



**Green Edge  
Technologies**

## **Platform for AI-Driven Local Energy Optimization**

**AI-Driven Energy Optimization for  
Industrial Parks**

**HORIZON-CL5-2026-03-D3-22  
(AI-driven forecasting algorithms for Grid )**

**Naim Kenan HACIEVLIYAGIL  
General Manager  
kenan@greenedge-tech.com  
+31 615 336 276**

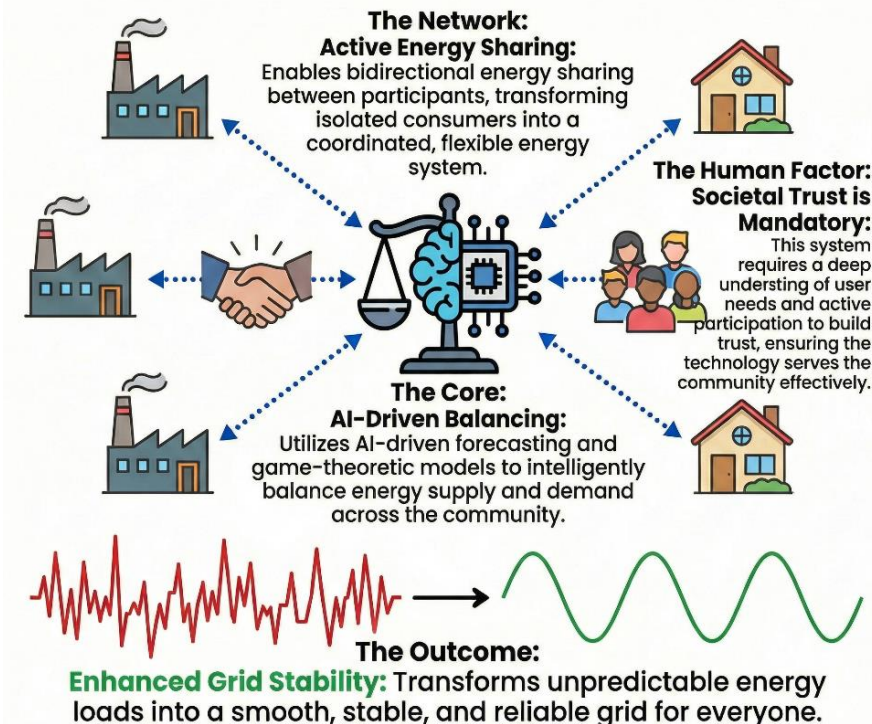
# AI-driven forecasting algorithms for Grid and Consumer friendly Energy Sharing – Societal Readiness pilot

## HORIZON-CL5-2026-03-D3-22

- AI-Driven Optimization: Upscale AI forecasting to optimize collective self-consumption and energy sharing for communities,.
- Grid & Consumer Integration: Empower active consumers to stabilize the grid and reduce DSO burdens through flexibility services,.
- Game-Theoretic Modeling: Apply game theory to simulate social interactions and economic negotiations between active participants.
- Societal Readiness (Mandatory): Integrate Social Sciences (SSH) to build user trust and address adoption barriers across diverse groups

Deadline: March 31, 2026

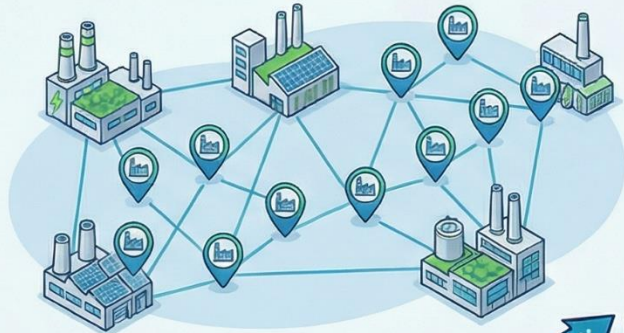
### The Human-Centric AI Energy Community



# Project Idea : FLEXPARK

## The Hybrid Industrial Energy Community Model

**Virtual Industrial Community**  
(Aggregated Flexibility)



**BEKO**

Data Connector



SAP/ERP Integration

Production Plans & Weather



**simtera** **FLEX-PARK**  
(Community Orchestrator)



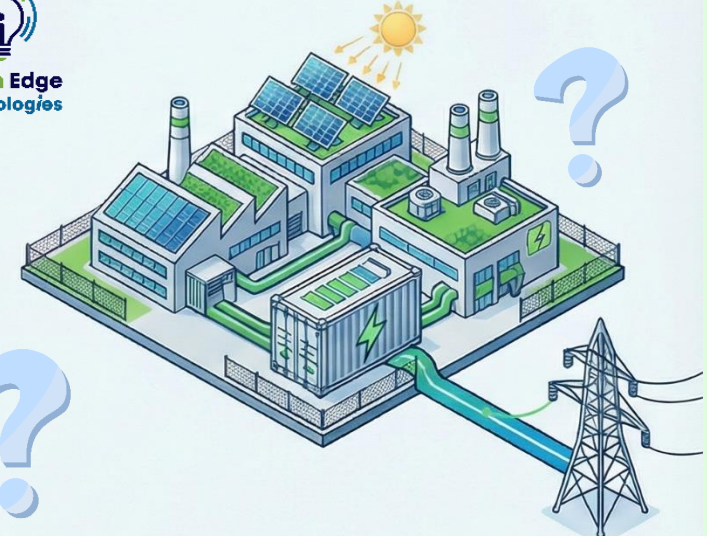
**AI-Driven Forecasting**

Upscales prediction tools for dispersed and shared assets.

**Game-Theoretic Modeling**

Ensures fair energy negotiation and scheduling between all sites.

**Physical Local Energy Community**  
(Shared Assets)



External Grid



**Cefriel**

POLITECNICO DI MILANO

**Societal Readiness**

**Human-Centric AI & Trust Building**

Empowers factory operators with a Gen-AI Assistant via tablets.

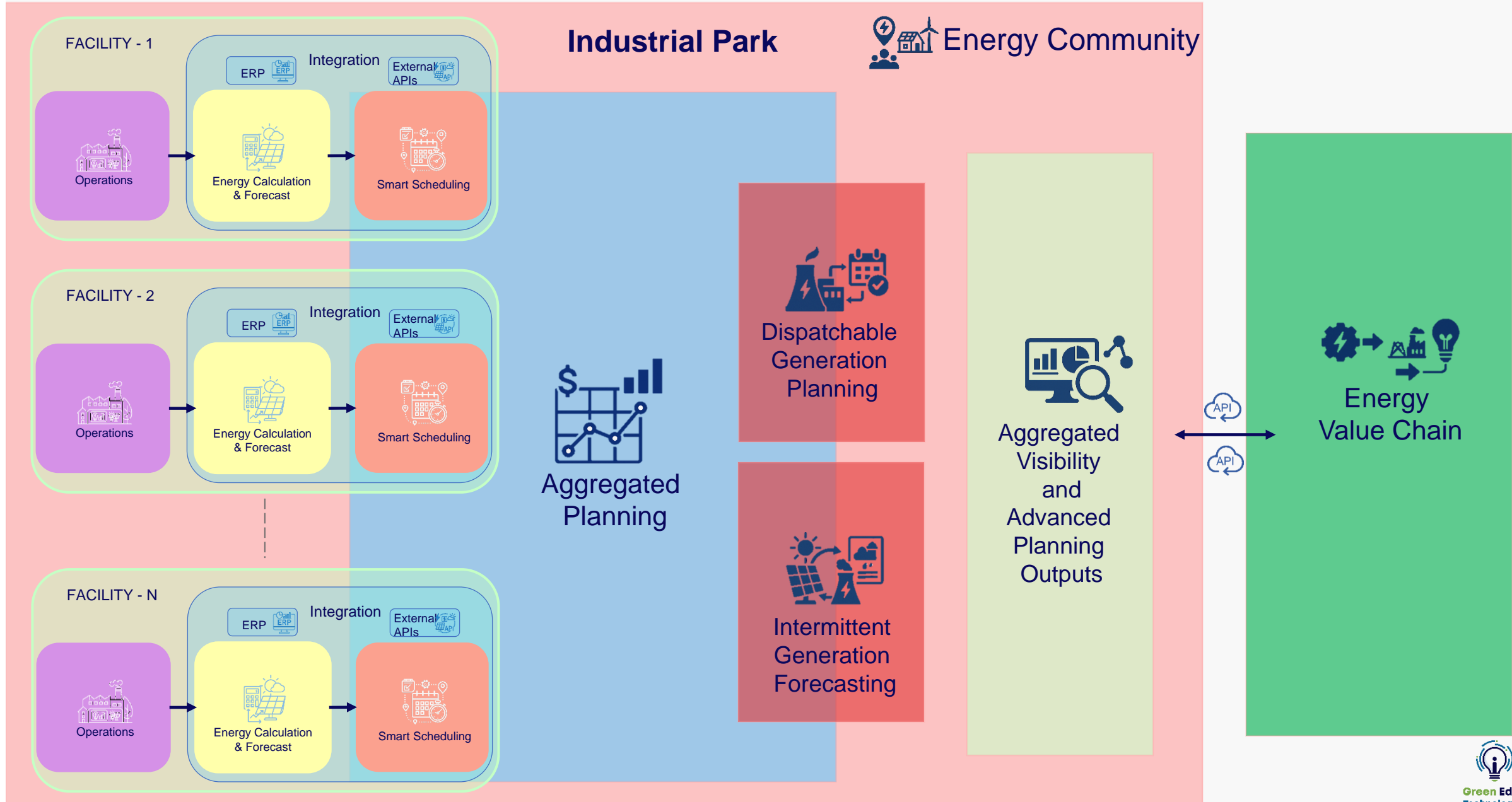
**Grid Stability for Citizens**

Turning Industrial Load into a Flexible Reserve.



# FLEXPARK Vision

www.greenedge-tech.com



# Type and Role of Partners We are Seeking

| Missing Role                                    | Reason Required by Call  | Ideal Partner Profile   | Specific Project Task  |
|---|--|---|--|
| SSH Partner<br>(Social Sciences and Humanities) | Topic is a "Societal-Readiness pilot" requiring "effective contribution of relevant SSH expertise" to build "trust" and "user adoption".                           | University<br>Department of Behavioral Economics or Sociology       | Conduct societal readiness pilot; design surveys to measure trust in AI; analyze socio-technological barriers to consumer participation.                 |
| Industrial Park Management                      | To act as the "Physical" community pilot site for testing the orchestration of shared assets (PV/Storage) in a grid-connected cost optimization context.           | Organized Industrial Zone (OIZ)<br>Management or Municipal Utility  | Provide physical shared infrastructure (local microgrid); validate community-scale flexibility orchestration for peak shaving and grid hosting capacity. |
| DSO<br>(Distribution System Operator)           | Ensure the reduced burdens on DSOs and residual suppliers; provide grid balancing and forecasting to ensure consumer participation in a distributed energy system. | Regional Grid Operator (e.g., Alliander or similar European entity) | Validate grid balancing impact; provide data APIs for real-time load management; certify reduced network stress and avoided reinforcement costs.         |
| Game-Theoretic Modeler                          | Call explicitly requires "Analysis of social interactions using advanced methods like game-theoretic models".  | Applied Mathematics or Game Theory Research Institute               | Design and simulate negotiation algorithms for fair energy sharing and collective self-consumption; highlight the role of active consumers.              |

# Previous scientific and technological expertise of consortium

| Partner                              | Domain Expertise  | Role in Project   | Key Technology Assets & Validation  |
|--------------------------------------|---|---|---|
| Simtera (Türkiye)                    | <br>Digital Twins & EMS Integration         | Data Aggregation: Gathers real-time field measurements (EMS) and models the "Digital Twin" of the physical industrial park assets.                            | <b>FLEXPARK Platform (TRL 7):</b> Validated in EU Horizon SMILE (NEMO sub-project) using real industrial data.<br><b>Industrial Digital Twins:</b> Simulation of physical assets (PV, machinery) to test "what-if" scenarios before real-world dispatch.<br><b>EMS Connectivity:</b> Bridging the gap between physical hardware (inverters, meters) and the cloud platform. |
| Cefriel (Italy)                      | Manufacturing Data Spaces & Forecasting   | Data Exchange & Model Development   | <b>Standardization of Data :</b> Definition and implementation of common data models, formats, and interfaces to ensure interoperability<br><b>Forecasting Model Development :</b> Design and validation of time-series forecasting models  |
| GreenEdge Technologies (Netherlands) | AI & Energy Orchestration   | Technology Provider: Deploys the community-level platform (GET-CONFIG) and facility agents (GET-IMPACT) to negotiate flexibility using game-theoretic models. | <b>Connectivity Layer:</b> Ensuring secure, low-latency data transmission from the edge.<br><b>Gen-AI Assistants:</b> "Human-centric" interfaces to translate complex forecasts into operator guidance.<br><b>Agentic Workflows:</b> Autonomous agents for real-time load shifting.   |
| BEKO (Türkiye)                       | Advanced Manufacturing & Process Flexibility  | Virtual Pilot Site: Provides 9 geographically distributed manufacturing facilities. Integration of SAP/production plans with energy data.                     | <b>Industry 4.0 Infrastructure:</b> SCADA, IoT, and SAP systems with API-ready integration<br><b>Diverse Load Profiles:</b> Large industrial consumption dataset across batch and continuous processes in 6 cities<br><b>Workforce Access:</b> Broad workforce base for societal readiness and trust studies  |
| The Data Cooks (Netherlands/EU)      | <br>Advanced Forecasting & Data Analytics | Forecasting Lead: Develops AI-based day-ahead and intraday forecasts for consumption and PV generation, compensating for weather volatility.                  | <b>Forecasting Engines:</b> Predict intermittent renewable generation<br><b>Weather Integration:</b> Use hyper-local data to improve PV output forecasts<br><b>Imbalance Reduction:</b> Minimize DAM/IDM forecast errors  |