



## Allegato 2 – Aree tematiche per la presentazione dei Progetti

### Spoke 13 – Politecnico di Milano

Il presente bando emanato dallo Spoke 13, denominato “SISTEMA DI TRAZIONE ELETTRICA E BATTERIA”, di seguito “Spoke”, è finalizzato al raggiungimento dei seguenti obiettivi:

Bando	Università Spoke	Interventi Ammissibili	Oggetto	Destinatari	Importo
n. 2	Politecnico di Milano Spoke 13	<ul style="list-style-type: none"> <li>Development of algorithms for optimizing the operation of innovative power distribution infrastructures (e.g. microgrids, RESs, BESSs, transport systems)</li> <li>Analysis of the role of digital technologies in enabling smart mobility services.</li> <li>Development of models and simulation methods using machine learning techniques: advanced algorithms to study safety and quality of energy in intelligent distribution systems.</li> <li>Organization of workshops for the dissemination of results.</li> </ul>	Model, simulation and control strategies for smart distribution infrastructures for integrating RESs, BESSs and Electrified Transport Systems.	Università, Centri di Ricerca	€ 360.000,00
n. 2	Politecnico di Milano Spoke 13	<ul style="list-style-type: none"> <li>Development of a toolbox of “self-healing” approaches to address both physical and chemical failures in lithium batteries of Generation 3b and Generation 4a</li> <li>Analysis of both “physical” and “chemical” failures in lithium batteries</li> <li>Developing binders and electrolytes with self-repairing properties.</li> <li>Organization of workshops for the dissemination of results.</li> </ul>	Design of smart functionalities for next generation Li-ion batteries	Università, Centri di Ricerca	€ 240.000,00



<p>n. 2</p>	<p>Politecnico di Milano Spoke 13</p>	<ul style="list-style-type: none"> <li>• Definition of DC power quality indices and standardised methodologies for the traceable measurement of power quality levels.</li> <li>• Development of measuring equipment for field monitoring of "compatibility levels" or laboratory testing of "immunity levels" related to PQ phenomena in DC networks</li> <li>• Enhancing the efficiency and performance of motors through various optimization techniques and integrated electric-thermal-mechanical and electromagnetic coupled motor model.</li> <li>• Generating data sets essential for developing data-driven surrogate models to predict motor behavior and performance.</li> <li>• Organization of workshops for the dissemination of results</li> </ul>	<p>Analysis of the electric grid-vehicle system: quality of the DC power supply and optimization of engine performance</p>	<p>Università, Centri di Ricerca</p>	<p>€ 360.000,00</p>
<p>n. 2</p>	<p>Politecnico di Milano Spoke 13</p>	<ul style="list-style-type: none"> <li>• Development of an advanced optimization model to optimally plan and manage the production of green fuels/carriers from RESs.</li> <li>• Development of advanced management systems for energy carriers to handle variability and enhance the efficiency and reliability of integrated systems supporting the EV charging infrastructure.</li> <li>• Definition and implementation of embedded IoT hardware modules that detect data (e.g. vehicle, driver, charging, energy).</li> <li>• Organization of workshops for the dissemination of results.</li> </ul>	<p>Development of an innovative digital energy model to support a smart, and sustainable mobility</p>	<p>Università, Centri di Ricerca</p>	<p>€ 240.000,00</p>