



Authorization of Cadastral Surveyors in Norway

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Abstract

After January 1, 2026, the person responsible for conducting a cadastral survey in Norway must have state authorization (surveyor's certificate). This article describes how cadastral surveying and mapping have developed in Norway, the background to the introduction of an authorization system, how the new authorization system will be organized, and the status of issuing surveyor's certificates. Finally, it discusses the contribution of the authorization system to the establishment of an expert surveying profession in Norway. The article is written in English to distribute knowledge about the Norwegian authorization system to international land administration experts.

Keywords

cadastral surveying, authorization, education

Introduction – Historical Development of Cadastral Surveying in Norway

The following historical analysis of cadastral surveying in Norway is based on Mjøs (2020).

The Norwegian cadastral system is a German-style system. It has its starting point in land books and tax registers that came into being in the 1600s in Norway, initially without requirements for surveying property boundaries.

During the 1700s, provisions for cadastral surveying prior to registration of title deeds were introduced in the country's two largest cities, Bergen (1700) and Oslo (1738). In 1764 legislation was introduced for mandatory boundary descriptions, by laymen, when land was subdivided in rural areas. A small group of authorized private surveyors was established in the latter 1700s, whose initial task was to survey and map property disputes. In 1790, a general provision was introduced for cadastral surveying before registration of title deeds in cities and towns; however, this had little impact.

Economic mapping to modernize the tax system was started in 1804–05. This first economic mapping was stopped in 1815 due to poor finances and resistance from the farmers.

The land consolidation courts were established in 1859 and would carry out extensive land rearrangements in rural areas, particularly at the end of the 1800s and into the 1900s. The land consolidation courts would prepare large quantities of maps showing property boundaries before and after the land consolidation process (Jordskifteverkets kartarkiv, 2022). The land consolidation maps were island maps and not linked to the geodetic network, and they were not updated.

Oslo and Bergen obtained new provisions on mandatory surveying prior to registration of title deeds in building laws (1828 and 1830) and, in these first building laws, requirements for a chief surveyor and competence requirements for the chief surveyor.

Around 1900, many cities introduced mandatory surveying prior to registration of title deeds on their own initiative, and with the Building Law of 1924, mandatory cadastral surveying was introduced in all towns and cities. The organization of the surveying activities was left to the cities themselves to design. The competence requirements had been removed from the legislation.

In 1934, the land consolidation courts were authorized to carry out boundary surveys and decide on boundary disputes as separate cases. The small group of private authorized surveyors that had operated throughout the 1800s disappeared around World War II, probably outcompeted by the land consolidation courts.

After World War II, planning and rebuilding became important; however, there was a lack of maps in relevant scales in rural areas. Around 1960, nationwide economic mapping was begun outside the cities and below the timberline. Initially, only properties over 5,000 m² were to be signaled and mapped by aerial photogrammetry and the landowners' marking of their boundaries in the terrain. Roughly calculated, 50% of the boundaries were initially registered in the economic mapping project.

There was a need to update the new economic maps. The laymen who carried out land subdivisions in the countryside had neither the tools nor the knowledge for such work. This led to the introduction of nationwide cadastral surveying in 1980. The system of precise cadastral surveying and mapping that was in place in cities and towns was extended to cover the whole country, however from that point on only when a property was subdivided. The task of carrying out cadastral surveying was assigned to the municipalities, as an obligation and monopoly task from January 1, 1980. It was up to the individual municipality to set requirements for the surveyor's education and practice. The education system was not strengthened, and there were no requirements for central authorization. In principle, anyone could be appointed by a municipality to carry out a cadastral survey. The municipality could also outsource the cadastral survey to others, typically private surveyors.

As described above, before 1980 there were different basic models for subdividing, surveying, and recording of information about property boundaries in cities and towns, and in rural areas. It was the basic model for rural areas that was continued. It was land subdivisions that triggered cadastral surveying. Unsurveyed properties could, as before, be sold and title deeds registered, now also in cities and towns, without this triggering a cadastral survey. The many unmapped properties remained unmapped and there was a lack of surveyors, especially in rural municipalities. Many properties were established with delayed field surveying – it could take many years until the actual field survey was implemented, and quality could be poor. In 1996, the government appointed a committee to investigate the future cadastral surveying organization, and in a report presented in 1999 it was proposed to introduce a system of authorized private surveyors to replace the municipal cadastral surveyors (NOU1999:1). In 2005, the parliament passed a new cadastral law which would introduce a system of authorized surveying companies, but the privatization proposal had been met with opposition from, among others, the municipal cadastral surveyors, and after a new government had come to power, the proposal was reversed in 2007 and the municipal system for cadastral surveying was continued. The Cadastre Act of 2005 came into force in 2010. In 2014, the privatization proposal was taken up once again, now by the geomatics companies. The proposal won the attention of the ruling political parties, and in 2016 a law proposal was again put forward that would lead to the introduction of private authorized surveyors to replace the municipal cadastral surveyors.

The proposal again met opposition, and in 2018 the parliament rejected the privatization proposal but decided to introduce authorization and competence requirements.

More detailed provisions on the authorization system were left to the Ministry of Local Government and Modernization to draw up.

In 2020 the Ministry adopted changes to the Cadastral Bylaw detailing the new authorization provisions for cadastral surveyors in Norway. It was decided that the authorization arrangement would enter into force on January 1, 2024. In 2022 this was changed to January 1, 2026.

The Legal Effects of a Cadastral Survey

The cadastral surveyor's main task and responsibility is to survey boundaries identified by the adjoining landowners. The cadastral surveyor has no authority to determine the legal boundary. If different boundaries are claimed, the surveyor shall survey both claims, which must be registered in the cadastre, or the boundary must be registered as disputed. If the parties cannot reach an agreement, one of them can go to court – normally the land consolidation court – to settle the disagreement, or they can choose to live with the disagreement. The cadastral surveyor is only exceptionally used as an expert witness in court.

Education of Cadastral Surveyors

The Ministry estimated in 2016 that there were 500–600 man-years engaged in cadastral surveying in the municipalities. The Norwegian Mapping Authority made a new estimate and concluded in 2019 that a total of approximately 900 individuals worked with cadastral surveying in the municipalities or other public or private sectors (Kommunal- og moderniseringsdepartementet, 2019, p. 4).

In a survey of competence within municipal cadastral surveying in 2017, it was found that 18% of the responding surveyors did not have relevant education and a further 45% of cadastral surveyors had less than a bachelor's degree (Kristiansen et al., 2017, p. 46–50). The survey included 429 respondents from 232 municipalities (out of a total of 426 municipalities in Norway in 2017). The survey showed that the dominant providers of education for cadastral surveyors are the Western Norway University of Applied Sciences in Bergen, the Norwegian University of Life Sciences in Ås, and the Norwegian University of Science and Technology in Gjøvik.

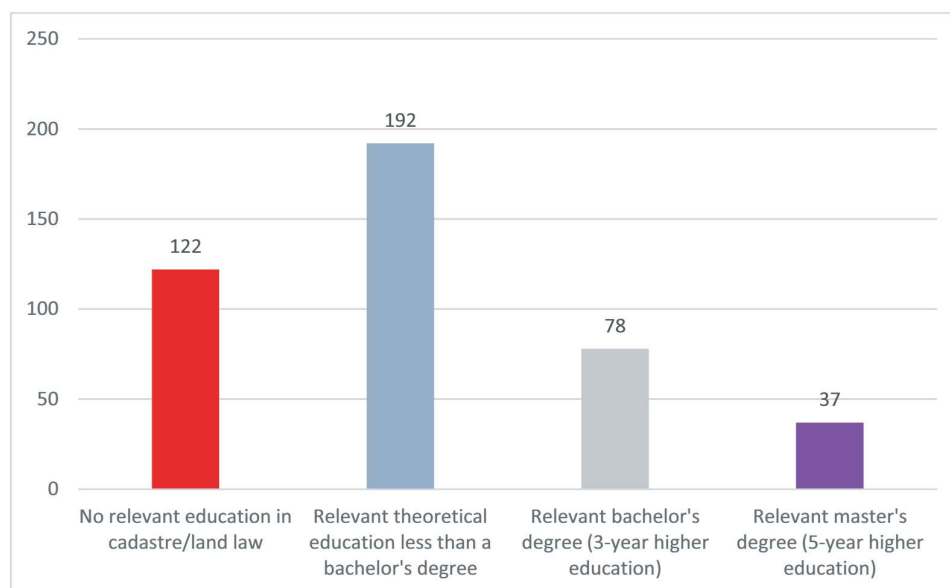


Figure 1. Competence Level for 429 Cadastral Surveyors. Source: Kristiansen et al., 2017.

Introduction of Authorization of the Cadastral Surveyor

In the next paragraphs, the Cadastre Act and Cadastral Bylaw to a large extent will be cited when the normal and transitional arrangements for the introduction of authorization are described.

Section 35 of the Cadastre Act requires that the surveyor appointed by the municipality to carry out a cadastral survey must have a valid surveyor's certificate (i.e., be authorized).

Following Section 38 of the Cadastre Act, the Ministry can, upon application, issue surveyors' certificates to persons who are of legal age and suitable to carry out cadastral surveying, have approved education, and have at least two years of relevant experience after completing their education and have passed an approved authorization test. The Norwegian Mapping Authority is a delegated authorization authority and issues surveyor's certificates. For applicants with professional qualifications from EEA states or Switzerland, the Professional Qualifications Act and regulations on the approval of professional qualifications apply, and they do not need to pass the authorization test.

Applicants can be authorized according to a "normal arrangement", or until December 1, 2025, according to a "transitional arrangement".

The Transitional Arrangement (until December 31, 2025)

The transitional arrangement for authorization is found in Section 70 of the Cadastral Bylaw. The National Mapping Authority shall, upon application and passing an authorization test, issue a surveyor's certificate to anyone who, before July 1, 2025, has built up relevant practice by having been employed in a municipality, state, or private enterprise to carry out cadastral surveying following the Cadastre Act, or having led such work. The last period of employment must have had a duration of at least six months and may at the earliest have ended on January 1, 2020. The total practice must correspond to four full-time years. One year's practice counts as a maximum of one year's work. Interruptions in practice, except for leave, sick leave, and the like in the same employment relationship, cannot exceed two years in total. The requirement for practice can be reduced by up to two man-years for those who have completed and passed education in relevant subjects from a college, university, or vocational school. The requirement is reduced by one-twelfth of a year's work per five approved study credits. The rules on employment and practice apply correspondingly to those who have carried out cadastral surveying following the Cadastre Act of 2005 or have led such work in their sole proprietorship if the man-year effort can be documented.

The Norwegian Mapping Authority can issue a surveyor's certificate to persons who do not meet the required practice when there are strong reasons to do so. Through this rule the Norwegian Mapping Authority can also make exceptions to the requirement to pass the authorization test.

Until December 1, 2025, a municipality can appoint surveyors without a valid surveyor's certificate to carry out a cadastral survey. If the cadastral survey is not completed by December 31, 2025, the municipality must appoint an authorized cadastral surveyor to complete the survey.

The Normal Arrangement

The normal arrangement for authorization is found in Section 64b of the Cadastral Bylaw. The normal requirement is to have obtained a bachelor's or master's degree with a study program that has been approved by the Norwegian Mapping Authority and two years of practice for the person who is to be authorized as a cadastral surveyor.

The study program must qualify the candidate to carry out cadastral surveys following the Cadastre Act. The Norwegian Mapping Authority can, upon individual application, approve other obtained bachelor's or master's degrees with a subject area that, in combination with additional education, includes 120 study credits in legal issues, cadastre, and geomatics subjects. The Norwegian Mapping Authority can decide that other higher legal, cadastral, or geomatics education completed before January 1, 2021, can replace the approved bachelor's or master's degree. Persons assigned a surveyor's certificate must have practiced at least two years' work with cadastral surveying and land registration work and, during this time, have completed ten cadastral surveys following the Cadastre Act of 2005. The practice must have been built up during the last eight years before the application was submitted and completed after obtaining the bachelor's or master's degree.

Continuing education is not required.

Status for Issuing of Cadastral Surveyor's Certificates by March 1, 2024

The Norwegian Mapping Authority began authorizing cadastral surveyors on January 1, 2021. Table 1 below shows the status of applications and the awarding of surveyor's certificates by March 1, 2024. The overview has been prepared by the Norwegian Mapping Authority.

Table 1. Cadastral Surveyor's Certificates by March 1, 2024

1 Affiliation	2 Number of applicants	3 Number of authorized	4 Transitional arrangement	5 Normal arrangement	6 Professional Qualifications Act
Municipality	498	427	413	11	3
County authority	31	25	23	2	
Longyearbyen	3	2	2		
The Norwegian Public Roads Administration	15	14	14		
Land consolidation courts	2	2	2		
Private enterprise	43	30	30		
Private person	9	3	2	1	
SUM	601	503	486	14	3

The applicants' institutional affiliations are shown in column 1. Column 2 shows the number of applicants, and column 3 shows the number of applicants who have obtained authorization per March 1, 2024. Column 4 shows how many have obtained authorization under the transitional arrangement, and column 5 shows how many have obtained authorization under the normal arrangement. Of the 14 applicants who have been authorized according to the normal arrangement, the dominant educational background is a bachelor's degree from the Western Norway University of Applied Sciences, possibly a master's degree from the Norwegian University of Life Sciences. The surveyors approved after the Professional Qualifications Act (column 6) are two from Poland (master's degree from the University of Warmia and Mazury in Olsztyn) and one from Spain (master's degree from University of Jaén) (personal communication, Kristin Schnell Rolfsøn, March 15, 2024).

Register of Cadastral Surveyors

To take care of the responsibility as authorization authority and to be able to confirm who is an authorized cadastral surveyor, the Norwegian Mapping Authority shall, following the Cadastral Bylaw § 64c, maintain an overview of received applications and who has been assigned a surveyor's certificate, with information on, among other things, authorization number, name, social security number, date of award and date for possible withdrawal.

This overview can be searched for by names and surveyor numbers on the Norwegian Mapping Authority's web pages (Kartverket, 2024).

A private website that shows an anonymized geographical overview of authorized surveyors has also been established, where the surveyors can have their names and contact information displayed in return for a fee (Autorisert landmåler, 2024).

Final Comments and Remarks

This article describes the development of cadastral surveying in Norway and the processes that have led to the authorization arrangements that have been decided to be implemented from January 1, 2026. The process of authorization started with a proposal in 1999 to introduce a system of authorized private surveyors to replace municipal cadastral surveyors. Privatization was not accepted; however, authorization will be introduced.

It is an open question to what extent the municipalities will be able to recruit surveyors from January 1, 2026 who meet the normal requirements for authorization. Another question is how the two-year practice requirement for authorization can be met when the annual workload of cadastral surveying in many rural municipalities does not fill a man-year, and the former surveyor has left when the newly educated surveyor starts.

Many people refer to cadastral surveyors as a profession. The concept of profession is debated and is given different substance by different actors. The usual meaning of the term is that a profession performs tasks that require skill to perform and that there are requirements for, among other things, education, practice, ethical code (self-justice), and autonomy (Carson and Skauge, 2023; Smeby and Gundersen, 2024). When looking at the Norwegian authorization arrangement, surveyors can be authorized without the normal requirements for education, practice, and authorization tests being met. Cadastral surveying is a task governed by detailed rules rather than by the practitioners being given autonomy. On this basis, we are talking about the establishment of a professional group that takes care of the task of surveying and mapping property boundaries, rather than a profession of expert surveyors. But over time this group of cadastral surveyors has the potential to develop into a profession as we see in other countries, where the surveyor has the authority to, for example, determine the legal boundary, if provisions are made for it and the goal of the cadastral surveying system is made clear.

A good starting point will be to facilitate research on the fundamental nature of cadastral surveying and establish a common understanding of the basic elements of cadastral surveying among practitioners, authorities, and academics. Take as an example the understanding of the relationship between the landowners' freedom of contract regarding property boundaries and the effects of the cadastral survey. Upon this basis the foundation for an expert surveying profession in Norway can be built.

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