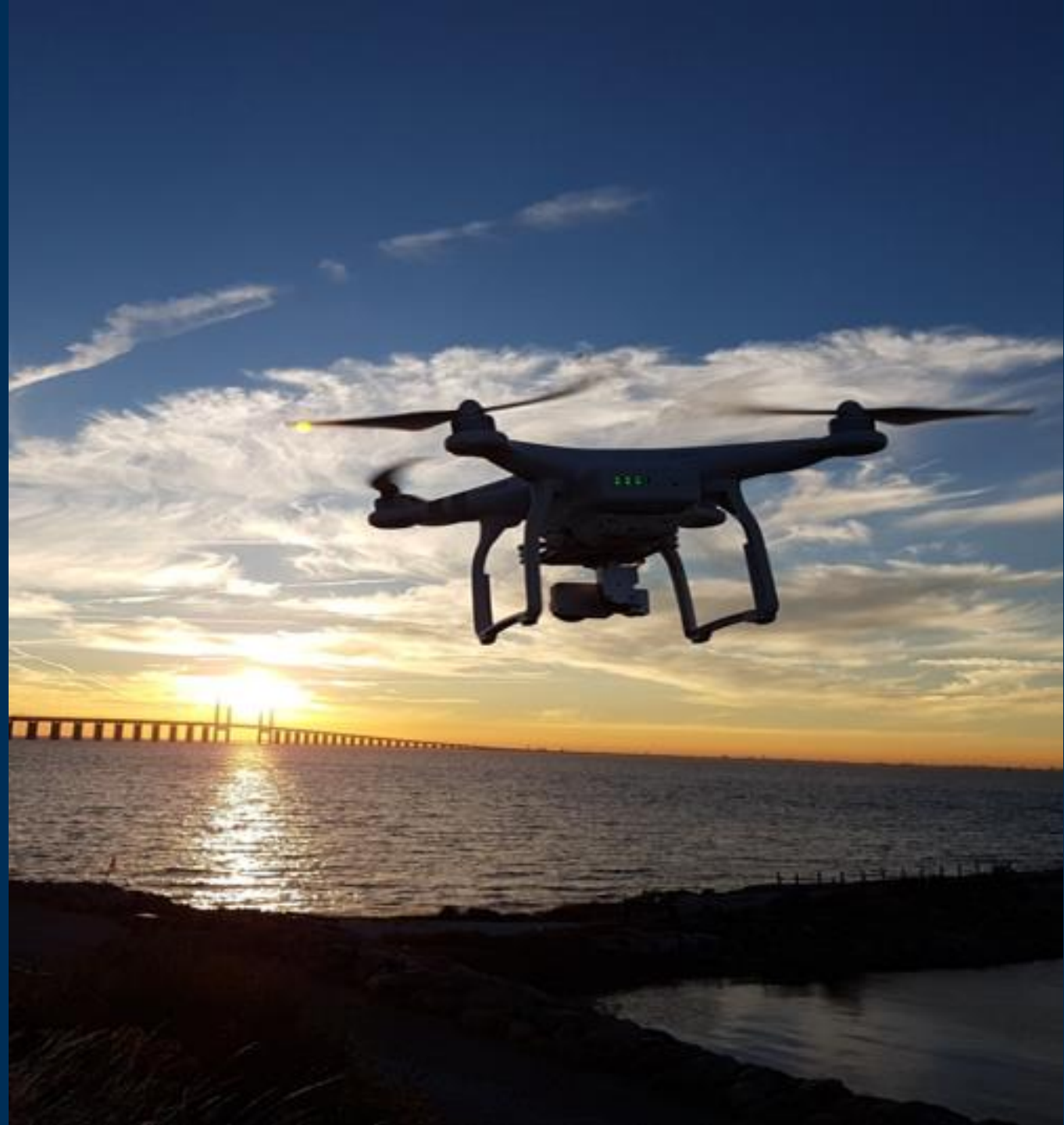
Battery materials R&D



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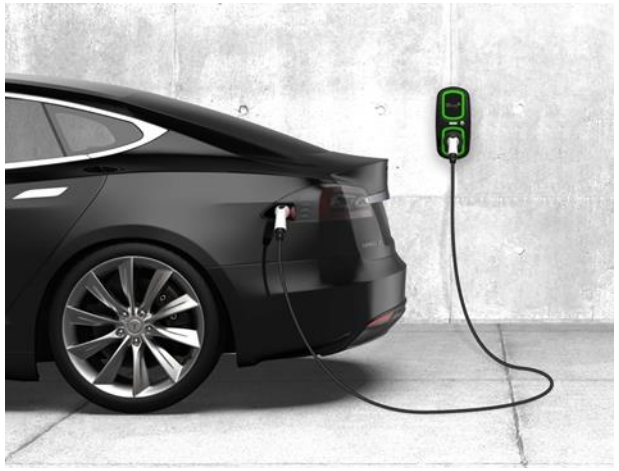
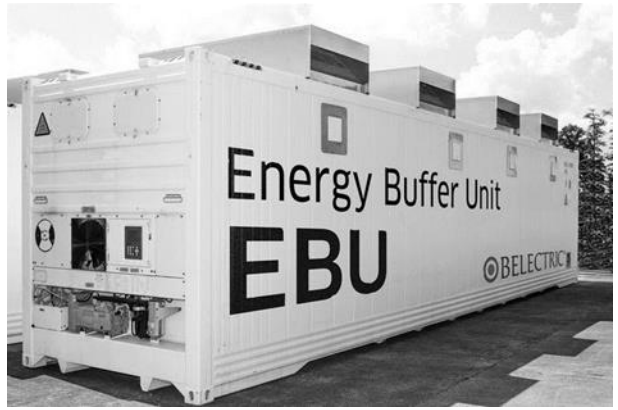
Why

1. Solid state Li-ion batteries for EV
   → Coatings on Li metal for increased stability and lifetime



2. Post Li-ion batteries
   → Li-S batteries for drones: lightweight & no critical raw materials

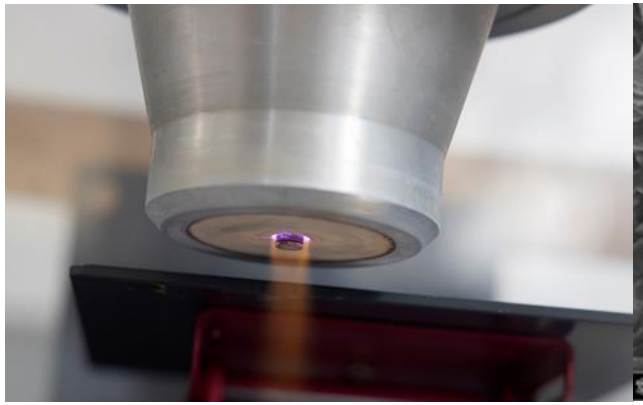
→ Other chemistries for stationary storage: large scale & low cost

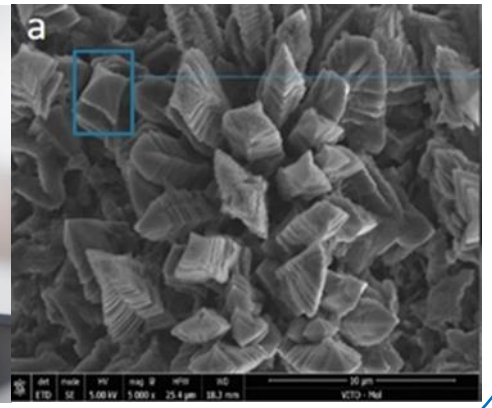


What

Optimization of material interfaces

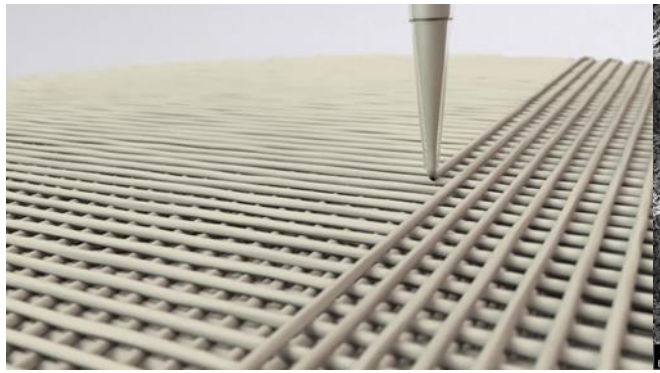
- Coating of cathode/anode components
- Atmospheric plasma technology
- Li-S cathode optimization
- Li metal anode passivation

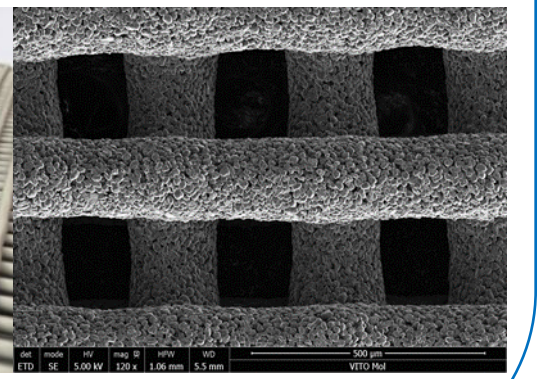




Electrode engineering

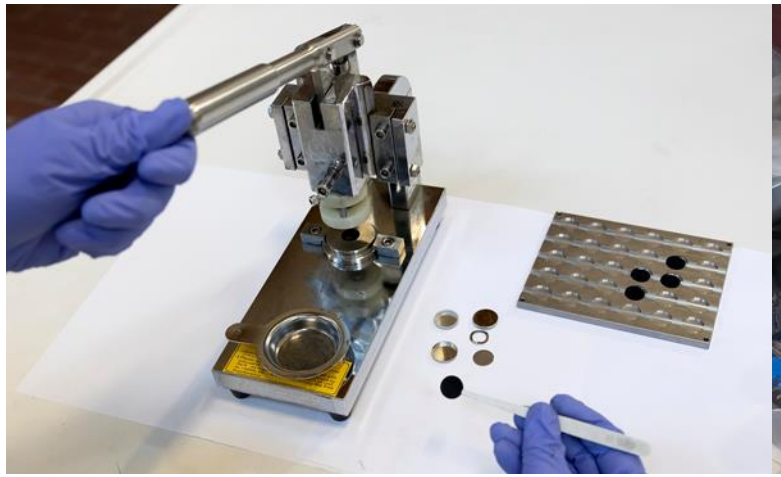
- 3D printing of electrodes via micro-extrusion
- Thick electrodes with optimized porosity
- Printing of LFP cathode and graphite anode
- Optimization of formulation and shape

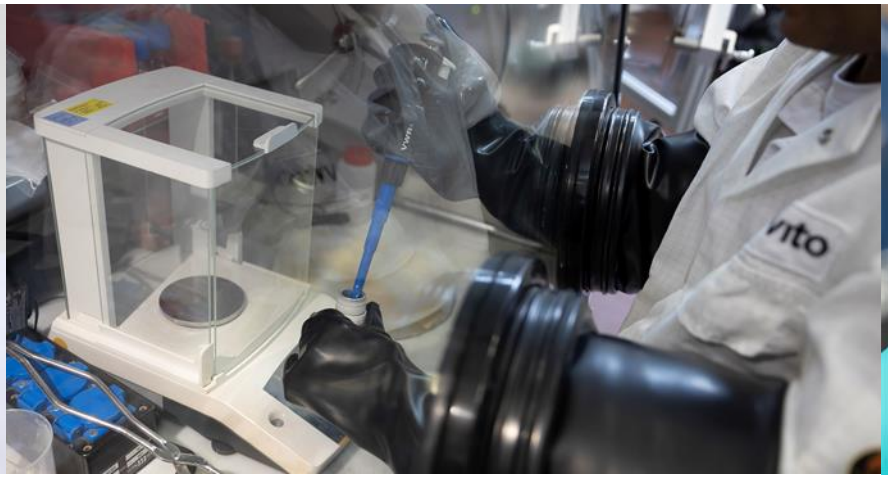




How

- Electrode preparation and coin cell assembly
- Electrochemical characterization
- As-prepared and post-mortem characterization of developed/commercial/recycled battery materials





Who (RTD partners)

- Collaboration with R&D partners to move from coin to pouch cell manufacturing
- Collaboration with industrial partners to scale-up technologies
- Potential collaboration on:
  - Li-metal passivation for Gen 4 and Gen 5 batteries
  - 3D printing of anodes and/or cathodes
  - Na-ion battery developments: anode and/or cathode

Fully charged to innovate with you

Dirk Vangeneugden

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