

Site optimization requires a logistics perspective on real estate

Building a multistory distribution center seems to have become a profitable option in the Netherlands, as a distribution center covering two or more floors enables better use of the available plot of land. Mari van Kuijk, Managing Consultant & Partner at Groenewout, a logistics consulting firm, advocates a different approach to site optimization: explore the logistics options before looking for real estate solutions.

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Several multistory distribution centers have been built within a short space of time in the Netherlands. Examples include CTPark Amsterdam City, a multistory XXL logistics city distribution hub, De Jong Verpakking's center in De Lier, and the warehouse on DSV's premises in Venlo. There is usually a good reason for building a multistory distribution center. In the greenhouse-horticulture region near De Lier and the Greenport industrial estate in Venlo, for example, they were the last available plots of land. The program of requirements demands more functionalities than a single-storied distribution center can offer. In Amsterdam, for example, building a multistory building is an opportunity to create lots of logistics space on expensive land close to the city center, while combining this with other functions wherever possible.

These examples show that we are slowly reaching a tipping point in the Netherlands. Site optimization is a hot topic, partly due to the scarcity of land which is pushing up prices, but also prompted by the need for sustainability. The question is: How can we do more with the available number of square meters? If we cannot expand lengthways or breadthways, perhaps the only way is up? It's obvious that a two-story distribution center is an excellent solution, especially for the real estate sector. It may entail more costs for investors, but they can generate double the rental income from the same plot of land.

Smart storage systems

Construction is not the only way to achieve site optimization; logistics can also play a role. Since the 1970s, we have had high-bay warehouses of 30 meters or more in the Netherlands, where storage and retrieval vehicles drive back and forth with pallets. Admittedly these are somewhat static systems with limited flexibility, plus these 30m-high warehouses are an extra challenge in the debate on the 'boxifying landscape' due to their visual impact.

In the past 15 years, however, the logistics sector has seen the arrival of a new generation of much smarter storage handling systems.

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These are often automated or robotized storage systems that are both flexible and scalable, making it possible to store goods in an extremely compact manner. Take, for example, the Autostore system, which makes it possible to store four to six times more goods per cubic meter than a traditional storage system with shelving. Autostore requires a clear height of 7.5 meters, so a 15m-high distribution center could stack two Autostore systems one on top of the other. Implementing this solution does not require two conventional distribution centers, each with a clear height of 12 to 15 meters, to be stacked.

A different approach

Needless to say, Autostore is not the answer to every warehousing problem, but more and more compact storage and handling systems for goods of all shapes and sizes are appearing on the market. Partly due to advancements in robots and artificial intelligence, system integrators are getting better at creatively combining different systems and technologies to come up with efficient and effective solutions for almost any logistics issue. But before choosing to build a multistory distribution center, it is a good idea to first analyze the logistics options.

This may require a different approach to developing logistical real estate. The logistics real estate market has matured on the basis of just one product: logistics buildings that match market requirements with a clear space of initially 12 – and recently more often 15 – meters, a floor load of 40/50 kN/m², one dock per thousand square meters, a 15 to 20m-deep mezzanine above the docks, and an ESFR sprinkler network on the roof. Premises like this may not necessarily be suitable for an automated or robotic storage system. A floor that can bear heavier loads may be required. This may call for a taller building, although sometimes a building with less height will suffice.

Put the process first

The starting point is the principle that it is always necessary to develop a logistics concept before starting work on a new building. You need a concept before you can build the 'shell' around it. There are more than enough examples of fantastic logistics buildings that were designed by an architect before there was any clarity regarding the logistics process. The result was an inefficient logistics operation. Nowadays, when seeking a solution, we immediately look up. But stacking two 15m-high distribution centers on top of each other will not always be the right solution.

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In fact, when it comes to site optimization, the logistics process may hold the key to a large part of the solution. Faced with rising initial yield in combination with rising construction costs, the property market is also looking for smarter solutions to keep projects on track. More warehousing space and higher logistics throughput may help companies to cope with higher rental prices.

So the trend is towards building distribution centers that make the best use of the available site based on smart logistics solutions, followed by the corresponding real estate solution. Of course, this is more applicable to complex piece picking-based logistics operations than to straightforward pallet operations where the existing market-based concept still works perfectly well. In other words, the 'optimal' solution depends not only on the number of square meters, but primarily by the logistics concept and capacity, i.e. the storage and processing capacity per cubic meter.

About the author



Mari van Kuijk, Managing Consultant & Partner at Groenewout, has many years of experience and expertise in construction and project management, feasibility studies for logistics buildings, and building implementation. Mari also provides contractual and financial support for logistics real estate projects.

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