*Disclaimer: This is an invite-only version of the RealEstateCore ontology. It is work-in-progress. Improvements and comments are most welcome.*

**Why do we need the RealEstateCore?**

Ever increasing amount of data is being generated by and within buildings. Several different systems exist to control climate, lighting, access control, etc. not to mention all the new data sources that emerge from IoT-devices. This gives us vast amounts of heterogeneous data that we need to organize in order to get cost efficiency and enable large scale operation.

We use semantic web technologies combined with a business-usefulness-approach and the result is the RealEstateCore.

**What is the RealEstateCore?**

RealEstateCore is the common language that will enable control over buildings and development of new services – the facilitator of the promises of a digital transformation.

The RealEstateCore is a domain ontology preparing the buildings to interact with the Smart City that is **made by and for property owners**.

**What are the benefits for the property owners?**

Property owners use the RealEstateCore ontology to describe the data of interaction within the buildings that they operate – as well as the management, storage, and sharing of this data. The RealEstateCore is a collection of different metadata schemes, its interconnection, and uses to describe buildings, inhabitants, events etc.

This gives a property owner the ability to connect their buildings and make new services on a large scale.

The RealEstateCore focuses on merging and bridging three domains:

1. Digital representation of the building’s elements (e.g. BIM/IFC)
2. Control and operation of the building (e.g. Belok, Haystack, REHVA)
3. Emerging IoT technologies (e.g. SSN, WoT, IPSO)

**Yet another standard?**

RealEstateCore is not aiming to be a new standard, rather to bridge present standards and find the common denominators. RealEstateCore uses and maps present standards in a pragmatic manner by adding annotations (those sets of annotations are then hopefully shared with the community).

*Note for this version: The mappings to other standards are expressed as property annotations (e.g. "comparableIFC") and will be better expressed in this documentation in upcoming revisions.*

**Modules to make it customizable**

The RealEstateCore consist of a set of modules and controlled vocabularies. The modules developed in current version are:

* Core (with common terms and properties, e.g. time, units, agent)
* Building (e.g. building type specific vocabularies)
* Device (e.g. communication-tech specific vocabularies and classes).

[image: modules.jpg]

Click here to get to the Building [link to Building] and Device [link to Device] ontology module.

The Core can be seen as an upper ontology for the domain ontologies. This makes it flexible and easy to add more domain ontologies in order to expand the usefulness of the RealEstateCore.

*During Q2-2018, the modules AccessControl (door locks, etc. ) and Energy (consumers, producers, storage, prioritizations, etc.) are expected to be added.*

The purpose of using different domain ontologies (Modules) is to facilitate customization for each user, e.g. a fictitious *RetailPropertyOwner* uses the Core and Device as they are, takes the Building and modifies it to reflect the type of business that they do (e.g. a more suitable taxonomy of room types for retail).

**The RealEstateCore’s contribution**

The RealEstateCore is merely a summarization or finding-the-least-common-denominator-excercise of different leading standards within the domains BIM, Control, and IoT.

The major contribution of the RealEstateCore is the invention of separating what is being measured (rec:QuantityKind) and where it is taking place (rec:PlacementType). This separation and deconstruction gives a precision in describing the characteristics of a measured value (or an actuation).

Toolchain

More about how to use it practically

**Openness – Share the knowledge in order to scale**

A consortium was formed 2017 with Vasakronan AB, Akademiska Hus AB, Klipsk AB, and Willhem AB as the founders and main sponsors.

[links to clickable logos on a row /img/vk\_small.jp, /img/ah\_small.jp, /img/klipsk\_small.jp, /img/wh\_small.jp]

The purpose of the consortium is to create an environment for cooperation and sharing of knowledge between property owners and partners.

The RealEstateCore Consortium is working together with the academia (Dr. Karl Hammar, Jönköping University, Sweden, (Pascal ...)) in the field of semantic web and linked open data to further develop the toolchain for using the RealEstateCore in smart building platforms.

The RealEstateCore is published as open source under the MIT License in order to ensure that it is freely accessible for commercial use to property owners, suppliers, integrators, etc.

**How To Contribute?**

We encourage you to contribute to make the RealEstateCore better. Please point out bugs or peculiarities, add or extend modules and vocabularies, suggest improvements.

Please use our Github repo. [link to github.com/realestatecore.io]

See the roadmap here (link to <http://realestatecore.io/roadmap.html)>

**Best practice**

We have put together a full version of the RealEstateCore by importing the Core and the Device into the Building ontology and thus created a ready-to-use ontology. Click here to download [link to imported ontology].

How to use it …

**Epilogue**

Since the Jetsons cartoon and in numerous science fiction movies, we have seen the future of smart buildings. We know what it should be like. And we have been waiting for the smartness to come … RealEstateCore is one of many stepping stones that are needed to make it happen.