

# Commerzbank Head Office

Frankfurt am Main

The bank at your side



# Conception

The Commerzbank head-office building not only adds an impressive feature to Frankfurt's skyline. Viewed from close quarters as well, the building is more than merely another high-rise bank.

Visitors enter the almost 259m-high tower from Kaiserplatz by means of stairs covered by a glass roof. This entrance blends harmoniously with the adjacent perimeter buildings. On the first floor, a generous plaza with an integrated restaurant welcomes bankers and the public alike – at weekends as well.

Here, the observant visitor already senses the central architectural idea of combining transparency and functionality in a balanced manner.



Above the lobby leading off the plaza, an atrium allowing daylight to penetrate rises through all the floors, creating a bright, friendly atmosphere. The nine sky gardens – the building’s “green lungs” – can be used by employees as communication and recreation areas.

This is made possible by an innovative conception produced by the architects Foster and Partners. The central core that is usual in high-rise buildings was replaced by a 160m-high atrium and the technical risers were accommodated in the three corners of the building.



# Architecture

## **New high-rise generation**

The floor plan of the new tower is an equilateral triangle with rounded corners and slightly convex sides. The floors of the building and the cores at the three corners are organised around the central atrium. Each floor has three wings, two of which serve as office space; the third forms part of one of the 4-storey-high gardens. The tower makes an open and transparent impression thanks to the atrium, which is also triangular in shape; natural light and the nine gardens give it its slender appearance. A unique frame construction enhances this impression by spanning the gardens, that are more than 34m wide, without the use of columns.

The foundations of the tower are also exceptional. In order to prevent settlement, it rests on 111 reinforced concrete piles which were driven up to 48.5m deep into the Frankfurt ground.

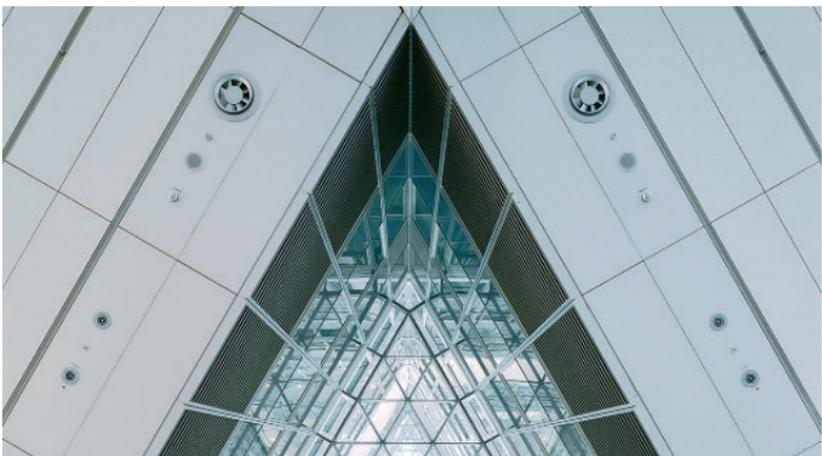


### **Design of the tower**

The stepped top of the building makes a strong visual impact even from a distance. The guiding principle, developed with the city of Frankfurt, was to create a striking symbol for the banking district.

### **Facade**

For substantial energy-saving and natural ventilation, the building is enclosed in a two-layer facade – which is similarly unique up to now in high-rise construction. The outer skin has slots through which fresh air is able to enter the cavity between the layers. The windows of the inner facade, even those on the highest floors, may be opened, ensuring that natural ventilation is possible right up to the 50<sup>th</sup> floor. The windows on the atrium side can also be opened.



## Sky Gardens

Lord Norman Foster envisaged the gardens as being more than mere decoration. In fact, the generous gardens are a fundamental element in his conception.

In spiral form, nine sky gardens rise up the tower – three each facing eastwards, southwards and westwards. Botanically, the vegetation reflects the geographical orientation.



Eastward-facing: Asian vegetation

Southward-facing: Mediterranean vegetation

Westward-facing: North American vegetation

The gardens provide the inner offices with plenty of daylight. In addition, they can be used by employees for communication purposes and for breaks; they create a feeling of openness and space and form part of the sophisticated system of natural ventilation.



# Services

The building services are designed to meet the needs of employees, while attaining a high degree of energy efficiency. This is achieved by means of an “intelligent” building management system, which ensures that ventilation, heating and cooling are all optimal, yet also allows employees to regulate their working environment individually.

## Light

The planning team set great store by making the best possible use of daylight. As a result, the transparency of the building and the glass partition walls between offices and corridors provide all workplaces with high daylight values.



### **Climate control**

The building is cooled by a water-filled chilled ceiling system instead of the normal, problematic air-conditioning system. The rooms are heated by conventional convectors. Employees are able to control the temperature in their office individually within a given range.

### **Ventilation**

On roughly three-quarters of the days in a year, employees can regulate ventilation themselves by opening or closing the windows individually. Only under extreme weather conditions does the building management system activate the ventilation equipment.



# Facts and Figures

## Gross floor area

Tower	85,503m <sup>2</sup>
Basements	12,724m <sup>2</sup>
Car-park	9,579m <sup>2</sup>
Perimeter buildings	
– shops	2,171m <sup>2</sup>
– apartments	4,025m <sup>2</sup>
Kaiserstrasse 18	1,719m <sup>2</sup>
Auditorium	2,626m <sup>2</sup>
Plaza catering	1,264m <sup>2</sup>
Public plaza	1,125m <sup>2</sup>
Total	120,736m <sup>2</sup>

## Height

– excluding antenna	259m
– with antenna	300m

<b>Car-parking spaces</b>	300
Bicycle-parking spaces	approx. 200

## Levels in tower

Entrance hall	3 levels
Offices	45 levels
Technical equipment	14 levels

Main usable area 52,700m<sup>2</sup>  
(excluding apartments and car park)

Gross volume, total 538,000m<sup>3</sup>

Workplaces 2,800

Construction phase May 1994–May 1997

Tower foundation Load-bearing piles  
111 Large piles Ø 1.8m/1.5m

Length: max. 48.5m

Raft: Thickness: 2.20–4.50m

### Shell and core

Basements Reinforced concrete  
torsion frame

Tower superstructure Steel frame with  
Vierendeel frame system

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