



# The EERA Joint Programme on Energy Storage

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## WHAT is the EERA Joint Programme on Energy Storage (JPES)?

EERA is an alliance of leading European energy research organisations (more than 150) with the aim of strengthening and optimising of R&D activities by joined infrastructure use and organisation of pan-European Joint Programmes. The JPES is the first pan-European programme to bring together all major fields of energy storage research. JPES therefore represents a unique opportunity to align research and development activities in the field and is mainly aimed at **integrating** and **complementing** current national and European **research programmes and projects** in order to **optimise** resources and efforts. It supports the **SET-Plan** objectives and priorities by “pooling and integrating activities and resources including international partners” on all levels of the **value chain**: (1) materials, (2) process line, (3) component and system design, (4) system integration to specific application and (5) overall system integration. The JPES also **establishes general roadmaps** for the research needs for Horizon 2020 and beyond and creates improved consortia to cooperate with industry in targeted and challenging projects. A thematic priority will be the development of **hybrid energy storage systems**. The **vision** of the JP is to establish an **European Integrated Energy Storage Simulation Platform** (EIESP) and an **European Integrated Energy Storage Virtual Laboratory** (EIESVL) taking into account interfaces with e.g. JP’s on **Fuel Cells, Smart Grids and Smart Cities** in order to develop **Smart Energy Storage**. Strong links to industrial partners support the **knowledge transfer** to innovation and products in order to establish a **strategic European leadership** in energy storage.

## BACKGROUND

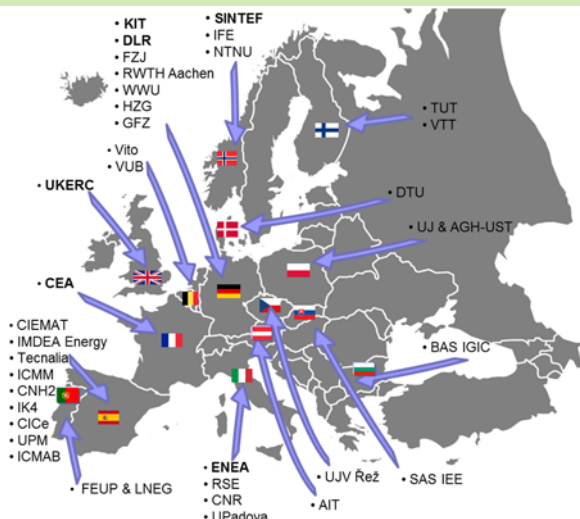
- **Stationary energy storage** supports commercial breakthroughs of renewable energies by overcoming mismatches between energy output and demand
- **Mobile energy storage** enables electromobility and transportation
- **Thermal energy storage** is essential for heating, cooling and environmentally friendly industrial processing.

## OVERALL OBJECTIVES

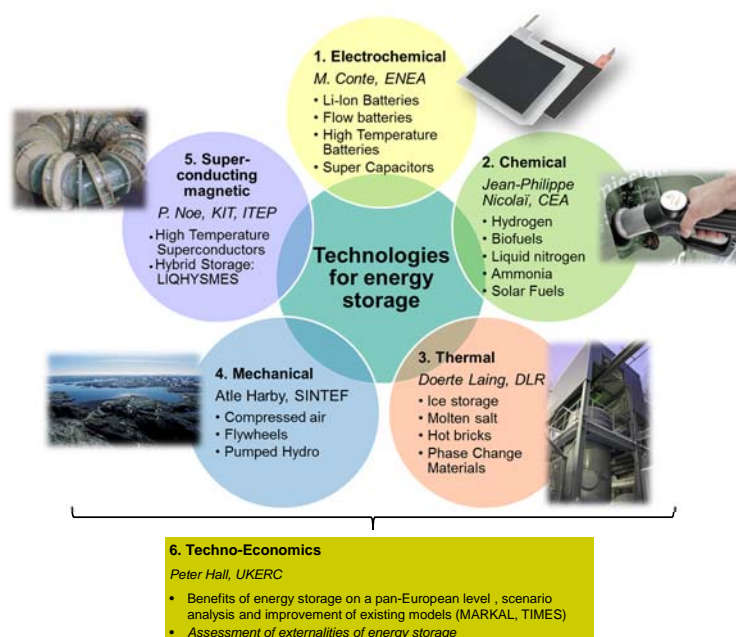
- **Joining** forces and projects: coordinated strategies
- **Sharing** knowledge, facilities, methods, data
- Working on **interfaces** within energy storage and **integration** with other technologies
- Establishing **European** scientific, technological and industrial **leadership** in **current and next generation energy storage technologies**
- Giving significant **support** for **SET-Plan goals**

## PARTICIPANTS

30 Full Participants and 6 Associated Participants from 15 EC member states: 410 py/y committed



## SUB-PROGRAMMES



## Overall R&D OBJECTIVES

- Improving **energy density** and **storage efficiency**
- Cost reduction, improving safety, reliability, availability, cycle life, calendar life, sustainability
- Standardization and quality issues, social acceptance, economic and environmental impacts

## CURRENT AND FUTURE ACTIVITIES

- **Review of activities, state-of-art evaluation** and **defining next step requirements** are done
- **Detailed roadmaps** and **engineering design concepts** will be developed for **short, medium and long term periods**.
- Results will be disseminated in joint reports and joint workshops (also together with industry)
- JPES is open for **additional** technologies

