EUROPEAN COMMISSION

HORIZON 2020 PROGRAMME - TOPIC H2020-LC-BAT-2019
Strongly improved, highly performant and safe all solid-state batteries for
electric vehicles.

GRANT AGREEMENT No. 875189

SAFELiMOVE – Deliverable Report

<< D2.2 – Plan & criteria for the concept validation >>

SAFE Li MOVE

Deliverable No.	SAFELiMOVE D2.2	
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Deliverable Title	Plan & criteria for the concept validation	
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Disclaimer/ Acknowledgment

Publishable summary

This report describes part of the activity of Work Package 2 of SAFELiMOVE project and resumes the work done within WP2 Task 2.3 "Testing protocol clarification considering usage requirements". The purpose of this task is to clarify and standardize testing protocols considering usage requirements in order to ensure data reliability. Indeed, the small and large cells will be evaluated in WP7 according to these defined test protocols and criteria. This task has been performed in close collaboration with WP2, WP4, WP5, WP7 and WP9 partners: CICe, SAFT, RENAULT SAS, IKERLAN, CIDETEC, TME, RWTH and ABEE.

Starting from EV requirements and application, mandatory tests were set and described for both 1 Ah and 10 Ah cells. They were classified into 5 categories:

- **General protocols:** including cell storage, shipment condition, set-up measurement, cell track nomenclature
- **Lifetime tests:** including cycle life and ageing storage
- **Characterization tests**: including C-rate, OCV vs SOC (Open Circuit Voltage vs State of Charge) and DCR (Direct Current Resistance, also called DCIR in the Grant Agreement) tests
- **Safety tests:** thermal stability, ARC (Accelerating Rate Calorimeter), and overcharge
- **Post-mortem analysis:** physical, chemical and electrochemical tests on cycled and aged cells

The number of cells per tests and the type of tests performed for small and large pouch cells were assigned. Two scenarios have been proposed, namely a **restrictive** and **extensive** scenario depending of the number of cells available and built during this project. Finally, a dedicated part of this report is focused on the module test protocols.