European Aluminium Technology Platform (EATP) & aluMATTER:

2 novel approaches to collaborative R&D and education

Christian Leroy,
European Aluminium Association

IOM3 conference, 6 April 2006

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Aluminium for Future Generations

What is the European Al Association?

- Founded in 1981, the EAA represents the aluminium industry in Europe
- EAA Members:
  - European primary aluminium producers
  - National associations representing rollers and extruders
  - Organisation of European Aluminium Refiners and Remelters (recycling division - OEA)
  - European association of aluminium foil producers (EAFA)
- EAA Objectives:
  - Offer support to our members;
  - Secure sustainable growth of aluminium in its markets;
  - Maintain and improve the image of the aluminium industry towards target audiences
  - Promote Aluminium knowledge, research & education

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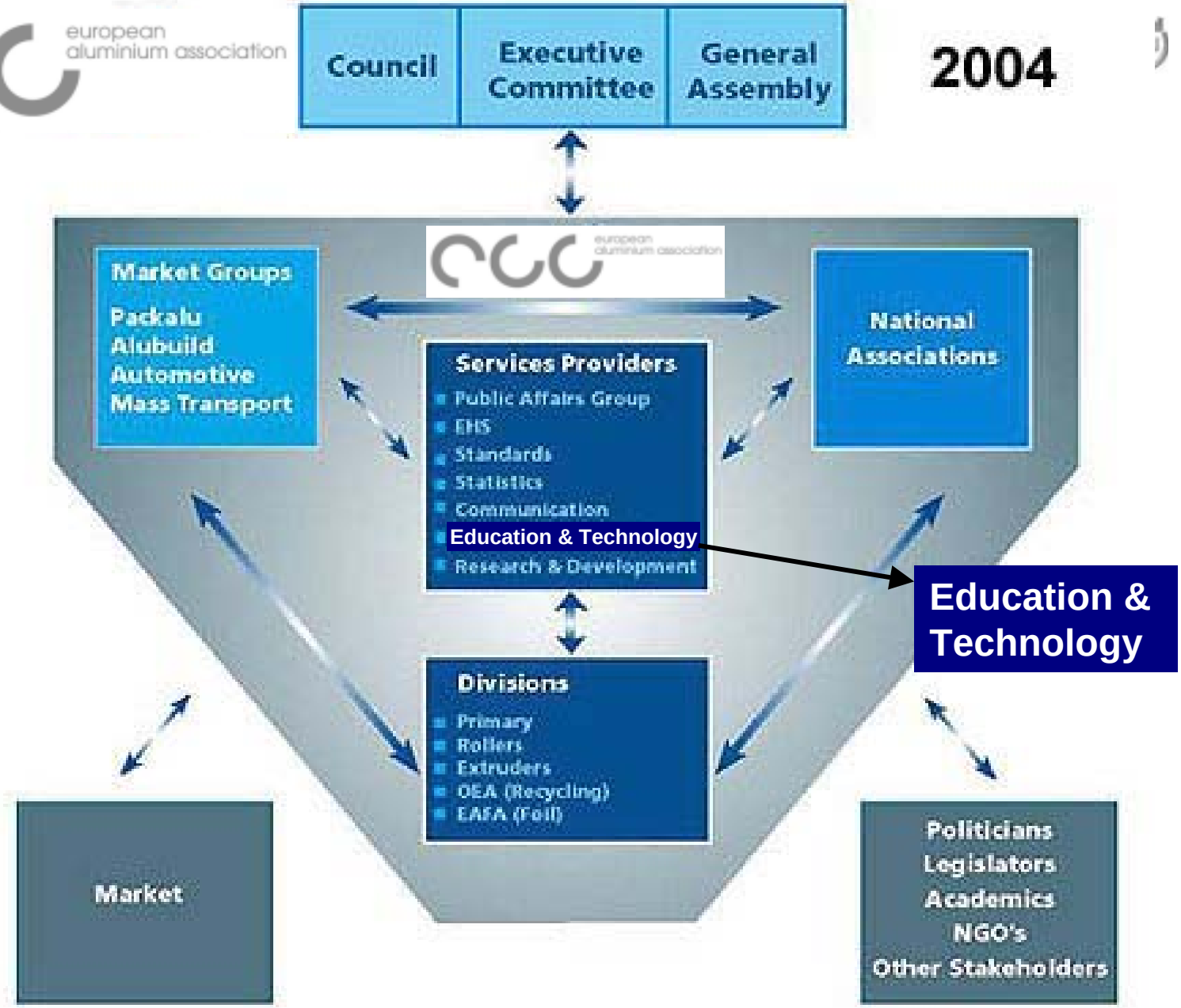

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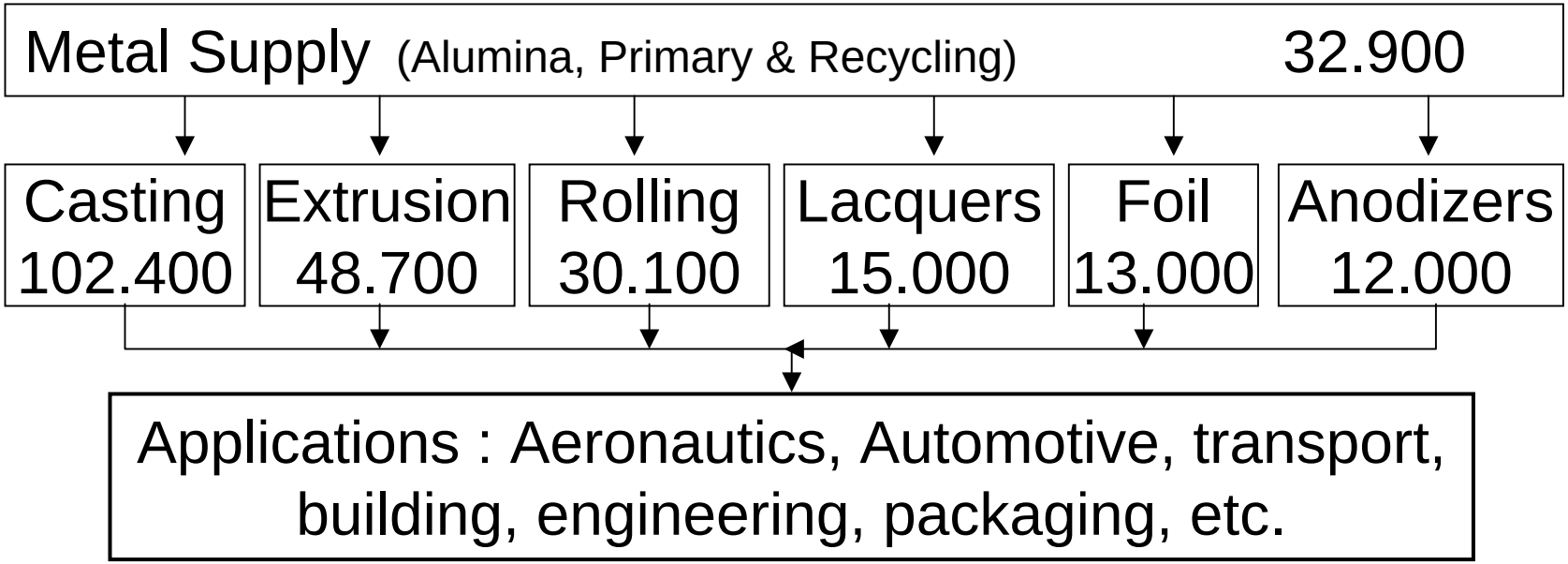
European Aluminium Industry
Employment Figures (Nº of People)*



Total (excl. applications sectors) : – 260.000 people

* Source: EAA Study on the Economic Importance of the European Aluminium Industry – Coverage: EU 25, EFTA countries & Turkey – Reference year 2003

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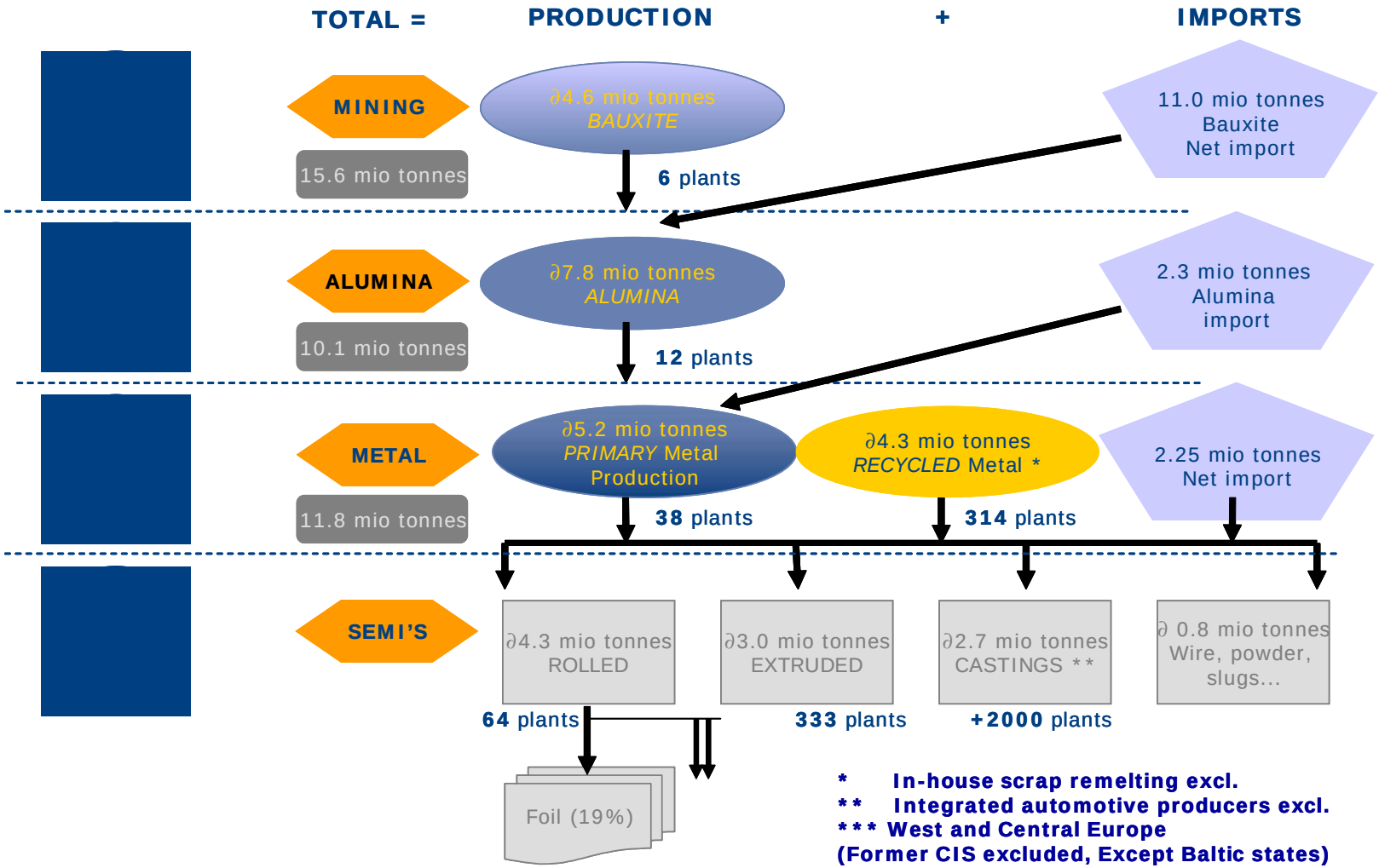
European aluminium production & imports Year 2004



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Some European strengths of the Al industry

- Energy efficiency
- Technology leadership smelting
  - European smelter emissions are below global averages
  - A leader in smelter equipment supply due to close cooperation between aluminium industry and suppliers
- Leadership in manufacturing technology and equipment
  - Strip and foil rolling, extruding, etc
- Physically based models (micro-structural models)
- Academic networks
- Non-contact sensors
- Extrusion productivity
- High recycling rates in key markets
  - Europe plays a leading role in recycling processes

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Some European challenges of the Al industry

Competitiveness (Europe competing in a globalized market)

- Loss of primary production capacity in Europe due to non-competitive power prices (2005-2015)
- Increasing strength of Asian economy (China, India..)
- Competitive manufacturing and market based development
- Maintaining R&D and innovation in Europe
- End-of Life Products management (ELV/packaging directives, scraps export to Asia)

Environment / sustainability (global collaboration)

- Global climate change challenges
- Carbon constraints
- Impact of mobility
- Waste & residues management
- Chemicals management
- Water resource management

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Pervasive globalisation needs a concerted European approach and response

As a result, the European Aluminium Industry has initiated :

- The development of a « Vision 2030 » document
- The European Aluminium Technology Platform (EATP) as the coordination instrument of future joint RTD initiatives & projects
- Several EATP working groups to develop Collaborative Research Programs & project proposals
- The organisation of conference and/or workshop to progressively invite stakeholders to join the process

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EATP « Vision 2030 » Document

- Towards the « sustainable European aluminium society ».
  - Main drivers are sustainability and competitiveness, which seek to ensure maximum eco-, cost and material efficiency by the year 2030.
  - Addressing long-term industry challenges by stimulating, integrating and accelerating collaborative RTD activities in Europe.
  - **Main objective**: providing long-lasting, energy-saving, highly functional and optimally competitive solutions to a variety of future needs.
- Available at www.aluminium.org

EATP: the implementing instrument of joint RTD initiatives

- For a coherent approach to Research and Technology developed through a Collaborative Research Programme
  - EATP WGs established for developping specific roadmaps and preparing RTD project for short-term and medium-term perspectives.
- For a better cooperation with stakeholders in the field of R&D and technical innovation, encouraging the transfer of knowledge and experience on all relevant issues.
  - Keep dialogue with other TPs, suppliers and engineering companies, important end-user markets, European & national technical bodies, financial institutions and representatives from European society.
- Engaging experts & stakeholders into coordinated collaborative projects and into a relevant Network of Excellence (NoE)

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EATP Mission

- To provide a European wide view on the technology needs focusing on a 2030 horizon including identifying and prioritising those actions needed to ensure they are met
- To have a single forum to discuss technology issues rather than on company level
- To generate true inter-company R&D with the related benefits of cost sharing
- To pull the European Aluminium Technology network together in the same direction (universities & RTD institutions)

The European Aluminium Technology Platform is our vehicle to mobilize - and improve the impact of - Research & Development investments of joint interest to the value chain

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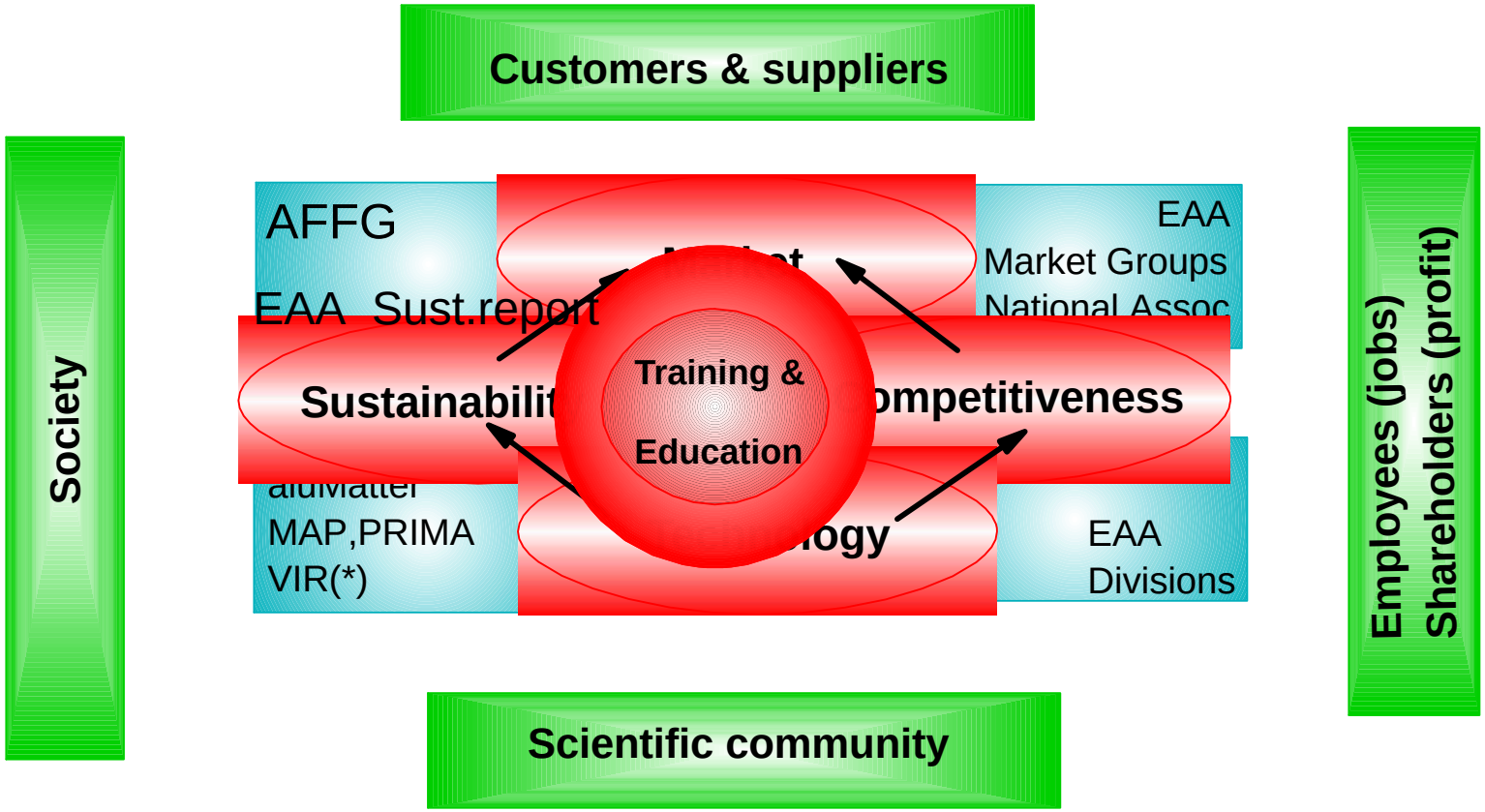
EATP foundations



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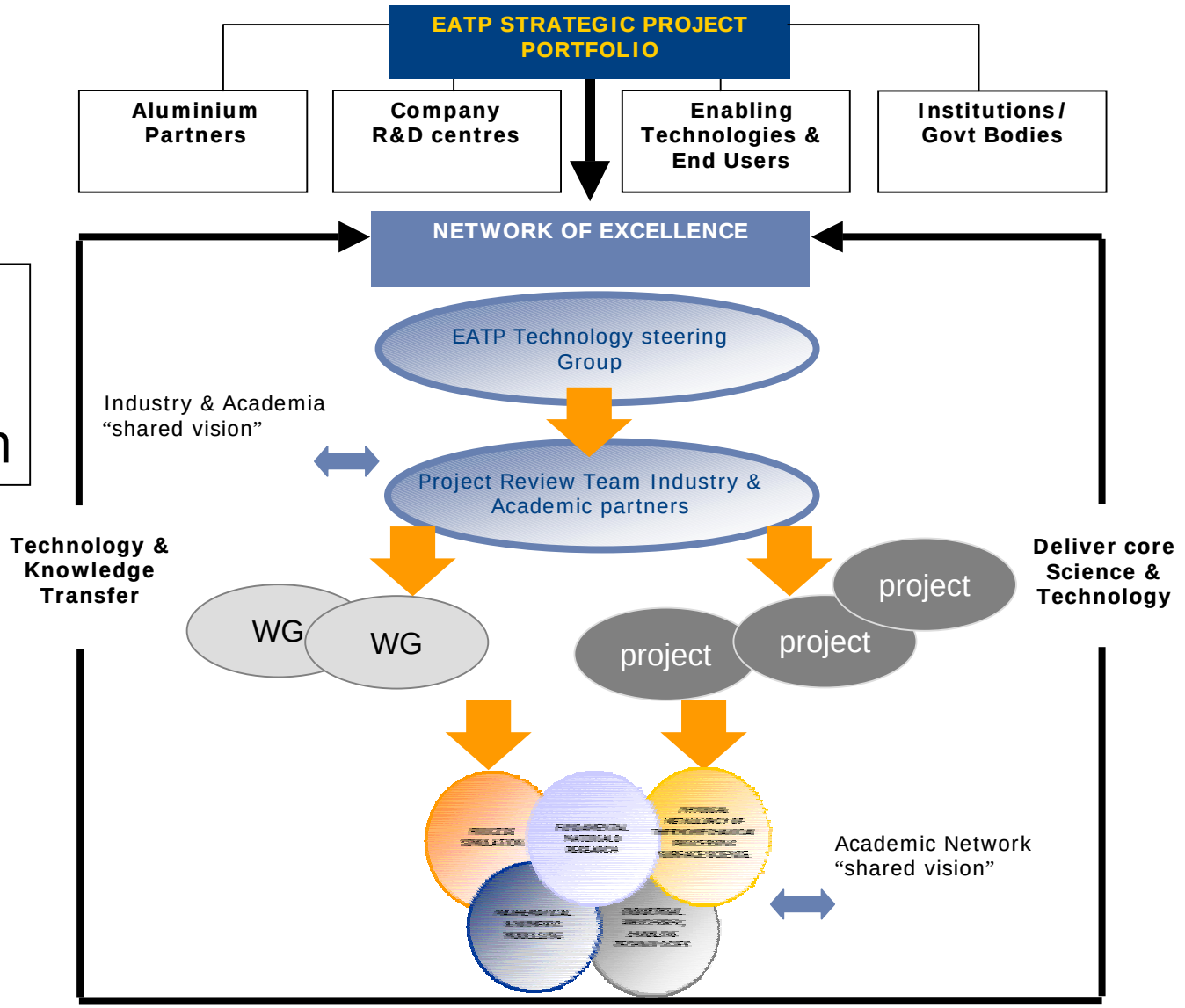
Future EATP Organisation



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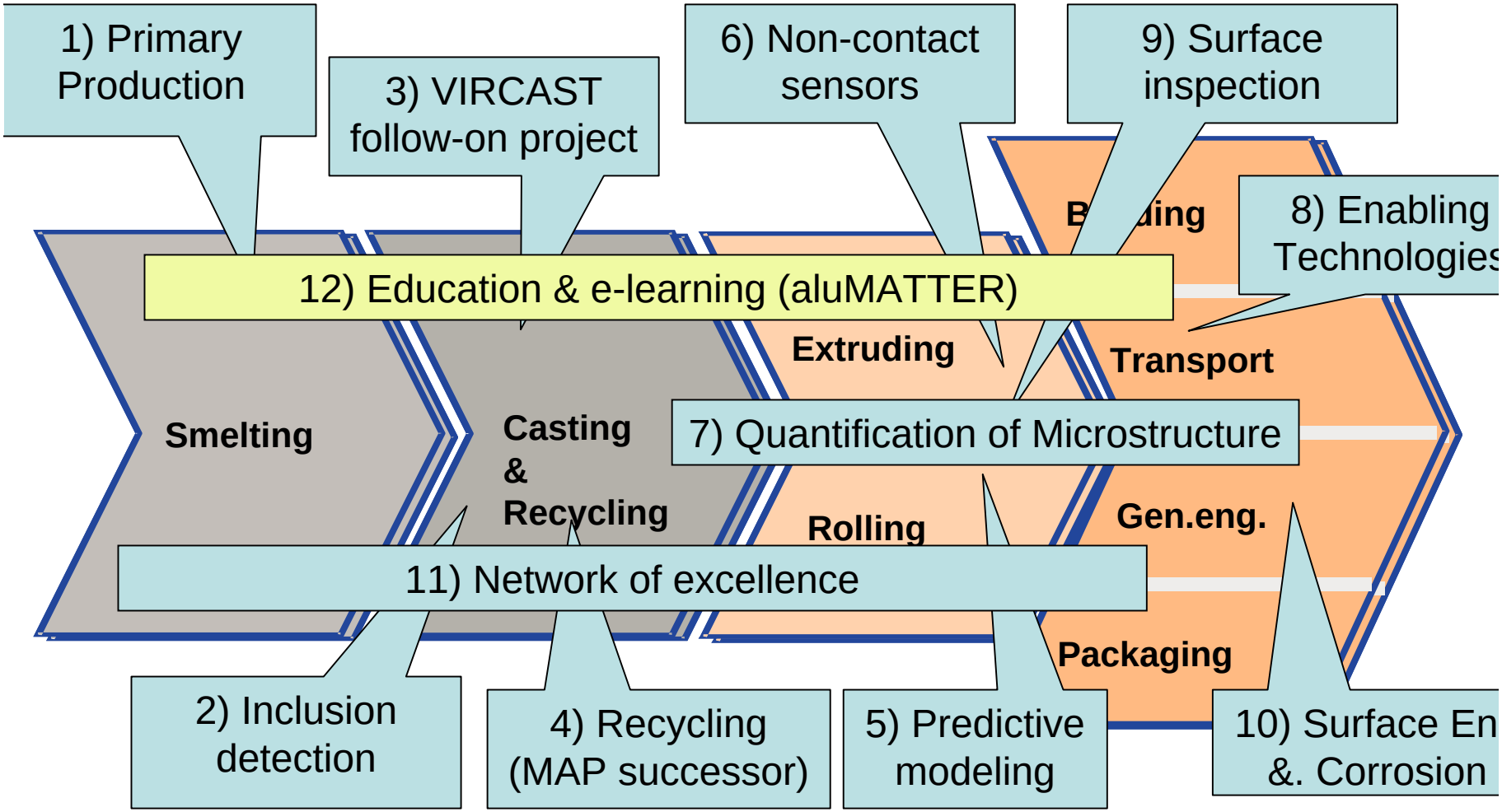
12 EATP WG's for project preparation & roadmapping



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EATP WG coordinators

- WG1 –Primary: Asgeir Bardal, Hydro Aluminium
- WG2- Liquid metal inclusion detector: Marc Ryckeboer, Sapa - RCAlu
- WG3 - Casting (VIRCAST follow on activities): Gerd-Ulrich Grün, Hydro Aluminium
- WG4 - Recycling (MAP follow-on activities): Rene Kieft, Corus
- WG5 - Predictive modelling: Richard Hamerton, Novelis
- WG6 - Non-contact sensors: Frans Muilwijk, Corus
- WG7 - Quantification of microstructure: Hugh Dunlop, Alcan
- WG8 - Enabling Technology: Lars Mohlkert, Sapa
- WG9 - On-line inspection surface systems: Christian Leroy, EAA
- WG10 - Surface engineering & Corrosion: Merete Hallenstvet, Hydro Aluminium
- WG11 - Network of excellence: Martin Jarrett, Alcoa
- WG12 - Education & e-learning (aluMATTER): Christian Leroy, EAA

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alu matter

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aluMATTER: When European aluminium Industry becomes cre@tive

- Multi-lingual modular interactive and innovative web-based learning resources about **aluminium materials science and technologies**.
- Freely accessible on Internet
- Used as distant **self-learning material** and **complementary learning material** in vocational training programs and in higher education.
- **About 1000 web pages with more then 700 interactive exercises, graphs, simulations, etc.**

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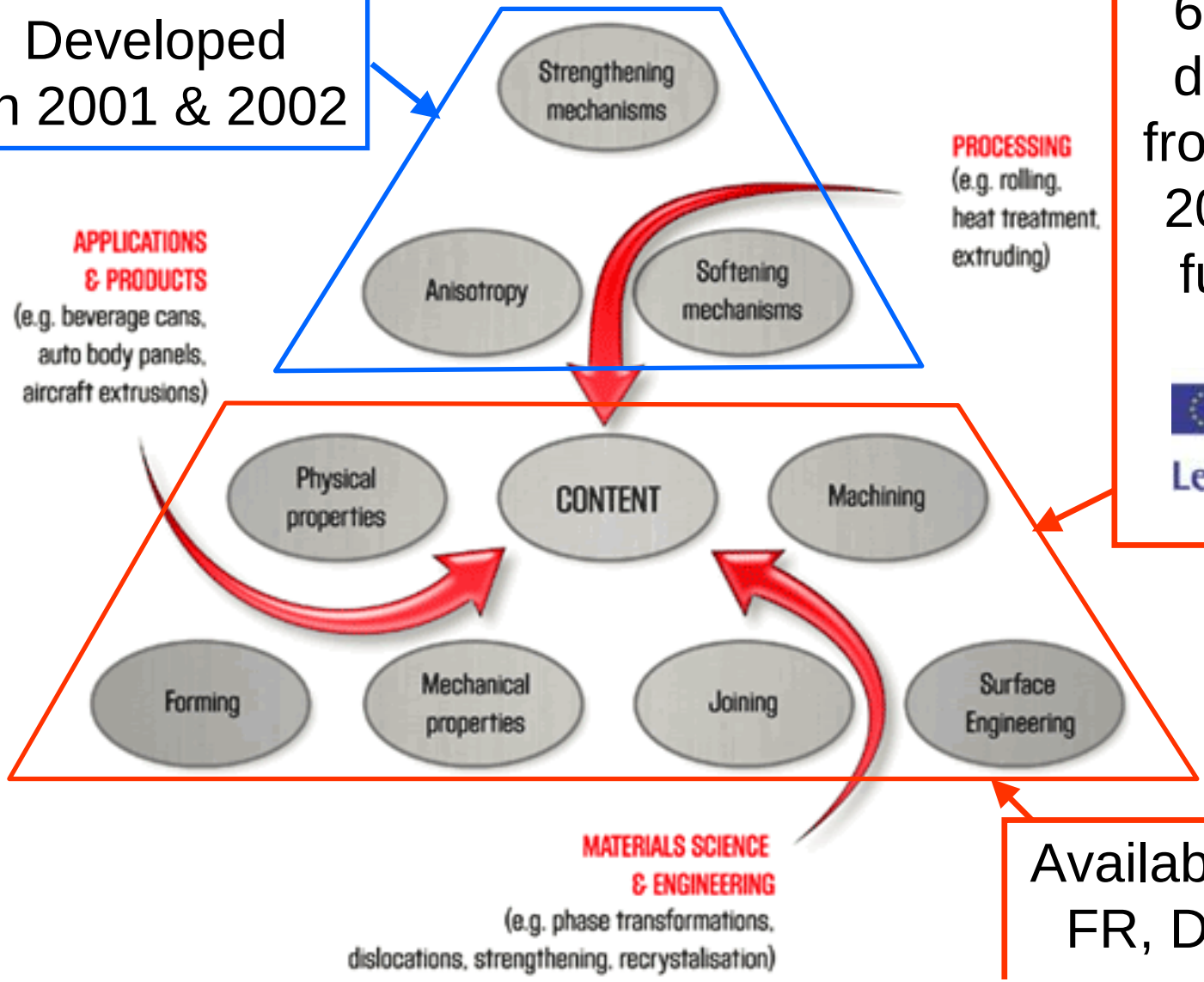
Developed in 2001 & 2002



6 modules developed from 2003 till 2005 partly funded by

Education and Culture

Leonardo da Vinci

Available in EN, FR, DE & NL

aluMATTER partners (last 3 years)

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aluMATTER is a good example of a successful joint initiative related to e-learning resources development

- With more then 20.000 visitors/month at the end of 2005, aluMATTER become the reference website for aluminium technologies and materials science**.**

- Future aluMATTER developments will be pursued under the EATP umbrella.

Please visit: www.alumatter.info

For any additional information: alumatter@eaa.be

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Current EATP challenges

- How to get acknowledgement & funding from the European Commission (and other funding institutions)
  - Mono-material TP, Al companies outside EU
- How to **embark SME's and recycling industries** while drivers are aluminium big players?
  - Strong support from the national aluminium associations on behalf of these SMEs
- How can we embrace **the new member states**/Eastern Europe to grow R&D (brains, lower cost), and strengthen manufacturing base
  - As opposed to strengthen China as a future competitor
- **How to move from a Collaborative Research Programme to a Strategic Research Agenda?**

EATP dialogue with stakeholders

- Launch event organised in November 2005
- Open Conference on « Aluminium recycling & purification »
  - 24 April 2006, Brussels
- Communication at
  - IOM3 conference, 6 April 06 in London
  - ASST conference - « Aluminium Surface Science & Technology », 14-18 May 06 in Beaunes (F)
  - ICAA10 conference, 9-13 July 06 in Vancouver.
  - Aluminium conference, 20 - 22 Sept 06 at Essen Fair (D)

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Conclusions

- EATP is the coordinating instrument for joint RTD intitiatives/project related to aluminium value chain
- EATP will focus on new and innovative aluminium solutions for the main application areas, but simultaneously develop a more cost- and eco-effective (i.e. sustainable) industry
- Al industry commitment
- Projects will be initiated in coming months/years
- Stakeholders are invited to join the process
- Please contact technology@eaa.be or visit www.aluminium.org