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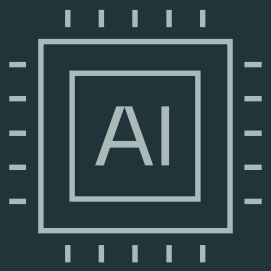
Wildfire mitigation with Agentic AI

Utilities



Business challenge and opportunity

As demand for electricity rises[1] the power and utilities industry must increase their capacity and responsiveness while maintaining grid resilience and security.

Building conventional power stations takes years, so leaders must drive greater efficiency and capability through renewables, innovative storage, optimized transmission and distribution, and smarter consumption.

They must also improve their operational resilience against the unavoidable threat of wildfires, which can endanger customer lives and property, cause long power outages, and damage transmission and distribution assets. These assets are often aging and more vulnerable to wildfires, whether because of damaged components or the need to trim nearby vegetation.

Facing regulatory pressure to harden the grid against wildfires, energy companies can use drone surveillance, smart sensor networks, and AI-powered image analysis to enhance asset inspection and maintenance. And when wildfires happen, field workers can detect and respond to incidents faster and more effectively with the support of Agentic AI.

Technical challenges

For power and utilities companies, building networks of AI agents to augment human expertise presents promising opportunities, but also technical challenges:

1. Consolidating, preparing and curating data that is currently fragmented across functional silos and disconnected systems.
2. Complying with stringent cybersecurity regulations, including U.S. NERC CIP standards for critical infrastructure.
3. Scaling from pilot projects to holistic, enterprise-wide solutions with effective change management as operational complexity rises.
4. Engineering, training and validating AI models with deep observability for monitoring and data accuracy.
5. Defining the roles that AI agents will play in the organization alongside human interactions.

Our solution

Using the Kyndryl Agentic AI Framework, Kyndryl helps power and utilities companies build smarter, more agile and resilient networks.

- **Move from preventive to proactive approaches** in field asset inspection, system hardening, vegetation management and asset maintenance by using agentic AI to identify early warning signs of wildfire and take action before incidents occur.
- **Use specially trained AI agents to analyze huge volumes of incoming data** from sensors, meters, AMI networks, weather stations, cameras and drones and make recommendations to human decision-makers.
- **Employ AI agents to rapidly triage outages** and deploy field crews where they can have the most impact, to reduce outage ETR and improve reliability indices such as SAIFI, SAIDI and CAIDI.*
- **Communicate quickly and intelligently with customers**, using AI agents to provide targeted, personalized updates in rapidly changing wildfire situations so they can protect themselves.
- **Reduce effort, boost consistency, and minimize errors** in regulatory reporting by using dedicated AI agents trained against the current standards.

Benefits you could achieve

With Agentic AI helping maintain assets and predict, identify and respond to wildfires, power and utilities companies can reduce costs, cut brownouts and blackouts, and more easily comply with regulations. By saving time and effort across both preparation and mitigation activities, Agentic AI increases grid resilience, reduces the financial and environmental impact of wildfires, and cuts the risk to human life.

As electrical-grid demand rises, addressing inefficiencies and delays using Agentic AI is helping leading organizations maximize the effectiveness of their generation, transmission, and distribution networks.

With Agentic AI, power and utilities companies can:

Meet higher and more volatile demands by more quickly and easily scaling infrastructure and processes.

Cut costs and redirect investment towards innovation in areas such as renewables, decentralized generation, and distributed energy resources.

Enhance regulatory compliance and reporting while strengthening the cyber-resilience of the grid.

Increase consistency, speed, and transparency through combined human-AI workflows that deliver growing business value.

Why Kyndryl?

With decades of mission-critical operations experience, we bring deep expertise in designing, building, and managing AI across complex IT estates.

The Kyndryl Agentic AI Framework enables businesses to move beyond isolated pilots to integrated, intelligent systems. It combines secure, scalable agent orchestration with real-time observability and governance, powered by Kyndryl Bridge.

Through Kyndryl Consult, we align AI strategy with business outcomes. Kyndryl Vital provides proven user-centered design and rapid prototyping. And our trusted delivery experts ensure frictionless integration and help with reskilling and upskilling to build the foundation for success at scale.

We apply a forward-engineering approach — using insights from existing systems to design and deploy future-ready AI agents and architectures that are adaptive, resilient, and scalable. Our method is grounded in open ecosystems, data sovereignty, and transparent decision-making.

And with one of the broadest alliance ecosystems in the industry — across cloud, data, and AI — we bring the right partners and technologies together to design fit for purpose solutions and orchestrate AI at scale without disrupting the business.

With Kyndryl, AI becomes a core capability — not just a tool — driving productivity, innovation, and growth.

Accelerate your journey to AI-native

Our AI Benchmark Assessment provides a maturity snapshot and personalized roadmap for accelerating the value of AI in your organization.

Take the assessment →

What's your enterprise vision for AI? Let's co-create it together.

Talk to an expert →

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[1] "Electricity sales to end-use customers in our forecast increase across the United States by 2.4% in 2025 and 2.6% in 2026. Forecast growth is led by the West South Central region, which includes Texas, as electricity demand from data centers and cryptocurrency mining facilities in that region increases." Source: Short-Term Energy Outlook, https://www.eia.gov/outlooks/steo/

* Abbreviations represent: Estimated Time of Restoration (ETR), System Average Interruption Frequency Index (SAIFI), System Average Interruption Duration Index (SAIDI), and Customer Average Interruption Duration Index (CAIDI).