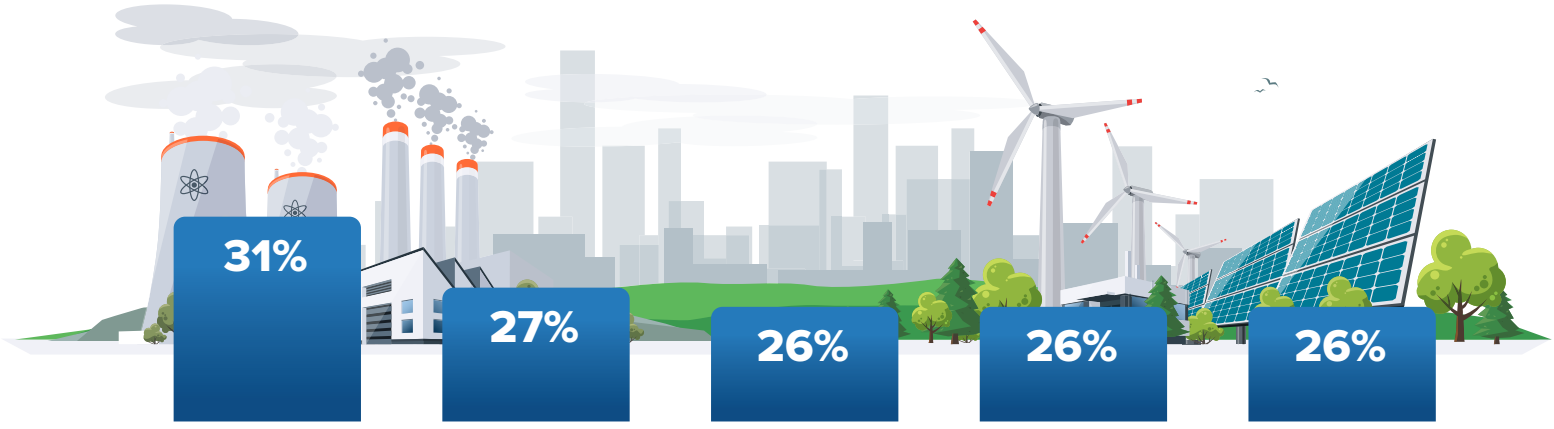
Utilities Powering Up Resilient Operations

To meet business challenges – like low energy commodity prices and tight profit margins – utilities require intelligent and automated systems to enhance service, operational efficiency, and the bottom line. Such systems can help lower costs and build operational resiliency.

Building Resiliency: Utilities' Top Technology Investments

Percentage of Respondents (top 5)

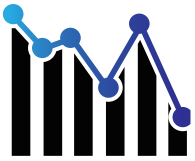


Internet of Things sensors that can wirelessly connect to a network	Cloud-based application software for operations	Analytics, advanced analytics (AI, machine learning, etc.)	Cloud-based operational data management and analytics	Networking and connectivity

Source: IDC IT/OT Convergence Survey, June 2020

The Future of Operations in the Utility Sector Requires Resiliency

Utilities are integrating information technology (IT) and operational technology (OT) systems to better respond to market dynamics such as electric demand shifts and the impact of renewable resources on the generation supply stack. These and other evolving market conditions are persuading progressive utilities to improve asset optimization and build resiliency through digital transformation. The technology investments seen in the graph can help utilities increase profits, minimize downtime and costs, improve operational efficiencies, and expand asset life cycles.



Advanced analytics derived from real-time and historical operational data collected continuously from sensors at the edge can help utilities improve asset performance.

Resilient Operations Will Be Key for Success

Utilities are focusing on optimizing assets by maximizing their output and reducing their maintenance costs. Grid resiliency and asset optimization can be achieved by investing in artificial intelligence (AI), machine learning (ML), cloud-based operational data management, and advanced analytics. These OT investments and initiatives can support preventative, predictive, and prescriptive maintenance practices. Advanced analytics from real-time and historical operational data collected continuously from sensors at the edge can help utilities improve asset performance and make informed, timely business decisions. Using insights gained from operational data, utilities can ensure that transmission and distribution lines, substations, and power plants increase uptime and flexibility to adapt to market conditions.

The Benefits of IT/OT Convergence

The ability to coordinate efforts and effectively leverage people, processes, and technologies across IT and OT will separate high-performing utilities from the less efficient. Automating operations and utilizing digitized assets lowers labor costs and improves efficiencies, profits, and operating margins. A strategic approach to operations improves asset availability up to 20 percent and mechanical efficiencies up to 10 percent. Edge and cloud computing, combined with actionable intelligence from advanced analysis of critical data such as weather and power system demand, will be key for managing the power grid successfully.

Effective IT/OT integration can provide grid resiliency and asset optimization by utilizing data from connected assets to help utilities realize positive business outcomes. Digitizing assets and performing rigorous analytics on operational data to increase asset performance will be essential to building resilient operations.

Technologies that help a utility acquire deep knowledge from advanced analytics on operational data will enable its assets to perform at their best. Utilities that strengthen their digital posture using technologies such as AI and IoT data will be well positioned to build operational resiliency.