



Expert Battery Workshop

EERA JP on Energy Storage and Electrochemical Energy Storage

Mathias Noe on behalf of JP ES

Opportunities and challenges of batteries for energy storage in the EU

19 October 2016, Brussels

10:00h – 15:30h

Dr. Mario Conte †

- Graduation in nuclear physics in 1978 at the University of Naples
- Latest position, head of the “Strategic and Technical” Support Unit of the Energy Technology Department at ENEA, Italy
- Since 2011, coordinator of EERA JP ES subtopic Electrochemical Energy Storage
- Numerous coordinating tasks in EU projects and international and national bodies



1 Vision & Objectives

Overall objectives are

- overcome diverse european research activities on Energy Storage by introducing well coordinated strategies
- join forces and projects and support continuous collaboration
- sharing knowledge, facilities, methods, data and experience
- work on interfaces within energy storage and integrate with other technologies

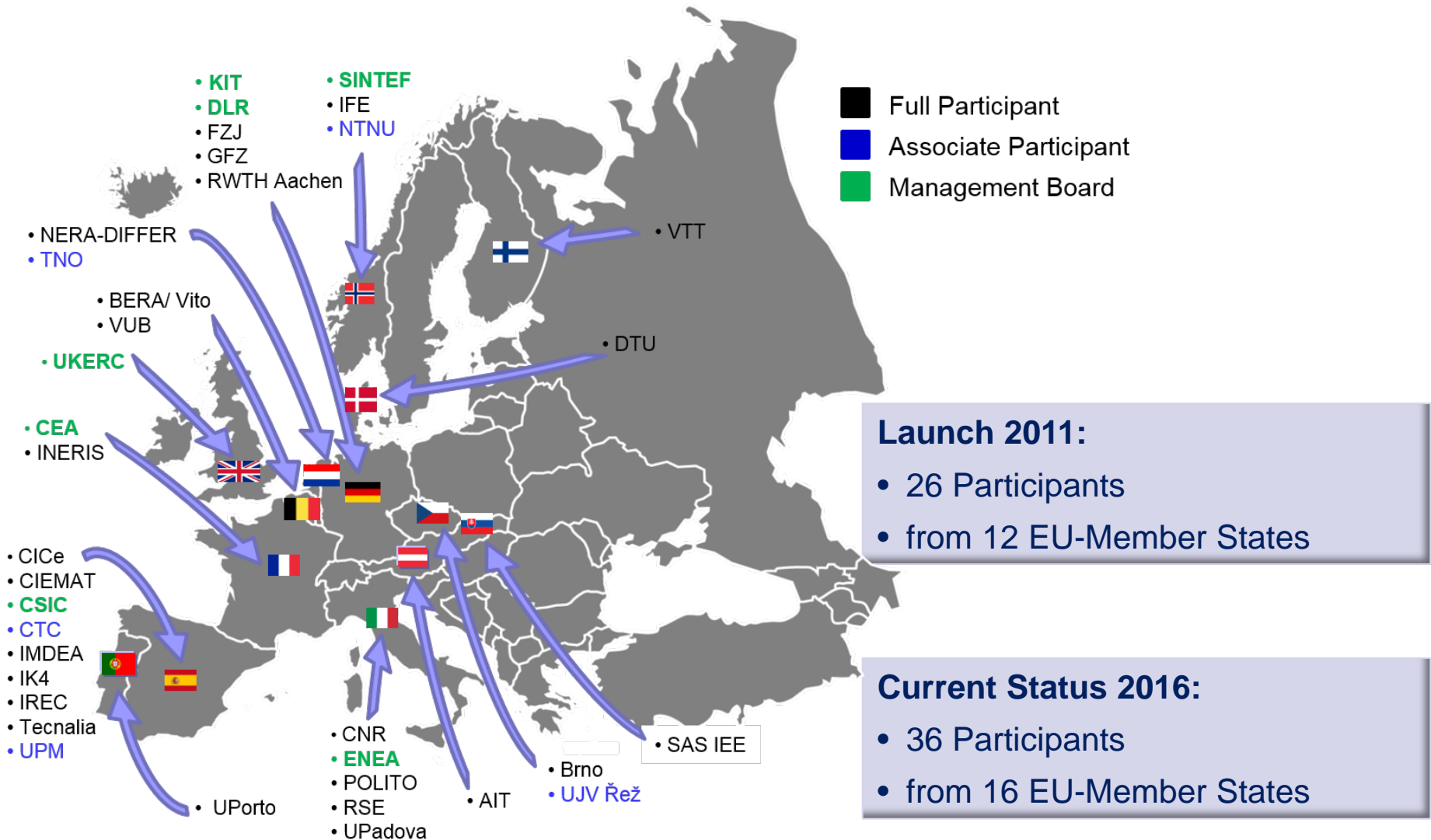
... and by this achieve

- european research leadership in Energy Storage Research and Technologies
- significant support of the realization of SET-Plan goals

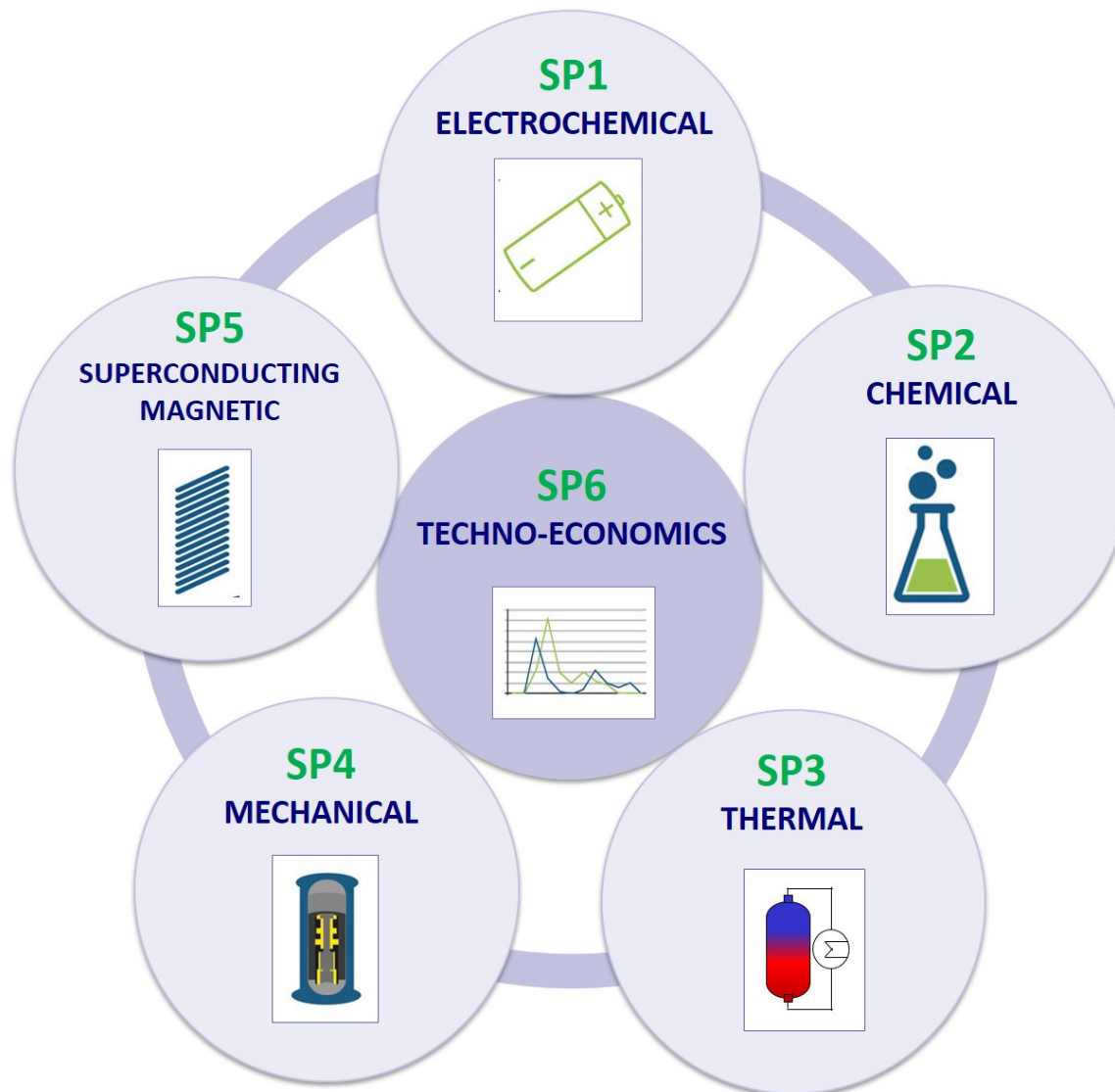
**SET-
Plan**

Accelerating development and deployment of energy technologies to meet the 2020 and 2050 Energy and Climate Change goals

2 Members



3 Organisation: Sub-Programmes





SP1 Management

SP1 Coordinator: Mario Conte[†], ENEA (IT)

SP1 Deputy: Edel Sheridan, SINTEF (NO)

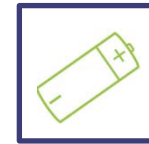
Break Down Structure

WP1: Li-ion Batteries – WP Leader: Maximilian Fichtner, KIT (DE)

WP2: Supercapacitors – WP Leader: Jesús Palma, IMDEA, (ES)

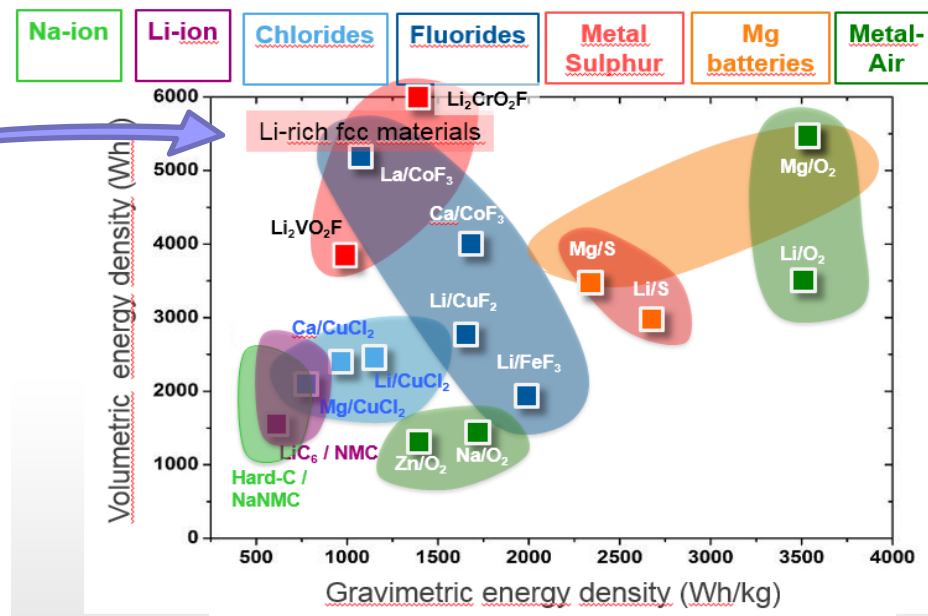
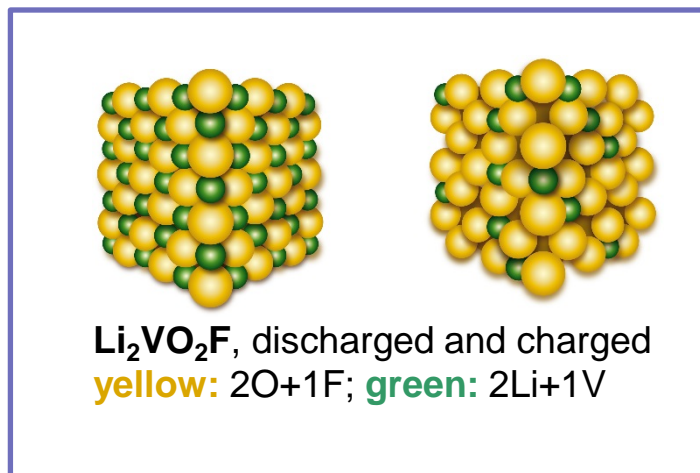
WP3: Next Generation Batteries – WP Leader: Edel Sheridan, SINTEF (NO)

WP4: Supporting Activities – WP Leader: Peter Hall, UKERC (GB)



Example of Battery Research: Li Rich FCC Materials

- **New storage principle:** Li rich fcc materials enable highest packing densities for Li^+
- **Ultrahigh volumetric energy densities** of up to 7800 Wh/L
- **Li exchange is fast**, at a **volume change of only 3%** of the material



R. Chen, M. Fichtner, et al., Disordered Lithium-Rich Oxyfluoride as Promising Intercalation Cathode for Lithium-Ion Batteries, *Adv. Energy Materials* (2015)

Thank you for your attention

EERA JP on Energy Storage

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