

# Danish Urban and 3D Property Design

Morten Dalum Madsen, Jesper Mayntz Paasch and Esben Munk Sørensen (Denmark)

**Key words:** Cadastre; Digital cadastre; Land management; Real estate development; 3D real property; condominium; mixed cities; urban design

## SUMMARY

In recent years mixed-use developments in major Danish cities has become more attractive than traditional single-use developments among both developers, municipalities and citizens.

In mixed-use developments, a broad variety of features is mixed in the same building. Features like different types of housing (e.g. affordable housing and private owned apartments), offices, shops, retail, department stores, underground parking. The sky really has no limit in terms of mixing different features in mixed-use developments. The composition is determined by market value and planning authorities (the municipality). Both parties have an interest in developing a sustainable solution that attracts people and businesses to invest.

The variety of different features in mixed-use developments leads to fragmentation of property ownership rights in three dimensions (3D). Mixed-use developments consist of high-rise buildings and the necessary fragmentation is therefore both vertical and horizontal when a high-rise building is divided into individual property units.

Condominiums are the means of creating 3D property ownership rights in Denmark. The law of condominiums was introduced in Danish legislation in 1966 and despite the recent development of more complex building structures the original draw is in large still untouched. Initially the purpose of implementing condominiums was to make it possible for renters to become owners of their apartment. Remarkably, not intended to comprise contemporary mixed-use developments of today the law of condominiums is sufficient supporting the creation and designing of complex 3D real property ownership rights.

The interesting case is that in Denmark exist a functional 3D property formation and design

institution supporting a sustainable development in terms of creating mixed cities successfully operating in real life. Despite unadjusted legal tools professionals has found a way to support continuously developing demands for urban 3D property design.

This paper presents initial results from a research project on Danish 3D real property formation and design process. The research is being carried out as cooperative research between academia and practice. Aalborg University and a Danish land surveyor company (LE34) have partnered up to analyze and improve the company's business area within land use consulting and other tasks in the real property formation process. The project provide research-based input to streamline the current process and legal basis used to develop 3D real properties in Denmark supporting a sustainable development towards mixed cities.

---

Danish Urban and 3D Property Design (11145)  
Morten Dalum Madsen, Jesper Mayntz Paasch and Esben Munk Sørensen (Denmark)

FIG e-Working Week 2021  
Smart Surveyors for Land and Water Management - Challenges in a New Reality  
Virtually in the Netherlands, 21–25 June 2021