MateriNex

Nexus of research in Flanders for the materials of the future

Break-out session ‘Materials for Battery Technology’

Greta Boonen

Community Manager

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DEPARTEMENT ECONOMIE WETENSCHAP & INNOVATIE

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	**Balanced performance**	**Storage**
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.	*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.*	*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_2/H_2O 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).*

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Full roaldmap (Nl and En) on https://materinex.be

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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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