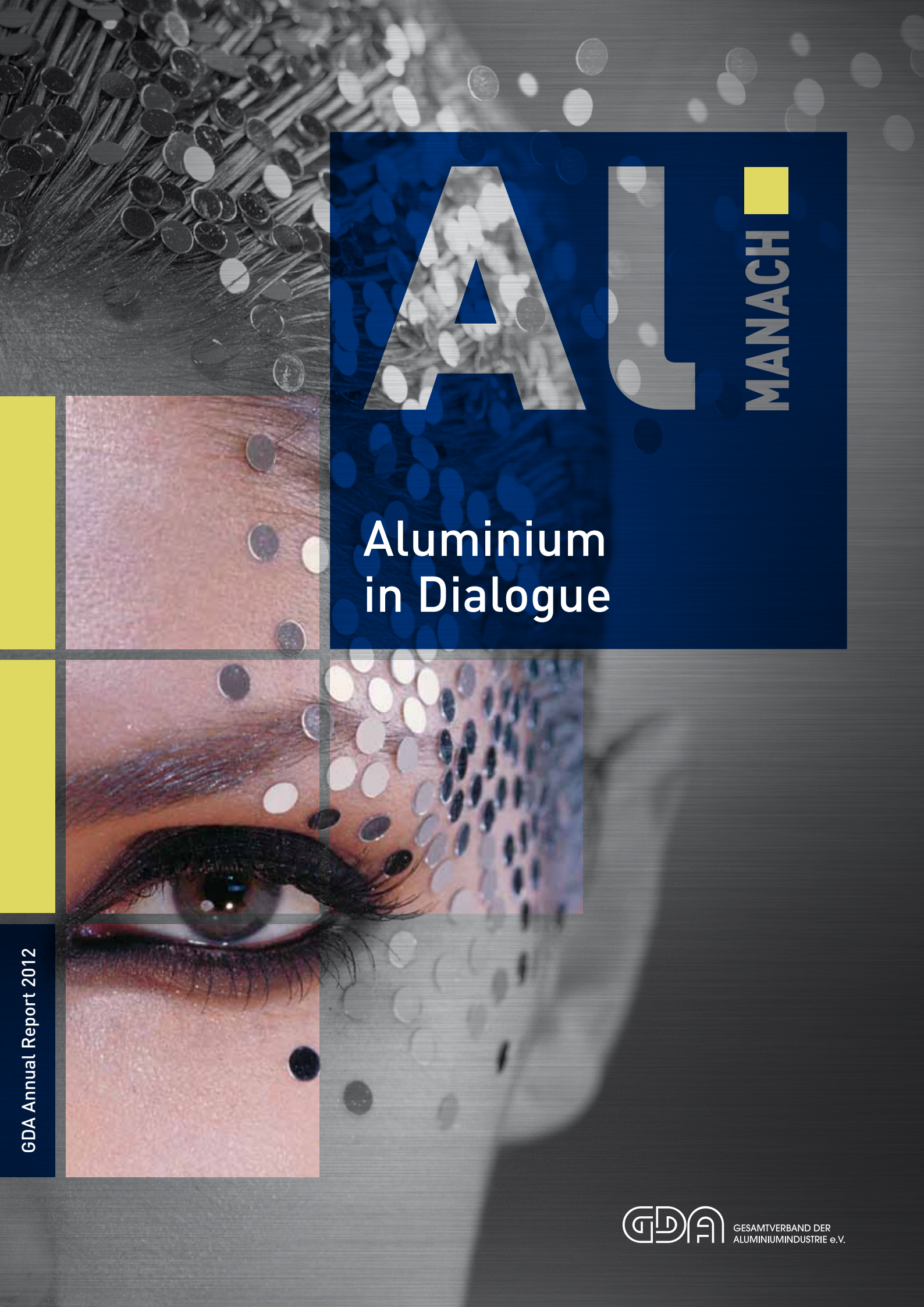

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Aluminium in Dialogue

GDA Annual Report 2012

GESAMTVERBAND DER ALUMINIUMINDUSTRIE e.V.

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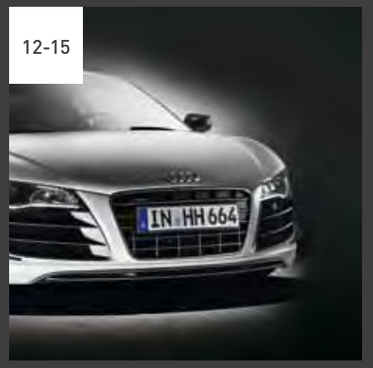

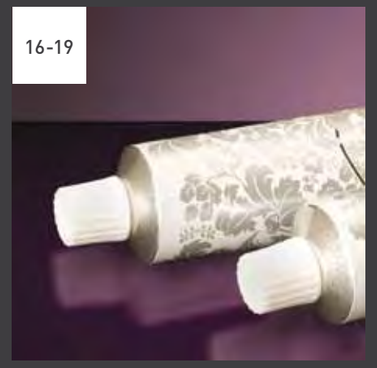

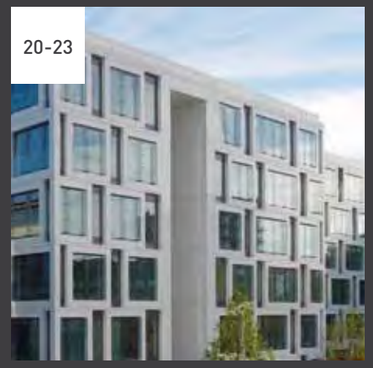

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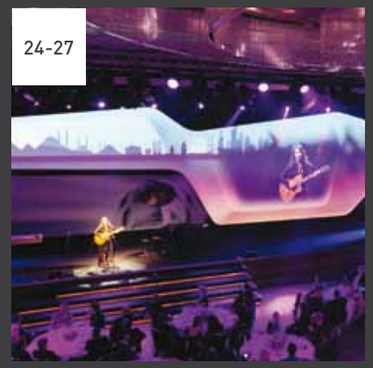

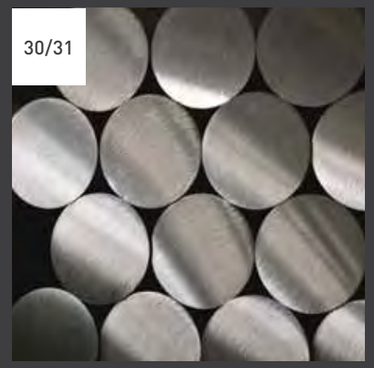

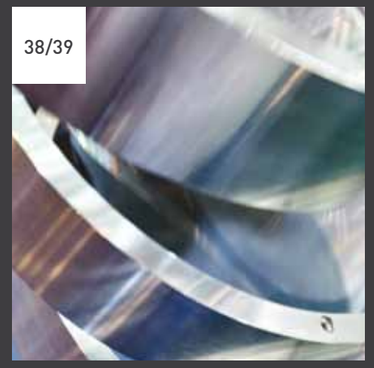

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IMPRINT

Publisher:
GDA – Gesamtverband der Aluminiumindustrie e.V.

Am Bonneshof 5
40474 Düsseldorf

www.aluinfo.de

Layout:
DMKZWO GmbH & Co. KG, Köln
www.dmkzwo.de

Print:
Das Druckhaus, Korschenbroich
www.das-druckhaus.de

Cover:
Benda-Lutz Werke GmbH, Nußdorf ob der Traisen/Austria

We will tackle challenges energetically!

Friedrich Brökelmann, president of Gesamtverband der Aluminiumindustrie (GDA) and GDA executive director Christian Wellner on the future challenges facing companies in the aluminium industry and the trade association.

Christian Wellner (left) and Friedrich Brökelmann

The financial and debt crisis dominated discussions in the 2011 financial year. How would you sum up 2011?

Friedrich Brökelmann: *Sentiment in companies in the German aluminium industry was, and still is, affected by the high levels of uncertainty in the financial markets and the eurozone. The real economy could not free itself from the influences of the financial markets. Bearing this in mind, we are satisfied with 2011 as a whole. We were able to maintain our high level of production in nearly all market segments. We are also confident for 2012. We are expecting the slump in the German economy to be less than was originally predicted and are looking forward to stable development in all market sectors.*

Christian Wellner: *The competitive position of the German aluminium industry in Europe is outstanding, our aluminium companies are well equipped to face increasingly harsher competition, and the excellent technical facilities and high level of processing capability are a key to future success. But given the state of the global economy, achieving it has become more difficult.*

How has GDA reacted to the difficult economic environment and what are the most important topics covered in your work?

Friedrich Brökelmann: *For GDA, 2011 presented many challenges. Key activities included the setting up of new, market-oriented working groups, the co-operation with GSB International and the coordination of national and international working groups. Moreover, the transfer of the Flexible Laminates trade association and the resultant management change led to changes in the organisation of the trade association. Our programme of congresses and seminars was expanded, new customer oriented information brochures were published and our range of services for members was extended.*

Christian Wellner: *We represent the interests of our members and the industry at national and European level. The range of topics and tasks covered is broad – it extends from specific lobbying for the metal and our companies through to customised technical advice on applications. On behalf of the whole GDA teams we would like to thank all our member companies for the trust they have placed in our work and the positive reaction we have received from the sector.*

What are your objectives in 2012 and on what topics will you be focussing?

Friedrich Brökelmann: *In 2012 we will focus even more strongly on activities on behalf of the metal and the user industries. As the representative of the sector, we will also strive to achieve an open dialogue with all groups of society in order to intensively promote transparency and generate understanding for the metal and our members' products among customers and consumers. We will vigorously tackle these new tasks and challenges.*

Christian Wellner: *GDA will position itself as the initiator for key issues for the future like aluminium and lightweight construction, sustainability or energy or resource efficiency. With this new annual report format, which also reflects opinions and views from our industry, we want to discuss the future prospects for our industry in addition to the work of the trade association. We are actively seeking to establish a dialogue with our members, customers, experts and politicians – in order to further improve the framework conditions and achieve a successful future for the aluminium industry.* ■

Besides the automotive industry, the largest markets for semi-finished aluminium rolled products are in building, packaging and technical uses.

Innovation: the key to competitiveness and progress

For decades, the German aluminium industry has repeatedly proven to be the driving force for innovation and with new applications in many markets has introduced technological progress or advanced it.

In today's globalised world the German aluminium industry is faced with stiff competition from abroad and has to demonstrate its international competitiveness afresh every day. Whether they be aluminium smelters, extruders, founders or converters, many companies have focussed on their strengths: they supply high quality, strive to stay in close touch with their customers and are capable of offering highly competent advice. In addition, they develop innovative applications and products for new markets working in close co-operation with their clients.

Innovation in the key to success

German aluminium companies are ideally equipped to deal with ever-fiercer competition: excellent technical equipment and very good process capabilities are the basis for future success. Every single step in the value chain in Germany is high-tech and German companies are world leaders in many fields. However, markets do not develop themselves. In order to survive in global competition, new technical developments are continuously required. Innovation is the key to competitiveness and progress and ensures the future viability and

Areas of innovation

By 2030, **carmakers** will have to increase the proportion of lightweight components in their vehicles from today's 30 per cent to 70 per cent in order to compensate for the increase in vehicle weight due to electric power trains and fuel-efficient engine technologies. This will result in a new growth market for the automotive supply industry and plant manufacturers.

In the next decade, **electricity generation** will undergo radical changes: in future, electricity will be produced increasingly by decentralised units. An extension of the power grid will be essential to achieve this. Aluminium will play an important part here and electrical conductors made of aluminium can help speed up the expansion of the grid.

In the **building sector,** the technical, politico-economic and eco-political demands made on frame materials used in window manufacturing are becoming more stringent all the time. With their innovative, highly insulated profile systems, German manufacturers have set standards throughout Europe and are constantly developing these further to satisfy the ever-more stringent demands of the Energy Saving Ordinance.

Ever-more sophisticated components can be developed by optimising the **material properties** of alloys. Application-oriented research and development helps develop new aluminium products and optimise production processes.


© Hydro Aluminium Rolled Products GmbH, Grevenbroich

Manufacture of lithographic strip; the market segment with the most stringent quality requirements.


© Gehrlicher Solar AG, Neustadt/Coburg


© Martinrea Honsel Germany GmbH, Meschede


© Daimler AG, Stuttgart

The automotive industry is the most important market for aluminium extruded, rolled or cast products

(Honsel extrusion plant in Soest (top); engine production at Daimler (right)) .

competitiveness of companies. Whether it be a large concern or small or medium-sized enterprise, every company in the value chain from the aluminium smelter to the end user has to face up to the associated challenges.

Land of ideas and innovation

In the aluminium sector, Germany is regarded as the land of ideas and innovation. The German market is one of the largest in the world, and definitely the most innovative. With the exception of 2009, companies have been on a firm path of growth for years. Its dynamic development depends closely on the innovative capabilities of the plants as well as on the beneficial properties of the metal itself. Compared with other metals like copper and iron, the light metal aluminium has not been in use for very long. It is only some 120 years ago that the prerequisites for the industrial use of the metal were created. Within this short period, the metal has established itself in many user markets. Whether it be in the most important market, the transport sector, or in mechanical engineering, in the building industry, in electrical engineering or in packaging: aluminium companies have advanced technological development and repeatedly opened up new uses and fields of application for the lightweight metal.

The financial and economic crisis in 2008/2009 and its aftermath demonstrated the importance of the sector's strong potential for innovation. Companies in the German aluminium industry are characterised by a high degree of flexibility and creativity – characteristics that proved to be beneficial during the difficult economic situation.

Innovative ideas for the future

As a material, aluminium still has great potential. Thanks to its material properties, the broad range of methods that can be used to machine and process it and its recyclability, aluminium is still the material of the future that is capable of replacing more and more conventional materials – and will do so. Booming demand from the automotive and solar industries is just an example; and the metal is far from having exhausted its potential in other high-tech sectors like aerospace or mechanical and plant engineering. Furthermore, the trend towards lightweight construction and electric cars offers additional potential for the light metal.

Innovation is therefore the key to the continuing success of the metal. New solutions and products made from aluminium will have a determining influence on the long-term success of companies in the sector. Above all, a prerequisite will be holding on to employees who have been well trained in recent years and who are now highly qualified and highly motivated. Based on their extensive expertise it should be possible to achieve even more with aluminium. ■

Heinz-Peter Schlüter,
Chairman of the supervisory board of
TRIMET ALUMINIUM AG,
Essen

Aluminium: products that inspire

Domestic smelters and recycling plants make essential contributions to a value chain that culminates in inspirational aluminium products.

Lightweight components and aluminium sheet reduce the energy requirement of road vehicles, trains, ships and aircraft. When it comes to the practical implementation of the move towards utilising alternative energy sources, aluminium is an important material in the wind and solar power industries and in the expansion of the electricity grid. All forms of packaging made from aluminium protect valuable resources. Aesthetic cladding panels decorate and protect buildings. Rod, bar and profiles made from aluminium are indispensable in the manufacture of all sorts of component. Every day we come into contact and use products made from aluminium in the widest possible range of forms and applications.

Locational disadvantages due to high production costs are accompanied by a range of clear benefits for us all that distinguishes the German aluminium industry from competitors based further afield. Firstly, there are the skilled workers who give of their best day after day. And no less highly regarded is the good infrastructure of the industrial centre Germany.

Aluminium producers and the manufacturers of aluminium products benefit economically from their mutual physical proximity. Short distances between research and development, aluminium production, alloy founding and processing enable us to co-operate closely as partners at any time. Only if there is physical proximity it is possible to return production scrap efficiently to the material loop.

Last but not least, close proximity leads to best-possible customised product quality and repeatedly encourages us to search for additional applications for aluminium. Short distances help optimise the materials logistics, immediately implement services offered and also maintain professional contacts away from actual business dealings.

Overview of the aluminium industry

The aluminium industry makes an important contribution to the economy and society – and thus the people of Germany – with its diverse products, investments in plant and machinery and research and development activities.

The companies in the German aluminium industry can look back on a successful 2011. Overall, production increased in many areas compared with the previous year. During the course of the year, though, business activity in the aluminium sector became less buoyant.

The German aluminium industry reported growth in turnover in 2011. Total turnover was EUR14.7bn. and thus almost at its pre-crisis level. However, since the crisis the proportion of turnover attributable to the initial processing stage has declined, while the proportion attributable to downstream processing is now significantly higher.

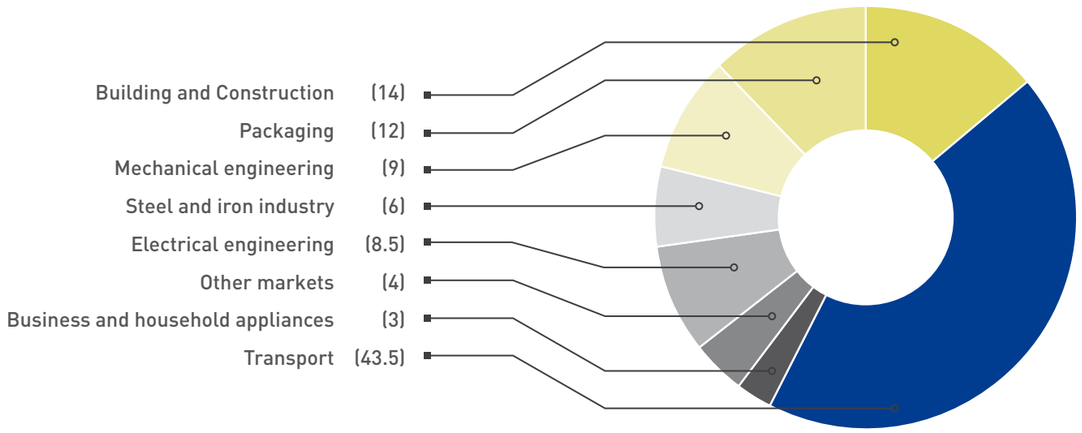
Macroeconomically, the German aluminium industry also plays an important role as an employer. Aluminium is produced or processed in about 600 plants. Small and medium-sized enterprises together with corporate groups that operate globally thus create work and income for a large number of people involved directly or indirectly in this sector. In 2011, the aluminium industry in Germany employed 74,000 people directly.

With a 43.5 per cent share of total demand, the transport sector was the most important downstream market in terms of quantity in 2011. The building and construction industry and the packaging sector together accounted for a 26 per cent share. The share attributable to mechanical engineering and electrical engineering was 17.5 per cent. The remaining share was attributable to the iron and steel industry, household goods and business supplies and other end-uses.

The German aluminium industry is strongly export-oriented. The most important trading partners are the countries of the European Union. Growth in exports in 2011 was exceptionally dynamic. For example, exports of aluminium semi-finished products were over 40 per cent higher than the previous year.

There is cautious optimism regarding the prospects for the German aluminium industry in 2012. On the one hand, the general conditions for business activity in the aluminium sector have deteriorated in recent months due to recessive tendencies in the eurozone. On the other, the expectations of key user industries are currently still quite positive. This is the case with important industrial users (mechanical engineering, electrical engineering and the car industry) as well as for some sections of the building and construction industry (residential building). The industry is hoping the economic trend will remain stable to a large extent in 2012.

Main markets for Aluminium 2011 (in %)

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Christian Wellner
Executive Director GDA

German aluminium industry stays on path of growth

Despite uncertainties in the financial markets and the eurozone, the German aluminium industry continues to look forward to the future with confidence. Even though growth dynamics softened towards the end of 2011, we are expecting stable development in all market sectors in the second half of 2012. The sector remains on a path of solid growth.

The prognoses for aluminium continue to be optimistic. The dynamic development is closely dependent on the sector's innovative capability and the beneficial properties of the material. Aluminium has established itself in numerous user markets. Whether it be in the most important market, the transport sector, or in mechanical engineering, in the building industry, in electrical engineering or in packaging: aluminium companies have repeatedly advanced technological development and opened up new uses and fields of application for the lightweight metal.

At the moment, the competitive position of our companies in the processing sector is very good. The German market is one of the largest, and in any case it is the most innovative market in the world. In order to maintain our successful course in the long-term, we have to develop our markets still further, even if high energy prices do not make our task any easier. Innovation is therefore the key to further success of the metal and the companies within the sector. Investments in application-oriented research and development are the prerequisite to developing material properties, creating new products and optimising production processes.

Lightweighting cannot be achieved lightly!

Together with their suppliers, carmakers are developing ever-lighter aluminium components in order to conserve raw materials and reduce energy consumption.

Lightweight construction is a trend that is being experienced by many manufacturing sectors, and further growth is expected in future. Cars must lose weight, aircraft have to be lighter and rail vehicles have to be designed so that lightweighting is maximised. Lightweight designs help save expensive and scarce raw materials during the manufacture of a product and reduce the consumption of resources during its life. At the moment, innovative lightweight designs are mainly used in automobile engineering, rail-vehicle manufacture and the aerospace industry. Further potential will be unlocked in mechanical and plant engineering and the packaging and building industries. Aluminium has long since proven itself as the material for lightweight designs.

Maximum weight reduction in carmaking

Carmakers will have to increase the use of lightweight components in their vehicles from today's 30 per cent to 70 per cent by 2030 in order to compensate for increased vehicle weight due to electric power trains and fuel-efficient engine technologies. This will lead to a new growth market for the supply industry. The market for lightweight construction using components made from high-strength steels, aluminium or carbon fibre reinforced plastics is expected to grow to 300 billion euros during this period, which represents more than a quadrupling compared to 2010. This is the result of a new study by management consultants McKinsey & Company.

From a material point of view, effective lightweight construction in cars is inseparably linked with aluminium. The trend towards energy-saving cars coupled with the metal's optimal recyclability – and with it the certain knowledge that energy that has been invested in producing the raw material once will be completely reused – will boost the use of aluminium.

In addition to aluminium's material properties, the advantage of using the metal in automobile engineering is its possible widespread use in the different assemblies in a vehicle without compromising the range of manufacturing routes that can be used, in other words via sheet, castings, extrusions or forgings. It is also possible to use combinations of these processes.

Today, the major carmakers are making intelligent and flexible use of the widest possible range of different materials with the aim of choosing the most suitable material for each application. This means the competition between the materials used in automobile engineering has become increasingly more intense. In particular, lightweight steels and fibre-reinforced plastics are now competing with aluminium.

The body of the Audi R8 being assembled manually at the company's works in Neckarsulm. The aluminium Audi Space Frame (ASF) construction weighs only 210 kg – ultra lightweight construction taken to the extreme.

Dr. Lutz-Eike Elend,
AUDI AG,
Lightweight Construction Centre

Aluminium in the vehicle body

Audi is the world's pioneer of lightweight construction in the car industry. The marque deals with this field of technology in its entirety and in a lasting manner throughout the whole of the development and production chain. Global trends like reducing CO_2 emissions, fleet consumption, resources becoming scarcer, urbanisation, changing information requirements, etc. can only be tackled using intelligent solutions. Rigorously developing lightweight construction further is the key to efficiently compensating for weight increases and henceforth will be referred to as ultra lightweight construction technology at Audi. The aim is to achieve the best performance at the ideal location in each case using the smallest possible amount of material – just like in nature, where material is not wasted either.

Due to the work of the GDA Automotive Extrusions working group, the standards of quality demanded from components are increasing. Here, comprehensive test programmes were carried out jointly with the producers of extruded profiles in order to determine the relationships between process parameters and material properties and were used to derive measures that lead to precise predictions of feasibility and component behaviour.

The knowledge gained is allowing a significant reduction to be made in development cycles for new higher strength materials and is affording the design engineer greater freedom.

The parameters determined are more meaningful and make additional lightweighting potential accessible. Especially with the heralding of the dawn of electromobility, this is now more necessary than ever before.

Dr. Henner Vogelsang
Siemens AG, Infrastructure & Cities Sector, Rail Systems Division

Lightweight construction is an engineer's first priority

It is no longer possible to imagine modern transport applications without lightweight design and construction. As in the car industry, where lightweighting has been a top priority for engineers for a number of years, increasingly greater importance is now being placed on lightweight construction in rail-vehicle manufacture because the vehicles' own weight affects energy costs during operation, wear and the fees charged for using the rail network.

As far as lightweight construction is concerned, aluminium has been used in local and long-distance rail networks for 30 years and is a popular constructional material for carriage bodies. It offers good potential for lightweighting thanks to its combination of low density and high specific strength and rigidity and in addition can be processed economically in the form of large extruded profiles.

In order to further develop the benefits of this method of construction from a lightweighting point of view, Division Rail Systems of Siemens AG and the aluminium extrusion plants that produce large profiles are members of GDA's Railed Vehicles working group; the aim is to jointly open up new ways of optimising the process and develop innovative solutions that could be used in future carriage concepts in the short to medium term.

These approaches are concerned with the extrusion technology with respect to alloys, gauges and strength, as well as new or optimised joining technologies like cold joining and low-heat welding.

Greater competition between materials has also led, however, to closer co-operation between carmakers and aluminium suppliers. With its investments in application-oriented research and development, the aluminium industry has repeatedly improved the properties of its metal, developed new products and optimised production processes. Innovation in processes and materials has thus become a powerful driving force in the development of efficient solutions for lightweight construction and their implementation in series production, such as energy-saving components for the chassis, engine and gearbox.

Lightweight construction: aluminium trains for success

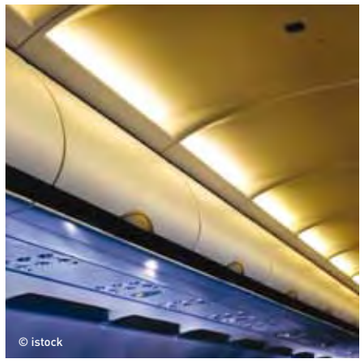
What already applies to road vehicles is also applying more and more to rail transport. Aluminium lightweight construction also saves energy here and contributes to making speeds of 300 km/h or more achievable. However, whereas lightweight technology has only been particularly highly valued in carmaking for a few years, it has been one of the top priorities for decades for engineers involved with rail vehicles.

Four out of every five carriage bodies used on underground or local trains in Western Europe today are made from aluminium. Market leader Siemens has set the standard here with its Velaro and Inspiro platforms. The new Metro Inspiro is currently one of the lightest underground trains. The engineers from Siemens' Rail Systems division are also relying on lightweight construction using aluminium profiles. A train comprising six carriages is six tonnes lighter – a weight saving of over three per cent. The train will require less energy or can be used to carry correspondingly more passengers.

Aerospace: aluminium remains material of choice

Large amounts of aluminium are traditionally used in aircraft construction. Even though there is much talk today about carbon-fibre reinforced plastics and composites, aluminium is, and will remain, the material of choice. In recent years, the aluminium industry has worked intensively to further reduce the gauges of the aluminium sheet used in aircraft components and thus save weight. Moreover, the industry has developed new and even lighter aluminium alloys. Thus, weight savings of up to 15 per cent are now possible if 7000-series alloys are used in aircraft construction. New-style aluminium alloys with additions of lithium or scandium even make weight savings of over 25 per cent possible. The latest orders for aluminium sheet and plate that well-known aluminium companies received from Airbus during the Paris Air Show in Le Bourget in June 2011 show that aluminium continues to be of major importance to the aircraft industry. ■

Aluminium is the dominant material in aircraft construction. Some 60 to 80 per cent of an aircraft's structure is made from semi-finished aluminium products like sheet, plate, profiles, forgings and castings.



GDA working groups

GDA works together with representatives of the user industries and member companies in several working groups in a project-oriented manner.

The members of the **Automotive Extrusions** working group are OEMs, extrusion plants and research facilities. The working group's key tasks are to determine additional material property data for aluminium profiles, avoid or reduce the scatter bands in these values for profiles supplied by different manufacturers and draft a specification sheet for the manufacture of extruded aluminium profiles for use as structural components in cars.

In the **Automotive Rolling** working group, representatives of the rolling mills and the rolled semi-finished products sector discuss with OEMs on a pre-competitive basis how to improve the potential use of sheet by standardising mechanical and other properties.

The manufacturers of large aluminium profiles and representatives of the railed vehicles industry meet in the **Railed Vehicles** working group. The main topic here is the further development of integral construction using large aluminium profiles in order to open up further potential for lightweight construction and safeguard markets.

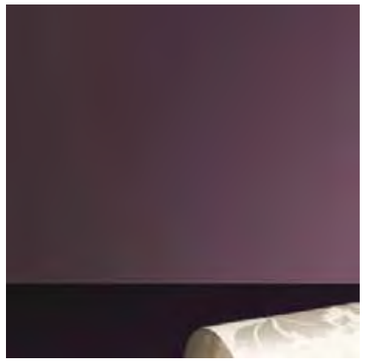
The **Continuous Casting** working group discusses topics such as safety indices and operating experience with certain ancillary and operating materials.

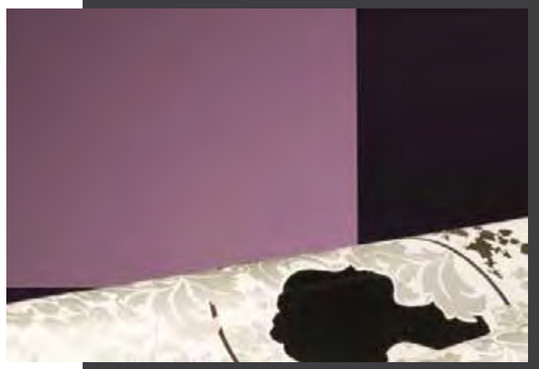
Aluminium packaging – light and resource-efficient

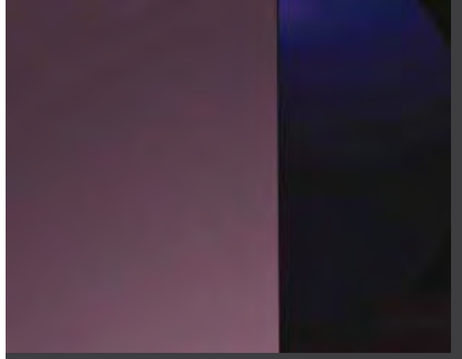
Exercising care when using raw materials and energy resources and closing material loops are essential prerequisites that eco-friendly packaging must fulfil.

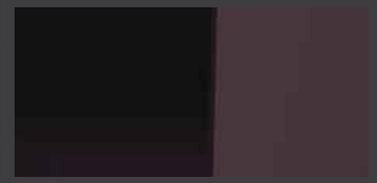
© Ball Packaging Europe Holding GmbH & Co. KG, Ratingen

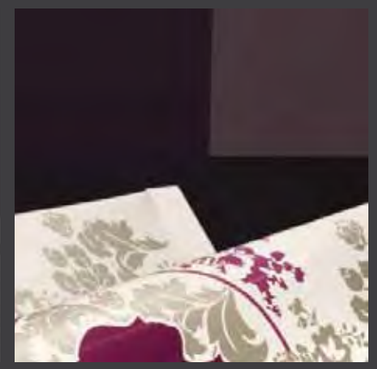
In recent years, the increasing popularity of the beverage can has led to constantly increasing levels of growth.











New GDA brochure: Aluminium – a packaging material par excellence

For the interpack 2011 trade fair, GDA published a new information brochure on aluminium packaging that presented the positive properties of aluminium as a packaging material together with numerous possible ways of packaging with aluminium. Titled Aluminium – a packaging material par excellence, the brochure documents the use of the widest possible range of aluminium packaging using a person's daily routine by way of example. Key characteristics are the barrier function, product protection and tamper evidence, and the positive role played by aluminium packaging in the battle against premature food spoilage. There is also emphasis on the convenience and lifestyle aspects and the latest trend for aluminium beverage cans and bottles. It also highlights packaging topics related to the environment like ecology, climate change prevention and conservation of resources.

© etma – european tube manufacturers association, Düsseldorf

Design Award 2012

The Aluminium Tubes Committee of the european tube manufacturers association (etma) is organising the first International Aluminium Tube Design Award in 2012 in collaboration with leading European design journals. The competition is aimed at tapping the design potential of the aluminium tube, the classical yet at the same time innovative form of packaging, and generating new product ideas for it.

etma Tube of the Year 2011 competition: innovation across a broad front.

The manufacturers of aluminium packaging like foil, tubes and aerosol and beverage cans consider themselves to be well positioned as far as the competition between packaging materials is concerned. Stable production figures for 2011 reflect strong demand from the main markets: cosmetics, pharma and food. Demand is also booming internationally.

The GDA trade associations "Aluminium Foil" and "Tubes, Cans and Impact Extrusions" represent members' interests in the fields of political lobbying, PR work, statistics, standardisation, technology and food legislation; approximately 40 members manufacture aluminium packaging and most of them have the organisational structure of a medium-sized company. The trade associations undertake extensive media activities in order to position aluminium packaging, improve its image and establish themselves as opinion leaders when it comes to European and international issues.

The International Organisation of Aluminium Aerosol Container Manufacturers (AEROBAL) and european tube manufacturers association (etma), which are both managed in a dual-role function by GDA, represent the aluminium packaging industry's interests at both European and international level.

Highly capable and indispensable

Functionality, convenience and creative design are just some of the facets of modern packaging today. Among the multifarious packaging materials, aluminium is the one that can be used universally and is one of the most highly capable – either as a mono-material or as a laminate in combination with other packaging materials. Besides its primary function as product protection, aluminium packaging's commercial success is due to its convenience at-

Dr. Fredy Dinkel
Carbotech AG
Basel

Aluminium packaging – recycling is important

Packaging fulfils a necessary function and in most cases is indispensable. The customer is only really interested in the contents of the package so the packaging itself usually quickly becomes rubbish. As surveys have shown, consumer waste is perceived as a significant environmental problem. This is particularly so when there is no recycling. Especially in the case of aluminium packaging, recycling is associated with very large ecological and economic benefits. These benefits provide an essential basis for efficient recycling. Closed-loop recycling, in which the packaging is recycled in order to be used in the same way again, does not have to be the main objective here. It often makes more sense to use recycled aluminium for applications where its specific properties are required and not returned to a closed loop for packaging materials. Demand for aluminium scrap exceeds supply so the use to which the scrap is put to "replace" new aluminium is not important. It is worth mentioning here the involvement of GDA, which is actively engaged in the subject of resource efficiency within the sector – also with the optimisation of recycling streams in mind.

Seminar on sustainability and recycling of aerosol cans

GDA and the International Organisation of Aluminium Aerosol Container Manufacturers (AEROBAL) organised a joint seminar in 2011 on the subject of the sustainability and recycling of aluminium aerosol cans. Scientists from Oeko Institut in Freiburg and Carbotech in Zurich discussed the end-of-life recycling approach with manufacturers of aluminium aerosol cans and the most important end users from the cosmetics industry.

© Alcoa Europe

The recycling of aluminium packaging in Germany, – already at a high level – increased yet again in 2010, to a new record.

tributes. Thus, aerosol cans made from aluminium are light and thanks to the integrated dispenser system allow easy dosing and use. Aluminium tubes allow paste-like contents to be dispensed easily, hygienically and accurately and can be emptied almost completely. And thin aluminium foil is used to seal a large number of dairy products and wrap confectionery.

Lifestyles are becoming greener

Modern consumers want to live more healthily and therefore value natural foods that have been prepared as far as possible without the addition of preservatives, are packaged in a completely reliable manner and have an unadulterated taste. Given changing consumer habits and a profound social transformation with a growing number of single-person households and an ageing population, more rather than less packaging – and above all tailored packaging with the appropriate barrier function – will be required for optimal product protection in future. All of these make a decisive contribution to more sustainability in production and consumption because packaging protects significantly more resources against spoilage and waste than is needed for its own production.

Excellent recycling rates

Exercising care when using raw materials and energy resources and closing material loops are also indispensable demands that are made on modern, eco-friendly and environmentally sound packaging. Packaging manufacturers help industry reduce its carbon footprint. They devise new packaging and develop the necessary processes to produce it. This is not an easy task: using thinner packaging and a smaller proportion of resource-intensive materials conserves raw materials but the impermeability, stability and overall functionality of the packaging must not suffer as a result. As the lightweight among packaging materials, aluminium makes a significant contribution to sustainable, resource-efficient consumption. The demand for aluminium as a packaging material is growing constantly despite the fact that it is being rolled down to ever-thinner gauges for the same packaging applications: aluminium beverage cans have become 40 per cent thinner over the years, aerosol cans and coffee foil is now about 30 per cent thinner, and the aluminium foil for yogurt pots is about 15 per cent thinner. And all of this without any loss in functionality.

The recycling rate for aluminium packaging in Germany, which was already at a high level, rose yet again in 2010 and achieved a new record. Of the 91,800 tonnes of aluminium used in packaging that year, 79,300 tonnes were recycled. As the GVM Gesellschaft für Verpackungsmarktforschung mbH in Mainz reported recently, this is equivalent to a recycling rate of 86.4 per cent. According to GVM, the recycling rate for aluminium beverage cans, for which there is a deposit refund system in Germany, was even higher, reaching 96 per cent. This is the highest rate in Europe. It is intended to increase it even further by closing material loops. ■

interpack 2011

GDA had its own stand at the interpack 2011 trade fair, which took place in Düsseldorf from 12 to 18 May 2011. Co-exhibitors were the trade associations managed by GDA, namely the European Aluminium Foil Association (EAFA), european tube manufacturers association (etma) and International Organisation of Aluminium Aerosol Container Manufacturers (AEROBAL), together with the European Aluminium Association (EAA). The associations provided information about their services and offered advice on the different uses of aluminium in the packaging sector.

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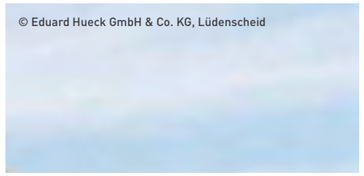
New brochure: Thinking of the Future. Building with Aluminium.

GDA will be publishing a new brochure in the summer of 2012 titled Thinking of the Future. Building with Aluminium. In addition to focussing on sustainability, the brochure will present engineering properties and fields of application for aluminium in the building sector. Other key aspects covered are recycling, building with aluminium, making efficient use of resources, certification schemes and eco-labelling.

The brochure is aimed in particular at market players like architects, planners and the authorities. It will present in a factual manner the idea of taking recycling into consideration when assessing the ecological impact of aluminium products. The main idea behind this is concentrating on closing material loops instead of increasing the proportion of recycled material in aluminium products. This will lead to an overall increase in the amount of usable material recycled, conserve resources and save energy.

For the first time, this brochure is being prepared in collaboration with the Swiss aluminium trade association, alu.ch, and the aluminium semi-finished products trade association of the Wirtschaftskammer Österreich (Austrian Federal Economic Chamber) in order to cover all German-speaking countries.



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Aluminium has proven itself as a modern building material and developed into a major source of shape and form in architecture and the building industry.

© Kalzip GmbH, Koblenz

Aluminium opens up almost endless creative design opportunities for architects.

Think of the future – build with aluminium

Aluminium opens up almost limitless opportunities for architects, offering them an abundance of material properties that meet the needs of the future, and it satisfies the toughest ecological criteria.

Modern, contemporary building has to satisfy multifarious demands today: it has to be functional and use materials with which people feel comfortable. There are also architectural, urban developmental and aesthetic aspects that have to be taken into consideration. Furthermore, buildings have to be designed in such a way that they fulfil today's economic, ecological and societal demands – and those of the future even more so. Consideration has to be given not only to the initial cost but also to the costs over the whole of the utilisation phase.

Contemporary building material

Being drawn between these different requirements, aluminium has repeatedly proven itself as a modern-day building material and developed into a major source of shape and form in architecture and the building and construction industry – whether it be as a mono-material or in interplay with other building materials. Thanks to their durability – aluminium profiles and sheet last for generations – and their low-maintenance requirement, aluminium products are often the more favourable alternative here. For architects, the material opens up almost limitless opportunities for creative design and offers an abundance of material properties that satisfy the needs of the future. Aluminium comprehensively fulfils the most stringent requirements when it comes to the demand for sustainable building from ecological and climate-relevant points of view. Sustainable building means implementing ecologically compatible building solutions and using energy and resources sparingly. In addition, one has to ensure that to a large extent the building products and building materials used are recycled or reused at the end of their useful life.

Aluminium industry shows commitment

The building industry has become an innovative, process-oriented sector. One reason is that in recent years sustainability has acquired ever-greater importance as an assessment criterion in questions relating to the energy efficiency of buildings. In this connection, life-cycle assessments are used in the certification of sustainable buildings, provide a basis for environmental declarations for building products and are increasingly being used to support the decision-making process in building projects.

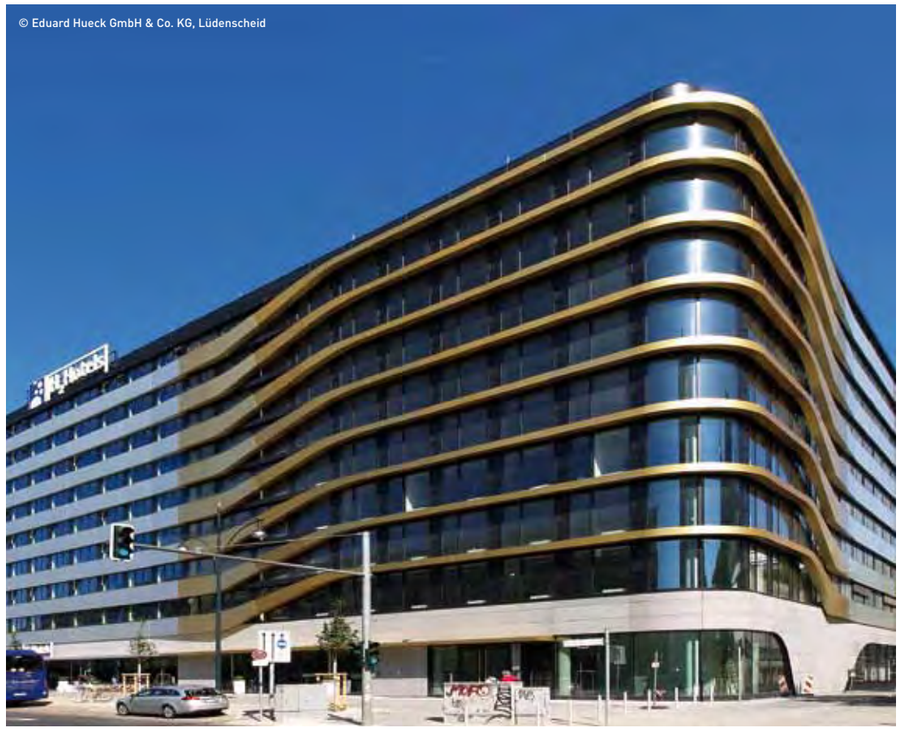
The German aluminium industry has adopted a leading role in the discussion on ways to achieve sustainable development and for many years has been actively involved in gradually implementing sustainable work practices and the careful use of resources in their plants, as well as outside the workplace.

Flyer from DGNB and GDA with information on recycling

In co-operation with Deutsche Gesellschaft für Nachhaltiges Bauen (German Sustainable Building Council, DGNB), GDA has published a flyer containing information on the subject of aluminium recycling. It provides details of the intended aim to jointly promote sustainable building and shows that the aluminium industry is a strong partner of the building industry. The flyer is the result of GDA's active participation as a member of DGNB. The common objective of both organisations is that recycling is taken into consideration in an appropriate manner when the ecological impact of aluminium products is assessed, in particular by market players such as architects, planners and the authorities.

Efficient material utilisation

In this respect, it has made an important contribution to the sustainability debate at corporate level as well as via its trade association's activities. The aim of GDA's activities is to ensure that proper consideration is given to the concept of recycling when aluminium products are assessed ecologically, especially by customers such as architects, planners and the authorities. Here, "proper" means above all dealing with the question that is increasingly being asked, namely "How much recycled material does the aluminium used in the product contain?", by referring to aluminium's high recycling rates after use. What is decisive ecologically is to determine how long the aluminium that is in use today will be available to future generations without any loss in quality if there is a functioning material loop. The approach to sustainable resources adopted by GDA means using materials more efficiently and conserving non-renewable resources for future generations. The main applications of aluminium in buildings often extend over a period of several decades. This creates a huge material reservoir for future recycling and at the same time represents an economic value of billions of euros and high possible savings in CO2 equivalents. This in turn offers a great incentive to return aluminium scrap to the material loop after use. With this in mind, it is important to optimise end-of-life recycling. This necessitates there being a good and comprehensive planning phase for buildings. ■



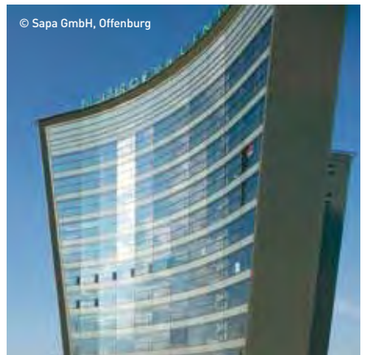
Aluminium provides architects with numerous creative opportunities. An unusual façade design confers character and originality on a building.

Surface finishes on aluminium facilitate a diverse interplay of colours, contrasts and accents on surfaces and shapes.

GSB International moves administrative office to Düsseldorf

GSB International, a quality association, has collaborated with Gesamtverband der Aluminiumindustrie (GDA) and its predecessor Aluminium-Zentrale for decades. Since January 2011 the two organisations have moved closer together: GDA has taken over the management of GSB International. Dipl.-Ing. Werner Mader now manages GSB's business in addition to his responsibilities at GDA, where he deals with surface treatment, corrosion and the building industry.

The management change at GSB and the closer co-operation with GDA are the result of a strategic realignment of the quality association. It has led to GSB moving its administrative office from Schwäbisch Gmünd to Haus der Metalle in Düsseldorf in order to implement the co-operation organisationally. Both organisations will remain independent and legally autonomous.



Hans-Jürgen Alfort
Chairman
GSB International e.V.

Aluminium and surface treatment belong together

GDA and GSB International have worked closely together over the past year as part of a co-operation agreement. Thanks to this co-operation and the management of GSB International by GDA, the strategic reorientation of GSB has proved to be successful and future-oriented.

Aluminium and surface treatment simply belong together. This means we are well prepared for the new challenges. One of these is the inclusion of chromates in the European Chemical Agency's (ECHA) list of substances of very high concern under the REACH Regulation. This has heralded a technological transformation in the chemical surface treatment of aluminium. GSB has been testing and approving chrome-free pre-treatments for more than 15 years. With this knowledge, GSB International is a reliable partner for the aluminium industry and surface finishers, who will be completing this transformation in future. It represents a contribution to fundamentally enhancing the protection of man and his environment.

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GDA supports German Sustainability Prize 2012

GDA is again supporting the German Sustainability Prize, which this year will be under the patronage of the German chancellor, Angela Merkel, and awarded for the fifth time. Winners of the prize are companies that combine commercial success with social responsibility and preservation of the environment – and act sustainably to achieve further growth. The focus is on uncompromising sustainability management and sustainability issues in brand management. The award ceremony will be held in November 2012 in Düsseldorf.

The German Sustainability Award is presented at a gala ceremony.

Recycling and secondary aluminium industry gaining ground

The fact that resources are finite and habitats need to be conserved coupled with the knowledge that all actions have a long-term effect means sustainability has become one of the key issues of our time.

Aluminium is characterised by its particularly good recyclability, more so than any other metal. Remelting recycled aluminium only requires five per cent of the energy that is used to produce the metal for the first time; and in state-of-the-art recycling furnaces, the hot pyrolysis gases are extracted from the scrap chamber and incinerated directly in the heating chamber, resulting in even better efficiency.

Important source of raw materials

Aluminium recycling is gaining in importance in Europe, both as a source of raw materials and as a contribution to resource efficiency. In particular, this is taking place against a background of continuing cutbacks in primary aluminium capacity within the EU. At the same time, it serves as an important indicator of aluminium's sustainability. Its impor-

Stefan Schulze-Hausmann, Chairman of Stiftung Deutscher Nachhaltigkeitspreis e.V., Düsseldorf

GDA is founding supporter of German Sustainability Award

The German Sustainability Award is an initiative of the German Sustainability Award Foundation in collaboration with the Federal Government, the German Council for Sustainable Development, trade associations, NGOs, and research establishments. The aim of the prize is to encourage people working in companies and the public sector to act in a sustainable manner and help to raise public awareness of the principles of sustainable development. Since 2008, awards have been made to companies, products and brands that combine economic success with social responsibility and preservation of the environment. Awards will also be made to towns and local authorities in 2012.

GDA is a founding supporter of the competition and has backed the idea of an award for involvement in sustainability activities from the very beginning. There is also another very close link between the award and the metal aluminium: the trophy awarded to the winners is a nine-piece aluminium sculpture in the shape of a globe that has now become highly coveted. Aluminium is not just the most suitable material for our purposes. For a long time, the German aluminium industry has been involved at corporate level in the debate on sustainable development, as well as via the activities of its trade association – and is making its mark. When it comes to matters relating to resource efficiency, climate change prevention and other ecological aspects, aluminium and the German aluminium industry have much to offer on the way to increasingly uncompromising implementation of the guiding principle of sustainable development that satisfies the needs of the future. I look forward to continuing our good working relationship.

tance is growing at a time when reserves of raw materials are declining and energy is becoming scarcer and above all more expensive. Both cast and wrought alloys are produced from recycled aluminium. Qualitatively there is no difference between alloys that are produced from primary aluminium and those that are produced from recycled aluminium.

Three-quarters of all aluminium that has ever been produced can still be found in the material loop today. In Europe, about 40 per cent of the demand for aluminium is being met by recycling aluminium scrap. This shows that used aluminium is a valuable source of raw materials for supplying metal to the manufacturing industry, especially in a country with a scarcity of raw materials like Germany, with a well-functioning logistics system that has been in place for decades. Looked at in this way, aluminium is a renewable raw material.

Closed material loops

There is a functioning material loop for aluminium from its extraction, processing and use through to the subsequent metal recovery. This has long since been the case in long-life applications like cars and buildings – with recycling rates of about 95 per cent – and in the meantime it is true for packaging too. Here recycling rates in excess of 80 per cent are being achieved in Germany. The recycling rate for aluminium beverage cans, where a deposit refund system operates in Germany, now even exceeds 95 per cent. This is the highest recycling rate in the whole of Europe, if not in the whole of the world!

The aluminium industry is not just sitting back and enjoying these successes but is continuing to work on closing gaps that still exist in the material loop. In order to be able to recycle this "raw material" even more intensively in Germany, German aluminium plants are investing in the expansion of their recycling capacities and in doing so are turning to state-of-the-art plant engineering.

GDA playing leading role in sustainability debate

The German aluminium industry is playing a leading role in the debate on ways to achieve sustainable development and has been involved for many years in gradually implementing sustainable work practices in its plants – and outside the work environment too. In this connection, it has made important contributions to the sustainability debate at company level as well as within the scope of its trade association's work: for example, by commissioning life-cycle analyses for the most widely differing aluminium products. These studies provide an understanding of the consumption of resources in the supply chain and demonstrate the effect that consumer behaviour has on the consumption of resources. One should also mention the dialogue that GDA and its member companies are conducting with the IG Metall trade union and the Federal Ministry for the Environment (BMU) in the form of a social partnership. The aluminium industry is thus acting as an important driving force for other sectors. ■

GDA ■ SUSTAINABILITY AND RECYCLING

© Hydro Building Systems

Tapping the furnace marks the start of a new life cycle: molten secondary aluminium is on its way.

© Hydro Building Systems

Valuable raw material: architectural profiles sorted according to alloy type are ideal for recycling.

© Lars Berendt Fotografie, Krefeld

Valuable recyclable material and metal: aluminium scrap is collected and processed into new aluminium products.

© Stiftung Deutscher Nachhaltigkeitspreis e.V., Düsseldorf

Hans-Dietrich Genscher presents the German Sustainability Award for 2011 to singer Peter Maffay for his decades-long support of underprivileged children.

VAR Verband der Aluminiumrecycling-Industrie e.V.

VAR is the specialist trade association for aluminium recycling within the Gesamtverband der Aluminiumindustrie (GDA). Membership of the Organisation of European Aluminium Refiners and Remelters (OEA) ensures that the German aluminium recycling industry's voice is also heard at European level. VAR regards itself as a partner capable of dealing with the problems and questions relating to the recycling of aluminium and the production of high-grade aluminium alloys.

VAR's member companies account for over 80 per cent of German production of aluminium casting alloys; they also produce wrought aluminium alloys and are actively involved in the recycling of aluminium-containing residues on an industrial scale. In view of increasing Europeanisation, VAR has also opened up its membership to foreign companies and members now include producers from Austria and Sweden.

In order to support corporate decision-making processes, VAR prepares market analyses based on its own statistics, provides support for its members in the areas of technology, quality, the environment and safety, and represents the interests of the industry in public.

Used aluminium is a much sought after resource, particularly as there is no loss in quality.

Aluminium – sparing use of resources and energy efficient

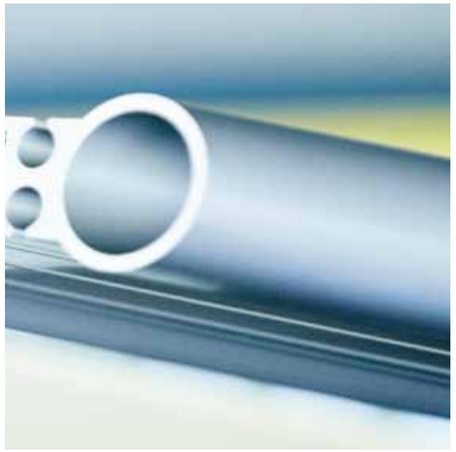
Utilising finite resources efficiently is one of the major economic, ecological and social challenges of our time. Resource efficiency pays off – economically and ecologically.

Aluminium, the light metal, can boast an outstanding performance when it comes to sustainability, climate change prevention and other ecology-related matters. Aluminium products distinguish themselves in particular in two key categories, conservation of resources and energy efficiency. This applies equally to those companies in the sector that produce aluminium and those that process it.

The resource efficiency of products only becomes really apparent when one considers their whole life cycle – from the extraction of the metal via its processing to semi-finished and then finished products through to its use and subsequent recycling in order for it to be used in a new product. With aluminium, this process does not cease after a few cycles but can be repeated indefinitely. Not only in theory, but also in practice: about three-quarters of all the aluminium that has ever been produced is still in use even today, and has already been recycled many times.

Sustainable value creation is becoming ever-more important given that growth in population is strong, and is continuing unabated, the global economy is tending to grow dynamically while strategically important resources become scarcer, and ecological challenges are having to be faced, Conserving resources and energy efficiency are key factors if production and consumption are to be socially acceptable and eco-friendly; it is the responsibility of companies and their managements as well as of every individual consumer of products and services. ■

New profiles or other high-grade products can be made from profile scrap and new rolled products can be made from scrap aluminium sheet.



Recycling is also beneficial from an energy point of view: the melting of aluminium scrap only requires about five per cent of the energy that is needed to produce the metal in the first place.

Ms Hannelore Elze,
head of the branch office of the
IG Metall's management board

Project to promote dialogue is exemplary

Nowadays, practically everyone would agree that energy and raw materials have to be used in a sustainable manner. In manufacturing, this is an ongoing process and although much has already been achieved, it continually has to be actively pursued still further. Developing products also offers significant potential for conserving resources; and it is at least as important to focus on consumption, in other words on the use of products and consumer behaviour. Together with the Federal Ministry for the Environment (BMU), the Industriegewerkschaft Metall (IG Metall) trade union and Gesamtverband der Aluminiumindustrie (GDA) are discussing jointly how one can adopt a more intelligent and more economical approach to the way one deals with the resources used during production and consumption. So far, this dialogue project, which is the first of its kind, has met with an unusually high level of interest in the participating plants; it was started as part of the BMU's Network Resource Efficiency initiative, whose founding members included IG Metall and GDA.

The material that was dealt with as part of the dialogue project means the subject of resource efficiency continues to be omnipresent within companies and helps prevent rising raw material and energy costs necessarily leading to location-related problems and job losses. The experience gained jointly in this project forms a good basis for future discussions and projects between GDA and IG Metall.

The aluminium recycling industry plays an important role in the procurement of raw materials.

Urban mining – cities as sources of raw materials

In Europe there are hardly any more deposits of raw materials and metals. End-of-life products represent a huge new deposit and can be opened up by “urban mining”.

Sustainable development is an obligation

The smelting of aluminium first began in 1890 and in 2011 the total amount of primary aluminium ever produced passed the billion-tonne mark. Of this, about 750 million tonnes, or three-quarters, is still in use today. Market growth in recent decades coupled with the useful life of aluminium – some six months in the case of everyday consumer items like beverage cans, about 12 years in the case of cars and about 30 years or more when it comes to railways and building applications – means that current demand for aluminium far exceeds the availability of scrap. It therefore makes sense to further improve the end-of-life collection and recovery of aluminium products in order to boost aluminium’s sustainability still further.

The term “urban mining” is used to describe the recovery of raw materials from within urban areas. Urban mining is aimed at recovering resources that have already been incorporated or used in the infrastructure or in products and returning them to the material loop when these sources reach the end of their useful lives. These man-made urban sources of raw materials thus contrast with the classical exploration of raw materials and extraction of metals, soil and rocks. GDA is now dealing with this topic.

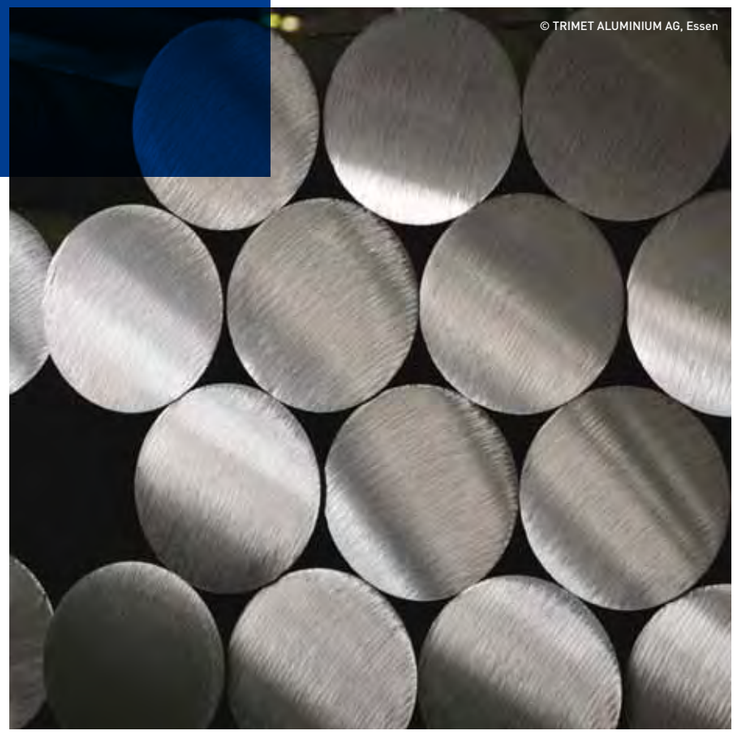
Modern day raw materials

Whether in vehicles, buildings or packaging, there are huge reserves of raw materials stored away in “urban mines”. Buildings usually have a particularly long service life and it usually takes decades before building materials and products are returned to the material loop and thus used again commercially. Given the longevity of buildings, it is no surprise that worldwide there are some 200 million tonnes of aluminium tied up in architectural and building products today. Vehicles are also a “metal mine on wheels”. As the aluminium content of cars is continuing to grow – it is currently about 160 kilogram a car – the recovery of aluminium from end-of-life cars will grow strongly in future.

Given the vast potential for recyclable materials from buildings, vehicles or other applications, the importance of urban mining is set to rise in the coming years and decades.

Urban mining as a market of the future

The raw materials potential of urban mines is huge. Buildings in Germany alone contain about ten billion tonnes of mineral materials, together with millions of tonnes of ferrous and non-ferrous metals. Some 500,000 tonnes of aluminium products are used in the building sector in Germany every year. The typical life of an aluminium component in a building is 50 years, which means that a gigantic stockpile of raw materials is being established, and this will have grown to about 25 million tonnes of aluminium by the time mining activities commence. ■



In Europe, about 40 per cent of the demand for aluminium can be met by recycling aluminium scrap.

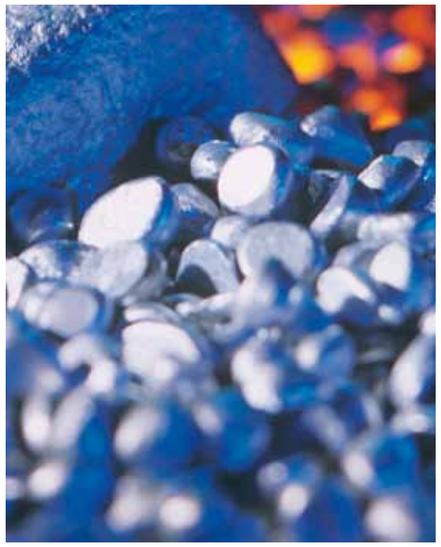
Hans-Jürgen Schmidt
Deutsche Aluminium Verpackung Recycling GmbH (DAVR), Grevenbroich

Urban mining: future source of raw materials

Used products are becoming ever more important as a source of raw materials for the future. This potential is referred to as “urban mining”. It applies in particular to aluminium, which is used – and not consumed – in high-grade applications, and thus remains a usable material indefinitely.

In Germany we have a well-established infrastructure to collect and recycle used packaging and a population that is very keen to participate. This means the material loop for aluminium packaging is almost completely closed.

This also makes a sizeable contribution to climate change prevention: the annual saving in greenhouse gases due to the recycling rates that have been achieved with aluminium packaging in recent years is equivalent to saving the fuel consumed by some 170,000 cars on Germany’s roads every year.



Sustainability, reducing CO_2 emissions and the certification of buildings are topics that are increasingly under discussion.

The extremely widespread recycling of aluminium provides an important indication of the metal's sustainability.

The recycling of aluminium scrap has been making a significant contribution to the supply of raw materials in Europe for many years.

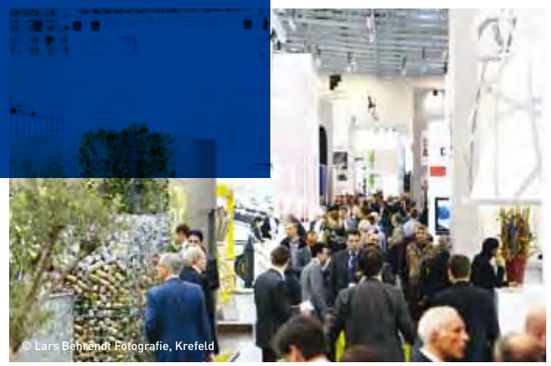
Closing the metal loop

In order to enhance the sustainability of aluminium, it makes most sense to improve the end-of-life collection and recycling of aluminium products

For years, the aluminium industry has been confronted by demands from customers and politicians to close production loops and specify the recyclate content of its products – for example by building authorities or by food producers and drinks companies. A large proportion of recycled material in a product is interpreted as evidence of a resource-conserving method of production. This perception is however somewhat simplistic.

The recyclate content of products (also referred to in the public debate as recycled metal content) is not a suitable indicator of a resource-conserving method of production. And certainly not in a sector like the aluminium industry where all scrap collected is already being remelted and processed into new products for economic reasons because of scrap's high intrinsic value.

In order to promote sustainability even more, it makes best sense to further improve the recycling of both short-lived and long-lasting aluminium products via a common aluminium pool (the so-called end-of-life approach to recycling). For a metal like aluminium, protecting the environment means returning the metal to the material loop and making it available for use in ever-newer applications. It is important to achieve as high a recycling rate as possible and let the recycled aluminium be used for applications for which there is market demand. From an ecological point of view, it is therefore important to close material loops in the widest possible range of product applications and thus ensure that resources that have already been used once are returned to the material loop at the end of their product lives and utilised again commercially. Only such an "end-of-life" approach " – will conserve raw material resources and support a sustainable aluminium economy. ■



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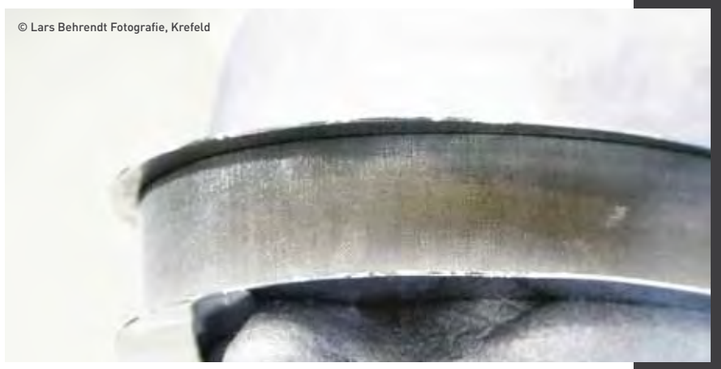

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The whole value chain from metal production via semis production through to end uses will be on show at ALUMINIUM 2012.

© Reed Exhibitions Deutschland GmbH, Düsseldorf

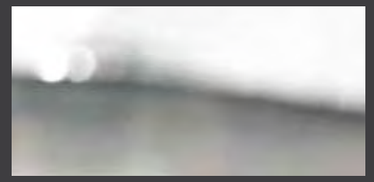
The GDA programme of events: customer oriented and competent

GDA plans and organises various types of event as a service to its member companies as well as to partners and customers of the aluminium industry.

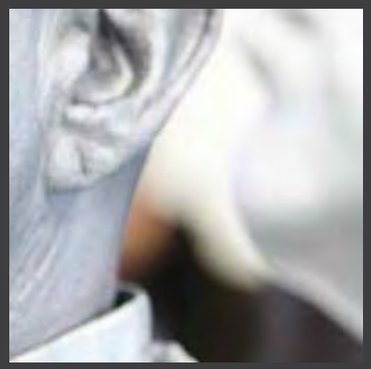
Business practice must continually adapt to economic and technical developments. GDA acts as the contact for its member companies and provides them with a broad spectrum of support. An important mainstay is an attractive series of events that appeals to member companies and their customers as well as to subcontractors and suppliers to the whole of the European aluminium industry. The trade association is also represented at numerous seminars and conferences and at trade fairs like ALUMINIUM, interpack or didacta.

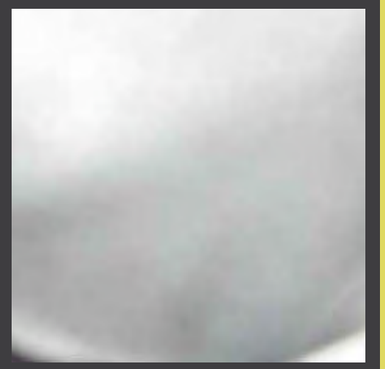
Seminars and congresses: Compact and instructive information on materials

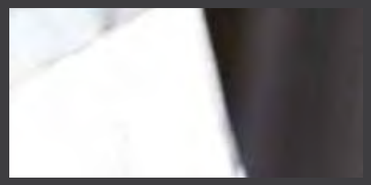
Knowledge about the production, processing and use of aluminium has developed strongly in recent years. That is why GDA uses practice-related congresses and seminars covering different topics to present the whole spectrum and diversity of the aluminium industry, its suppliers, technology partners and customers.

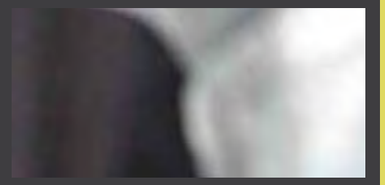


ALUMINIUM 2012 is the event of the year for companies engaged in the aluminium industry worldwide.









GDA participation at trade fairs

As a professionally competent partner for matters relating to the lightweight metal, GDA exhibits at various trade fairs where it offers a wide range of expert advice:

ALUMINIUM 2012
The ALUMINIUM trade fair, which is held every two years, is the aluminium industry's leading exhibition and the highlight of the year for companies involved in the sector. GDA has been associated with, and supported, the ALUMINIUM fair from the very beginning: as co-initiator, source of ideas and patron.

interpack 2011/2014:
GDA regularly has its own stand at the interpack trade fair, the world's largest devoted to packaging. Co-exhibitors are the European trade associations devoted to packaging: etma, AEROBAL and EAA. They publicise the services they offer and provide information on the various applications of aluminium in the packaging sector.

didacta:
In collaboration with many of the companies involved in the aluminium sector, GDA has intensified its contacts with schools and training establishments and developed numerous education and training opportunities for students and teachers. At didacta, the annual trade fair for education and training, GDA presents the teaching and instructional materials specially developed for this purpose.

Hans-Joachim Erbel,
CEO Reed Exhibitions
Deutschland GmbH,
Düsseldorf

GDA – strong partner of the ALUMINIUM trade fair

ALUMINIUM – the world's largest trade fair devoted to the sector and one of the most successful industrial fairs in Europe – is the gathering place for the global aluminium community every two years. In 1997, GDA was one of the initiators of the ALUMINIUM fair and has supported it as a patron from its infancy. The growing success of the ALUMINIUM fair over the years is also the result of good collaboration between GDA and the organiser of the fair, Reed Exhibitions Deutschland GmbH.

Since 2010, GDA has organised the Aluminium Conference that accompanies the trade fair and will again be supporting the trade fair this year with its indispensable knowledge of the sector. The Aluminium Conference will comprise about 30 presentations and reveal aluminium's technical potential in the widest possible range of user markets.

I look forward to continuing our collaboration, which is based on dependability and trust, and to a successful ALUMINIUM 2012 from 9 – 11 October at the fairground in Düsseldorf.

For the second time in 2012, GDA is organising a congress that will take place in parallel with the ALUMINIUM trade fair.

© Lars Behrendt Fotografie, Krefeld

European Aluminium Congress 2011

The international congress with its theme "Technologies for the Aluminium Industry" offered suppliers and technology partners of the aluminium producing and processing industry a platform to present their latest developments. The speakers and participating experts from the aluminium industry at home and abroad agreed that the demands made on technology partners and equipment suppliers to the aluminium industry would continue to grow. In addition to the supply of plant and machinery, our sector now demands knowledge of the complete process chain coupled with comprehensive systems expertise for all of the individual steps, from production via processing through to recycling, which is also becoming more important.

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Sustainable involvement: GDA is also supporting the German Sustainability Award in 2012.

European Aluminium Award 2012

The European Aluminium Award, which will be presented for the eighth time this year, looks for new ideas on more efficient and cutting-edge use of aluminium. Prizes are awarded to products and projects that use aluminium in an innovative manner. The competition is held every two years and is aimed at engineers, design engineers, developers, designers and their principals. It is organised by the Aluminium Centrum in Houten in the Netherlands in collaboration with the European Aluminium Association (EAA), Brussels, Gesamt-verband der Aluminiumindustrie e.V. (GDA) and the ALUMINIUM trade fair.

© DGzRS, Bremen

GDA supports the work of the German Maritime Search and Rescue Service (DGzRS).

International congresses

In recent years, GDA has established itself as an organiser of specialist international congresses. The European Aluminium Congress (EAC), whose main theme in 2011 was "Technologies for the Aluminium Industry", is intended to be a forum for technical dialogue and offers the aluminium producing and processing industry's suppliers and technology partners a platform to present their latest developments. In 2012, GDA will be organising the ALUMINIUM Conference for the second time and it will be held in parallel with the ALUMINIUM 2012 trade fair. With presentations on innovations, it is aimed at aluminium users.

Technical seminars and presentations

GDA's seminar programme includes the classics "Joining of Aluminium Profiles and Sheet", "Surface Treatment of Aluminium" and "Technology of Extruded Aluminium Profiles", which are held regularly. It includes basic seminars on the metal as well. There are plans for a seminar dealing with ecology arranged in a modular fashion that will deal with current topics in a customer-oriented manner. GDA also co-operates regularly with the aluminium engineering center Aachen (aec) of the RWTH International Academy on the seminar "Introduction to the Technology of Aluminium", which is aimed at scientists, engineers and technicians from the aluminium industry and the aluminium-processing industry.

GDA also conducts seminars at clients' facilities; they are tailored specifically to the host's needs and deal in a practical manner with topics relating to the metal or to the respective company.

GDA's specialists are very much in demand as well as speakers, lecturers or participants in discussions at externally organised events.

New events portal

In the medium term, GDA is planning to introduce a special GDA events portal to bring together all the events it organises. All the information on seminars and congresses will then be accessible directly online via the portal; it will be possible to register for events and contents will be available interactively. The portal will offer GDA's member companies the opportunity to participate directly at the events. ■

Services from GDA: quick, competent, informative

GDA rigorously pursues a policy of being a modern trade association for its members, customers and those with an interest in the sector, offering the aluminium industry and its partners a comprehensive range of services.

GDA's comprehensive range of services covers education and training, technical advice, information such as statistics and the library, and specialised events. The services offered are aimed at GDA members, establishments of further education and the public at large. The following list is an overview of the services offered.

... supports rapid searches for information on manufacturers of aluminium products via its **products and manufacturers database.** A simple system and online search form helps the user find innovative companies and optimal solutions.

... is actively engaged in the area of **schools and education and training.** The future of work does not begin in the production facilities. When it comes to determining future direction, important steps are already taken during school education. GDA develops teaching materials, such as folders or DVDs, and provides information on practical training and works visits in the aluminium industry.

... offers comprehensive information on aluminium as a material **on its website at www.aluinfo.de.** The extranet section is for GDA member companies and contains statistics, presentations and reports from the working groups, and can be accessed exclusively by GDA members and their employees.

GDA ...

... answers practically any question relating to aluminium via its **library.** GDA's library is the largest German library dedicated to aluminium. The library's archives contain one of the most extensive collections of information on aluminium – all well documented and edited.

... provides specific advice on the processing and application of aluminium, including topics such as standardisation, alloy designations and alloy data, via its **Technical Advisory Service.**

... provides information on the current economic and business situation in the German and European aluminium industries together with the latest **statistics.** Statistical data on indices, employment, turnover, production or foreign trade help analysts and market players asses market developments.

... publishes its information **online.** Anyone interested can download technical information sheets, technical papers, brochures and fact sheets directly.

Business activity in the aluminium sector in 2011/12

The global use of aluminium will continue to grow in future. Rising demand from important user markets and from Asia will help boost the lightweight metal's growth.

Raw aluminium: production increases / exports decline

About 1,066,913 tonnes of raw aluminium were produced in Germany in 2011. Production was thus 5.3 per cent higher than the previous year. Primary aluminium accounted for 432,472 tonnes and secondary aluminium for 634,441 tonnes. The production increase for primary aluminium, namely 7.5 per cent, was greater than it was for secondary aluminium, which was 3.8 per cent.

In 2011, Germany exported 370,694 tonnes of raw aluminium. This represents a year-on-year decline of 17.8 per cent. Exports of primary aluminium fell 36.3 per cent, from 256,432 tonnes to 163,248 tonnes, but there was an increase in exports of secondary aluminium from 194,459 tonnes to 207,446 tonnes (+6.7 per cent).

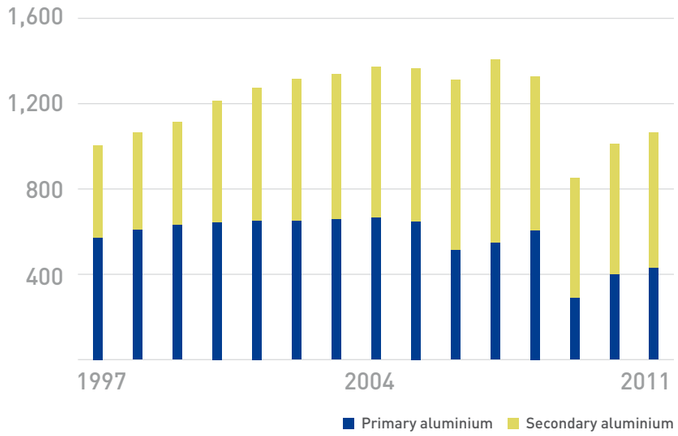
Semis production almost unchanged

The production of semi-finished aluminium products (rolled products, extrusions, wire and forgings) in 2011 totalled 2,443,007 tonnes. Compared with the previous year this represented a slight decline of 0.5 per cent. The production of semi-finished aluminium products is the German aluminium industry's largest sector in terms of quantity.

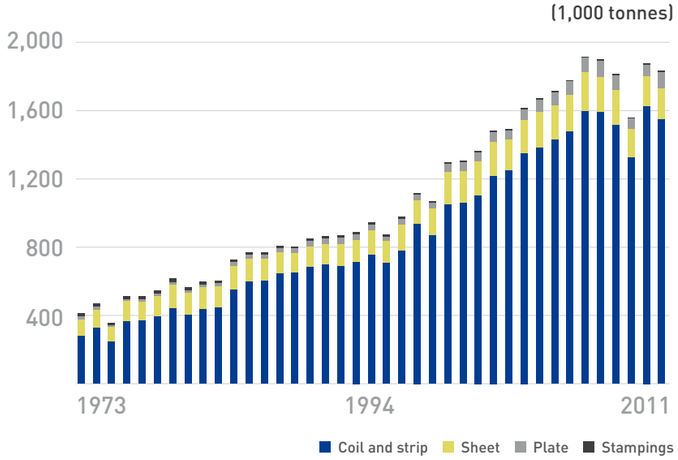
Slight decline in production of rolled products

A total of 1,835,381 tonnes of rolled aluminium products were produced in Germany in 2011. This was 2.2 per cent less than the previous year. The reason for this was a 4.5 per cent decline in the production of coils and strip, the most important group in terms of quantity. In contrast, the other product groups (sheet, plate and stampings) were able to report an increase in production. Plate recorded the greatest increase, up 46.7 per cent.

Raw aluminium production in Germany between 1997 and 2011
(1,000 tonnes)



Production of rolled products in Germany between 1973 and 2011
(1,000 tonnes)



Strong rise in extruded products

Extruded products reported a successful 2011. Production totalled 586,395 tonnes and was thus 4.8 per cent higher than the previous year. There was above-average growth in the production of aluminium bar, up 8.2 per cent year-on-year. Even the production of aluminium tube and profiles increased, by 4.6 per cent in each case. The German extrusion industry thus achieved its second-best year of all time!

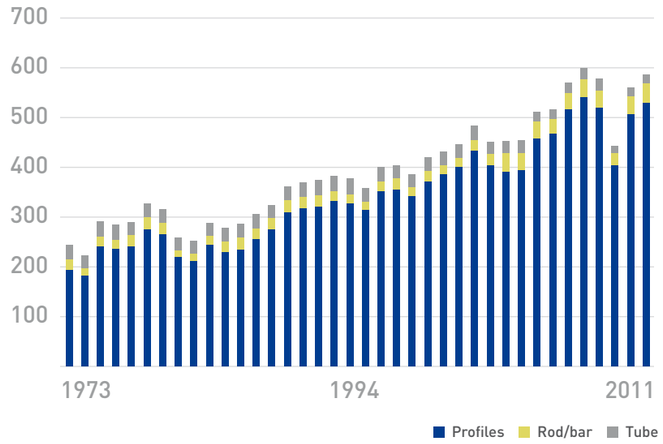
Exports report successes

There were marked export successes for semi-finished aluminium products. Germany exported about 1.5 million tonnes in 2011. Exports were thus exceptionally dynamic and showed an increase of over 40 per cent on 2010. The producers of rolled products achieved export growth of almost 50 per cent, which was significantly stronger than the growth achieved by the producers of extrusions, where the rise was 30 per cent. European partner countries play a prominent role as downstream markets for the German aluminium industry. About 78 per cent of all exports went to Europe, with the figure for the EU27 countries almost 75 per cent.

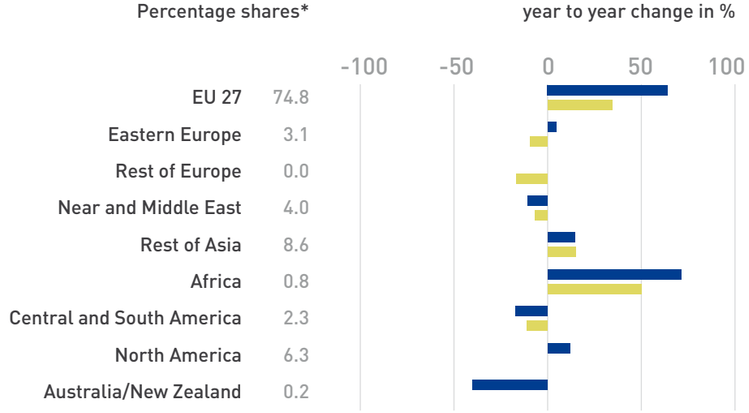
Aluminium downstream processing

Downstream processing in Germany accounted for 363,076 tonnes of aluminium in 2011. The volume thus remained almost constant compared with the previous year. Downstream processing is subdivided into three groups: foil and thin strip; tubes cans and impact extrusions; and metal powder. There was a decline of 1.6 per cent in the production of foil and thin strip but tubes, cans and impact extrusions rose 7.8 per cent. The production of metal powder increased by 5.2 per cent. ■

Production of extruded products in Germany between 1973 and 2011
(1,000 tonnes)



Exports of aluminium semis according to region in 2010 and 2011



* on total exports of aluminium semis during the current year

Outlook

Despite the high degree of uncertainty and volatility in the markets, the German aluminium industry is looking to the future with confidence. The macroeconomic growth expectations may have been repeatedly revised downwards in recent months but the important downstream industries are optimistic. According to the latest forecasts, the mechanical and electrical engineering sectors are expected to undergo further growth this year. The economic indicators for the car industry, which has already expanded considerably in recent years, are also optimistic – both for domestic production and for exports. The building sector also still has development potential in 2012 – especially residential building.

Statistics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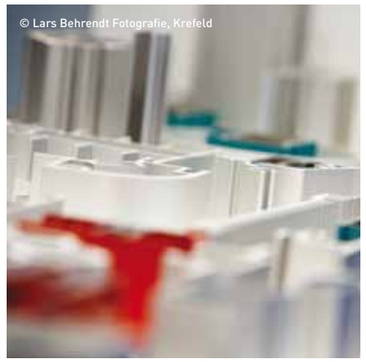
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Production

Semi-finished aluminium products	2010	2011
Rolled products	1,876,800	1,835,400
Rods and bars	35,400	38,300
Profiles	507,400	530,800
Tubes	16,600	17,300
Wires	14,800	16,400
Forgings	N/A	N/A
Conduction material	4,200	4,800
Total	2,455,200	2,443,000

Aluminium castings (tonnes)	2010	2011
pressure die-casting	432,400	449,600
Permanent-mould casting	270,500	295,600
Sand casting	93,100	94,400
other casting processes	13,900	4,100
Total	809,900	843,700

Further processing of aluminium (tonnes)	2010	2011
Aluminium foil	299,743	294,854
Tubes, Cans and Impact Extrusions	38,596	41,603
Aluminium powder	25,283	26,600
Total	363,622	363,057

Foreign trade

Primary aluminium (tonnes)	2010		2011	
Country	Import	Export	Import	Export
EU 27	962,814	197,946	1,076,284	156,124
EFTA	18	62	235,975	1,186
Eastern Europe	251,578	3,998	141,232	637
Rest of Europe	166,769	2	11,423	3,037
Europe total	1,381,178	202,008	1,464,914	160,985
North America	36,188	0	0	0
Central and South America	46,996	501	84,043	1,046
Africa	70,846	0	55,581	6
Asia	68,797	2,532	121,377	1,212
Total	1,604,005	205,042	1,725,914	163,248

Secondary aluminium (tonnes)	2010		2011	
Country	Import	Export	Import	Export
EU 27	594,834	163,819	574,460	173,961
EFTA	18,416	24,700	24,029	24,491
Eastern Europe	23,895	646	29,089	250
Rest of Europe	0	0	0	0
Europe total	637,144	189,165	627,578	198,702
North America	2,133	1,185	5,664	813
Central and South America	0	22	0	1
Africa	1,209	0	1,487	25
Asia	1,202	4,088	2,548	7,470
Total	641,687	194,459	637,277	207,011

Semi-finished aluminium products (tonnes)	2010		2011	
Country	Import	Export	Import	Export
EU 27	897,334	674,515	941,090	1,108,378
EFTA	105,258	50,427	134,186	51,516
Eastern Europe	159,825	43,442	172,452	45,292
Rest of Europe	0	82	0	15
Europe total	1,162,418	768,466	1,247,728	1,205,201
North America	14,129	82,610	15,430	93,079
Central and South America	9,852	40,818	10,820	33,626
Africa	19,567	7,028	17,222	11,708
Asia	34,941	177,170	55,417	185,734
Total	1,240,906	1,076,090	1,346,617	1,529,348

GDA – Gesamtverband der Aluminiumindustrie e.V.

Gesamtverband der Aluminiumindustrie e.V. (GDA) with headquarters in Düsseldorf, Germany, was established in its current form in 1992 in Dresden. It is an association of aluminium companies that produce raw aluminium or aluminium products, including composites with other materials. As an industrial sector association, GDA represents the interests of an efficient aluminium industry and the jobs it offers with the aim of:

- conveying the economic, ecological and technical benefits of aluminium
- implementing the ecological, economic and social aims of the aluminium
- continuing determinedly to pursue the implementation of sustainable, future-oriented development in the aluminum industry.

As the representative of the aluminium industry, GDA strives to maintain an open dialogue with the general public in order that customers and consumers have a more transparent view and better understanding of aluminium and the products of its member companies. To this end there is a continual exchange of experience and ideas within the association; this ensures that the interests of all member companies are represented effectively, also externally.

GDA and its specialist trade associations have made it their job to represent the common interests of all of their members and thus the whole sector in all areas of the economy relating to aluminium. This involves the collection and processing of market information and planned legislation at national and international level. In addition, the association carries out media and public relations work for its member companies. GDA is also co-operation partner and promotional supporter of the world's largest aluminium trade fair ALUMINIUM.

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