places and spaces

Union Investment

01/2022

The Real Estate Magazine of Union Investment

Sustainability
Adapting the building stock

Amsterdam
On the path to net zero

Global investment
Overseas markets make a comeback

The real estate industry needs a 360-degree view. New strategies and concepts are required

Transformation for success

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The cover image shows the world's first publicly accessible art storage facility. The Boijmans Van Beuningen depot is located in Museumpark, Rotterdam. It symbolises the city's transformation.

Transformation as a 360-degree task

Michael Bütter is CEO of Union Investment Real Estate GmbH, Hamburg.

A real estate investment needs to be sustainable, resilient and perform well. If no returns are generated, money would cease to flow into the asset class; without resilience and environmental sustainability, there is no long-term economic viability and thus no return on investment. Meeting these demands is no easy task because real estate markets are currently being buffeted by change. The Covid-19 pandemic has turbocharged existing trends such as the growth of online shopping and working from home, which in turn means that real estate assets need modernising and recalibrating.

As digitalisation gathers pace, it is not only buildings that are impacted, but also the traditional business models of established real estate companies. Climate change and the associated increase in regulation likewise pose challenges for the real estate industry. Restructuring of the real estate industry is set to gain significant momentum over the current decade. Transformation is therefore unavoidable and needs to take place on many levels: in investment and asset management, as well as many other aspects of how companies operate. It is crucial to keep a close eye on the full spectrum of changing requirements and take an integrated approach towards tackling them. Expanding the investment strategy to include new sectors and investment styles is essential in order to leverage additional potential for returns and diversification. For example, Union Investment successfully tapped into the residential asset class outside the DACH region last year. Creative joint ventures or joint investment vehicles are another way of opening up additional acquisition opportunities. In the quest for security, high-quality, well let core properties in good or very good locations are proving more popular than ever in the investment markets. Accordingly, these properties are becoming scarce and expensive.

Mixed-use properties and ensembles also offer attractive long-term investment prospects. The coronavirus pandemic has significantly accelerated the structural changes taking place in housing, work arrangements and retail. It is vital for the real estate industry and local authorities to develop strategies and establish structures and use concepts here that allow a flexible response to market changes going forward.

Responsible transformation of properties that no longer meet market requirements can make an important contribution in this regard. Particularly where sustainability is concerned, this is an important step in terms of complying with increasing regulation.

However, for transformation to succeed in the long term, foundations also need to be laid within businesses that support an innovative corporate culture, diversity and new forms of collaboration. This must be bolstered by digitalisation and innovative data strategies that enable streamlined, efficient processes and create space for successful evolution of the business model. Transformation is a 360-degree task. It is therefore essential for all divisions to be included and involved.

Cover picture: Robin Utrecht / action press
Photos: Zwartlicht (simulation), Ossip van Duivenbode / MVRDV, Union Investment / David Klammer, Seong Kwon / SHoP Architects, Union Investment / Urban Zintel

Althanpark development in Vienna (top): The former post office in Vienna's 9th district has been transformed into a residential building with 237 apartments. Neue Höfe Herne, the former Hertie department store in Herne (bottom), owes its revitalisation to a multifunctional use concept.

Real estate in transition

Major social and economic changes have an impact on real estate and how it is used. But such changes need not lead to buildings being demolished. Why transformation properties are a hot topic in the real estate industry. By Christian Hunziker

Former churches are now family homes. Old slaughterhouses have become vibrant cultural event venues. Late 19th century apartment buildings are occupied by doctors' practices. Former factories have been converted into edgy offices for startups. These examples and many more show just how adaptable buildings are, often changing use many times over the centuries.

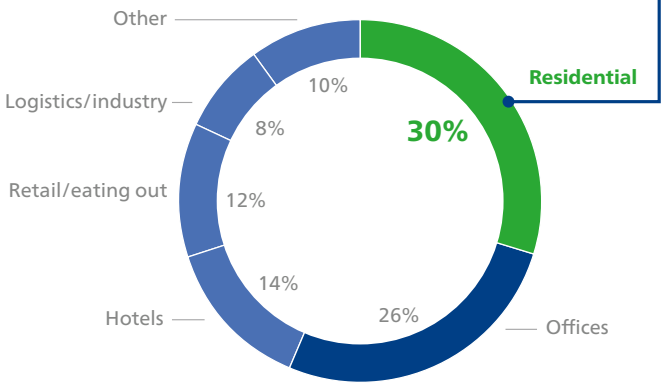
So transformation properties are nothing new, but they are currently gaining relevance against the backdrop of sweeping social and economic changes. "Our city centres have long been dominated by shops and offices, busy during the day and deserted at night, but this familiar urban landscape and the associated real estate mix have come under growing pressure in recent years," says Henrike Waldburg, Head of Investment Management Global at Union Investment. "It's crucial for the real estate industry and local authorities to establish structures and use concepts that allow a flexible response to market changes going forward."

Successful role models, but no magic formula

The aforesaid changes are evident all around us. People are increasingly shopping online rather than in brick-and-mortar stores, housing needs are evolving and offices are no longer just work environments but also spaces for networking and connection. Urbanisation and environmental sustainability are also powerful megatrends with far-reaching impacts. In a market study on transformation properties, Union Investment and consulting firm bulwiengesa examined how the real estate industry can respond to these trends. The study's authors define transformation as "a comprehensive functional and structural redesign that enables a property to be developed for one or often several new uses, as an alternative to demolition followed by a new build." ►

Overall, residential and office uses dominate in transformed properties

Breakdown of space in transformation properties after change in use, in percent



n = 408 transformation properties in Germany after change in use

Source: Transformation Properties Market Study, Union Investment and bulwiengesa, December 2021

Photos: Daniel Hawelka, HPP Architekten GmbH / Landmarken AG (simulation)

"Transforming properties can make a valuable contribution towards enhancing the vitality and attractiveness of individual buildings, neighbourhoods and entire cities."

Henrike Waldburg, Head of Investment Management Global, Union Investment

The Neue Höfe Herne development is a prime example of a transformation property. In Herne, a city of around 160,000 inhabitants in Germany's Ruhr region, developer Landmarken has converted a former Hertie department store into a multifunctional space that hosts shops, a restaurant, a fitness studio and offices.

This transformation was not without complications, however, explains Thomas Binsfeld, a member of the management team at Landmarken. He points out that former retail properties often consist of large, dark spaces. "All the alternative types of use, such as offices, hotels and apartments, are typically more subdivided and need daylight." To provide better access to natural illumination, Landmarken carved two courtyards into the existing property in Herne.

There is no magic formula or one-size-fits-all approach to property transformation, says Lars Jähnichen, managing director of consultancy and management company IPH Handelsimmobilien. "Each location needs to be examined carefully and the design concept tailored to the specific circumstances." At the Gerber shopping centre in Stuttgart, for example, which was opened in 2014, IPH responded to changing retail patterns by transforming the top retail floor into a Ruby-branded hotel and co-working spaces. "In terms of construction, that's easy to do," explains Jähnichen, "because the rooms can be arranged to face either the courtyard or the street." It gets more complicated if an atrium needs to be inserted into the building so that office space can be created, for example. "Whether such a transformation is economically viable depends on what level of rent is achievable and where the building is in its lifecycle," Jähnichen adds.

Building costs are not the only crucial factor in the equation

This assessment is consistent with the findings of the study conducted by Union Investment and bulwiengesa. The experts consulted during the study agree that, while the construction costs

What key opportunities do transformation properties present?

Resilience of city centres

- Variety
- Attractive environment Emotional appeal
- Experience

Construction costs

- Cost parity in ideal case
- Implementation speed
- Building material availability
- Funding opportunities

Political acceptance

- Involvement of public interest bodies
- Faster approval procedures in some cases

ESG taxonomy

- Overall energy use
- Circular economy
- Reduction of negative externalities
- Innovative construction

Risk diversification

- Income from multiple use types
- Diversification of user base

Source: Transformation Properties Market Study, Union Investment and bulwiengesa, December 2021

Compared to demolition/new build, transforming buildings offers a range of opportunities that can be assigned to five main areas.

involved in transformation vary from case to case, they are often as high as those for demolition and erection of a new build. Sebastian Nitsch, a member of the management board of Austrian firm 6B47 Real Estate Investors, likewise sees no cost benefits of taking the transformation route. In Vienna, 6B47 has so far converted seven office buildings into residential accommodation, including a former post office in the city's 9th district – marketed as Althanpark. Such measures are, however, beneficial in terms of sustainability, which is currently gaining in importance as a result of the EU Taxonomy and Disclosure Regulation. "In conversions like these, we strip the existing building back to the reinforced concrete skeleton," explains Nitsch. "Compared to complete demolition, this enables us to save resources, reduce the number of truck journeys and cut CO_2 emissions."

Other experts also point out that transforming existing buildings saves grey energy, something that is now a requirement for new builds. Accordingly, the study by bulwiengesa and Union Investment stresses that "transformation properties can be more environmentally friendly and cost effective in the long term than a new build."

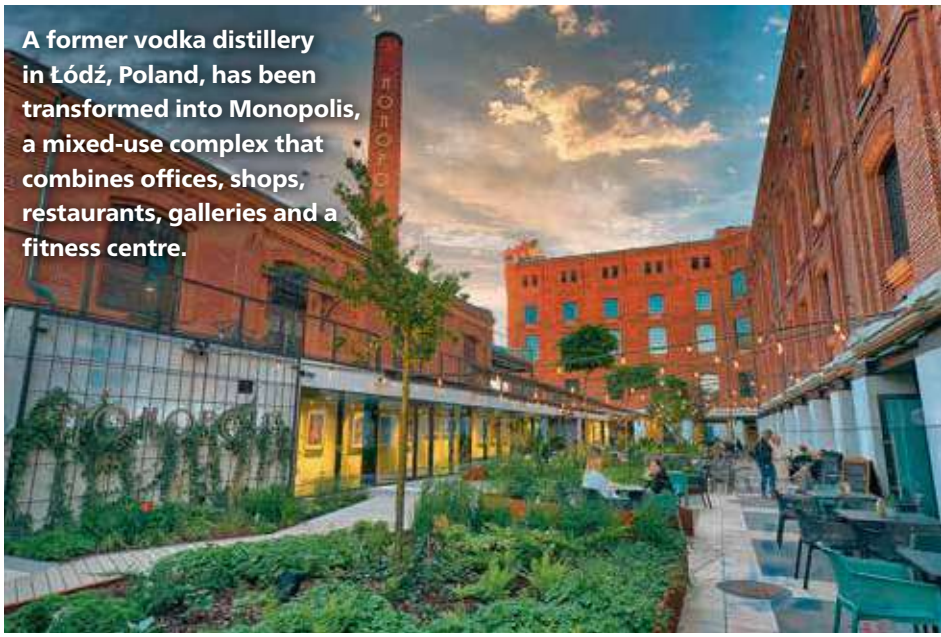
There are significant challenges to overcome before any environmental benefits can be realised, however. Nitsch notes that the structural conditions have to be right, particularly room heights, the spacing of pillars and the depth of the building. Fire protection requirements also need to be met. Above all, planning and construction law must permit a change of use. That's not always the case in Germany, which is why Lars Jähnichen is calling on policymakers to "create the right conditions for conversions."

Restructuring options for a wide variety of first-time uses

Ralf-Peter Koschny, senior manager at bulwiengesa, agrees that transforming properties is a complex process. Transformation has the best chance of succeeding if the urban environment and stakeholders are taken into account at all stages, he says. The conversions carried out in Vienna show that transformation is not limited to retail properties. Based on the qualitative analysis of German transformation properties performed by bulwiengesa, industrial and office buildings are more likely to be converted than retail properties. In the Polish city of Łódź, meanwhile, project developer Virako transformed a former vodka distillery into Monopolis, a mixed-use complex that combines offices, shops, restaurants, galleries and a fitness centre. The result is so impressive that Monopolis received a MIPIM award in 2020 in the Best Mixed-Use Development category.

Gerber, Monopolis, Neue Höfe Herne: it's no coincidence that in all of these cases the project teams opted for a mix of different uses. According to the study, around fifty percent of transformations are implemented as a mixed-use concept.

The reasons are compelling, explains Henrike Waldburg of Union Investment: "Transforming properties creates new opportunities to tap into smart complementary uses and user groups and make a valuable contribution towards enhancing the vitality and attractiveness of individual buildings, neighbourhoods and entire cities."



A former vodka distillery in Łódź, Poland, has been transformed into Monopolis, a mixed-use complex that combines offices, shops, restaurants, galleries and a fitness centre.

51 percent
of German transformation properties are in Class A cities.

Mixed use
is an increasingly popular choice for German transformation properties.

Study
To order a copy, visit ui-link.de/transformationsstudie

Source: Transformation Properties Market Study, Union Investment and bulwiengesa, December 2021

Photos: Union Investment / Adele Marschner, Jacek Łukasiewicz

Data analytics for mixed-use developments

Mixed-use projects are increasingly popular among developers around the world. But success depends on precisely tailoring the offerings to customer demands. Sophisticated data analytics hold the key. By Paul Allen

"Such analysis provides us with the details needed to optimise our cost and revenue strategy, helping to drive maximum profit per square metre."

Wafik Youssef, Chief Operating Officer, Kerten Hospitality

At Kerten Hospitality (KH), every piece of data that flows into its mixed-use projects is analysed to maximise the returns and efficiency of the assets in its schemes.

The global hospitality group manages and operates hotels, branded residences, serviced apartments, co-working hubs and dining outlets, creating destinations to stay, work, shop, eat and socialise across 12 countries. Assets are run with a focus on the guest experience, delivering efficient operating models and maximising space to extend seasonality and improve the ROI.

Using technology tools such as hotel revenue management solutions, building management systems, quality control tools like ReviewPro and point of sale systems, KH captures and analyses a wealth of data to plan its resource needs, and drive efficiency and productivity, explains Chief Operating Officer Wafik Youssef. Data it collects includes customer profiles and target age groups, booking and spending behaviour, social media interactions and followers, venue footfall, waste management, energy usage versus occupancy and levels of cross-selling between project units

"Such analysis provides us with the details needed to optimise our cost and revenue strategy, helping to drive maximum profit per square metre," Youssef says.

Data-driven repurposing

Mixed-use developments provide a risk hedge for developers and investors by diversifying income streams and eliminating dependency on one asset class. Many, like the KH model, are hospitality anchored. The retail sector, where long-term disruption has left swathes of empty high street spaces and shopping centres, is particularly ripe for mixed-use repurposing. Aging offices in non-prime locations may face similar demand challenges in a post-Covid, hybrid-working, sustainability-focused world. Data analytics can help determine what the most financially viable use mix should be.

For agent JLL, the first step is to use data to identify which buildings or large-scale schemes will or won't work as "investible places" and where to concentrate the firm's efforts, says Tim Vallance, JLL's Head of Investor Services and Retail Chairman. "Through data, we can now work out the alternative uses of thousands of properties at the touch of a button."

JLL then tracks data during a building's lifecycle to assess how the asset is performing and, most importantly, what consumers want.

"The consumer is telling us they love mixed-use spaces," says Vallance. "They like everything to be convenient and authentic. They like to work in a place, be able to walk outside and find a nice restaurant around the corner, and not have to travel too far to where they live."

Revealing success factors

The most important factor in a property's success is that the economic fundamentals must be right. The second is location. "Connectivity is hugely important," Vallance notes.

Where data analytics plays a vital role, is in uncovering the hidden factors that influence a development's performance, especially in property adaptations and repurposing, to create the optimal combination of asset types. Clearly a shopping centre in a big gateway city such as London, Paris or Berlin will likely work for residential, Vallance adds. If it is on a motorway junction, it will work for logistics. The data gems that really help identify where to invest, though, are based around demographics.
"Our data team have the demographic data for every postcode in Europe. They can overlay how people are voting, what industries they work in, how people in those postcodes tend to behave, what they might respond to. Based on the data, the team can tell you how many shops are required, how many offices and beds are needed, whether the beds should be private renters, socially rented or privately bought."

And as the data collection tools expand, datasets get richer and analytics capabilities improve, mixed-use developments will become ever more targeted.

"Right now, we see data analysis on the go, which helps us make faster decisions. This will continue to evolve until we have constant visibility on the business aspects in real time and can anticipate future prospects in a seamless way," KH's Youssef concludes.

"Through data, we can now work out the alternative uses of thousands of properties at the touch of a button."

Tim Vallance, Head of Investor Services and Retail Chairman, JLL

Photos: Kerten Hospitality, JLL (2)

British Land is creating a mixed-use development in south-east London on a 53-acre site. JLL supplied the data-based insights into who is likely to live, work, study and be entertained at Canada Water.

Photos: Luuk Kramer/ Zwartlicht (simulation)

Amsterdam on a roll

With a relatively small population of just under 900,000, Amsterdam is hardly a typical global city. But it can challenge for international leadership when it comes to a green economy. By Judi Seebus

Many paths lead to the Paris accord for a net zero carbon planet by 2050 and Amsterdam appears to be pursuing several of them. In November 2021, the 32 municipalities that make up the Metropolitan Region of Amsterdam (MRA) signed the Green Deal Timber Construction mandating that 20 percent of all new housing projects in the Dutch capital and neighbouring towns and cities be constructed with wood or other bio-based materials from 2025. Amsterdam itself already boasts HAUT, one of the world's highest wooden residential towers and the biggest in the Netherlands.

Circular construction, which seeks to reduce the use of materials in the building process and recycle as much as possible, is just one of the strategies that Amsterdam is adopting as part of its efforts to minimise carbon emissions. The city council aims to redesign 20 product or material chains as part of an innovation programme on the circular economy, including projects to convert waste into electricity, urban heating and construction materials. Amsterdam feels a bit like a village, but it's really a global exemplar when it comes to the green economy, according to Lisette van Doorn, CEO of the Urban Land Institute Europe. The city is punching above its weight in so many areas, she adds. "Paris has declared it wants to become a 15-minute city, but a lot that Paris aspires to be, has been in place in Amsterdam since long before the concept became so hot."

One of Amsterdam's key assets is its attractiveness to talent: young people love the city, the quality of life and the ability to cycle anywhere. That's a huge advantage, she notes: "Nowadays real estate investors as well as businesses follow people, not the other way round."

A recent report by ULI on the Attractiveness of Global Business Districts highlighted Amsterdam's standing as a business-friendly city, ranking its Zuidas ►

The name Haut is derived from the expression "haute couture". This apartment block currently under construction in Amstelkwartier, a district of Amsterdam, is destined to be the tallest wooden tower in the Netherlands and will offer space for 52 luxury apartments

In Haven-Stad, a planned new residential area of Amsterdam, the focus is firmly on residents and their needs. The research project of the same name is considering future scenarios for the 1 million square metre site.

Photos: Research City of the Future by team INcity [2018]. INcity is a collaboration between HOOPE+PLEVIER Architects, Blau Urbanism and landscape, Except Integrated Sustainability, FutureConsult, Ymere and Wim Derksen. Image: Visualisation of the interaction environment of Sloterdijk, Amsterdam Haven-Stad in 2040. Visualisation by: Grizli Studio, Karla Gowlett

business district in 15th place worldwide. Amsterdam has also been a beneficiary of Brexit in terms of business relocations from London to the European continent.

"The relocation of the European Medicines Agency, for example, has been a catalyst in attracting different types of businesses in life sciences and well-being," Van Doorn says.

The Dutch capital is unique because although it is an established capital, it's also very much like a new world city that is leading in technology-led sectors, culture and innovation, and in balancing the agenda for business with the agenda for the planet, lifestyle, talent and people, as urbanist and global advisor Professor Greg Clark told a recent Amsterdam Economic Board webinar.

"Amsterdam is in business in the things that the world really needs," he said.

The city has a strong focus on entrepreneurship and innovation and tech-focused growth sectors such as cleantech, foodtech, life sciences, e-commerce and fintech. By incentivising early-stage startups, it will continue to attract global and European venture capital investment, Clark predicted. Amsterdam is a global leader, if not "the" global leader in the circular economy, he added.

"It's also being recognised as a successful global hub for startups and is already the third most important centre for 'unicorns' in Europe."

TechMeUp

Amsterdam has recently embarked on several initiatives to attract workers to growth industries such as IT, including TechConnect, a partnership with local businesses Booking.com, TomTom and Rabobank. Together, they have created so-called TechGrounds – or hubs – to attract students and workers in disadvantaged neighbourhoods, as well as TechMeUp, a fund that provides financial support for (re)training.

Amsterdam's Hydrogen Hub is another example. A public-private alliance between the municipal and provincial authorities, the Port of Amsterdam, Schiphol Airport and local energy and

"There's a huge social return if the right infrastructure is in place, especially given the enormous need for affordable housing."

Lisette van Doorn, CEO, Urban Land Institute Europe

steel companies, Hydrogen Hub aims to accelerate the transition to hydrogen and ultimately create CO_2-free steel and clean fuels for sea and air transport. The city has the ideal ingredients for the transition thanks to the extensive gas and fuel supply infrastructure in the region and a world-class local cadre of scientists in the field of hydrogen technology.

Amsterdam is also a leading city in a very important integrated "macrometropolis" comprising The Hague, Rotterdam, Utrecht and Eindhoven. These five cities are super-connected with each other, complementary and interdependent, Clark pointed out. "There are very few places around the world that have this kind of unique advantage. The ability to be a region of seven million people at the same time as being a greater metropolitan area of three million people brings advantages in education, connectivity, innovation and creating a managed approach to liveability."

Affordable housing remains scarce

Socially and economically Amsterdam ticks many boxes, but one area where it is seriously challenged is in the provision of affordable housing.

Amsterdam is one of the few cities in Europe that owns a lot of land, which gives it a huge advantage and a lot of control. However, in the Netherlands generally, and in Amsterdam in particular, housing development is approached in quite an isolated way, Van Doorn says. "Ultimately, to be successful, it requires an integrated long-term vision, not only related to housing, but also commercial development and infrastructure. Developing on a larger scale allows the private sector to do this and compensate lower returns related to social and affordable housing with higher returns on the commercial development."

She points to the examples of Vienna and Copenhagen, where long-term visions were created to develop or regenerate larger parts of these cities. By focusing on larger tracts of land, it's easier to create a mixed-use environment including social and affordable housing, offices, green spaces, parks, schools and playgrounds, where public and private sectors work together to create this environment, she adds: "Amsterdam doesn't take that integrated approach."

Amsterdam needs to embrace urban planning strategies such as land use reform and densification to create a medium-density environment with a high level of functionalities, which is already occurring in the Zuidas business district, but not at a city-wide level. The Zuidas is a world-class business location with ►

Amsterdam rates highly in international ranking

Positive prospects for the Dutch capital

European city ranking 2022
In the overall real estate prospects table, Amsterdam is in 7th place and thus in the top quarter of the ranking.

Increasing investment opportunities
For 2022, an increase is expected for investment prospects (scale value* 4.0 of 5.0) and for development prospects (scale value 3.8 of 5.0).

* Scale values are average values. Assessment of expected change in 2022, from 1=decrease substantially to 5=increase substantially, basis=844 real estate experts surveyed

Source: Emerging Trends in Real Estate® – Europe 2022, 31 cities surveyed, PwC and Urban Land Institute, 2021

Increasing attractiveness of Zuidas business district

Overall ranking 2020 of the world's most attractive business districts
Amsterdam's Zuidas business district is ranked in 15th place, above Frankfurt (Bankenviertel), Dubai (Dubai International Financial Centre) and Shanghai (Pudong-Lujiazui).

Rising index value
In the case of Zuidas, the index rose by 1.5 points between 2017 and 2020. Falling index values were reported in Frankfurt (Bankenviertel –1.5 points) and London (The City –2.5 points).

Environmental performance ranking
Zuidas is in 6th place. Frankfurt's Bankenviertel occupies the top slot.

Source: The Attractiveness of Global Business Districts report 2020, 21 Global Business Districts were surveyed, Ernst & Young and Urban Land Institute, May 2020

Wonderwoods is a vertical forest planned for a site close to the main railway station in Utrecht. The project will consist of two residential towers and aims to restore the city's biodiversity.

Union Investment acquired the Amst, a planned residential building with 252 apartments opposite Amsterdam Amstel station.

Sawa means rice field and is the name of a wedge-shaped, environmentally friendly residential tower in Rotterdam (right). Cross-laminated timber is the dominant construction material in this development, where work commenced in 2021.

Photos: Wonderwoods / MVSA ©A2Studio, (simulation), VenhoevenCS architecture+urbanism / 3D studio Prins (simulation), SAWA. Image Courtesy of Mei architects and planners (simulation)

many amenities and a real effort is now being made there to include housing, not just high-end apartments but also affordable accommodation, Van Doorn says: "That's an important shift."

Densification is vital alongside integrated mixed-use areas and putting the right infrastructure in place ahead of the real estate development, she adds.

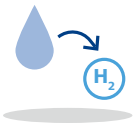
"Following that 'triangle' leads to a viable business model. Density and multiple functions result in a more intensive use of the space and hence a more profitable investment. And then the infrastructure, both transport and social, becomes affordable."

This triangular business model approach to urban planning was included in the recommendations of a report from a ULI advisory committee on how to accelerate the redevelopment of Amsterdam Haven-Stad (Port City) – an ambitious plan to transform 650 hectares of existing docklands into one of the largest inner-city mixed-use residential districts in Europe. The infrastructure to connect this new area with the city centre and the rest of the metropolitan region is seriously lacking. A similar disconnect faces the northern part of Amsterdam, which is developing apace since the opening of the Eye film museum on the ij River waterfront. While a north-south metro line connects the Zuidas business district with North Amsterdam, it is still necessary to take a ferry from the city's central station to cross the river.

Part of the problem with large infrastructure projects is that the municipal authorities are not the sole decision maker when it comes to financing them, Van Doorn points out. The national government looks at such projects from a cost perspective, but ignores the broader KPIs like economic growth and indicators such as social equality to make a business case.

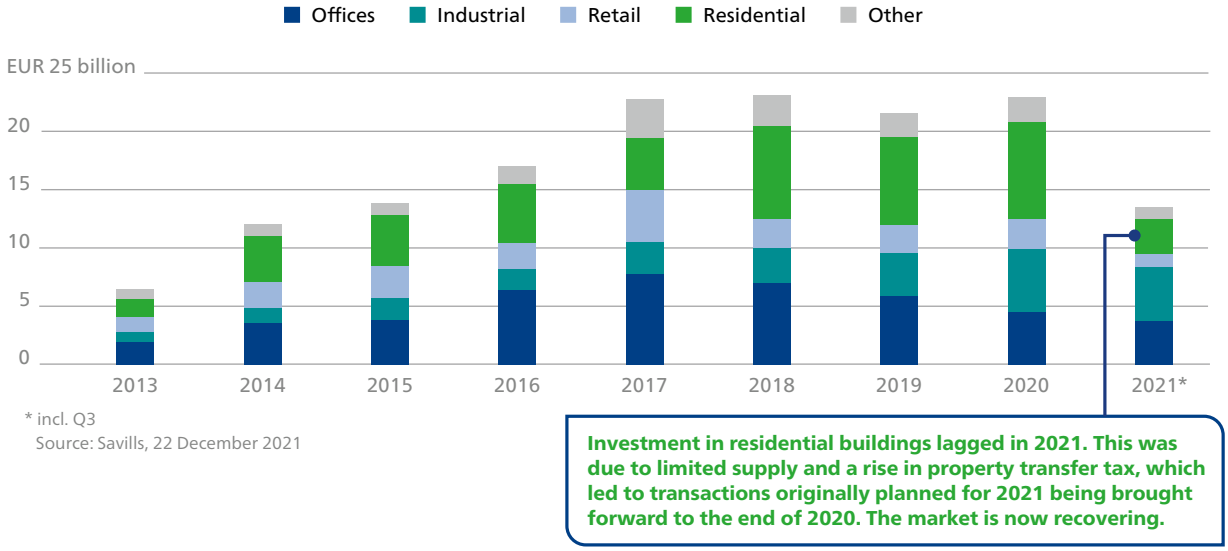
Amsterdam would do well to explore some of the public-private financing models used elsewhere in Europe, such as in the UK and Denmark, she concludes:

"There's a huge social return if the right infrastructure is in place, especially given the enormous need for affordable housing. Amsterdam really needs to think big in this regard and plan for the coming decades."



Hydrogen Hub
This Amsterdam-based public-private alliance is working to accelerate the transition to hydrogen. The aim is to create CO_2-free steel and clean fuels for sea and air transport.

Dutch real estate industry: volume of investment across use classes



* incl. Q3
Source: Savills, 22 December 2021

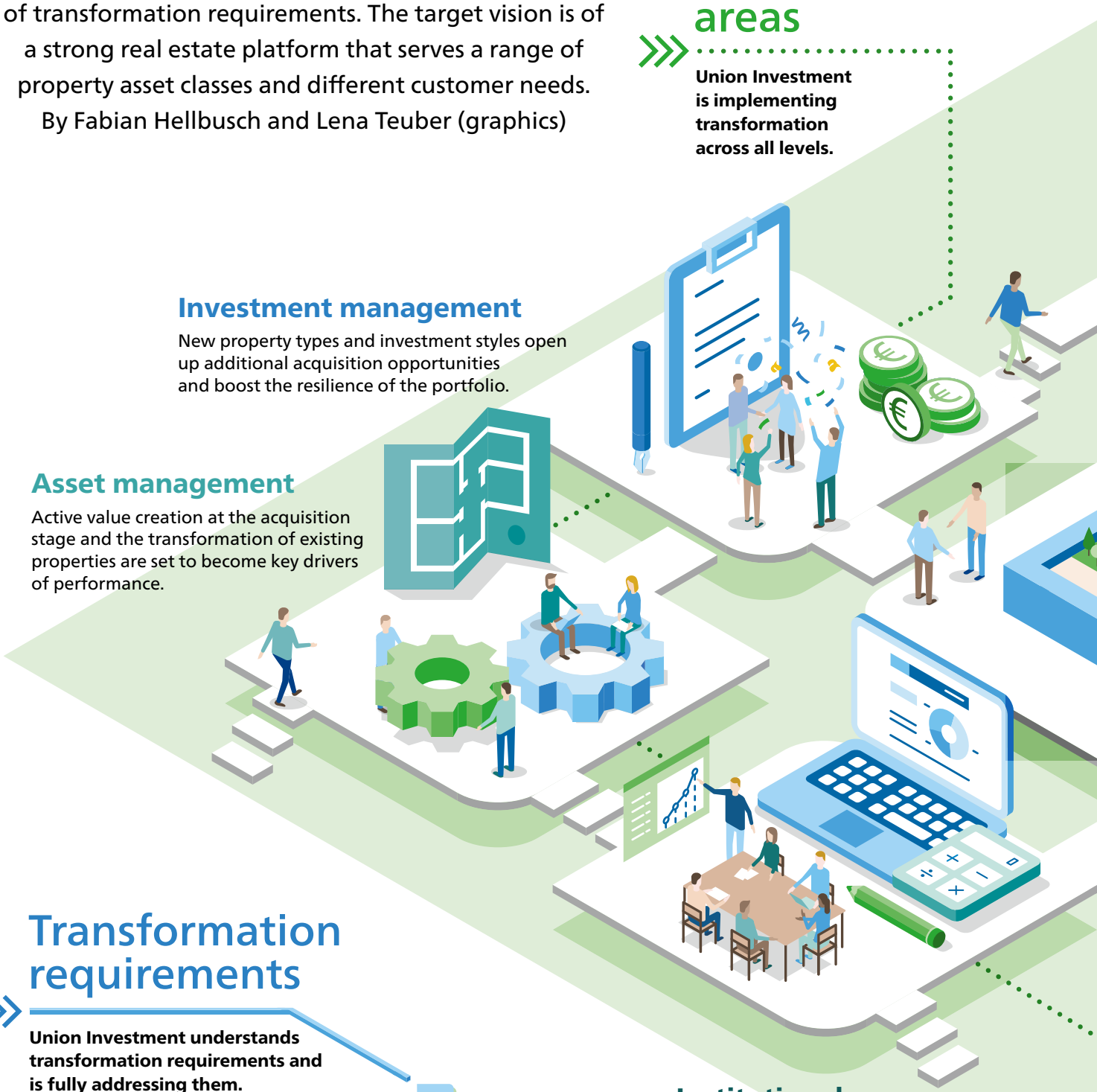
Transformation

Union Investment has taken important steps on many levels to align its real estate business with a myriad of transformation requirements. The target vision is of a strong real estate platform that serves a range of property asset classes and different customer needs.

By Fabian Hellbusch and Lena Teuber (graphics)

Transformation areas

Union Investment is implementing transformation across all levels.



Investment management

New property types and investment styles open up additional acquisition opportunities and boost the resilience of the portfolio.

Asset management

Active value creation at the acquisition stage and the transformation of existing properties are set to become key drivers of performance.

Institutional real estate business

The offering for institutional customers will be actively expanded by adding tailored real estate solutions.

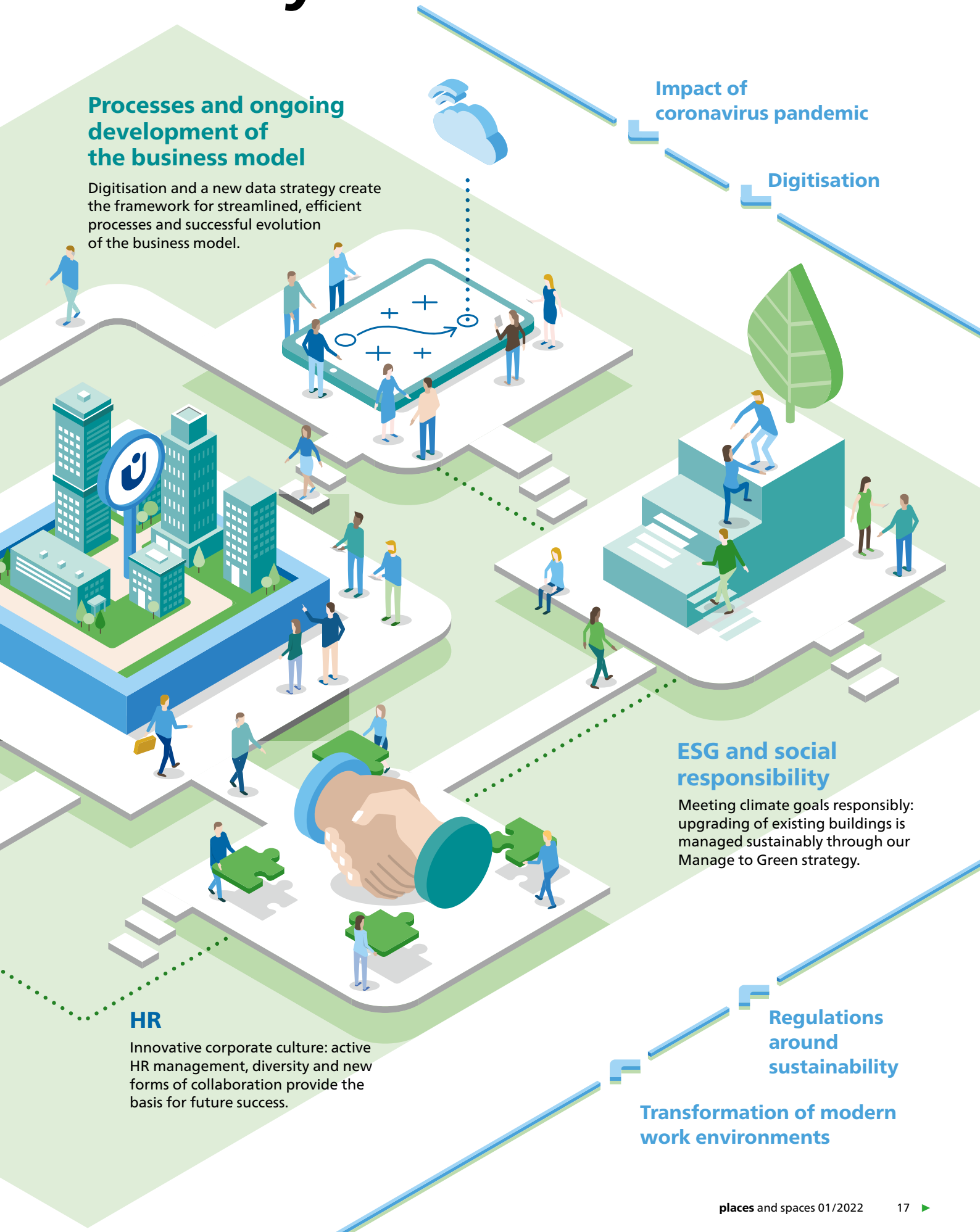
Transformation requirements

Union Investment understands transformation requirements and is fully addressing them. 360 degrees.

Changing user requirements

Changing customer/investor requirements

on many levels



Processes and ongoing development of the business model

Digitisation and a new data strategy create the framework for streamlined, efficient processes and successful evolution of the business model.

Impact of coronavirus pandemic

Digitisation

ESG and social responsibility

Meeting climate goals responsibly: upgrading of existing buildings is managed sustainably through our Manage to Green strategy.

HR

Innovative corporate culture: active HR management, diversity and new forms of collaboration provide the basis for future success.

Regulations around sustainability

Transformation of modern work environments

Investment management

New property types and investment styles open up additional acquisition opportunities and boost the resilience of the portfolio.

Setting the course: Union Investment successfully tapped into the residential asset class outside the DACH region for its open-ended real estate funds last year. Overall, projects worth a total of around a billion euros were acquired in the residential segment in Amsterdam, Dublin, Helsinki and the US. Further growth is planned.

Institutional real estate business

The offering for institutional customers will be actively expanded by adding tailored real estate solutions.

Strong statement: Union Investment realised its first individual mandate in 2021 with pension fund Bayerische Versorgungskammer (BVK). By way of a new investment management company set up and managed by Union Investment, BVK has taken a 50 percent stake in an office development project in Munich which is already let on a long-term lease to the German Patent and Trade Mark Office. New customised solutions are in the pipeline.

Photos: BM Architects (simulation), Union Investment / Adrian Beck, Union Investment

Asset management

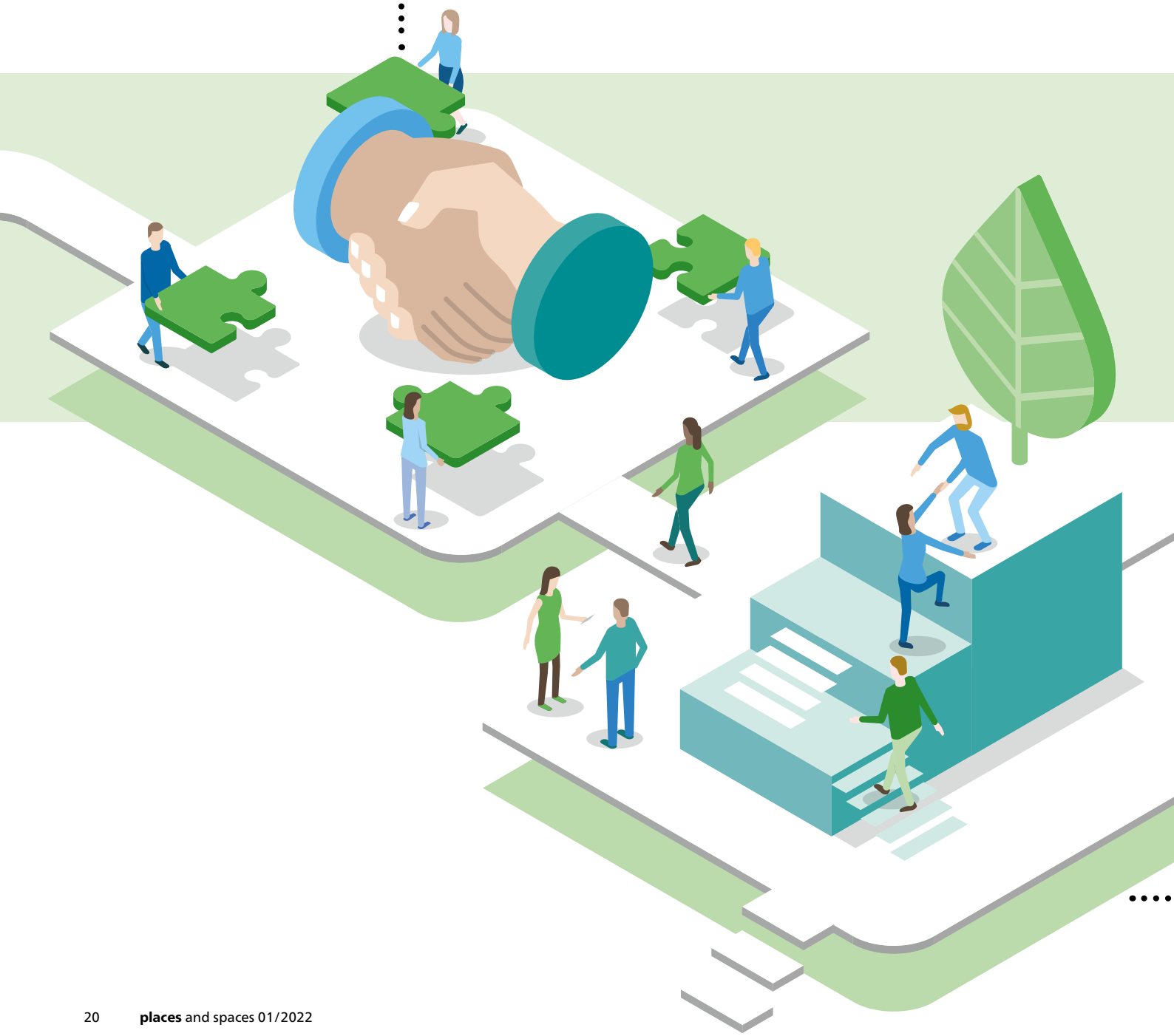
Active value creation at the acquisition stage and the transformation of existing properties are set to become key drivers of performance.

New directions: The company's new manage-to-core strategy, which aims to create value by repositioning existing buildings, opens up new acquisition opportunities for Union Investment, especially in its home market. Like MediaWorks Munich, for example. This joint venture project was Union Investment's largest transaction last year, involving planned investment of around €1.2 billion.

HR

Innovative corporate culture: active HR management, diversity and new forms of collaboration provide the basis for future success.

A fresh perspective: The first Next Generation Board was constituted in Union Investment's Real Estate segment at the start of the year. Made up of young professionals, it will serve as an advisory body to management. Young voices at Union Investment have thus been given an innovative and important platform.



Processes and ongoing development of the business model

Digitisation and a new data strategy create the framework for streamlined, efficient processes and successful evolution of the business model.

Implemented in practice. Through Docusign, for example. Digitising the contract process provides efficiency benefits at many stages. Eighty percent of the documents circulating in the company that require a signature are signed, processed and administered electronically – from shareholder resolutions to tax returns. This speeds up contract completion and eliminates time-consuming manual tasks.

ESG and social responsibility

Meeting climate goals responsibly: upgrading of existing buildings is managed sustainably through our Manage to Green strategy.

Sustainability on track: Union Investment's Immosustain software solution is designed to serve as a central platform for consumption data and sustainability management of properties. The objective of achieving zero carbon with regard to existing buildings is thus being actively and effectively supported. Over the next few years, all fund properties will be equipped with an energy monitoring system. Electricity, heating and water consumption will then be tracked in Immosustain.

Photos: Union Investment / Benne Ochs, iStock, Goby, a Conservice company

The social dimension

To date, sustainability has mostly been discussed in the real estate sector in terms of the environment and energy efficiency. Now attention is increasingly turning to the S in ESG. Many market players are taking the initiative themselves rather than waiting for rules from Brussels. By Christine Mattauch

The S in ESG
"Social value encompasses environmental, economic and social wellbeing and understands each of these in terms of their impact on the quality of life of people."

Source: Framework for Defining Social Value, UK Green Building Council, 2021

At first sight, it looks like any other business park. Located on the motorway between Prague and the German border, it features the usual cluster of industrial buildings, logistics warehouses and parking areas. But something is different here, near the Czech town of Bor. There's a clubhouse where users can get something to eat, plus inexpensive mini apartments for long-distance commuters. Not to mention green space, sports facilities and play areas, including a basketball court. "It means a lot to the tenants and their employees. Investors like it, too," says Jan-Evert Post, Head of Funding and Investor Relations at Dutch company CTP, which developed and operates the site.

CTP has more than 100 industrial and logistics parks in its portfolio and social infrastructure is becoming an increasingly important aspect. "Some 20 to 25 percent of our parks will be equipped with such features over the next few years, especially the larger ones," says Post. Sustainability counts – and is certainly a factor for a listed company. "ESG comes up in virtually every conversation with investors," says Post, i.e. environmental, social and governance issues. "The energy performance of our buildings is already very good. Now we're increasingly turning our attention to social aspects."

Up to now, discussion in the real estate sector around sustainability has mainly focused on the environmental dimension, but social factors are moving up the agenda. "Investors are increasingly making the issue part of their strategy," confirms Susanne Eickermann-Riepe, Chair of the Institute for Corporate Governance in the German Real Estate Industry (ICG). There are two reasons for this – social features create a point of difference, which is welcomed by the market, and tend to raise the value of a property.

Attention shifting to social sustainability and the associated opportunities

Although there are no legally binding provisions as yet, it's likely to be only a matter of time before the European Commission lays down social taxonomy criteria. The Platform on Sustainable Finance, an expert group that advises the Commission, provided some initial pointers to the rules in July. In line with the environmental taxonomy, there will be criteria that funds must comply with if they want to call themselves sustainable. A key distinction will be whether they simply possess certain characteristics (Article 8 of the EU Sustainable Finance Disclosure Regulation (SFDR)) or have sustainability as an objective (Article 9, SFDR).

In addition to processes within a company, there will be a focus on the social quality of properties – which can be a challenge, depending on the type of use. "Some asset classes are better candidates than others," says Eickermann-Riepe. The Brussels initiative is pushing at an open door. Investors who are aware of their social responsibility already view

A CTP business park near the Czech town of Bor contains more than the usual commercial space – it also has a clubhouse where users can get something to eat, inexpensive mini apartments for long-distance commuters as well as green space, sports facilities and play areas.

social sustainability as an opportunity. "Previously, many of our initiatives remained under the public's radar. When we get involved in social projects today, it attracts more attention due to society's greater overall engagement with the sustainability debate," says Volker Noack, managing director at Union Investment Real Estate GmbH. "We shouldn't always wait for legislation, we should be showing how much creative energy there is in the real estate industry," adds Jens Böhnlein, Global Head of Asset Management and Sustainability at Commerz Real. "The S can help give people confidence in us. It's in our own interests to raise our game."

Investors see opportunities in the affordable housing segment, for example. In December, Munich-based company Wealthcap bought 115 apartments for apprentices and students with the express aim of providing low-cost accommodation in what is a very expensive city. According to industry sources, Nuveen is working on strategies for impact-oriented funds as per Article 9. Their target group? People with disabilities. Last year, Catella launched a fund for real estate with a "social responsibility" function. The first acquisition was a multi-generation development in Bielefeld, Germany. Investor and fund manager Industria Wohnen, meanwhile, operates an open-ended special fund called "Wohnen Deutschland VII" that invests exclusively in sustainable and social residential projects. The aim is to generate a distribution yield of 3.75 percent, which is an attractive proposition for many investors, according to Industria managing director Arnaud Ahlborn. "They also benefit from a very reliable income stream," he points out. Additionally, the investment contributes towards their own ESG strategy.

Subsidised housing is attractive in terms of social criteria

As social aspects come to the fore, demand for subsidised apartments is also rising – a sector long regarded by professionals as unattractive. Back in 2016, Erlangen-based GBI was one of the first developers in Germany to make social housing an investable product. The sector now has the potential to go mainstream. "Over the past few years, we've sold projects to the value of around €300 million and have the same amount again in the pipeline," says Simon Hübner, a GBI ►

"When we get involved in social projects today, it attracts more attention due to society's greater overall engagement with the sustainability debate."

Volker Noack, managing director, Union Investment Real Estate GmbH

Photos: CTP, Union Investment/ Urban Zintel

"Kindergartens are a highly resilient investment. It's a niche but logical product that has struck a chord with our institutional investors."

Carsten Demmler, managing director, HIH Invest Real Estate

board member. "ESG is a massive driver of demand." As a result, community assets such as care homes, schools and nurseries/kindergartens are also sought after. For example, Warburg-HIH launched the "Zukunft Invest" special fund in 2020, which primarily invests in kindergartens. Carsten Demmler, managing director at HIH Invest Real Estate, calls it a niche but logical product that has struck a chord with our institutional investors." This is fully compatible with a focus on returns, he stresses: "Kindergartens are a highly resilient investment." Leases tend to be long; operators are creditworthy and, in Germany at least, their obligations are often protected by public sector guarantees. Social aspects are less tangible when it comes to office and commercial properties, but there are still exciting opportunities.

Ensuring comparability of social strategies across use classes

BNP Paribas REIM's ESG Action Plan for 2021 to 2025 includes the following objectives: "Improve health and well-being of tenants, ensure access for disabled people, provide sustainable mobility." Contract design can also be a starting point. Are tenants and contractors respecting basic social standards in their dealings with their employees? How does a property contribute to local infrastructure? What is a building's added value for local people and residents? "Buildings are still rarely viewed in context," says Eickermann-Riepe. The expert cites the management of Hamburg's HafenCity as a successful example. Cologne-based developer Pandion takes a rather different approach. It allows artists to use soon-to-be-demolished buildings and derelict sites free of charge, and subsidises new build space. "As developers, we see ourselves as an important part of what makes a town or city," says Pandion's manager in Berlin, Mathias Groß.

It is clearly difficult to compare such diverse strategies. The key aim of the taxonomy is thus to create transparency for investors around sustainability. On behalf of the ICG, the Real Estate Management Institute (REMI) at EBS University has developed a model that assesses projects based on their individual sustainability objectives and allows them to be compared via a points system. "The aim is for investors to be able to apply the model themselves," says the head of REMI, Kerstin Hennig. The effort involved depends on the quality of the data. Time will tell whether the model gains acceptance, but at least a start has been made.

Photos: HIH Invest Real Estate, Industria Wohnen, Loomilux / PANDION (Simulationen)

Industria Wohnen is developing a new residential complex in Mainz. 25 percent of the apartments will be publicly subsidised and offered for rent at less than €8 per square metre (left). Cultural and social initiatives can apply for space at Pandion's office campus, located close to Berlin's Ostkreuz station, for €6.50 per square metre (right).

Fund manager Thomas Röhrs, who is responsible for UniImmo: Deutschland, and Head of Sustainability Jan von Mallinckrodt discuss sustainable portfolio management and the necessary transformation of property holdings. Interview by Christine Mattauch and Fabian Hellbusch

"Transformation takes time"

In the real estate sector, success has traditionally been measured in terms of financial performance. Does sustainability conflict with that?

Röhrs: Investments in sustainability help a property to retain its value and contribute to long-term competitiveness. That's why such measures are basically a given for Union Investment. It's like if a roof is leaking – we don't ask ourselves whether repairing it will affect returns. Sustainability is up there with all the other tasks involved in developing our existing building stock. It's the only way we can find the kind of tenants we want for our high-quality spaces.

What impact do the EU's standards have on portfolio management?

Von Mallinckrodt: Development on this front is not surprising, but the pace of it is. Fortunately, Union Investment already has a good understanding of sustainability. Back in 2018, we set out in our Manage to Green strategy how we intend to make our holdings zero carbon by 2050 at the latest. That is significantly more ambitious than what the EU taxonomy currently requires of us. Taxonomy compliance shouldn't be confused with zero carbon. However, there is still uncertainty as to what investments make sense in the current situation.

Röhrs: As part of our fiduciary duty, we need clarity about whether it's better to invest client monies now or later. In the case of UniImmo: Deutschland we've decided to actively address the issue rather than playing wait and see.

In October, you classified six retail funds as Article 8. What implications did that have for portfolio management?

Von Mallinckrodt: In terms of processes there was hardly any effort involved, the instruments were already in place. In that respect, switching to Article 8 was only logical – but at the same time it's just a first important step towards zero carbon. We know we're facing a long-term mission. Transformation takes time. And we still need innovation in the construction industry to solve the challenges around the existing building stock.

Röhrs: UniImmo: Deutschland has many thousands of investors who came on board before the sustainability framework was in place, but we also want to win over new investors by highlighting ►

Jan von Mallinckrodt (left) and Thomas Röhrs are advocates of the Manage to Green strategy. With its "atmosphere" label, Union Investment compiles a key performance indicator that communicates the sustainability performance of a property to tenants, investors and other market players.

the fact that our open-ended real estate fund is a sustainable investment. For both audiences, the message is important that we're not starting from scratch and are actively managing the necessary transformation process. Switching to Article 8 is a sign of that.

How are you managing the transformation with regard to sustainability requirements?

Von Mallinckrodt: We're deploying our Sustainable Investment Check, which has been in use since 2009 and covers all the relevant factors. The S in ESG is not yet defined by the taxonomy – BaFin, the German Federal Ministry of Finance and the EU each have rather different ideas. We are therefore following our own set of criteria and focusing on indoor environmental quality, safety, local shopping facilities and social engagement within our properties, to name just a few aspects.

Röhrs: Our properties should make users feel good. For many of our office buildings, the target group are companies with employees and management teams who are very aware of sustainability issues in the workplace. They value things such as accessibility by bicycle and public transport as well as plenty of bicycle parking spaces, showers, changing rooms and also well-lit parking areas that allow people to feel safe.

How are you boosting the portfolio's sustainability?

Von Mallinckrodt: Quick initial wins can be achieved by picking up obvious problems, such as the heating being on seven days a week when the building is only used for five. In addition, we're trying to drive forward energy modernisation by installing smart meters and then identifying ways of reducing consumption.

What does that mean in concrete terms?

Von Mallinckrodt: The core element of our Manage to Green strategy is energy monitoring. We want to put that in place across all fund properties by 2025. For us, that means equipping around 80 properties a year with sensors to obtain reliable

data. That has already happened in over 100 buildings. At the same time, we're gradually analysing the entire portfolio, looking at the national and international requirements and establishing what we need to achieve at each property.

Röhrs: Essentially, we want to take our holdings to a higher level. Where there's a technical solution, we will do the necessary work. If investment to improve sustainability is not considered viable, then some properties may end up being sold.

Have you any idea what that proportion will be?

Röhrs: It would be naive to think we can simply sell properties which lack the necessary sustainability potential and replace them with ones that offer perfect energy efficiency. It also wouldn't make sense. Selling a property just to remove it from our portfolio doesn't help the environment. Take a hotel in an attractive location, for example. Or a shopping centre with lots of regular customers. These properties don't lose their relevance just because they fail to meet the latest standards. That's why we need to take any straightforward technical measures and where that's not possible, to ask ourselves what the negative impact of the property is on the portfolio. Modernisation might not be an option now, but maybe it could work in five years' time.

Von Mallinckrodt: The strategy of not relying on new builds is absolutely right. There's really no such thing as a sustainable new building. You always have to consider the life cycle of a property and the CO_2 emissions produced when manufacturing the construction materials.

How do fund managers and sustainability experts work together here?

Röhrs: There's a constant tradeoff between the recommendations of the sustainability unit and the scope for implementation within individual properties. It's not really about the costs, because we know there is no alternative to this strategy. Our task as fund managers is to get things moving and agree a roadmap with Asset Management.

What role do users and their behaviour play?

Röhrs: Transformation can only succeed as a shared endeavour. The best way to get users on board is with compelling reasons. Sensors enable us to present potential savings in black and white, such as when water consumption data shows that one storey is never used at weekends. This transparency doesn't go down well with every tenant, though. You have to be committed to sustainability. However, we believe that more and more tenants do have that commitment.

Von Mallinckrodt: Regulations are helping to create a sense of urgency. From the end of 2024, companies will have to publish their CO_2 emissions. That will probably help us to get proper insights into our tenants' consumption patterns, which will enable us to work with occupiers to achieve the necessary transformation of our properties.

Do investors reward sustainability strategies?

Röhrs: There's been a marked increase in the number of investors for whom sustainable investment is important. Being seen to have a sustainability strategy can therefore definitely lead to higher sales. But as well as winning over new customers, for me it's just as important to show our existing investors – who didn't subscribe to the fund on this basis – that we're serious about the transformation process but also taking a very measured approach. We want to be completely transparent about that.

Von Mallinckrodt: We need customers to accept that our strategy will impact performance in the short term but underpin returns and future-proof their investment over the long term. The responsibility lies with us. We have it in our power to solve this great challenge of the future by taking the right action now.

"Our Manage to Green strategy sets out how we intend to make our holdings zero carbon by 2050 at the latest."

Jan von Mallinckrodt, Head of Sustainability, Union Investment Real Estate GmbH

"Investments in sustainability help a property to retain its value and contribute to long-term competitiveness."

Thomas Röhrs, fund manager, UniImmo: Deutschland, Union Investment

Photos: Union Investment / David Klammer (2), Union Investment / Sebastian Vollmert

Taking the lead

Sustainability concerns are moving centre stage for real estate companies, but the desire to introduce ESG reporting is being hampered by a lack of legislative cohesion. By Isobel Lee

2021 may go down in history as the year when environmental, social and governance (ESG) concerns took up permanent residence in the world of commercial real estate. Although the importance of sustainability reporting has been underlined by bodies such as the European Public Real Estate Association (EPRA) for several years, a combination of the pandemic's lessons, environmental vectors and new EU legislation have helped crystallise its relevance in the public eye.

Yet a lack of formal guidance on the right way forward has repeatedly left the industry at an uncomfortable crossroads. Notes Patrick Kern, member of the sustainability team at Union Investment Real Estate GmbH: "As early as 2015, it was decided at the World Climate Conference in Paris that global warming should be limited to 1.5 degrees. However, a lack of concrete implementation plans or financial consequences have left the business world at a standstill."

A recent report from Colliers highlights the fact that no single set of reporting frameworks has established itself as the accepted worldwide benchmark for ESG performance, making it extremely difficult for real estate investors to predict future requirements and liabilities. "The challenge at the moment is to understand what, exactly, needs to be done to calibrate property portfolios with the incoming requirements for decarbonisation in particular," says Luke Dawson, MD capital markets EMEA at Colliers, highlighting that the potential cost of retrofitting existing buildings is estimated to be around €7 trillion in Europe alone.

EU directive on corporate sustainability reporting expected in 2023

However, last year's enactment of the EU Action Plan on Sustainable Finance with the Disclosure Regulation (SDFR) has "shaken up the partly-dormant financial market", Patrick Kern suggests. "By demanding more transparency on sustainability and even defining sustainability at

Several office properties held by Union Investment are already taxonomy compliant (from left to right): German headquarters of the Mercedes-Benz sales organisation in Berlin, Urban Environment House in Helsinki, Stibbe Court in Amsterdam and First in Rotterdam.

European level, through the EU taxonomy mechanism, more clarity is emerging." Meanwhile, the EU's Corporate Sustainability Reporting Directive (CSRD), due in 2023, is expected to take this to the next level by placing the onus on occupiers to provide key metrics. "Educating boards about the new responsibilities arising from emerging regulations will be a vital part of the transition," suggests Andy Hay, managing director, EMEA property management at Colliers. "There will also be an increasing premium placed on ESG expertise, with more companies moving to hire specialists or seeking partnerships that boost their capabilities in this area." Unsurprisingly, many real estate firms have already moved to appoint ESG officers this year in a bid to untangle the regulations and display leadership in this area. But while many firms are still supplicating policy makers to signal the road ahead, others see this as a poor excuse on the part of the industry.

Says Vasco Santos, global sales & leasing director for Ingka Centres: "The private sector has a huge role to play in ESG. Only relying on governments to make that happen is not a fair expectation. We need to bring other partners together and be at the forefront of this movement." Ingka is targeting a 100 percent use of renewable energy by 2025, and 100 percent renewable sources for heating and cooling by 2030. Its social approach includes giving more people access to jobs at its centres, upskilling competences and creating a community ecosystem around its properties. "We don't believe there needs to be a trade-off between sustainability and growth," he underlines. Other companies are making a balance sheet commitment to sustainability by linking the cost of their debt to their environmental performance. Canada's Ivanhoé Cambridge is one such firm, having recently unveiled plans to convert its corporate programme of term loans and lines of credit – amounting to some C$8.5 billion (€5.92 billion) – by indexing the debt to its ESG performance. "If we achieve our carbon targets then our cost of debt will be lower," explains vice president of corporate social responsibility (CSR) Stéphane Villemain.

Digital technology supports sustainability strategies

Finally, as efforts to decarbonise the real estate sector continue to gather momentum, proptech solutions that help developers and landlords improve their sustainability credentials are increasingly valuable. In 2021, NREP raised some €268 million from investors including Norwegian state's climate investment company Nysnø, Credit Suisse, BMW Foundation, Woven Capital and other backers to invest in technologies related to sustainable property development. From tools collecting data – the basis of any green improvement strategy – to state-of-the-art building materials, it seems that industry initiative may yet plot the way out of potential crisis.

"If we achieve our carbon targets then our cost of debt will be lower."

Stéphane Villemain, vice president of corporate social responsibility (CSR), Ivanhoé Cambridge

Photos: Union Investment/ Norbert Meise, Union Investment/ Kuvatoimisto Kuvio Oy, Union Investment/ Ralph Richter, Union Investment/ Daniel Sumesgutner, Ivanhoé Cambridge

"This gives the real estate industry a new role as an operator of business models around energy."

Jörg Kruhl, Chief Marketing Officer, Ampeers Energy

Weitmar has an industrial past; collieries and steelworks shaped this district in the city of Bochum, Germany. In an exciting twist, it is now home to the EZZ Energy Center of the Future, which will supply 81 residential units with net zero power and heat, making them largely energy self-sufficient. The first two buildings have already been hooked up.

This showcase project by real estate company Vonovia is being financed entirely from the company's own resources and is pivotal for the whole industry. It demonstrates energy strategies that are already possible today – and may well become standard practice in just a few years. For Vonovia's Head of District Systems, Tobias Hofmann, it's clear that "the EZZ has already fulfilled its purpose, given the insights we have gained to date."

Elsewhere, engineers are also developing solutions for districts that are capable of meeting most of their own energy needs. One example is in Freiburg-Dietenbach, where there are plans to build housing for 16,000 people. A site formerly occupied by sewing machine manufacturer PFAFF in Kaiserslautern is another inspirational project, as is Neue Weststadt in Esslingen, which involves five apartment blocks alongside a campus with a high-rise tower. The objective is to achieve greenhouse gas neutrality. Generating electricity and heat directly where it is needed, based on renewables, delivers high efficiency and avoids CO_2 emissions.

Tailored to local requirements and resources

As yet there are no standard solutions. However, pioneers are already driving innovation that will make things easier for those who follow. In the first phase, Vonovia has opted for a combination of photovoltaics, heat pumps, an electrolyser, a hydrogen storage system and a fuel cell. Green power not only covers a high proportion of the electricity requirement, it also provides heat, with an electrolyser being used to produce hydrogen which is then stored. A fuel cell subsequently transforms the hydrogen back into electricity and heat. But this is just the start. "The EZZ is designed as a modular system," explains Hofmann, "we can add in technologies and remove them at any time." Geothermal energy is one example. The EZZ is a living laboratory and Vonovia intends to leverage the findings in future modernisation projects. As Germany's biggest housing company, it wants its existing building stock to be virtually net zero by 2050.

Elsewhere, waste heat from nearby industrial facilities will be used or, in rural areas in particular, wind or biomass energy. In urban areas, connection to a decarbonised district heating network is an alternative – self-sufficiency is not an end in itself. "You have to base what you do on local requirements and resources," says Gerhard Stryi-Hipp, head of the Smart Cities research group at the Fraunhofer Institute for Solar Energy Systems ISE. "There's no blueprint out there."

While planners of new build projects have the opportunity to do everything right from the outset, the big challenge lies with existing buildings. There are, however, elements which experts believe make sense almost everywhere: examples here include high levels of building efficiency, large-scale solar, and heat pumps. Retrofitting can be costly and time-consuming, though. Converting the heating to a central solution involves building an energy centre as well as laying pipework. Similarly, charging points for electric ▸

Vonovia's EZZ – the Energy Center of the Future – is part of the Bochum-Weitmar housing scheme (top). In Esslingen, the Neue Weststadt district is virtually zero carbon thanks to its own utility infrastructure (bottom).

Green self-sufficiency

From living lab to future standard – innovative energy concepts show how neighbourhoods can become climate friendly, including solutions for existing building stock. By Christine Mattauch

Photos: Ampeers Energy/Christopher Schmid, Vonovia/ Simon Bierwald / INDEED Photography, RVI GmbH

cars require thick power cables. "Good planning is important, right from the start," says Konrad Jerusalem, managing director of Argentus, a Düsseldorf-based real estate consultancy. As a rule, district-wide solutions are more efficient than single-building solutions because they allow synergies in terms of procurement and operation. It's also possible to balance out fluctuations in demand more effectively – by using surplus solar power to charge entire fleets of electric vehicles, for example. And in a mixed-use development, different patterns of consumption between living and working can partially offset each other.

District-wide solutions are generally more efficient than single-building solutions

In any case, a much more holistic view needs to be taken of the different uses within a neighbourhood, according to Lars Scheidecker. The CEO of Union Investment Real Estate Digital GmbH and his team are developing a digital ecosystem for commercial properties called "Run this place". Says Scheidecker: "If individual buildings are integrated more tightly and better connected with their surroundings, this results in synergies that benefit the entire neighbourhood and its users." He gives the examples of e-charging or making flexible use of space that is temporarily available. "Both of those options and much more besides can be tailored to the local situation when deploying a digital ecosystem."

The more complex the components, the more important orchestration becomes: When should electricity be provided directly to tenants, when should storage capacity be replenished? To manage these aspects, Vonovia is working in Bochum-Weitmar with Ampeers Energy, a Munich-based startup that has developed a digital energy management system which leverages artificial intelligence. The system is continuously self-optimising and draws on weather forecasts and also user behaviour. Although the world may well have been simpler for portfolio managers, developers and investors in the past, Ampeers' Chief Marketing Officer, Jörg Kruhl, stresses the positive aspects: "This gives the real estate industry a new role as an operator of business models around energy." While regulations and tax issues currently create barriers, there is fundamentally no reason why solar power generated on the roof of a building can't be sold to tenants, for example. Doing this via a separate company is a potential way forward. This would create a new revenue stream, while tenants would benefit from lower utility costs.

Some energy suppliers view the development as a threat to their business. Others regard the change as an opportunity and are taking on contracts to set up the necessary infrastructure. "That kind of business offers much higher margins," says Jerusalem. In Sigmaringen, southern Germany, the local municipal utility company is planning a development on the site of a former barracks that will be almost entirely self-sufficient in energy. It will use solar power, a heat pump, compact heat and power plants, wood chip boilers and heat storage to save 3,300 tonnes of CO_2.

Many of these new technologies are still more expensive than conventional solutions. Solar panels and a heat pump cost more than a condensing boiler. Savings are only achieved during operation, such as when replacing gas with green electricity generated on-site. Many projects, therefore, will only work financially if developers are willing to bear the upfront costs – and if investors reward that commitment. Fraunhofer expert Stryi-Hipp believes that's the only way: "Companies that don't at least strive for zero carbon run the risk of producing stranded assets."

So-called green inflation could soon favour self-sufficiency: ecological transformation of the economy will initially increase demand for energy and therefore push up prices. "The cost-benefit equation when considering new projects will therefore shift in favour of these concepts," says Jan von Mallinckrodt, Head of Sustainability at Union Investment Real Estate GmbH. At Vonovia too, the consensus is that any cost-benefit analysis should

"If buildings are integrated more tightly, this results in synergies that benefit the entire neighbourhood."

Lars Scheidecker, CEO, Union Investment Real Estate Digital GmbH

In Vienna, a hydropower plant on the Danube canal supplies heat and cooling to the TrIIIple and Austro Tower residential towers (left).

Architecture firm SOM has come up with the Urban Sequoia tower, a high-rise concept where algae transform the façades into a source of biomass energy (right).

be forward-looking. "We're investing in a more economically efficient future," says Hofmann.

Lessons learned and rising demand drive innovation

Vonovia is expecting to obtain the "first real results" from operating its EZZ in winter 2022. Lessons have already been learned, though, such as with regard to the local heating supply when several buildings were extended upwards. Whereas comparatively low temperatures suffice in the new build sections, the old radiators require a higher flow temperature. The engineers solved the problem via a low-temperature local heating network with transfer stations and a solar-powered high-capacity heat pump. The new apartments are supplied directly via the network, while for the existing apartments the temperature is boosted from 40 to 80 °C. "This solution is the first example of creating real added value," says Hofmann. In terms of heating requirements, the scheme will now be "100 percent self-sufficient" and additional gas purchases are no longer needed.
Not every housing company has the financial muscle to follow the lead of this industry mover. Ampeers manager Jörg Kruhl believes that standardised solutions are essential, "otherwise handling the sheer number of modernisation projects will not be achievable." From mid-2022, his company is thus aiming to provide "Decarbonisation as a Service". Basic models for different types of development will be adapted to the specific scenario. For unique properties, which include many office ensembles and commercial districts, there will still need to be custom solutions in future.

But with this trend only just getting under way, demand is driving innovation. In Vienna, a hydropower plant supplies heat and cooling to the TrIIIple and Austro Tower residential towers, for example. The concept was devised by industrial engineer Andreas Glatzl, the client was Soravia.

In New York, star architects SOM recently unveiled a plan for skyscrapers with giant tanks of algae to capture CO_2. Sounds utopian? Maybe. But 20 years ago, many would have said the same thing about an Energy Center of the Future in Weitmar.

Photos: Union Investment/ Urban Zintel, Soravia / ZOOMVP, SOM/ Miysis (simulation)

Thinking outside the box

Les Gobelins station in the 13th arrondissement of Paris is being completely regenerated. As part of the remodelling work, Segro is developing a 75,000 square metre underground logistics centre for urban distribution and last-mile delivery.

Photos: SEGRO, Icade, DATA architectes, Anyoji Beltrando Architectes Urbanistes, Wagon Landscaping (simulation)

360 DEGREE SPECIAL TRANSFORMATION

As the need for urban logistics assets escalates, the sector is turning to ingenious solutions to create last-mile space in increasingly dense environments. By Isobel Lee

It's been a tough few years for physical retail, battling both against the rise of e-commerce volumes and the effects of the global pandemic. But just as quickly as retail property's star has fallen, the sun has risen over logistics real estate. The sector's stellar fundamentals have prompted funds and developers to create increasingly generous allocations to sheds, in the hope of benefitting from rental hikes as demand continues to climb in the face of narrow supply pipelines. However, just as occupiers are struggling to lease space, investors are discovering that competition and high prices are making it difficult to amass significant volumes of the assets they want.

For some funds, this means taking a step back from the hottest segments, such as ultra-urban last mile properties, to focus on space a little further out of cities. This is the current strategy for the UK arm of US privately held firm The Ardent Companies, which launched its British venture in 2021. Says managing director Richard Benson: "On the whole, we're happy to leave the likes of Blackstone's Mileway and MARK's Crossbay to bid for premium-priced last mile schemes. We are largely focusing on occupiers who need small to medium-sized units in an accessible location but perhaps not the prime location. These sites also offer value to us as an investor."

However, this doesn't mean that Ardent is shying away from the urban logistics theme. As an investor also interested in retail, Ardent sees tremendous opportunity in creating hybrid assets in downtown locations that unite the best of retail with a slice of logistics. Its purchase of Touchwood shopping centre in Solihull, West Midlands, last summer had nothing to do with retail's distress narrative, Benson says. "This is a successful retail asset where we feel we can create value not only by adding more F&B and leisure, but we see opportunities to add a dark kitchen or other urban logistics elements," Benson explains.

The argument is a compelling one, and echoes the views of other investors – and town planners – that perhaps the way out of this conundrum is to create mixed-use assets that incorporate logistics, rather than trying to directly swap out downtown retail occupiers for parcel handlers or goods warehouses.

Last mile challenges

While over in the US, Amazon has succeeded in converting entire, obsolete malls into fulfilment centres, the feasibility of these projects reflects both the location of the malls – in low density sites flanked by major roads – and how much retail distress is in play on the other side of the Atlantic. European city centre sites are characterised by much greater complexity, suggests Cristina Garcia-Peri, head of business development & strategy at European private equity real estate manager Azora. Needless to say, her firm is executing a successful last mile conversion strategy in Spain and Portugal by sticking to specific parameters. ▸

Photos: SEGRO, Getty Images/ Mariah Tauger, Shutterstock/ MikeDotta, Zain Ventures

Azora usually focuses on a "sweet spot" some 10–15 km away from cities, which is still a useful range for occupiers such as 3PLs and dark kitchen operators. The firm is also exploring the potential for hybrid logistics solutions at retail parks, which offer both low prices per square metre and simple warehouse structures that are ripe for conversion. But she underlines that being selective is key.

"There are sites which look interesting – such as garages or retail parades – but apart from needing different permits to run last mile, the surrounding infrastructure requirements are completely different," Garcia-Peri notes. "Street access has to be well connected to major city arteries and wide enough that trucks can turn. You need loading bays, and local authorities will back residents if there's a problem with noise, traffic or pollution."

Going deep

Another firm that is exploring the depths of what is possible in urban areas is industrial specialist Segro, whose French operations include both multi-storey and underground warehouses. While its multi-level Paris Air2 Logistique warehouse was developed for Ikea and Leroy Merlin in an out-of-town position, its latest, subterranean solution occupies a prime location beneath the city of Paris. Segro has teamed up with French office specialist Icade to transform the remnants of a former goods railway station, Les Gobelins, into a mixed-use project combining state-of-the-art offices with an underground last mile logistics hub.

While Laurence Giard, general manager, Segro France, notes that "underground warehouses are extremely costly to excavate from scratch", the firm's latest scheme in the French capital's 13th arrondissement exploits previously dug warehousing space under the historic former station. Overground, tired 1970s shopping centre Les Olympiades will make way for two timber framed office buildings, plus gardens, greenhouses and sports pitches. Giard explains that the last mile facility will connect to its urban surroundings through the introduction of soft mobility solutions, including electric vehicles and delivery tricycles. Recycling centres and repair shops will further cement its role in the local community.

"Some experts are predicting that a shortage of land will cause warehouses to be built underwater and in the sky."

Zain Jaffer, real estate and proptech venture capitalist and partner, Blue Field Capital

Segro has invested in the multi-level Air2 Logistique distribution centre near Paris (left). At Grand Food Depot in Los Angeles (centre), robots pick up orders from the various kitchens and deliver them to waiting drivers at the entrance. In Turin, TNT uses cargo bikes to make deliveries (right).

Meanwhile, leading occupiers are also adding their voice to the debate. Last year, Amazon launched the European roll-out of its proprietary last mile hubs, which it calls delivery stations, in a strategy involving collaboration with local developers. The assets are run by its own in-house logistics operator, AMZL, which was created to reduce the firm's reliance on third-party delivery services and to hedge against courier price increases.

While a few new sites have already launched in the UK, German, Dutch and Italian assets are also springing up. In November 2021, Goodman consigned Amazon's new Pioltello Logistics Centre near Milan, which is designed to reach 2.5 million customers in around 30 minutes. As with other delivery stations, the asset's green credentials are impressive, including photovoltaic roofs and a fleet of electric vehicles from Germany's Mercedes-Benz and US car manufacturer Rivian.

Tech solutions

It's a reminder that, amid ongoing supply chain issues, labour shortages and space constraints, technology also has a valuable contribution to make to the space race. Last year, US-based warehouse management orchestration platform Fulfilld raised $2.5 million in an oversubscribed seed funding round co-led by Pi Labs and involving former Amazon CEO Jeff Wilke, underlining enthusiasm for the segment. The software helps occupiers optimise their footprint by tracking stock and asset utilisation, as well as offering add-ons such as workforce wearables.

Says Zain Jaffer, real estate and proptech venture capitalist and partner at Blue Field Capital: "Today, distribution centres can leverage smart technologies to predict and analyse consumer patterns, helping them better understand and secure their supply needs. AI management systems are facilitating a better system for the receipt and dispatch of a greater supply volume." And while drones are already delivering groceries to the doors of some consumers, the tech possibilities remain limitless. "Some experts are predicting that a shortage of land will cause warehouses to be built underwater and in the sky," Jaffer adds. As ever, watch this space.

Dark kitchens

With no seating or waiter service, the sole purpose of a dark kitchen is to produce food for delivery. This has multiple advantages: restaurant production capacity is not compromised, delivery is fast and sales are higher.

360 DEGREE SPECIAL TRANSFORMATION

An end in sight

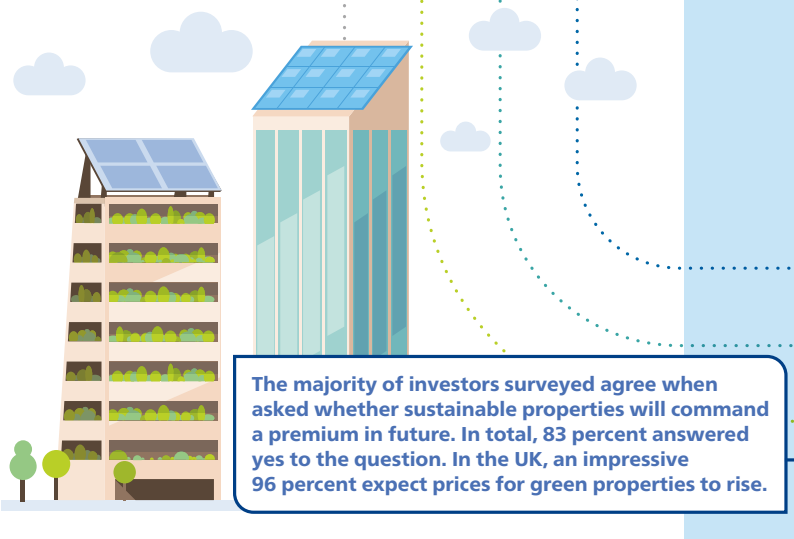
Photo: Union Investment

This spring, Barcelona will see the reopening of a hotel that is being taken forward under the Radisson Blu brand. If it had been around when construction of the Sagrada Familia began, guests could since have enjoyed more than 48,500 sunrises and sunsets on the hotel terrace with spectacular views of the emerging cathedral. This monumental structure, designed 140 years ago by Catalonian architect Antoni Gaudí, is finally set to be completed in the 2020s. The Radisson Blu offers a ringside seat. With perfect timing, Union Investment recently acquired the hotel opposite the basilica for its open-ended real estate fund UniImmo: Deutschland. So make your reservation now for a date with history. ●

Real estate industry in flux

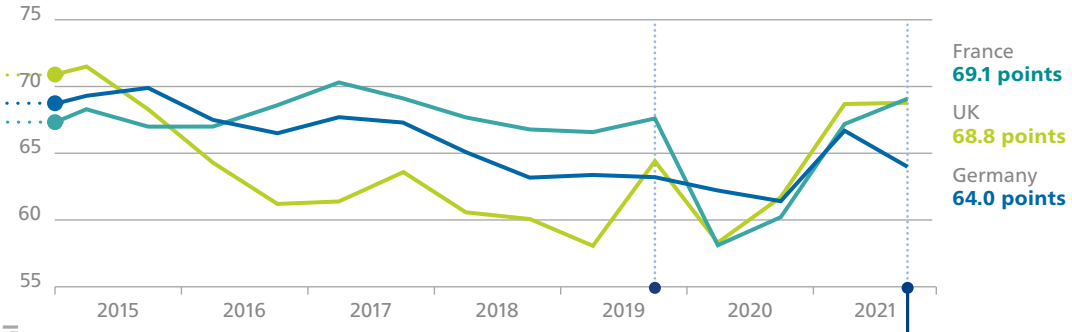
The real estate markets are currently being buffeted by change. The industry is already in adjustment mode, as demonstrated by the findings of the investment climate survey of 150 property companies in Germany, France and the UK conducted by Union Investment between November 2021 and January 2022.

Given growing pressure from European as well as national and local regulations to improve the sustainability of existing property stock, 68 percent of the respondents in Europe are intending to invest in sustainable refurbishment of their portfolios.



The majority of investors surveyed agree when asked whether sustainable properties will command a premium in future. In total, 83 percent answered yes to the question. In the UK, an impressive 96 percent expect prices for green properties to rise.

Investment Climate Index*– Property Investors



* Index in points, survey takes place twice a year, in summer and in winter

Despite the current omicron wave, European real estate investors are still relatively upbeat. In all three countries, the Real Estate Investment Climate Index remains at or even slightly above pre-coronavirus levels. In France and the UK, the mood in the second half of 2021 actually improved slightly. In France, the index rose to 69.1, thus standing 1.5 points above the pre-coronavirus figure recorded in the second half of 2019. In the UK, the national index climbed to 68.8 points, lifting it 4.4 points above the pre-coronavirus level. Only Germany saw a decline in the national index. At 64.0 points, the index is none the less still 0.8 points above the pre-pandemic level.

What role do mixed-use concepts play in your investment strategy?

	Germany	France	UK	Total
"We are already increasingly investing in mixed-use properties"	45	21	45	38
"We would like to invest more but there is not enough supply"	15	56	15	27
"Such buildings are too complex with regard to other uses in the future, so we don't invest in them"	3	12	0	5
"We are converting single-use properties in our portfolio to mixed use"	8	5	2	5
"No role at all"	27	7	36	24
"Don't know"/no answer	2	0	2	1

Mixed-use concepts are playing an increasingly large role in the investment strategies of the investors surveyed. In Germany and the UK in particular (45 percent in each case), investors are already increasing their allocation to mixed-use properties. In each country, a further 15 percent would like to invest more.

Which property types will be the focus of your investment activity in Europe over the next twelve months?

	Germany	France	UK	Total
Offices	22	49	40	35
Residential	45	19	21	30
Logistics and light industrial properties	13	12	9	11
Mixed use	2	2	17	7
Hotels	2	0	11	4
Retail	2	7	2	3
Healthcare real estate / life science	0	7	0	2
Senior living / care real estate	3	2	0	2

Source: Union Investment, real estate investment climate study II/2021 (survey of 150 real estate investors in Germany, France and the UK), survey period: November 2021 to January 2022

When asked about their investment focus over the coming twelve months, respondents continued to rank offices and residential as their two most favoured asset classes. In Germany, however, unlike in France and the UK, residential is the most in-demand asset class rather than offices.

New team in Vienna

Vienna is the home of Union Investment's newest real estate subsidiary. A new management team in Austria is tasked with continuing to drive growth of the company's property business. Words by Elke Hildebrandt, photos by Andreas Jakwerth

Union Investment's Austrian subsidiary was added to the Group in December 2015. Expansion into Austria was preceded by the acquisition of two companies in the country. Alongside gaining access to local expertise and knowledge of the national market, an existing real estate fund specifically for Austrian customers was incorporated into the Union Investment portfolio.

In the meantime, the two business areas, represented by Union Investment Austria GmbH with responsibility for sales and Union Investment Real Estate Austria AG for the fund and real estate business, have been tightly integrated into the Group's existing units. A new management team in Austria now has the mission of leading Union Investment Real Estate Austria AG into the future.

Three-member leadership team with strategic allocation of responsibilities

The new management trio comprising Petia Zeiringer (47), Jenni Wenkel (48) and Stefan Süschetz (41) took up their roles at the end of last year. Union Investment Real Estate Austria AG's new senior management team is tasked with driving growth and creating a stable foundation for the company's activities in Austria.

Petia Zeiringer was appointed to the management board on 1 January 2021. ►

Petia Zeiringer, Jenni Wenkel and Stefan Süschetz (from left to right) make up the new management board of Union Investment Real Estate Austria AG in Vienna. With their diverse strengths and professional skills, the dynamic trio complement each other to perfection. Together, they aim to drive forward growth of the company's real estate business in Austria.

She is the fund manager of open-ended real estate fund immofonds 1 and also in overall charge of fund management and asset management in Austria. Alongside running what is currently Union Investment's only Austrian retail fund, she thus has formal responsibility for managing the portfolio of around 30 properties held by Union Investment in the Alpine republic.

Jenni Wenkel joined the management board on 1 September 2021. As Chief Investment Officer, she is in charge of investment management at Union Investment Real Estate Austria AG and responsible for property acquisitions and sales in Austria across all Union Investment funds.

Stefan Süschetz became the third member of the leadership team on 1 November 2021. As Chief Risk Officer and Chief Operating Officer, he is responsible together with his management board colleagues for strategic and operational management. He oversees middle office operations and risk management, as well as legal, compliance, sustainability and fund accounting. Süschetz is involved in all immofonds 1 real estate deals.

Compelling blend of experience, knowledge and personalities

Petia Zeiringer remembers the first full management board meetings well: "As soon as the new board was complete, our first priority was to discuss the allocation of business areas. Assigning responsibilities based on experience, knowledge and personal skills has proved to be highly effective. With our different strengths and professional expertise, we complement each other very well."

Jenni Wenkel highlights the similarities. "We all have the same mindset, and it has been great to be on the same wavelength from the start," she says. "Our balanced team will enable us to contribute towards the Group's growth strategy," says Süschetz.
The Vienna-based investment management company's tasks include managing

real estate funds in accordance with the Austrian Real Estate Investment Funds Act. "Our aim now is to deliver profitable growth of assets under management and boost our market share," explains Zeiringer. Fund assets in immofonds 1 currently exceed €1.2 billion. The intention is to drive forward and accelerate the fund's growth of recent years.

At the same time, more Austrian properties are to be acquired for Union Investment funds marketed in Germany, in line with the strategy of the individual fund managers.

Targeting strong growth and increased market share

Diversification into Austria is part of the wider growth strategy being pursued by the company. "We want to take the Union Investment Group forward," says Süschetz, "and the best way to do that is for the management team to support one another and maintain a strong focus on sustainability and digital transformation, which are both of key importance for the future." Jenni Wenkel likewise has a clear sense of purpose: "We want to leverage the energy of our young team to raise Union Investment's profile in Austria."

Within the parent group, Union Investment Real Estate Austria AG in Vienna is the counterpart of Union Investment Real Estate GmbH in Hamburg. Collaboration between the two specialist real estate businesses is correspondingly close – and cordial.

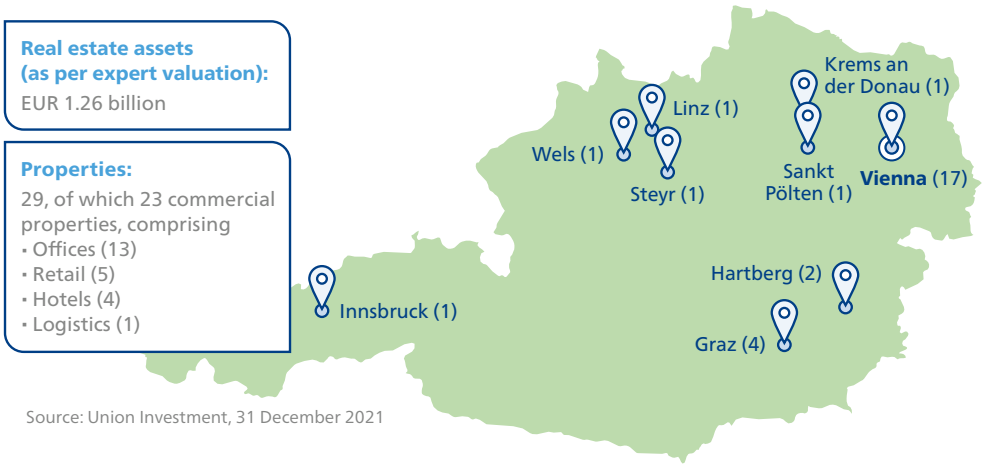
"We share synergies and local knowledge to achieve the best possible results," says Zeiringer. "Additionally, we work very closely with the holding company in Frankfurt." Whether colleagues are based in Hamburg or Frankfurt, "they are all incredibly helpful and supportive. I've rarely had such a positive experience in a large company," says Süschetz.

Sustainability is a key priority for the coming years and for the ongoing development of immofonds 1, and set to be ►

immofonds 1
This open-ended real estate fund has belonged to the Union Investment Group since December 2015. At the end of 2021, the portfolio contained 39 properties, with fund assets totalling €1.2 billion. The fund is only marketed in Austria, where it was launched on 22 March 2004.

Wenkel, Zeiringer and Süschetz (right-hand photo, from left to right) love their modern office space in Vienna's old stock exchange. A total of 23 employees work for Union Investment Real Estate Austria AG in the prestigious, centrally located building.

Union Investment's Austrian portfolio, locations with number of properties



Source: Union Investment, 31 December 2021

an integral part of the business at both product and company level. "Last year, our fund became an Article 8 fund under the EU's Sustainable Finance Disclosure Regulation. That underlines its sustainability, which is something we intend to develop further," comments Süschetz, adding: "Sustainability is an important component of our corporate DNA."

Location in old stock exchange combines tradition and modernity

A total of 23 people work at Union Investment Real Estate Austria AG in Vienna. "We're a small team so we all need to pull together," stresses Zeiringer. "Each person has an important and indispensable contribution to make to our overall performance, which motivates everyone and boosts commitment." The Vienna-based company benefits from its short chain of command, with communication and information sharing being second nature for everyone. "We all enjoy working in this beautiful, centrally located old stock exchange building, operating out of modern, well-equipped offices," says Zeiringer.

Jenni Wenkel has over two decades of experience in the Austrian real estate sector. As Chair of the Royal Institution of Chartered Surveyors in Austria, she continues to expand her strong network and has acquired valuable in-depth insights into the market. "Compared with other European countries, Austria is a very small market with a limited number of players. You need to have good contacts to find the right kind of properties," she says.

Vienna real estate market makes the "Big Seven" the "Big Eight"

The Austrian office property market offers only limited potential for growth: "Vienna is traditionally a market dominated by a small number of companies," says Wenkel, who has been monitoring market conditions for many years. "We target core, core plus and very good secondary locations, and also consider new usage concepts that will enable us to achieve profitable growth." Vienna is still regarded as the gateway to the East. The German-speaking world should really be described as having a "Big Eight", rather than the traditional "Big Seven", notes Wenkel. She firmly believes that Vienna belongs in this top grouping. With more than 1.9 million inhabitants, Austria's capital actually has a slightly larger population than Hamburg. Vienna is also in a stronger position as regards office property yields, which Wenkel puts at around 3.5 percent at present.

As such, this relatively new real estate company has a clear mission and objective in Vienna: "We're here for the long haul." Petia Zeiringer and Jenni Wenkel can second that from their own experience, having made Vienna their new home many years ago.

Petia Zeiringer

Studied business administration and business education; Certified Real Estate Investment Analyst, Certified Portfolio Manager. A native of Bulgaria, Zeiringer is the member of the management board of Union Investment Real Estate Austria AG responsible for asset management in Austria and is also the fund manager of immofonds 1.

Stefan Süschetz

Studied business management; Certified Real Estate Investment Analyst. Süschetz, who is from Austria, is the Union Investment Real Estate Austria AG board member responsible for the middle office and risk management, as well as legal, compliance, sustainability and fund accounting.

Jenni Wenkel, MRICS

Studied business management and real estate economics; Certified Real Estate Investment Analyst. Wenkel comes from Germany's Rhineland and is Chair of the Royal Institution of Chartered Surveyors in Austria. As a member of the management board of Union Investment Real Estate Austria AG, she is responsible for the investment management of immofonds 1 and other Union Investment funds in Austria.

Global investment bounces back

Union Investment entered the US multi-family market in December 2021, acquiring the EON Squared complex in the heart of Flagler Village, Fort Lauderdale, on the south-east coast of Florida.

Major European real estate investors have the US and Asia-Pacific firmly back in their sights after a hiatus during the Covid-19 pandemic. Union Investment is also renewing its focus on its international activities after creating a new department called Investment Management Global.
By Judi Seebus

Photo: Union Investment

Cross-border global real estate investment volumes have halved since the outbreak of the pandemic in early 2020, but the world's largest advisors are predicting that recovery is on the cards for 2022 and that European investors will be heading the charge. More global capital is targeting real estate now than ever before as cross-asset investors seek diversification from perceived highly priced fixed income and equity markets and a hedge against growing inflation expectations that bricks and mortar can provide.

Real estate is one of the big winners in the global pandemic as investors have increasingly focused these past two years on the question of where it is possible to find durable income and an asset class that's defendable in a world which has been turned upside down. What used to be something of a negative story for real estate – that it's more illiquid than other assets classes – has now turned into something positive, comments Chris Brett, Head of EMEA Capital Markets at CBRE. "With real estate you have an asset that is not subject to price movements on a daily basis, locally, globally or wherever you want to be."

Global investment volumes remain around 40 percent off the prior peak recorded in the middle of 2019, while transactions in the US – the largest market worldwide – have plummeted 50 percent, data from Real Capital Analytics shows. Australia has, somewhat surprisingly given the stringency of its lockdown policy, bucked the trend with transactions up over the last couple of years on the back of investments from European investors such as AXA, Allianz and APG. The Germans were the leading European investors in the US in 2021, with a total of $2.2 billion in acquisitions, followed by the Swiss with $1.5 billion. Together they accounted for more than half of the US total of $6.2 billion. The French led the European investor league in Asia-Pacific with transactions totalling $2.2 billion. The Germans ranked second with $1.8 billion.

Now that travel restrictions are easing, Union Investment is also looking to continue to extend its global footprint, and in preparation last year merged its three international investment units – Americas, Asia-Pacific and Retail – into a new department called Investment Management Global, headed up by Henrike Waldburg. The company is renewing its focus on asset classes that have proved fairly resilient throughout the pandemic, such as US multifamily, light industrial and necessity-based retail. "The team was able to acquire assets in excess of $425 million in the US in 2021 in a few of these dynamic asset classes, further diversifying our existing robust portfolio," Matthew Scholl, Executive Director and Head of Investment Management Americas at Union Investment, says.

Everybody wants a piece of logistics

While retail properties, in particular shopping malls, have been challenged ►

"The logistics sector has attracted the attention of the biggest investors globally. Everybody wants a piece of it."

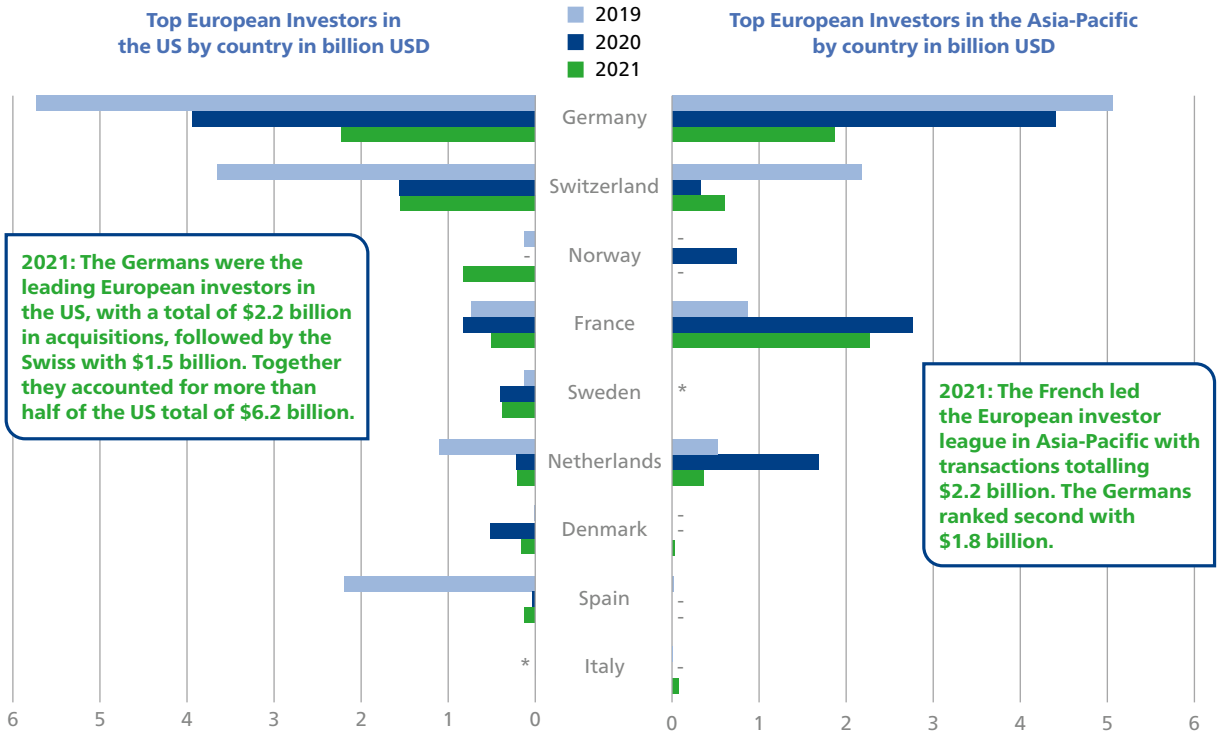
Chris Brett, Head of EMEA Capital Markets, CBRE

by the pandemic, logistics real estate has experienced "unbelievable" growth in the past 18 months, CBRE's Brett says. The sector will continue to thrive because it is the one everybody wants to get into. Land is scarce almost everywhere and demand from occupiers and developers is unprecedented. "The logistics sector has attracted the attention of the biggest investors globally. Everybody wants a piece of it."

Amsterdam-based Bouwinvest Real Estate Investors identified logistics and residential – or "sheds and beds" – as resilient sectors before the pandemic and the two sectors now account for more than 50 percent of the company's international portfolio. In the US, where multifamily has been an established institutional investment class for decades, Bouwinvest has teamed up with developer MacFarlane Partners to invest $750 million in residential high rises. Two investments have already been made via a partial equity interest in Level BK, a 40-storey rental apartment tower along Brooklyn's Williamsburg waterfront in New York, and full ownership of the 24-storey Park Fifth high-rise rental apartment project in downtown Los Angeles. Asia-Pacific is also a target: Bouwinvest is developing private rental schemes in China and Japan together with US-based multifamily specialist Greystar.

Teaming up with local partners through joint ventures, or fund participations, is a common international strategy for big institutional investors like APG and AXA, as well as sovereign wealth funds including ADIA and GIC. Around 50 percent of deals by volume are done with a joint venture partner in Asia, and in North America the figure is around 40 percent, RCA data shows. Finding the right operational specialist will become a big theme in 2022, CBRE's Chris Brett predicts. "Large sovereigns have more and more capital to deploy into real estate and they need to be with the right player."

Global investment by European real estate investors



Source: Savills/RCA, 14 January 2022

* no information provided.

Resilient cashflow is still the holy grail

The Covid-19 pandemic created challenging conditions for global real estate investors, but what has not changed for Union Investment is its strong focus on resilient cashflow.

"The pandemic has reinforced the need to closely examine the credit quality of each tenant. Cap rates are tightening due to the abundance of capital, and in this environment we seek supportive fundamentals and market dynamics to drive rental growth," says Eric Cheah, Head of Investment Management APAC.

In the Americas, Union Investment is mainly focused on the US, in particular high-growth gateway and secondary markets as well as rising tertiary stars within the US Sunbelt. The team also monitors office and urban retail opportunities in selected cities in Canada, as well as the Mexico City office market.

Asia-Pacific is also gaining importance, Cheah adds: "If you draw a circle around APAC, more than half the world's population live there and more than half of the world's GDP is generated there. The importance of APAC is unquestionable."

In APAC, Union Investment is maintaining its focus on mature market destinations – South Korea, Japan, Singapore, Australia and New Zealand – and is also looking at secondary cities in these countries. In both the Americas and APAC it is primarily pursuing a core/core-plus investment approach, but is also monitoring value-add investments for forward funded/purchase opportunities.

European investors discover the charms of other niches

Asian and US investors were predominantly the first movers into life science real estate, but European money is now flowing into the sector as well, Chris Brett says. "Demand from European investors for niche segments like life sciences and also data centres is huge. It was a massive topic in 2021 and it will only grow further in 2022. Both these asset classes offer durable income streams. As populations increase, the insatiable appetite for data will grow as well."

AXA Real Estate is pioneering the move into life science properties in Europe with its acquisition of the Kadans Science Partner platform, which has become the cornerstone of a new €1.9 billion fund to invest in the sector. Bouwinvest meanwhile has made its debut in this niche via a $60 million participation in Blackstone's recapitalisation of BioMed Realty, which owns life science facilities across the US.

"Life science is very much top of mind in the Covid-19 era and there's a huge amount of interest in biomedical research facilities. We expect to focus more on this niche, which caters to all those parties dealing with innovative and creative developments such as Covid-19 vaccines and other medical treatments and cures that can really make a difference in our world. There's a real need for this type of real estate, and we only see it growing," explains Stephen Tross, CIO International Investments at Bouwinvest.

Will offices remain a mainstay?

Union Investment is also exploring the life science and data centre sectors, but in the Americas it remains focused on the traditional mainstream asset classes of offices, multifamily, hospitality, urban/necessity-based retail and logistics. While offices have fallen out of favour since the pandemic, particularly in the US, RCA data shows it remains the preferred sector for most European buyers in the Americas and Asia-Pacific. The US is the main target, followed by Singapore and China, which explains why the impact of Covid-19 has been more significant on the North American office market. APAC ►

Covid watershed
Cross-border global real estate investment volumes have halved since the outbreak of the pandemic in early 2020

Photos: CBRE, Union Investment / Adele Marschner

investment is more diversified across sectors, which has helped to cushion the downturn.

Office investments have been placed under severe pressure by Covid-19. Working from home appears to be a strong market trend that is here to stay and the longer the pandemic goes on, the more uncertain the future of the office is. One thing that is clear, however, is that offices, alongside residential, have the biggest part to play in the transition to a carbon-neutral real estate industry, and therein lies an opportunity. All the big global real estate fund managers have appointed an ESG head in the past 18 months or so and the topic is foremost in the minds of many investors. Developers are, in response, increasingly adopting net zero-carbon ambitions.

Union Investment is dedicated to sourcing and acquiring opportunities with a strong focus on ESG, Henrike Waldburg says. "When assessing opportunities – regardless of asset class – the team uses local benchmarking tools to ensure that we have a comparable dataset for our assets around the world."

Finding product remains a challenge, however. "There's never enough product, that's the reality. That's what changes pricing and keeps the market moving… The world's not going to stop just because of Covid," CBRE's Chris Brett concludes.

"We were able to acquire assets in excess of $425 million in the US in 2021, further diversifying our portfolio."

Matthew Scholl, Head of Investment Management Americas, Union Investment

In December 2021, Union Investment acquired the Fountains of Boynton shopping mall in the Miami-Fort Lauderdale-West Palm Beach metropolitan area, Florida (top).

Return to the US market after three years: Union Investment acquired a trophy retail property in a prime location in Chicago in October 2021 (bottom).

Yvie: Amsterdam's tallest residential tower takes shape

In Amsterdam, Union Investment is constructing an ensemble consisting of two towers, with completion slated for 2023.

Yvie is the new name of the residential tower currently being constructed by Union Investment in the Overhoeks district of North Amsterdam. The name Yvie (formerly Y-Towers) was unveiled in January with a spectacular light show. Yvie offers breathtaking views across the Ij river to the city's canal district and is connected to the Maritim Hotel currently under construction next door, which will be the third tallest building in Amsterdam at a height of 110 metres. The project consists of 176 apartments, 2,000 square metres of office space and 120 extended stay apartments. Completion of the two towers is scheduled for the fourth quarter of 2023.

Loyal office tenants in US and Australia

Union Investment was able to secure the retention of five major office tenants in the US and Australian markets within the course of just a few weeks. Recent overseas lettings totalled 58,400 square metres of office space.

"With the office markets currently in a state of flux, it remains important to be able to offer quality real estate in good locations, backed by excellent tenant support," says Ulrich Dischler, Head of Asset Management Overseas at Union Investment. "Larger tenants are increasingly making use of opportunities to position themselves strategically for the future of office work."

At landmark building 140 Broadway in New York City, the lease with main tenant Brown Brothers Harriman for around 17,500 square metres of space was extended until 2039. In Houston, the lease with the main tenant, Shell Oil, for around 24,100 square metres at the Class A property 1000 Main Street was extended until 2031. In Atlanta, the lease with the Federal Deposit Insurance Corporation (FDIC) for 4,000 square metres at Ten 10th Street was prolonged for a further ten years. In Dallas, meanwhile, the lease with Lincoln Property Company for 5,500 square metres at 2000 McKinney Avenue was again extended. In the Australian city of Brisbane, a direct lease for 7,300 square metres at the Flight Centre Southbank property was concluded with the current subtenant, Virgin Australia. The lease will run until 2030. The five office properties belong to the portfolios of open-ended real estate funds UniImmo: Global and UniImmo: Europa. In total, Union Investment let or relet approximately 1.3 million square metres of commercial real estate space in 2021. The high occupancy rate of the actively managed real estate funds of 95 per cent, based on rental income, was thus maintained in a challenging market environment.

Union Investment's Flight Centre Southbank is a modern office and commercial building in Brisbane, Australia.

Photos: Union Investment (3), Union Investment / Adele Marschner, Union Investment / Peter Bennetts

Photo: Martin Zeller / Baubüro in situ (2), MVSA Architects (simulation), Amsterdam Archive

At Lagerplatz 24 in Winterthur, Switzerland, architecture firm baubüro in situ vertically extended an existing warehouse. The highlight of the project is that many of the elements are pre-used, rather than new. The most visually striking feature of the vertical extension is the vibrant orange-red façade made of corrugated aluminium panels – recycled material from a nearby printing works.

Reaching new heights

When land is scarce and expensive, vertical extension of existing buildings is an attractive option. It makes economic sense and protects the environment – but there are often structural and legal hurdles to overcome. By Christian Hunziker

At Berghaus Plaza in Amsterdam, a transparent residential building has been stacked on top of an existing office building. The developer and architects want to densify this urban location as well as transforming the old structure into an attractive new "Work, Play, Live" destination that combines office and residential space, retail, restaurants and bars.

"Critical issues typically include fire safety and escape routes, alongside the structural strength of the existing building."

Simon Dietzfelbinger, partner, Drees & Sommer SE

The Tour Montparnasse is one of the best-known buildings in the French capital. Built in 1973 and standing 209 metres high, the tower in the 15th arrondissement is hardly one of Paris's most beautiful structures. Quite the opposite, in fact – many detractors regard it as an architectural eyesore. That is set to change, however. In December 2021, the relevant administrative tribunal gave the green light for a long-planned complete refurbishment of the property. Based on plans by architects Nouvelle AOM, the Tour Montparnasse will get a more appealing façade and also be vertically extended by 20 metres, resulting in a new height of 229 metres.

This makes the Tour Montparnasse a prominent example of a growing type of construction project: adding extra storeys to existing buildings. There are multiple advantages, as highlighted by the Technical University of Darmstadt (TU Darmstadt) and the Hanover-based Pestel Institute in their Germany-wide study ("Deutschlandstudie") published in 2019. Vertical extension not only increases the usable floor space of a building and therefore its cost effectiveness, it also has a positive impact from an ecological perspective. "The supply of new sites is finite and increased development cannot be reconciled with our climate targets," explains Karsten Tichelmann, a professor in the Department of Architecture at TU Darmstadt. "So why not promote and support the creation of new living space that avoids concreting over more land?"

Vertical extensions for attractive residential and commercial space

The study by TU Darmstadt and the Pestel Institute clearly demonstrates how huge the potential is for adding extra storeys, particularly when it comes to residential use. Adopting this approach would allow the creation of between 1.1 and 1.5 million additional apartments in Germany on top of residential buildings dating from the 1950s to the 1990s. According to the authors of the study, a further 560,000 residential units could be built by extending administrative and office buildings upwards. "Adding extra storeys to existing buildings can make a crucial contribution to solving the housing shortage, especially in urban areas," notes the Federal Association of German Housing and Real Estate Enterprise Registered Associations (Bundesverband deutscher Wohnungs- und Immobilienunternehmen – GdW),

Creating space for 17 loft apartments. The rauti-huus in Zurich was vertically extended once before, back in 1960. In 2015, the old additions were removed and a lightweight timber framework put in their place.

Photos: Drees & Sommer, Roger Frei, Spillmann Echsle Architekten AG, Jörg Modrow / laif, Planungsbüro Bunker / Matzen Immobilien (simulation)

which has launched a “hundred thousand roofs” initiative in conjunction with trade bodies in the building materials industry. “Vertical extension of residential buildings is absolutely a sensible solution,” confirms Monika Fontaine-Kretschmer, a director of Nassauische Heimstätte | Wohnstadt (NHW), a group of companies which owns close to 60,000 apartments in the German federal state of Hesse. Having said that, it is important to carry out a case-by-case assessment as to whether adding extra storeys is economically viable and technically feasible.

The 1950s Fritz-Kissel-Siedlung estate in Frankfurt passed this test, allowing NHW to create 82 additional one- to four-room apartments by vertically extending 14 apartment buildings. According to Fontaine-Kretschmer, adding extra storeys was made considerably easier due to the strictly rectangular shape of the buildings. Another advantage was the generous distance between the individual rows of buildings, which means the extra storeys don’t cast a shadow on the neighbouring apartments. Prefabricated timber modules were chosen for the extensions to avoid impacting structural integrity. None the less, the foundations had to be reinforced somewhat in places. Structural strength is one of the crunch points that must always be considered when exploring the feasibility of vertical extension. “Critical issues typically include fire safety and escape routes, alongside the structural strength of the existing building,” says Simon Dietzfelbinger, a partner at consultancy firm Drees & Sommer. In his opinion, there is a lot to be said for working with wood when adding extra storeys. This material has the advantage of being lighter than steel and also offers a comparatively good level of thermal insulation. “Timber structures can also be prefabricated easily, which saves time and money,” adds Dietzfelbinger.

Building owners and planners must address critical points

According to the Drees & Sommer expert, it’s also necessary to examine the legal requirements, especially the issue of whether planning law permits the height of a building to be raised. In the case of heritage-listed buildings, another question is whether major changes to the property are allowed. Special status doesn’t need to be a barrier, though, as demonstrated by Union Investment in ►

Extending existing buildings
Vertical extension of existing residential buildings dating from the 1950s to the 1990s could create at least 1.1 million apartments in Germany.

Source: 2019 Germany-wide study on potential living space in urban locations, TU Darmstadt/Pestel Institute

Walls two and a half metres thick made a spectacular rooftop development possible at this former bunker in Hamburg’s St. Pauli district. Five additional storeys in the shape of a pyramid create a green crown on top of this concrete colossus.

the case of the former Unilever headquarters in Hamburg, which is a heritage-listed building. Constructed between 1961 and 1964, what is now the Emporio building grew by an additional two storeys as part of an extensive refurbishment, bringing the total to 24 storeys. "Vertical extension enabled us to generate additional space and thereby increase the value of the property," says Cyril Hübner, Senior Project Manager at Union Investment Real Estate GmbH, who oversaw the refurbishment and add-on project through to completion in 2011.

Vertical extensions are not always obvious

Hübner recalls that the standpoint taken by the then director of Hamburg's City Building Department proved helpful in discussions with the heritage conservation authorities, pointing out that numerous buildings in Hamburg had been vertically extended so the additional storeys added to Emporio would not affect the urban panorama. Visually, the new levels are indistinguishable from the storeys below.

Structural strength was likewise a key consideration at Emporio. "The structural survey showed that the foundations were able to bear the additional storeys," says Hübner. "That was important for the project because work on the foundations would have been a major task." As it was, all that had to be reinforced were the vertical steel supports on the top floor of the existing building. Fire safety requirements posed no problem because the existing three escape routes were deemed adequate for the additional space.

Rooftop developments can significantly enhance a building's architecture

Emporio and the Tour Montparnasse are not the only examples of vertical extension as a viable option for office properties and residential buildings alike. In Berlin, real estate group Signa is currently refurbishing the Schicklerhaus building in the city's historic heart and adding a further three storeys using lightweight construction techniques. There have been a few surprises along the way, reports project manager Georg Kölbl. Those included supports that turned out to lack the necessary load-bearing capacity and beams that were too short. Many other properties are also suitable for vertical extension, such as multi-storey car parks, as shown by another project in Berlin. In the Lichtenberg district, a niu-branded hotel was created above the multi-storey car park of the ECE-operated Ring-Center 2 shopping centre. HQ Real Estate used timber modules to build on the roof of the car park.

High-rise bunker putting on a growth spurt in the heart of Hamburg

One particularly spectacular project is located in the Hamburg district of St. Pauli, where a company owned by investor Thomas Matzen is remodelling an anti-aircraft bunker dating from 1942. Five additional storeys are being added in a pyramid shape to accommodate a hotel and restaurant as well as a sports and events venue.

The load-bearing structure for the vertical extension largely consists of reinforced concrete, with the bunker's immense strength proving to be an advantage. The added load is transmitted to the floor slab via the walls, which are up to two and a half metres thick.

Such vertical extensions are not cheap, however. Especially if structural reinforcement is required, the costs can be significant, according to Simon Dietzfelbinger of Drees & Sommer. Other factors that can stymie a vertical extension include fire safety requirements proving to be too complex, or inadequate gaps to neighbouring buildings.

German housing association organisation GdW is therefore calling for greater flexibility with regard to the minimum required distance between buildings, the provision of parking spaces and fire safety. This will help ensure that "building owners are encouraged to create living space through the addition of extra storeys and rooftop development."

Photos: Thomas Hillig Architekten GmbH (study), Seong Kwon / SHoP Architects, Laurian Ghinitoiu / BIG, nouvelle AOM / RSI studio / IDA+ (simulation)

The Schicklerhaus building in Berlin is an example of remodelling and densifying a historic building (top).

In Basel, the Transitlager Münchenstein depot is a hybrid of old and new. Three new storeys have been added in a zigzag pattern to the four-storey structure dating from the 1960s (bottom).

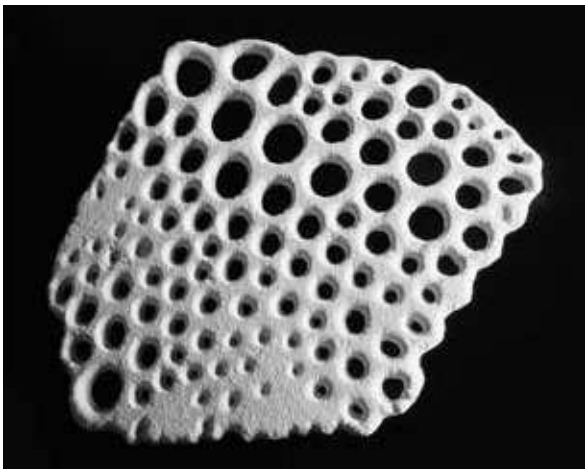
The Porter House, a warehouse constructed in 1905, became a local landmark in Manhattan when a bold, elegant four-storey structure was added in 2003 (top).

The Tour Montparnasse in Paris is due to get a more appealing façade and be vertically extended by 20 metres, resulting in a new height of 229 metres (bottom).

Photos: ILEK, University of Stuttgart (2), Philipp Obkircher (simulation)

The Rosenstein Pavilion is made of functionally graded concrete and was designed and built for a special exhibition at Stuttgart's Rosenstein Castle (top). This "bone concrete" is characterised by its varying density, thus reducing the amount of material required (small picture).

Kim Nalleweg Architekten are developing a pioneering concrete building in Hamburg's HafenCity district: the load-bearing walls and slabs are made of functionally graded concrete. The concrete is denser in places where it needs to carry a greater load, while in other places it is more porous, yet still strong.



Concrete for the future

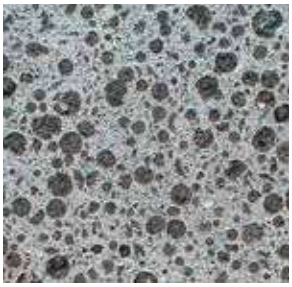
Mineral-based construction materials are coming under criticism, with concrete – the building material of the century – of particular concern in terms of climate impact. Science and industry are working hard to decarbonise this key construction material.

By Elke Hildebrandt

Topping out took place in February 2022: The Cube in Dresden is the world's first carbon concrete building. Non-metallic reinforcement means that carbon concrete avoids the normal negative impact of concrete. It allows for slimmer and freer designs with much-reduced CO_2 emissions (below, and large photo).

Photos: Stefan Gröschel/ TU Dresden/ IMB, Iurii Vakaliuk/ TU Dresden/ IMB, Stephan Baumann - bild_raum, TU Berlin

This home in Ettlingen was built by baurmann.dürr architekten using infra-lightweight concrete. Due to the special physical properties of the concrete, the exterior walls do not need any additional insulation (left and below).



We will have to fundamentally rethink concrete as a construction material. The cement it contains is a real "climate killer". This powdery material that binds together sand, gravel and water to form concrete is responsible for 6 to 8 percent of worldwide greenhouse gas emissions. It's a dilemma for the construction industry because concrete is not only readily available, it is also affordable, locally obtainable and can be used in countless different ways.

According to the Global Cement and Concrete Association (GCCA), concrete is the most widely used building material in the world. In fact, it is the second most used substance in the world after water. If global greenhouse gas emissions have to be cut to net zero to achieve the 1.5 degree target by 2050, this much-loved building material will need to be pretty much reinvented.

Review of the entire value chain required

"Over the next few years, we must urgently focus on greenhouse gas emissions from the construction industry," says the German Sustainable Building Council (DGNB). According to the DGNB, a good third of all greenhouse gas emissions from a building are created before it actually enters use, i.e. during manufacture and construction. To reduce built-in emissions, known as grey energy, a reassessment of construction methods, high-mass components and of the useful lifetime of construction materials is required. All parties along the entire value chain need to be involved, starting with planners and architects. But how can net zero construction be achieved with concrete?

Decarbonisation of concrete to reduce its carbon footprint

"If we're going to rethink concrete, we need to start with cement," says Nicolas Schnabel, press spokesman for construction material manufacturer Holcim Deutschland. Central to this endeavour are CO_2-efficient recipes and sustainable production. Schnabel points out that clinker, an intermediate product in cement manufacturing, is especially problematic. Burning clinker unavoidably releases CO_2 as part of the chemical process. This accounts for around two thirds of emissions, with a further third generated by the fuel used to heat the clinker to temperatures of around 1,450 °C. Every tonne of cement produced in Germany generates an estimated 600 kilograms of CO_2, while the figure for a cubic metre of concrete is 200 kilograms.

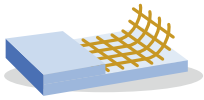
Energy efficiency measures, the use of more climate-friendly fuels and new types of cement have enabled the German cement industry to reduce emissions per tonne of cement by around 22 percent since 1990. In particular, innovative cement mixtures with a lower clinker content have a significantly smaller carbon footprint. Concrete with the Concrete Sustainability Council logo has been recognised in the DGNB certification system as beneficial since 2018, which highlights its contribution to sustainable buildings.

Pilot schemes are trialling the production of net zero concrete

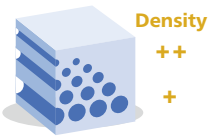
In the CO_2 roadmap drawn up by the German cement industry, capturing emissions is another important factor in delivering decarbonisation of concrete. The plan is that in future, the CO_2 captured in cement works will be used to manufacture new products or put into storage to protect the atmosphere. The first pilot carbon capture plants are already being commissioned by Heidelberg Cement and Holcim Deutschland.

Both companies are signatories to the international GCCA Roadmap for Net Zero Concrete and have committed to producing net zero concrete by 2050. "Carbon capture is a key cornerstone if we are to achieve national and international climate targets," says Dominik von Achten, Chairman of the Managing Board of Heidelberg Cement.

Looking at the establishment of a circular economy, concrete itself could actually be part of the solution. The carbonisation principle is already being applied in a ▸



Carbon concrete can reduce the carbon footprint of a structural element by up to 75 percent. The Cube in Dresden is the world's first carbon concrete building.



Functionally graded concrete varies in density, rather like the structure of a bone. The carefully engineered porosity is set to be used for the first time in a new build in Hamburg's HafenCity development.

pilot scheme by Neustark, a spin-off from ETH Zurich University. This involves the use of recycled concrete granules to make new concrete. The additional concentration and capture of environmentally damaging carbon dioxide in recycled concrete granules essentially reverses the chemical process involved in the cement manufacturing process. "In the medium term, we want to develop our technology to the point where the captured CO_2 added to the concrete fully offsets the emissions generated during production of the cement. The result would be net zero concrete," explains Valentin Gutknecht, CEO of Neustark.

Less is more: new "concrete light" construction methods

Alternative types of construction – such as skeleton frame structures – mean that buildings can be slimmed down and thus have a reduced carbon footprint. Prestressed flat slabs and false ceilings, for instance, can be produced with up to 50 percent less concrete and as much as 75 percent less steel. Similarly, infra-lightweight concrete scores highly when it comes to climate protection. It is used for monolithic components for residential buildings, among other applications, with its porous aggregate making it significantly lighter, with correspondingly lower CO_2 emissions. The air bubbles trapped inside the material also offer an additional benefit in terms of thermal insulation.

Builders and planners would be well advised to keep an eye on various forward-looking pilot projects that are deploying climate-friendly concrete innovations. The Cube in Dresden is one such prototype, the world's first carbon concrete building. This significantly "leaner" type of construction is made possible by non-corrodible carbon reinforcement that replaces conventional steel reinforcement. Thorsten Hahn, CEO of Holcim Deutschland, explains: "Carbon concrete can reduce the carbon footprint of a structural element by up to 75 percent." To take the concept further, carbon fibres could be manufactured from natural waste products in a net zero production process.

A new building method featuring functionally graded concrete takes a rather different approach. Werner Sobek, professor at the Institute for Lightweight Structures and Conceptual Design (ILEK) at the University of Stuttgart, is researching the technology, which involves concrete that varies in density, rather like the structure of a bone. The carefully engineered porosity means that considerable savings can be made in both materials and weight within components, which in turn has a positive impact on energy and emissions. This "bone concrete" is set to be used for the first time in a building in Hamburg's HafenCity development.

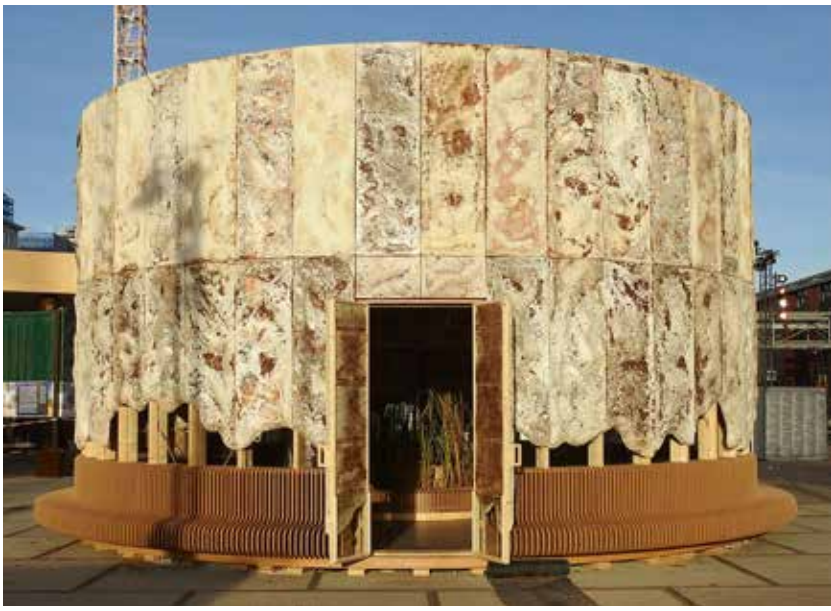
Bacteria and fungi can replace finely ground cement

Surprisingly, living organisms are also worth considering for making net zero construction materials and boosting resource efficiency. Research into organic concrete has shown that "bacteria set a process in motion which finishes with the precipitation of calcium carbonate crystals that form a bond with the aggregate," explains Christoph Nething, who works at ILEK at the University of Stuttgart. He adds, "The formation of these crystals binds CO_2, rather than releasing it."

Fungal organisms likewise offer exciting potential when it comes to developing new building materials. When a mycelium is used, its threads grow very quickly through a material until a more solid substance is created in just a few days. Water is removed from the end product by heating. The fungal organism then dies, leaving a compact structure that can be made into building blocks or insulation material and which is fully recyclable. Martin Ostermann, professor at the University of Stuttgart's Institute of Building Construction, believes that the benefits are compelling. He predicts that "this material will replace concrete in the future." Exactly how, is still unclear: "We're still just at the beginning, but I hope that a much broader and more varied mix of materials will be available in future."

Photos: Amy Barkow/Courtesy of The Living, The Growing Pavillion/ Eric Melander, Carlina Teteris

The development of a new type of brick, made of corn stalk waste and living mushrooms, was the starting point for the Hy-Fi building in New York City, built in 2014. Some 10,000 bricks went into this zero-carbon emission structure, which was 13 metres high. The organic bricks were later composted and used as soil for gardens (left).

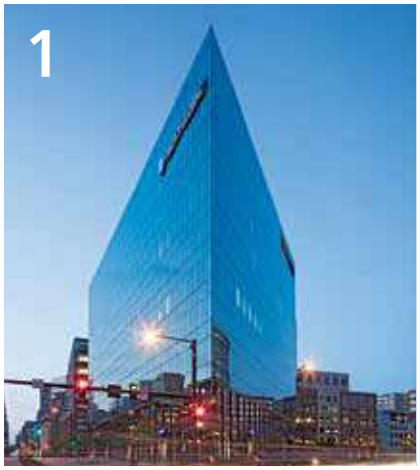


The Growing Pavilion was built during Dutch Design Week 2019. The iconic building used a variety of organic materials such as mycelium, wood, hemp, bulrushes and cotton to create an extraordinary structure (above right).

Mycotree is a load-bearing structure made of mycelium and bamboo. During the Seoul Biennale of Architecture and Urbanism 2017, it gave an insight into how renewable and recyclable materials might add to material choices in the future (left).

Sharp design

Flatiron or triangle: architects can transform a site's weakness into its strength. The triangle as a source of extraordinary creativity. By Elke Hildebrandt



1 Glass cake slice

The Triangle Building is a signature landmark of downtown Denver (Colorado, USA). The 42-metre-high frontages give the illusion of continuous sheets of glass. This striking three-cornered building is situated at the intersection of three busy streets. Built in 2015, it was acquired for the Union Investment portfolio in 2017.

2 Triangular landmark

The Flatiron District in New York is named after the Flatiron Building at the intersection of Broadway, Fifth Avenue and 23rd Street. The 91-metre-high wedge-shaped office building was completed in 1902 and makes optimum use of its triangular site.

3 Blue illusion

On the Corner is a striking blue building that emerges from its urban surroundings like a colourful illusion. Nobody was initially interested in this triangular plot of land in Youkaichi, on Japan's main island of Honshū. The unusual design of the new residential block turned the awkwardly shaped site into an attractive location.

4 World-famous brick building

Hamburg's Chilehaus has been delighting architecture photographers worldwide since 1924. The distinctive brick building was even included as a landmark in a set of stamps issued in 1988. The modernised building belongs to Union Investment's portfolio and is a UNESCO World Heritage Site.

Acquisition: Szervita Square Building, Budapest

Union Investment acquired the commercial part of the Szervita Square Building in central Budapest for its UII European[M] institutional real estate fund. The mixed-use building has LEED Platinum certification.

Acquisition: Schildergasse, Cologne

The planned office and commercial building on Cologne's bustling Schildergasse is a recent addition to the UniImmo: Deutschland portfolio. The high street property will offer 5,450 square metres of office space and 1,500 square metres for retail.

Disposal: Business Center, Planegg-Martinsried

Union Investment sold the Business Center in Planegg-Martinsried to Pamera Real Estate Partners after holding it in immofonds 1 for 16 years. The property is fully let to a pharmaceutical company.

Photos: Getty Images (2), Koichi Torimuri / EASTERN Design Office, Union Investment / Daniel Sumesgutner, Union Investment (3)

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