



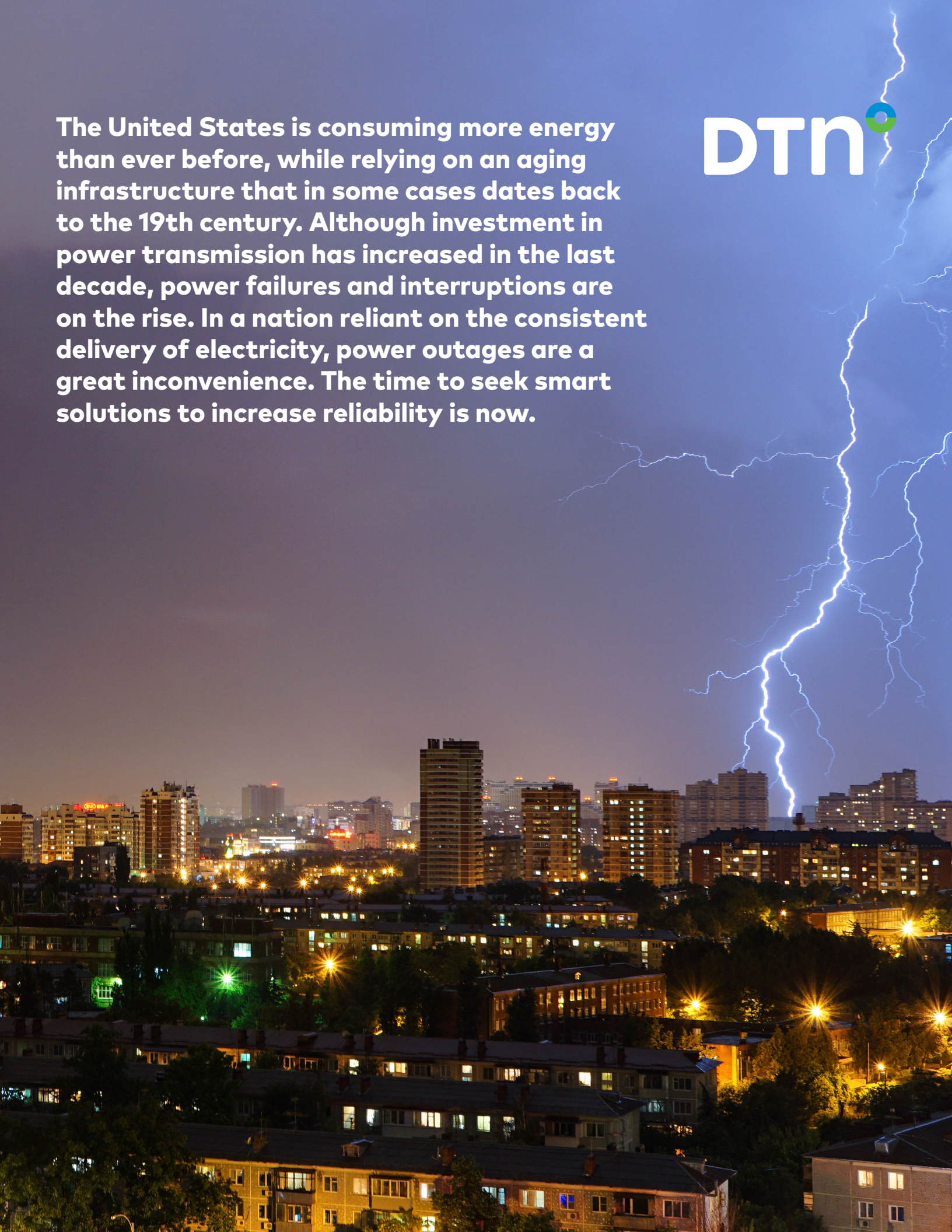
Inspect at-risk infrastructure before outages happen with lightning intelligence analytics


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The United States is consuming more energy than ever before, while relying on an aging infrastructure that in some cases dates back to the 19th century. Although investment in power transmission has increased in the last decade, power failures and interruptions are on the rise. In a nation reliant on the consistent delivery of electricity, power outages are a great inconvenience. The time to seek smart solutions to increase reliability is now.

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Weather is one of the major causes of power outages, and the condition of electric infrastructure plays a large role in the extensiveness of damage that weather can create.

One-third of all power line outages are due to lightning. Infrastructure can fail when it is directly hit by lightning, or even if the surrounding area is struck.

Proactively identifying infrastructure in need of inspection due to lightning can help reduce outages, increase customer satisfaction, and save money. DTN has developed intelligent reports that monitors, records, and archives the proximity of lightning strikes to important electric infrastructure, marking certain pieces for inspection before they have a chance to fail and cause power outages.

The Problem: Lightning Wreaks Havoc on Electric Infrastructure

Direct strike: Electric infrastructure directly struck by lightning can cause burnouts or explosions of distribution equipment. This type of damage is easy to assess and often results in an immediate power outage.

Indirect strike: Infrastructure indirectly affected by lightning are caused by increases in ground voltage when lightning hits the earth; this includes voltage and current surges in an area's electric power, which in turn burns out electrical equipment. This doesn't always cause an immediate outage or failure of equipment, instead it could take hours or days for the damage to cause power failure.

The Solution: Identify Potential Issues Before Power Loss

Lightning detection software can overlay lightning strikes with key electric infrastructure, including power lines and substations, allowing electric dispatchers and crew leaders to designate equipment in need of inspection. This proactive inspection can prevent power outages, allowing equipment to possibly be identified and repaired before they fail.

Increase Reliability, Customer Satisfaction, and Your Bottom Line

Utilities that monitor weather-related risks with a proactive asset inspection program have a better chance of catching outages before they begin, as well as attending to outages more quickly and efficiently. Important assets to monitor during and after a storm include transmission towers, substations, feeders, and poles, as all of these pieces of infrastructure are susceptible to damage from lightning and high winds.

Making effective use of a proactive asset inspection program can help save time and money.

Smart Advice for Maintenance and Inspection Tasks

A weather intelligence solution, like the Asset Inspection reports from DTN, will automatically correlate lightning strikes of the past 24 hours with the location of your electric infrastructure assets and deliver a standard, daily report that can be used to schedule maintenance and inspections.

Information from these daily reports include suggestions on if you need to take action, or if inspection can wait. The prompts include:

- No action, continue to monitor
- Repair when convenient, monitor now
- Shut down immediately, repair

Reduce Power Disruptions

The job of an electric company, in the mind of consumers, is to keep the power on no matter what, and if power is lost, restoration should be as quick as possible. By marking specific electric infrastructure for attention following a storm, crews can be quickly and efficiently dispatched to identify damaged assets.

Once damage is assessed across a system, electric dispatchers and crew leaders can create efficient repair schedules, giving priority to at-risk assets to avoid excessive shutdowns.

Save Money

Proactive asset inspection identifies at-risk assets before they fail. Correctly marking assets that may have suffered nondescript damage before they come a bigger problem can save money and prevent outages. In the event equipment is damaged by lightning, archived lightning strike data can be used to support product warranty and insurance claims, making sure utilities get what they are owed.