

The background image shows a drone in flight over a green field, with a power line and transformer in the foreground. Overlaid on the left side are three large, concentric, semi-transparent circles in cyan, green, and blue. The text 'edp' is in a large, white, sans-serif font, and 'Labelec' is in a smaller, white, sans-serif font below it.

edp
Labelec

Center of technical excellence

Power grid asset inspection

Power grid asset inspection

With more than 35 years of experience (started in 1981), the Power Grid Asset Inspection area is responsible for the annual inspection of more than 22,000 kilometers of transmission and distribution power lines, managing more than 600 electrical facilities.

Inspected assets

- Overhead power lines (6kV to 400kV)
- substations: transformers, insulators, switchgear equipment, electrical panels
- production centers: generators, electrical equipment, boilers, turbines, chimneys
- wind turbines
- dam walls
- photovoltaic panels.

Inspection equipments

- Helicopter
- unmanned aerial vehicles (rotary-wing)
- land operator (handheld equipment).

Multisensory inspection of power grid assets

- Laser inspection (LiDAR): determination of critical distances and 3D mapping
- thermographic inspection: detection of overheatings



- UV inspection: corona effect detection
- visual inspection: record and identification of defects in electrical parts and structures.

Technical features

- Laser equipment:
 - riegI laser based system
 - positioning accuracy: < 2m
 - distance error: < 0.2m
 - cloud point density: > 60 points per m².
- thermographic equipment:
 - FLIR equipment
 - resolution: 1024x768 pixels
 - thermal sensitivity: < 0.02°C
 - accuracy: +/- 1°C or 1%.
- ultraviolet equipment:
 - OFIL equipment
 - minimum discharge detection of 1pC at 10 meters.
- video equipment:
 - NIKON equipment
 - resolution: 4240x2824 pixels
 - optical format: 1".





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