
Am Tacheles Berlin
Herzog & de Meuron

Meierikvartalet Oslo
DARK Arkitekter

Franklin Turm Zurich
Armon Semadeni Architekten

07

Parken³



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“With the bright cylinder used for compact bicycle parking glistening in the sun, the new urban quarter Am Tacheles has gained another small highlight.”

Sebastian Redecke

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EDITORIAL

City and Car Park 3
Marie Bruun Yde

PROJECT REPORT

The New Urban Quarter Am Tacheles 4
Herzog & de Meuron
Sebastian Redecke

INTERVIEW

Lillestrøm's New Neighbourhood 12
Anne Christensen, DARK Arkitekter
Christoph Tempel

INTERVIEW

Inefficient Parking Led to Wasted Space 18
Erik Wegerhoff
Marie Bruun Yde

PROJECT REPORT

Turntables of Traffic 22
Franklin Turm, Armon Semadeni Architekten
Paulina Minet

FOCUS

XL-Parking Spaces 28
Ilja Irmscher



City and Car Park

There are more cars than ever before. The number of registered personal vehicles in Germany hit a new record on January 1, 2024, coming in at around 49.1 million. One in three of these newly registered automobiles is an SUV. At the same time, there is increasing demand to free up public space for uses other than for traffic. The record number of registered cars makes it clear that urban development and mobility must be considered in a more holistic manner in order to design cities that are both attractive and sustainable.

New architectural concepts and city blocks in Germany and throughout Europe demonstrate how urban spaces can go hand in hand with stationary traffic in a way that appeals to the public. The new urban quarter Am Tacheles in Berlin, for example, which was created according to the master plan from Herzog & de Meuron, is characterised by a series of squares and courtyards. The mirrored cylinder that serves as a bicycle garage symbolises a transition to more environmentally friendly transportation solutions. The Franklin Turm in Zurich, designed by Armon Semadeni Architekten, is a hub for rail, car, pedestrian and bicycle traffic. And the Meierikvartalet in Lillestrøm, based on the design of DARK Arkitekter, expands life and work in Oslo to reach the suburban corners just outside the Norwegian capital.

In all of these projects, a tailored approach to parking takes a central role. Following the principle of concentrating the parking spaces means more space can be opened up for other functions. An efficient use of the available area is crucial for growing cities in order to ensure there is room for green spaces and other municipal uses. Compact parking solutions and the promotion of alternative modes of individual transport are key strategies for alleviating street traffic and encouraging a balanced re-densification.

Marie Bruun Yde

The New Urban Quarter “Am Tacheles”

Text **Sebastian Redecke**
Photos **Klaus Mellenthin**

Compared to many similar newly constructed urban quarters in Berlin, the new urban quarter Am Tacheles has its own unique quality thanks to its shape, entry-way, façade design, and landscaping. A particular highlight is the mirrored cylinder in the center that offers parking space for bicycles.



Herzog & de Meuron,
Basel



The square Aaron-Bernstein-Platz opens up onto Oranienburger Strasse. In the center is a residential building from Herzog & de Meuron, and in the foreground an office and commercial building from Grüntuch Ernst Architekten.

For many, it continues to be a potent symbol of artistic freedom since the fall of the Wall, situated at one of the most inspiring places in Berlin: the former Art House (Kunsthau) Tacheles. Originally opened in the 1990s as an open house for the art scene, it occupies a prominent location on the Oranienburger Strasse with a vacant lot behind it that reaches all the way to the Friedrichstrasse. Whimsical steel structures and large scrap-metal sculptures once dotted the landscape, along with abandoned cars, a bus, and even a Soviet MiG fighter plane. Artists saved the partially dilapidated building with its enormous archway from planned demolition, and it quickly became a tourist magnet for Berlin instead. It was a remnant of an old arcade, the Friedrichstadtpassage; all of the other parts of this passageway that were left standing after the Second World War had already been demolished.

Toward the end of the 1990s, the art center began to lose its appeal, and the undeveloped land behind it increasingly became an object of desire. The state of Berlin finally sold the entire site to the real estate company Fundus Group in 2002 on the condition that it could only be vacated after ten years. When the time came, the Tacheles was in fact completely empty and had become a silent ruin.

In accordance with the city's requirements, plans for the new design were made that incorporated the history of the arcade, which stretches from the Oranienburger Strasse to Friedrichstrasse. The arcade had been built by the architect Franz Ahrens and first opened in 1909. The central hall and its dome were its particularly outstanding features, with the dome reaching up to 48 metres high, and connected the parts of the passage from both streets. However, the shopping arcade never achieved the grandeur and significance that had been so loudly proclaimed at the beginning. And even though it was the second largest in the city at the time, it was too far removed from its customers to be appealing, despite its imposing appearance. As a result, the place went bankrupt and was abandoned and foreclosed upon just five years after its opening. Up until its partial destruction during the war, the arcade found several uses that nevertheless did not suit its size, including as AEG's "House of Technology (Haus der Technik)." It was only much later, in the 1990s, that the site took on completely different dimensions, even gaining international renown: as a home for the independent art scene.

After a change of ownership in 2014, the project developer pwr development GmbH took over the plans. Herzog & de Meuron were commissioned to come up with a master plan for a new design concept and the revitalisation of the entire area that was loosely based on an initial master plan from 2003, but with significant changes. Even in the very first ideas for the quarter, the clear overall concept soon became apparent. The architects from Basel first wanted to completely fill in the block and then "cut out a sequence of variously proportioned squares, yards, and pathways."





Trees, and the interplay they create between light and shadow, were a central elements in the landscaping concept from Vogt Landschaftsarchitekten for the Aaron-Bernstein-Platz.

The largest new building in the complex connects the Friedrichstrasse with the old building on the Oranienburger Strasse. It was given the name "Scape". Its striking grid-like façades, which tilt backward starting at the fifth floor, are defined by the same vertical, slightly narrowing bands of broken grey clay tiles, which had been delivered and installed as large, prefabricated elements. Three bridges, densely planted with ivy and wild vines, connect both sides of the passage at lofty heights. The passageway was deliberately left uncovered. The ground floor and basement contain spaces for retail shops and restaurants, while the upper floors accommodate the offices. Even after its renovation and conversion, the former Art House Tacheles still retains some of its patina as a centre for the independent art scene and now houses the Fotografiska, a branch of the contemporary museum for photography, art and culture, on three floors. The interior was designed by Werner Aisslinger. Berlin's hottest new bar, Clara, is situated under the pyramid roof – designed by Herzog & de Meuron – on top of the arched gateway.

The new buildings with the apartments and offices are located on the Oranienburger Strasse and surround a publicly accessible square that was given the name Aaron-Bernstein-Platz. The most prominent building, ORO, with its arched windows and loggias, was also designed by Herzog & de Meuron, along with the new "Scale" building. The neighbouring buildings on the square were designed by various architects, including Brandlhuber+ Muck Petzet Architekten and Grüntuch Ernst Architekten. This resulted in the heterogeneous design of the façades with their spacious loggias and balconies. Along the quiet, narrow Johannisstrasse to the south, further residential buildings will be built to complete the project.

Compared to many newly constructed neighbourhoods in Berlin of this caliber, the square in the new urban quarter "Am Tacheles" has its own unique quality thanks to its shape, the wide opening to the Oranienburger Strasse, the varied design of the façades, and the successful planting of honey locust trees, which will soon create a green, shade-giving canopy.

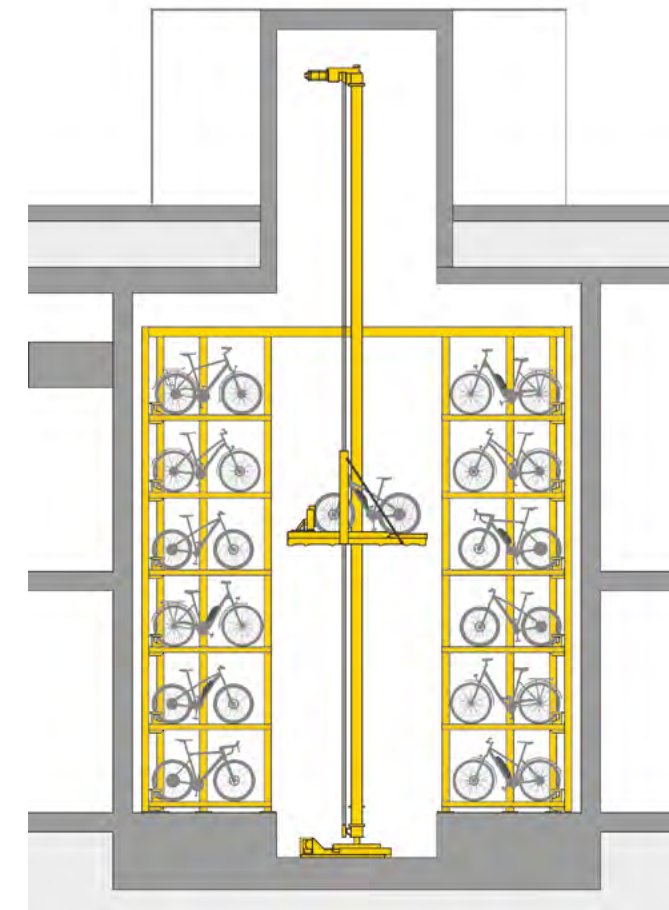
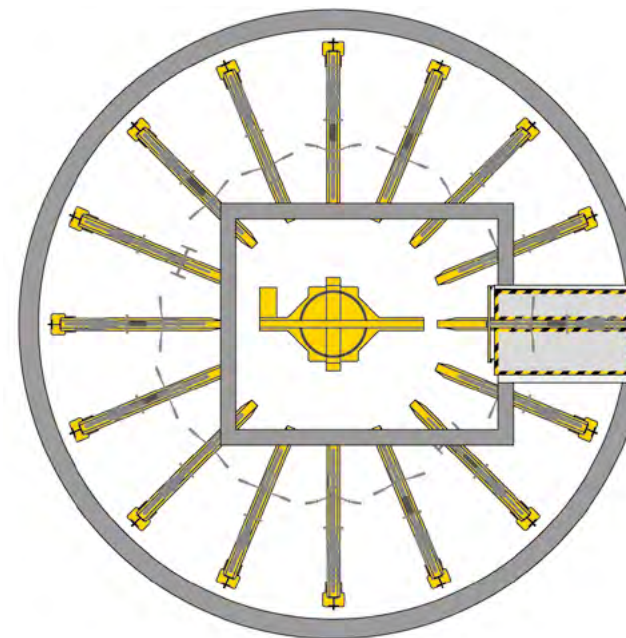


For Herzog & de Meuron, this square represents the centre-piece of the urban space.

In its center stands a mirrored cylinder, barely noticeable at first, until it suddenly reveals itself as a hidden jewel between the trees, immediately sparking curiosity and interest. The round building is a Bikesafe, a fully automatic bicycle parking system of particular elegance. It offers space for 96 bicycles, which are securely stowed away under the square, hidden

from sight and protected from the elements. The transfer area with the entryway on the square can be operated by chip or QR code. After opening, the front wheel is placed onto a rail and the bicycle is pulled into the cylinder. The gate closes again automatically, and within around 20 seconds, the parking process is complete. With the bright cylinder glistening in the sun, the new quarter has gained yet another small highlight.

Below the "iceberg", the small pavilion, is a hidden shaft with room for nearly 100 bicycles.



Product information

Bikesafe shaft version - 96 bicycle racks, 16 racks on each of the 6 levels, Handlebar width max. 76 cm, Bicycle length max. 2 m, Bicycle weight max. 30 kg, Operation via a booking platform or RFID chip

Lillestrøm's New Neighbourhood

Interview **Christoph Tempel**
Photos **Klaus Mellenthin**



With 350 apartments divided between five volumes, the Meierikvartalet is one of the largest residential districts in Lillestrøm.

With Meierikvartalet, the architects at DARK Arkitektur in Oslo have designed one of the largest residential neighbourhoods in Lillestrøm. Five building complexes house a total of 350 apartments, located just 400 metres away from the train station and a stone's throw away from the marketplace square. We talked to Anne Christensen about living, working, and doing business in Lillestrøm.

The Oslo metropolitan region has grown considerably over the last 20 years. What role do places like Lillestrøm play, which can quickly be reached by train from the city centre? Are they simply the alternative for those who can no longer afford to live in the capital city, or are they specifically sought after because they offer a different quality of life?

I think it's both. Lillestrøm is definitely an alternative to living in Oslo. The prices there are very high, and besides that, there is very little space in the downtown area, geographically speaking. Analyses before the start of the project showed us that most people wanting to live in Lillestrøm are from Oslo, often from trendy neighbourhoods such as Grünerløkka, which are becoming increasingly unaffordable. Many of them buy a single-family home in Lillestrøm, some their first small apartment. Lillestrøm is also appealing because Oslo is just as easy to reach by train in ten minutes as Oslo Lufthavn, Norway's major international airport.

What does the Meierikvartalet (dairy district) have to offer the city?

The site has an industrial past: There once was a dairy here, hence the name. Unfortunately, there's nothing left of it now, since a supermarket and a car dealership had been located here some-time in between. Today, the area is known as Downtown East and extends the downtown to include a public square in the district's centre that provides access to restaurants and retail outlets.

How did you achieve this structurally?

Our idea for Meierikvartalet was to build higher – which was of

great interest to the city – and to create as much public space as possible in between. Two eight-storey blocks form the border along the streets to the west and north. Along the railway line to the east, a twelve-storey building serves this same function. In between, there's room for three tower blocks with 15, 17, and 19 storeys. There are a total of 350 apartments in various sizes and layouts. A two-storey base, clad in brick, connects the buildings and visually integrates the neighbourhood into the city aesthetic. Above this, the structures have been designed differently: The silver cladding, black decorative elements, and corner balconies give the towers a modern look.

Meierikvartalet is used commercially, residentially, and for office space. In terms of proportions, how much is for commercial space and how much is residential?

When the 30,000 square metres of the last two building sections in the south have been completed, there will be a total of 75,000 square metres of space available. Of this, 46 percent has been earmarked for residential use. The city council didn't want to simply bring housing options into the city centre, but instead was and still is interested in urban mixed use: Office, commercial, education, residential. As it stands now, 20 percent is used commercially and the rest is residential. In all parts of the building, the first two floors are reserved for commercial uses. Restaurants and retail outlets are mainly located on the ground floors, with office space above and then the apartments. The central tower, with its 19 storeys, is the second tallest residential building in Norway.

Who lives in the district? Families, singles?

It's a good mix of young people and those who are somewhat older, who are on the edge of retirement and have often sold their single homes in order to move to the city. You don't find a lot of families with children living here in the downtown area.

How important is having a car for life in Lillestrøm?

If you live in Lillestrøm and work in Oslo, you go by train to work

and not by car, since there are almost no parking spaces in the city centre. Besides that, the public transportation is very well connected and extremely inexpensive. Of course, having a car appeals to many people in Lillestrøm, but this is typically for use on the weekends or for those who don't work in Oslo. On top of that, Lillestrøm is a city with high ambitions when it comes to bicycle traffic: You'll see a lot of people riding bicycles here.

Why did you decide in favour of a parking system from WÖHR?

The development plan would have permitted the construction of two levels for parking under the Meierikvartalet, but this would have been very cost-intensive due to the difficult soil conditions. So we only built one, which also has to share the space with the required cellar rooms for tenants and the technical facilities. It made sense to make the most out of the limited space by using a parking system from WÖHR.



Thanks to the underground parking system from WÖHR, more space is freed up above ground for pedestrian walkways and recreational areas.



Red bricks form the base of the quarter, with the towers placed on top.

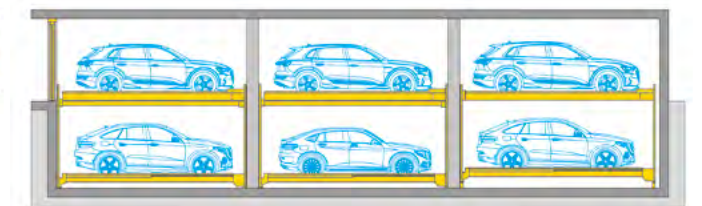
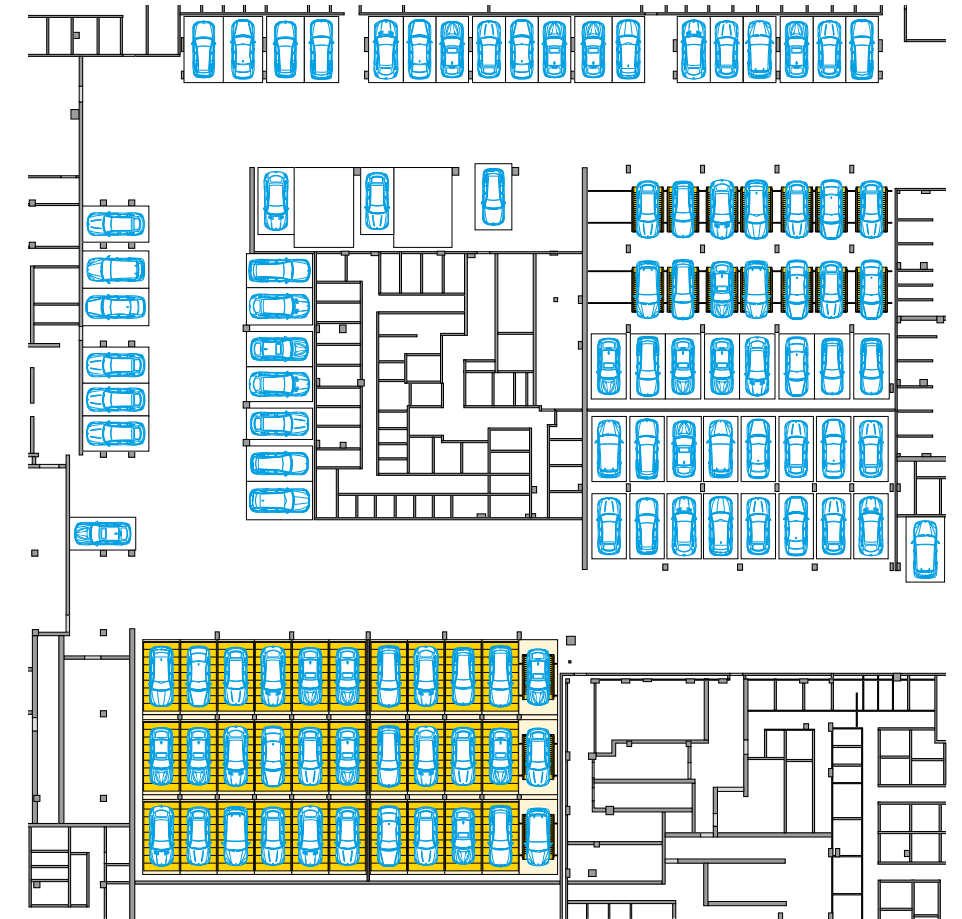


Product information

14 x Parking platform 501, platform load: max. 2.6 t, diameter: 227 cm, electric rails on the ceiling, 2-row arrangement of parking spaces

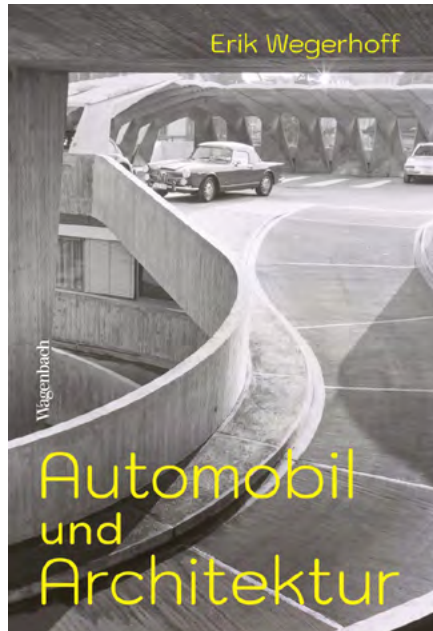
3 x Combilift 542 MR on a 4-space grid - a total of 24 parking spaces, three-row arrangement, platform load of lower level 2.6 t, platform load top level 3.0 t, platform width 250 cm, max. vehicle length 570 cm, max. vehicle height on lower level 190 cm, max. vehicle height on top level 215 cm

3 x Combilift 542 MR on a 6-space grid - total of 33 parking spaces, three-row arrangement, platform load 2.6 t, platform width 250 cm, max. vehicle length 570 cm, max. vehicle height lower level 190 cm, max. vehicle height top level 215 cm



Inefficient Parking Led to Wasted Space

Interview **Marie Bruun Yde**



Erik Wegerhoff
Photo: Laura Wollenhaupt

The mass motorisation during the twentieth century might have come quickly, but the realisation that parking takes up space was comparatively slow to emerge. Architectural historian Erik Wegerhoff talks about car parks as a building type, poetry, language, and the question of mathematical efficiency.

You deal with the poetics of infrastructure. What does that mean exactly?

I find it fascinating to learn about the different types of streets, which is a niche in architectural theory. If you look at a street in strictly architectural terms – its layout, elevation, and cross-section – then it doesn't reveal much. But that says nothing about what the street actually signifies. You can find more poetic perspectives on such works of infrastructure in literature or film, for example. When you're watching a film chase that takes place underground, for instance, you get much better feel for the atmosphere of a sewage system than

the classic architectural view would give you. That's what I call the poetics of infrastructure. That's why literature and film studies can be useful for learning about the history of architecture, if you think beyond the disciplines.

In your book "Automobil und Architektur" (Automobiles and Architecture), published in 2023, you describe how the car not only changed the infrastructure at the beginning of the twentieth century, but also the architecture. What new role did architecture take on?

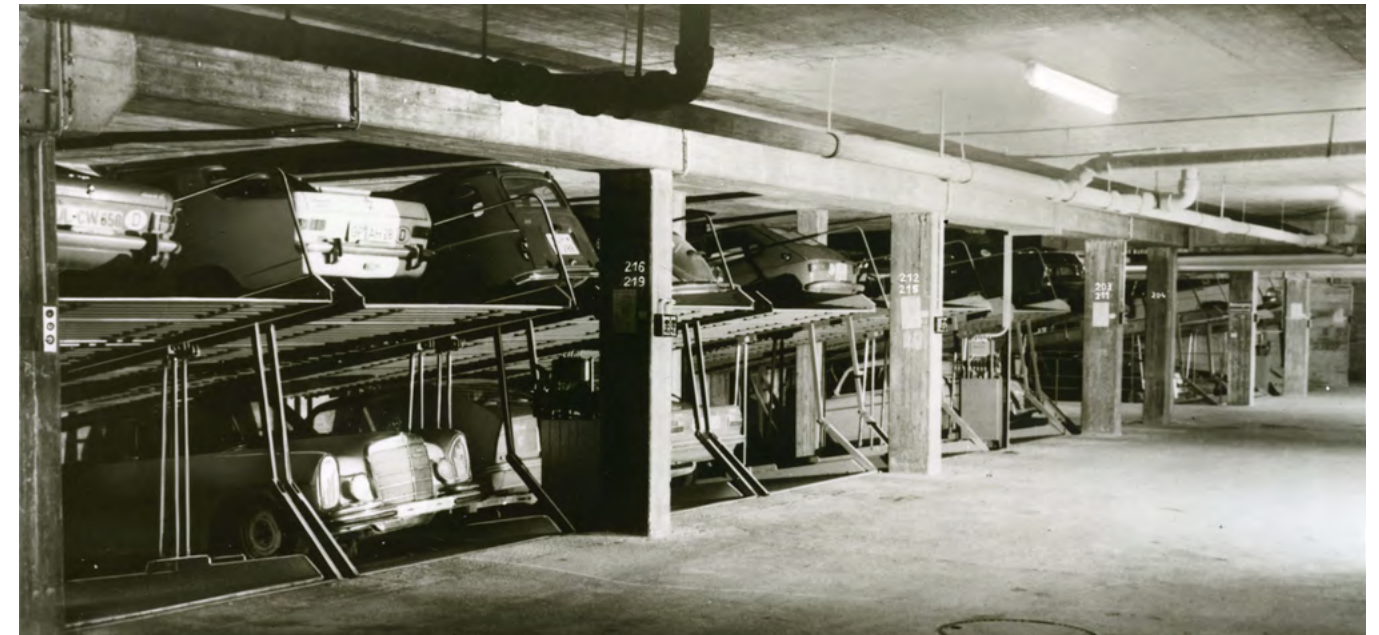
This new, expensive, still comparatively rare, and incredibly fast machine – the automobile – shocked and fascinated architects at the time. This can also be seen as a fascination for artistic movements. Architecture itself never moves, but various architects have come up with things that can be done to get architecture moving.

... in order to capture the dynamism of the car?

In the 1910s and -20s, architecture tried to follow the example of the fast car, and this kind of design gained momentum, seen in such things as finely polished façades or access points straightened out into smooth ramps. But in the post-war period, as more people could afford to buy a car, it lost its aura of uniqueness. It's not always on the move, but rather stationary most of the time. That becomes a problem when many people have cars. The amount of space needed for car parking in cities is insane.

Did that come as a surprise?

It became apparent in technical discussions even in the early 1960s that in order to adequately supply the inner city with parking spaces, the entire area of the city would be required. It was clear that more efficient parking solutions were needed.



Architecture took on a completely new role in relation to the automobile, since it was now in charge of both moving and stationary traffic.

Did static parking tend to be forgotten, while the dynamic nature of driving was celebrated?

It was a heyday for flyover overpasses and numerous city motorway projects. Elevated motorways in the city are absolutely crazy – it’s a downright kinetic experience to drive at a fifth-floor level. And the descents are steep, which can feel a bit like a rollercoaster. It’s all about elevating the car and the flow of traffic, raising it to almost hero status. These structures are not just there to transport the necessary traffic from A to B; every road also always generates the very traffic that it promises to alleviate.

At the same time, this was also the great era of the car park, which had just been invented.

In 1957, the leaflet “Parking Spaces” (Parkflächen) was published – the first attempt to deal with the problems of parking and space consumption in the Federal Republic of Germany. It drew attention to the fact that a stationary car is not very heroic and actually just takes up space. This then becomes a mathematical challenge, leading to a kind of “grey architecture,” with the car park being the most commonplace example. In intellectual debates, however, car parking has received little attention. On the subject of parking areas, there is almost only “grey” expert literature, based on tables and mathematics.

The term “stationary traffic” is a peculiar one. You explain that it hints at the dark side of a “traffic jam”.

The pair of terms contains a contradiction: traffic suggests a flow. But the moment traffic becomes stationary, it is actually no longer traffic. Formulations like these often reveal quite a bit upon closer inspection.

Today, car parks take a very prominent role in planning regulations, but you describe them as having been somewhat wild and chaotic at the beginning.

Instructions from the *ADAC-Motorwelt* automobile magazine in the 1950s and -60s used comics to illustrate the right way to drive and park. Back then, many town squares were simply traffic areas with no rules on whether, and how, you were allowed to park. But most of all, people simply parked inefficiently and wasted space was the result. This gave rise to car parks that were designed with a scientific approach – whether real or supposed – to make perfect use of the available space. The design parameters of these car parks are simple: There are parking spaces with driveways that provide access to them. Their arrangement is a balancing act between the angle and width of the lanes.

You also delve into how the entire public space was basically seen as one big car park back then. Isn’t that still the case today?

A parking brochure for Berlin from the 1930s shows how natural it was to park your car in the middle of the Gendarmenmarkt marketplace when visiting the theatre. No one would even think of doing that today, not least because it would be expensive. Parking today is much more regulated.

Erik Wegerhoff

is Professor for the History of Building Culture at the School of Architecture, Construction, and Geomatics at the FHNW. He previously worked as a lecturer for history and theory of architecture at the ETH Zurich. Wegerhoff conducts research on the poetics of infrastructure. His book “Automobil und Architektur. Ein kreativer Konflikt” was published in 2023.



Turntables for Traffic

Text **Paulina Minet**
Photos **Roman Keller**

The new high-rise tower is located on the square of the main train station between the districts of Oerlikon that are divided by the railway tracks, connecting these districts visually.

The Franklin Turm by Armon Semadeni Architekten, situated on the development site of the Swiss Federal Railways at Oerlikon railway station, adds another peak to the Zurich district's northern skyline.

Oerlikon, once a small farming village behind the mountains, has gone from being an industrial area shaped by the railroad to a booming district in the north of Zurich that is known today for its modern service businesses and technologies. Since its renovation in 2016, the railway station with a pedestrian underpass has been a hinge connecting Old and New Oerlikon, which are separated by the railway tracks. Its close proximity to the Zurich Airport and the Zurich Main Station makes the station a mobility centre for both public and private transport.

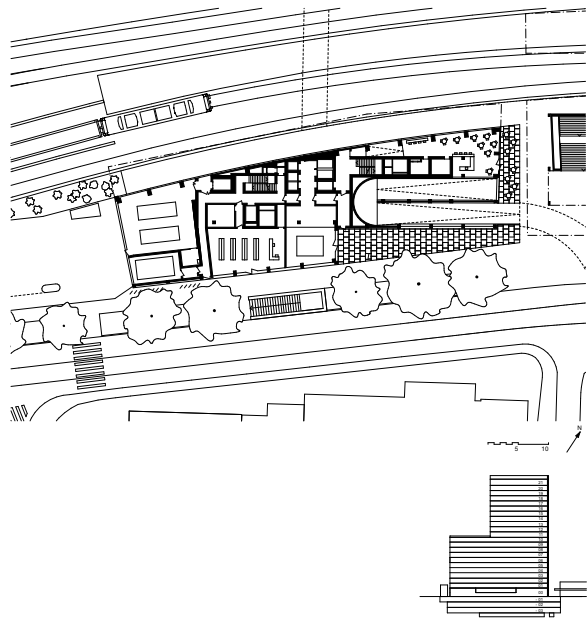


Armon Semadeni Architekten, Zurich

The Franklin Turm, designed by Armon Semadeni Architekten, forms the southern end of the station plaza and marks the entrance to the train station. Towering around 80 metres, the building on the Hofwiesenstrasse complements the district's skyline and points to the various phases of development of its surroundings through its rotated position and staggered heights, which are split into three parts. The building's five-storey base, for example, aligns itself with the railway tracks and the street. From the first floor upwards on the track side, it cantilevers over the platform, whereas on the other side, it forms a vis-à-vis to the Pestalozzi Library, its height creating a visual connection to the historic perimeter block. Above the base, the entire structure is rotated to point in the direction of the railway tracks, but this is also divided into two further sections. The eleven-storey middle section of the building reflects the height of the Neumarkt, a building complex consisting of a shopping centre and two lower high-rise buildings. The roof terrace above the tenth storey marks the beginning of the building's final section. From there, the western façade is halfway recessed, stretching up to the 21st floor, while the eastern façade presents a continuous front. The Franklin Turm thus enters a comparable field as the Swissôtel from the 1970s and becomes a counterpart to the Andreas Tower, which was completed in 2018.

The arrangement of the unitised element façade is designed to harmonise with its surroundings and make the building appear more voluminous. While the ground floor has the same proportions as the platform roofs, the arrangement of the upper floors is uniform and visually ties the different heights of the structure together. The structural elements of the Closed Cavity façade were developed specifically for the project and installed without the use of scaffolding by attaching the elements to metal nodes. Because of this, the façade was able to be completed within just six months after the shell was finished, without causing any disruptions to the train schedule.

Light-flooded offices and commercial spaces of between 560 and 1070 square metres, with a panoramic view over Zurich, make up the interior. Further development by tenants has also increased the versatility of the space. Whether the rooms are



Ground floor 1:1250.



Photo: Klaus Mellenthin

used as single or open offices, MRI centre, or fitness studio – the building boasts a variety of uses. The shell only included the interior fittings of the central zone with two cores as well as the installation of the ceiling elements for air conditioning and the utility pipes, which were left exposed.

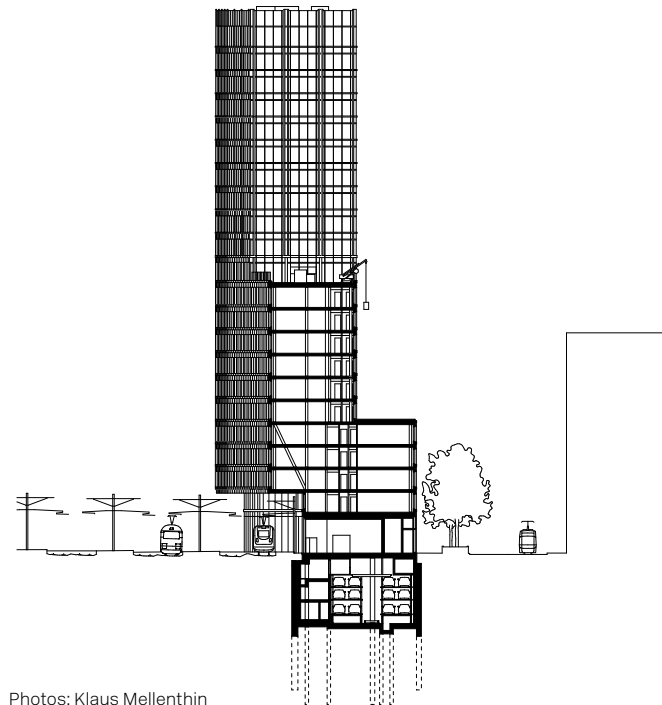
But it was the high-rise's structural requirements that proved particularly challenging for the planners during construction. When erecting a high-rise building in the extremely narrow gap between the railway tracks and street, for example, it was necessary to prevent any damage that might result from the static forces of such a high building. On top of this, the unstable soil structure and a tunnel with two sewage pipes running 30 metres underground had to be taken into account. Through a combination of shallow and pile foundations covering three basement levels, it was possible to create a stable foundation for the structure. The prominent cantilever and the rotation of the tower also significantly influenced the statics. Vertical and horizontal pretensioning was used to prevent the building from tilting and to counteract the enormous wind forces. This technique is known from bridge construction and is rarely used



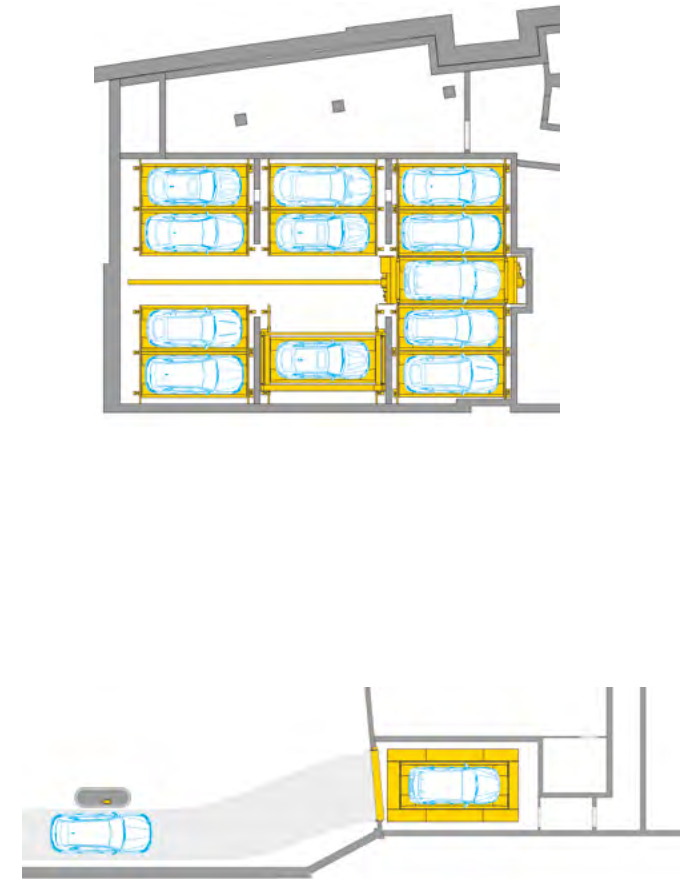
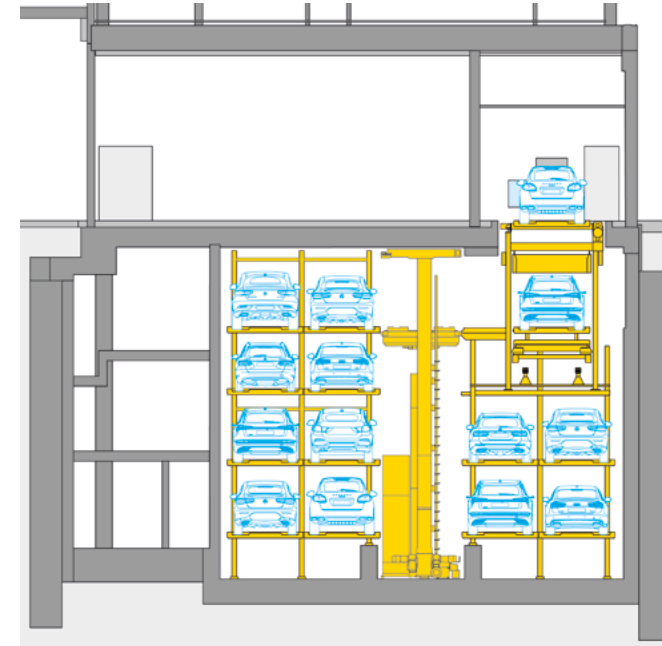
Staggering the heights along three levels softens the building's volume and connects the lofty with the low.

in buildings; specifically, beams with anchor strands were laid in the walls, which carried steel cables tensioned with high loads. Several hundred of these cables were needed to ensure the structural balance of the high-rise. In addition, the building had to be protected against vibrations caused by earthquakes and railway operations.

Furthermore, the Franklin Turm fulfils important public functions. In addition to having a ramp leading to the public bicycle garage, the ground floor of the tower also provides a space for deliveries to and from the station's shopping mall. The adjacent "WÖHR Multiparker 740" parking system efficiently integrates 38 parking spaces for the building's tenants. Once the vehicles have been parked in the transfer cabin, they are automatically transported away and within approximately 139 to 222 seconds are parked inside the four-storey, high-rack storage room in the basement. Depending on the height of the vehicle, 21 parking spaces are available for vehicles reaching a maximum of 2 metres and 17 parking spaces for vehicles up to 1.70 metres with a maximum weight limit of 3 tonnes. The 360° swivelling device in the transfer cabin enables convenient parking and retrieval in the direction of travel.



Photos: Klaus Mellenthin



Product information

Multiparker 740–38 parking spaces, 4 parking levels with 2 parking rows each, 360° rotation for comfortable entry and exit, Duration of parking process 80–170 seconds, Operation via RFID chip, Vehicle length max. 5.25 m, Vehicle weight max. 3 t



XL-Parking Spaces

Text **Ilja Irmscher**
Photo **Klaus Mellenthin**

Rather than being lighter and smaller, cars today just keep getting larger. How are car park planners reacting to this?

Car parks must be adapted to the current car dimensions – that's what the new "Recommendations for Stationary Traffic Facilities 2023" (German: Empfehlungen für Anlagen des ruhenden Verkehrs, EAR 23) put forth by the German Road and Transportation Research Association (FGSV) once again point out. The situation for traffic and personal vehicles has changed significantly since the EAR 05 was first published 18 years ago. Given the push for lighter, more appropriately sized, and more

environmentally friendly cars, one would have expected vehicles to become smaller in the meantime. In reality, the exact opposite has happened: As of 2018, the so-called 85 percent passenger car, used as a standard reference vehicle, is 13 centimetres wider and 14 centimetres longer than it was in 2000. An amendment to the EAR means the standard width of a parking space must increase by 15 centimetres to 2.65 metres and in length by 20 centimetres to reach 5.20 metres.

The current stock of automobiles

The reasons for the increase in the size of passenger cars in recent decades are complex: the constant demand to reduce energy consumption (at least virtually) and pollutant emissions – from particulate matter of all kinds in addition to CO₂, all the way to becoming completely emissions-free; the increasing requirements for active safety systems such as electronic stability control and advanced driver assistance; increasing requirements for passive safety systems such as side impact protection and pedestrian detection; the desire to reduce noise; increasing demand for better usability, comfort, and socio-demographic requirements as well as sometimes illogical fashion trends (truly, only a few drivers actually need SUVs).

As a result, passenger cars have gradually become wider, longer, and heavier. The current registration statistics reflect this trend. Whereas small cars such as the VW Polo and the compact class together account for 40.9 percent of registrations, SUVs and off-road vehicles already have a share of 18.6 percent. This statistic shows what car buyers and users are actually selecting, and their decisions are fuelled by what the car industry has to offer. With the 2020 guidelines for reference vehicles and towing curves to check the drivability of traffic areas, the FGSV has simply provided a current representation of the existing stock of automobiles, according to the registration statistics on hand. SUVs and off-road vehicles are usually 10 centimetres wider than comparable basic types of passenger vehicle, leading to numerous SUVs with body widths of nearly two metres, making them nearly 11 centimetres wider than reference vehicles as a result.

These “oversized loads” are not included in the regulations and must therefore be considered on a case-by-case basis.

New widths for parking spaces

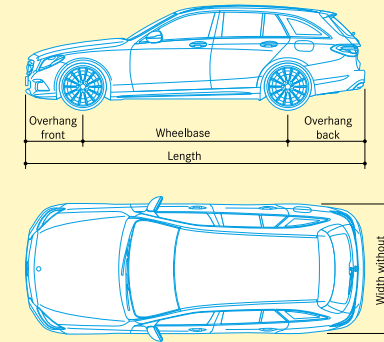
Consequently, it made sense to adjust the widths of parking spaces. For perpendicular parking (i.e., at a 90° angle), it is still possible to have a 16-metre-wide parking lane with a narrowed driveway of 5.60 metres, provided this is permitted under the parking garage regulations. Some garages now require driveways to be at least six metres wide, but do not or only partially take into account the widths that are currently needed for parking spaces.

For a basic understanding of the required parking space widths, it was important to consider not only the driving geometry, but also the entry and exit conditions at the driver's door. For this purpose, parking space tests were carried out with side distances of 60 and 90 centimetres. Here, 60 centimetres is seen as the minimum exit width based on the shoulder span of an average person of normal mobility, whereas 90 centimetres is described as a comfortable width. The EAR 05 and EAR 23 use a width of 75 centimetres as a basis.

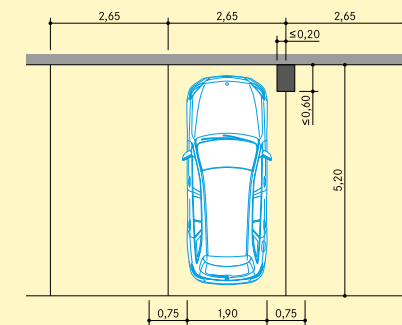
Cars are getting heavier

In the past, most cars weighed well under 2,000 kilograms when empty, but today, thanks to battery electric vehicles, especially in the long-range and SUV types, there are numerous automobiles with empty masses of more than 2,500 kilograms and authorised total masses of more than 3,000 kg. In both conventional parking structures and automatic parking systems, the larger vehicle masses must be taken into account using appropriate load assumptions.

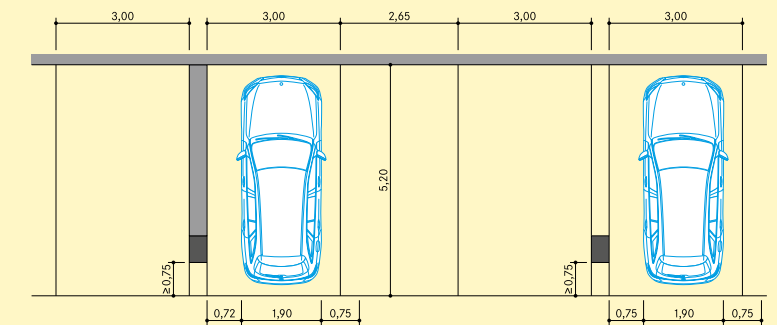
Even when the development doesn't always seem logical, it must be recognised that even modern and environmentally friendly vehicle types are becoming increasingly larger and heavier. This must be taken into consideration when planning and constructing parking facilities of any sort – from car parks, to parking garages, all the way to mechanical and automatic parking systems.



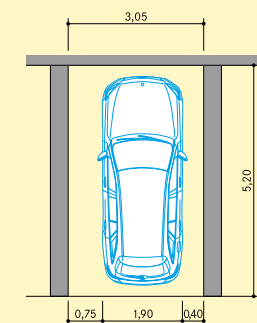
Parking spaces without side boundaries



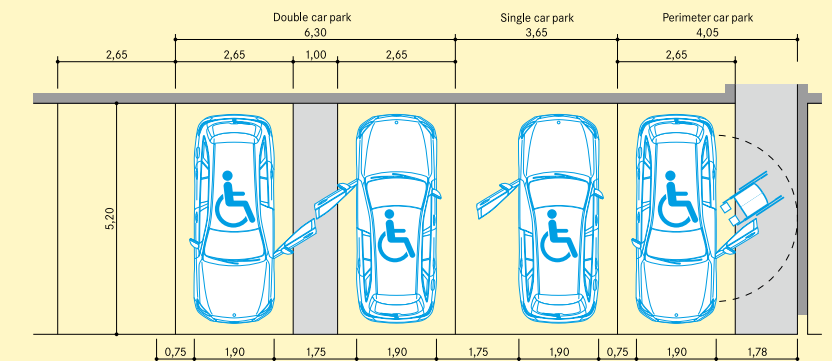
Parking spaces with limitation of one long side



Single garage (Parkbox)



Parking spaces for people with disabilities



Dr.-Ing. habil. Ilja Irmischer

has been self-employed since 1992 and founded the GIVT mbH in 1993, an engineering, planning and consulting firm specialised in parking, multi-storey and underground car parks, as well as automatic parking systems. He has also been a publicly appointed expert for stationary traffic, car parks, and parking systems since 2001.

DARK Arkitekter

DARK Arkitekter, founded in 1988, is a Norwegian company with a sustainable approach to architecture and urban planning. As part of the multidisciplinary Dark Design Group, DARK integrates architecture, landscape, interior design, and urban planning to create community-orientated and environmentally conscious spaces. Projects such as Oslo's Barcode Quarter, Meierikvartalet and Stortorvet 7 demonstrate the company's commitment to designing resilient urban environments that prioritise social engagement and sustainability.

Armon Semadeni

The architectural firm was founded by Armon Semadeni in Zurich in 2009. Since its founding, the firm has planned and implemented several major public and private buildings in Switzerland, including the Museum of Nature in the city of St. Gallen, the University of Applied Sciences for Health and Social Work for the canton of Fribourg, the Franklin Turm office building for SBB Immobilien in Zurich, and several housing estates. The firm plans projects of various sizes and in a wide range of thematic areas, also taking part in competitions and actively promoting a vibrant and diverse building culture in Switzerland.

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