CETP Pitching & Matchmaking Event for Integrated Industrial Energy Systems

Pitch template for Modular Intelligent Energy Storage and Management System

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Name of the project idea (and acronym if you already have one)

Modular Intelligent Energy Storage and Management System

ML-ENGY-STORG

Consortium partners

- Coordinating organisation: Vivalanch Electronic, Automation and Technology Co.
- Main contact person: Ozkan ATAN

We are looking for Big Industrial Energy Producers and Distributors

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Challenge

What is the challenge/s you are solving with your project? Short description of challenges and/or related research questions (feel free to replace the text box with figures, illustrations etc.)

- Current energy systems suffer from inflexibility, lack of scalability, and inefficient integration with renewable sources. Additionally, energy storage units often operate without intelligent control, leading to energy losses, limited adaptability to real-time demand, and underperformance in distributed energy scenarios. There is a pressing need for a modular, smart, and adaptive energy infrastructure that can respond dynamically to consumption patterns and grid conditions.

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Solutions proposed

Solutions proposed and how are the research questions being tackled?

(feel free to replace the text box with figures, illustrations etc.)

- We propose a modular and intelligent energy storage and management architecture that integrates AI-based predictive control and real-time optimization. Each module within the system can autonomously balance energy production, storage, and consumption. The system uses machine learning algorithms to forecast demand and renewable generation, enabling adaptive operation. It also supports plug-and-play modularity, allowing seamless scalability for residential, industrial, and mobile applications. Research questions related to flexibility, interoperability, and energy efficiency are addressed through simulation-based validation and real-time hardware-in-the-loop testing.

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Our next step activities for proposal submission to CETP JC2025

Describe the fundamental key activities where you would need collaboration or help from others *for example, collaboration/partnering with companies, piloting/demo with some type of a partner, validating, testing/demoing, financing for commercialization or* ***what and with whom****?*

Our next step focuses on establishing strategic partnerships to support piloting, validation, and pre-commercial demonstration of the Modular Intelligent Energy Storage and Management System. We are specifically looking to collaborate with:

Technology partners for hardware integration and system prototyping,

Industrial stakeholders (e.g. smart grid operators, energy service providers) to run real-world demos and testing environments,

Research institutions for advanced AI model co-development and performance evaluation,

Public/private investors to support scaling and commercialization activities.

Such collaborations are critical to validate the system's adaptability, efficiency, and interoperability across various use cases before progressing to market-ready deployment.

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Thank you & contact information

Thank you for your interest

For more information contact:

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