

pwts

MOVEMENTS IN ARCHITECTURE

01 | 2018

URBAN OFFICE

BY MEYERSCHMITZMORKRAMER

VISITING UNSTUDIO IN AMSTERDAM

DIGITIZING BUILT ENVIRONMENTS -
PROJECTS BY WERNER SOBEK

TIMMERHUIS - MAGIC CUBE BY OMA

ABB



Frank Völkel is co-founder of the platform "Smartest Home"

LET'S TALK ABOUT: SMART, SMARTER...

pulse interviews Dipl.-Ing. Frank Völkel

Smart home (private) or smart building (office) – where is there bigger growth?

Quite clearly in the private domain, as things are (still) looking good when it comes to building a home: low interest rates and the opinion that one's own four walls are a good investment. In my opinion this is still just the beginning, after all, the share of smart buildings being built in the private domain is around four percent. On top of which you have the large market for existing residential buildings, which can be retrofitted in a meaningful, future-oriented way to turn them into smart homes.

Are convenience, energy saving, and security still the most important arguments in favour of building automation technology?

Primarily, yes. What we now also have is the issue of the possibility of extensions, and upgrades in the future. We're talking here about spaces being used in a flexible way thanks to a networked infrastructure, for example turning a study into two children's rooms without

making any technical changes. It is also about aging flats and houses. The standards we expect of accommodation are changing. Building services need to be prepared.

What are things looking like in terms of the acceptance of voice-control technology and its prospects?

Some people use it and are totally fascinated; others reject it. It basically has to do with the voice recognition data that end up on a service provider's server and are permanently stored there. But that's how voice recognition works. If you don't link your smart home up to the Internet, you have to do without voice control. Though actually, smart homes also work very well without voice control.

How do you view the German market with regard to building automation? What role do concerns about security play?

There is unfortunately too much talk in German media about the risks involved with smart

homes, without any mention at all of the possibilities and opportunities they offer. On the one hand Germany has worldwide leaders in building automation manufacturing great products, and on the other developers who in some cases are unsettled by reports in the press that are hostile to technology. Nonetheless, more and more developers and property owners are deciding in favour of a smart home, be it a new build or retrofitting. Building automation can be made perfectly secure, whether it is connected up to the Internet or not.

Which innovations can we expect in the future?

In the not too distant future there are going to be houses that recognize the behaviour patterns of their occupants. Smart homes will provide support with a healthy lifestyle and in case of illness. E-mobility will be very much integrated; electric cars will dock on to the building services. We are at the very beginning of this development.

pulse

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René Müller, alpha.EOS

Roland Bechmann studied Civil Engineering in Hanover and has been working for Werner Sobek since 2000 – initially as project manager, then as authorized representative and now as board member and partner at Werner Sobek Stuttgart AG. Bechmann is also Germany’s country representative on CTBUH, the Council on Tall Buildings and Urban Habitat.



Peter Körner studied Physics and Applied Information Technology in Stuttgart before working for various firms as a software developer. He has been working for alphaEOS since 2011 – his most important project is Aktivhaus B10 in the Weissenhofsiedlung in Stuttgart, which set standards in networking between buildings at district level.

DIGITIZING BUILT ENVIRONMENTS

At Werner Sobek’s engineering firm, the fact of having worked on a wide range of projects has given this internationally reputed Stuttgart-based company its own particular outlook on the digitization of the construction industry. As the authors of this article report, the aim is to succeed in linking up digitization in the planning, production and operation of a building. Smart building, smart living and overarching networking concepts are the order of the day.

Even if things do proceed more slowly and have arrived later than in other industries, even the construction trade is now increasingly characterized by exponentially expanding computer capacities and by the rapid development of a myriad of digital planning tools. And we are not only talking about using building automation to control and network heating, lighting and other functions. More than that, the consequences of these changes are affecting everything from planning to execution and building operation and, as a final consequence, demolition. Firstly, it must be said that this development allows for more (geometric) freedom in terms of design and offers great opportunities for a type of serial construction. But secondly, the rapid spread of BIM (building information modelling) is resulting in an integral approach to modelling which requires very close collaboration between the developer, the various planning teams and the executing companies, plus their raw materials suppliers. This makes projects more complex and the volumes of data to be handled larger – and it is becoming all the more important to adopt an interdisciplinary approach in order to guarantee that the opportunities and risks associated with digitization are given sufficient thought.

The Aktivhaus B10 in the middle of Stuttgart’s Weissenhofsiedlung was realized in 2014. That pioneering building produces twice as much energy as it requires – and this exclusively from sustainable sources.

What is important is to link up the digitization in the planning, production and operation of a building. Faced with dwindling resources, the only way to cope with the challenges before us is to adopt this kind of holistic approach. In this article we will be using a selection of examples addressed by the authors to point out where the challenges lie.

The Aktivhaus B10 in the Weissenhofsiedlung housing development in Stuttgart is an energy-plus building which derives 200 percent of its energy requirements from sustainable sources. B10 boasts predictive regulation of production, storage and use of energy. Building automation allows for a balance to be achieved between “strong” and “weak” houses at district level – excess energy can thus be used directly for several buildings. This combination of “hardware” (buildings) and “software” (regulation algorithm) makes an important contribution to the energy transition at district level.

In the P4 project in Neu-Ulm an existing 1930s building was converted into an energy-plus building, with its sustainably derived energy being distributed throughout the build-



Zoey Braun

The aim of the UMAR research module is to demonstrate how in the future the built environment can serve as a resource warehouse and can be reconstructed using recycled building materials.

ing complex. Here too, the use of digital technologies is essential for optimizing the building's performance and for ease of use. The building automation used boasts a customized, predictive control mode, allowing it to meet the ambitious targets set by the German government in a research project.

To quote another example, the Aktivhaus housing development in Winnenden demonstrates that good building automation can be implemented at a simple level in very low-cost building complexes. In the above case, the objective was to erect a building to house refugees from the Syrian Civil War within only a few months and for it to be operational rapidly and at a low cost. At the same time, it should allow for conversion for other uses at a later date. This made digitization extremely important, not only for energy management, but also and most importantly for planning, prefabrication and construction site logistics. In terms of the construction process, the Aktivhaus is also an example of how digitized planning has resulted in a new kind of serial construction. Serial construction now means standardization in the processes of joining, construction and production. These are, however, no longer limited to a narrow range of structural elements. Digital serial construction can now offer very flexible solutions for use-specific urban planning requirements.

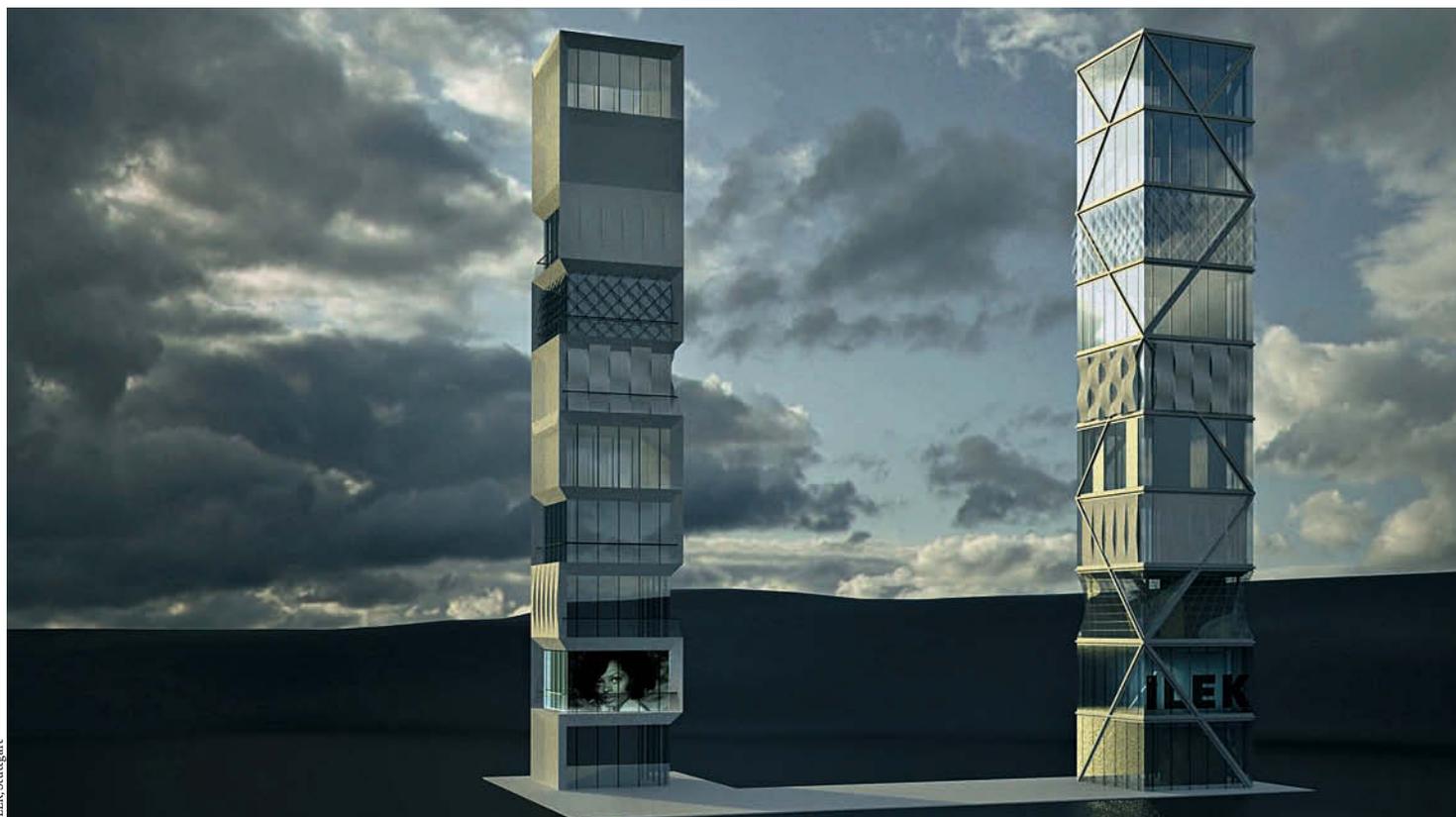
The UMAR (urban mining and recycling) research module in Dübendorf, Switzerland, illustrates how much potential digitization has even today – and shows what questions it will need to be addressing in the

coming years. Here too, intelligent building control, digital planning and manufacture have a role to play. However, the project's focus is less on questions relating to prefabrication or energy efficiency and more on recording all the component parts and materials used. Another objective of UMAR is to demonstrate how in future our constructed environment will be able to act as a resources warehouse and how it will be possible to build new things from recycled building materials. It is part of the Swiss Federal Materials Testing Laboratories' (EMPA) NEST innovation campus. The question of which materials are used where and in what form (and are thus potentially available for use at a later point) is one of UMAR's core concerns. In the coming years, this question will be playing a more important role in the entire building industry. As a result of the increasing shortage of resources, something that will become much more relevant to the planners will be which building materials are available at the planning location, principally in the form of recyclable building materials.

An integral approach is absolutely imperative

How can this information be stored safely and made available to future generations? The question of how to develop this kind of "register of materials" and to operate it in the interests of society as a whole must be discussed by everyone involved in the building industry and solved constructively. This is also an important part of the increasing digitization in the construction sector.

Another survey of possible future questions relating to digitization in



In the coming years, research will be conducted into adaptive load-bearing structures and building shells at what is known as the Demonstrator, a twelve-storey experimental building in Stuttgart.

the building trade is provided by what is known as the Demonstrator – a twelve-storey experimental building on the University of Stuttgart’s ILEK site which is being erected as part of the collaborative research centre SFB 1244. In the coming years research will be conducted at the Demonstrator on adaptive load-bearing structures and building shells. This will involve sensors, control units and actuators being integrated into load-bearing structures and façades in order to optimize their reaction to external physical influences. For supporting structures, this means that active digital controls will be used to distribute external loads more evenly over all elements of the structures, with the result that the individual components can be considerably smaller. Ultimately this saves on materials and thus lowers costs and spares resources.

Here too, digitization is a decisive factor, not only in planning but also in operating and controlling a building and its individual components. Adaptive load-bearing structures can drastically reduce the quantity of materials used – but require sophisticated digital controls, as do adaptive façades, which can considerably cut energy consumption and greatly enhance ease of use.

So what major trends are to be observed in the building trade? New tools such as BIM admittedly make for greater complexity, but also open up new opportunities – not only in terms of building geometry and interdisciplinary collaboration within planning teams, but also for the realization and operation of buildings. On top of this, buildings are increasingly being networked with the smart grids in the towns or cities where

they are located, be it for matters relating to logistics or mobility. This makes for smoother transitions between planning, production, construction, operation, conversion and demolition. An integral approach is thus also absolutely imperative in the field of digital tools. In future, along with questions of energy efficiency and ease of operation, aspects that will become increasingly important for planners, developers and executing companies are safety, quality management and resource management. Without digitization, we will not be able to cope with the fundamental tasks that lie ahead of us – i.e., to build for more people using fewer building materials and to make all the materials used traceable in their technical and biological cycles. What needs to be considered therefore has a much wider scope than simple building automation.

As such, we must start looking at things like SmartBuilding, SmartLiving and at networking concepts in a wider sense. Building automation has to take account of the whole building (SmartBuilding). And daily life should become simpler and easier through more general automation (SmartLiving). This includes things like digital personal assistants and a predictive control mode which can be adapted to all kinds of different customer requirements swiftly and easily. Only the calculated interplay of a large number of individual components will achieve the desired intelligent results. This needs to be taken into account from the early stages of planning – this is the only way to combine resource efficiency, cost-effectiveness and ease of operation over the long term and to the benefit of everyone.

SMART BUILDINGS OF THE FUTURE

The key term “ecological building” makes most people think of eco-friendly materials being used, the installation of photovoltaic modules or heat pumps, and ever-changing requirements regarding thermal insulation. Only very few architects dare to think outside the box and produce ideas that go beyond these existing technologies and regulations. We provide an overview of some of these visions here.

UNSTUDIO: FARMING VISION



Amsterdam-based architecture office UNStudio’s projects consistently feature spectacular architecture with futuristic, organic forms. “Future Farms”, the studio’s latest project, is a concept for the future of farming. The glass tower with its elegant design could be realized in rural or urban settings and consists of round segments of different sizes and heights asymmetrically stacked one above the other in what looks like a precarious equilibrium. The possibilities of innovative cultivation methods and their effects on our environment are to be studied inside the uniformly transparent shell. Studies by the United Nations, according to which the projected growth in the global population by 2050 will require an increase in food production by 70 percent, underlie the concept. Where is this immense amount of food to be grown? Which preferably carbon-neutral technologies are to be employed in its production? And how will these innovations change our landscape? In formulating their response to these questions, the architects have

drawn on a viral idea that is especially popular in the Netherlands and involves vertically stacked farming. They have combined this with recent developments in “controlled farming”. The latter enables very high crop yields and a highly efficient exploitation of surfaces while requiring little to no sunlight.

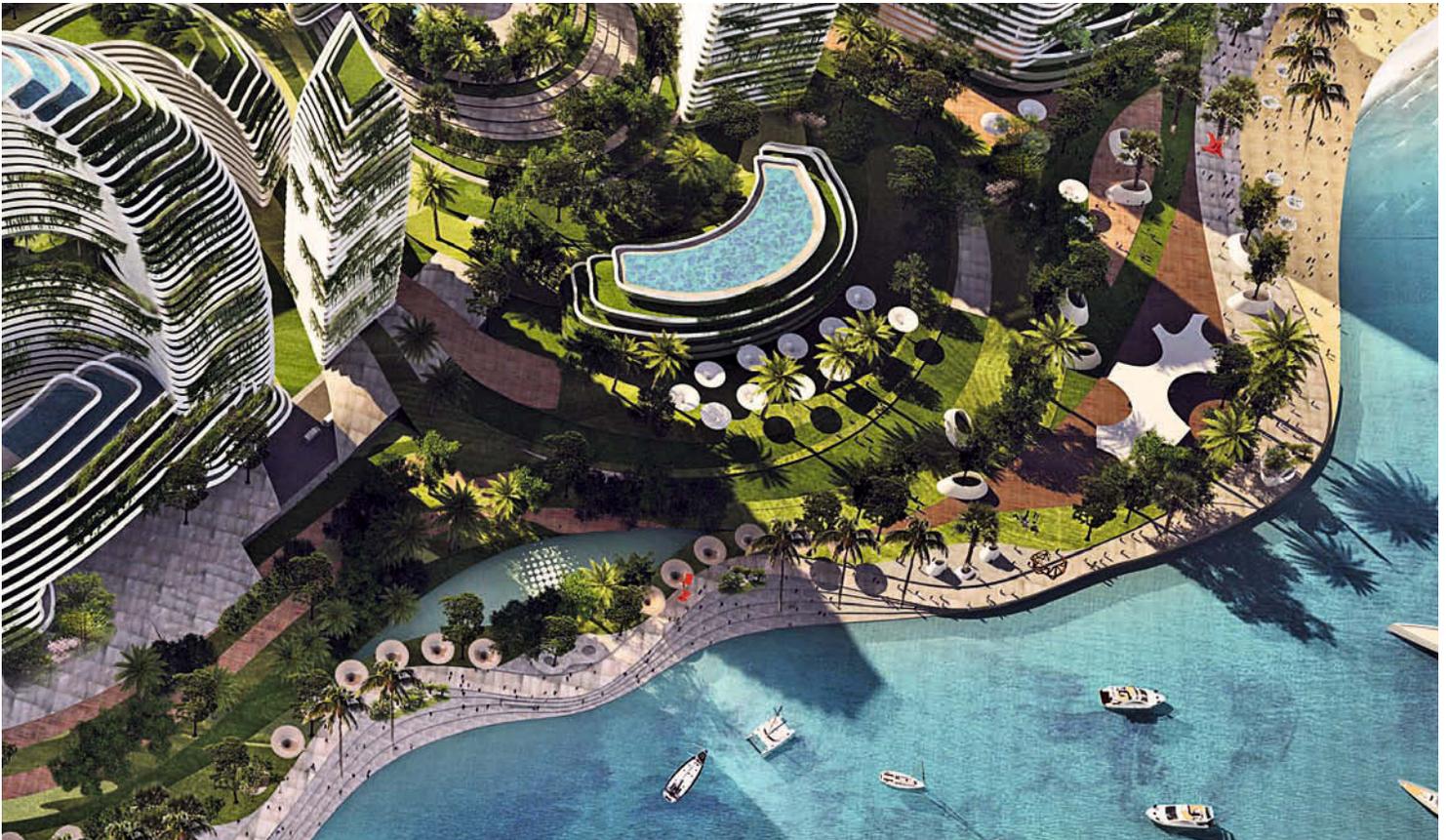
UNStudio’s glass tower builds on these innovations and imagined scenarios and suggests cultivating all food crops in the dark core of the extremely deep levels, leaving the surrounding space next to the façade free for functions such as administration or research. The architects further see supermarkets and restaurants as possible users: The concept would allow them to grow many of their products in-house – thus enabling them to keep a closer eye on product quality and reduce distribution costs. The project is optimized through the use of innovative technologies such as drones, geo-mapping and robotics.

LAVA: FOREST CITY



LAVA

The internationally active LAVA Laboratory for Visionary Architecture, based in Berlin, Sydney and Stuttgart, combines digital design and manufacturing technologies with organizational patterns found in nature in order to shape a more intelligent, friendly, social and ecologically responsible future. Recently, the office founded by Chris Bosse, Alexander Rieck and Tobias Wallisse won second prize at an international competition for the planning of a central quarter spanning 24 hectares in “Forest City”. The metropolis, planned by Chinese investors, is to house 700,000 residents on an artificial island spanning 20 square kilometres and located between Singapore and Malaysia. LAVA’s concept includes defining the city by way of a centrally located forest space rather than through a predictable skyline made up of a few iconic high-rises. A group of buildings of different heights are arranged around this core, which in their organic shape depict an architectural interpretation of the centrally located rainforest. The large internal and external roof gardens and terraces that allow for a fluid link between inside and outside are an important element of the proposed buildings.



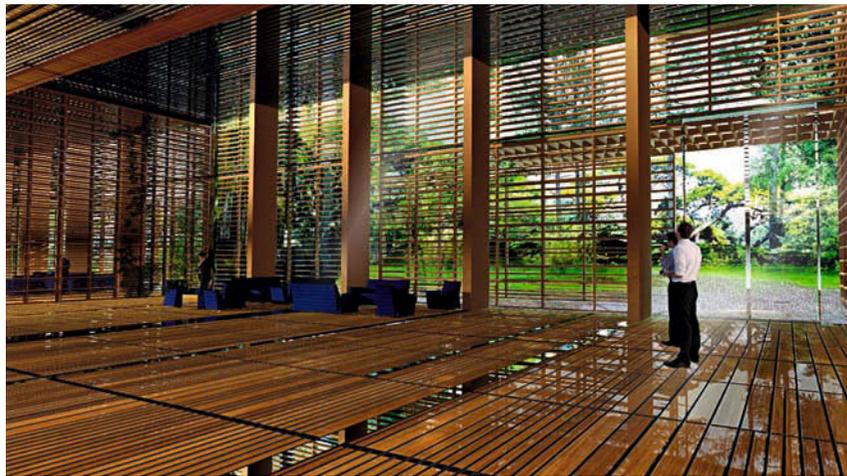
ATELIERS JEAN NOUVEL: ROSEWOOD TOWER



Ateliers Jean Nouvel

With around 21 million inhabitants, the Brazilian metropolis of São Paulo is among the largest cities in the world. At the beginning of the last century, the hospital complex Cidade Matarazzo for the medical treatment of immigrants was built in the Neo-Colonial style in the heart of the megacity. Having been vacant and decaying for many years, the listed complex is now to be revived with a mix of flats, hotels, retail units and restaurants. The Rosewood Tower devised by Jean Nouvel – a modern six-star hotel and residential complex with 151 guest rooms, 122 freehold apartments, two restaurants and a fitness area – is a key building block of the project.

The wooden façades with their grid-like structures and numerous terraces, overhangs and recesses, the design of which is strongly influenced by the overgrown vegetation of the abandoned Cicade, are a striking design element of the 22-storey hotel tower. The new building is set to naturally integrate itself into the environment characterized by fig and magnolia trees. With this interplay Jean Nouvel hopes to create “hanging gardens” with lush vegetation and a fantastic view of São Paulo. The architect is working with French designer Philippe Starck as well as the two Brazilian artists Beatriz Milhazes and Saint Claire Cemin to realize the project, which is scheduled to be completed in 2019.



VINCENT CALLEBAUT: NAUTILUS ECO-RESORT



Belgian architect Vincent Callebaut devises visionary concepts for future architecture inspired by biotechnology as a response to global climate change. One current example of this is his “Nautilus Eco-Resort” in the Philippines, which is intended to render a contribution to the sustainable development of the country in the face of overfishing, mass tourism and pollution. The project includes an elongated row of 12 shell-shaped hotels as well as 12 residential towers that continuously rotate to face the sun and comprise altogether 162 apartments. Both sections are grouped in a spiral shape around a centrally located island that houses a marine research centre designed in the shape of a hill.

In order to enable optimum insulation of all the buildings and ensure a sustainable supply of electricity, their façades and roofs incorporate photovoltaic modules and plant walls of various designs. In addition, rainwater is reused and greywater is recycled in sedimentation tanks. All the architectural structures involved are inspired by natural shapes and structures.

The project is to be realized by local companies almost exclusively using recycled materials. It further includes the use of hemp for thermal insulation, as well as, among other things, microalgae and linseed oil being employed in the production of tiles. Here the interplay of different factors is to give rise to a comprehensive model project for sustainable tourism.



URBAN & ENERGETIC

meyerschmitzmorkramer has transformed a 1990s office building in Frankfurt into the corporate head office of Deutsche Vermögensberatung Holding and its subsidiaries by giving its façade a structured facelift and its interior a complete overhaul. Building and shell now communicate transparency and openness both inwardly and outwards towards the city.

Text: Uta Winterhager • Photos: HGEsch, Hennef

When Deutsche Vermögensberatung acquired the seven-storey office building in Frankfurt's Gutleutviertel neighbourhood, it certainly did not convey the image of a modern company headquarters with its post-modern façade and dark office cubicles. What worked in the building's favour however was not only its central location, just a few minutes' walk away from the main railway station and the Main riverbank, but also its sheer size. Yet rather unusually for Frankfurt, the complex does not soar into the sky: It occupies the edges of the block facing Windmühlstrasse and Wilhelm-Leuschner-Strasse and also the block interior with three tracts, lit through the courtyards thus formed.

The building with its rhythmic façade made of light natural stone and mirrored glass is a child of the 1990s, and neither the architects nor the building owners want to deny this fact. But the turquoise window frames did not fit with the new concept at all and were given a more timeless grey coating. According to the new users' wishes, the architects opened the building up towards the city. They replaced the mirrored panes in the two lower floors with clear glass in order to allow both inward and outward glimpses. What is also interesting is that two of the building's corners house gastronomic offerings (an ice cream parlour and a pizzeria), which deliberately have not been made exclusive to staff. "Office buildings should not stand in the centre of town like isolated monoliths. Companies can provide a decisive contribution to urban vitality in the







The spacious and bright foyer is the central point of the new office building. Moving the entrance was one of the principal measures of the conversion.



neighbourhood by opening themselves up to city life,” architect Holger Meyer explains. The repositioning of the main entrance from the front on Windmühlenstrasse to the long flank on Wilhelm-Leuschner-Strasse can also be understood in this context. A spacious foyer was cut into the existing three-wing structure in the axis of the central courtyard using an elaborate construction procedure. The new glass main entrance swings back from the façade level in a dynamic gesture, creating an inviting situation. Here too, the glass façade allows for views into and through the structure, as well as channelling a large amount of daylight deep into the building. Floors and built-in fixtures in light natural stone, oak wood panels, white plaster surfaces, glass doors and balustrades create an open and friendly atmosphere, while the dark embrasures and doorframes make for effective graphic accents that continue the new colour scheme of the façade into the building interior.

The atrium provides space for up to 250 people

The foyer is not only a port of call and passageway for internal members of staff in the new “Office Building Wilhelm-Leuschner-Strasse”, but also serves as a reception

area for the numerous participants at conferences and training events. This is because the heart of the company headquarters is the atrium erected in the central courtyard and named after company founder Dr. Reinfried Pohl. It is able to hold up to 250 people. The steel construction was placed in the courtyard like a table in order to create a high, bright space spanning three floors. Glass roof sections as well as adjoining ones on the sides further underline this impression. A textile anti-glare shield, which is otherwise hidden in the construction, may be extended in order to ensure the discretion necessary for certain events. The atrium may be linked to the adjoining conference halls along its two long flanks, thereby making room for 350 seats. Participants have direct access to the adjacent green courtyards for communicative breaks during events. Here, they will also encounter internal Deutsche Vermögensberatung staff visiting the in-house restaurant on their lunch break. This was situated in such a way that all tables have a view of either the street or the courtyard. In the winter months, when the kitchen of gelateria “Aroma”, run by the same catering company as the restaurant, is closed, there is further seating available in this cool-blue ambience –



The ice cream parlour "Aroma," which boasts a cool-blue ambience, extends the offerings of the in-house restaurant and is also open to visitors.

where guests even have a view of the Holbeinsteg pedestrian bridge, which connects the Gutleutviertel quarter with the Museumsufer embankment and its museums on the other side of the River Main.

Open space

All the company headquarters' publicly and jointly used areas are on the ground floor. However, meyerschmitzmorkramer also gutted and completely restructured the upper storeys. Instead of allocating small cubicles to all staff, the new open-plan layout on all floors now provides a great range of workstations. The group of offices along the façade are typical of this layout: Up to 25 workstations may be arranged in each of these depending on the department. The architects employed glass walls instead of solid walls here in order to create a friendly and transparent atmosphere. A broad range of spaces for more or less formal communication is also part of the layout. There are the lounge-style kitchenettes, enclosed think tanks, open meeting areas and even a so-called quiet room.

The staff working on the fourth floor are especially lucky: They have direct access to the terrace on the atrium roof. In order to be able to situate all the offices along the façade, all servicing functions from sanitary facilities to circulation and ancillary rooms were moved to the middle axis of the deep tract.

A subtle colour-based guidance system makes navigating the building easy.

A guidance system created by Munich-based strategy agency Brandoffice in collaboration with the architects makes orientation in the building easy for staff and visitors: Each sector has been assigned a colour. This is both used in infographics at important intersection points and makes a subtle appearance in the furnishings – without however counteracting the serene impression of the black-and-white colour scheme used in the offices.

New heating-cooling ceilings with finely perforated metal sheets were further used throughout the building. These have a special acoustic lining and achieve exceptional acoustic values in combination with the carpets and furnishings used.



The central atrium spanning three floors in the courtyard provides space for up to 250 people in the context of conferences or training events. Below: Communication zones are part of the concept.

Commitment to Frankfurt

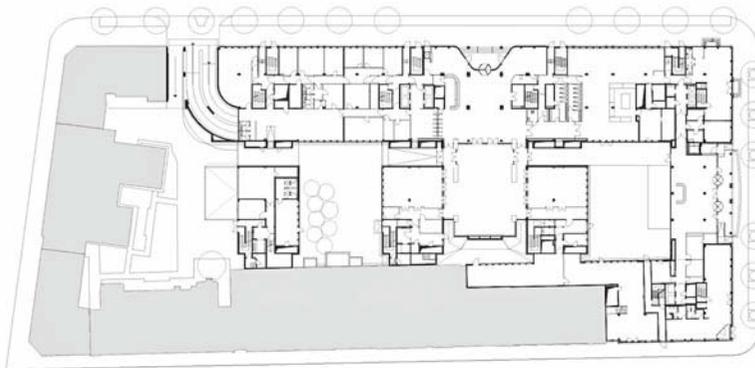
The planners also paid special attention to the high-end design of the seventh floor, which houses the management offices, along with a large conference room especially equipped for board meetings – obligatory skyline view included. Materials already used in the foyer also feature here, albeit in a different context. The light natural stone, for example, makes an extensive appearance here as a wall covering, while natural wood is used in the shape of lightweight screens in front of the windows in the corridor areas.

“We are on a consistent growth trajectory,” notes Lars Knackstedt, DVAG Board member. “The new headquarters, as a symbol of our future orientation, offer us optimal conditions to maintain it, as well as simultaneously being a commitment to Frankfurt and to our company.” The sustainability concept pursued in the modernization of an existing structure is also interesting in this context. Altogether, the developer and architects have created a consistent, up-to-date urban structure here with a great sense for materiality.

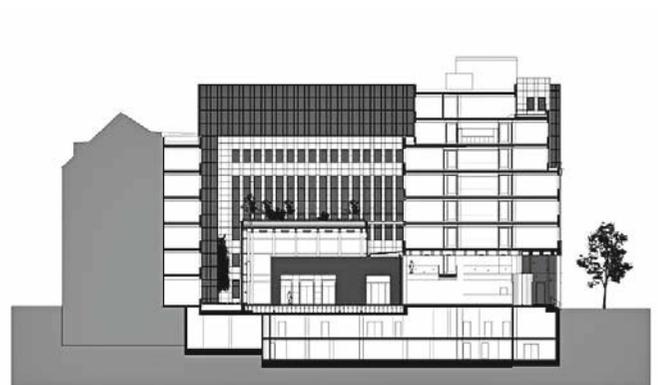




Typical floor plan



Layout ground floor



Cross section of the atrium

DVAG HEADQUARTERS, FRANKFURT, GERMANY

ABB/Busch-Jaeger product

FUTURE® LINEAR

What makes future® linear so attractive is its uncompromising, sleek design combined with strong colours, which correspond to a contemporary architectural conception. Impressive to behold and in the soft-touch shades studio white matte and black matte.



Project partners

CLIENT

Deutsche Vermögensberatung AG (DVAG)

ARCHITECT

meyerschmitzmorkramer, Frankfurt/Main

COMPLETION

End of 2017

INTEGRATED PRODUCTS BY

ABB/BUSCH-JAEGER

Switch programm future® linear, tactile sensor
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The office currently employs 150 staff members at the locations Cologne, Frankfurt, Düsseldorf, Hamburg, Munich and Palma de Mallorca. The team headed by partners Holger Meyer and Caspar Schmitz-Morkramer develops solutions for new buildings as well as ideas for individual conversions of existing structures and interior design concepts. The projects include urban planning ventures, residential buildings and offices, retail spaces and conference centres, as well as schools, hospitals and cultural buildings.
www.msm.archi

MODEL SUSTAINABILITY

The new building housing the Rotterdam municipal authorities combines living and working space, while at street level there are attractive retail outlets for the city's inhabitants. With its highly acclaimed project, OMA has not only delivered a further cornerstone in the development of the city, but created an exemplary design in another respect as well: The "Timmerhuis" can rightly claim to be the most sustainable building in the Netherlands.

Text: Dr. Klaus Englert • Photos: Sebastian van Damme, Ossip van Duivenbode

The motto of Rotterdam's renewal process is "urbanization of the docks and densification of the downtown area". With local hero Rem Koolhaas having erected the skyscraper complex "De Rotterdam" on the banks of the River Maas four years ago, development of the Kop van Zuid docklands close to the city was completed. When the architects at MVRDV then realized the spectacular "Markthal" next to the weekly market and the medieval Laurenskerk, it was clear that urban densification was being prioritized. Designed by Reinier de Graaf and Rem Koolhaas and located close to the City Hall on Coolsingel and the new "Markthal" on Binnenrotte, OMA's latest superstructure, the "Timmerhuis" (carpenter's house), opened in late 2015. This major project, which has already been referred to as a "magic cube", is a further important cornerstone of urban planning strategy, characterized as it is by inner-city densification. After all, the "Timmerhuis" was, as Reinier de Graaf comments, "transplanted to an existing city centre, between post-War terraced houses and 1970s and 1980s office blocks."

The development of municipal activities

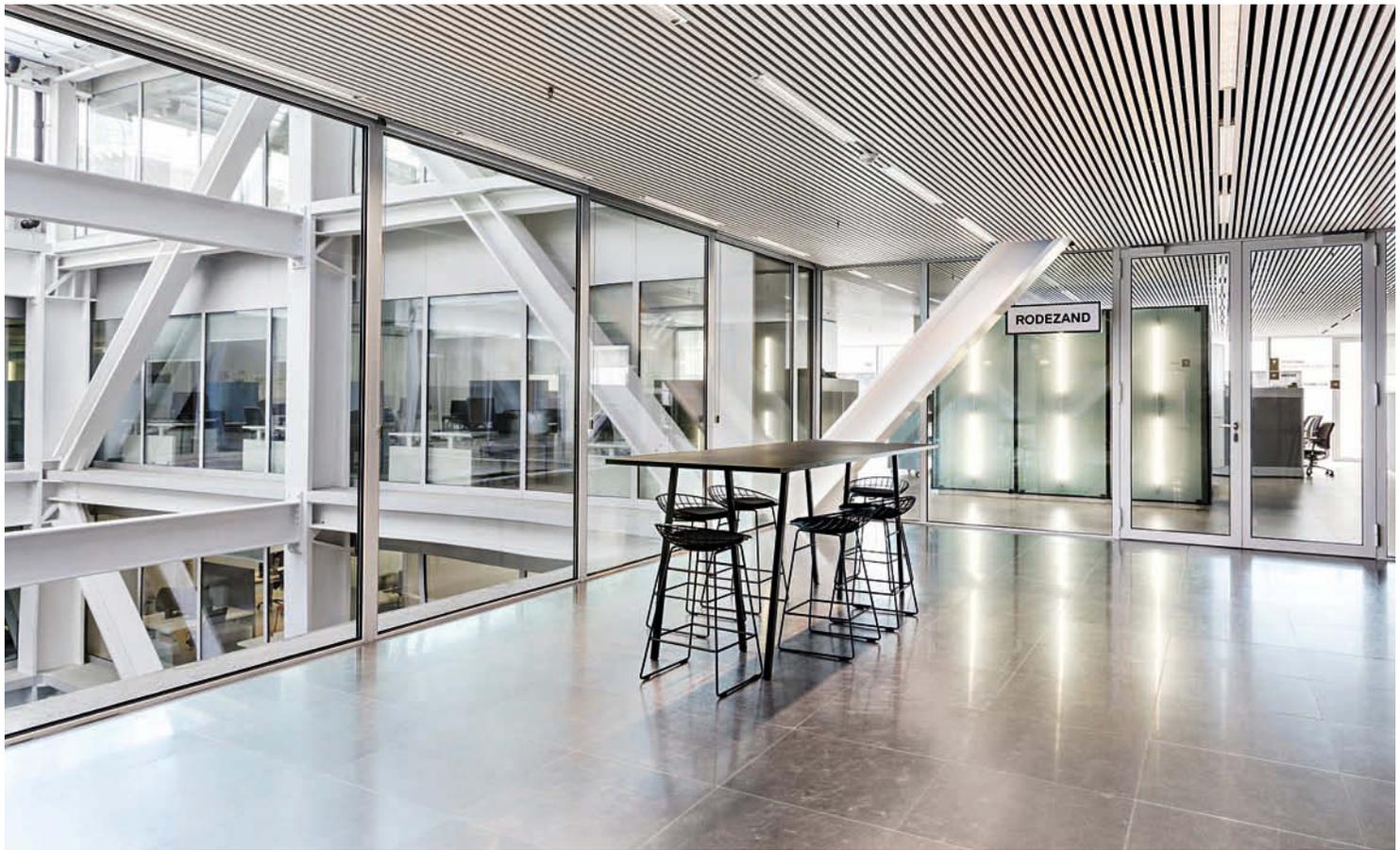
There are many aspects to downtown densification. Léon Wielaard, a project developer who works for the municipal authorities and who has been involved with the conversion of the Laurens district since 1993, sees great opportunities for future developments in tunnelling the former elevated railroad along the River Binnenrotte, as well as in the construc-

tion of Blaak underground station. Dismantling the viaduct has enabled lots of hindrances to city life to be reversed.

Wielaard is convinced that "the Laurens district in particular has clearly benefited," and says that alongside the new market hall, the "Timmerhuis" will help promote the development of municipal activities. The Rotterdam-based project developer primarily has in mind the 12-metre-high public passageway that links the "Timmerhuis" with the pedestrian passageway on Coolsingel and the Laurens quarter. Retail concepts were used to make the passageway more attractive, and these are also successfully asserting themselves in the market hall: small businesses – restaurants, cafés, and speciality stores – with extraordinary products. Municipal service facilities were originally envisaged for the foyer. The idea ultimately led to "Museum Rotterdam", the city's history museum, which has been affiliated with the "Timmerhuis" since 2016 and traces the history of the city on the River Rotte from its beginnings in the Middle Ages to the present day.

Roland Schneider, the Deputy Mayor responsible for urban development and the developer of the "Timmerhuis", is particularly proud of how well it has been accepted by Rotterdam residents. In late 2016, for example, the high-rise complex won the Public's Choice category in the "Rotterdam Architecture Award" for Dutch architecture. For the "Timmerhuis" an objective had been pursued, he continues, which had also applied for "De Rotterdam" and the "Markthal", namely a multi-purpose programme





Open office units are directly adjacent to the central atriums, which serve as green lungs and supply the spaces with daylight.



with public and private facilities. “Alongside the public features, all three structures boast high-end apartments in an attractive location.” The run on condominiums must have been huge, but lots of Rotterdam residents are critical of the fact that the subsidized apartments originally planned were later axed.

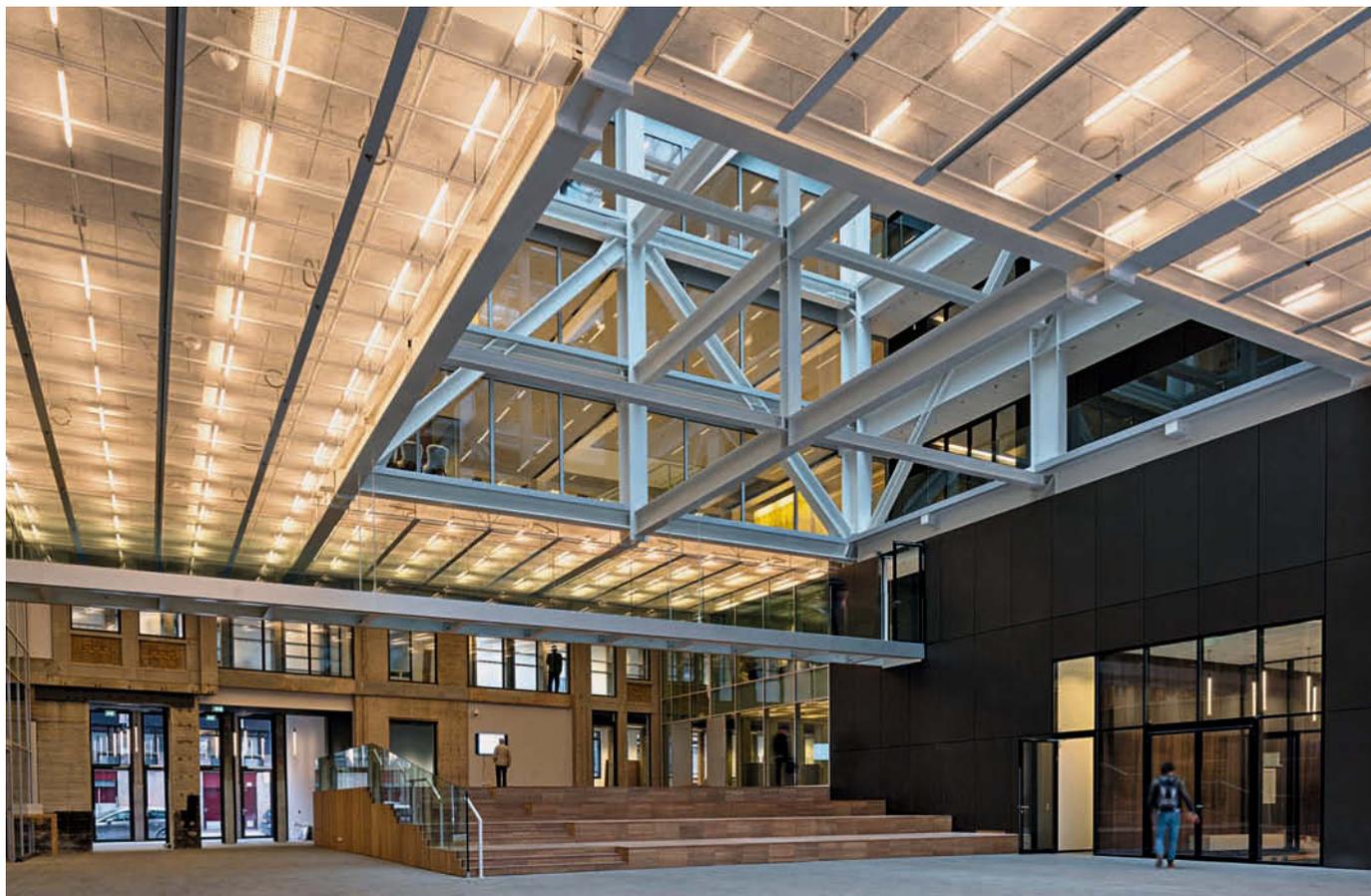
Existing structures and the modular landscape

Forming a gleaming mountain landscape, the steel modules of the “Timmerhuis” accommodate 84 apartments of different shapes and sizes, arranged around the two office towers. The flats, whose windows have dot patterns as sun protection, have greened terraces, created by the offset configuration of the stacked apartment modules. As Reinier de Graaf explains, “Whereas in the case of ‘De Rotterdam’ we designed various volumes for different functions, the ‘Timmerhuis’ comprises a single structure, which accommodates all functions in the same grid. The apartments in particular reveal how the highly repetitive use of just a few industrial products creates variable footprints without any typological repetition whatsoever.”

The developer Roland Schneider is full of praise, stating

that the “Timmerhuis” represents an enormous gain for the municipal authorities, as like with “De Rotterdam” it offers over 25,000 square metres of office space for municipal employees and likewise a roof garden used jointly by residents and staff members. One condition had been, however, that the old listed “Timmerhuis”, a corner plot of land dating from the days of Rotterdam’s reconstruction, be renovated and united with the new build. The result is somewhat bizarre, as the old structure now surrounds OMA’s modular mountain landscape on two sides, forcing the two highly dissonant styles together.

The “Timmerhuis” is part of Rotterdam’s energy campaign, as the municipal authorities insisted on the hybrid being a low-energy building with the best energy efficiency in the Netherlands. This sustainability record is primarily due to the atriums, 3D Vierendeel steel structures made of simple steel struts visible above the public passageway. These atriums function as green lungs for the structure; they allow daylight to penetrate, and by means of energy exchange store heat for colds days and cold for hot days. The experts at the world-famous engineering firm Werner Sobek in Stuttgart were engaged as consultants for the



Foyer of the “Timmerhuis” with atrium – thanks to the load-bearing steel structure, which spans up to 21 metres, the street level is reserved for public use.

sustainability concept; they drew up a holistic assessment of the 48,400-square-metre hybrid. With the concept having undergone a microclimatic analysis, the planners were able to optimize the building in terms of the use of natural daylight, thermal comfort, energy consumption and water saving. The result is an annual saving of 1.8 million litres of drinking water, which amounts to an average reduction in water consumption of 51 percent. Furthermore, for the building’s sheath Werner Sobek used semi-transparent insulation panels, which guarantee a high level of thermal comfort while at the same time ensuring sufficient daylight in the office spaces. For the energy balance achieved, the “Timmerhuis” was awarded the internationally renowned Building Research Establishment Environmental Assessment Method (BREEAM) sustainability certificate.

The energy balance achieved led to the international sustainability certificate Building Research Establishment Environmental Assessment Method (BREEAM).

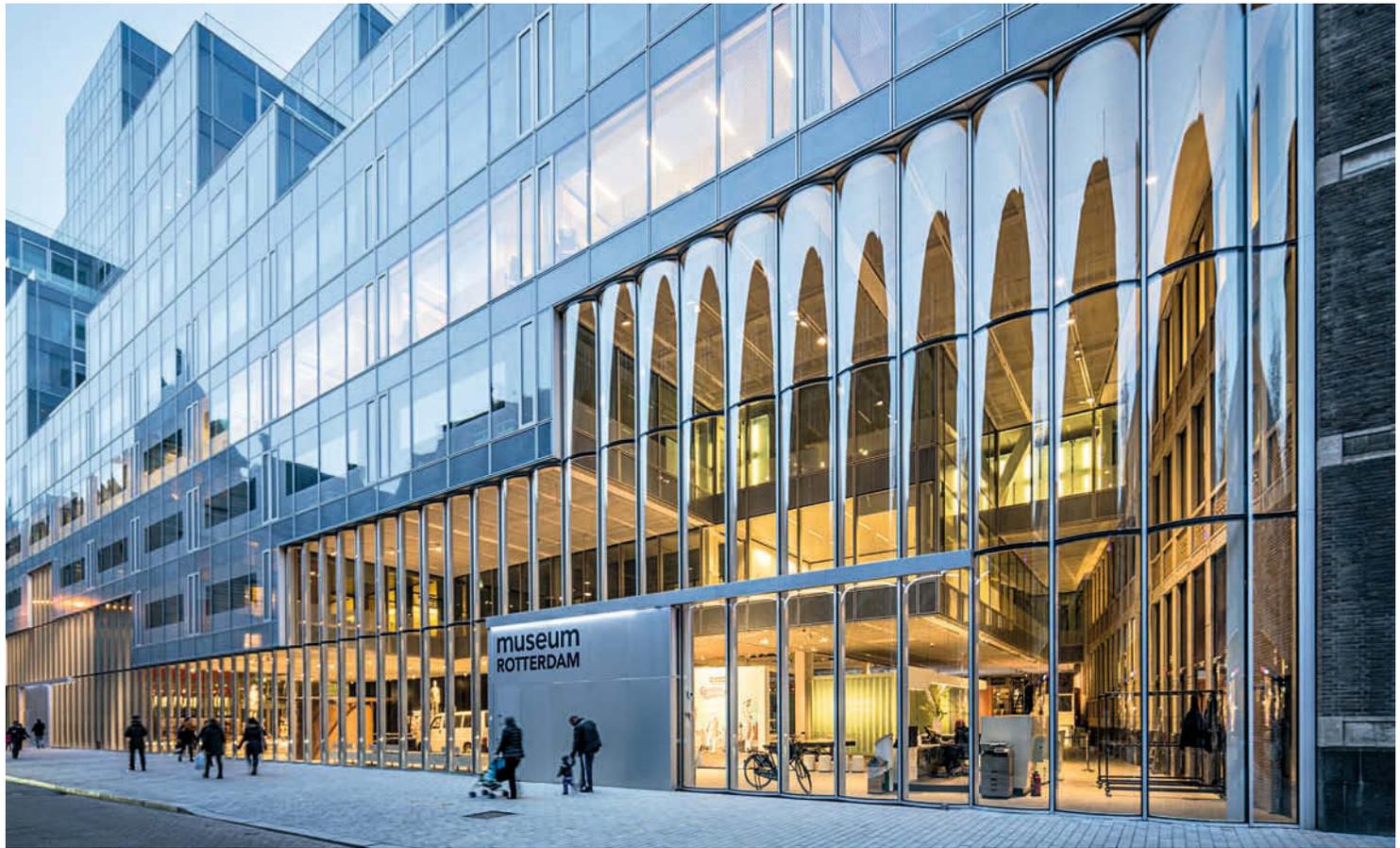
A project with which the municipal authorities are entering uncharted territory

is an extension of the energy concept. Schneider refers to an “e-mobility ecosystem”, by which he means the electric cars available on the park deck, which residents can hire via a digital service. It goes without saying that a system of this nature can only work if the municipal authorities provide a sufficient number of charging stations. In the “Timmerhuis”

itself a total of 20 were installed, and there are a further 2,000 throughout the city.

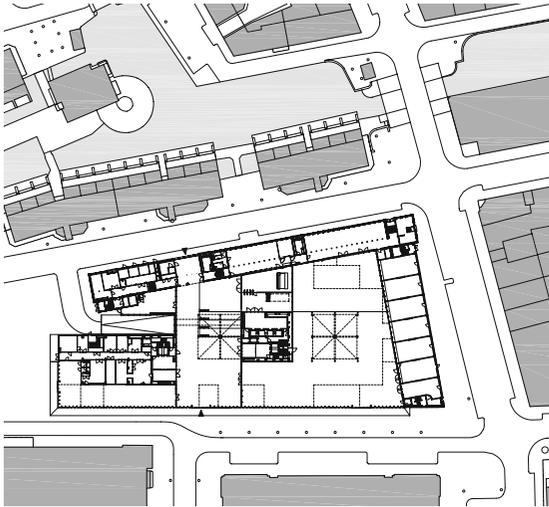
Deputy Mayor Roland Schneider, however, is thinking beyond city-centre projects: Start-ups operating in the field of sustainable energy sourcing are increasingly

settling in the Old Harbour district. The Rotterdam Port Authority has faith in the change of image and would like to get away from the intensive use of fossil fuels. The docks are currently morphing into a giant experimental laboratory for architecture in times of climate change – starting with Kop van Zuid through to the former RDM shipyard, where lots of young companies have set up shop. Roland Schneider’s new motto: “Rotterdam is growing together.”

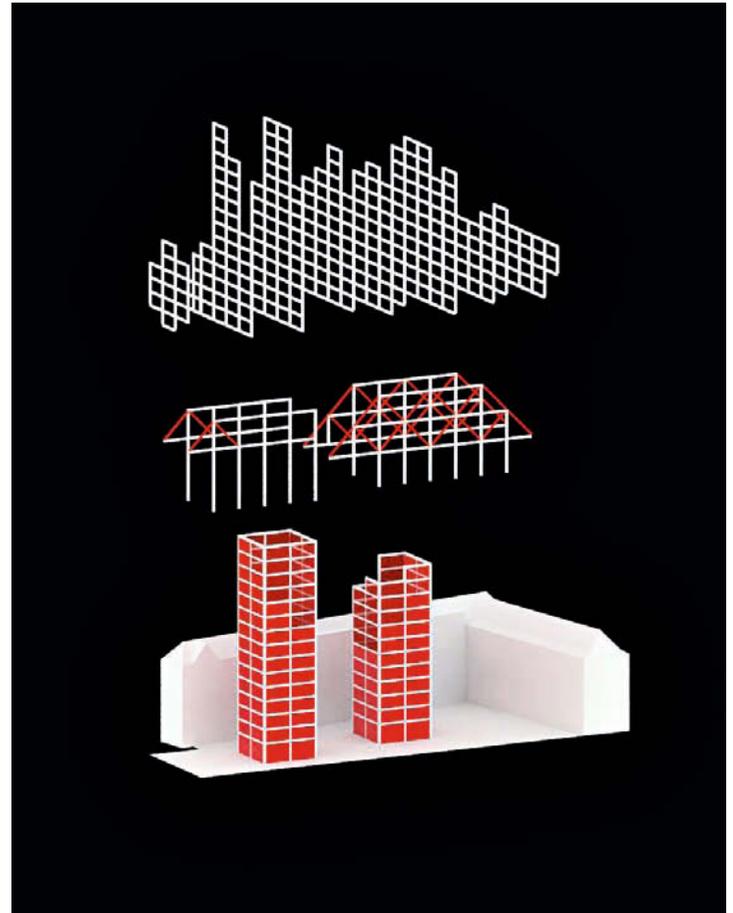


Above: The façade comprises a triple-glazed curtain wall with translucent insulation. Below: View of the Laurens district with the Timmerhuis, Sint-Laurenskerk, and the market hall.





Above: Layout ground floor. Below: Cross section



The steel structure and two cores allow a high degree of flexibility.

TIMMERHUIS, ROTTERDAM, NETHERLANDS

ABB/Busch-Jaeger product

KNX-SYSTEM

KNX has become established as the only open standard worldwide for home and building system engineering. With this technology Busch-Jaeger offers an efficient control system for lighting, heating, energy consumption, and security systems. Not only does it mean an increase in comfort at work and at home, but also in energy efficiency and security. Audio, video, and household equipment can be easily integrated. On top of which the self-explanatory Busch-Jaeger controls mean that all building and living areas can be controlled with ease.

Project partners

CLIENT

Stadsontwikkeling Rotterdam

ARCHITECTS

OMA, Rotterdam

PARTNER ARCHITECTS

ABT

INTEGRATED PRODUCTS BY

ABB/BUSCH-JAEGER

Busch-balance® SI, presence detector 6131, cabinets (Striebel & John), Hafobox, installation sockets

OMA, Rotterdam

OMA is an international practice operating within the traditional boundaries of architecture and urbanism. AMO, a research and design studio, applies architectural thinking to domains beyond. OMA is led by nine partners – Rem Koolhaas, Ellen van Loon, Reinier de Graaf, Shohei Shigematsu, Iyad Alsaka, David Gianotten, Chris van Duijn, Ippolito Pestellini Laparelli, Jason Long – and maintains offices in Rotterdam, New York, Beijing, Hong Kong, Doha, Dubai and Perth.
www.oma.eu

GOOD NEIGHBOURLY RELATIONS

The Swiss architects at Atelier 5 have created several residential complexes in the north of Frankfurt characterized by attractive views and communal areas. Automated home comforts are a matter of course in the Q3 project: Completed in 2017, it incorporates intelligent building technology.

Text: Christof Bodenbach / Lasse Ole Hempel • Photos: Thomas Ott; Bien-Ries AG

Since the turn of the millennium a new district has been taking shape in northern Frankfurt on what was previously farming land. The Riedberg district covering a total of 266 hectares is now almost complete, and will eventually house 15,000 people. Located between Bonifatiuspark, which runs through the area like a long strip, and Kalbacher Höhe, a housing complex of 56 owner-occupied apartments was realized in 2010, designed by the highly traditional Swiss architects from Atelier 5. Dubbed Q5, it was the first building phase of a larger development plan for the area. Q5 exemplifies the Bern-based architects' characteristic concept of density and options for retreat, community and privacy which has become its trademark. At the time Atelier 5 proposed not to arrange the various elements of the building plan and the quarters along Kalbacher Höhe at right angles to the ascending road. Rotating the block effectively created triangular forecourts, which act as public gardens and move the apartments themselves back from the road.

Diverse façade

The Q3 complex (see photo on the right) consists of four individual buildings above a communal underground garage level. It stands out for being relatively compact, but also for the ingenious interplay of private outdoor spaces – balconies, loggia and front gardens – with the central, semi-public inner courtyard, the “village square”. The various blocks present a complex stacked appearance of different depths and







Atelier 5, Bern

Visualization of Q3's southern façade

heights, while the façades have windows of differing sizes that jut forward or back, thus offering variety without appearing chaotic. Apartment sizes range from one to five bedrooms. Thanks to the location on a slope, residents can enjoy an uninterrupted view of the surrounding countryside and Frankfurt's skyline.

Intact neighbourhood

The architects had to make several concessions to the market – for example, although originally three-storey maisonettes were planned most were eventually realized as two-storey units. Nonetheless, it quickly became apparent that Q5, which is also known by the name “Take 5”, would be a success. Not only did the roughly 150 occupants not regret purchasing their apartments; they also felt at home in them and in the complex as a whole. An intact neighbourhood has already evolved here, which is unusual for new districts. In 2009 Atelier 5 also won the competition for a further multi-storey residential project and a church, both immediately adjacent to the plots of the Q5 construction phase. This meant the entire length of Kalbacher Höhe was planned by the architects from Bern. In summer 2016 the St. Edith Stein Church was consecrated and quickly became a

landmark thanks to its elevated position. The new complex dubbed Q3 by the architects was completed in 2016 and in 2017 fully occupied. The five buildings each containing 131 apartments are grouped around two communal courtyards, with the building entrances facing the courtyards.

Smart home technology

An important element of the concept underlying the Q3 project (which was also marketed under the name “Blink Your Eyes”) is its digital networking. At the request of the developer Bien Ries AG, all the apartments were equipped with the Busch-free@home automation system and the door communication system Busch-Welcome by Busch-Jaeger. Thanks to the Busch-free@home app, heating and blinds can be controlled from inside the home or while on the go via a smartphone or other mobile device. This makes it easy to turn up the heating or switch on the porch light while away from home. This convenient smart home environment is complemented by a lighting control system and motor-operated textile screens.



Bien-Ries AG

Interior of the Q3 residential project prior to occupation



View Q3 – Kalbacher Höhe



Layout ground floor – Q3

HOUSING AREA Q3/Q5, FRANKFURT/MAIN, GERMANY

ABB/Busch-Jaeger product

ABB-FREE@HOME®

The innovative system enables simple access to a smart home from a computer, smartphone or tablet PC. Unlike conventional electrical installations it only involves low additional costs. The system is especially convenient when used with the free ABB-free@home® app. User-friendly controls mean that all building and living areas can be controlled with ease.



Project partners

CLIENT

Bien-Ries AG, Hanau

ARCHITECTS

Atelier 5

Architekten und Planer AG, Bern

CONSTRUCTION PHASE (Q3)

2015–2016

INTEGRATED PRODUCTS BY

ABB/BUSCH-JAEGER

ABB-free@home®

Busch Welcome®

Atelier 5

The office was set up in 1955 by five young architects in Bern. Today, Atelier 5 is again run by five partners in the fourth and fifth generation. Their approach to work and focus on collaborating closely with clients and planners has been continually advanced. Atelier 5 projects are the result of a differentiated approach to the existing situation and the main functions of the buildings. The emphasis is always clearly on the people using the building in question and their needs.

www.atelier5.ch

HOW 'SMART' SHALL LIVING AND WORKING BE?



Monica von Schmalensee, senior partner, White Arkitekter

“Only a few years ago, smart homes and buildings were utopian. The smart control system was too complicated and too expensive for ordinary housing. Not so anymore. Through rapid technological advancement we can now control our homes’ energy consumption using only a smartphone. I also believe that the sharing and circular economy will result in a new housing typology that includes smart services – much sooner than we think.”

“Clear benefit and ease of integration are pivotal in the development of intelligent homes. In addition, hackability by the users and technology security are playing an increasing role. Smart home devices lead to far-reaching changes in our perception of private and public space and create new spatial situations. The impact of these developments will be one of the primary research fields of planners and designers in the future.”



Pablo Castagnola

Lars Krückeberg, Wolfram Putz, Thomas Willemeit, GRAFT founding partners



Nicolas Sterling, Elke Sterling-Presser, SPANS associates, Berlin

“We need to question the culture of waste and shift our priorities! There is a huge potential to retrofit buildings and create new, smarter architecture and structures. And smart building technologies are probably one of the most significant game changers. They enable us to interact and communicate actively with our built environment and certainly have an impact on long-term maintenance. Building only with local resources and integrating passive solutions are nevertheless a must to respond to site and climate specificities.”

“Technology is steering human behaviour and shaping the character of spaces and our sense of place. Technology is a tool to serve us. It enables, but it is not the solution or an end to itself. The architect focuses on creating spaces that appreciate and improve the value of the relationship between human beings and technology, but ultimately our designs must intuit human connections and responses.”



Angelene Chan, CEO DP Architects, Singapore



June 14/Meisen Fotografie



The designs of Johanna Meyer-Grohbrügge and Sam Chermayeff (right) exude a cheerfulness. The triangular bed (left) and “Flower Table” (centre) are just two examples.

JUNE 14, BERLIN / NEW YORK

The young founders of architecture studio June 14 create buildings, places and objects that, in addition to meeting their commissioners’ needs, also manage to transcend boundaries and question our habits in a cheerfully ironic way.

Arno Brandhuber’s home and studio on Brunnenstrasse, completed in 2009, still ranks among the most exciting architectural projects in Berlin’s Mitte district. The building’s roof terrace holds a special surprise. Since 2014 a transparent sauna, 1.5 by 1.5 metres and with a stunning view of the capital, has been installed here, design courtesy of June 14: “Normally saunas are closed-off spaces; after all, you’re naked when using them and are not supposed to show yourself,” comment Johanna Meyer-Grohbrügge (born 1979) and her office partner Sam Chermayeff (1980), originally from New York. “We had the idea for a see-through sauna a while ago – it was born out of wanting to challenge this convention.” Together with their friend, architect Arno Brandhuber, they were finally able to implement their idea, creating a space in the middle of Berlin that is as private as it is open, a place for meeting friends and developing new perspectives.

June 14 consider the question as to whether their sauna and other works are architecture or rather furniture design or object art as being of lesser importance: “Instead of simply fulfilling a brief, we find it really important to play around until we’ve created something entirely new – something that is nevertheless simple and easy to understand, and most importantly, light-hearted. Also something that elicits a surprising dialogue between user and object.” Looking to the origins of this optimistic, unpretentious – and perhaps rather un-German – underlying attitude, you quickly happen upon the

understated style of renowned Tokyo-based architecture studio SAN-AA. The pair worked there for five years before relocating to Berlin in 2010 in order to found their own studio on 14 June (when else?).

Bringing nature into everyday lives

The triangular bed developed by June 14 uses a similar approach to the sauna: Its surprising shape opens up some unexpected perspectives on the topic of reclining. The “Flower Table” meanwhile integrates a coffee table and six flowerpot indentations into a single, remarkable object: “We want the table to bring nature into its users’ everyday lives,” the architects explain, referencing urban gardening. “As private ‘curators’ they decide what to showcase in it and give the table its distinct expression.”

June 14’s three-dimensional interpretation, created in the context of the Chicago Architecture Biennial 2017, of Edouard Manet’s famous painting “A Bar at the Folies-Bergère” shows that their solutions work on a larger scale, too. A further example is their current architecture project on Kurfürstenstrasse in Berlin, where they are realizing an apartment building for a group of 22 developers, some of whom are friends: “The basic idea is for each of them to decide what they want to do with their own flat, instead of an investor dictating which style is adopted,” the architects explain. The result is sure to be compelling.

PEOPLE • TRADE FAIRS • EVENTS



Left: Katrin Förster (International Key Account Manager at ABB) with Michael Heenan (right), the prize-winner in the category Future Project of the Year. Right: Lunchtime lecture with Sir Peter Cook.

WORLD ARCHITECTURE FESTIVAL 2017

In 2017, the motto for this international get-together was “Performance” and once again it attracted the crème de la crème of the international architecture scene to Berlin. It also bestowed awards on the best buildings of the year.

The World Architecture Festival has again taken place in Berlin, marking what is now its 10th anniversary. This three-day event has now become the largest annual architecture event – and an appreciable number of people are now calling the prizes awarded there the “Oscars of the Architectural World”. However, the festival has a lot more to offer than just prizes, for example its conference programme, whose motto this time was “Performance”. The speakers were top-flight – with Pierre de Meuron (Herzog de Meuron, Basel), Alison Brooks (Alison Brooks Architects) and Rafael Viñoly (Rafael Viñoly Architects) all addressing the audience in Arena Berlin, which was once Berlin’s bus depot and dates from the 1920s. “Our conference subject gives us an opportunity to assess the contribution made by architecture and design to the economic, technological and psychological performance of buildings and interiors,” commented Paul Finch, programme director of the World Architecture Festival. In 2017, the projects selected from a total of 418 entrants from 51 countries competed for the two most coveted awards of the year: “World Building of the Year” and “Future Project of the Year.” All the projects were presented on boards. As in 2017, ABB/Busch-Jaeger was again the festival’s headline partner and maintained a high profile there. Katrin Förster, International Key Account Manager for Architects & Interior Designers, presented several awards and, needless to say, the company also had a large stand in the exhibitors’ section. The Inside World Festival of Interiors took place parallel to

the World Architecture Festival. After two years in Berlin, in 2018 the World Architecture Festival is aiming for new heights, with Finch and his team setting up camp in Amsterdam, where they will be welcoming the big names in architecture from 28-30 November 2018 – once again with ABB/Busch-Jaeger as their headline partner.

AWARD WINNERS 2017

World Building of the Year

Reconstruction of Guangming village, Zhaotong, China
The Chinese University of Hong Kong

Future Project of the Year

Sydney Fish Markets, Sidney, Australia
Allen Jack+Cottier Architects
and NH Architecture

Landscape of the Year

Turenscape, Lixian County, China

Small Project of the Year

Streetlight Tagpuro, Philippines. Eriksson Furunes + Leandro
V. Locsin Partners + Jago Boase



Top right: Hans-Georg Krabbe, CEO of ABB AG Mannheim, bottom right: BDB President Hans Georg Wagner and Busch-Jaeger Sales Manager Dieter Lautz cemented their cooperation agreement.

LIGHT + BUILDING 2018

With its focus on smarter homes, smarter building and smarter mobility, ABB/Busch-Jaeger set trends at the leading global lighting and building technology fair, as well as presenting new additions to its product portfolio to the trade visitors.

Once again, this year specialist trade fair Light + Building succeeded in underpinning its claim to be the world's leading trade fair for lighting and building technology. And it was no surprise that from 18-23 March more than 220,000 specialist visitors from 177 countries flocked to Frankfurt's exhibition centre to find out more about new products, solutions and trends in lighting, electro-technology, home and building automation. On their 1,800-sq.m. joint booth, ABB, Busch-Jaeger, Striebel & John and Kaufel presented innovative solutions for smarter homes, smarter building and smarter mobility. The global trend towards urban growth with its consequences for the construction industry was a landmark theme at the fair. After all, efficient networking is becoming more and more important to smart cities. The digitization of electronic installations cuts energy requirements, as well as enhancing people's quality of life and making their working lives easier. "The term 'smart home' is

on everybody's lips and smart living is the direction to go in," emphasized Hans-Georg Krabbe, CEO of ABB AG, Mannheim. And according to a study by Germany's SmartHome Initiative, in the future 40% of German apartment and real estate businesses will be using smart home technologies in their properties. The incredible speed at which technology is developing means that building automation, household appliances, smart entertainment solutions and voice control will continue to coalesce even further. One important criterion: The relevant solutions should be consistently networkable and future-proof.

Busch-Jaeger signs a cooperation agreement with the BDB

In order to be able to provide architects, planners and engineers with support from as early a point in time as possible and offer an insight into energy-efficient building technology and innovative controls,



ABB, Busch-Jaeger, Striebel & John and Kaufel's joint trade fair stand



Guest speaker at the Speicherwerkstatt: architect Julia B. Bolles-Wilson

BOLLES+WILSON

At the invitation of Busch-Jaeger, Julia B. Bolles-Wilson spoke about the Cinnamon Tower in Hamburg.

Busch-Jaeger Elektro GmbH has signed a cooperation agreement with BDB, the German Federation of Builders, Architects and Engineers. This agreement with the national federation was signed in March 2018 during the Light + Building trade fair and cemented with a handshake. “The objective of this cooperation agreement is to assist architects and engineers in the BDB active in the field of smart homes and more directly with ongoing projects,” explained Dieter Lautz, Sales Manager at Busch-Jaeger. Established in 1925, the BDB consistently represents the interests of architects and civil engineers and as a professional association currently boasts 12,000 members. The organization, which awards the Balthasar Neumann Prize every two years and presents a BDB advancement award to students, recognizes special achievements in the field of construction. Its objective is to promote a “deliberate and responsible collaboration” between architects, civil engineers and companies.

Some 40 architects took up Busch-Jaeger’s invitation and flocked to Hamburg’s Speicherwerkstatt on 11 October 2017 to find out more about architecture and technology in these comfortable, historic premises. After being greeted by the hosts, the audience was treated to a talk by Ms. Bolles-Wilson. The architect, who cofounded the studio Bolles+Wilson, talked about the Cinnamon Tower, which is situated some 300 metres from the event location and soars up above the Überseequartier district; it has meanwhile received numerous accolades. She was followed by Thomas Hardenacke of Busch-Jaeger, who talked about “How intelligent must the future be?”, speaking, amongst other things, about networking people and their lived environment. The successful evening was rounded off with canapés and a beer tasting. A subsequent event will be taking place on 13 September 2018 with another equally prominent guest.



CapitaLand



Visiting architectural office UNStudio, founded in Amsterdam in 1988. In the bottom row of photos Lasse Ole Hempel, Ben van Berkel and Katrin Förster pose in front of the architect's sketch wall, almost entirely covered with freehand sketches.

“I LIKE THE IDEA OF BEING ABLE TO READ BUILDINGS ON DIFFERENT LEVELS.”

UNStudio, founded in Amsterdam, has long been considered one of the world's most influential architecture studios. Ben van Berkel and his staff repeatedly succeed in developing urban landmarks with intelligent, flowing interior spatial concepts. It also transpired in the interview with pulse, which took place in Ben van Berkel's Amsterdam office, that the studio founder has a pronounced interest in technology and innovation in building automation.

Interview: Katrin Förster and Lasse Ole Hempel

Thirty years after the foundation of UNStudio in Amsterdam, the studio is realizing a lot of projects in Asia – after opening offices in Hong Kong and Shanghai. One recent project we found very stunning is Raffles City Hangzhou. What was the idea behind it?

With the Raffles City project a rich mix of 24/7 functions occupies almost 400,000 square metres within two streamlined towers set atop a podium. The building is designed with a careful mix of programmes that bring

together a wide range of users. Besides working and living at Raffles City, people can stay at the hotel or pick up groceries, enjoy a meal, do exercise, watch a movie or even get married there, all in one interconnected environment. Programmes are active around the clock, so we are talking about clockwise planning, which brings a kind of social sustainability to the project. The city wanted to reduce the amount of travelling, so we also had to think a lot about the infrastructure. The incorporation of natural ventilation, solar gain and daylighting principles tailored to the lo-



The two organic twin towers dominate Raffles City Hangzhou – a modern place where working, living and leisure are interwoven.

cal context, along with an efficient structure and the ways in which materials are employed all work in concordance with one another to lower the energy and material demands of the buildings.

How did the twisted design of the towers come about?

The idea arose when we initially looked at the whole complex as one mass, then seeing where we could carve parts away to create sight lines through the building and across the city. It seems like two buildings, but actually it was first designed as one mass, then we started to carve more and more out. Ultimately the buildings communicate with each other; in some parts they overlap and become one. The twists then evolved to form a kind of contrapposto pose, which meant the urban context and the landscape could be consolidated in one gesture, whilst also referencing the movement in the nearby river.

So artistic and aesthetic reasons were important for the design ...

Yes. I am fascinated by art. In a sense of formal strategies. I am interested in the non-physical, like the question of how geometry can come together. As you see here on the wall in my office, I myself like to paint, and I like to experiment with painting techniques.

That makes us think of another building we saw in Singapore ... the Admore Residence. Looking at it we were reminded of a mural by Le Corbusier, which can be viewed in France in Eileen Gray's Maison.

Oh, that's an interesting reference. Le Corbusier ... in his work you can see that he was a painter as well. I especially like the idea that buildings can be read on different levels. I am always thinking about how to innovate by experimenting with forms, but also by mixing things. Like you do in painting: When you are innovative you come up with a new painting technique.

But you also conduct social and behavioural analysis at UNStudio ...

I think it is all connected to the school I studied at in London, the Architectural Association. It was a very unusual school, with an experimental

approach. At the time, in the 1980s, I met people like Zaha Hadid, who was my professor in the fifth year, when I was one of only four students in the class.

What kind of experiments did you do at the AA in London?

For example, in the first three years we followed people on the streets. It was quite a crazy period. But I'd say that I learned most of the things I do today in that experimental period. I am still very interested in the question of how people are going to live in the future. What is going to change in their work environment? How is mobility going to develop? As an architect you have to think about future developments.

Looking back on your career, which milestone projects come to mind?

The Erasmus Bridge was my first major project ... and a magic moment. At that stage I had only been practicing for two years. That would not be possible today. I had only three or four people working for me, and then I got this huge project. I was 33 at the time, really young. And it was built so quickly I was still only 35 when it was finished. That was a lucky and good start. In that time I also worked on the Moebius House.

You like to do varied projects – detached houses, mixed-used projects.

That also has something to do with my British education. For instance, Norman Foster and Renzo Piano were also architects at that time at the AA, and I would go and talk to them. Because it was a private school I didn't get the complete tuition fees from my parents, so I needed letters for scholarships. I learned from these famous architects that it was perfectly normal to do product or furniture design: a house and a bridge at the same time. That is part of the holistic British approach.

And this approach can be observed in the different departments at your studio.

We have different units, with groups of interior designers and architects. We also have urban and product units. And we have 'knowledge platforms', which is where the experiments are done. We have a platform for



Oriels and balconies are interwoven to form a repetitive, interlocking texture for the façade of the Ardmore Residential Towers, commissioned in 2014 in Singapore. Seen from a distance, the face of each tower changes depending on where you stand.

Iwan Baan



© Eva Bloem

UNStudio gave Stuttgart a new landmark in the form of the Mercedes-Benz Museum. The characteristic building pays homage to the invention of the automobile at the entrance to the city.



sustainable research, a platform for material research and one for parametric design. This research is mostly done by the younger generation that joins us. They can do research for two months on a topic we allocate them and develop in-depth knowledge about these specific subjects.

There is also a future lab belonging to UNStudio ...

Yes, here we look in detail at what is going to happen in terms of e-mobility, the sharing society, etc. Fortunately there are also business models evolving from this. So clients are excited about the research and experiments we do here. The future of cities for example is an extremely important issue. We think about a broad set of challenges on the urban scale, such as how to make a city more walkable, or how to introduce new lighting systems. In that sense we are not a typical office. Give us another 3-5 years and maybe we will have changed into a full-blown tech firm.

Are you also familiar with building automation systems like KNX?

I am a big believer in sensorial adaptive design – a play on words I invented. It refers to the technical term of sensor of course, but it also includes the context of the senses and sensing, etc. Architecture will soon see similar developments to those the car industry has been witnessing in recent years. Tesla is exploring all these wonderful sensor-based innovations, like automated driving or new safety technologies. But inside a building today one hardly finds more than three sensors. That is why I think the building industry is very much behind. I often like to say: We are all together in the iPhone phase, but the building industry seems to be stuck in the Walkman phase.

Can this perhaps also be due to clients, developers and architects not taking advantage of the solutions already on offer?

I strongly advocate the building industry being part of the design process. The two – architecture and building industry – are going to merge. Because they have to. For example, if we talk about things like sustainability or circular building practices based on cradle-to-cradle principles, all these things can't be organized only by architects.

Which other developments can be observed?

I am now seeing a big shift in terms of clients. They are becoming younger and want to have more value. The new generation is also aware of the need for a sustainable approach. But it needs to go hand in hand with good design. It shouldn't be enough to say "We realized a sustainable building with a nice green roof." It needs to be more intelligent than that. Smart technology has to be integrated into the design.

Your architecture is very iconographic – like the well-known Mercedes-Benz Museum in Stuttgart.

Yes, I think we have good experience in designing landmarks. But we have always strongly maintained that what you find behind the façade is equally, if not more, important. In the beginning the people from Mercedes-Benz were thinking more or less of a big, attractive showroom to display the history of the car. But together with the exhibition designer HG Merz we convinced them of our approach: featuring the content in a museum context instead. We envisaged people staying in the museum for a long time, taking their time. I also had the idea of the



UNStudio

Four new towers in the heart of the city that comprise a new quarter: FOUR Frankfurt.

visitor experience being like going through a dream. We argued that if the MOMA in New York can display a helicopter hanging from the ceiling as an art work, then the car can also be appreciated as a cultural product. From then on the design for the museum went in the right direction. I am very happy that the project is so successful, as in the beginning I felt more or less like an outsider: a Dutch architect working on a museum in Stuttgart displaying iconic German cars.

You are currently realising another project in Germany: the towers of FOUR Frankfurt.

Yes, it's at the very heart of Frankfurt, on a site that has been inaccessible for the last 45 years. In this project the four new high-rise towers will change Frankfurt's skyline from the air, while cultivating its liveliness on the ground. The development of these towers, reaching a height of 228 meters, will open up new streets to create a multi-use, vibrant downtown quarter, bringing together a healthy mix of working, living, relaxation and recreation. My aim was to open up this area and build a kind of city for everyone. You'll have cafés and hotels and working and living will come together. For this project I learned a lot from the Raffles City development. I applied certain elements of that project, not literally, but ideas concerning the programme mix, for example. FOUR Frankfurt will add not only to the city's skyline, but also to the liveliness of Frankfurt as a whole. To play a role in this urban transition is a fantastic opportunity for UNStudio and our consortium partners HPP.

UNSTUDIO

Founded in 1988 by Ben van Berkel and Caroline Bos, UNStudio is an international architectural design network with three full-service international offices in Amsterdam, Hong Kong and Shanghai. The office specializes in architecture, interior design, product design, urban development and infrastructural projects. 200 staff from 27 countries are spread throughout the network in a streamlined structure. The current management team consists of Ben van Berkel, Caroline Bos, Gerard Loozekoot, Astrid Piber, Harm Wassink and Hannes Pfau, closely supported by a strong group of long-term directors and associate directors. www.unstudio.com



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INTELLIGENT CONTROL – AT HOME AND IN THE OFFICE

Digital networking is changing our lives – an unstoppable trend, in architecture as elsewhere. After all, the technology offers more convenience, security and is effective in achieving sustainable objectives. This convenient way of controlling buildings is becoming more and more widespread, both in the office and at home. In this context, ABB/Busch-Jaeger offers ideal solutions for both smart homes and smart buildings. With ABB-free@home® the company has conceived an innovative system which allows users to move into the world of smart homes effortlessly, using their computers, smartphones or tablets. ABB-free@home® is suitable for projects in new buildings and for renovation work. Blinds, lighting, heating and door communication systems can be operated very easily to suit individual requirements using the ABB-free@homePanel or with a computer, tablet, smartphone or classic switch. The functions can be used both individually and in combination with others, with users deciding for themselves how many functions they wish to control intelligently and how they want to do this. They also have the option of adding other functions at a later date as desired.

KNX is particularly suitable for solutions to be installed in new buildings, ones that require a powerful, expandable, and future-proof system. As a global standard, KNX is particularly flexible – the system offers a wide and constantly growing variety of modules and can thus be extended infinitely. All the functions can also be adapted at a later point in time. With this system, Busch-Jaeger offers a particularly powerful building control solution which is easy to operate and boosts energy efficiency and security at work or at home. ABB/Busch-Jaeger also offers elegant control elements that are operated intuitively, such as the Busch-ComfortPanel, which allows all areas of the building and living areas to be controlled effortlessly.

The door communication system Busch-Welcome® is a very handy extension. Available as an individual solution, it can also be combined flexibly with ABB-free@home® or KNX. The wide range of indoor and outdoor solutions makes for more security and convenience. With these smart home systems, the user always has the opportunity to check up on his home, wherever he might be.

SMARTER HOME

Thanks to intelligent networking, the energy-saving potential is maximized: Both ABB-free@home and KNX systems individually regulate the heating, lighting and the blinds to suit the user's lifestyle – only switching them on when needed.

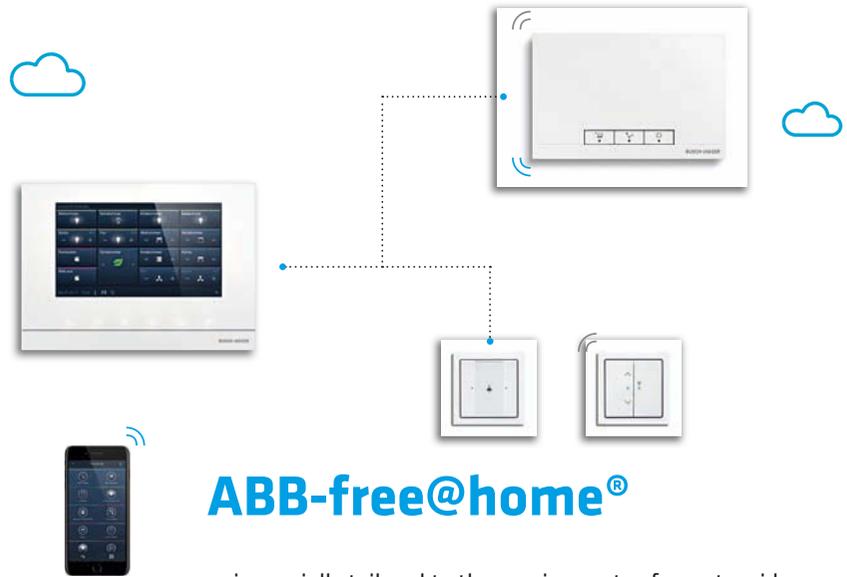
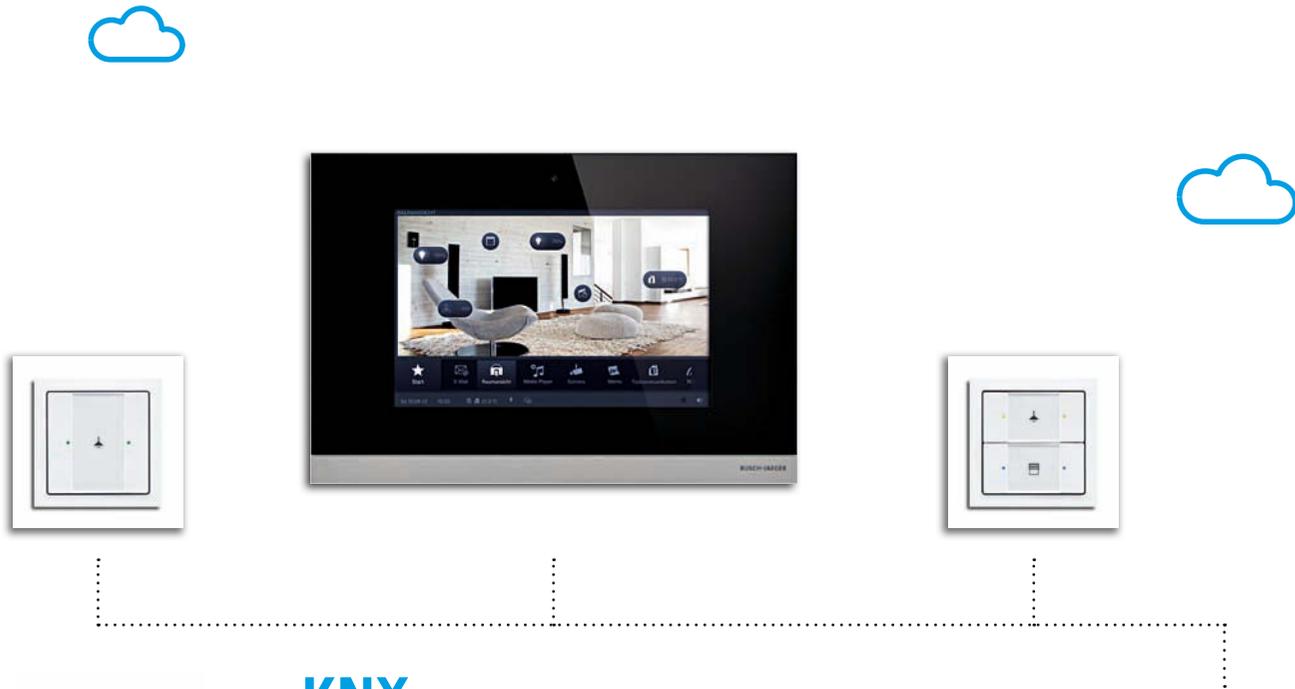


ABB-free@home®

... is specially tailored to the requirements of smart residential buildings and is suitable for both new building projects and renovations. Blinds, heating, air-conditioning and door communication systems can be operated very easily and to suit personal wishes.



KNX

... is a solution particularly suitable for new buildings that require the installation of a powerful, expandable, and future-proof system.

As a global standard, KNX is particularly flexible. The system offers a wide and constantly growing range of modules and is thus infinitely expandable.



UP TO HOW MANY METRES DOES THE LOAD-BEARING STRUCTURE SPAN IN ROTTERDAM'S TIMMERHUIS?

pulse asks a competition question in every new issue.
The winners each receive a book.

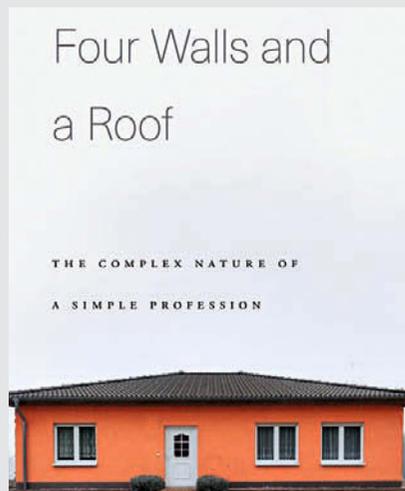
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...or use the fax form inserted in this issue.

Prize draw:

ABB/Busch-Jaeger is giving away two valuable specialist books (see right-hand page) to the winners; all correct entries will be put into a hat and the winning names drawn. Closing date: 15th June 2018.

THE PRIZES & TIPS



Four Walls and a Roof

Since Reinier de Graaf and Rem Koolhaas together established the OMA think tank AMO, de Graaf has been considered the intellectual mastermind of the studio. The collection of essays “Four Walls and a Roof: The Complex Nature of a Simple Profession” references the entire breadth of current architectural debates, offers historical reviews, and looks forward to the future.

Four Walls and a Roof. By Reinier de Graaf.
Harvard University Press, 528 pages, € 30.80



SOS Brutalism

The two-volume catalogue accompanies the excellent exhibition by Deutsches Architekturmuseum in Frankfurt on the Brutalist architecture of the 1950s to the 1970s. Volume one provides richly illustrated documentation of 120 buildings from across the globe. The second volume focusses on the lectures delivered by the high-calibre speakers at a Brutalism symposium held in Berlin in 2012.

SOS Brutalism: A Global Survey.
Park Books, 716 pages, € 68

PREVIEW



Meisner Schlüter Weandt

pulse 2/2018:

Re-mixing: The *pulse* will shed light on the symbiosis of residential and functional buildings.

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TRADE FAIRS & EVENTS 2018 WITH ABB/BUSCH-JAEGER

- EL & Teknik, Odense, Denmark, 15 – 17 May 2018
- Eliaden, Lillestrøm, Norway, 29 – 31 May 2018
- IFA, Berlin, Germany, 31 August – 5 September 2018
- LEAF – Leading European Architects Forum, Frankfurt/Main, Germany, 17 – 18 October 2018
- ABB LEAF Awards: 18 October 2018
- belektro, Berlin, Germany, 6 – 8 November 2018
- GET Nord, Hamburg, Germany, 22 – 24 November 2018
- World Architecture Festival WAF, Amsterdam, Netherlands, 28 – 30 November 2018



ABB-tacteo KNX

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Unique in design and function, the intuitive and individually configurable ABB-tacteo KNX sensor is as extraordinary as you are. The impressive, high-quality black or white glass sensor with its capacitive user interface offers virtually unlimited possibilities for intelligent building networking. Heating, ventilation, blinds and lighting can all be controlled to create comfortable everyday situations and put intelligent building management firmly in your hands. Discover more details at abb.com/tacteo

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