

VANTIQ

Case Study

"We need a scalable and reliable platform to effectively grow our energy operations. Vantiq provides just this and more."

Electra | Israel

Quick Facts

- ▶ Development time cut from 1 year to 6 weeks
- ▶ Fast integration with multiple external systems and APIs
- ▶ Advanced runtime debugging capabilities
- ▶ Collaborative real-time user interface
- ▶ Immediate detection and response to equipment malfunctions

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With Vantiq, Electra is able to monitor the real-time status of energy production facilities spread across Israel. This system is able to detect and analyze malfunctions of solar energy equipment and send the right repair personnel for the job through integrations with existing ERP systems.

THE CHALLENGE

Efficiently managing the real-time flow of solar energy across an entire country is no small feat. With over 35 years of energy management experience as well as being Israel's leading power generation contractor, Electra set out to do just this by combining an in-house solution with manufacturer created APIs. After installing their first two solar energy subsystems and connecting the manufacturer APIs to the in-house system, Electra was operational.

However, soon after the system went live problems quickly began to arise such as latency issues causing malfunction alerts to arrive very late, servers sporadically crashing under the weight of too much data, and reliability concerns when transferring data. Operations

workers were also having a hard time visualizing all of the different systems without one uniform display for the data.

This all led to operators having to manually perform the monitoring and analysis of data in order to not miss any faults or alerts (defeating the entire purpose of building a system to do all of this). Electra knew they needed an alternative solution.

THE SOLUTION

To ensure the success of their solar energy system, **Electra turned to local Israeli system integrator and Vantiq partner, CodeOasis to develop and deploy a true real-time system** capable of meeting their needs. Below are a few of the main ways in which developing on the Vantiq platform made this all possible:



Uniform Dashboard of Operations

Integrating streaming data from multiple different panel manufacturers into one succinct and coherent view was critical to the project's success. In the past operators were forced to look at multiple dashboards spread across different applications and manually correlate data points to draw conclusions.

With Vantiq, CodeOasis was able to deploy one integrated dashboard for Electra, allowing operators to seamlessly collaborate with computer systems to respond to any malfunction or issue in real time.



Edge Computing to Curb Latency Concerns

System lag and even complete server failure were major concerns for Electra. An alert of a malfunctioning solar panel not getting to operations staff in a timely manner (or at all) could mean expensive equipment breaking or a loss of power for Electra's customers.

To solve this issue, edge computing components were added to solar panel

equipment and integrated with the Vantiq application. This allows for the sensing and analyzing of streaming data to be done directly on the device (in this case a solar panel or other energy production equipment) and only the most important, actionable data being sent to the main system/dashboard. By utilizing the power of edge computing, systems and servers don't get bogged down by an overwhelming amount of meaningless data.



Easily Adaptable to New System Components

With plans to rapidly expand their solar power production capabilities, it was key for Electra to develop their application on a system that allows for fast and easy evolution. Vantiq solves this need in two ways:

Vantiq's low-code drag-and-drop development environment cuts the amount of time and number of developers needed to expand the application to more solar energy subsystems. This also makes it much easier to visualize the entire system as a whole in order to debug or find places to optimize.

Perhaps more importantly, the Vantiq platform enables Electra to develop their real-time system with an agile architecture. This allows for new data streams (such as a new type of solar panel or an interesting data point from another business unit) to be easily "subscribed" to and incorporated into Electra's system. If one of these data streams were to suddenly stop working the entire system would not be affected, allowing for a stable and reliable environment for Electra to build on.



**“Using Vantiq's low-code drag-and-drop interface,
we cut our development time from over one year to
a mere six weeks.”**

Electra | Israel

THE RESULT

Massive Reduction in Development Time

When this project was forecasted to be developed in a traditional fashion (not real time and without Vantiq) it was estimated to take over one year of development time. When Vantiq and partner CodeOasis were put to the task, a real-time solution was implemented in less than six weeks.

New Growth Engine for Company

Now that Electra has a working real-time application (including an easily navigable user interface) for energy management, previously unknown revenue streams are opening up. Electra has plans to sell their energy management application and associated dashboard as a subscription service to other energy companies in the region.

Immediate Notification and Response to Malfunctions

Gone are the days of malfunction alerts never being delivered or operators having to manually correlate data points to ensure system accuracy. Electra is now able to do effective human-machine collaboration through real-time dashboards and notifications sent directly to operators when a problem is detected.



VANTIQ

Built on a modern reactive architecture, Vantiq is an agile development platform to build scalable, distributed, real-time applications. Founded in 2015 by Silicon Valley legends, Vantiq provides maximum agility for businesses to drive operational innovation and accelerate real-time business awareness. Learn More at www.vantiq.com
