

WP2: Requirements Specification & Overall System Modelling Strategy

WP2.1: Define the HEP

WP2.2: Set up requirements for the HEP-Twin

WP2.3: Map out the faults and degradation

WP2.5: Requirement for life cycle assessment

WP3: Smart in-flight battery sensing

WP3.1: Specifications for sensors on energy storage system

WP3.2: In-operando monitor of the battery cell

WP3.3: Characterization and validation of the monitoring systems for energy storage

WP4: Integrated intelligent sensing for electric power distribution

WP4.1: State of the Art sensing systems for power electronics and electrical machines

WP4.2: Development of models for multi-level inverters

WP4.3: Online temperature mapping with novel acoustic sensors

WP4.4: High voltage distribution modelling and faults analysis

WP4.5: Fault's progression and degradation analysis of electrical machines and development of sensors

WP4.6: Development of AI and MBSA for fault detection and identification

WP5: Integrated HEP ground tests

WP5.1: Defining the specification of the test rig based on sizing and selecting the component

WP5.2: Design the demonstrator and demonstrator preparations

WP5.3: Create test cases, testing, and validation

WP5.4: Degradation emulator with Software and Hardware in the Loop

WP6: Digital-twin driven central decision making

WP6.1: Review existing standards

WP6.2: Data standards for CDM and communications

WP6.3: Create a design methodology for the CDM

WP6.4: Machine learning models to create the CDMS

WP6.5: Processing resources

WP6.6: Characterisation and validation of the models adopted for CDMS through case studies

WP7: Dissemination, communication & exploitation

WP7.1: Dissemination & Communication Plan and Activities WP7.2: Exploitation Plan and Activities

WP7.3: Event organization