



STORAGE RESEARCH INFRASTRUCTURE ECO-SYSTEM

RI Information sheet 2022

Organisation: University of Padova, Italy

RI name: CheMaMSE laboratories

Technology(ies) of Energy Storage: Electrochemical and chemical

Contact person 1:

Vito Di Noto, E-mail: vito.dinoto@unipd.it

Project Acronym	StoRIES
Call	H2020-LC-GD-2020
Grant Agreement No.	101036910
Project Start Date	01-11-2021
Project End Date	31-10-2025
Duration	48 months

1. Logo



2. Geographical coordinates (45.409405 N, 11.887820 E)

3. Description of the research infrastructure for the webpage

The **CheMaMSE Laboratories** allow to carry out activities over the entire value chain associated with the R&D of electrochemical energy conversion and storage devices (*e.g.*, secondary batteries, fuel cells, redox flow batteries). **The available equipment** comprises several instrumentations and facilities, including: (i) broadband electrical spectrometer; (ii) near-ambient pressure X-ray photoelectron spectrometer; and (iii) facilities to fabricate and test prototype devices.

Services currently offered by the infrastructure: (i) Synthesis of functional materials (both electrode materials and electrolytes); (ii) Physicochemical characterization of functional materials (iii) High-level modelling of functional materials; (iv) “*Ex-situ*” determination of the electrical response and of the electrochemical properties of functional materials; (v) Fabrication of equipment; and (vi) Fabrication and testing of prototype devices.

4. Availability of the research infrastructure

There is no period of time when the infrastructure is scheduled to be closed in the next future.

5. Special considerations (confidentiality / NDA agreements, insurance requirement, special training, HSE training)



The access to the infrastructure and to any of its services for a user or user group will be bestowed by the Team Leader of the CheMaMSE laboratories **upon submission of a proposal outlining a detailed description of the tasks to be accomplished and of the expected results/deliverables.** The Team Leader of the CheMaMSE laboratories will examine the proposal, evaluate it and discuss with the user or user group concerning its feasibility before estimating the necessary commitment of resources in terms of time, manpower and economic costs. **Finally, the user or user group will decide whether the conditions offered by the Team Leader of the CheMaMSE laboratories can be accepted before starting the activities.**

6. Energy storage technology that can be analysed/studied by using the research infrastructure

- Electrochemical
- Chemical
- Thermal
- Mechanical
- Superconducting Magnetic
- Cross-cutting (Specifically: ...)

7. Key words for the webpage

Physicochemical characterization; electrochemical characterization; synthesis; electrodes; electrolytes; fabrication and testing of prototype devices; modelling; fabrication of equipment; XPS; NAP-XPS; electrical response; broadband electrical spectroscopy; secondary batteries; low-temperature fuel cells; redox flow batteries.

8. TRL level (if applicable):

- 1-3
- 4-6
- Above