

MVRDV created an instant hit  
in Rotterdam, with a little help  
from artist Arno Coenen.

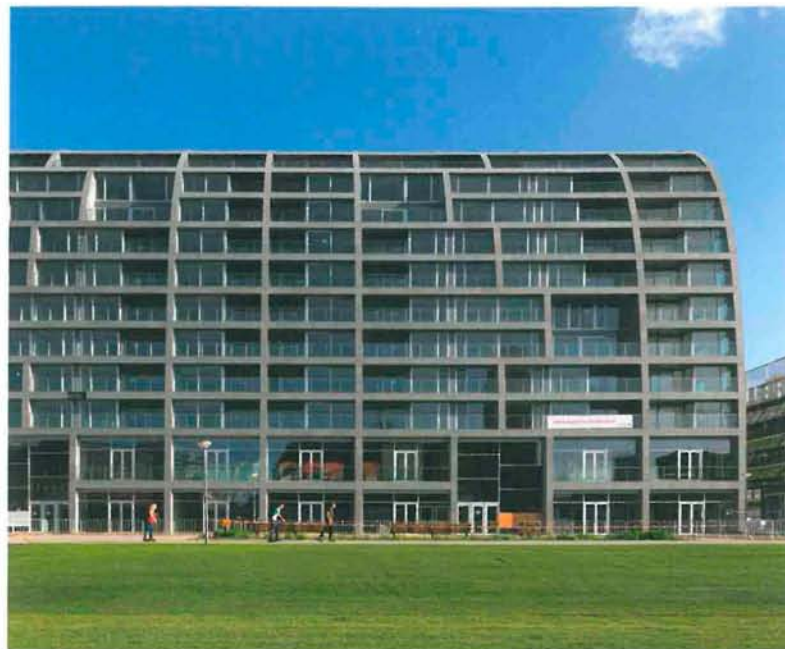
# Food Heaven





← Two walls of apartments bow to each other and form an arch.

→ The Markthal's exterior walls are clad in natural stone, which is the same shade of grey as the paved square from which the building rises.



# A

As is true in many other European countries, you can't zap through TV channels in the Netherlands without running into numerous culinary programmes. All day long you're invited to watch cooks – both amateurs and professionals – competing against one another or simply having fun in the kitchen. Promoted by reality shows, restaurants find themselves in demand. Chefs evolve into national celebrities. Food has become a vital aspect of the contemporary lifestyle. *What we eat and where we eat* is part of what determines our identity. We want food that's authentic, or local, or organic, or gluten-free, or easy-yet-*haute cuisine*. We want shared dining; we want a tea sommelier. We want superfoods. We want to cultivate our own vegetables and stuff our own sausages. We want nose to tail eating. Those of us without a personal food blog still take (and post) pictures of the dishes brought to our tables when we go out to eat. The opening of the Markthal in Rotterdam – the Netherlands' new food Walhalla – could not have been better timed.

The story behind the Markthal began, nonetheless, in a very different way in 2004. Anticipating the adoption of stricter European regulations for the sale of food in open-air markets, the municipality of Rotterdam came up with the idea of expanding the popular outdoor market in the heart of the city – already comprising over 400 stalls – with a covered marketplace. It would provide better hygienic conditions for the sale of meat, fish and other fresh produce. Six property developers were invited to make a pitch. Because another of Rotterdam's aims is a higher level of residential density in the inner city, these developers were asked to incorporate housing in their plans for the market hall.

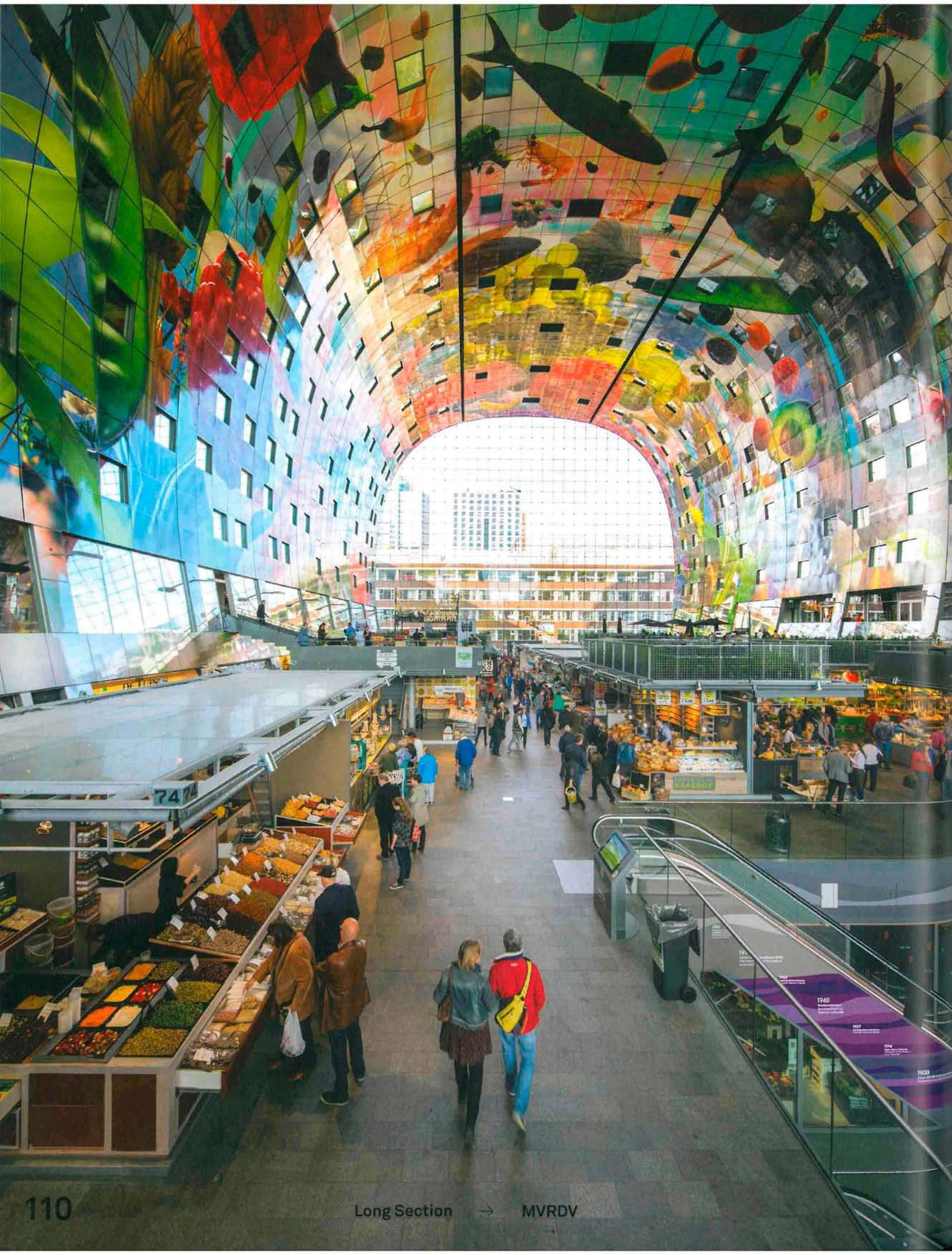
Provast, one of the selected developers, asked MVRDV to collaborate on a design concept for its proposal. Together they came up with a building typology that they claim exists nowhere else in the world: a market hall within a shell composed of housing units. Provast won the pitch and received the go-ahead to develop its project. Completion of the building came ten years later, owing to delays caused by a financial crisis, archaeological excavation and the careful construction of an accompanying underground parking garage that had to leave the nearby medieval church undamaged. Ironically, stricter European regulations for the sale of fresh food in open-air markets – foreseen by Rotterdam authorities in 2004 – were not approved. Apparently, lobbyists from Southern European countries exerted enough pressure to prevent their adoption, and the laws now in place are considerably more lenient. Consequently, Rotterdam's open-air market is still operating, although vendors are now required to sell fresh meat and fish from specially refrigerated market vans. No matter. Even a 'superfluous' building can be an enrichment of the city.

The new Markthal – with 96 fresh-food stalls open for business daily, 20 specialist food stores and restaurants, 228 apartments, and parking for 1,200 cars – typifies the *oeuvre* of MVRDV in particular and the architecture of Rotterdam in general. MVRDV has a track record of buildings that dazzle at first glance and then put a smile on your face – despite the gripes of certain critics who accuse the architects of work that smacks of cheap sensationalism. Cantilevers are alarmingly massive, functions and volumes strangely stacked, materials and colours often unconventional. Rotterdam is →



Shops, restaurants and cafés at ground level are accessible to those in the market hall and to pedestrians on the street outside.





← proud of its 'roll up your sleeves and get busy' roots – a mindset seemingly injected into the DNA of the city by generations of dock-workers. Design an extraordinary piece of architecture, and in Rotterdam they'll do their best to build it. The result is a profusion of remarkable objects, some of which appear to have parachuted from the sky and landed hit or miss in the city.

What identifies the Markthal as a *Rotterdam* project is its conceptual, abstract – and brazen – character. These architects did not aim for refinement. They developed their basic idea as simply as possible. Two walls of apartments bow to each other and form an arch. Transparent walls at either end of the hall, market stalls inside, a parking garage underneath, a selection of shops and restaurants at the lower levels, and Bob's your uncle.

The crux is that everything looks so plain and simple. In practice, though, there were all sorts of problems to solve. How do you ensure that the two end walls, for instance, are as transparent as possible? (Answer: you make cable-net façades and fill them with permanent glazing supported by pre-tensioned cables; like a tennis racket, these walls have a maximum variance of 70 cm at the middle, providing stability even during storm-force winds.) How do you control the climate in the hall? (Answer: rather than heating or cooling the vast space, you opt for an outdoor climate. Steel grid floors beneath the end walls allow outdoor air to enter the hall, and you make openings in the roof to exploit natural draughts circulating within the towering space.) How do you design a building that looks inviting from all directions and lures people inside? (Answer: you make a 'logistic heart' in the base-

ment. Delivery vans drive into the parking garage to load and unload market produce. There's space for refrigeration, storage and preparation. Six goods lifts transport the produce to the market floor at ground level.) How do you design satisfactory floor plans for apartments that receive daylight from one side only (as do most Markthal housing units), half of which have a northern orientation? (Answer: you accept the fact that not all plans are suitable for every house hunter.) How do you give occupants pleasant views in a building that faces a huge office building on one side and is soon to face an even taller residential complex on the other? (Answer: you accept the fact

that the advantage of living in the inner city often means waiving the right to a stunning view.)

Not every solution arrives without a struggle. On opening day at the Markthal, the architects recounted three important moments in the design process, three points of conflict between the practice and its client. The architects came out on top twice and conceded one point to Provast. Ultimately, the results of those discussions were essential to the success of the project.

The first dispute concerned the ceiling of the hall. The initial idea was to mount screens on the curved surface for showing videos. After two years of research, carried out in collaboration with Philips, this plan was deemed financially infeasible. The following idea was to print a photographic image on aluminium panels. The property developer suggested that they could 'grab an image from the internet' and be done with it. The architects managed to convince Provast that a surface of 11,000 m<sup>2</sup> needed something different. Seven national and →

## 'You're barely out of the car before being engulfed by the dynamics of the market'

← Interior walls and ceiling cover a surface of about 11,000 m<sup>2</sup>. They are clad in over 4,000 aluminium wall panels, each measuring 1.5 x 1.5 m. The artist's digital image required a 1.47-terabyte file, which was rendered with software from Pixar Animation Studios and developed on a 'computer farm' in New Zealand. For the sake of good acoustics, from a height of 10 m the hall's panels are perforated, and their rear surfaces are covered with a sound-absorbing material.

→ The Markthal was erected at what is considered the birthplace of Rotterdam. The stairwell to the parking garage features display cases filled with archaeological artefacts that were discovered before and during construction. Some of these objects date back to around the year 1000. Because they are exhibited in the stairwell, they can be displayed at roughly the same depth where they were found.







← As darkness falls, a veritable 'big bang' of edibles animates the blank centre of the ceiling. The video projection features a cluster of fresh produce that rolls, rotates and bursts apart in a shower of fruit and veg that seems to fall from space.

→ Visible not only from levels that accommodate lifts but also from apartments in the curved shell, market stalls have to be attractive when viewed from above. MVRDV used three types of roofs for market-hall units: glazed roofs, green roofs (for actual cultivation) and roof terraces (for restaurants).

← international artists were asked to submit ideas for a panoramic scene. Two pulled out of the competition, unable to handle the size of the project within the proposed time limit. From the remaining five entrants, Team Arno Coenen was chosen as winner. Coenen: 'It was late summer. We live in the countryside, not far from Rotterdam, and we were outside, in the garden. All the plants were in bloom; insects were everywhere. I lit another cigarette, we brainstormed – and in no time we had a plan.'

Coenen's *Horn of Plenty*, a digitally created depiction of fruit and veg falling from heaven like manna, can be seen as a reference to the tradition of still lifes in Dutch art, as well as to ceiling paintings in churches and cathedrals. His combination of the two genres is a stroke of genius that's both brilliant and amusing. The gigantic size and the extreme perspective make the work of art a spectacular psychedelic experience – and a 'must do' photo opportunity for every tourist who visits Rotterdam.

A second point of conflict emerged during the design of an access route from the parking garage to the market hall. While taking visitors on a tour of the building, MVRDV partner Nathalie de Vries says: 'There was an interesting debate with Provast about the position of the escalator and about how to make an opening in the market hall. We wanted an open connection between hall and garage.' Project architect Anton Wubben continues: 'The conventional way to enter a shopping centre is through a corridor. Here we've opened the hall completely, so that even when you're four floors below ground level, you step into a void with a view of the art on the ceiling high above you.' It cost the developer a few square metres of rentable space, but it works well: you're

barely out of the car before being engulfed by the dynamics of the market. What's more, you have no trouble making your way through the various subterranean levels.

When the parties locked horns for the third time, the architects suffered defeat – and they are still plainly annoyed by the loss. In this case, though, the client's refusal to budge was probably justified. Hans Schröder, partner at Provast, explains: 'The architects wanted apartments with a view of the market hall to have windows that opened on that side. Our argument

was based on undesirable smells, noise levels and safety. It turned into a heated exchange, but in the end they designed windows that can't be opened.'

Windows that offer a view of the market below from the apartments, while giving shoppers a glimpse of the domestic life going on all around them, are a special attraction of the Markthal. They could have been omitted, of course, but they were included deliberately. Out of fascination. The fact that they are triple-glazed and always closed, providing total insularity, makes the relationship between inside and outside anonymous and detached. The windows are a projection screen that reveals another world. In addition to the practical objec-

tions that Schröder mentions, direct contact between the two domains would fracture the underlying sense of fascination.

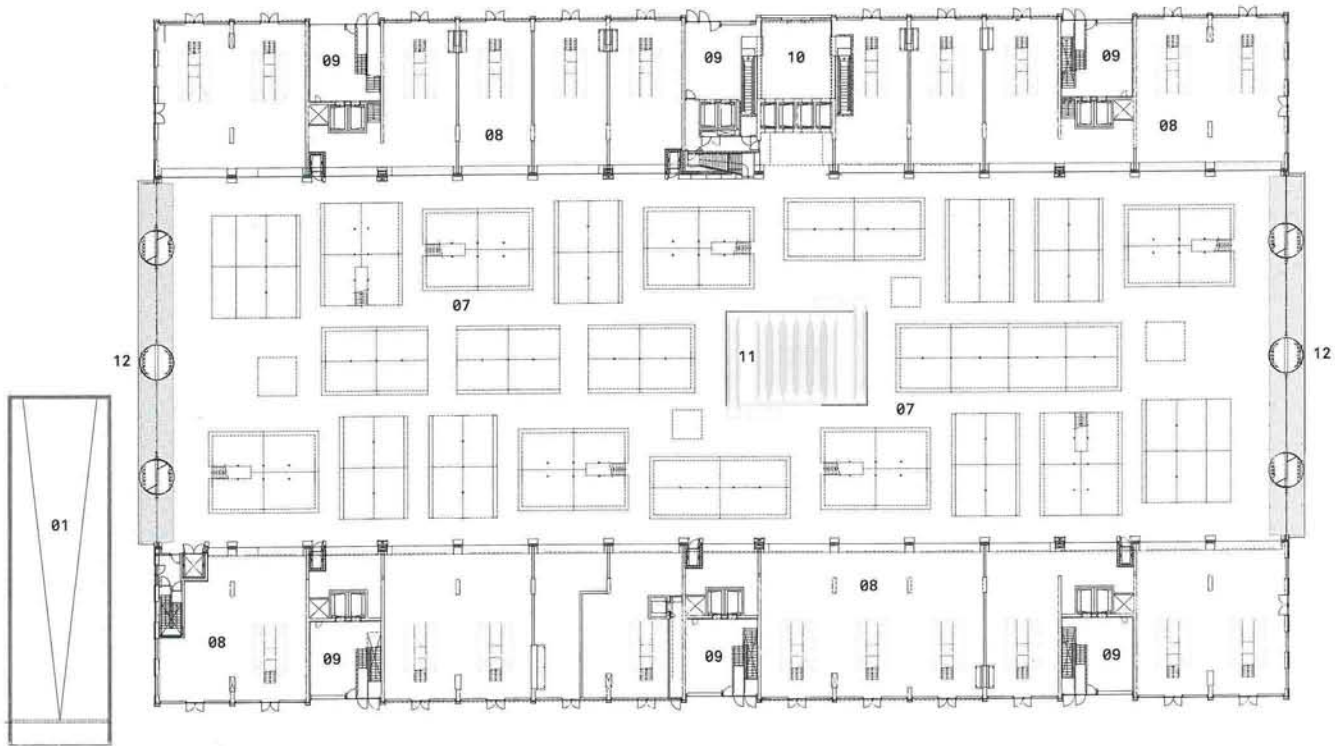
Queen Máxima inaugurated the Markthal on 1 October. One week later Corio, the company that manages the complex, published the first results, among which a whopping 350,000 visitors. It took only three weeks for that number to top the million mark. The gates of Walhalla have opened, and everyone is jostling to get in. ←

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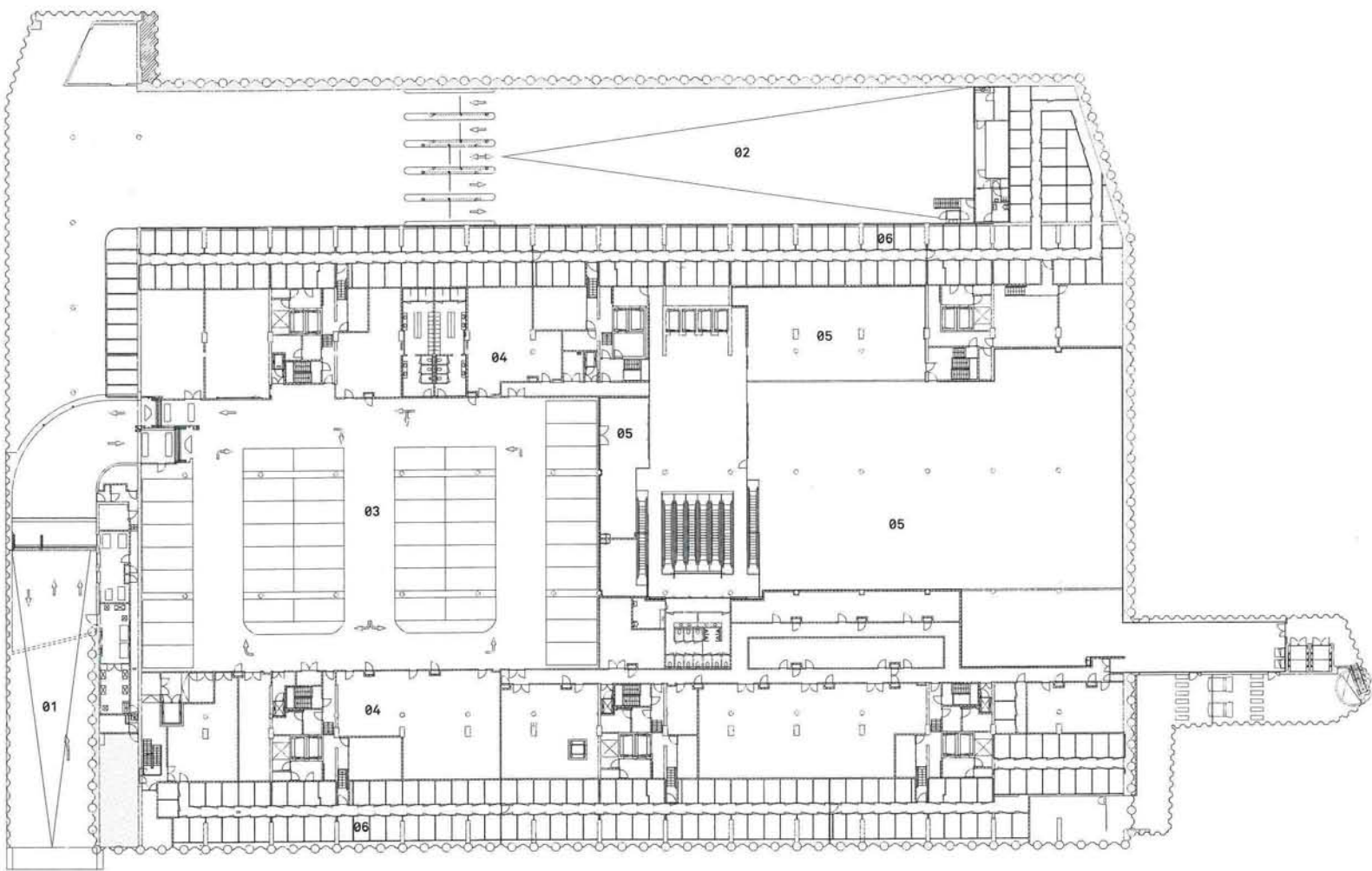
**'The gigantic size and the extreme perspective make the work of art a psychedelic experience'**



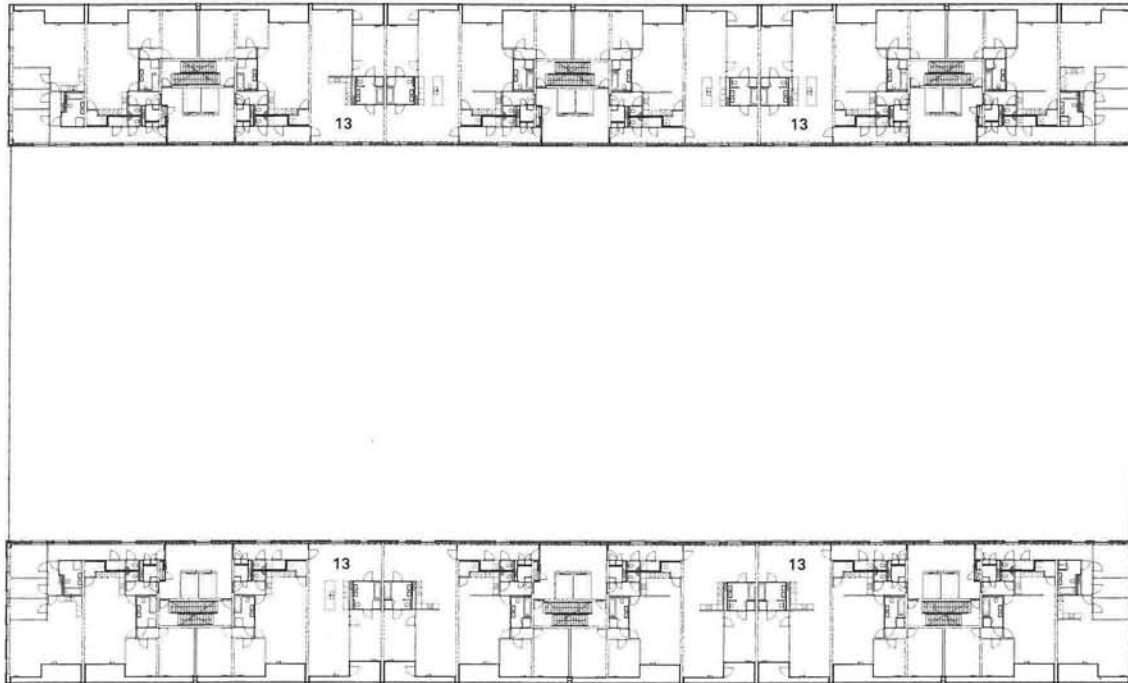
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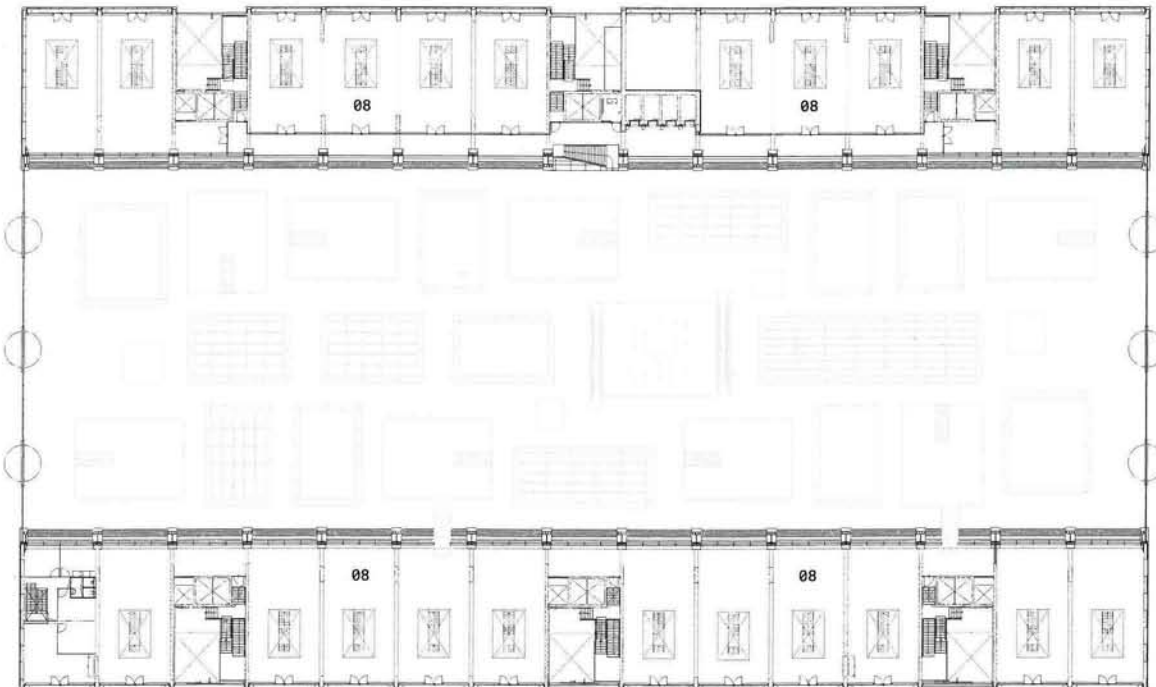
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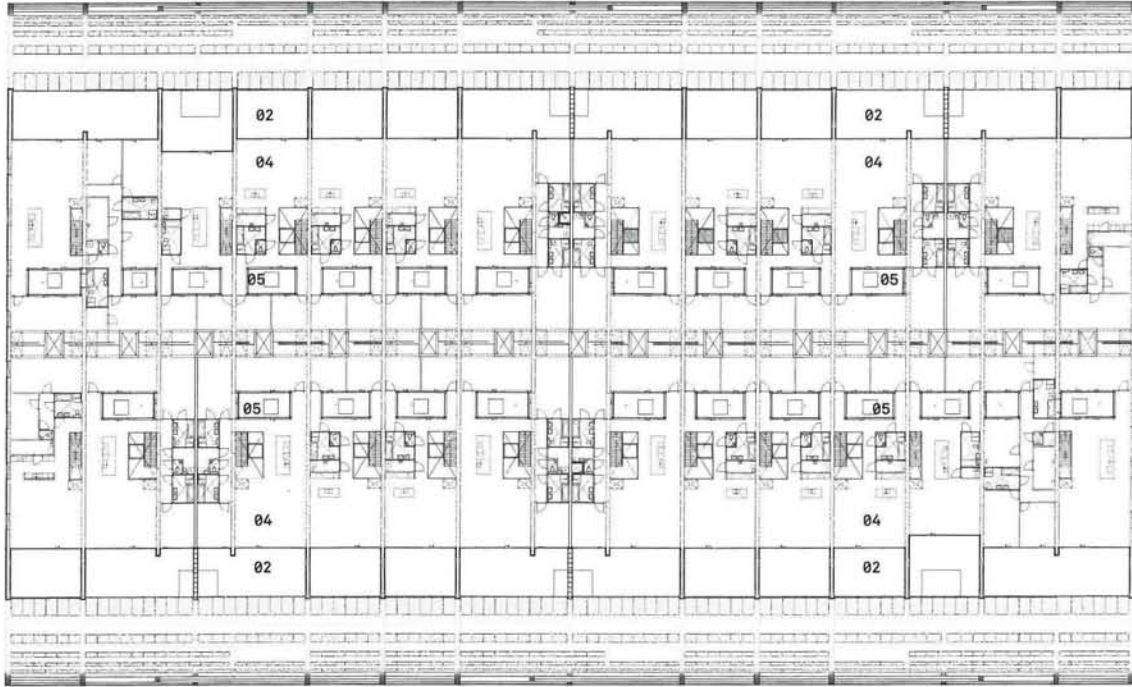


- 01 Entrance to parking garage
- 02 Ramp to lower parking levels
- 03 Loading zone
- 04 Refrigeration, storage and preparation
- 05 Retail space
- 06 Storage for apartments
- 07 Market stalls
- 08 Shops and restaurants
- 09 Entrance to apartments
- 10 Lifts to parking garage
- 11 Escalators to parking garage
- 12 Entrances to the Markthal
- 13 Apartment

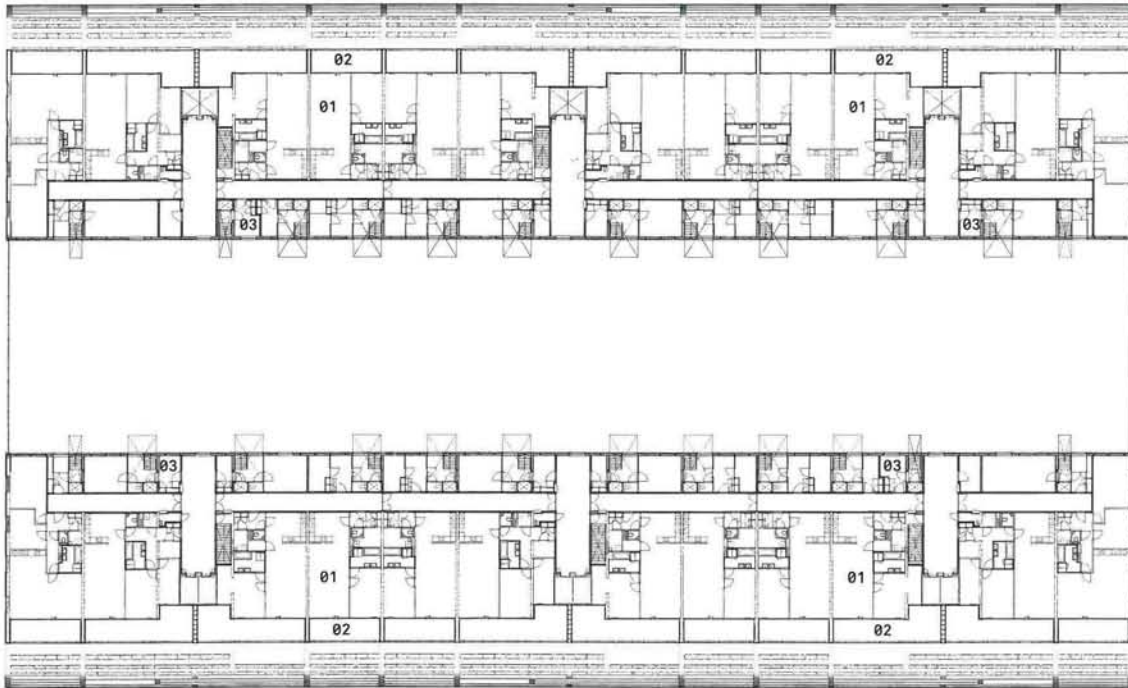
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**‘Windows that offer a view of the market below from the apartments are a special attraction of the Markthal’**



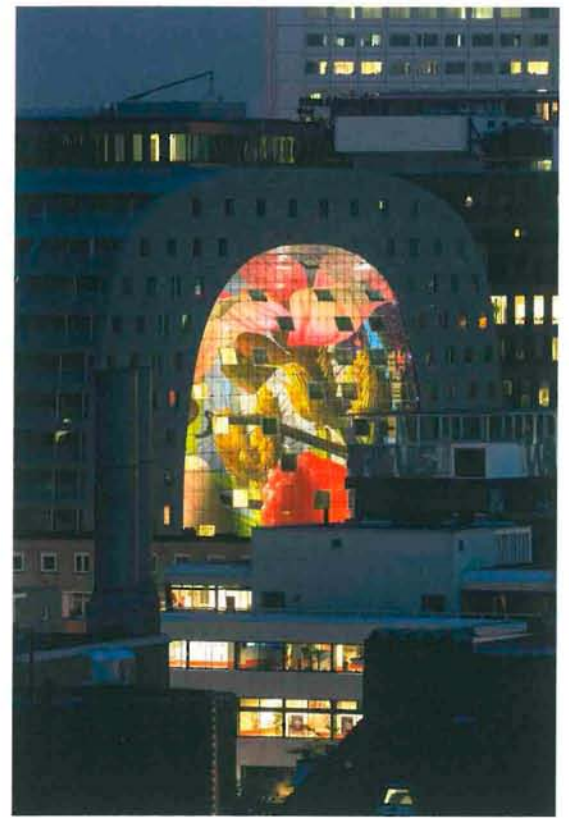
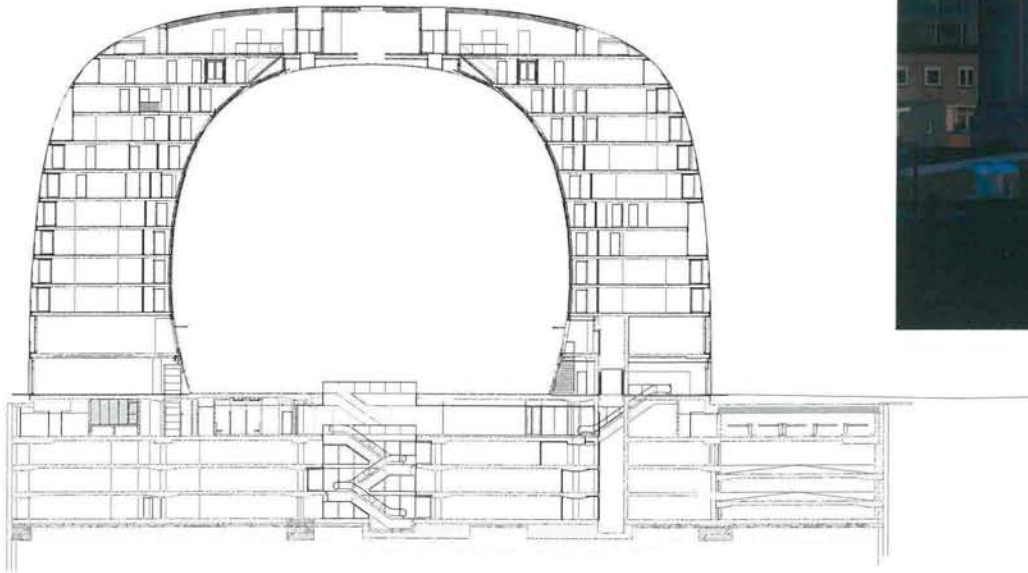


- 01 Apartment
- 02 Roof terrace
- 03 Entrance to penthouse
- 04 Penthouse
- 05 Patio with view of the Markthal below



→ The ceiling of the market hall remains visible at night.

## Cross Section



## Long Section

