
Feedback from yesterday


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BATTERY 2030
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ANNUAL CONFERENCE
6-7 May 2025
Münster, Germany


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BATTERY
2030+


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Visiting Professor Deakin
University Australia
POLYMAT


DELL


DELL


fferent salt content in PDADMA FSI-LiFSI mixtures
Derivative DSC
'monomer'-salt ratio
2:1
1:1
1:2
2.2 °C
-17.6 °C
-20.6 °C
'Salt-in-polymer'
'Polymer-in-salt'
-100
-50
0
50
100
150
Temperature / °C
Decreased Tg when more LiFSI salt is added!
ng, F. Chen, Gaetan Girard, et al., Joule, 2019, 3, 1
30 °C
55 °C
80 °C
log (σ / S cm⁻¹)
2:1
1:1
1:1.5
1:2
1:4
pol/LiFSI (mole)
Fangfang Chen
PDADMA: LiFSI= 1: 1 + fibers


BATTERY 2030


Ansicht
BQV
Peter Maria Bieker
Reagieren
Freigeben
Host-Tools
Meeting-Informationen
Aufzeichnen
Mehr
Beenden
12:15
06.05.2025


13°C
Meist sonnig
Suche


Ambition
RENOVATE is committed to maximising recycling as an enabler of circular economy
95+% EoL batteries/scraps (TRL4)
1 Background
2 Innovation
3 Objective
Higher recycling efficiency (selective separation)
Higher profitability (non-CAM materials)
Direct recycling of LFP (EoL batteries and scraps)
Green solvo/hydromet to extract CRMs from black mass streams
Adaptability to SIBs
Valorisation of the side streams coming from the recycling processes
Material reuse (closed loop)
LCA-LCC and Digital architecture
Digital design Support System (DDSS)
12

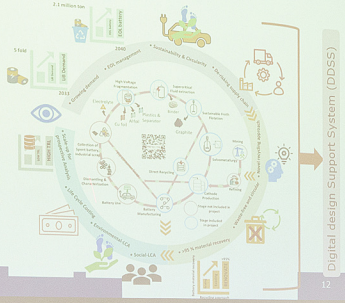
Ambition

RENOVATE is committed to **maximising recycling** as an enabler of circular economy

95+% EoL batteries/scraps (TRL4)

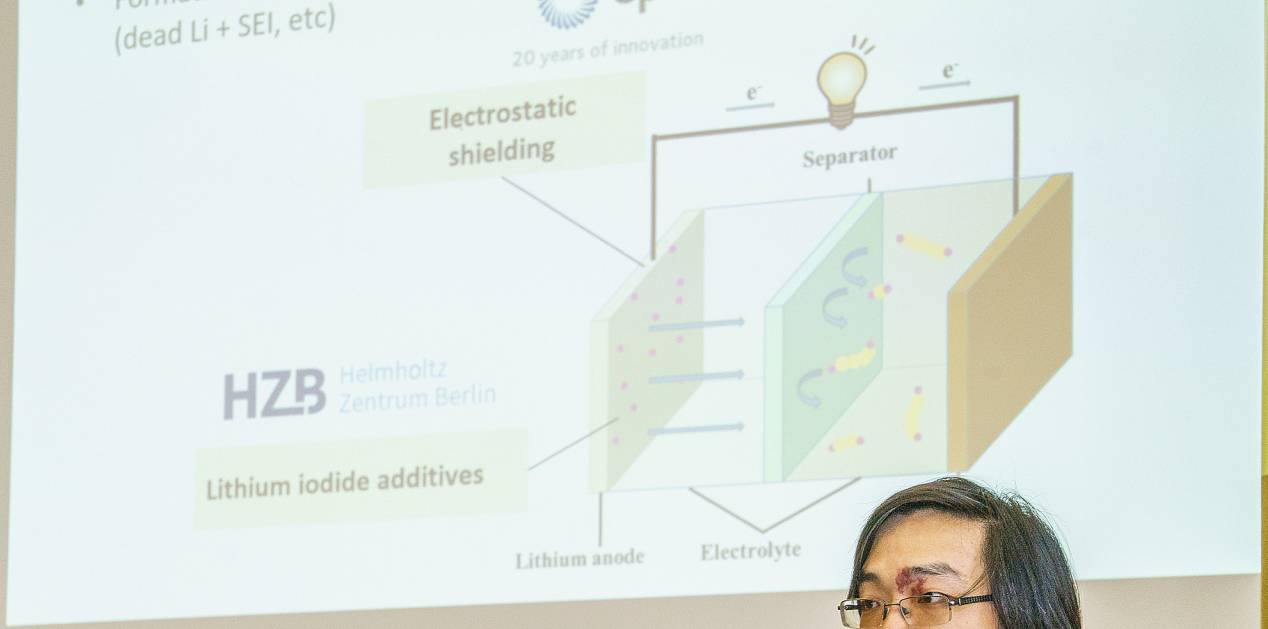
- **Higher recycling efficiency** (selective separation)
- **Higher profitability** (non-CAM materials)
- **Direct recycling of LFP** (EoL batteries and scraps)
- **Green solvo/hydromet** to extract CRMs from black mass streams
- **Adaptability to SIBs**
- **Valorisation of the side streams** coming from the recycling processes
- **Material reuse** (closed loop)
- **LCA-LCC** and **Digital architecture**

1 Background 2 Innovation 3 Objective



Digital design Support System (DDSS)

12


(dead Li + SEI, etc)
20 years of innovation
Electrostatic shielding
e⁻
e⁻
Separator
HZB
Helmholtz Zentrum Berlin
Lithium iodide additives
Lithium anode
Electrolyte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Technology pla
SALAMANDER
Inkjet Printing
Formulation of functional inks
Compatibility with MEMS technologies
Testing ink durability in batteries
phoenix
Integrated Optics
Potential of photonic technologies for batteries
Planar MEMS
Implementation of all functionalities using com
interface
3x3 array of
interdigitated electrodes
Coventry University


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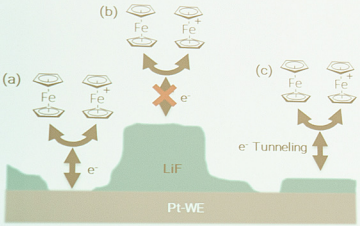
Cross-project current and future collaboration
Ongoing!
Sensor calibration
Cell sealing
Sensor embedding
LCA,
Cost analysis, …
Collaboration
Communication
Dissemination
Publications
White papers
SALAMANDER

Redox probe molecules – electron transport in SEI – mechanism and rate

Xiaokun Ge
FZJ, RWTH

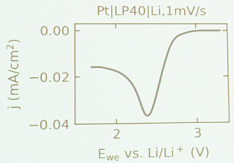


Focus on the formation of LiF

$HF + e^- \rightarrow H_{ad} + F^-$

$2H_{ad} \rightarrow H_2$

$F^- + Li^+ \rightarrow LiF\downarrow$



…e , et int., HGS, J. Electrochem. Soc. 171, 030522 (2024)