

# AD Activities – Support & Benefits for Industry & Partners

17. März 2022, AMAP GmbH - Colloquium

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Head of Technology – Research - Standards



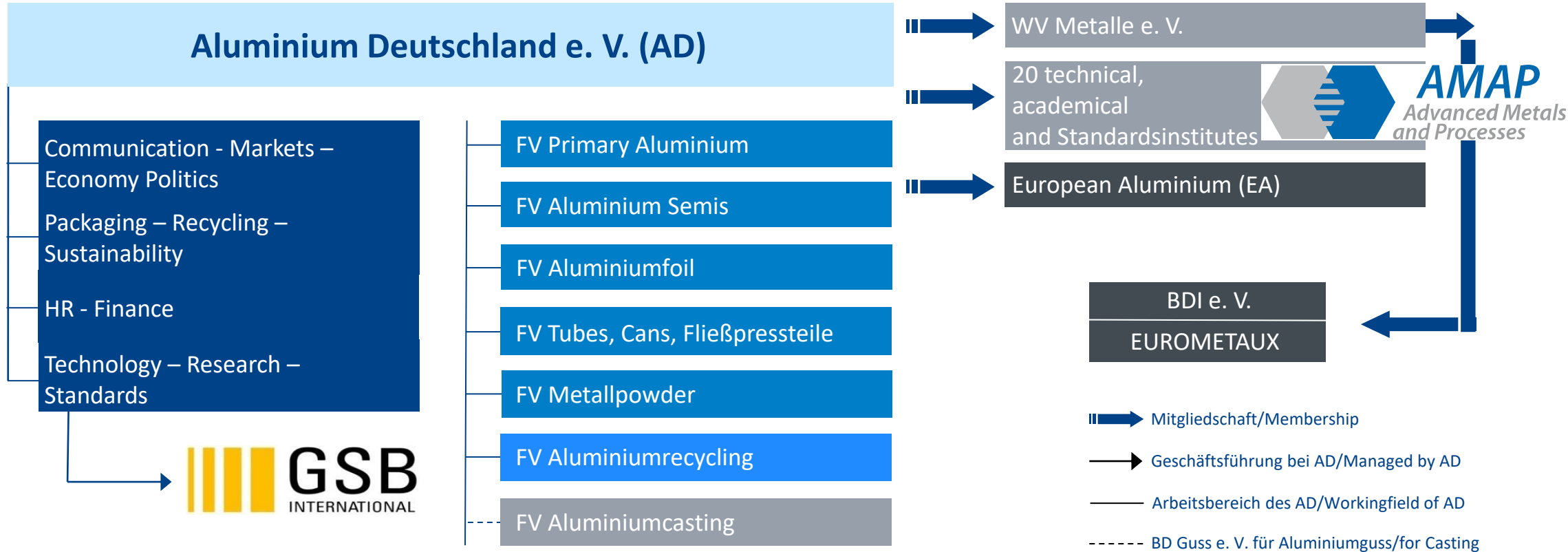
Aluminium  
Deutschland



# Agenda

1. Organization and Structure of AD
2. Technical Advisory for End-Users
3. Economics / Statistics
4. Sustainability / Recycling / Packaging
5. Committees and Working Groups
6. Lightweighting Initiative of BMWK (former BMWi)
7. Standardization and Network
8. Aluminium Alliance NRW
9. Seminars and Newsletter

# Organisation und Aktivitäten von AD



# Aluminium Deutschland e.V.

## Organisationsstruktur & Personen



- **Technical Advisory for Endusers**
- **Technical Lobbying / Committeework**
- **Seminars**

## **Inquiries / Advisory, mainly for customer industries, stockists, Handcraft-Companies, Architects und AD-Members**

### Main Topics:

- Joining / Welding / Brazing / Adhesive Bonding
- Mechanical machining
- Applications in Building (Strengths, decorative Surfaces)
- Surface Treatment
- Corrosion / Resistance against corrosive media
- Aluminium in contact with foodstuff
- Supplier information

# AD Statistics & Economics

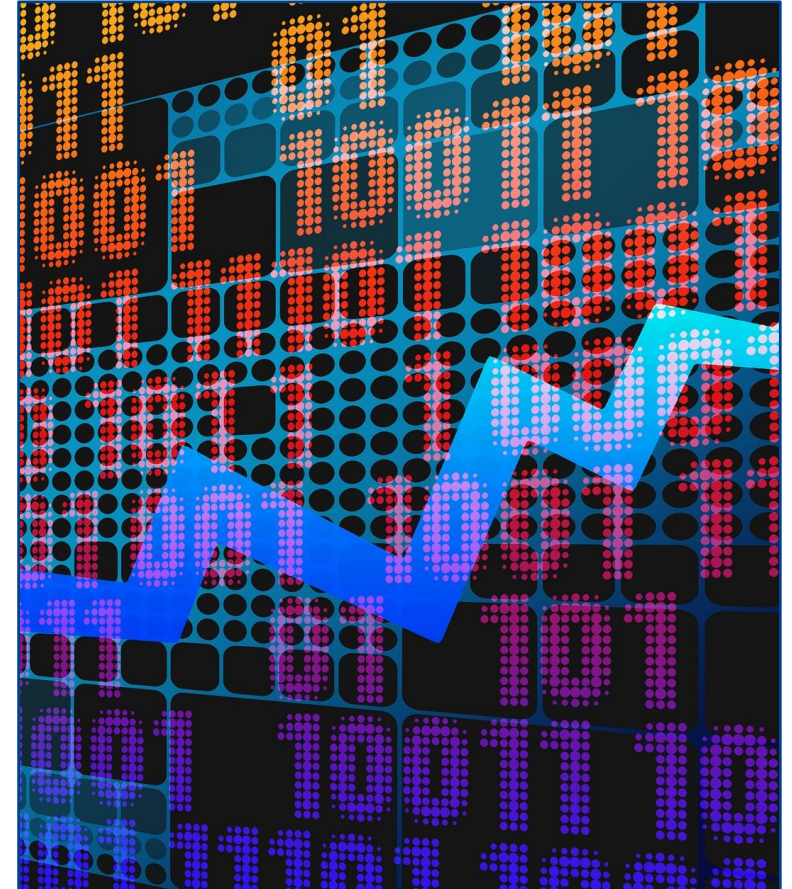
Data service

## Statistics along the entire value chain in national, European and international market groups:

- Primary aluminium
- Secondary aluminium
- Flat rolled & extruded products
- Packagings (foils, tubes, aerosols, cans) & powder

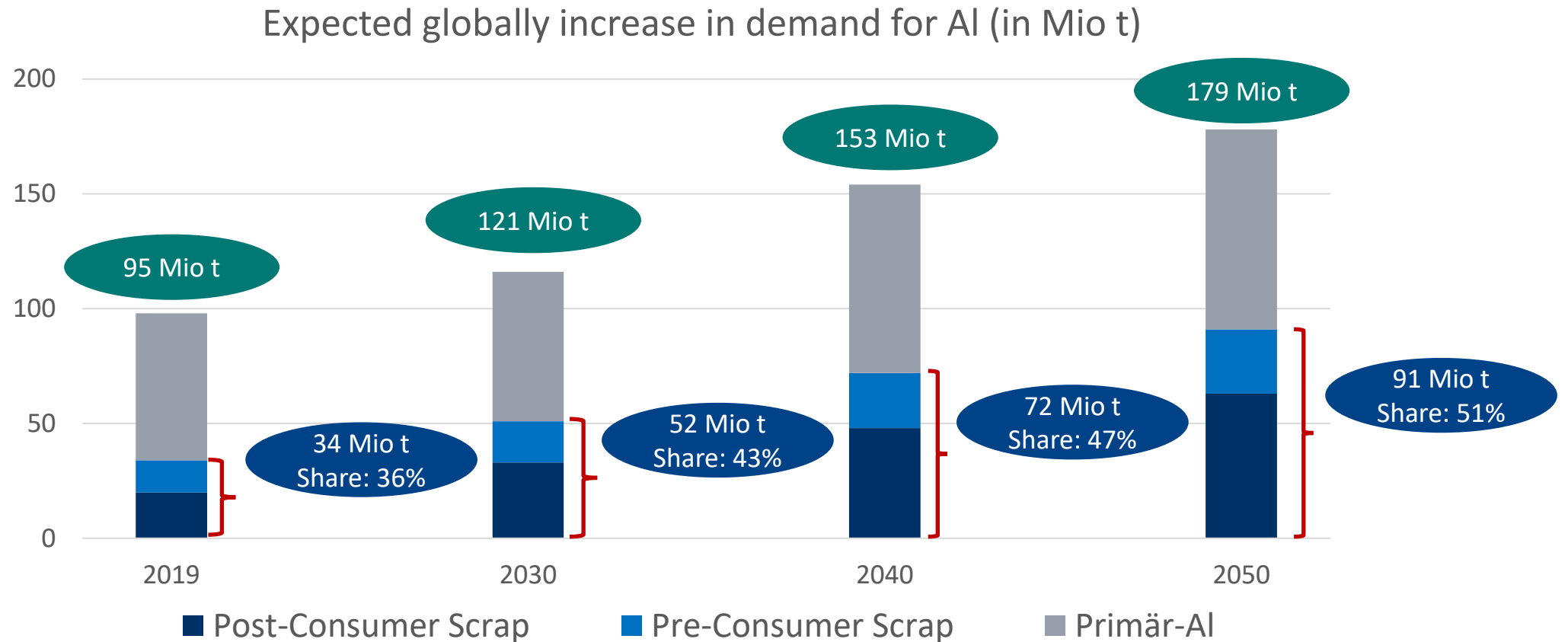
## Economic data:

- General economic data (GDP, IP,...)
- Customer markets (e.g. „Automotive Report“)
- Trade data



# Decarbonization of the Value Chain

## Scrap Availability





# Corporate Sustainability Reporting Directive (CSRD)



- European Financial Reporting Advisory Group (EFRAG) is currently developing the standards
- Goal is to revise and strengthen its predecessor (NFRD) thus ensuring reliable and comparable sustainability information
- 2 sets of standards are expected;
  1. **Sector independent** standard to be adopted in October 2022, use will be obligatory for large companies starting 2024
  2. **Sector/ entity-size dependent** standard to be adopted in October 2023, use will be obligatory for SMEs starting 2025

# Scope change from NFRD and consequences

- NFRD (Non-Financial Reporting Directive) applied to 11,700 companies and groups having more than 500 employees and designated by national authorities as public interest entities
- CSRD will apply to nearly **50.000** organizations;
- 1. All large companies** (the 500-employee threshold and the “public interest designation” will not be mandatory)
- 2. SMEs** with securities listed on the regulated markets
- Scope will not include micro enterprises and SMEs with securities listed on SME growth markets or multi-lateral trading facilities (MTFs)
- Demanding in terms of approach and quality and an external third-party audit will be obligatory

# Management of national AD working groups

## Packaging

### Tubes and Cans Division

#### Market Committee

- Exchange about market situation
- Statistics
- Monitoring packaging legislation
- Communication activities

#### Technical Committee

- Production/technology-related matters and standards
- Regulatory affairs (national and European law)
- Dealing with substances under pressure (BPA)

#### Supply Chain meeting

- Cooperation between European lacquer producers, packaging manufacturers and customers (brand owners)

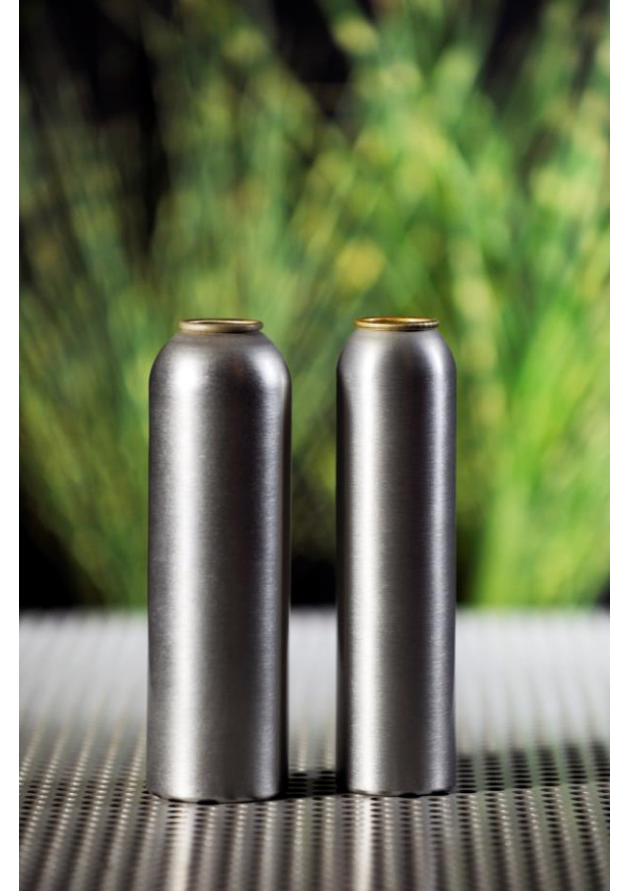


# Management of international working groups

## Aluminium aerosols and flexible tubes

### AEROBAL and etma

- Supply of statistics, packaging and raw material market information
- Monitoring the international packaging, food contact and environmental legislation
- Standardisation (especially tubes)
- Cooperation with other packaging and aerosol/tube-related associations
- Public relations - press releases, magazines (CANS, Tubes & Trends), contests (Tube of the Year and International Aluminium Aerosol Can Award)



# Aluminium and Sustainability

Focus on decarbonization of aluminium industry



- AD position paper with main decarbonization messages and aims of aluminium industry
- Wide distribution via national and international working groups, members and LinkedIn
- Basis for the communication with politics, customers and other stakeholders
- Work on a roadmap 2030/2050 in the aluminium industry
- Planned study tackling key question: How do we efficiently and transparently decarbonize the aluminium industry and its processes?
- Aim: Realization of a practicable, harmonized calculation method for the product carbon footprint which avoids greenwashing

## Standortbestimmung Aluminium und Nachhaltigkeit

### Warum Aluminium?

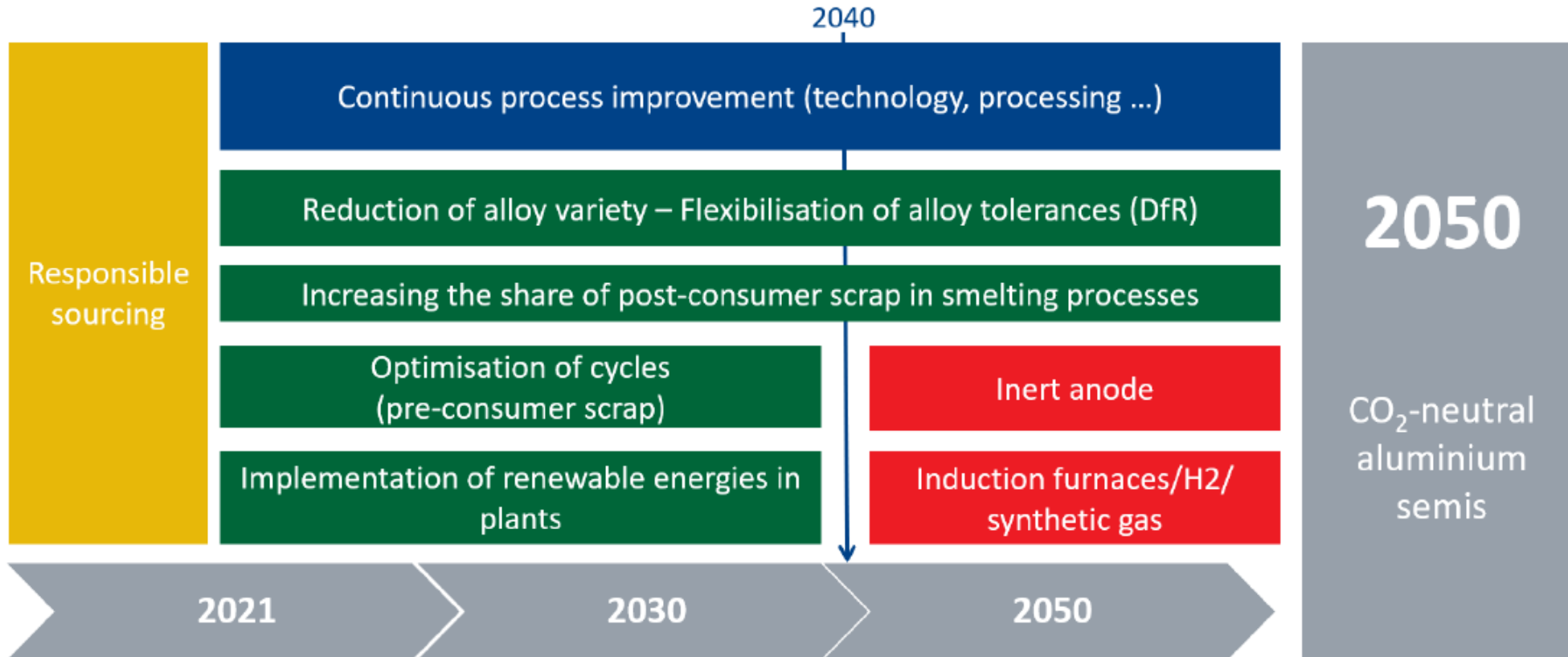
Aluminium ist ein Werkstoff der Zukunft. Das Metall hat aufgrund seiner positiven Materialeigenschaften wie der guten Verformbarkeit, dem im Vergleich zu anderen Werkstoffen geringen Gewicht, der guten Barriereigenschaften, seiner Festigkeit, Korrosionsbeständigkeit, Langlebigkeit und dem geringen Wartungsaufwand großes Potenzial. Aluminium ist ein „Enabler“ auf dem Weg zu einer klimaneutralen Gesellschaft. Auf viele Zukunftsfragen gibt es nur eine Antwort: Aluminium! Für den Ausbau der erneuerbaren Energien und der Elektromobilität ist Aluminium unerlässlich. Und es ist mit seinen hervorragenden Recycling-Eigenschaften bereits heute ein Vorbild für eine Circular Economy, zumal Aluminium als einer von wenigen Rohstoffen nahezu endlos recycelt werden kann.

### Wo stehen wir heute?

Klimaschutz ist die zentrale politische und gesellschaftliche Aufgabe in den nächsten Jahren und Jahrzehnten. Mit „Fit for 55“ hat die Europäische Kommission ein Legislativpaket vorgelegt, das sehr ambitionierte CO<sub>2</sub>-Reduktionsziele konkret formuliert und konkrete Reduktionspfade vorgibt.

Die deutsche Aluminiumindustrie, die ihre Produkte in die unterschiedlichsten Sektoren liefert, steht hinter diesen Zielen und wird weiterhin ihren Beitrag dazu leisten.

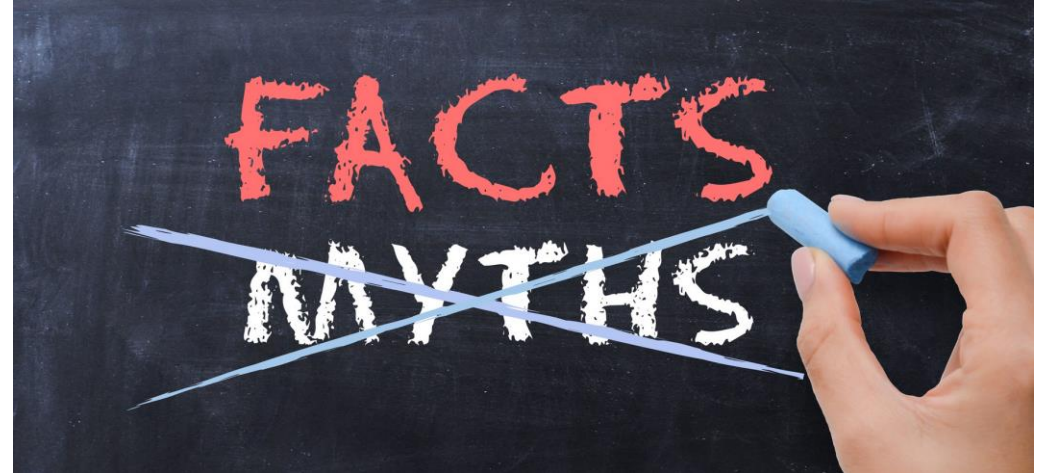
# AI & Sustainability: Roadmap 2050



# Aluminium and Health

AD informing and defending interests of aluminium industry

- Focus on uncoated aluminium food contact materials / Transfer of aluminium compounds into food
- Alleged, scientifically unproven health risks (e. g. Alzheimer's, breast cancer)
- Discussions with BfR on critical scientific findings
- Special AD edition on „Aluminium and Health“
- Website „Alles über Alu“ (all about aluminium) representing facts instead of myths
- Position papers for special products (e. g. aerosols) and AD guideline on proper labeling of uncoated aluminium articles



# Management of national AD working groups

## Recycling

### Recycling Division

- Market Developments (Statistics)
- Legislative Issues (IED, BREF, CLP, Waste Shipment, ADR...)

### Technical Committee

- Monitoring Developments
  - Sorting Technologies (LIBS, XRT, XFT)
  - Furnace and Burner Technologies
  - Alloy Developments
  - Slat Slag Preparation
  - Safety Issues
  - Scrap Availability
  - Transport Liquid Metal ...





# Management of national AD working groups

## Beverage Can

### **WG LCA – WG Public Affairs/Image Beverage Can**

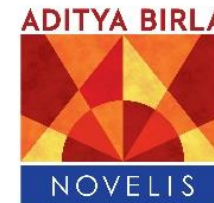
- Following LCA Studies
- Conducting Studies
  - Opinion Survey
  - Development of Methodological Approaches for LCAs
- Stakeholder Dialogue
  - NGOs
  - Retailers
  - Fillers
  - Authorities
- Political Lobbying



# AD Working Group Corrosion

## Objectives

- Initiation and execution of pre-competitive research projects
- Topics on corrosion and corrosion protection, e.g.:
  - Impact of chemical, metallurgical and mechanical properties on supply chain processes
  - Check and modify the test conditions in the standards and customer specifications
  - Interlaboratory tests for QM audits in the testing laboratories
  - Expanding the application limits of alloys within the industry and in cooperation with customers



# Testing according to standard

Influence of tolerances in test standards / regulations on the result

**ISO 11846**

**Exam**

**Intercrystalline  
corrosion**

1 l test solution

Mixture of

NaCl 30.0 g/l  $\pm$  1%

and

HCl 37%

**10.0 ml  $\pm$  1 ml**

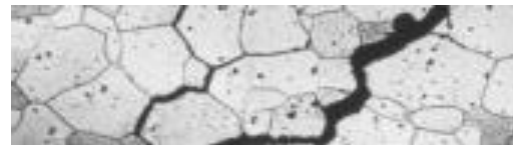
**Result of the audit**

Laboratory A (supplier)



**9 ml**

Laboratory B (customer)



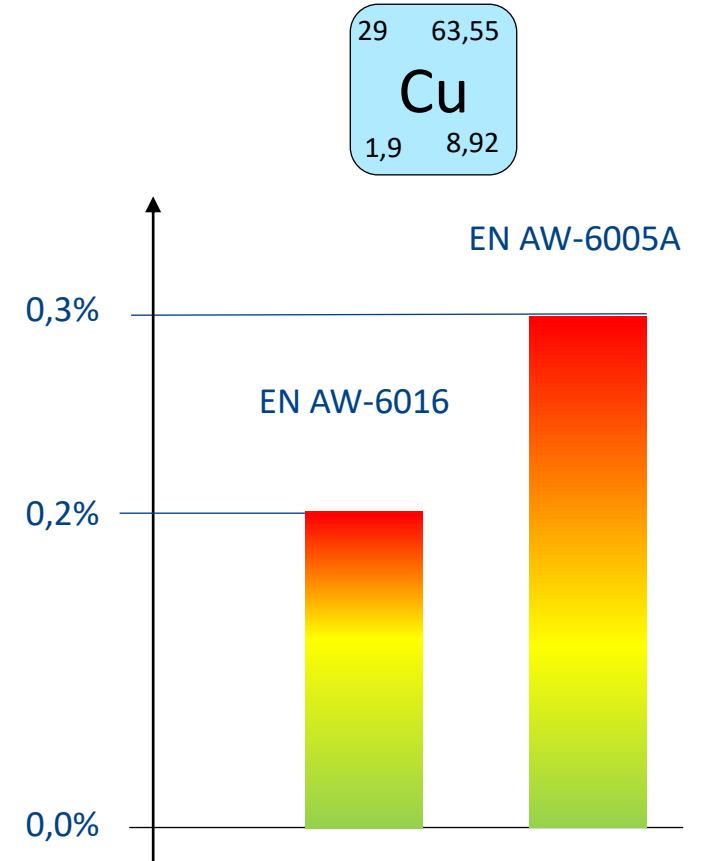
**11 ml**



# Higher strength 6000 alloys

## Intergranular corrosion

- The susceptibility of the higher-strength 6000 alloys depends on the alloying elements (e.g. Cu content), on the semi-finished product and on the heat treatment
- Susceptibility testing according to ISO 11846
- Interlaboratory tests with samples from one batch
- Adapting/narrowing the test procedure according to the standard in cooperation with customers (e.g. BMW):
  - smaller tolerances in the composition of the test solutions and
  - defined ratio test solution / sample surface



# AD AG Extrusion Automotive 1

## Objectives

**Established in 2008**

**Members: 18 Extruders, TRIMET, 4 Institutes and 3 Automotive OEM**



Audi



Mercedes-Benz

**Researchprogram 7 (UP 7) successfully finalized in 2020:**

- Research on crash performance of profiles in transversal direction
- Possible application: e.g. Batterycases
- Simulations and tests at LKR/AIT and at HAI Ranshofen
- Interesting results and good to very good consistency of simulation and tests

# AD AG Extrusion Automotive 1

## **Researchprogram 8 (UP 8) started end of 2021, ongoing 2022:**

- Based on UP7: Further research on crashperformance of profiles
- 3-chamber-profile, also with larger wallthicknesses up to 6 mm
- Alloys with higher strength
- Alloys with higher contents of Fe + Cu (Recycling)
- Extrusion and compressing tests at HAI Ranshofen
- Plate bending tests at FZS TU Berlin
- Finalization expected Q4 2022

**Total Volume of all UP's 1-8, self financed out of the committee: € 740.000**

# AD AG Rolled Products Automotive Objectives

**Established in 2010**

**Members: 5 Rolling Companies and 5 Automotive OEM**



Audi



Mercedes-Benz



OPEL



PORSCHE



Volkswagen

**Collaborative Work on Standard Aluminium Sheet Qualities for Automotive Applications, VDA Requirements and Round Robin Tests in several working groups:**

- VDA 239-200 Aluminium Sheet Material
- VDA 238-100 Plate Bending Test
- VDA 238-401 Requirements for Testing the Weldability of Aluminium Sheet Alloys using RSW
- VDA 239-300 Experimental Determination of Mechanical Properties of Aluminum Sheets for CAE-Calculation Testing and Documentation
- VDA 239-400 Roping Test

# AD WG Continuous Casting (WG CC)

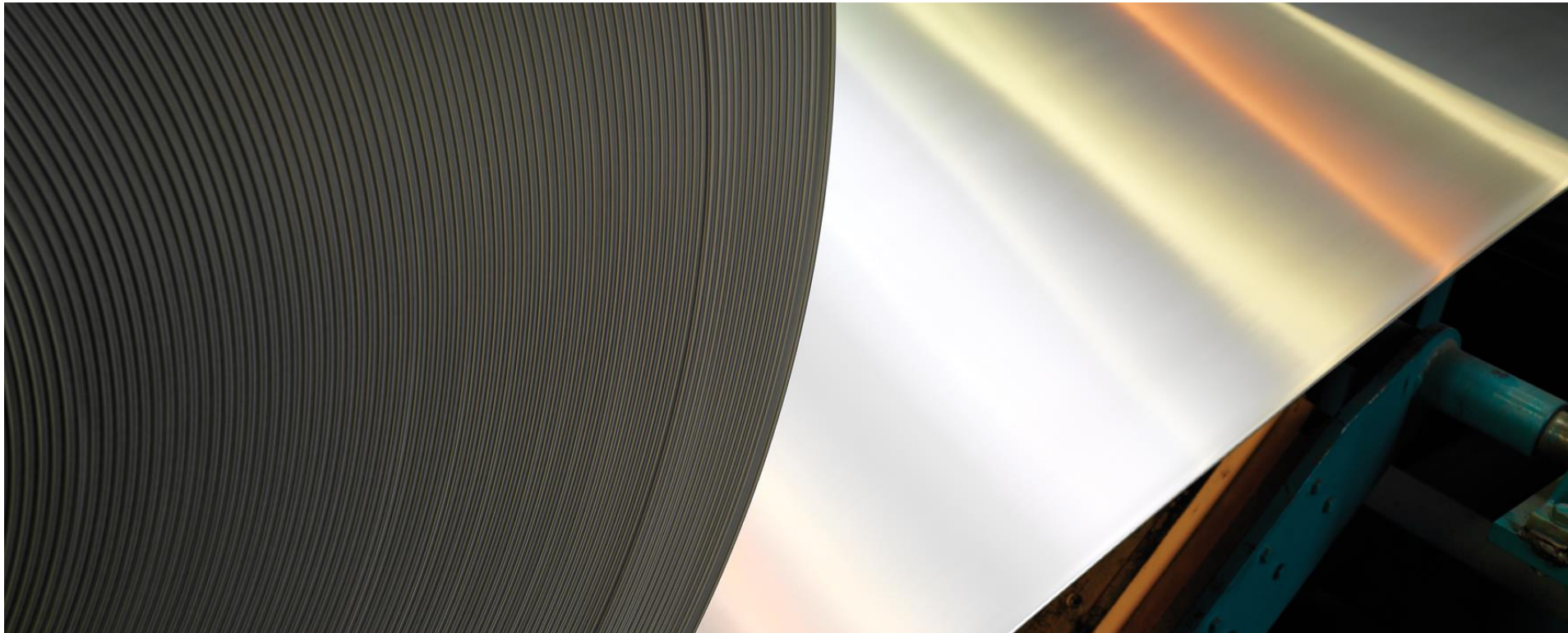
## Objectives

**Established in 2010 as European Working Group, today international**

**Members: Users of and suppliers for CC technology, Institutes**

Collaborative Work on understanding and promoting this technology

Several projects carried out with lab tests, industrial tests and simulation of the process

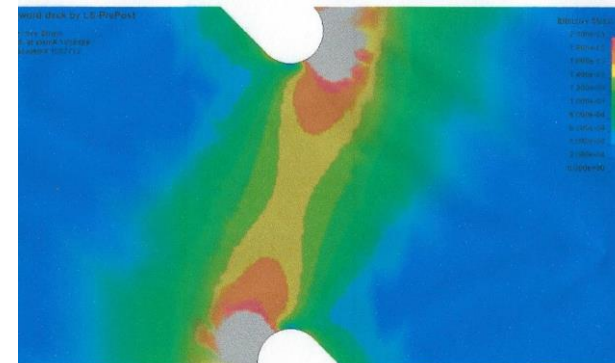
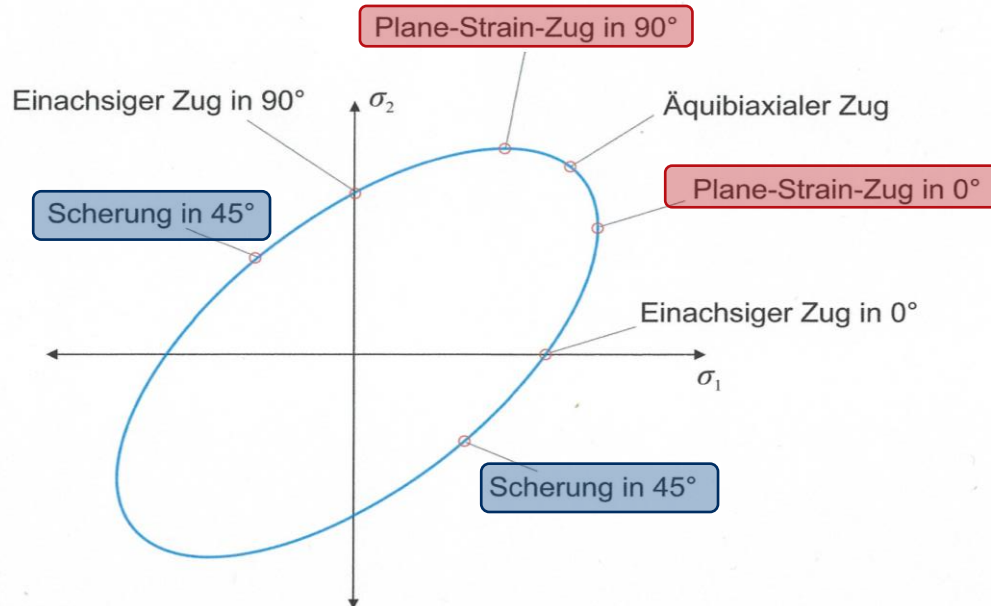
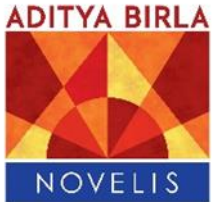




# AD Working Group Data for the Yield Surface

## Objectives

- Harmonizing test procedures for yield locus data
- Comparable results from testing (performed in different labs) to be used as input data
  - in forming simulation
  - for re-engineering simulation of input data for forming simulation



Shear test  
(strain distribution in shear zone)



# AD WG Test Procedures

## Objectives

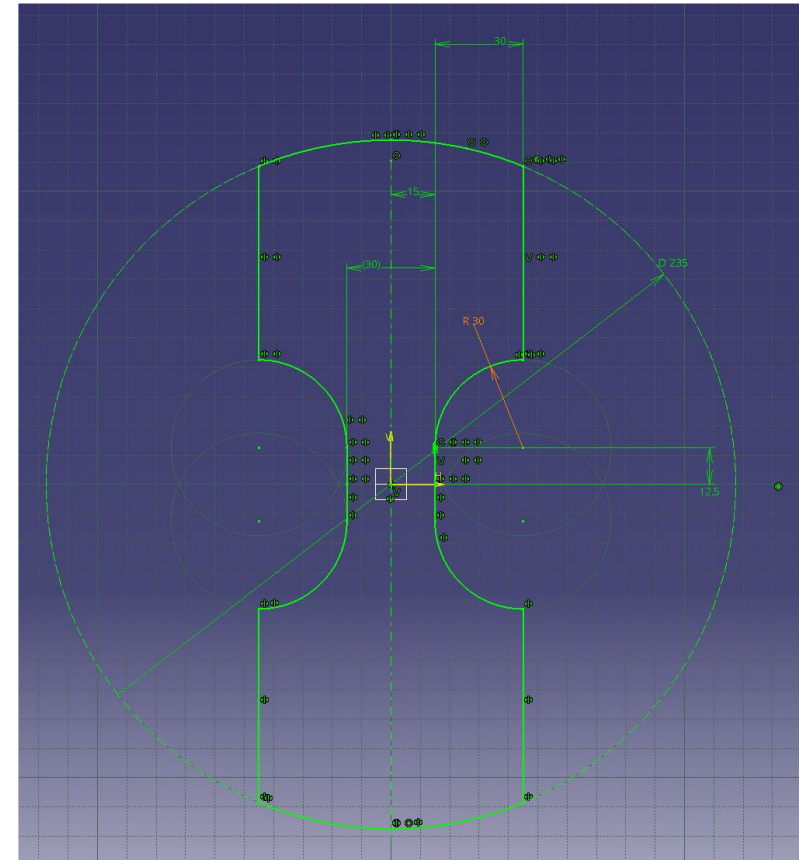
**Established in 2012**

**Members: Rollers, Extruders, Automotive OEM and Institutes**

Exchange of Experiences

Carrying out of Round Robin Tests in 2021/2022, e.g.:

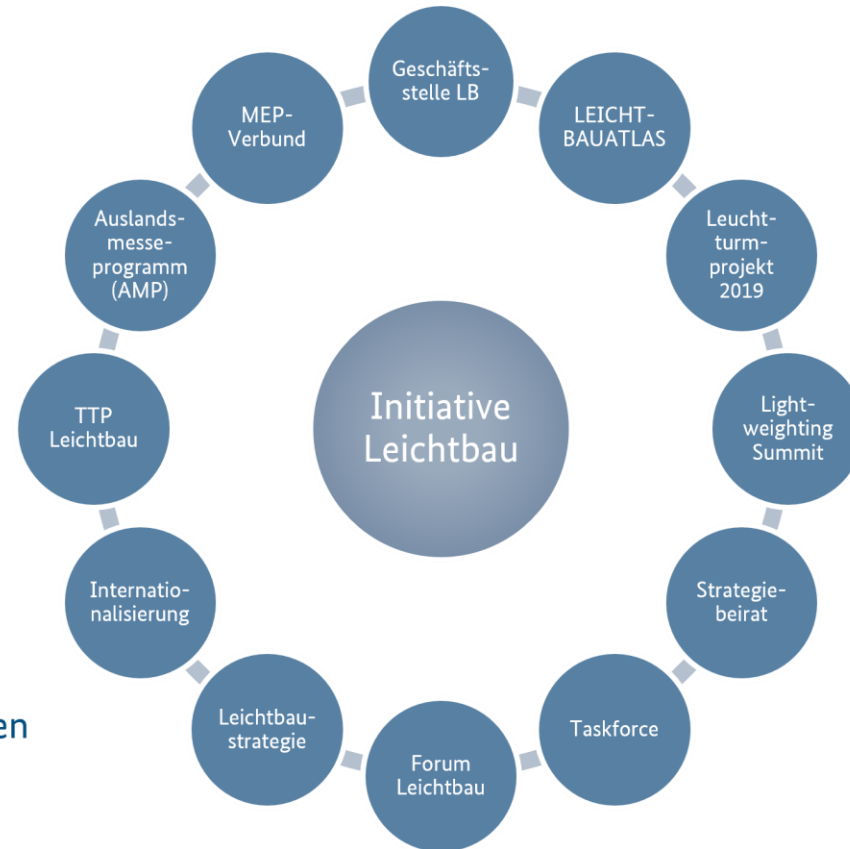
- Tensile Test
- E-Modulus
- Plate Bending Test (VDA 238-100)
- Roughness
- FLC (ISO 12004 Method and „Line-Fit“ Method)



# Initiative Leichtbau des BMWK

[www.initiativeleichtbau.de](http://www.initiativeleichtbau.de)

- Zentrale Koordination des Themas Leichtbau in Deutschland
- Flankierung eines branchenübergreifenden Technologietransfers
- Erarbeitung praktischer Handlungsempfehlungen für Unternehmen und Politik
- Unterstützung insbesondere kleiner und mittlerer Unternehmen
- Publikation von Best-Practice-Anwendungsbeispielen
- Initiierung nationaler und internationaler Kooperationen



# Initiative Leichtbau des BMWK

## Strategiebeirat der Initiative Leichtbau

### Vertreter Länder-LB-Organisationen



### Vertreter Industrie/Gewerkschaften/Verbände



# Initiative Leichtbau des BMWK

Initiativen von AD zur Einbindung weiterer Verbände:

- Brief mit VDMA und WV Metalle an BDI  
→ erste Gespräche positiv
- Brief an BDLI → positive Rückantwort  
→ BDLI macht mit
- Brief an VDA → Gespräch mit  
Forschungsvereinigung  
Automobiltechnik (FAT) des VDA  
→ FAT macht mit



# Standardization

## Active participation and/or monitoring of standardization activities

### National - DIN

FNNE Standardization Committee for Non-Ferrous-Metals

FNNE AI „“ „“ „“ Aluminium

NAS Standardization WG's for Welding



### European – CEN

CEN/TC 132 Standardization Committee for Aluminium

CEN/TC 135 „“ „“ for Construction/Building with Steel  
and Aluminium

CEN/TC 250 „“ „“ for „EUROCODE 9 - EN 1999



### International - ISO

ISO/TC 79 Standardization Committee for Light Metals



# Network Material/Standards/Research

## **DIN FNNE Al (+Cu)**

Fachnormenausschuss  
NE-Metalle  
**Fachbereichsrat Al**

## **EA**

STC  
Standardisation  
Committee

## **Stiferverband Metalle**

WV Metalle

## **DIN – NMP**

Normausschuss  
Materialprüfung

## **CEN TC 132**

Aluminium and it's Alloys

## **EFB**

Europäische  
Forschungsge-  
meinschaft  
Blechbearbeitung

## **DIN NAS**

Deutsches Institut  
für Normung  
Normausschuss  
Schweißtechnik

## **Leichtbau-Initiativen**

BUND BMWK  
NRW  
BW  
....

## **DVS**

Deutscher Verband  
für Schweißen und  
verwandte Verfahren

## **DGM**

Deutsche Gesellschaft  
für Materialkunde

# Alliance for the Aluminium Industry

“Aluminiumbündnis Nordrhein-Westfalen“





# Alliance for the Aluminium Industry

Far-reaching alliance – politics, unions, industry

- Joint declaration by the NRW Ministry of Economic Affairs, the primary smelter operators Trimet and Speira, Aluminium Deutschland, and the unions IG Metall and IG BCE
- Strong commitment of the NRW state government to the industrial location and material!
- Impetus for political flanking of the transformation of the industry
- Comprehensive statement - on energy policy, R&D funding to circularity

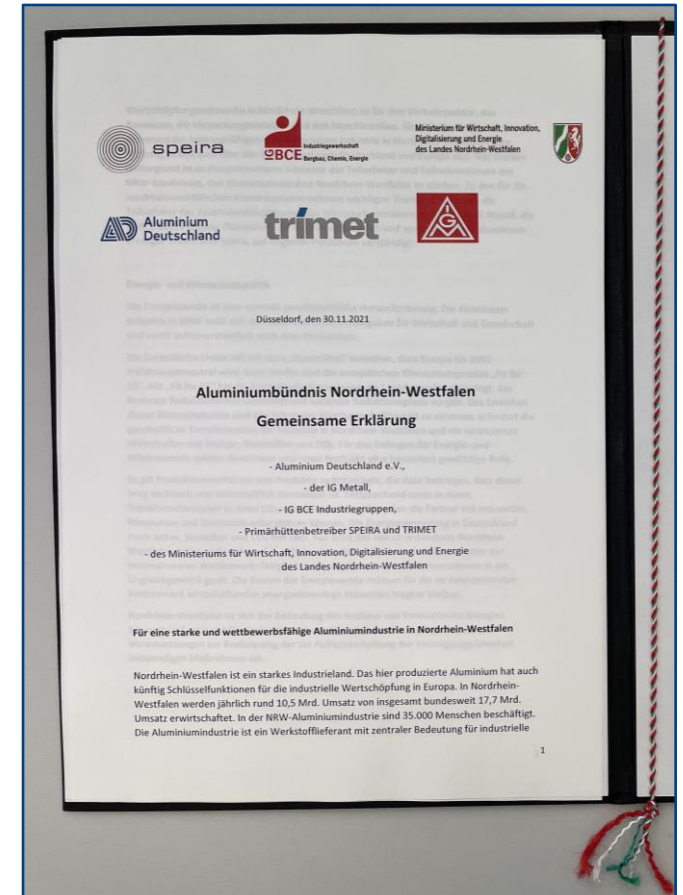


# Alliance for the Aluminium Industry

## Update & next steps



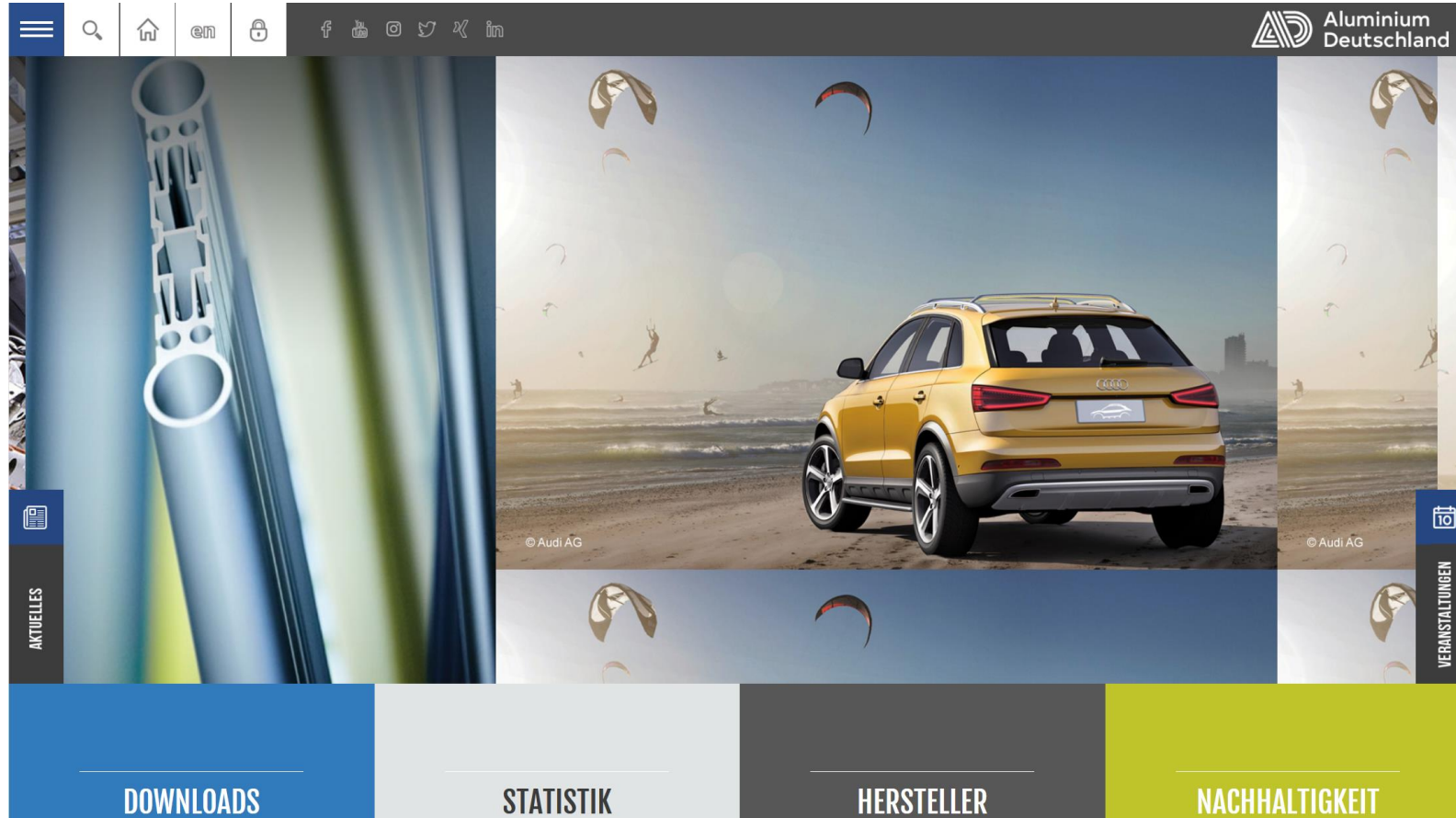
- From the nucleus NRW via further "aluminum countries" to the Bundesrat, to Brussels, to Berlin!
- Hamburg has declared to join the alliance
- Meeting in Saxony-Anhalt planned for May
- Other German states in the pipeline (Lower Saxony, Rhineland-Palatinate, Baden-Württemberg)
- Revision of the declaration and adaptation to current circumstances
- Announcement at ALUMINIUM 2022



# Seminarübersicht 2022

<u>Termine</u>	Thema
17./18. März 2022	FWT - Clausthal-Zellerfeld „Aluminium und seine Legierungen. Eine Einführung für Techniker und Kaufleute“
4. Mai 2022	AD Seminar (englisch): „Aluminium <u>Continuous Casting</u> – Technology, Properties, <u>Applications</u> “
13./14. Oktober 2022	FWT - Clausthal-Zellerfeld „Aluminium und seine Legierungen. Eine Einführung für Techniker und Kaufleute“
18. Oktober 2022	AD Seminar: „Aluminium-Strangpress-Profiltechnik“
9. November 2022	AD Seminar: „Walzen von Aluminium“
November 2022 ( <u>tbd</u> )	AD Seminar: „Oberflächenbehandlung von Aluminium“
<u>tbd</u>	RWTH Seminar "Einführung in die Technologie des Aluminiums"
Februar 2023 ( <u>tbd</u> )	AD Seminar: „Fügen von Aluminiumprofilen und –blechen“

AD im Internet: [www.aluminiumdeutschland.de](http://www.aluminiumdeutschland.de)





## Newsletter

Wichtige Neuigkeiten für Unternehmen aus  
der Aluminiumindustrie

[www.aluminiumdeutschland.de](http://www.aluminiumdeutschland.de)

*Abonnieren Sie unseren Newsletter*

Mail an [info@alu-d.de](mailto:info@alu-d.de)

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Fritz-Vomfelde-Straße 30  
40547 Düsseldorf

# Vielen Dank für Ihre Aufmerksamkeit

**Wolfgang Heidrich**

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 **Aluminium  
Deutschland**

