

URBAN REAL ESTATE IN THE 21ST CENTURY

AN EXPLORATION OF CONSIDERATIONS FOR GOVERNMENT AND POLICY MAKERS

In recent years, the construction and real estate sectors are experiencing its share of challenges. Extensive vacancy and stalling development makes it painfully clear the sector must adapt to the 21st century's user demands and requirements in order to survive. What's been common practice for years –developing buildings with a technical life span of several decades without worrying about what would happen to it next- isn't acceptable any longer.

This poses new challenges for the government, both on the level of central bodies and municipalities. To regulate urban development, the government primarily provides a framework and acts in a facilitating role. In this respect, the lessons we learn today should first be reflected in the requirements for new projects. Only then can we prevent the current situation from occurring again in the future.

Reusability should be considered in the initial design

The main objective is found in the reusability and adaptability of future buildings. Based on today's insights, an office building should facilitate easy upgrading to continuously offer the latest technology. The fastest aging element of a building is the installation infrastructure. Over the last decade, for instance the number of data connections and user requirements for (individual) climate control and energy efficiency have changed drastically.

An office building less than 15 years old without the proper facilities can be economically obsolete when upgrading the above systems requires extensive renovation. Even today, piping and installations are often poured in concrete, which makes it difficult to alter or expand. A common solution in the utility segment is the application of a suspended ceiling. However, experience shows that suspended ceilings have a negative influence on the possibilities for a functional change. It's much more rational to keep the installations structurally accessible, for example by using a hollow floor system. Green Office 2015, a Dutch development concept from 2008 widely supported in the development, design, construction and installation sectors, supports this statement.

An additional advantage of integrating installations in the floor is that the height of buildings can be reduced, which improves the utilization of the often scarce land in inner city areas. Effectively, a lower storey height means more floors in the same building height.

If these basics of 'future-proof construction' would have been embraced years ago, we wouldn't have to deal with the current shortage in student housing in the big cities today. With accessible facilities, vacant office buildings could be transformed in housing units with relative ease, initiating a new building lifecycle in an entirely different function. Residential, office and retail functions can become interchangeable in multifunctional buildings.

Sustainability and comfort contribute to minimal construction inconvenience and maximum life

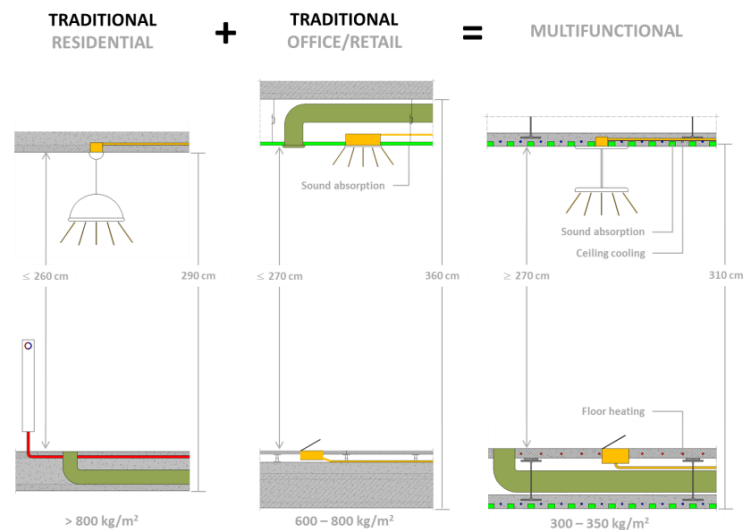
In addition to adaptability, the requirements with respect to sustainability and comfort can be reviewed. This topic is twofold and can be divided in the construction phase and the operational phase of a building.

During the construction phase, sustainability is reflected in, for example, the use of materials. The amount of material used plays an important role, but, for instance, the reusability of the applied materials as well. In this light, the principles of the Cradle-to-Cradle philosophy are of interest. In addition, inner city real estate development requires minimizing construction inconveniences for the local residents. Construction should burden the city's infrastructure as short as possible, which calls for minimizing the number of transport movements. That advocates the use of building techniques based on prefabrication, which also supports the ambition to facilitate 'flexible interiors'. A shorter construction period limits the inconvenience for local residents as well.

Once the building is in use, the sustainability aspects shift to the energy efficiency and controllability of the interior. To this end, new technologies, such as Aquifer Thermal Energy Storage (ATES) and double thermal activation for cooling and heating rooms using minimal energy, offer opportunities. A comfortable environment, based for example on the 'warm feet, cool head' principle, results in a feeling of well-being for the users and could play an important role in extending the life of the building. It's a great option to provide a smart and economically effective solution in one.

Government plays a pivotal role to achieve structural change

The current state of engineering offers all the proven options to realize the above ambitions. However, the construction sector is known to be predominantly conservative when it comes to changes, probably not in the least because of the recent developments in the sector. It's quite understandable that companies in rough weather tend to 'do what they've always done' rather than apply new techniques; unknown, unloved. A gentle push in the back is necessary to break the otherwise vicious circle of 'old-fashioned construction'.



For this, the government plays a crucial role. In Japan, government regulations which require all new real estate to be sufficiently 'flexible' to facilitate meeting the user's needs for at least two centuries have been in place for years. Such a decree would mean an important step in the right direction for The Netherlands and other areas as well. Although there are several initiatives to assess the sustainability (such as BREEAM) and energy efficiency of buildings once built, clear requirements for real estate development in the planning phase, for example on the level of building permissions, often prove to be little more than paper tigers. It's essential to stress the interest modern cities have in actively stimulating the development of multifunctional, adaptable and sustainable buildings. It's much bigger than one might realize at first sight.

The urgency to structurally reconsider reusability and adaptability requirements for real estate is emphasized with a simple look out the window: vacant retail and/or office locations which, in another function, would be instantly valuable again for both the owner, users and the government.

Ger van der Zanden
zanden@slimlinebuildings.com