

# MateriNex

**Nexus of research in Flanders for the materials  
of the future**

Break-out session 'Materials for Battery Technology'

Greta Boonen  
Community Manager

# Programma (15h45-17h00)

## Materials for Battery Technology

- Welcome: Greta Boonen – MateriNex
- Keynote: Wouter IJzermans, Executive Director, Batteries European Partnership Association (BEPA)
- MateriNex Roadmap and Common Interest Groups (CIGs): Greta Boonen – MateriNex
  
- Pitches:
  - Annick Hubin - Vrije Universiteit Brussel
  - Arjen Mascini - Universiteit Gent
  - Dirk Vangeneugden - VITO
  - Dries De Sloovere - IMO-Imomec
  - Isabelle Tolleneer - CRM Group
  - Jonas Hereijgers - Universiteit Antwerpen
  - Laszlo Farkas – Siemens & Roald De Meyer - Novali
  - Noshin Omar - ABEE
  - Tim De Schryver - YouPower bv
  - Tine Derez - Universiteit Antwerpen
  
- Closing remarks: Greta Boonen – MateriNex

**BATTERIES FOR MOBILITY**  
automotive, motorcycle, bike, step, drone, maritime, aviation, space

**BATTERIES FOR STATIONARY APPLICATIONS**  
home, district, utility

**High performance**

*Materials and processes for high performance Gen 3, Gen 4 and Gen 5 Li-ion batteries with increased safety, higher energy density, longer driving range, faster charging rate and lighter weight.*

**Balanced performance**

*Materials and processes for balanced performance and cost for Gen 3 and Gen 4 Li-ion and Na-ion batteries with increased safety but an acceptable driving range, charging rate and weight.*

**Storage**

*Materials and processes for stationary storage batteries with balanced cost and performance with focus on Gen 3 and Gen 4 Li-ion or Na-ion batteries or innovations in redox flow batteries to increase safety, reduce the system footprint, increase energy density, and limit dependency on critical raw materials.*

**ENABLERS & ACCELERATORS**

**Sustainability**

*Development and refinement of tools and models evaluating the technical properties/quality/durability of materials and/or products or evaluating the sustainability/circularity (energy, CO<sub>2</sub>/H<sub>2</sub>O footprint, emissions, ...) of batteries and related materials and processes as well as the accessibility of data.*

**Digitalization and safety**

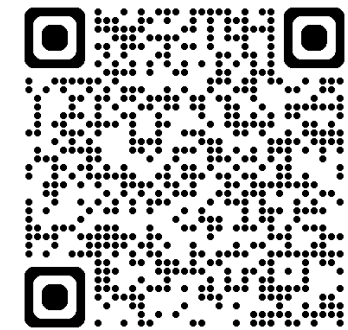
*Development, improvement and validations of various digital solutions (e.g. integrated sensors, adaptive battery management systems, material passports, robotization, IoT, AI applications, Industry 5.0 and digital twins) to support the overall “safe and sustainable by design” goals of future batteries.*

**Reuse, refurbish, repurpose, recycling, and reduced critical raw materials dependency**

*Second life options for batteries and end-of-life recycling of materials and components to meet current and future regulation and to ensure optimal use of materials in a circular economy as well as solutions to reduce critical raw materials dependency (e.g. by local sourcing or extraction from side streams).*

# Common Interest Groups (CIGs)

- A CIG for each innovation theme/roadmap
- Goals:
  - **Sharing information and insights**
  - **Presenting project results**
  - **Discussing and updating innovation roadmap**
- Participants:
  - Voting rights: corporations and research groups of knowledge institutions
  - Advising: sector organizations, spearhead clusters, ...
  - Observing: VLAIO and EWI
- 2 x year + possibly focus group(s) to delve into certain aspects
- CIG Charter
- Letters of Commitment



Common Interest Groups

# Pitchers

1. Annick Hubin - Vrije Universiteit Brussel
2. Arjen Mascini - Universiteit Gent
3. Dirk Vangeneugden - VITO
4. Dries De Sloovere - IMO-Imomec
5. Isabelle Tolleneer - CRM Group
6. Jonas Hereijgers - Universiteit Antwerpen
7. Laszlo Farkas – Siemens
8. Noshin Omar - ABEE
9. Tim De Schryver - YouPower bv
10. Tine Derez - Universiteit Antwerpen

# Join the club... ... and our network drink & market place!

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