SunPower is a leading residential and commercial renewable energy company with 286,000 monitored systems and over 6 million monitored devices in the United States. SunPower is building differentiation by creating a software offering for consumers that pairs with their SunPower Equinox® solar and SunVault™ storage systems to give consumers rich access to their own energy usage data, the ability to control their SunVault™ system, and allow SunPower to optimize its own service and offering. However, this requires SunPower to collect, aggregate, and provide access to real-time data from 6 million devices, a significant challenge and well beyond the capabilities of its legacy system. SunPower wanted to utilize the vast amount of data it generated on energy usage across its existing fleet to build more efficient products, make data more accessible and actionable by different parts of the business, and offer customers a more instantaneous energy management experience.

Solution

SunPower selected Confluent to be the backbone of its data platform, allowing it to unlock a new set of architectural capabilities and use cases. With Confluent, SunPower could build a real-time monitoring platform that allows homeowners and commercial customers to understand and control their energy usage. Confluent enables SunPower’s engineers to ingest all the energy data flowing from its solar and storage solutions. This helps customers understand and track their power usage, rate of energy consumption, and state of their various batteries in real-time, enabling them to optimize their behavior, save energy and use SunPower’s products more efficiently. In addition, SunPower can improve fleet management by better measuring and predicting the performance of its fleet to catch potential issues before they occur. For example, engineers can understand how a weather event may affect SunPower’s fleet in a specific region, and subsequently alert its homeowners to modify their behavior based on this real-time data.

Results

- **High velocity.** With its legacy technologies, engineers were constantly in a “tug-of-war” with other disparate systems on SunPower’s platform. Since data was siloed separately across multiple systems, each department required lead times to make their data accessible for other teams to use. By serving as the central nervous system of
the monitoring platform, Confluent enables engineers to process and make actionable insights from their data quickly and reduce the time it takes to bring new features to market.

- **Improved customer experience.** SunPower can receive and respond to data in real-time, allowing them to build customer-facing features that were not possible in the legacy system. In the case of SunVault™ they can notify customers of outages and other relevant events without delay.

**Conclusion**

Leveraging data in motion with Confluent, SunPower has helped enable greater energy independence and modernize its customer engagement strategy. Going forward, SunPower plans to use Confluent to continue to improve customer experience.

**Learn More About SunPower**

https://us.sunpower.com