# **Three Dimensional Real Estate Formation in Finland Markku**

# MARKKULA, Finland

**Key words:** 3D Real Property, Zoning Plan, Cadastre, Joint Arrangement, Cadastral Expropriation Survey, Collateral, Transparency

# SUMMARY

Three-dimensional (3D) real estate formation has been a challenge in Finland since the beginning of the 21st century. The clarity of the real property system has been emphasized by the Ministry of Agriculture and Forestry, which is responsible of drafting legislation related to land administration in the country. The trustworthiness and unambiguity of the property and securities system must remain intact. 3D is considered as an additional tool for implementing a local detailed plan (zoning plan). A 3D property has been regarded as the equivalent of an "ordinary" 2D-property when it concerns ownership (freehold), conveyance, parcelling, mortgaging and expropriation (eminent domain). 3D properties can be formed only if ordinary 2D properties are insufficient.

According to the Ministry's regulations basic 2D properties and 3D properties do not need identical boundaries. Even an old local detailed plan can be the legal grounds for 3D property formation. It has to be possible to get a building permit without registering the parcelling of plot, contrary to what is decreed in the current law. Plot division has been planned to be possible even below ground for parking halls and underground stations, etc.

According to reports there should not be any technical barriers to implementation. Technical questions can hereby be solved. Managing the size and vertical scope of 3D properties is possible. Register entries can be done in the Cadastre. The problem how to show 3D properties on a map can be managed.

A traditional easement can be used to arrange underground access to a parking hall through a volume owned by someone else. Building easements based on decisions by building supervisory authorities are related to the mutual obligations of several 3D properties and other ownership units. A joint arrangement (facility) between properties as specified in section 164 of the Finnish Land Use and Building Act is probably the most flexible way to manage the relationships between 3D properties. All three alternatives may be needed to organise the contractual relationships between 3D properties.

Regarding the registration in the Cadastre and the cadastral index map, attention can be drawn to laser scanned (or BIM) topographic models, which will replace the cadastral index map in future. In parcelling, the dimensions and extent of a property must be unambiguously defined. Each owner-ship unit probably has to consist of only one parcel of land.

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# YHTEENVETO

Kolmiulotteisuus on ollut selvitettävänä kiinteistönmuodostamisessa Suomessa noin vuodesta 2000 lukien. Kun asiaa on tarkasteltu, lainsäädäntövastuussa oleva maa- ja metsätalousministeriö on korostanut kiinteistöjärjestelmän selvyyden ja luotettavuuden merkitystä. Omistusten ja vakuuksien luotettavuuden ja yksiselitteisyyden tulee säilyä. 3D -kiinteistönmuodostamista on pidetty lisätyökaluna lainvoimaista asemakaavaa toteutettaessa. Muutoin 3D -kiinteistöä koskevat samat oikeudelliset ominaisuudet kuin perinteistä kaksiulotteista kiinteistöä, kun kysymys on omistusoikeudesta tai sitä lähellä olevista muista esineoikeuksista, vaihdannasta, lohkomisesta, kiinnittämisestä tai pakkolunastuksesta. Lähtökohtaisesti 3D -kiinteistöjä saa muodostaa, jos kaksiulotteisuudella ja ns. peruskiinteistöillä ei asemakaavaa saada tarkoitetulla tavalla toteutetuksi.

Ministeriön lähtökohtien mukaan perinteisten 2D -kiinteistöjen sekä sen ala- ja yläpuolella olevien 3D -kiinteistöjen rajojen ei tarvitse olla yhtenevät. Kolmiulotteisia kiinteistöjä voidaan muodostaa myös jo olemassa olevan lainvoimaisen asemakaavan mukaisesti. Toisin kuin 2D -kiinteistöjen kohdalla 3D -kiinteistöä varten voi saada rakennusluvan jo ennen kiinteistön kiinteistörekisteriin merkitsemistä. Sitova tonttijako on tarkoitettu tulevaksi mahdolliseksi myös maanalaisena. Se voi tarvittaessa koskea esim. maanalaisia rautatieasema-alueita tai pysäköintitiloja.

Maanmittauslaitoksessa tehtyjen selvitysten mukaan teknisiä esteitä ei ole olemassa kolmiulotteisten kiinteistöjen muodostamiselle. Tekniset kysymykset on jo pitkälti ratkaistu. Kolmiulotteisten kiinteistöjen volyymit ja pinta-alat ovat katasterissa hallittavissa. Kiinteistörekisterimerkinnöistä on jo sovittu. Haastetta voi olla kolmiulotteisen kiinteistöjaotuksen havainnollisessa osoittamisessa perinteisellä kiinteistörekisterikartalla.

Perinteisiä kiinteistörasitteita voidaan perustaa, kun järjestetään pääsyä maanalaisesti esimerkiksi pysäköintitilaan, kun kulku tulee toisen omistaman muun rekisteriyksikön kautta. Kunnan rakennusvalvontaviranomaisten päätöksillä perustettavat rakennusrasitteet perustuvat yleisesti osallisten 3D- ja muiden kiinteistöjen omistajien keskinäisiin sopimuksiin. Maankäyttö- ja rakennuslain 164 §:ssä tarkoitettu kiinteistöjen yhteisjärjestelly on arvioitu joustavimmaksi tavaksi järjestellä 3D -kiinteistöjen ja muiden rekisteriyksiköiden keskinäisiä oikeussuhteita. Sanotut kolme vaihtoehtoa lienevät kaikki tarpeellisia, kun järjestellään kolmiulotteisessa kiinteistöjaotuksessa kiinteistöjen välisiä oikeuksia ja velvoitteita. Pääsääntöisesti em. järjestelyt tehtäisiin sopimuksin.

Kun tarkastellaan 3D -kiinteistöjen rekisteröintiä ja niitä osoittavaa kiinteistörekisterikarttaa, on tulevaisuudessa kiinnitettävä huomiota laserkeilaamalla tai muutoin (esim. BIM-mallit) tehtyihin mallinnuksiin, jotka korvannevat jatkossa perinteisen kaksiulotteisen kiinteistörekisterikartan. Kolmiulotteisilta malleilta on tultava esille riittävästi kiinteistön ulottuvuudet ja volyymit. Kiinteistöt muodostettaneen pääsääntöisesti vain yksipalstaisina, joskin asemakaava ja sitova tonttijako ovat tässäkin ratkaisevia

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#### **1. BACKGROUND**

There has been discussion regarding three dimensional (3D) real properties in Finland for over some 20 years. Three dimensional real properties are judicially considered the kind of ownership units whose dimensions are defined both horizontally and vertically though no legislation hitherto has been enacted in Finland. By contrast, in Sweden legislation has been enacted at the beginning of the 21st century. Lic.Sc. (Tech) Jani Hokkanen's licentiate thesis in 2004 was first university level study regarding 3D real properties in Finland. After this thesis the Society of Municipal Cadastral Surveyors made an initiative to the Ministry of Agriculture and Forestry in the year 2005 which led to an expert seminar regarding 3D during that year.

Ministry working group was set up in the year 2008. In this phase the needs of project implementers were primarily settled. During the first decade of the 21st century, several jurisprudential studies were also published by professors specialized in environmental or real estate law. Ministry of Agriculture and Forestry took initiative to make some extra preliminary studies regarding the three dimensional real estate formation. Two studies to investigate the situation of that time were completed. Study on the legal consequences was published by the University of Helsinki in the year 2011. Besides that a technical-functional study dated 31 March 2012 was carried out at the National Land Survey (NLS). For stakeholders a Summer Seminar was held on 15 June 2012 at NLS.

The technical-functional study was done, needs for legislative changes were cleared up and technical and functional matters were worked out. Alternative technical solutions, preliminary cost and resource estimates for realisation, effects on the system of basic registers or other matters were straightened out.

The Summer Seminar on 15 June 2012 included fairly extensive representation of different parties and implementers. The law reform was considered necessary. The ability to also divide the owner-ship of a building was regarded appropriate. Mixed buildings with separate use such as dwelling, administration or trade were seen to be challenging in zoning areas.

According to the conclusions of the Seminar, the number of superimposed properties should not be limited. The Ministry of Agriculture and Forestry emphasized the trustworthiness and unambiguity of the property. Besides that the collateral system must remain intact. So called hidden easements were considered worth avoiding. The issue of compensation emerged when it concerned putting into effect the 3D -projects. The National Land Survey was granted the right to initiate proceedings. NLS became responsible for preparing reform within the framework given by the Ministry.

According to the commission of the Ministry given 16 October 2012 National land Survey (NLS) became responsible for further preparations and system development. According to judicial instruc-

Three Dimensional Real Estate Formation in Finland (8680) Markku Markkula (Finland) tions given by the Ministry the current system (2D) remains the default. Legal safeguards for property owners have to be ensured. A trustworthy and unambiguous property and securities system was regarded as of primary importance. Reasonable costs considering the need for and uses of 3D properties have to be studied according to the Ministry. The development of the registrations as part of the Land Information System and particularly the Land Register as well as the introduction of electronic property conveyance (Property Transaction System) must not be risked while developing the 3D real property system.

# 2. CHALLENGES SETBY THE AIMS AND LIMITS OF THE PROJECT

Above ground level the buildings with diversified uses are one object and perhaps the main object of the legislation concerning Finnish 3D real estate formation. This requires a local detailed plan, i.e. a zoning plan which has legal force. Besides this a binding plot division regarding a building block is needed. In one building block several plot divisions can be superimposed. Boundary demarcation in subdivisions according to the binding plot divisions with legal force is based on coordinates. As usual in zoning areas, no boundary markers are used. Cooperation between NLS and municipalities is of great importance.

When it concerns streets, parks or other common areas no plot division is needed. All real estate formation has to be based, anyway, on a zoning plan with legal force.

# 3. WHY DO WE NEED 3D

The law reform regarding 3D is seen as necessary in Finland. The reform is however seen as a complex issue with many challenges. Thus for example an analysis of invested resources and expected benefits has been needed.

Procedure of 3D real estate formation depends a lot on the town planning and building supervision. A tight cooperation between several authorities and the private sector is necessary. A contract of cooperation and implementation is a tool of carrying out a big building project including 3D real estate formation. The contract can also include conventions of joint arrangements, 3D easements and building easements. The main purpose of the contract of cooperation and implementation regarding the 3D project is the practical fulfillment of the project and dividing the property to separate possession units or ownership units. With this contract an ownership structure or architecture for the 3D object is created.

Later in this text the differences between projects above and below ground will be discussed. The challenges with the cadaster and the cadastral index map are handled, too. The on-going legislative project lead by the Ministry of Agriculture and Forestry is also highlighted. In addition to this simplifying real property taxation is one good reason to introduce 3D properties in Finland. Transparency of possessions and ownership (freehold) units will be advanced allowing three dimensional real property units.

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# 4. PREMISES

As it emerged already the Ministry of Agriculture and Forestry has emphasized the clarity of the real property system and real estate collaterals poignantly. A 3D property is the equivalent of an "ordinary" property in Finland. When it concerns ownership (or freehold), conveyance, parcelling, mortgaging or expropriation, the system for 3D properties will be similar to that of 2D properties. Three dimensional real estate formation can be seen as an additional tool for implementing a town plan. The objective is to hereby decrease the need for contracts between parties. 3D property formation will be based on zoning plan and binding plot division as it has been concerning the existing 2D real estate system according to current law.

# **5. MATTERS TO BE SOLVED**

There are still some challenges which have to be solved somehow. Acquiring the right to own a 3D property is one issue. Another very central issue is dealing with the relationship between a 3D property and a basic property ownership. A very old act on neighborhood relationships from the year 1920 must probably be renewed. There are some technical questions which need some approach and solutions. For example managing the size and vertical scope of 3D properties is one issue which has a close connection to maintaining the Cadaster. Register entries must be contemplated when there exist superimposed properties. One challenge is how to show and illustrate 3D properties on a map. According to the comprehensive studies done by the National Land Survey, no technical barriers to implementation should exist.

# 6. WHEN IS THREE DIMENSIONALITY JUSTIFIED?

As stated before, a local detailed plan or zoning plan and binding plot division with legal force will be mandatory conditions for 3D in Finland. Actually, only if ordinary 2D properties are insufficient is 3D real estate formation to be considered. However, this requirement will possibly not be enacted in the written law when the eventual law goes into effect. The trustworthiness and unambiguity of the property and securities system must remain intact after the law reform. A 3D property will be the equivalent of an "ordinary" property as mentioned before. Ownership, conveyance, parcelling, mortgaging and expropriation will be the same for both 2D and 3D properties. Basic properties and 3D properties do not need to have identical boundaries.

# 7. PROCESS

While discussing the realization of projects including 3D properties four separate basic cases can be discovered. One option is that the landowner conveys building sites as unseparated 3D parcels. In this case the cadastral surveying procedure is undone when the agreements on 3D real estate formation are closed. The other option is that the landowner conveys building sites as complete 3D properties registered in the cadastre.

The third option is as follows. Firstly, a 2D property conforming to a zoning plan is formed whose ownership is split into shares. Then a building permit is granted, plot division changed and 3D properties are formed by parcelling or partitioning. If the joint owners of an existing building wish

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to divide it up between themselves by creating several 3D properties the mutual contract corresponding the real estate bill of sale is obligatory.

The fourth option concerns an already existing zoning plan with legal force. Even an old town plan can be the legal grounds for 3D property formation.

It has been regarded important to facilitate in the law an option to get a building permit without registering parcelling of a 3D plot in cadastre.

Binding plot division should be made possible by law even below ground. Cooperation with spatial planning authorities, lawyers specialized in real estate legislation and building supervision authorities is of great importance in practice. For example, an area allocated C in an old local detailed plan could be object of 3D property formation. C in zoning plan means an allocated area for central functions such as trade, offices and also dwellings.

Contract of cooperation and implementation which was handled above would always be based on a town plan and a binding plot division.

Cooperation and project realization agreements could also be the basis of agreements on premises located on top of one another, including ownership structures.

Agreements meant above can also dissolve joint-ownership relationships based on shares. These agreements can in addition include joint arrangements between properties as specified in section 164 of the Land Use and Building Act – for elevator shafts, staircases, common rooms etc.

# 8. EASEMENT OR JOINT ARRANGEMENT?

The access to the three dimensional properties can be assured with three dimensional easements or with joint arrangements which both can be registered in the cadaster. A traditional easement for road or tunnel can be used for example to provide an underground access to parking through a volume owned by someone else.

So called building easements based on decisions by building supervisory authorities are related to the mutual obligations of several 3D properties and other ownership units. Building easements are very probably needed when it regards large building projects including three dimensional real estate formation.

A joint arrangement (facility) between properties as specified in section 164 of the Land Use and Building Act as was mentioned above. This kind of legal arrangement is probably the most flexible way to deal with the relationships between 3D properties. Elevator shafts, stairways or other common premises in three dimensional entity can be arranged with the judicial concept of a joint arrangement.

All three options, i.e. easements, building easements and joint arrangement may be needed to arrange the contractual relationships between 3D properties. Primarily the arrangements are based on voluntary agreements between the parties. According to Finnish law the mandatory easements (without contract) are also possible when it concerns indispensable access to the plot or real estate.

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# 9. IS EXPROPRIATION NECESSARY?

The realization of 3D premises above ground should in general be based on contracts governed by civil law. So the voluntary purchases of land and primarily two dimensional plots must be done prior to three dimensional real estate formations.

In the acquisition of underground premises expropriation proceedings as specified in the Act on Expropriation of Immovable Properties and Special Rights are to be applied. Section 96 of the Land Use and Building Act can be used as a basis for expropriation for subterranean premises. If a binding underground plot division according to zoning plan with legal force is done the acquisition of a part of a plot by claim of another of the plot part is to be applied to ensure one owner for the plot. This is based on section 62 of the Real Estate Formation Act. When a plot according to a binding plot division has only one owner the real estate formation can be carried out and the plot can be registered in the cadaster as an independent ownership unit.

# 10. REGISTRATION IN THE CADASTRE AND THE CADASTRAL INDEX MAP

The 3D property can have entries concerning other properties above or below. These cadastral entries have also been considered in internal projects which have been carried out by the National Land Survey. Laser scanned (or BIM) topographic models will probably replace the traditional two dimensional cadastral index map in future. In parcellings or in other real estate formations the dimensions and extent of a property must be unambiguously defined when it concerns 3D properties. According to the future zoning plans each ownership unit consists of one parcel of land. Thus there will not be separate parts of plots or real estate which have the same reference number or other identifier.

# **11. CURRENT STAGE OF LEGISLATIVE PROJECT**

The legislative 3D working group has been led by the Ministry of Agriculture and Forestry, appointed by Minister Kimmo Tiilikainen in 2015. The working group has been given time until the end of 2016. At the moment no law proposition has yet been given to the parliament. Representatives in the working group have included experts from the Ministry of the Environment, Association of Finnish Local and Regional Authorities, Ministry of Justice, Ministry of Agriculture and Forestry and two members from the National Land Survey of Finland. In the latest phase of the work of the group the need to change the Land Use and Building Act has been thoroughly considered.

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