



GIGAGREEN proposes a structured research plan to develop and scale up novel electrode and cell component manufacturing processes that follow a Design to Manufacture approach in line with Europe's strategic goal of becoming a global leader in the Li-ion battery value.

This means that **GIGAGREEN** seeks for the minimum environmental impact and energy consumption, cell designs which facilitate the re-use and disassembly, increasement of the cost-efficiency and safety of processes and products, and high-throughput technologies able to be easily scaled up and automated in the context of industry 4.0/5.0 giga-factories.

GIGAGREEN DESIGN TO MANUFACTURE GIGA-FACTORY CONCEPT



SAFER

- Elimination of organic solvents



CHEAPER

- Reduced energy and material consumption, economy of scale
- Cell manufacturing cost reduced by 20%



GREENER

- Reduced energy and material consumption
- Energy consumption of cell manufacturing reduced by 25%



FLEXIBLE

- Digitalization processes allowing to quicker specification change
- Affordable scalable process



BETTER

- High performance cells in terms of voltage, capacity, life cycle
- Data-driven process and product quality control

GIGAGREEN will finalise by the end of the project with a set of novel materials (binders, electrolyte, separators, cathode, and anode active materials, etc.), adapted to innovative dry and wet electrode processing techniques, which motivate the generation of Design to Manufacture guidelines and a data-driven Digital Twin.

GIGAGREEN proposes a sustainable and cost-efficient new approach by integrating synergies and materials within the recycling and production chain of the new battery systems. Apart from recycling the metals (Cu, Ni and Al) and plastics, **GIGAGREEN** aims to recycle both active materials and electrolyte.



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