

# Cadastral Surveying and Computation Methods

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**Key words:** Cadastre; Digital cadastre; GNSS/GPS; Low cost technology; Positioning; Keyword 1; Keyword 2; Keyword 3

## SUMMARY

FIG Commission 7 Annual Meeting – ABSTRACT Comm 2

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Title: Cadastral Surveying Methods

The presentation covers the technical surveying part of the «Cadastre improvement project» at Røst in Lofoten, Norway. The aim of this project is to develop simplified methods for correcting the Norwegian cadastral map, which is of mixed quality and, in many areas, not fit-for-purpose. The partakers of the project are Røst and Bodø municipalities, the Norwegian Mapping Authority and Western Norway University of Applied Sciences, with financial support from Nordland County. The cadastral fieldwork has been done by students, supervised by teachers and municipal surveyors.

Improvement of the Norwegian cadastral map is a formidable task. Many properties are not shown in the map, and many others have never been surveyed accurately. Our current cadastral system seems to lack mechanisms which improve the situation as time goes by. Therefore, new, efficient, and cost-effective methods are needed. In this presentation, I will give an overview of the surveying and calculation methods that we have tested. These methods include: 1) Making less measurements than what the current standard demands, replacing redundant observations with visual control of the result against aerial images. 2) Using more cost-effective surveying equipment, both standalone and service-based GNSS-receivers have been tried. 3) Using smartphones instead of field computers during surveying. 4) Using opensource software to handle the dataflow from surveyed points to cadastral map-data. 5) Updating larger areas instead of single

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FIG Meeting  
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parcels.

The general impression is that the proposed methods are working, but there are some challenges. Use of low-cost equipment often implies that the surveyor must be more active in solving technical problems, compared to use of more expensive, well-trying, and well-supported equipment. Another issue is time consumption. If less time is spent on surveying, there is a risk that too little time will also be spent on locating the correct boundaries, which may result in a less correct map in the end.

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