



Company Overview

Novator Energy is a Türkiye-based technology company specializing in advanced solutions for power system monitoring, situational awareness, and decision support. The company develops integrated hardware and software platforms that enable real-time visibility and intelligent control of modern power systems, with a particular focus on distribution networks and renewable integration.

Novator Energy combines strong academic expertise with engineering-driven product development, positioning itself as a technology provider and system integrator in next-generation smart grid applications. The company actively contributes to international R&D collaborations and seeks partnerships in Horizon Europe projects to co-develop scalable, interoperable, and field-validated solutions.

Core Technical Capabilities

1. Real-Time Monitoring and Data Acquisition Systems

Novator Energy designs and deploys field-level sensing and data acquisition infrastructure tailored for distribution grids and prosumer environments. Key features include:

- Custom-designed edge devices for electrical measurements and system monitoring
- High-resolution data acquisition compliant with power quality and grid monitoring standards

These systems enable continuous, high-quality data streams from distributed assets such as transformers, feeders, distributed energy resources (DERs), and end-users.

2. Situational Awareness and Decision Support Platforms

Building on field data, Novator develops advanced analytics and decision-support tools for grid operators and energy communities:

- Real-time state estimation and anomaly detection
- Detection of voltage violations, congestion, and abnormal operating conditions
- Event-based monitoring and alert generation
- Integration with SCADA/DMS environments and external data sources

The platforms are designed to enhance operational visibility at low-voltage (LV) and medium-voltage (MV) levels, where traditional monitoring is often limited.

3. Energy Management and Optimization Solutions

Novator Energy develops intelligent control and optimization frameworks for multi-asset energy systems, including:

- Distributed energy resource (DER) coordination
- Demand-side flexibility management
- Model-based and data-driven control approaches

These solutions support energy communities, microgrids, and prosumer-centric systems, aligning with EU priorities on decentralization and citizen engagement.

4. Power Electronics and Hardware Design

In addition to software platforms, Novator has capabilities in power electronics and embedded system design, including:

- Development of power conversion and control units
- Hardware prototyping and field validation
- Integration of sensing, control, and communication modules

This dual capability (hardware + software) enables Novator to deliver end-to-end solutions, from physical measurement to high-level analytics.

5. Advanced Modeling

Novator leverages advanced modeling techniques to create digital representations of energy systems, enabling:

- Predictive analysis and scenario evaluation
- Integration of physical models with real-time data
- Support for optimization and control algorithms

These capabilities are particularly relevant for Horizon Europe projects involving smart grids and multi-energy systems.

6. Interoperability and Standards Alignment

Novator Energy emphasizes interoperable, standards-compliant system design, including:

- Alignment with IEC CIM (Common Information Model) for data exchange
- Compatibility with SCADA/DMS architectures
- Modular and vendor-agnostic system integration
- Readiness for SGAM-based architectures

This ensures that developed solutions can be replicated and scaled across different European contexts.

Experience in R&D and Pilot Deployments

Novator Energy has hands-on experience in deploying field equipment and running pilot demonstrations, including:

- Installation and commissioning of field devices and sensor networks
- Real-time data acquisition from operational environments
- Integration of hardware and software platforms in pilot sites
- Validation of algorithms using real-world data streams

The company adopts a learn–build–validate approach, ensuring that research outcomes are grounded in practical implementation and measurable impact.

Relevance to Horizon Europe

Novator Energy's capabilities directly align with Horizon Europe priorities, particularly in:

- Smart grids and digitalization of energy systems
- Energy communities and citizen-centric energy management
- Integration of renewable energy and flexibility resources
- Resilient and secure operation of distribution networks

- AI-enabled energy analytics and decision support

The company is particularly well-positioned to contribute to projects involving:

- Real-time monitoring and low-voltage grid observability
- Distributed intelligence and edge-based control systems
- Data-driven system optimization

Collaboration Interests

Novator Energy is seeking partners for Horizon Europe consortia, including:

- DSOs and utilities for pilot validation
- Research institutions and universities for advanced algorithm development
- Technology providers for system integration and interoperability
- Municipalities and energy communities for real-world demonstrations

The company aims to contribute as a technology developer, bringing strong capabilities in field deployment, system integration, and applied research.

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