

Innovation type:  
Algorithm

Innovation:

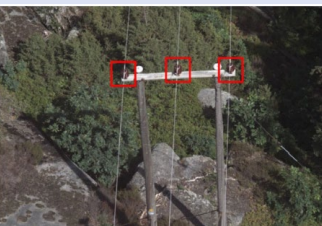
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Potential users:

User	X
DSO, TSO	X
Technology provider	
Member organisation	
Market operator	
Research/consultancy	
Teaching	



Grid inspection

## Pilot project: Machine learning in grid inspection

*In this pilot, Glitre Nett has had two partners to test existing algorithms in the market for image analysis. It has been examined how these algorithms can be integrated with existing IT systems and maintenance processes, as well as evaluated the usefulness of image analysis in asset management. The image analysis must work in such a way that an acceptable level of misclassification is achieved, and it must also be easy to use in the maintenance process.*

### Challenge

Glitre Nett operates a grid that extends across a large geographical area. Poles, towers, and other line equipment are part of the maintenance process where faults and potential hazards are assessed based on visual inspection. Currently, this is done by maintenance engineers/summer interns who review drone images of the poles. This is a manual task that is both time-consuming and resource-intensive. Additionally, human errors can lead to incorrect actions.

### Solution

Image analysis using machine learning can automatically detect and categorize faults. This can reduce the number of personnel that is needed to review and prioritize which faults should be addressed first. In this way, critical faults can be detected early.

### Potential

The algorithms show potential to save time, costs, and reduce HSE risks in the maintenance process. AI-based annotations provide the opportunity to quickly identify faults. This will reduce the risk of serious faults and HSE-related risks. At the same time, this will not replace manual work but rather support and streamline it. This pilot project has contributed to developing the market related to AI algorithms used for grid inspection. Image analysis is an area that is rapidly evolving, and there is great potential for it to streamline the maintenance process. Glitre Nett particularly see the benefit of being able to prioritize the inspection of poles based on annotations from AI algorithms. Glitre Nett is now prepared to use such a tool when the next evaluation of inspection tools takes place

### Reference in CINELDI

- [Pilot "Bildeanalyse i anleggsforvaltning" report](#) (in Norwegian)