**Markthal, Rotterdam**

<table>
<thead>
<tr>
<th>Area</th>
<th>100,000sqm</th>
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</thead>
<tbody>
<tr>
<td>Apartments</td>
<td>228</td>
</tr>
<tr>
<td>Market stalls</td>
<td>100 vendors</td>
</tr>
<tr>
<td>Parking</td>
<td>1200 spaces</td>
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A covered market hall becomes a home, a gallery, a bat cave and more.

In 2004 the City of Rotterdam invited developers to revive a neglected part of the city centre, issuing a brief to design a covered market hall. Soggy foundations and the global financial crisis nearly crippled these plans. Today the 'Markthal effect' is credited with producing a 30 per cent leap in tourism.

Rotterdam reinvents the market
Rotterdam City’s brief called for a covered market hall, to be open daily, with extensive parking and additional housing to help densify the area. Provast, a developer from The Hague, engaged local architects MVRDV to collaborate on what would become the winning design. When the team added a tier of penthouse apartments to their proposal, creating an arch over the outdoor marketplace, it became at once financially viable and won the competition.

Financial and foundational challenges saw the building open five years after construction began, leaving some locals to wonder if the 1200-space parking garage beneath Markthal was all that might come of the site.

Today, Rotterdam’s Markthal is famous. Dubbed the ‘Markthal effect’, the city saw a 30 per cent leap in tourism after Queen Maxima opened the site in 2014.

MVRDV co-founder Winy Maas recalls the very first sketch, as the cliché goes, drawn on a napkin: “An open market square, from all sides, topped by an apartment block, supported by a cathedral-like ceiling.”

The Netherlands has no culture of covered markets, so the developer and architect toured market halls in Spain and Scandinavia to gauge how they could adopt the model to suit the Dutch setting.

For Provast, a supermarket and long opening hours were essential; for MVRDV, a high ceiling was needed to contrast the existing cramped markets of Europe. Inside the 40-metre tall arch that bends over the market hall below are 228 apartments, a mix of penthouse suites, private owners and public housing. With five apartment types and 19 layouts to choose from, half of the apartments were sold, and the other half made available as public housing.

“A covered market is where people shout offers and deals, the floor gets dirty and perhaps an ox is grilled somewhere.”

Winy Maas, MVRDV
An inverted pyramid of escalators descends into the market and further still to four underground levels of parking and a supermarket, with space for a museum.

“We found countless artefacts that are now on display here,” says Winy. “Right on the spot where the city of Rotterdam started a thousand years ago.”

The three-storey parking complex located underground is the largest of its kind in Rotterdam and frequented by residents, shoppers and visitors to the nearby library and office buildings. Clever acoustics ensure the market is free from unwanted traffic and the noise of delivery vans several storeys below.

With one third of all market stalls running a rooftop terrace with a bar or a restaurant, a compromise had to be struck for the Markthal’s opening hours. As a result, the market opens at 10am and the rooftops close at 8pm. The restaurants on the ground and first floor of the arch close at midnight.

Winy’s vision of a covered market is “where people shout offers and deals, the floor gets dirty and perhaps an ox is grilled somewhere”. The grey natural stone on the market floor and the building’s facade was chosen for this reason.

“It is the same stone as the pavement everywhere in the city centre, so Markthal becomes part of the city, in a democratic way,” he says. “The uniform grey colour also has the effect of directing people’s attention towards the art piece.” The art piece—yes. A gigantic, five-layered digital print created by Rotterdam artists and titled ‘Cornucopia’. It is a photographic 3D illusion that depicts an array of falling fresh produce, bread, flowers as well as the nearby tower of the late-medieval St Lawrence Church.

In the first year, the building exceeded all expectations, attracting nine million visitors.
CASE STUDY
ROTTERDAM REINVENTS THE MARKET
Stalling pedestrians, bringing on neck strain and clogging up foot traffic, Cornucopia has been designed to evoke the illusion of lying on one’s back in a field, looking up through Markthal to the sky.

This striking 24-hour building has put Rotterdam and MVRDV on the mixed-use map. Its business model was built on four-and-a-half to seven million visitors a year. In the first year, the building exceeded all expectations, attracting nine million visitors.

“It is important to create buildings that try to transcend mediocrity; to become an inspiring example... for the improvement of its surroundings,” says Winy.

Markthal even invited an ecologist on-site to create space for nature, specifically bats and swifts. Four large bat-stays are located on the eleventh floor of the western facade and 10 swift nests are mounted to a first-floor wall on the northern side.

Its sustainability specs are similarly impressive: tenants sign a Green Lease Agreement and the building is connected to city heating and an underground thermal storage system. Naturally ventilated, it achieves extremely low energy use while maintaining a comfortable temperature inside the hall.

“Buildings need to communicate a clear message that should be executed down to the very last detail because there is so much compromise in the building process already, that makes it easy to lose sight of the concept,” says Winy. “At the same time, they need to allow users to define the building through its use.”

Markthal is a combination of these approaches: a clear arch with many functions and open to different interpretations. —

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Winy Maas, MVRDV
Winy Maas is an architect, urban designer and landscape architect and one of the co-founding directors of global architecture and urban planning firm MVRDV, based in Rotterdam, The Netherlands. The company is known for projects such as the Expo 2000, the vision for greater Paris, Grand Paris Plus Petit, and more recently the Markthal in Rotterdam. He is a professor at and director of The Why Factory, a research institute for the future city he founded in 2008 at TU Delft. He is currently a visiting professor at Illinois Institute of Technology Chicago and the Catholic University of Louvain, Belgium.

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and has been at the University of Hong Kong, ETH Zurich, Berlage Institute, Massachusetts Institute of Technology, Ohio State and Yale University. In addition he designs stage sets, objects and was curator of Indesem 2007. He curates exhibitions, lectures throughout the world and takes part in international juries.

In 2013, Winy joined the Economic Development Board of Rotterdam. In 2012 he was appointed urban supervisor for the city of Almere and since 2003 he has been supervising the Bjørvika urban development in Oslo. With both MVRDV and The Why Factory, he has published a series of research projects.