

# How a Cadastre Might Look Like in Finland in the Year 2035?

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## SUMMARY

### Abstract

The Finnish land administration system is maintained by the National Land Survey (NLS), which is a state authority, and also by 75 towns. The central part of the land administration system is the Land Information System (LIS) which has consisted of the Land Register and the cadastre since 2010. Both land register and cadastre belong to the key registers in Finland besides the population information system (PIS).

A totally digitised process has been gradually introduced in cadastre maintenance from 1998 onwards. Electronic archiving has also been launched. Cadastral land surveying work is done in processes. For example, parcellings are carried out in the basic land survey process and expropriations are carried out in the process of valuations, where values of real estate units have to be estimated and decided. The future three dimensional cadaster is probably maintained also by laser scanning. The border monuments can be replaced with coordinates.

In traditional surveying coordinates are based on a reference system which is realized by fixed benchmarks on the ground. Coordinates of new points are measured relative to the fixed benchmarks, thus giving them automatically in the same coordinate reference system. Typical surveying accuracy with current GNSS is better than 10 cm. New GNSS satellites and signals will allow us to develop novel techniques for precise positioning. Precise positioning without reference stations is one of the emerging techniques which is already available for research but which will be available for production in a few years. This will produce coordinates directly in the reference system of GNSS satellites. This will also raise an issue on the relation between the physical border marker and its coordinate value. Which one will be the entity which actually defines the place of the

land area on the earth?

#### Future directions

The overarching aim is to remove all duplication from Finland's public electronic information resources and to ensure that all new data is entered into one system only. To this end, all duplication must be eradicated and all databases utilising the key registers must be more closely linked to online interfaces.

Closer cooperation and forward planning are required in the drafting of legislation governing the key registers. Continued efforts are needed to address the issue of interface compatibility but there have also been calls for legislative harmonisation. The aim is to standardise user terms and conditions as well as data access requests and ultimately to develop a "one-stop-shop" via a functional and technical interface.

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