Press Release: New suppliers for aerial photo inspection and laser scanning of power grid in Agder

Agder Energi Nett has signed new framework agreements with KVS Technologies AS and Visimind AB for aerial photo inspection and laser scanning of their respective areas in Agder. Both companies will use autonomous drones in their work.

The new agreements are related to an annual photo-based inspection of up to 45,000 masts in the 22 – 132 kV high voltage power grid in Agder Energi Nett's concession area. The work will entail scanning, photo

documentation, and analysis of 4000km of power lines, as well as the vegetation underneath and alongside the power lines. This forms the basis for Agder Energi Nett's maintenance and vegetation management strategy for the power lines on their HV power grid.

Competition in a new market

Agder Energi Nett has previously conducted their annual aerial photo inspections of the power grid and laser scanning of vegetation with helicopters. But in more recent years, the supplier market for data collection in combination with photo and laser data has seen a lot of development.

These services can now be offered by automatic drones which can fly BVLOS (beyond visual line of sight) based on preprogrammed coordinates. At the same time, drone flights are able to comply with safety and aviation regulations.

Agder Energi Nett took several factors into account when they called for tenders for inspection and laser scanning for 2021. The main deliverable in this service is the photos and laser data from the power grid, and it has to satisfy stringent requirements for quality since this is the utility company's most important tool in planning and executing inspections and maintenance. Agder Energi Nett also prioritises solutions that focus on health, safety, and the environment.

Demanding work

'The framework agreements Agder Energi Nett has entered involve demanding work, and we have set the bar very high for the quality and technical requirements in this tender process. We have asked for photos to be geotagged and linked to Agder Energi Nett's mast-IDs. They have to be time-stamped for which day and what time they were taken, and be navigable in our map system. Since the job will run from March to September, the photos must be sent to Agder Energi Nett on an ongoing basis,' says Jan Erik Eldor, CEO of Agder Energi Nett.

‘Aerial photo inspection and laser scanning make up two different parts of the project deliverables. Data from these inspections will form the basis for our annual maintenance work and detailed analysis of the grid’s condition. The analysis of the laser data from the power grid is on the other hand critical in creating a good vegetation management strategy for the forested areas,’ says Jan Erik Eldor.

Safe and efficient inspection

‘Agder Energi Nett has previously received R&D funding from NVE for an innovation project that tested the possibility of using drones in the inspection of the power grid. The knowledge we gained from that project has been an important part of our company’s work towards a safer and more environmentally friendly way of inspecting the power grid,’ says Jan Erik Eldor.

‘It’s been exciting to see how the service utilising drones has developed in recent years, and we’re only just at the start of it. Moving forward we need to automate the processing of the enormous amount of data collected, and use artificial intelligence (AI) to ease the manual process of keeping an eye on the inspected infrastructure for future maintenance needs and also reinvestment purposes. Several players are doing this, and Agder Energi Nett wants to be an early adopter of this technology,’ says Jan Erik Eldor.

Sustainable solutions

In operating and maintaining the power grid, Agder Energi Nett is focused on finding sustainable solutions. One of the things they have done is to use drones for inspection of the power grid, which will contribute to reduce CO2 emissions and noise pollution for wildlife and people living close to power lines, among other things.

‘By offering the contract to KVS Technologies AS and Visimind AB, we have affirmed that the new technology represented by drones is highly competitive. The biggest gains are made in the areas of quality, the environment, and safety. Helicopters will still be utilised for clearing

vegetation and emergency preparedness, but this contract along with others will allow us to carry out the best possible maintenance of the power grid,' concludes Jan Erik Eldor.

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