Powering the Electric Grid of the 21st Century

Radical transformation

Reinvention of the electric grid is critical in the fight against climate change. Thanks to global Government policies, rising costs, reduced supply, and public demand for renewable energy, the electricity supply industry is now undergoing major disruption.

Intelligent assets at the edge

In response, companies are shifting energy generation from centralized power plants that use oil, coal and gas to a more dispersed model that leverages carbon-free resources, like wind, wave, geothermal, and solar. As a result, the electric grid is transforming from a linear, one-way power flow to a decentralized, bidirectional system with intelligent assets distributed at the edge. This is forcing the industry to rethink and redesign the entire grid infrastructure.

Driving human progress

Importantly, these efforts to digitally transform the electric grid align with our own values as a company. Dell Technologies' goals include a commitment to sourcing 75% of electricity from renewable sources across all our facilities by 2030 – and 100% by 2040. By engaging in this market, we are not only supporting customers and pursuing new revenue opportunities but are also helping to drive societal change and advance our own sustainability objectives.

Agile, scalable and automated infrastructure

Dell Technologies OEM Solutions is uniquely equipped to win in this market and deliver transformative solutions for the smart grid of the future. Electricity supply companies need an agile, scalable, and automated infrastructure that delivers advanced analytics at the edge, supports new applications, manages supply and demand forecasting, and boosts reliability and security.

A proven design partner

For over 20 years, we have helped customers create innovative technology solutions for critical infrastructure environments. We know how to connect the real and digital worlds. We are experienced in powering the convergence between IT and OT.

1. IDC FutureScape 2021
2. IEA Global Energy Review 2021

Macro Trends in Utilities

- 60% of Utilities use advanced analytics for targeted customer engagement.[1]
- 70% of all new energy generation capacity expected to come from renewables.[2]
- 35% of operators will use AI for grid management by 2023.[1]
- 50% of Utilities will integrate IT and OT security to reduce overall business risk by 2026.[1]

As a proven design partner, we have a track record of success in related verticals such as Industrial Automation and Safety & Security Surveillance. We are expert in designing and delivering the various components, capabilities, life cycle management, and services that electricity supply customers need.

We will drive transformative change

Technologies that we have successfully deployed to make factory control rooms more efficient will now drive transformative change in how electricity is managed, monitored, stored, transmitted, and distributed.

Imagine harnessing the power of AI, machine learning, and computer vision in this new environment. We believe the foundation block will be a virtualized computing platform with a cyber-security-focused, software-defined infrastructure.

Our value proposition

As a leader in digital transformation, we can leverage our legacy in IIoT, edge computing, predictive maintenance, 5G, virtualization, hybrid cloud, and data management. This market plays to all our core OEM strengths – our secure supply chain, unique technology, and engineering capabilities plus our long-standing expertise in regulatory testing and certification. And of course, distributed assets at the edge translate into increased demand for ruggedized enterprise products, extended life platforms, and enhanced security.

A leader at the edge

With 69% of the Fortune 100 already using edge solutions from Dell Technologies[3], we recently expanded our already extensive portfolio of edge solutions to help customers capitalize on time-critical, edge data.

Our enhanced line-up now features Dell VxRail satellite nodes, Dell Edge Gateway 5200, Dell Streaming Data Platform (SDP), Latitude 5430 Rugged, and Latitude 7330 Rugged Extreme.

Additionally, Dell PowerEdge XR servers are designed from the ground up to withstand elements outside the data center and help organizations manage everything from business-critical workloads to virtualization at the edge. With IEC 61850-3 compliance, powerful compute, reverse access and airflow in a compact design, the PowerEdge XR12 is the perfect choice for electric utility substation automation projects.

Big revenue opportunity

According to research from MarketsandMarkets, the modernization of the electric grid is a muti-billion dollar opportunity with 84% of energy utility companies either implementing or planning to implement edge-enabled distribution automation. Projections are that market growth rates will remain high at 11.4% until 2025. We believe that there is opportunity for Dell Technologies OEM Solutions to become a leader in the end-to-end utility ecosystem, from electricity generation and transmission through to distribution and consumption.

Powering digital transformation

In summary, as a Tier-1 leader, we have the vision, broad portfolio, and engineering expertise to help electricity supply companies design, test, validate, and deploy innovative technology solutions for the smart grid of the future. We all share a collective responsibility to protect our planet for future generations. Together, we can harness technology to create a brighter and cleaner future.

Dell Technologies and VMware delivered a standard Grid Modernization Platform with Utility Security Compliance Framework for a large Investor-Owned Utility

- Standardized architecture and updated grid management infrastructure.
- Responded to changing regulations, disruptive markets, and technology plus aging infrastructure and workforce.
- Automated operations, improved life-cycle management, and reduced O&M costs.

Dell Technologies and VMware modernized a Municipal Utility District Grid through a standardized Grid Management Platform:

- Updated grid management infrastructure.
- A hyper-converged platform to deploy a next generation Energy Management System (EMS) application.
- Delivered increased reliability through infrastructure platform.
- Simplified operations and reduced Total Cost of Ownership.

3. Dell Technologies analysis of US Fortune 500, Sept 2020

Learn more about our capabilities at **Dell Technologies OEM Solutions**