

DERMS Are Becoming Essential to Manage the Power Grid

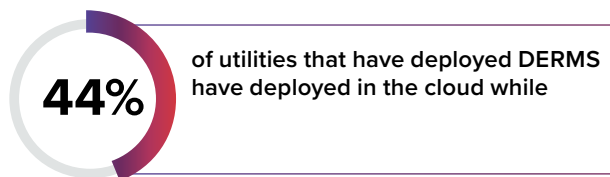
DERMS enable utilities to effectively manage the grid due to the influx of DERs and to be prepared for the continued changes in power market dynamics.



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Utilities in advanced markets are deploying DERMS

By 2027, driven by the need to detect and manage behind the meter flexibility and resources,



Whether it is enabling net-metering capabilities for prosumers that allow customers to sell energy back to the grid, participating in demand response programs, providing grid flexibility, or implementing vehicle-to-grid applications, distributed energy resource management systems (DERMS) will be a key investment for utilities to effectively operate, maintain, and control distributed energy resources (DERs), in addition to assisting utilities to find the best ways to manage the ever-changing complexities of utility distribution systems. DERMS will also become more important to utilities with the evolution of national regulations, such as the USA's FERC order 2222, which will enable aggregators and owners of (DERs) to competitively bid these behind-the-meter resources into wholesale markets.

Energy transition plans and goals toward net zero emissions have created the need for investment in DERMS. Utilities are required to effectively manage systems that have or expect to have a steady increase in distributed energy resources and demand-side management applications such as rooftop solar, energy storage, electric vehicles, grid flexibility, and demand response programs.

These systems can help utilities adapt to the changes in their regional power markets with the increased efforts towards decarbonization, digitalization, and the evolution of decentralized power systems. Advanced systems like these can also help utilities with the visualization, planning, operations, control, and customer engagement activities related to DERs. Investment in this technology can help utilities defer capital cost while meeting non-wire alternative targets.

DERMS products, programs, and services are expansive, ranging from assisting power market participants with DER registration, DER aggregation, bidding and scheduling DERs to wholesale and distribution level markets, demand response programs, electric-vehicle-to-grid applications, monitoring, control, and the dispatch of DERs, and more. There are very few available solutions that can address the entire landscape of requirements for a utility-scale DERMS. As DERs continue to penetrate regional power markets at higher levels, utilities must look at investments in DERMS to maintain system reliability and meet the growing demands of their electricity customers.

To properly manage DERs, DERMS are best leveraged as part of a cloud-enabled operational platform. The ability to integrate DERMS with other core utility systems such as EAM, APM, ADMS, and FSM will provide a holistic approach to operations for all key stakeholders within a utility. This will require IT-operational technology (OT) convergence which will provide the ability to collect, store, clean, and manage data from these dispersed systems. Integration of core systems, data cleansing, and data governance will be needed to ensure utilities get the most out of their DERMS and operational platforms. A solid data foundation will provide the ability to gain timely, actionable

intelligence that can provide the best operational decision support regarding the management of DERs and the power grid, which can only be done by coordination between IT, the lines of business, and operations.

Essential Guidance and Key Takeaways

- ✓ **DERMS is not a one-size-fits-all product.** Every utility will have a unique set of circumstances as it relates to distributed energy resource management. Seek out DERMS offerings that are flexible and can be bought in modules, providing buyers with options to purchase necessary components, while having the opportunity to purchase additional modules that may become more important down the line.
- ✓ **Automation and optimization of DERs will be key in successful grid management.** To fully optimize the management of the grid long-term, utilities will need DERMS capabilities that enable communications and control of DERs to provide grid flexibility. The automation and optimization of DERs will improve reliability and the safe and economical delivery and consumption of power. For automation and optimization to be successful, tight integration of data from core operational systems and IT-OT convergence is a must.
- ✓ **Customer engagement regarding DERs is essential in meeting net-zero emissions goals.** Utilities must engage, educate, and incentivize customers for widespread adoption of DERs. Advancement of customer engagement in the area of DERs will be key for utilities to successfully navigate the energy transition moving toward cleaner forms of energy and lower carbon emissions.

Message from the Sponsor

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