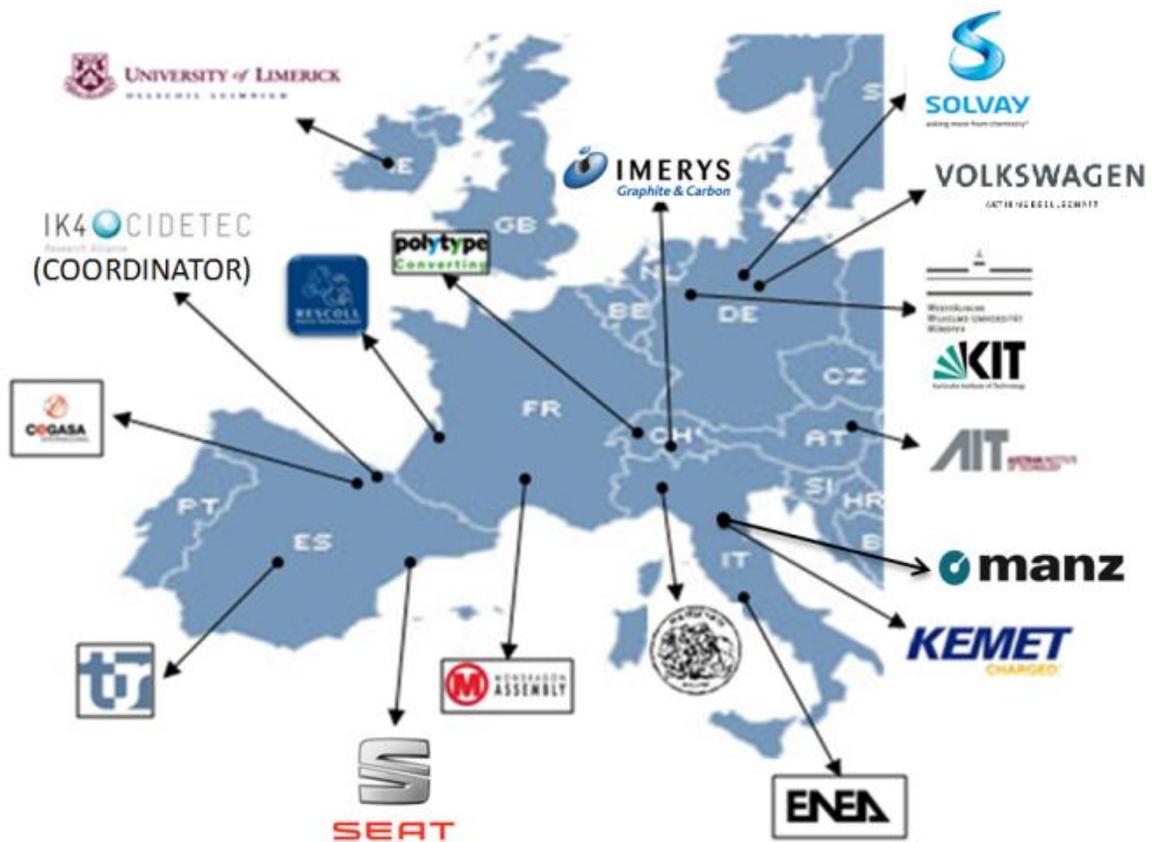




ADVANCED MANUFACTURING PROCESSES FOR LOW COST GREENER LI-ION BATTERIES



INTRODUCTION



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The purpose of the project, co-funded by the EU's Seventh Framework Programme for Research and with an overall budget of €8.6M, was to develop a range of technologies used to design and manufacture high-performance "Greener" li-ion batteries for electric vehicle applications, always with an eye towards eco-design, recyclability, and minimising environmental impact.

- Call: FP7-2011-GC-ELECTROCHEMICAL-STORAGE
- Topic: Advanced eco-design and manufacturing processes for batteries and electrical components
- Grant Agreement #285268
- Total budget: 8.6 M€
- EC contribution: 5.6 M€
- Starting date: 1/11/11
- Duration: 4 years

17 European partners from seven different countries participated in the project. GREENLION'S solid focus on practical applications was backed by 11 industrial partners, who participated in the consortium, along with six leading technological companies, both at European and international level. IK4-CIDETEC not only managed the overall coordination of the project but also, as a leader in energy storage systems, contributed its proven expertise in aspects of battery design, manufacturing and testing, working hand-in-hand with project partners.

All project objectives were met across the board, with noteworthy milestones including:

- Technology to manufacture aqueous-based electrodes and avoid the use of organic solvents was developed,
- More than 150 20Ah cells using technologies developed in the project have been manufactured.
- An eco-designed battery pack was created, featuring easier removal for future cell reuse or recycling, including a virtual design of an automated assembly line.
- Following automotive design criteria, a total of six fully functional battery packs were assembled from batteries and electronics developed in the project.
- An analysis of the complete battery life cycle was carried out which demonstrates the lowest possible environmental impact of the manufacturing technologies and processes employed.

Seven patents, 20 scientific-technical publications and over 50 communications presented at conferences have been generated based on the project's results.

In order to increase the added value of these activities, a white paper summarizing for each process the key problematic and describing the main breakthroughs achieved has been produced and made available to the batteries' community.

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Thanks to Greenlion partners for your support!

