwerk integrated into VAW AG

Disassembly of Al electrolysis in Grevenbroich and Töging (sold to China)

Restructuring of Grevenbroich and Töging into secondary remelting facilities
**1995**
Start of a joint venture between VAW AG and IMCO Recycling, Inc., Irving, USA, named VAW-IMCO Guss und Recycling GmbH producing secondary aluminum in Grevenbroich and Töging

**2002**
Norsk Hydro acquires VAW AG without the 50% share in VAW-IMCO

**2004**
IMCO Recycling with their facility in Swansea take over VAW-IMCO

**2006**
VAW-IMCO builds a new plant in Deizisau

**2015**
Signature Group is renamed to REAL INDUSTRY, Inc.

**2016**
Aleris International sells its recycling business to Signature Group Holdings, Inc.

Acquisition of Beck Aluminum Alloys including three facilities in Pennsylvania, Texas, and Wisconsin

**IMCO Recycling** and Commonwealth Industries merge and later rename to the new company Aleris International, Inc.

Acquisition of plants in Eidsvåg & Raudsand
Closed-loop recycling of aluminum and magnesium was commonplace well before the idea of recycling gained currency worldwide. Not only are used aluminum and magnesium parts, alloys, and scrap from manufacturing too valuable to go to waste, they are also ideally suited for reprocessing and reforming.

Recycling aluminum and magnesium is significantly more efficient than producing it from virgin materials. Remelting uses only around 5% of the energy that would otherwise be required for primary production. What’s more, both lose none of their quality characteristics through the recycling process. The benefits of this are twofold: the metal retains its value and it can be reprocessed any number of times. Recycled alloys are therefore the logical choice for environmentally conscious customers seeking greater efficiency in metal supply.

Bolstered by our decades of experience, state-of-the-art technologies, and ongoing development of new and environmentally friendly processes, REAL ALLOY is able to deliver the best possible aluminum and magnesium recycling solutions using minimal energy and additives.
Aluminum and magnesium scrap and dross recycling has a bright future in markets all around the globe. Recycled aluminum provides an affordable, environmentally friendly solution in a world where demand for resources continues to grow and where there is an increasing awareness about the importance of sustainability and environmental protection among manufacturers and consumers. The production of recycled aluminum is not only significantly cheaper than primary aluminum; it also requires much less energy and generates far fewer CO₂ emissions.

Recycled aluminum has vast potential. A large variety of raw materials such as turnings, foils, shredded scrap, incinerator scrap, or drosses can be converted into different shapes and quality grades to meet the needs of various industry segments—from lightweight automotive engineering to the production of well-designed food packaging. REAL ALLOY is highly experienced in classifying different scrap types, creating formulas for different specifications, remelting scrap, and providing industries with alloyed aluminum according to their requirements.

Furthermore, REAL ALLOY operates as a service provider for the entire industry by toll converting or swapping any kind of aluminum scrap and offering overarching recycling solutions.

REAL ALLOY offers three main services:

- Production of dedicated alloys based on full-price business
- Swapping material units against others by making optimal use of our equipment
- Toll converting of scrap and drosses and returning the metal to customers

No matter what your industry, REAL ALLOY has the right products and processes to make your company more competitive.

We operate 27 technologically advanced facilities in six countries across North America and Europe to best serve the needs of our global customers.
UNITED KINGDOM

REAL ALLOY operates a recycling plant in Swansea on the south coast of Wales. The site’s main function is toll converting customer scrap waste streams and generating wrought alloys. The plant produces RSI and deoxidants.

GERMANY

REAL ALLOY’s three recycling facilities in Germany process wrought and foundry alloys and produce high-quality specification aluminum and magnesium alloys. All three plants are located near major economic hubs (Düsseldorf, Munich, and Stuttgart) and specialize in converting customer scrap and post-consumer waste streams. The plants in Töging, Deizisau and Grevenbroich produce liquid metal, ingots and RSI.

NORWAY

There are two REAL ALLOY plants in Eidsvåg and Raudsand: the Alumox wrought alloy recycling plant and the Reox plant for waste recycling and the treatment of salt slag. Scrap waste streams are toll converted. The plants produce wrought alloys in the form of RSI and aluminum oxides.
Aluminum is a light, corrosion-resistant material that is also an excellent conductor of electricity and heat, demonstrates a high degree of stability, can be easily molded and processed, and is entirely non-hazardous. These qualities make aluminum suitable for a wide variety of products and commercial applications. Moreover, aluminum’s unique properties are unaffected by the recycling process, so this precious resource can be reused countless times with no loss of quality.

As the world’s largest independent aluminum recycler, REAL ALLOY understands what companies need to make their products lighter, stronger, and more efficient. We deliver this highly versatile metal in a variety of different alloys in molten and solid ingot forms. Molten aluminum is either delivered directly to the customer in specially designed crucibles or poured into molds to produce specialized shapes such as low-profile sows and several sizes of ingot.

**EUTECTIC AL-Si CAST ALLOYS**
- 230 AlSi12 / 231 AlSi12

**NEAR-EUTECTIC CAST ALLOYS FOR WHEELS**
- AlSi11

**10 PERCENT AL-Si CAST ALLOYS**
- 239 AlSi10Mg / 233 AlSi10Mg(Cu) / Silumin-Gamma (SF36) AlSi10Mg(Cu)

**5 AND 7 PERCENT AL-Si CAST ALLOYS**
- PANTAL 7 AlSi7Mg0.3 / AlSi7Mg0.5Mg

**AL-Si-CU CAST ALLOYS**
- 226D AlSi9Cu3(Fe)

**HIGH-STRENGTH CAST ALLOYS**
- AlCu4Ti

**CAST ALLOYS FOR PISTONS**
- 260 AlSi12CuNiMg
MAGNESIUM

Magnesium is one of the world’s lightest structural metals. Magnesium alloys are frequently used in the automotive and transport industries, where a combination of strength and reduced weight are of critical importance. Furthermore as an alloying element magnesium is also used to increase an alloy’s tensile strength.

REAL ALLOY manufactures a wide range of high-quality magnesium alloys. The alloys are poured into molds, solidified, and delivered to customers as ingots that weigh around 10 kg and are available in stacks of approximately 1,000 kg.

AZ91
AS31
AM50/60
INNOVATION, OPPORTUNITIES, OUTLOOK

TECHNOLOGY

We are firm believers that innovation is the key to economic growth. REAL ALLOY’s leading position in the global market for foundry and wrought alloys owes much to the company’s appetite for innovation and long-standing expertise in recycling aluminum and magnesium scrap.

REAL ALLOY has developed and patented technologically advanced furnace systems that are significantly more effective than conventional rotary and open single chamber and casting furnaces. As a result, we are even able to process contaminated aluminum scrap such as painted tins and coffee capsules. The melt from our furnaces has a remarkably low gas content and high homogeneity, and is also largely free from oxide inclusion and impurities thanks to our gas flushing and filtering technologies. These cutting-edge processes allow us to produce foundry alloys of high quality, which in turn enables our customers to benefit from materials that can be used for an ever-expanding range of applications.

Our furnaces also lead the way in terms of safety and environmental protection as a result of their high energy efficiency and low use of smelting salts. These are just some of the strengths that set our facilities apart.

Going forward, we are not content to simply introduce new and improved products and technologies. Our approach to innovation also extends to exploring new sales channels and business models with a view to continuously improving the services we are able to offer our customers.
ADVANTAGES OF MOLTEN METAL

Liquid metal is particularly cost-effective if you require specific quantities of a standardized cast alloy. This form of delivery can greatly reduce the overall outlay, as it means no fusion costs, less metal burn-off, and lower handling and financing costs. Customers don’t need to operate their own foundry and can still benefit from access to molten alloys at just the right temperature. Our molten metals are delivered directly to our customers’ foundries and our proximity to their facilities means that we can deliver the materials within the necessary temperature time frame for the best possible results.

CUSTOMIZED PRODUCTION & DELIVERY

As a service provider, REAL ALLOY tailors its products and services to each customer’s individual specifications and adheres to the quality standards of the OEM industry. Our customers are actively involved in the development process and we take into account all the technical, economic, and logistical aspects of the planning, production, and delivery. Customers can choose between various delivery forms, including RSI (500 – 1,000 kg), ingots (6 – 10 kg), cones (0.1 – 0.25 kg), and molten metal. They can also define when, how, and where the materials will be delivered, with the exception of molten metal.

GLOBAL MARKET STRENGTH

REAL ALLOY is ideally positioned to meet the requirements of international markets, with a network of 27 technologically advanced recycling and manufacturing facilities in six countries across North America and Europe. Our wide range of furnaces and processing equipment enables us to safely clean and refine recycled scrap from the lowest recovery drosses and impure post-consumer scrap to clean industrial scrap. Customers around the world value our wide range of services, which cover the complete spectrum of materials management from planning, organization, and tracking to execution and monitoring of the complete flow of materials and products.
THE ENVIRONMENT, RESOURCES, AND ENERGY EFFICIENCY

As an international recycler of aluminum and magnesium scrap and dross, our business model revolves around resource efficiency, environmental protection, and energy management. Unlike primary metal producers, our operations focus on bringing waste back into the cycle of valuable products.

By gaining the international certifications ISO 14001 (environmental management) and ISO 50001 (energy management), we have voluntarily committed ourselves to not only fulfilling all our legal environmental obligations, but also to continuously and systematically improve our energy efficiency and operational environmental performance. This is reflected in our company policy and integrated RAI management system, which provide managers and employees with binding frameworks for achieving our sustainability goals.

HEALTH & SAFETY

Our employees are the key to our success. That’s why occupational health and safety (OHS) is our top priority. REAL ALLOY’s facilities in Europe and North America are certified according to recognized standards, such as BS OHSAS 18001 and OHRIS, and have comprehensive OHS programs aimed at completely preventing accidents and work-related illnesses.

We incorporate occupational health and safety considerations into all our operational activities and decisions, and take the necessary steps to ensure our recycling plants do not adversely affect neighboring communities and the environment. Our quality assurance measures and regular OHS training courses all make a significant contribution to minimizing our accident rates, which are low compared to our industry’s average.

Beyond the immediate concerns of workplace safety, we also offer programs for preventative health care and early disease detection in collaboration with health insurance companies.