

# **Parcel Lifecycle: From Unseparated Parcel to Independent Real Estate**

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**Key words:** Parcel lifecycle, Land Information System, parcelling processes,

## **SUMMARY**

This is a summary of the paper concerning Parcel lifecycle in Finland: from unseparated parcel to real estate. The process of parcel lifecycle was simplified so that the surveyor who is in an official relationship with the state (NLS) performs the steps of the process all by himself.

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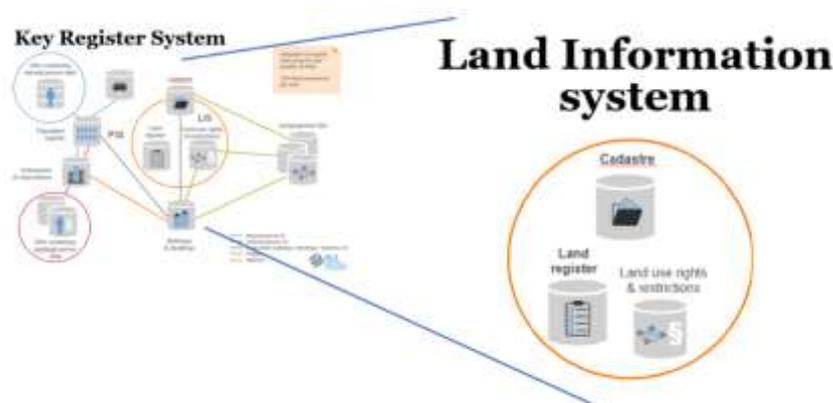
- registration of the ownership (title and mortgage register)
- mortgages
- cadastral survey meeting
- necessary field work
- boundaries
- easements
- registration of the real estate (real estate register)
- documents to customer

Change required a lot of training, strong change management and pilot projects. We manage to create a smoother, more customer-friendly and cost-effective way to operate. Change was made by using Lean principles.

# Parcel Lifecycle: From the Unseparated Parcel to the Independent Real Estate

## 1. MAINTENANCE OF THE LAND INFORMATION SYSTEM IN FINLAND

The National Land Survey of Finland (NLS) maintains the nationwide cadastre (real estate register). The NLS and 72 municipalities produce information in the cadastre. Municipalities update the data in their detailed plan areas. The NLS is responsible for the maintenance, update and development of the Land Register (title and mortgage register). Figure 1 presents the structure of Land Information System in Finland.



**Figure 1. Land Information System in Finland**

In the 12,408 parcelling processes carried out in 2018 in the area registered by the NLS, a total of 15,853 estates were formed, which is 1.28 estates per parcelling process. Each parcelling process took average 5.0 months. Nearly 15,000 parcels were registered. There were only minor changes in volume in 2019.

In 2018, some 97,000 title and more than 200,000 mortgage registrations were settled. There were 71,300 property transfers, of which 61,200 were trades. Figure 2 presents certain key information about Finland.

Parcelling surveyors settled 21,900 title registrations in 2018 and 19,200 title registrations in 2019. These figures include settled title registrations of parcels and full properties. The NLS has roughly 250 cadastral surveyors specialising in parcelling processes. In addition, some 15 to 25 cadastral survey assistants or cartographers have been trained to carry out registrations.

In parcelling processes, cadastral surveyors are obligated to find a solution in parcelling issue. This means that they cannot assign their cases to other surveyors. But if in title and

mortgage issues a case exceeds the competence level of a surveyor, they must assign it to a specialist or legal counsel for further processing. It is estimated that roughly 95% of all registrations are normal cases that do not need to be reassigned.

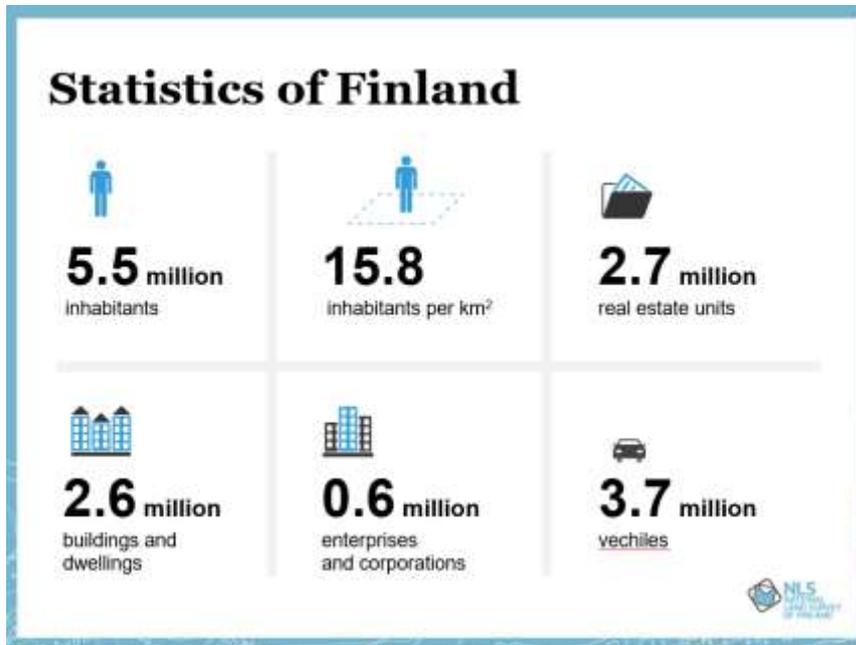


Figure 2. Statistics about Finland

## 2. PARCELS AND PARCELLING PROCESSES

In Finland, it is possible to buy of the designated, unseparated part of a estate. This area is called a parcel. This ownership must be registered in the title and mortgage register. The same procedure that applies to properties is used. Immediately after a parcel has been registered, it can be mortgaged or used as collateral, even if it has not been formed into an independent property.

Parcels are formed into properties by means of a parcelling process as set out in the Real Estate Formation Act. A registration number, boundaries, regional dimensions, encumbrances and rights are defined, and the property is entered into the cadastral register.

### 2.1 Parties involved

In Finland, a person who has completed a specific degree and is in an official relationship with the state (NLS) or a municipality can carry out surveying activities. The minimum educational requirement is the degree of a cadastral surveyor (University of Applied Sciences), i.e., a surveyor (B.Eng., Surveying), or formerly, a technician. Some cadastral surveyors have also completed a master's degree (M.Sc. Technology, Surveying).

Surveyors who have completed their studies at a University of Applied Sciences mainly carry out parcelling processes, while surveyors who carry out more demanding cadastral surveys generally have a master's degree.

In Finland, parties engaged in the private sector cannot carry out surveying activities or enter information in the cadastral register or the title and mortgage register.

## **2.2 Previous way of working (history)**

Until 1997, parcelling was completed before the registration of ownership. A surveyor investigated the title before the property was formed. If the title was acceptable, an independent property was formed and registered in the cadastral register. Presently, the owner can apply for the registration of ownership and mortgaging from a court. The court re-investigated and registered the ownership in the title and mortgage register.

After legal amendments in 1997, the order of events was changed so that the court first granted a title for a parcel, and a title granted for a parcel was a requirement for parcelling.

In 2010, registrations were transferred from courts to the NLS, together with competent personnel. Tasks were placed unchanged into a separate process within the NLS, and the registration data system was updated.

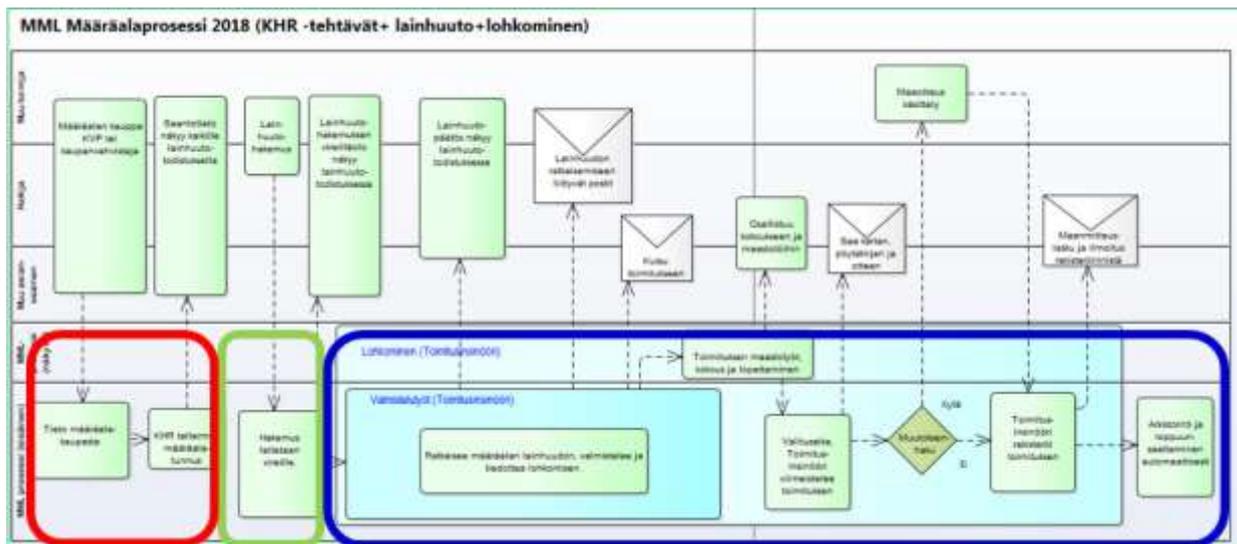
Beginning then, the NLS took charge of the entire parcelling process. There were separate processes, led by different supervisors, even though everything was under the same roof. For example, data was exchanged between different processes via email. One parcelling process involved five employees from three separate NLS processes.

## **2.3 New way of working**

**In 2018, Finland adopted a process, whereby the property-forming cadastral surveyor also registers the ownership of parcels – one person covers the whole parcelling process, following Lean methods.**

In this document, the process, in which the ownership of a parcel is registered, and the parcel is formed into a property, is called the **parcelling process** (Figure 2). Usually, the registration of ownership has been kept separate from the property formation process, carried out by different parties.

No similar process is used anywhere else.



**Figure 2. Process diagram**

- **Red:** Information about a transaction sent to the NLS within two days – the parcel is registered, and the registration is visible in the cadastral register.
- **Green:** The recipient of the title applies for a title registration between 0 and 6 months after receiving the title. The application will be shown as pending in the title and mortgage register on the day following the application.
- A title registration can become pending
  - o by delivering an application to a customer service unit
  - o by delivering an application by post
  - o via email
  - o through the online service
  - o through the Property Transaction Service (automatically)
    - via an interface (banks)
  - o Coming soon: in conjunction with the public purchase witness's notification
- **Blue:** The cadastral surveyor, who is responsible for parcelling, grants a title for the parcel and carries out the parcelling process.

### 3. HOW DID WE GET HERE?

Following 2010, the NLS was in charge of the whole parcelling process. There was an apparent need to modernise the process. The MEKA (parcel lifecycle) project was launched in 2017 for this purpose, and the process was changed as proposed by the project starting from the beginning of 2018. Now, the parcelling surveyor covered all parcelling stages, apart from execution and preceding steps.

This change did not start from scratch. Some cadastral surveyors had acquired experience in registrations by studying them and settling title and mortgage questions during the winter. The new process was also tested, accelerating the change.

Surveyors required extensive training, and basic training was provided in December 2017. Trained surveyors started by settling property title applications, assisted by registering personnel – combining theoretical and practical training.

Advanced training is provided annually during the winter. Currently, the course can be completed independently online. All parcelling surveyors need to complete the advanced course and final test.

### **3.1 The current situation**

As of the time that this document is being written, the new process has been in use for two years. Competence is well under control. Title and mortgage applications, apart from the most demanding ones, are routine for most parcelling surveyors.

Changes related to the work process have proven to be more difficult. How can a process productively and cost-effectively be controlled now that it includes ownership registrations and mortgages in addition to parcelling phases, such as fieldwork and meetings? Both ownership registrations and mortgages are subject to various laws, and two separate data systems are used to carry out these processes (for historical reasons). Energy levels of surveyors have also been tested.

MEKA2 project was launched to monitor and support process changes and test different practices, including direct communication, team activities, customer contact and optimal processes.

The process will be streamlined, with parcelling begun together with title applications. New electronic services will be introduced and laws will be developed to make the process even smoother.

### **3.2 What have we achieved?**

For customers, it is important that their cases are processed and settled quickly and reliably. Now, the person who will process their case is shared with customers at the beginning of the process. If necessary, customers can easily contact the processor.

It is firmly believed that the parcelling process is also quicker and more effective, now that cases are no longer passed around from one processor to the next. When cases are transferred from one processor or department to another, there is always unnecessary friction and waiting. The new processor needs to study the case before being able to complete their part of the process. This results in overlapping tasks. These problems have been reduced or even eliminated in the new parcelling process. As a result, registered data is more up-to-date.

Now that the process can be completed more quickly and there are fewer overlapping tasks, operations are also more cost-effective. Service prices are determined on the basis of

realised operating costs, which are fully covered by funding provided for operations, without seeking any profit. As a result of the new process, customers have access to the same service at potentially lower costs. At a minimum, there is less pressure to increase prices.

General economic trends are also reflected in property transactions and in demand for related services. It is not financially feasible to dimension resources in accordance with high demand. Talented people are not instantly available during busy seasons. Through the introduction of the new parcelling process, the NLS built a cadastral surveyor pool to provide help when workloads are higher. Presently, the NLS has even better opportunities to provide its services. It is safe to say that the NLS has improved its performance!

Finland has four distinctive seasons. In winter, the land is frozen and covered by snow. This makes it difficult or even impossible to carry out cadastral surveys year-round in a cost-effective manner. Twenty years ago, fieldwork was carried out in summer, and documents and maps were prepared in winter. It took months to complete different processes. Now, customers can no longer wait for months to have their cases settled, and this is not even possible as requirements to have more up-to-date registers are increasing. Currently, cadastral surveys are finished immediately after the change application period as well as during the summer. Registrations provide cadastral surveyors with productive work in the comforts of an office for two to three months during winter. The winter season helps to maintain and improve the registration skills and routines of cadastral surveyors. During the fieldwork season, cadastral surveyors are not involved with registrations every day.

In 2019, the parcelling process took 5.1 months, registrations by cadastral surveyors took 30 days and their efficiency was 3.0 settlements per working day. Individual development and improved competence have been equally impressive. More than 90% of all cadastral surveys are completed in under 12 months.

Through the introduction of the new parcelling process, customers have access to quicker and better service and cadastral surveyors can carry out meaningful tasks during the winter. Moreover, cadastral surveyors now have access to completely new abilities, and their competence areas have expanded significantly.

Now that positioning data in the cadastral register has improved and measurement technologies have developed, it is expected that the role of measurements in the process will decrease. Instead, the need for competence in legislation and registers will remain unchanged.

How have employees accepted these changes? Currently, most cadastral surveyors can identify the benefits of the new process. Of course, there has been some resistance, but this is only natural whenever changes are made. A personnel survey was conducted in 2018 and 2019. In 2018, national results showed a slight decrease, only to return to the level preceding the introduction in 2019.

#### **4. WHAT'S NEXT?**

Registrations are processed in the KIRRE system and the cadastral register is maintained in the JAKO system. This means that two data systems are used. This presents challenges in process development. A smoothly flowing process requires that the interoperability of these systems be improved and adapted. Correspondence with customers is a good example: separate messages are sent to customers from both systems.

Another area to be developed is the preparation of extracts from the title and mortgage register as well as from the cadastral register. In an ideal situation, customers would receive all information about their property, or all selected information, by using a single search, available in the desired format.

Process-related products and procedures should be better adapted to the process. This is possible through productisation and standardisation. However, the legislation sets certain restrictions.

#### **5. WHAT DID WE LEARN?**

The introduction of the new parcelling process required strong change management and solid justifications. The first and key factor in completing this change successfully was the strong support received from the NLS managers. The development of the parcelling process was already detailed in an NLS strategy document years ago. The need for this change originated not only from customer expectations, but also from apparent synergy benefits.

Another key factor was the engagement of specialists in development processes. The new method of working was planned in a project, in which all project team members practically carried out different tasks of the previous parcelling process. A consensus was formed on the basis of strategic guidelines. The changes required were presented to the personnel before their implementation, for example, at the MEKA event in Vantaa in the autumn of 2017.

Employees were also able to test different procedures. We set up testing teams so that they comprehensively represented different parts of Finland. These results were also widely demonstrated to everyone whose tasks these changes affected. These changes were constantly on the agenda, and we communicated our progress during discussions, at responsibility area events, in management team memos and in blogs. As a result, employees had time to get used to the idea and think about how these changes affect their work. Open and targeted long-term communication was a key to success.

We prepared a thorough training plan. The first basic and advanced courses were arranged as Skype meetings, led by an instructor. For the next round of training, we arranged online courses in the eOppiva learning environment. As a result, employees were able to study at their own pace and return for further study. Without exception, employees considered the online courses to be a good way to learn.

At the end of the deployment project, we set up a monitoring project to monitor the success of the deployment phase, test different procedures and arrange sufficient comprehensive training. The new process was audited, and its impact, for example, on process completion times was measured. For this purpose, information about process times were obtained from 2014–2018, with the file containing information about 100,000 title registrations and parcels. On the basis of the results, it is safe to say that the completion time experienced by customers decreased by 10–30%, as early as the very first year.

Close cooperation between processes and a consensus between managers and employees were vital elements of success.

To succeed, a change needs to be clearly defined and sufficiently large, and it needs to be implemented broadly. What is more, a successful change calls for vision and courage to change routines and the ability to take risks.

### **5.1 What could have been done differently?**

People learn in different ways, and people at different stages of their careers have different goals and ambitions. The change may have been easier if we had been able to take these factors into consideration better.

The starting points of a change being what they are, underlying conditions and a realistic schedule need to be taken into account. As the MEKA project drew to a close, we noticed that our goals were partly over-dimensioned, both in terms of the schedule and in terms of technical changes. As a result, the changes were targeted at the process. Adaptations and the interoperability of systems were postponed to a later date, apart from some fine-tuning. In these respects, changes will be partially witnessed this spring. These changes will eventually have an impact on the process itself. The risk is that humble goals lead to humble results.

**Finally:** Development continues, everything will be better, but will never be finished!

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