

# RESEARCH REPORT SUMMARY

## Guidehouse Insights: AI for DER Integration

AI for DER Integration Use Cases and Market Trends across Grid Management, Demand Side Management, and Customer-Centric Segments: Global Market Analysis and Forecasts

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Guidehouse Insights has published a new *AI for DER Integration* global market analysis that provides an in-depth look at key industry trends, applications, market drivers, market barriers and technology considerations. The report includes application-specific discussions of grid management, demand side management, customer-centric applications and spending-focused reviews of software, integration and upgrade services, maintenance, and SaaS solutions).

### AI-DRIVEN OPPORTUNITY

Analysts say that the most compelling applications of AI in the energy industry is its ability to optimize and autonomize decisions in real time to meet changes in the market and the demands of the grid. By extension, AI for DER integration can drive benefits for utilities through better load and generation forecasting tools, grid optimization and network planning tools, and power quality management. From the customer perspective, AI for DER integration delivers benefits by maximizing the ROI for DER owners and offering more targeted programs and services to meet their needs.

### SOLUTIONS WITH UTILITY-WIDE BENEFITS

Guidehouse defines AI-based DER integration solutions as “software solutions that use advanced analytics to help grid operators extract additional insights from available data to successfully integrate DER for the benefit of the broader grid and customer.” The report goes onto describe how AI techniques leverage data collected from smart meters, smart inverters, OT systems, and external data inputs to optimize decision-making and processes across the energy value chain:

- **Grid Management** - Grid optimization, network planning, power quality optimization, conservation voltage reduction (CVR), load forecasting
- **Demand-Side Management** - DER forecasting and performance management, demand response (DR), load disaggregation, customer segmentation
- **Customer-Centric Applications** - load disaggregation-driven energy efficiency, customer energy optimization, energy trading, load analysis for appliance maintenance



## BIDGELY: A KEY AI FOR DER INTEGRATION INDUSTRY PLAYER

Analysts included Bidgely as one of only five key industry players in the Data Analytics and SaaS space. The company's ability to disaggregate DER loads and communicate program offerings and other opportunities to customers enables utilities to leverage customers at scale as an asset. The report highlights Bidgely's ability to deliver value across all three areas of AI for DER application: grid management, demand-side management and customer-centric use cases. For example, when it comes to EV integration, the report speaks to Bidgely's ability to disaggregate EV charging loads to predict the demand impact of new loads on the grid, inform resource adequacy planning efforts and engage customers in EV optimization programs.

Bidgely's Partnerships with smart meter manufacturers like Itron enable distributed intelligence capabilities that allow for real-time notifications to customers around peak EV charging or inefficient/ low solar generation times detected through AI.

## CONCLUSIONS AND RECOMMENDATIONS

Guidehouse asserts that investment in AI applications for DER integration benefits utilities and network operators by providing effective methods for utilities and network operators to integrate DER, capture and analyze data in real time, derive additional insights, and effectively manage the grid to meet the current and future needs of both the utility and its customers -- delivering economic benefits for customers while supporting grid planning and operations.

SaaS solutions, in particular, they say, "offer organizations the flexibility to adjust, scale down, or expand solutions without making heavy investments in data infrastructure. These solutions allow organizations the flexibility to test new applications and understand the potential of implementing analytics on a larger scale."

Learn more about Bidgely's AI for DER integration value proposition at <https://www.bidgely.com/solutions/enterprise-analytics-workbench>