

SUCCESS CASE 25.2026

NETZinspect

DIGITAL AND AUTOMATED
INSPECTION OF DISTRIBUTION
GRID ASSETS USING DRONES



SCALABLE DRONE-BASED INSPECTION OF GRID ASSETS

NETZinspect is an innovation project at Netze BW that develops the organizational, technical and operational framework for using drones to inspect overhead lines, pylons and other distribution grid assets. The project combines qualified drone pilots, standardized processes and modern sensor technology to make inspections safer, faster and more efficient.

THE CHALLENGE

Conventional grid inspections often require climbing pylons or conducting helicopter flights. These methods are time-consuming, costly and difficult to scale across a large and geographically distributed asset base.

THE SOLUTION

NETZinspect enables decentralized drone operations based on a common training programme, company-wide standards, suitable equipment and clearly defined safety and data protection requirements. Standardized and partly automated flight procedures improve repeatability and image quality.

MAIN ACHIEVEMENTS

More than 200 drone pilots have been qualified across Netze BW. Drone inspections are already used for overhead lines, pylons and other grid assets. Initial automated inspection workflows have also been successfully tested in the field.

KEY SUCCESS FACTORS

Close cooperation between grid operations, training, aviation experts, occupational safety, nature conservation and IT. Practical field testing and a decentralized user network ensure that the processes meet real operational requirements.

WAY FORWARD

Standardized and automated inspections will be scaled up and extended to further voltage levels and asset types. The end-to-end digital workflow from data capture, AI analysis to structured assessment and maintenance planning will also be further developed.