



Aluminium

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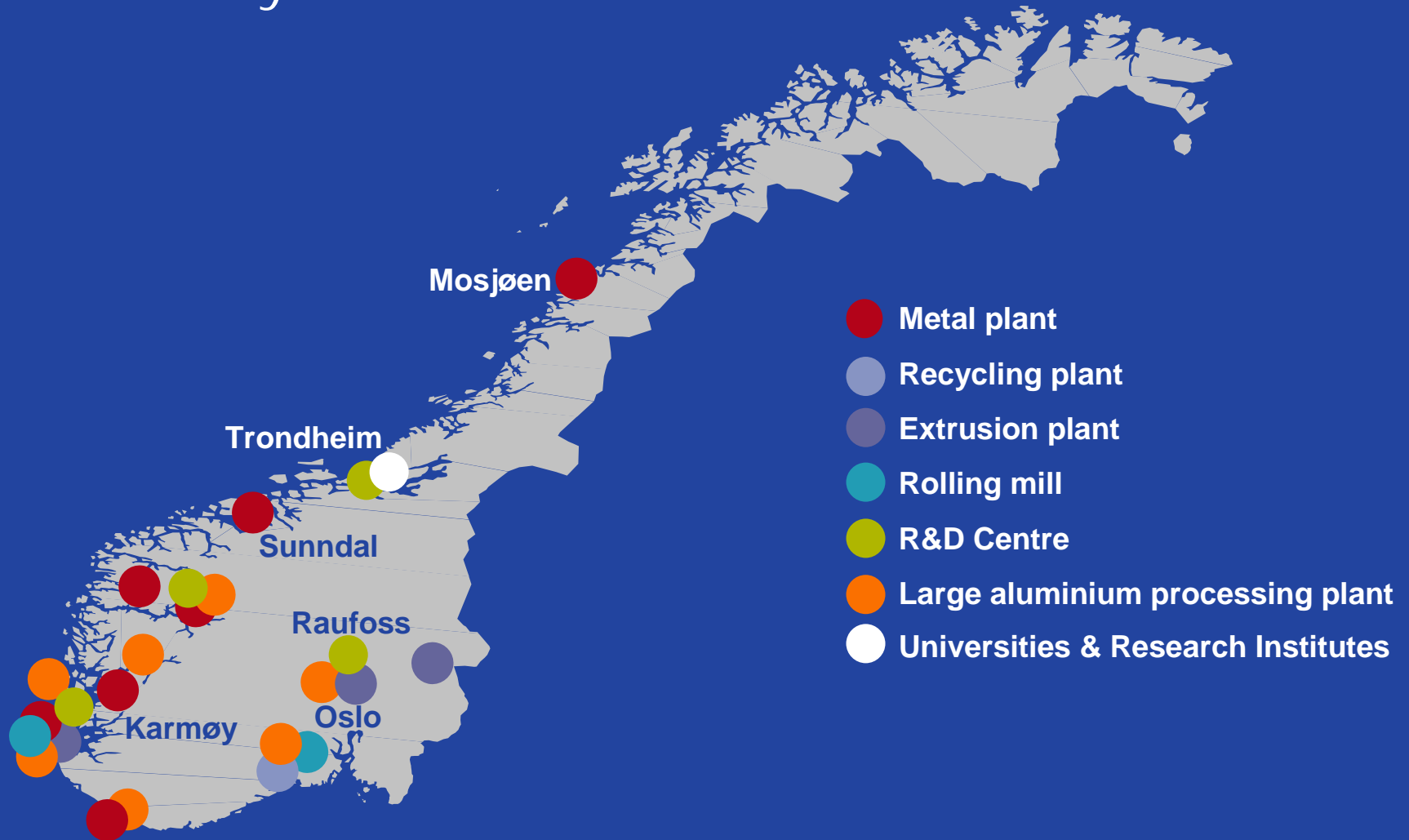
Creating Innovative and Sustainable Solutions for Today's
Challenges and Tomorrow's Opportunities

Metal Bulletin's 19th International Aluminium Conference
19–21 September 2004



Welcome to Norway

Well developed aluminium industry cluster in Norway



A fully integrated global aluminium company

Bauxite/
alumina



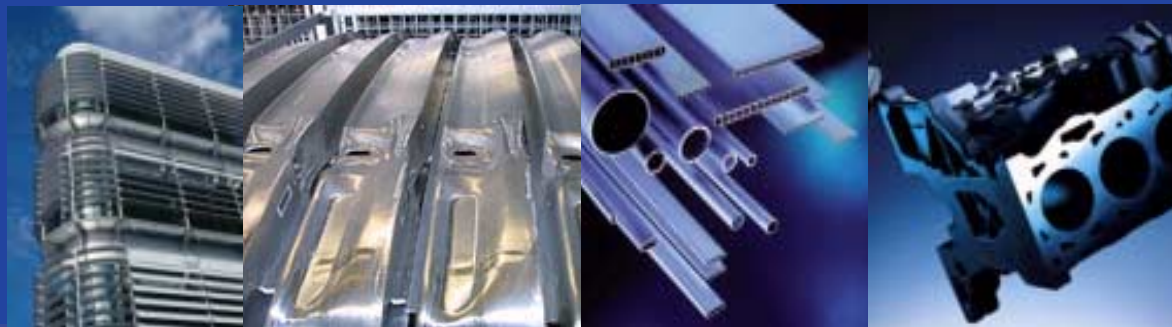
Virgin
metal

Casthouse
products



Rolling Extrusion

Fabrication
& Systems

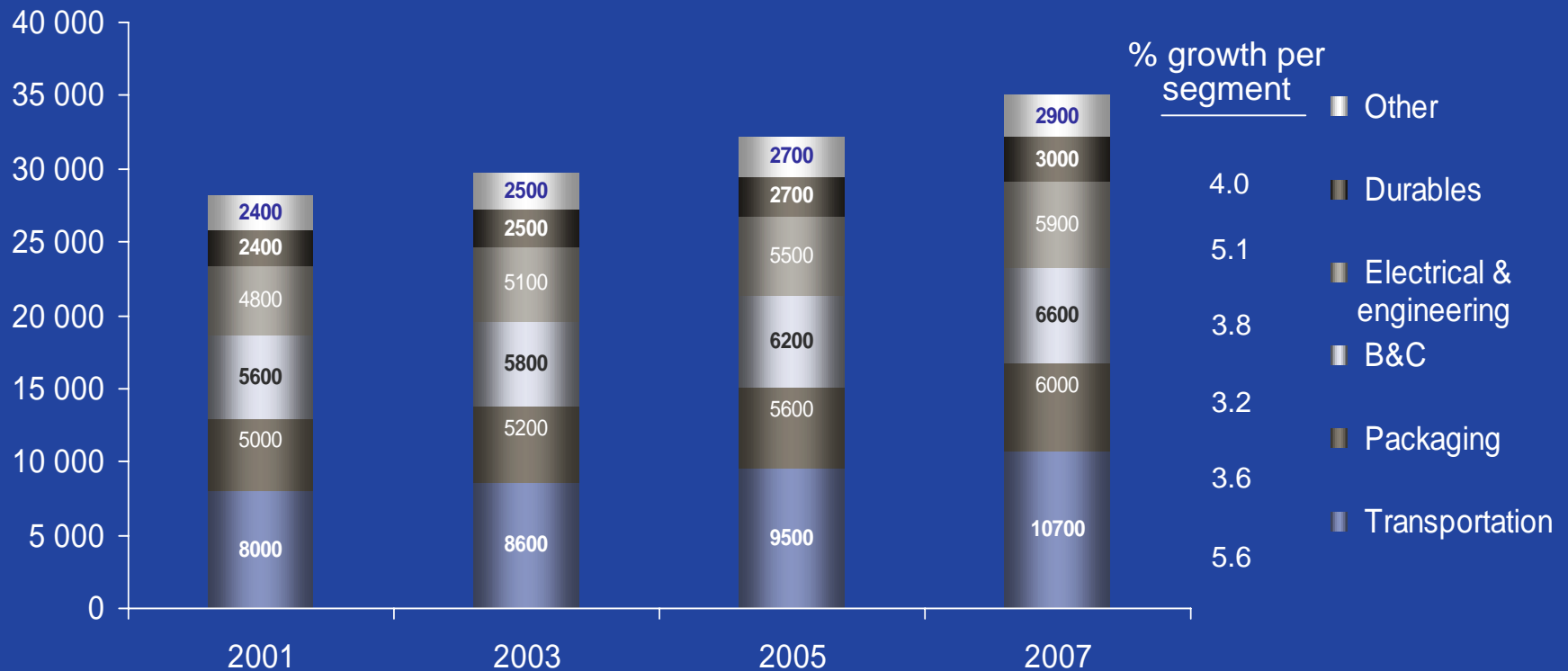


Automotive



Western World* demand expected to grow in the coming years

1 000 tonnes

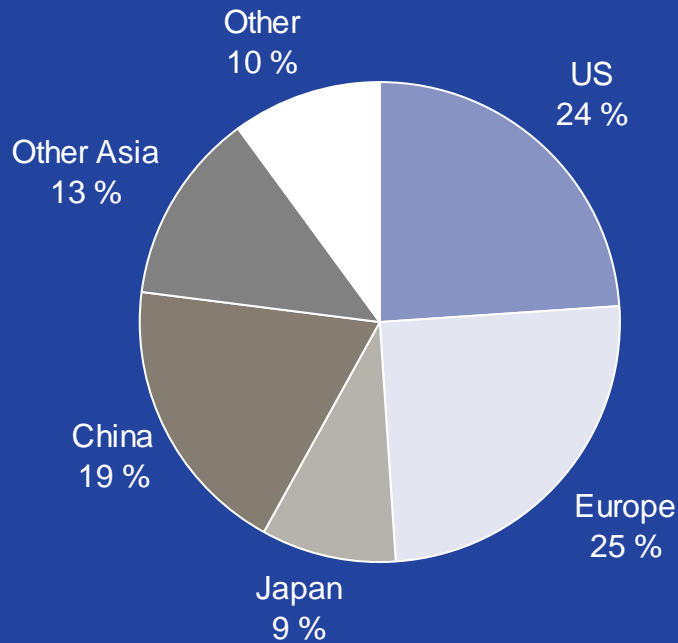


* World, excluding Central and Eastern Europe, China, Russia, Ukraine, North Korea

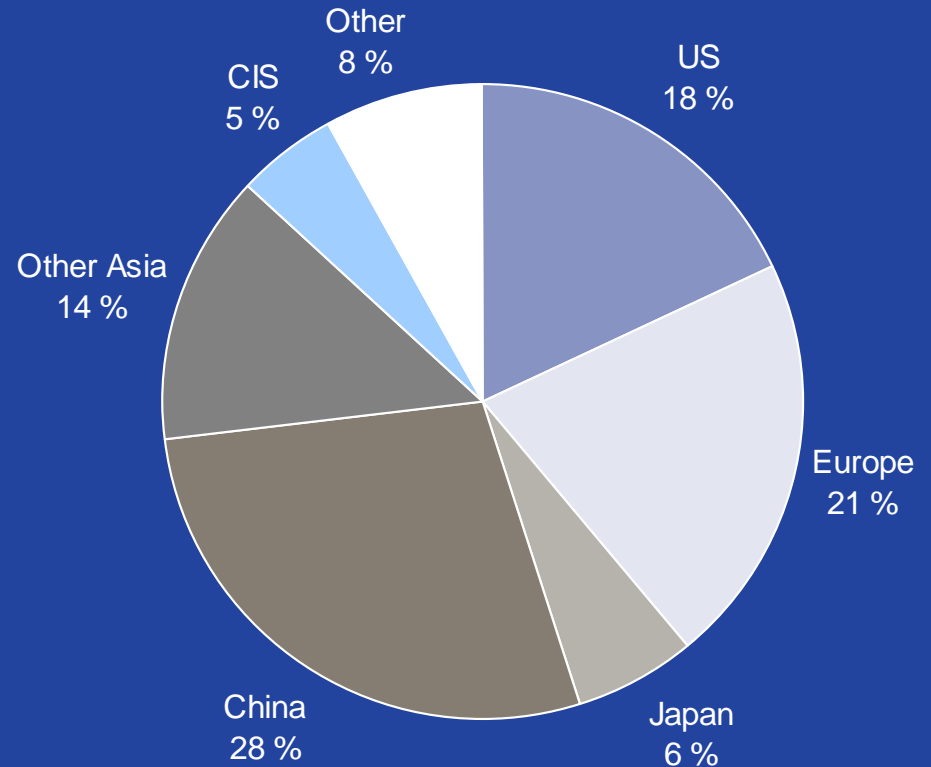
Sources: Brook Hunt; Hydro Aluminium

China emerging as a major aluminium market

Global primary demand 2003
27.3 million tonnes



Global primary demand 2012E
42 million tonnes

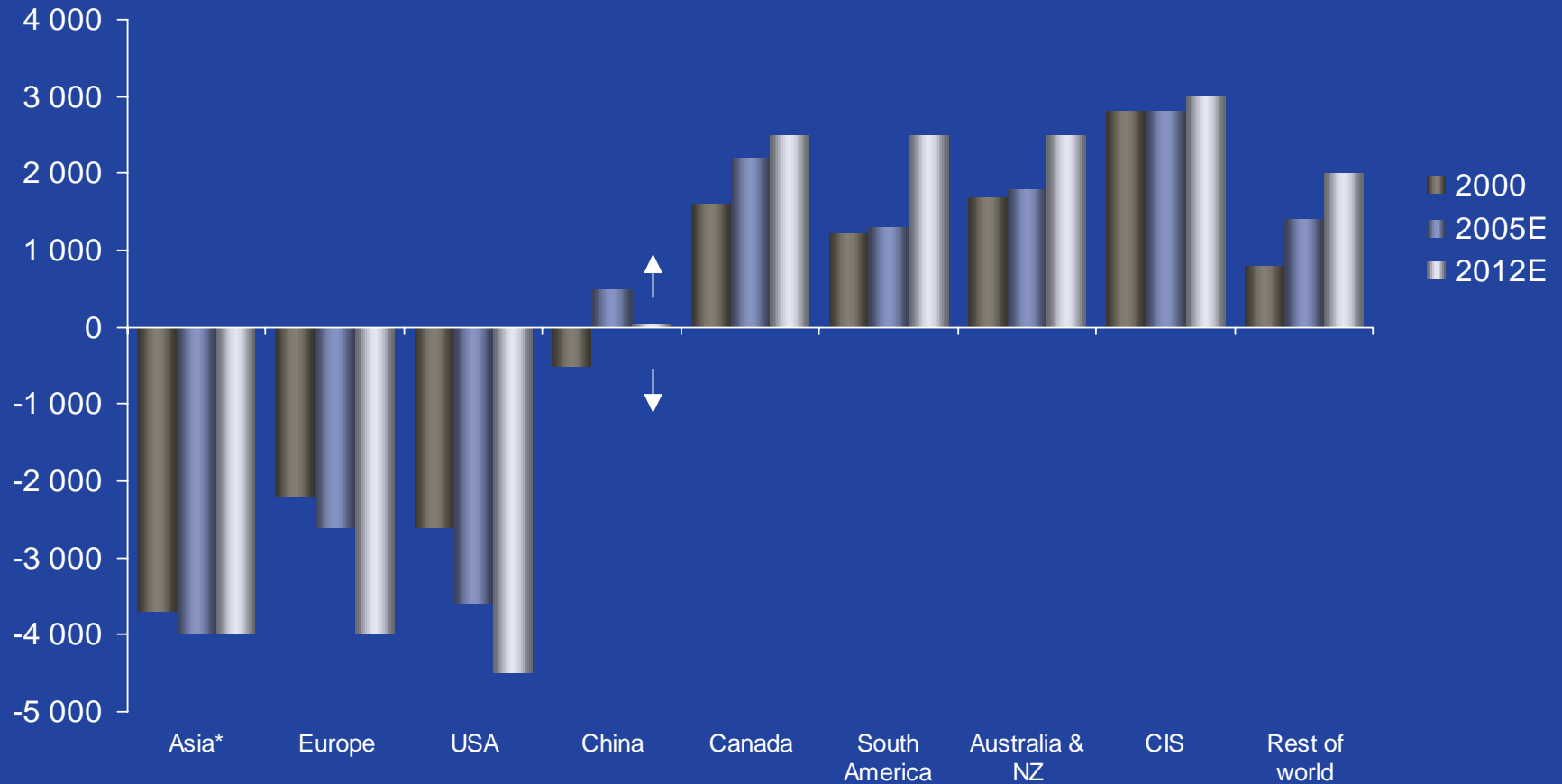


Sources: CRU; Hydro Aluminium

Metal deficits in Europe and the USA will continue to grow

Net exports, primary aluminium

1 000 tonnes



Source: CRU, Hydro Aluminium * Excluding China



Creating value through innovative solutions

**Agile
organization**

**Customer
responsiveness**

**Unique
portfolio**



Applications



Technology

Properties of aluminium utilized in advanced application areas

Properties of aluminium:

- Strong and light
- Highly corrosive resistant
- Good conductivity
- Good reflective qualities
- Easy to form and process
- Impermeable and odourless
- Non-flammable
- Good recyclability
- Good energy absorption qualities

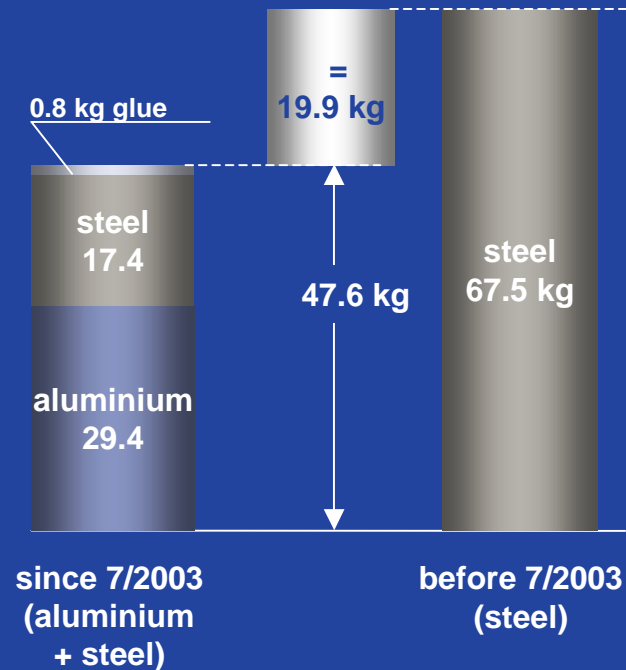


Aluminium is the ideal material for the building, automotive and packaging industries

Light-weighting the front end in automotive

BMW 5-Series:

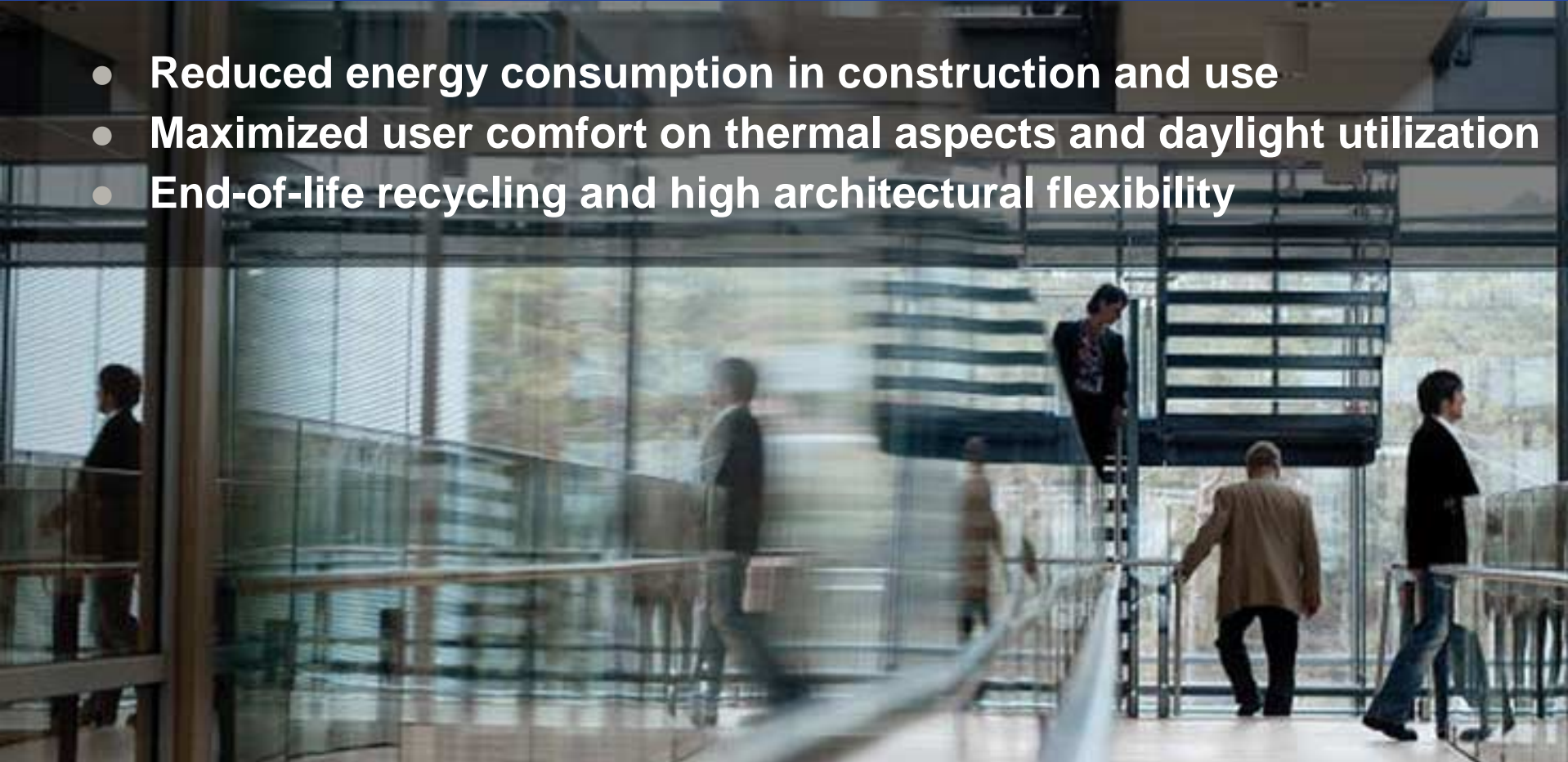
Comparison of weight



Innovative solutions in building

Aluminium in windows and facades contribute to sustainable buildings:

- **Reduced energy consumption in construction and use**
- **Maximized user comfort on thermal aspects and daylight utilization**
- **End-of-life recycling and high architectural flexibility**



HYBRAZ™ simplifies the production process and improves environmental aspects

The new coating presents clear benefits:

- Elimination of fluxing and degreasing operations
- Improved cosmetic appearance of brazed radiator core
- Increased productivity with up to 80%
- Possible first time yield increase from 93% to almost 100%



Old technology



New HYBRAZ™ PF

Superior packaging solutions



- **Protection of food quality to withstand influences from:**
 - Oxygen
 - Water and light
 - Microorganisms
- **Neutral smell and taste**
- **Non-toxic**
- **Wide range of decorative aspects**

Innovative smelter technology – reduced emissions



Sunndal metal plant

Strong focus to improve external and internal working environment:

- HAL 250 technology with forced suction
- Best available technology in fume treatment
- Cooling boxes for butts and bath material
- Pneumatic ship-unloading and fully automatic closed handling of alumina

Advanced filtration and casting systems – one quality to customers



Technology that ensures top quality casthouse products with metal input from different sources, also giving flexibility in the optimization of supply mix and logistics

Common efforts needed to strengthen the position of aluminium

**International
Aluminium
Institute**



- Global sustainable development initiative (global targets)
- Global aluminium Life Cycle Inventory



**European
Aluminium
Association**

- European aluminium industry Sustainable Development Report
- Life Cycle Inventory
- Stakeholders workshop
- Aluminium for Future Generations

Enjoy your trip!

