



Power Oriented low cost and safe MatERials fOr Li-ion batteries

POMEROL

Objectives

POMEROL intends to develop high power, low-cost and intrinsically safe lithium-ion batteries by a breakthrough in materials. The materials and batteries will be used for fuel cell hybrid and conventional hybrid drive train automotive applications.

Problems addressed

The challenging objective is to develop new materials to strongly reduce cost of high power lithium-ion batteries to 25 EUR/kWh, one of the very critical issues for a widespread development of this bottleneck technology for fuel-cell hybrids. This objective will be achieved together with two others, to provide a high power battery with a long life and an intrinsically safe electrochemistry. Technical and cost specifications are targeted for the battery, the cell and each new material to be developed in order to reach these goals.

Technical approach

We propose innovative solutions through the development of speciality materials (LiFePO₄, lithiated metal fluorinated oxides, non-flammable ionic liquids based electrolytes and high performance graphitised carbons) that will respond to the very ambitious challenge of adequate low-cost, safety and life. POMEROL combines the complementary skills of

7 industrial partners and specialised subcontractors, having proven expertise in the research, development and production of materials and batteries. Having automotive end-users, material suppliers and a battery maker allows a rapid validation of results, savings of time and resources.

Expected impact

The aim of POMEROL is to develop high-power, safe and low-cost Lithium-ion batteries as core technology for hydrogen, fuel cell hybrid systems and ICE-HEV for automotive applications. These systems need a breakthrough in battery technology as power supply.

Progress to date

The project is only in its sixth month, so that rather limited results have been obtained so far. However, a first generation of materials have been designed and transferred between the partners, in line with the Statement of Work.

INFORMATION

Contract number
019351

Programme
Sustainable Surface Transport

Starting date
1st December 2005

Duration
36 months

Total cost
€ 4.86 million

EC funding
€ 2.47 million

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Commissariat à l'Énergie Atomique – FR
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Merck KGaA – DE
Timcal Ltd – CH
Umicore – BE
Volkswagen AG – DE