



Optimize Substation Inspection & Maintenance Workflow

iTwin[®] Capture, AssetWise[®] Reliability

Today's utilities are facing unprecedented challenges—physical attacks on assets, the growth of distributed energy, increased energy demand, record-breaking weather events, and growing regulations to reduce carbon levels. *Never has it been more important to optimize the workflow when inspecting and maintaining substations.*

EMBRACE A WORKFLOW THAT IS ENGINEERED TO DELIVER BETTER RESULTS

The benefits of traditional inspection and maintenance are well known. And today, utility owner-operators can gain even greater benefits when they utilize advanced applications to uncover process inefficiencies, asset degradations, and safety issues.

Utilities are reporting that when they adopt this optimized workflow, they have realized gains such as:

- ◆ *A reduction in maintenance costs of 10% – 20%*
- ◆ *An increase in availability of 2% – 10%*
- ◆ *A reduction of spare parts inventory by 10% – 30%*
- ◆ *A reduction of insurance costs of up to 10%*

ADOPT A PROVEN PROCESS AND GAIN GREATER INSIGHTS INTO ASSET HEALTH

To achieve optimal results in the inspection and maintenance of substations requires a proven process. This is the process that leading utilities throughout the world use to protect their assets and their employees, mitigate outages, improve efficiency, and lower the costs of operations:

- Step 1** – An inspection order is generated either manually or automatically through a predefined set of criteria.
- Step 2** – An inspection is performed using drones to capture LiDAR, photogrammetry, and thermal imaging. 3D models and reality meshes are then created to show the current conditions of the site, and the site is analyzed – even remotely.
- Step 3** – If maintenance is suggested, a work order is produced.
- Step 4** – A maintenance specialist repairs the issue.
- Step 5** – Drones are relaunched to capture the newly corrected conditions, and the site plans are updated.
- Step 6** – Scheduling and managing future inspections ensure consistency, compliance, and safety.

CHALLENGE:

Optimizing an electric utility's inspection and maintenance workflows to achieve enhanced safety, accuracy, compliance, and grid reliability.

SOLUTION:

Bentley's software solutions offer utilities an integrated set of capabilities that are proven to reduce risk of injury, alert operators to potential equipment faults, speed repairs, enhance insights into real-time conditions of assets, and help them remain in compliance.

FEATURES AND CAPABILITIES:

- ◆ 3D models, reality meshes, and point clouds
- ◆ Automated bills of material and report generation
- ◆ Linked and cross-referenced drawings for greater accuracy
- ◆ Programmable alerts including heat and voltage irregularities
- ◆ Single source of truth for seamless collaboration