

CASE STUDY

Building Reliability into Community Energy

A MASSACHUSETTS SOLAR
AND BATTERY STORAGE PLANT
SUCCESS STORY

Project Overview

Partner 	Yaskawa Solectria Solar (Energy Equipment Supplier)
Customer 	Agilitas Energy
End User 	Commercial and Residential
Location 	Auburn, Massachusetts
Commercial Operation Date 	Q4 2021

Highlights

- Front-of-the-meter (FTM) Solar Photovoltaic (PV) and Battery Storage Plant
- Participation in the Solar Massachusetts Renewable Target (SMART) Program, Massachusetts Clean Peak Energy Standard, and ISO-NE Forward Capacity Market (FCM)
- Adaptability to evolving regulatory requirements

Key Drivers



**ECONOMIC
OPTIMIZATION**



**GRID
SERVICES**



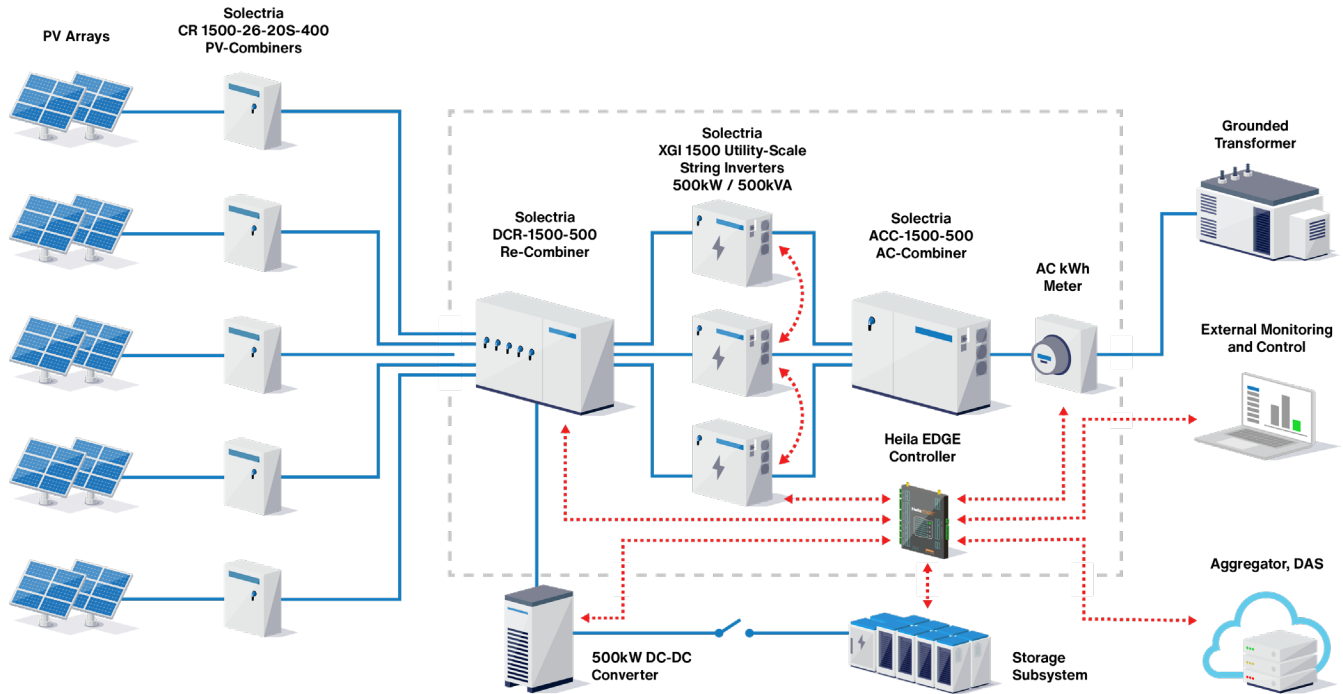
**HEILA
SERVICES**

Background

Agilitas Energy, a renewables and energy storage company, owns and operates a community solar PV project under the [Solar Massachusetts Renewable Target \(SMART\) program](#). The site aggregates a 7,287 kW solar PV system and 3,625 kW/9,454 kWh CATL EnerOne battery energy storage systems (BESS), producing and storing clean, low-cost, and reliable power (the equivalent of 1,200 houses per year) to meet enrolled consumers' energy requirements. The consumers consist of several hundred organizations, each with a long-term Power Purchase Agreement (PPA) that guarantees energy saving over two decades.

Yaskawa Solectria Solar provided all the distributed energy resource (DER) equipment and installed ten of its DC Coupled Energy Storage Systems (PVS-375/500). This product combines the PV array and BESS on the DC side of the inverter so the system can store excess energy production and discharge it to the grid when the interconnection is underutilized or the grid can provide additional benefits.

A Heila EDGE® device is embedded in each of the ten systems, or "skids." The EDGE device acts as the intelligence for each skid to monitor, control, and optimize all inverters, DC/AC converters, and the battery management system (BMS). The EDGE also aggregates all the skids to function as a single, highly responsive, controllable entity. The diagram on the following page depicts how the system operates.



Heila's Role

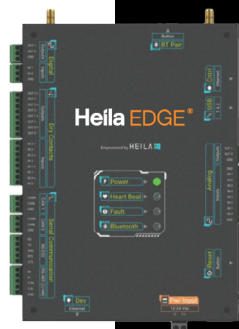
To ensure continued project success, Heila provides more than the EDGE control platform for simplified microgrid deployment, optimized asset performance, and future-proofed, scalable system design. Heila's dedicated project team delivers ongoing services and support to:

- **Locally optimize and schedule each skid's output** to ensure the entire site's production meets the enrolled customers' energy requirements, as stipulated by their PPA contracts, and all requirements and constraints imposed by incentives like the federal investment tax credit (ITC) and the SMART battery adder program.
- **Empower the site owner to easily participate in new value streams** under programs like SMART, CleanPeak, and FCM continue evolving. This functionality includes using the BESS to provide peak shaving capabilities for the power grid or deploying power for community solar arrangements to bring cost benefits to the local township, businesses, and residents.
- **Ensure minimal loss of solar generation** by keeping the system operational and locally optimized if the grid connection fails. Additionally, if external communication is lost, ensure the system operates autonomously.
- **Serve as a local database for the system**, storing high-resolution data from the DERs and additional sensors, accessible locally and remotely in real-time and for post-processing analytics. If external communication with the site is lost, data integrity is maintained locally until the connection is restored. Heila passes all required data to the customer's Data Acquisition System (DAS).
- **Monitor daily to provide the operator with data analytics, visualization, archival, and reporting tools** needed to inform maintenance and troubleshooting activities and meet incentive programs' reporting requirements. Report any anomalies each morning and deliver performance metrics upon request.
- **Enable the operator to easily schedule dispatches and configure alerts and notification presets** to ensure any site responses can be automatically optimized and faults in the system can be quickly identified and addressed. All system and user actions, faults, and other events are logged to be analyzed and exported as needed.
- **Deliver ongoing support** and provide new control and view parameters on the user interface as requested by operators, allowing for customization and ease of use.

Long-term *Solutions* Partner

Since commissioning, the Heila team has worked closely with the site operations team to analyze alarms, system responses, and behaviors. As part of this ongoing support, Heila has adjusted various aspects to improve system operability and reliability, providing value and peace of mind by:

- Improving site resilience and performance by adjusting system parameters.
- Regularly updating the site with developing improvements, stability, bug fixes, and new features.
- Creating new modes for better state-of-charge (SOC) management at night in response to identified issues.
- Adding a specific transfer button to the user interface through Heila devices to streamline asset user interfaces and access logs directly.
- Providing a two-week turnaround on replacing eight Heila EDGE devices and ethernet switches after the customer's surge protection failed to protect all devices.



Heila EDGE®

- Dynamic
- Self-Healing
- Fully Scalable
- Responsive
- Decentralized Microgrid Control

The Origin of Heila EDGE

Heila Technologies developed the Heila EDGE — a modular, flexible, and decentralized microgrid control and optimization platform — as a result of working to optimize the control system for Stone Edge Farm's microgrid DER assets.

Now, Heila EDGE delivers simplified and standardized connection and optimization of DERs. It does this by converting DERs into intelligent, interacting agents so owners and operators can build self-managing microgrids and fleets from the ground up and quickly scale them as needs evolve. For businesses, this means peace of mind with simple deployments, durable systems, predictable performances, and enhanced returns on investment.

About Heila

Heila Technologies is an MIT-born company dedicated to simplifying the integration and operation of distributed energy resources (DERs) through the commercialization of its Heila EDGE Platform — an end-to-end solution that combines advances in edge computing technology and game theory principles with state-of-the-art hardware and software to help integrate, commission, and autonomously operate even the most complex DER systems.

Get Started Today

Ready to embark on your journey toward optimizing energy opportunities? [Contact us](#) to begin a conversation around how we can contribute to the success of your next microgrid venture.