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Empowering Sustainability: How Samsung SDS Optimized Energy Management with Enel X Korea

SAMSUNG SDS

Four-year collaboration with Enel X Korea helps Samsung SDS Suwon Center drive grid stability, contributing to Korea's energy transition while maximizing profitability through Demand Response. Samsung SDS Suwon Center is a data center in South Korea located in Suwon, Gyeonggi Province. As a major facility handling significant data with high energy consumption, Samsung SDS joined Enel X Korea's Virtual Power Plant, to participate in the Reliability Demand Response (DR) program in December 2020. Our work with Samsung SDS is designed to optimize its energy management practices and improve operational efficiency.



The Challenge

Samsung SDS faced critical challenges in its operations as the Special Act on the Promotion of Distributed Energy¹ set new standards on the construction of new data centers, which can lead to limitations in expansion opportunities. Data centers are known to be one of the largest consumers of electricity, which can put strain on local electricity grids. Samsung SDS was looking to innovate its electricity use, to positively impact its local community and advance the decarbonization of the grid. Despite prior participation in DR programs with other operators, the center lacked access to detailed and actionable information about power monitoring, the energy trading markets, and electricity usage optimization. The knowledge gap made it difficult for Samsung SDS to maximize the benefits of DR participation while ensuring seamless operations. Additionally, maintaining operational stability during power supply adjustments was a constant priority.

"We changed our Demand Response aggregator twice before, as we didn't know much about the energy industry in general, starting from power monitoring, to power exchange markets, and Virtual Power Plants. Enel X Korea provides us with clear and actionable information on the energy trading market, monitoring, and energy efficiency, which help us participate in DR and earn revenue."

- Manager of facilities, Samsung SDS Suwon



The Solution

Enel X Korea addressed Samsung SDS's previous DR challenges by offering a robust and tailored approach to DR program management. Our solution is backed by world leading expertise in Virtual Power Plants, combined with local expert knowledge and a tailored, site-specific plan for program participation.

Through detailed guidance on energy trading, real-time power monitoring, and energy efficiency, **Samsung SDS** gained the expertise it previously lacked. This comprehensive support enabled the facility to participate more effectively in DR. To manage operational demands, Enel X provided advance notifications of DR dispatch requests, allowing the center to schedule and prepare in advance. By optimizing its self-generated power resources, the Samsung facility ensured stability of onsite electricity supply even during DR dispatch events when power load curtailment is required.

Participation in the DR program demonstrates **Samsung SDS'** commitment to being an environmentally conscious operator by actively contributing to a sustainable energy future.

"By participating in Enel X's Virtual Power Plant, we can make a positive contribution to local society and the energy transition by addressing the unstable balance of supply and demand, and to help prevent blackouts. We are reassured by Enel X's level of expertise and knowledge, and are comfortable that we can participate in DR with minimal impact to our operations, while participating in this energy saving initiative."



The Benefits

Samsung SDS benefits from DR participation in a number of ways. From empowering sustainability by supporting the grid and being a 'good grid citizen', to enhanced operational stability through allowing the immediate curtailment of power during Demand Response events, and reduced electricity costs whilst generating consistent revenue.

By leveraging its self-generation capabilities, **Samsung SDS** further optimizes its resources, maintaining performance without significant disruptions. Additionally, DR plays a crucial role in the renewable energy transition by helping to balance fluctuations in supply from sources like solar and wind. By adjusting consumption in real-time, **Samsung SDS** facilitates greater integration of clean energy into the grid, reducing reliance on fossil fuels and reinforcing its commitment to sustainability.

These benefits underscore the value of the DR program as a sustainable and profitable energy management strategy.

"DR program participation provides stability by allowing us to cut off regular power supply when needed. DR program enable us to generate additional profits, which helps us to reduce costs, while also contributing to our sustainability goals."

Contact Enel X to make the most of your flexible capacity. For further information, please reach out to us at: **info.enelxkr@enel.com** or **enelx.com/kr**