

## EXPERT FORUM

# Sustainable Materials for Future Mobility

Turin, 7-9 October 2019

Mon: Museo dell'Automobile di Torino (Corso Unità d'Italia, 40)

Tue/Wed: Lingotto Conference Center (Via Nizza, 280)

## EVENT PROGRAMME

### Monday, 7 October

14:00

WELCOMING AND REGISTRATION

15:00 - 16:30

RAW MATERIALS. THE NEW OIL?

**Welcome message.** *Andreas Klossek, EIT RawMaterials*

**Raw materials: the new oil?** *Daniel Cios, European Commission - DG Grow*

**Raw materials for new mobility. Outlook, trends, scenarios.** *David Merriman, Roskill*

**The automotive industry beyond 2030. Perspectives for new materials.** *Rosanna Serra, Fiat Chrysler Automobiles*

**Materials for future mobility: a roadmap towards electrification.** *Philipp tho Pesch, VDA*

16:30 - 17:00

COFFEE BREAK

17:00 - 18:30

SUSTAINABLE MOBILITY: THE ECO-FOOTPRINT OF RAW MATERIALS

**The eco-footprint of raw materials. Current limits.** *Markus Reuter, Helmholtz Zentrum*

**Sourcing of raw materials for electric mobility.** *Christian Hagelüken, Umicore*

**Strategic dialogue on sustainable raw materials.** *Masuma Farooki, MineHutte*

**Roundtable discussion on raw materials and sustainability.**

18:30 - 19:30

GUIDED VISIT AT THE NATIONAL AUTOMOTIVE MUSEUM TORINO

19:30 - 22:00

LIGHT STANDING NETWORKING DINNER

Tuesday, 8 October

ELECTRIFICATION

08:30 **WELCOMING ATTENDEES**

09:00 - 10:30

**FOSTERING INNOVATION IN MATERIALS FOR MOBILITY**

The innovation agenda on transport in H2020 and Horizon Europe. *Barend Verachtert, DG RTD*

1000 Solutions. *Thiébaut Kientz, Solar Impulse Foundation*

EIT RawMaterials' Lighthouse Programme. *Andreas Klossek, EIT RawMaterials*

Roundtable discussion. Fostering innovation in Europe.

*incl. Philippe Jacques, EMIRI - Konstantinos Georgoulas, EIT Manufacturing - Sira Saccani, Climate KIC*

10:30 - 11:00

**COFFEE BREAK**

11:00 - 12:30

**SESSION 1**  
SUSTAINABLE SOURCING  
AND STANDARDS

**EcoDesign of batteries.**  
*Paul van Tichelen, VITO*

**Minerals supply chain issues.**  
*Michèle Brühlhart, Responsible Business Alliance*

**Certification of raw materials.**  
*Andreas Hucke, DMT*

**Sustainability and CSR for Nickel supply.**  
*Samuel Dufay, Eramet*

**SESSION 2**  
BATTERIES

**Nickel for batteries. Challenges and opportunities for Europe.** *Matti Hietanen, Finnish Minerals Group*

**Maximising Lithium production.**  
*Timothy Kyle, FLSmidth*

**Vision from Eramet on battery recycling.**  
*Nicolas Verdier, Eramet*

**Battery recycling. Lessons from China.**  
*Hans Eric Melin, Circular Energy Storage*

**SESSION 3**  
MAGNETS & E-DRIVES

**Why is there a need for a Rare Earth Industry Association?** *Elbert Loois, HiTech Materials Advisory*

**The SecREETs project and REE4EU projects.**  
*Ana Maria Martinez, SINTEF*

**Magnets and E-drives. Raw materials and efficient processing.**  
*David Kennedy, University of Birmingham*

**Sustainable Rare Earth supply chains.**  
*Alain Rollat, CARESTER*

**SESSION 4**  
FUEL CELLS

**Title to be confirmed.**  
*Pietro Caloprisco, FCH JU*

**The hydrogen value chain. Remaining challenges.** *Luigi Crema, FBK*

**Cost reduction and sustainability by material development.**  
*Andreas Friedrich, German Space Agency*

**Hydrogen to fuel maritime transport.**  
*Fiancatieri*

12:30 - 14:00

**LUNCH**

Tuesday, 8 October

ELECTRIFICATION

14:00 - 15:30

SESSION 1 SUSTAINABLE SOURCING AND STANDARDS	SESSION 2 BATTERIES	SESSION 3 MAGNETS & E-DRIVES	SESSION 4 FUEL CELLS
<p>LCA for sustainable mobility. <i>Jens Warsen, ACEA</i></p> <p>LCA and MFA of Nickel. <i>Mark Mistry, Nickel Institute</i></p> <p>The SUPRIM project. <i>Rodrigo Freitas de Alvarenga, University of Ghent</i></p> <p>The MFA toolset. <i>Daniel Beat Müller, NTNU</i></p>	<p>Batteries. Key challenges towards the next generations. <i>Clémence Siret, SAFT</i></p> <p>Advanced electrolytes including gel and solid-state. <i>Daniel Goesener, Solvay</i></p> <p>Sustainable high-performance anode materials. <i>Stian Madshus, Elkem</i></p> <p>Open innovation test bed (TEESMAT project). <i>Philippe Azais, CEA</i></p>	<p>Current trends in Rare Earth permanent magnet manufacturing. <i>Boris Saje, Kolektor</i></p> <p>Key challenges and needs in rare earth permanent magnet production. <i>Milana Karajic, Magneti Ljubljana</i></p> <p>Materials and costs in e-motors design. <i>Richard Arlot, Bomatec</i></p> <p>E-drives for automotive. <i>Richard Moore, Nidec-PSA</i></p>	<p>Materials for hydrogen storage. <i>Claudio Pistidda, Helmholtz Zentrum</i></p> <p>Technologies for fuel cells. <i>Fabrice Stassin, Umicore</i></p> <p>Catalysts for fuel cells. From R&amp;D to production. <i>Christian Gebauer, Heraeus</i></p> <p>New electrocatalysts for PEM fuel cells. <i>Stefano Zeggio, Breton</i></p>

15:30 - 16:00

COFFEE BREAK

16:00 - 17:00

WORKSHOPS

<p>LCA &amp; MFA STANDARDS LCI DATABASE</p> <p>ETHICAL SOURCING CAPACITY BUILDING IN AFRICA</p>	<p>BATTERY RAW MATERIALS</p> <p>NEXT-GEN. BATTERIES</p>	<p>TOWARDS A EUROPEAN RARE-EARTH VALUE CHAIN</p>	<p>FUEL CELLS</p>
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17:00 - 19:00

COCKTAIL PARTY

17:30 - 19:00

SPEED DATING

17:30 - 18:30

THESIS AWARD

17:30 - 18:30

POSTER SESSION

19:30 - 22:00

GALA DINNER AT NH HOTEL LINGOTTO

Wednesday, 9 October

**LIGHTWEIGHT**

08:30 **WELCOMING ATTENDEES**

09:00 - 10:30

**LIGHTWEIGHT DESIGN FOR FUTURE MOBILITY**

**Welcoming attendees.**

**Sustainable materials for future mobility.** *Roland Gauß, EIT RawMaterials*

**Lightweight challenges for the automotive sector.** *Eduardo Beltrán de Nanclares, Mondragon Corporation*

**Lightweight design in ship building.** *Luigi Pastorino, Fincantieri*

**Industrialisation of Additive Manufacturing. Example of Laser Metal Deposition.** *Tobias Kamps, Siemens*

**Roundtable discussion.**

10:30 - 11:00

**COFFEE BREAK**

11:00 - 12:00

**SESSION 5  
STEELS**

**Speciality metals and alloying agents. Key challenges.** *Stefan Lindner, Outokumpu*

**The Hisarna process.** *Johan van Boggelen, Tata Steel*

**High-strength steels for automotive.** *Thomas Müller, SSAB*

**SESSION 6  
Al-ALLOYS**

**Aluminium and circular economy. The emerging trends.** *Gino Schiona*

**A look back on the value chain. Casting to give value to recycled alloys.** *Marco Rosso, Politecnico di Torino*

**Improving of aluminium scraps by innovative remelting techniques.** *Roberta Niboli, Raffmetal*

**SESSION 7  
COMPOSITES**

**Winning solutions for lightweight vehicles using recycled carbon fibers.** *Antonella Tarzia, CETMA*

**Lightweighting for e-mobility. Opportunities and challenges for high performance polymers.** *Eric Spini, RadiciGroup*

**Lightweight design by training.** *Éric Hernández Edo, Fraunhofer IFAM*

12:00 - 13:30

**LUNCH**

13:30 - 15:00

**SESSION 5  
STEELS**

**Steel for the automotive sector.** *Bernardo Barile, ArcelorMittal*

**Inverse topological optimization on steels.** *Michele Maria Tedesco, Fiat Chrysler Automobiles*

**Additive manufacturing of steel.** *Maurizio Vedani, Politecnico di Milano*

**SESSION 6  
Al-ALLOYS**

**Competition among materials. Light alloys are on the podium.** *Claudio Mus, Endurance Overseas*

**Materials and cost-efficient processes in the production of Al-Ce alloys.** *Orlando Rios, Critical Materials Institute*

**Aluminum parts using additive manufacturing.** *Elena Lopez, Fraunhofer IWS*

**SESSION 7  
COMPOSITES**

**Thermoplastics in automotive: challenges.** *Michel Glotin, Arkema*

**Joining and welding of multimaterials.** *Fernando Liebana Arribas, Tecnalia*

**Material models for joining or crashes.** *Francisco Gilabert, University of Ghent*

Wednesday, 9 October

LIGHTWEIGHT

15:00 - 15:30

COFFEE BREAK

15:30 - 16:30

WORKSHOPS

SUSTAINABLE STEELS

COST-COMPETITIVE  
COMPOSITES

15:30 - 17:00

SPEED DATING

SIDE EVENTS

9:00 - 17:00

**Satellite workshop QM-FORMa**  
*Raquel Lizarraga, KTH*

9:00 - 13:00

**Rare Earth Industry Association**  
*Session 1. Internal Meeting (private)*

13:30 - 15:00

**Rare Earth Industry Association**  
*Session 2. Project Brokerage (open access)*