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Frankfurt and Rotterdam: Skylines as Embodiment of a Global City



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In contrast to US cities, which allowed construction of skyscrapers in central urban areas, the post-World War II development of western Europe generally involved new construction in peripheral zones, while urban centers were mostly preserved or reconstructed to resemble their state before the war. As exceptions to the rule, Frankfurt and Rotterdam were rare European cities that adopted high-rise buildings as main driving forces for the redevelopment of their central zones. These decisions set the conditions for the establishment of the powerful metropolitan images – communicated through skylines – that these cities promote today.

Introduction

A global city is not merely a site of economic transactions, but rather a place of global imaginings (Short 2004). The idea of a "global city" itself is a crucial factor in the contemporary construction of the urban imagination, representing "... an authorized image of city success" (Robinson 2006). This idea shapes images of cities, both through creation of new symbolic meanings, and through spatial change powered by intense competition to attract new investors, citizens, and tourists.

The common image of a "global city ideal" is often expressed through the skyline, as well as through the never-ending challenge of constructing "the world's tallest building," a powerful means of waging intercity competition. Skyscrapers doubtlessly carry many symbolic meanings, as they represent economic power and status. They are also easily perceptible in the Information Age, as a form of advertising supported through

different media. The predominant features of skyscrapers, such as visibility, presence, and local/global domination, as well as strict rules and requirements set forth by investors and the real-estate market, have often required the construction of such landmarks in dedicated districts, in order to make both the buildings and their districts economically feasible. Frankfurt and Rotterdam both have multiple instances of such districts.

"Mainhattan": World's Smallest Metropolis

The image of Frankfurt as a city is to a large degree synonymous with the silhouette of its skyscrapers (see Figure 1). Rapid transformation from "a city with *some* high-rises" into "the city of high-rises" classified Frankfurt as a rarity among European cities, in that it supported a concentration of high-rises in its central zones. However, the implementation of a modern skyline in Frankfurt during the last 50 years has not been seamless. It has involved initial public rejection, as well as constant reviews, alterations, and partial realizations of broad planning concepts.

The prime high-rise cluster in Frankfurt today is located within the *Bankenviertel* (banking district), named after its predominant function. Many banks, insurance companies, and other financial institutions raised their headquarters in the zone located next to the historic center, gradually creating an unofficial urban district with loosely defined boundaries that are still expanding. On the

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Figure 1. View of Frankfurt's financial district. © Norbert Naegel.

one hand, these structures are the modern successors to the fortifications that used to gird the same area in medieval times. On the other hand, its spatial structure, with high-rises organized around a central green area, bears a strong resemblance to the skyscrapers surrounding Central Park in New York, if at a far smaller scale.

Becoming the City of High-Rises

The historical conditions of the development of Frankfurt's skyline were arranged after the city was passed over as the site of the postwar federal capital. Its new economic strategy was based on its long tradition in trade, banking, and industry, with the intention of becoming at least the economic capital of the country, if not of Europe. For this reason, the city



Figure 3. *Bankenplan/Clusterplan* used by the City Planning Office until 1984. Source: Müller-Raemisch, 1996.

municipality created a positive climate for development in order to attract investors, which is now recognized as one of the main preconditions for the commencement of the early skyline. The first generation of high-rise buildings, reaching up to 70 meters, began to emerge during the 1950s, taking modest-sized, contemporary American and classical pre-war German Modern buildings as their role models (Alexander & Kittel 2006).

Construction of the Zürich Haus in 1962 marked the beginning of the second generation of skyscrapers, characterized by a sharp increase in height and the abundant use of international styles in various forms, shapes, and contexts. To deal with evolving construction dynamics, the city planning authority proposed the *Fingerplan* in 1968 (see Figure 2), which directed expansion along the radially distributed main streets outside of the old city core. At the same time, the first proposals to organize high-rises into a recognizable urban form appeared, with the introduction of the *Bankenplan/Clusterplan* in 1970, which more closely defined a high-rise area organized around the central green core of Taunusanlage and Gallusanlage parks (see Figure 3). The most vigorous high-rise boom occurred during the 1970s, when the “taboo” of 97 meters – the height of the Frankfurt Cathedral – was finally exceeded (Alexander & Kittel 2006). The most prominent buildings to follow the *Bankenplan/Clusterplan* include the Euroturm (1977), Silberturm (1978), and the Citibank Tower (1984).

Along with the rise of the Postmodern style in architecture, the third generation of



Figure 2. *Fingerplan* (1968) with *Bankenviertel* (framed in black) and zones for densification (shaded areas). Source: Müller-Raemisch, 1996: 212

Frankfurt high-rise was born. The double towers of Deutsche Bank (1984) were the first constructed in this period, followed by Trianon (1993) and Japan Center (1996). Skyscrapers generally became slimmer and taller, as represented by the construction of Commerzbank tower by Foster + Partners in 1997, which is still the tallest building in the city and in Germany (see Figure 4).

Development of the booming skyline was regulated by the High-Rise Development Plan of 1999, which took into consideration the experiences of some other important global cities, such as Paris and London, as well as of Berlin, Munich, Vienna, and Boston, and presented an urban design vision for the implementation of high-rise buildings into the



Figure 4. Commerzbank Tower, Frankfurt. © Marshall Gerometta

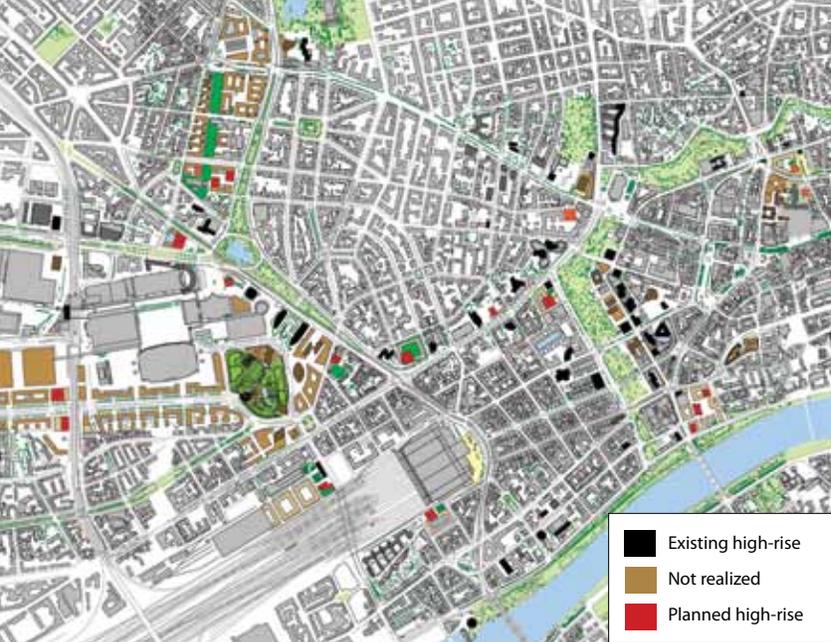


Figure 5. High-rise Development Plan of 2008 (*Hochhausenwicklungsplan*). © Jourdan und Müller PAS. Source: <http://www.stadtplanungsamt-frankfurt.de>.



Figure 6. Panorama Tower – Maintor, Frankfurt (right) with the Schweizer National (left) on the opposite. © Deutsche Immobilien Chancen AG & Co. KGaA

urban fabric. Its principle of keeping the skyscrapers within groups or clusters produced an ensemble effect, such that grouping skyscraper silhouettes would produce a high-quality skyline that would foster the image of the whole city.

However, despite establishing a stable planning policy for the further shaping of the skyline, development has significantly slowed since 2000. The skyscrapers constructed after this year were characterized mostly by clear, plain geometrical forms, with the domination of non-transparent glass as a façade material, as seen in Maintower (2000), Westhafen Tower (2003), and Skyper (2004). Such minimalistic design could have heralded a gradual transition from the third to the fourth



Figure 7. TaunusTurm Tower, Frankfurt. © Epzentrum. Source: Wikipedia

generation of high-rises (Alexander & Kittel 2006). However, as too many featureless glass façades started to prevail, the city planning office suggested using natural stone or metal instead, in order to create richer optical contrasts. These ideas were demonstrated on Opernturm (2009), with the use of similar façade material to that of the neighboring Old Opera House, which triggered a new trend of greater contextual recognition in the designs.

Besides the generally uniform appearance of newly constructed skyscrapers and continuing moderate building activity, the last decade was also marked by several important design competitions for redevelopment of the most attractive zones within the financial district. Those were designs for the MAX Tower, double FraSpa Towers, Marieninsel Tower, and Metzler-LHB Bank Tower. However, none of these newly proposed skyscrapers have actually been realized yet, as most of their investors put the projects on hold as a result of the 2008 economic downturn.

Frankfurt's Skyline: Gaining New Dimensions

Development of the skyline in Frankfurt is currently regulated by the High-Rise Development Plan of 2008 (see Figure 5). The plan set forth an optimal future design at a new level of detail, extending to the exact height and location on the property and the size and geometry of the base, so as to minimize shadow effects and impact on local air currents. According to the plan, there are 23 new high-rise buildings planned for insertion into Frankfurt's urban fabric (Jourdan & Müller 2008).

Currently, the most important intervention within the financial district itself involves its connection with the riverside. Nearly the entire urban block standing between the river and the high-rise cluster is under redevelopment, branded as "Maintor" – the new "riverside financial district." The design and development of an area with such a position and importance represents an opportunity to significantly influence the image of the city skyline. Three high-rise buildings are planned within the block as new urban landmarks (Jourdan & Müller 2008); two of them are positioned as an introduction to the existing skyscrapers further along Neue Mainzer Street. The Panorama tower simultaneously corresponds with the existing Schweizer National high-rise building on the opposite side of the street (see Figure 6), which was one of the requirements of the planning authority. The idea was to collectively accent the entrance from the bridge, forming a "gate" to the financial district. In the context of functional transformation, besides the mixed office-residential use, the rest of the quarter is planned to serve mainly as an attractive urban residential area.

In the vicinity of the site is another recently finalized project. The TaunusTurm (2013) was built on the exact spot of the former western gate of the medieval Frankfurt (Taunustor), flanking the entrance to the modern Bankenviertel from the west (see Figure 7). The new office and residential complex represents the new direction of the main planning course for the generally mono-functional district, involving finalization of the skyscraper row



Figure 8. Developing areas in Frankfurt – financial district (left) and Ostend riverfront (right).
Source: Bing Maps.

along Neue Mainzer Street, the introduction of housing in the financial district, and the opening of access to the public, with the introduction of a new museum of modern art (MMK 2) on its ground floor. As a concession of the planning authority to ensure the inclusion of residential facilities in a separate building, the office tower was allowed to be even higher than planned and finally reached 170 meters instead of the originally planned 135 meters, thereby significantly contributing to the overall appearance of the skyline.

Despite realization of these important projects, the most important ongoing intervention in Frankfurt's skyline is now occurring several kilometers from the financial district itself (see Figure 8). The development of the new European Central Bank (ECB) headquarters in the brownfield riverfront of the Ostend district involves a radical extension of the city's skyline towards the east (see Figure 9). The importance of keeping the ECB headquarters in Frankfurt as means of maintaining its image of being an important global economic player was unquestionable. For this purpose, the city municipality made many concessions, including exclusive modification of the principle of grouping skyscrapers in centrally located clusters, established by the High-rise Development Plan.

The starting point for the new design by Coop Himmelb(l)au were urban perspectives of the city of Frankfurt. The shape, orientation, and height of the tower were designed to achieve a striking profile that is

visible from all important reference points in the city center and from the river Main. In this way, the ECB skyscraper is intended not only to become the characteristic and defining feature of Frankfurt's skyline, but also a new symbol of Europe and the EU as well (Dougherty 2004). This project also promotes Frankfurt as the "city on the river" (ECB 2010: 7), and plays a flagship role in raising the profile of the whole area. It should help in converting the surrounding brownfield land into large, green zones, and promote urban regeneration of the district, as a contribution to the sustainability of the region.

Planning for the introduction of new skyscrapers into the existing metropolitan setting, as well as their architectural formulation, are just a few of many activities impacting further development of Frankfurt's image. There are many manifestations that are utilizing the attractiveness of the skyline for cultural production, such as the "SkyArena", which promotes the skyline of Frankfurt by treating the façades of the skyscrapers as a huge projection screen; and the Das Wolkenkratzfestival (Skyscraper Festival), which attracts many admirers of skyscrapers by opening them to the public and turning them into cultural event venues. Planning for the overall visual representation therefore plays an equally important role in drawing international attention and its promotion as an asset of the city. Through integrated concepts like overall illumination, Frankfurt also uses its skyline as a fine-tuning mechanism for projecting its metropolitan image of success.



Figure 9. View of Frankfurt's skyline from the Ostend district, with the new ECB Tower.

"Manhattan on the Maas" – Rotterdam as a Gateway to Europe

In contrast to the banking center of Frankfurt, Rotterdam's reputation as a global city is largely due to its international port, which was until recently an important factor in the creation of the visual form of what was predominantly an industrial city. However, due to the gradual shift of the port's center of gravity toward the North Sea since containerization began in the 1950s, vast areas along the waterfront were left empty. This was seen as an outstanding opportunity to develop new, attractive areas on the riverside, and thereby upgrade the overall city appearance. Rotterdam has since made a strong shift of its image, so that is no longer associated with the port exclusively, but is dominated by the visual form of its developing skyline, activating a variety of global city images within.

Although the highest skyscrapers of Rotterdam today are still relatively modest in size when compared to those in Paris or London, Rotterdam's skyline contrasts with the surrounding flat landscape to make for a spectacular image. Its overall development is today under control of a policy "Binnenstad as Citylounge", created in the 1990s, which generally focuses on the most attractive central urban districts (Gemeente Rotterdam 2008). The policy encouraging high-rise buildings in the downtown zone (see Figure 10) was supposed to support the idea of a new, future-oriented, and innovative Modernism, from which Rotterdam derives an important part of its identity. On the other



Figure 10. "Nutshell" high-rise area. © City of Rotterdam. Source: Binnenstad as Citylounge, Oct. 2008.

hand, there are also special restrictions on the skyline, related to the volume of the high-rise in relation to plot size, its visual quality, its effects on urban microclimate and limitations of heights within clusters (Gemeente Rotterdam 2008).

A Vision for the Skyline

The history of high-rise in Rotterdam starts with the Witte Huis, considered to be the first European high-rise and the continent's tallest building when it was built in 1898. However, the first high-rise cluster in Rotterdam was formed after World War II, along Weena Boulevard in Central District, as a part of the Van Traa's basic plan for reconstruction of the city, which was devastated during the war. The earliest high-rises marked the eastern entrance to the Boulevard after the mid-1960s, while the first substantial skyscraper, Hofpoort, was built in 1976.

During the 1990s, more refined, elegant towers started to replace massive concrete structures. However, clear geometrical

architectural forms continued to prevail, as attested by the cylindrical form of the Weenatoren from 1990, which at 120 meters was the tallest in the Netherlands at the time. In 1991 the district got its most distinguished modern landmark on the parcel flanking Central Station and its square. The 150-meter Delftse Poort (Delft Gate) twin towers (see Figure 11) were built for the insurance company Nationale Nederlanden, becoming the most recognizable office building in the city, and the tallest buildings in the Netherlands until 2009. One of the more iconic skyscrapers in the Central District is the postmodern Millennium Tower from 2000, accenting the access to the city from Station Square (see Figure 12).

From the Central District, the high-rise axis further extends along the western edge of the historical center, finally reaching the second major cluster on the waterfront. The modern Kop van Zuid district was built on the old, abandoned port area that represented a significant spatial disruption between the northern and the southern parts of Rotterdam.

The most prominent peninsula, Wilhelminapier, plays an important role, not only as a flagship for further waterfront development, but also in terms of marketing and spatial development strategies for the city. Until 1972, Wilhelminapier was the site of the former office and departure hall of the shipping company Holland-America Line, which carried passengers to the United States. In addition to its location advantages, both the common memory and strong symbolic values of this place contributed to planners' interest in the pier. The architectural section of the Arts Council, recognizing the outstanding value of this location in 1982 (Van Ulzen 2007), organized the Architecture International Rotterdam (AIR) workshop, with five world-class architects. Aldo Rossi, Oswald Mathias Ungers, Josef Paul Kleihues, Derek Walker, and Richard Meier were asked to develop an "impression" for the city, rather than a specific architectural design or a master plan (Mandoul & Rousseau 2009).

This event enormously influenced Rotterdam's shift into the international view, along with its development potential. In 1987, Teun Koolhaas Associates prepared an urban master plan for what was later called "New Rotterdam." The former director of the urban development office, Riek Bakker, advocated for the Kop van Zuid redevelopment and insisted on its connection with the city center as an extension of the inner city plan (Van Ulzen 2007, Van de Laar 2007). To illustrate this metropolitan vision for the area, with skyscrapers "floating" and reflecting on the water surface, a journalist from Rotterdams Nieuwsblad first described Kop van Zuid as



Figure 11. Delftse Poort twin towers, Rotterdam. © Nebojša Čamprag



Figure 12. Millennium Tower, Rotterdam near Central Station. Source: <http://www.channels.nl>.

“Manhattan on the Maas” (Van Ulzen 2007).

The strategy for the waterfront’s transformation into a platform for icons was from the very start based on inviting internationally renowned “starchitects.” The first high-rise on the Wilhelminapier was the KPN Telecom Office Tower (Toren op Zuid) by Renzo Piano, developed in 2000. This building has an attractive inclined façade that can be used as a billboard for graphic projections through a computer-controlled array of nearly 1,000 green lights. Similar to Frankfurt, Rotterdam also uses its skyscrapers for cultural production.

Foster + Partners designed one of the site’s most prominent high-rise buildings – the 124-meter World Port Center (2001), as headquarters of Rotterdam’s port management corporation. In combination with the luxury apartment tower Montevideo (2005), and the historic New York Hotel building (1917) in between, the World Port Center creates a distinguished front for Wilhelminapier that has since gradually transformed into the iconic representation of the new Rotterdam (see Figure 13).

In the framework of the spatial development strategy Rotterdam Urban Vision 2030 (Rotterdam Urban Vision 2007), Wilhelminapier was defined as one of the prime locations, whose transformation should make it a destination and have knock-on effects in neighboring areas. Iconic high-rise architecture was given a catalytic role in the process of initiating development of the surrounding urban areas, and achieving the desired metropolitan identity of the city.

Rotterdam Skyline: Current Development

The Central district is currently facing dynamic changes, not only regarding its traffic infrastructure, but also its overall transformation into an attractive mixed-use area with international allure. The focus of the comprehensive reconstruction is the iconic building of the new Central Station, as

well as its public open spaces (see Figure 12). This public realm organized around Station Square is framed by the Delftsee Poort towers and Millennium Tower, complemented by the newly constructed high-rise complex De Calypso by Alsop Architects (2013). The First Rotterdam tower on the opposite side of the square is set to complete in 2015, while two additional high-rise buildings are planned to flank the iconic station building on both sides. The Station Square lies on the pedestrian route of the so-called “cultural axis”, which connects most of the city’s hotspots, leads to Museumpark, and ends with a spectacular view of the River Maas.

The secondary development cluster of the Central District, Schiekadeblok, is located on the northern edge of the tracks, and is still in the earliest planning phase. Although the proximity of the tracks might not seem to contribute much to the attractiveness of the location, the site has excellent visibility from the trains, and as such has great potential for the city’s presentation. Additionally, it is the only available location within the district with enough area for further development, and with sufficient infrastructure and transport links. Construction of several towers within the future WeenaBLVD complex should house approximately 240,000 square meters of various mixed-use spaces.

Although much smaller in size, the developing high-rise cluster on Wilhelminapier still carries utmost significance for the overall city image. The last skyscrapers constructed on the



Figure 13. Wilhelminapier’s front: World Port Center (left) and Montevideo (right) skyscrapers, with Hotel New York in between. © Nebojša Čamrag

former pier were the New Orleans by Álvaro Siza in 2010, which is the tallest residential tower in the Netherlands, and De Rotterdam by OMA (2014) (see Figure 14). This multi-use complex is one of the major projects within the whole ensemble, deriving its name from the S.S. Rotterdam, the most famous Holland America Line transatlantic ship. However, the name that sustains the common memory of the place seems to be its only real connection to the past. Three transparent 150-meter towers, tightly interconnected to create a distinguished skyscraper next to the Erasmus Bridge, are providing different impressions from various viewpoints in the city (see Figure 14). Besides all design and sustainability innovations, the introduction of this colossal “vertical city” also signified extreme densification and “verticalization” of public

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Figure 14. The Wilhelminapier skyscrapers (L to R): Montevideo, World Port Center, New Orleans, de Rotterdam, and KPN Tower. © Feitse Boerwinkel. Source: Google Maps.

spaces and functions within. In this way, the iconic De Rotterdam is designed to orient both inwards, attracting users of the building, and also outwards, through its domination over the overall city image. However, its contribution to the surrounding urban open spaces doesn't seem to be significant, instead serving to underscore the main role of the whole Wilhelminapier ensemble as a tool for image-making, branding and marketing.

The metropolitan vision of the Wilhelminapier skyscrapers that "float" and reflect on the water surface is in fact a challenging, comprehensive project, which is already more successful, and has become successful sooner than anticipated. Still, the plan for its transformation into the mixed-use "Manhattan of the Maas" is only partially realized. A surplus of office space and the post-recession slowdown has retarded Wilhelminapier's growth rate since 2008. There is still much more to come in order for the vision to be fully completed.

Conclusions

Despite its status and great importance to its metropolitan image, the skyline in Frankfurt has always carried some negative connotations, although its mocking moniker "Mainhattan" gradually became widely accepted and turned into an asset for urban branding and tourism. This complexity is emblematic of Frankfurt's broader perception as a tough business metropolis, a "cold" financial center, or a provincial city with "global city" ambitions. Both urban

development and marketing strategies of the city (Marketingplan 2012, 2011; Frankfurt für Alle 2009) are therefore striving both to maintain its doubtlessly beneficial high-rise character, and to improve some negative connotations of this image. The introduction of a "curated" skyline for Frankfurt, besides projecting an image of success and power, also meant dealing with the city's context and traditions.

Meanwhile, Rotterdam used skyscrapers as the desired iconography of global cities, by comparison practically without constraints, to overcome some negative aspects of its industrial legacy. According to the rules established by the official marketing strategy, the image of Rotterdam is arranged to project the identity of an international, modern, bustling, and cosmopolitan city. This urban representation, created through vast panoramas, high skyscrapers, and plenty of accent lighting creates the illusion of a city that is larger than it actually is. In this case, the skyline plays an extremely important role in the creation of an image of power and success, in line with the overall conversion of Rotterdam from an industrial into a "global" (read: knowledge-based, consumption-driven) city.

Despite some of the inherent difficulties, both Frankfurt and Rotterdam are continuing with the development and upgrade of their skylines. Even in the somewhat particular context of European cities, a global city's skyline and its status seem to go hand-in-hand, as the skyline is perceived the world over as a leading indicator of success and power. ■

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