

Technology Offer CSIC/AF/023

Battery current collector



New metal free, light weight, porous current collector for batteries with Carbon Nanotubes (CNT)

Intellectual Property

Priority patent application filed

Stage of Development

Fabrication method validated in laboratory

Intended Collaboration

Licensing and/or co-development

Contact

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Market need

The cathodes in Li-ion batteries are made of a composite film (including the active material and different additives), and are attached to a current collector.. The latter being an Al foil. Such metallic substrate is prone to corrosion when the batteries operate at high voltages. In addition, the 2D contact of metallic current collector with the active material limits electron collection and thus the electrode thickness that can be achieved without affecting the power performance.



CSIC solution

Our new collector is a porous light film with CNTs. Such 3D network present higher corrosion resistance than conventional Al foil and allows for better electron collection, even with high electrode loading.

Competitive advantages

- Corrosion resistant current collector.
- Light weight.
- 3D configuration enabling thicker electrodes.
- Roll-to-roll compatible fabrication method.
- Simplifies battery recycling.