

A modern, multi-story apartment building with white facades and dark window frames. The building features balconies with glass railings and some have small plants. The building is set against a clear blue sky. In the foreground, there is a well-maintained green lawn with several young trees with bright yellow-green foliage. The overall scene is bright and sunny.

CBRE RESEARCH | 2021

**How QUARTERS
can become
the next success
story in Germany**

CBRE



Current megatrends, including increased urbanization, demographic change and, not least, digitalization, are having a massive impact on today's living environments. Consequently, a more holistic view of larger-scale real estate developments and quarters is required, accompanied by a move away from the traditional, more isolated view, of built environments.

The urban quarter is a successful development model that is closely aligned with the zeitgeist. And that is precisely why quarters are at the top of the agenda for investors, users and municipalities alike. The separation of dwellings, workplaces, recreational amenities and transportation, a relic of the Charter of Athens and a decades-old urban development paradigm, is becoming increasingly obsolete.

Instead, many stakeholders are pursuing a more integrated approach with the aim of increasing the mix of quarters and urban districts. Users are the focus of the latest endeavors to make real estate, quarters and cities more human and livable again.

In the future, it will also be possible to measure user satisfaction and the success of quarters. New sensor technologies are providing reliable and real-time data on a wide range of parameters for permanent sustainability monitoring.

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Executive Summary

Quarters are centuries-old urban constructs with a variety of uses and a high degree of social and economic stability.

For several years now, institutional investors have been ramping up their interest in adding large-scale, mixed-use quarters to their portfolios. In 2019, around EUR 9 billion flowed into quarters and quarter developments, eight times as much as in 2013. And even in the pandemic year of 2020, the volume for investment in quarters was well above average at more than EUR 5 billion. Despite an overall decline in transaction volumes due to the pandemic, demand for quarters is expected to remain strong thanks to their functional mix and increasingly prevalent risk diversification requirements.

Among market participants, the term 'quarter' is currently employed more as a symbol of quality, lacking a precise definition. In principle, quarters need to be understood as multidimensional real estate developments. Whether a quarter is described as a single- or multi-asset complex, or is located in the city center or on the outskirts, is ultimately irrelevant. What is more important is its functional integration, both internally and externally.

CBRE has identified five categories – Urban Needs / Urban Mix, Infrastructure, Identity, Connectivity and Built Environment – as essential clusters for operationalizing the success of any quarter. These are underpinned by a range of indicators with different weightings to assess how a quarter is positioned in terms of its long-term sustainability.

A broad, diverse mix of uses, including both commercial and social spaces, fully integrated transportation links, especially to public transit services, and, finally, a quarter management system that coordinates the interests of the various stakeholders, are all factors that contribute significantly to the success of a quarter.

The quarters being developed today are highly diverse and reflect social change as well as the latest trends in the worlds of retail and work. Smart elements and sensor technologies are being used, for example, to manage shared services and property management services, but also to optimize operations (e.g. the consumption of water and heat) and thus integrate digital, social and technical advances into quarter developments. On the one hand, this increases the acceptance of a quarter among users, and on the other, it facilitates new approaches to measuring technical success. Nevertheless, despite all of these innovations, smart quarters are only in their early stages.

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Introduction

The emergence of city quarters dates back to the Roman Empire, when Emperor Augustus divided Rome into 14 districts. By changing the way the city was organized, he was aiming to improve the quality of life for all classes of the population by giving wealthy senators, artisans and servants the opportunity to participate in the social life of the city. Other cultures did much the same by creating contiguous and interconnected areas in their cities.

In 15th century Constantinople, 'mahalle' referred to a community that settled around its religious center. Later, in the age of industrialization, factories were built within walking distance of workers' homes. These areas were characterized by a certain social homogeneity, due in part to the unifying element of the nationality of the mostly immigrant populations. Under the modern urban planning paradigms of the 20th century, the concept of quarter development is evident in numerous cities. The Catalan architect Ildefons Cerdà provided a blueprint for other European cities, deploying quarters and block structures in the Eixample in Barcelona, while the French architect Le Corbusier created the first vertical quarter with La Ville Radieuse.

The unifying element of these examples is the social, economic and cultural mix of each area. For centuries, this combination was the cement that held cities and urban districts together. In each of these quarters and settlements, the linchpin of human interaction in all its facets was and is the marketplace in its various forms and dimensions: the piazza of the ideal Italian Renaissance city, the store or restaurant on one of the

corners of an Eixample block, or the communal spaces in Le Corbusier's vertical quarter.

Since the middle of the 19th century and against the background of the industrial and agricultural revolution in Europe, numerous German economists have examined the economic function of such marketplaces. The economist Johann Heinrich von Thünen developed the model of land rent, which varied depending on the place of production, distance to the market place and type of goods. Later, it was necessary to find the transport cost minimum point (Alfred Weber). Walter Christaller developed Central Place Theory, which illustrated the range of specific goods and services as hexagonal market areas.

This research laid the foundation for today's urban and regional planning. Market areas can become growth poles through Schumpeterian innovations and thus achieve supraregional or even global significance (centrality). This theory can be applied to explain the rise of metropolises such as Amsterdam in the 17th century, London in the 18th and 19th centuries and New York in the 20th century. Following this pattern, Asian cities such as Shanghai, Hong Kong and Singapore will continue to gain importance in the future.

One of the tangible outcomes of Christaller's system of central places was the Charter of Athens in the mid-20th century. In the decades that have followed, the Charter has had a major impact on postmodern urban planning. By separating dwelling, work, recreation and transportation, the cities that have come to dominate the modern world were functionally segregated. This has led to social segregation, environmental problems and significant traffic congestion.

These cities no longer had room for the historical agora as a place of communication and discussion. Thus the root of today's Western-style democracy was truncated. In the satellite settlements of the 1970s, as well as in the latest residential tower districts found in many Asian cities, there are no longer any city centers, which means there is no space for community, communication and social interaction. The pure comparative cost advantage approach of classical location theories is complemented by Krugman and Fujita's addition of a mobility component in their New Economic Geography. The two researchers not only include different transportation costs, they also confirm that different places have different labor and housing costs and, as a consequence, different qualities of life.

Nowadays, thanks to this new perspective, the marketplace within cities, settlements and neighborhoods is once again being restored to its central role as a place for communication between different stakeholders and for bringing together different urban uses. As a result, new urban planning strategies arrange dwellings, workplaces, recreational amenities and transportation around this market place. Ideally, this results in mixed-use quarters with high quality of life, combined with maximum land rent and the lowest possible transportation costs within the city.

Awareness of the benefits of quarter developments is growing among urban planners, developers and investors. Quarters with short distances that incorporate the full range of ESG criteria are not only more livable, they are above all more resilient to external shocks and paradigm shifts. As a result, well-planned, sustainably designed quarters can make a significant contribution to achieving environmental protection goals.

The recent pandemic has also shown that homogenous real estate portfolios are likely to be harder hit by external shocks than more broadly diversified portfolios. In the case of the pandemic, lengthy lockdowns largely affected investors in the retail and hotel real estate sectors, while logistics and residential markets boomed. In the event of future crises, however, there is nothing to say it might not be the other way around. Looking ahead, it is likely that demographic change will have the most significant impact over the next few decades.

The twin aims of this study are to present a methodology for using indicators to operationalize the success of quarters and to provide guidance to developers and owners on what factors can contribute to the success of a quarter.

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Figure 1: Transactions involving quarters 2013-2020



Source: CBRE Research, 2021.

Institutional investors sharpen their focus on large-scale quarters

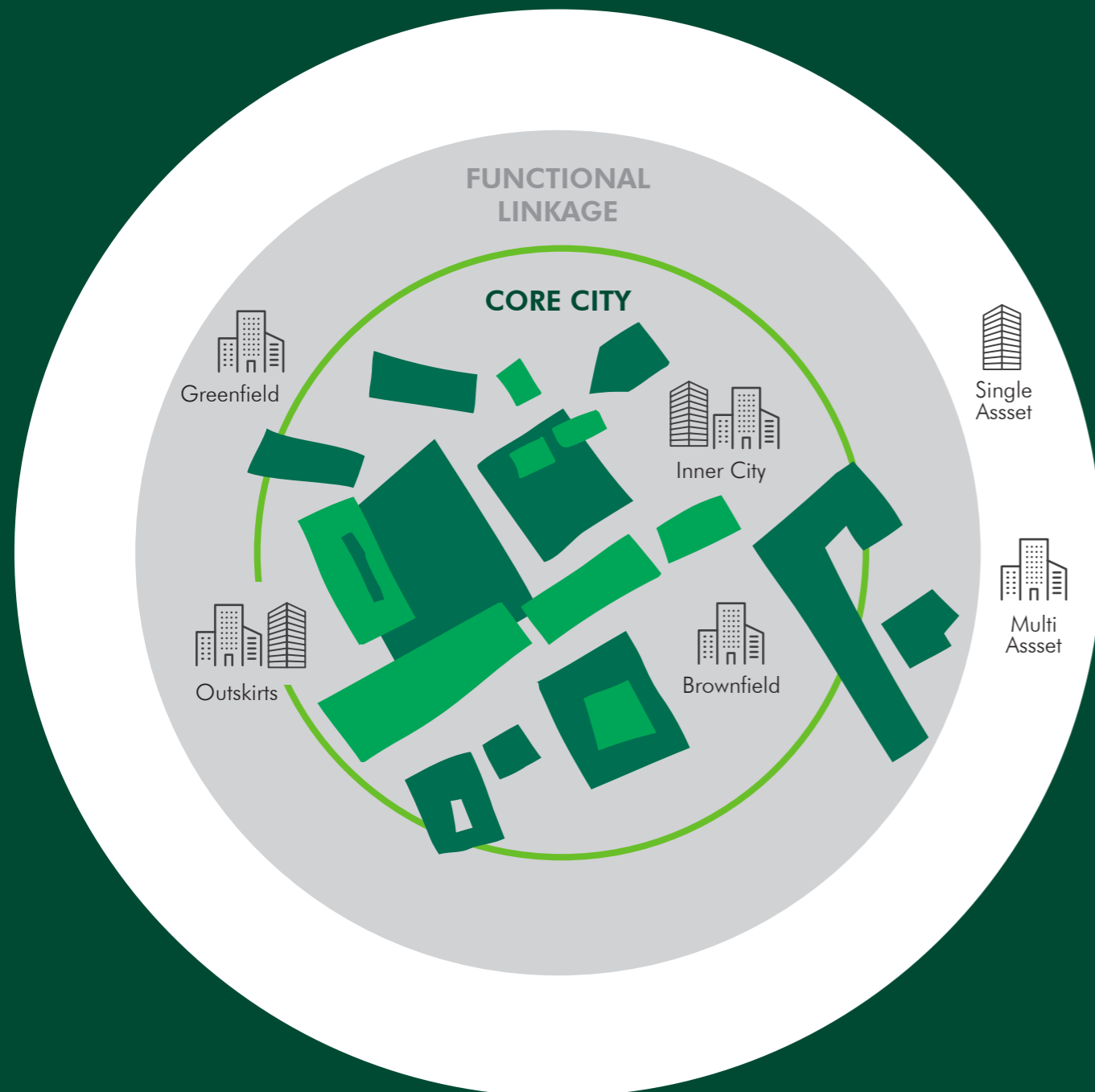
The fact that quarters investors are sharpening their focus on quarters is evident from the growing use of the term 'quarter' alone and from the growing volume of investment in contiguous, mixed-use real estate complexes. In fact, some of the largest transactions in recent years have involved quarters. In 2013, quarters accounted for 3% of the total transaction volume. By 2019, their share of the market had risen to 11%, swelling to EUR 9 billion. Although the pandemic led to a decline in investment to below EUR 6 billion in 2020, the number of transactions was still almost on a par with those of the previous year (93 vs. 94), proving that developments marketed as quarters, neighborhoods or similar continued to find buyers despite the disruptions caused by the pandemic.

Our analysis of recent transactions also confirms that market participants very often use the term 'quarter' without a clear understanding of what it actually means. In many cases, the term 'quarter' is deployed regardless of the uses accommodated in the area. Thus, exclusively residential or commercial quarters are equated with mixed-use quarters. The widespread use of 'quarter' by project developers and sellers often seems to more intended to serve as a badge of quality than to describe an asset class in its own right.



WHAT IS A QUARTER?

Figure 2: Quarters: dimensions and types



Source: CBRE Research, 2021.

“Quarters are multifaceted in both shape and size.”

In view of the fact that many market participants have adopted a flexible approach to their use of the term ‘quarter,’ it makes sense to settle on a clearer definition of this property type.

Theoretical and practical discussions with the aim of defining ‘quarters’ are intense and by no means final. Quarters are multifaceted in both shape and size. They have a variety of forms, locations, user target groups and stakeholders. As a result, it is difficult to arrive at a universally acceptable definition and type. Even the terminology itself is inherently unambiguous. In addition to quarter, the market has seen the use of terms such as district, neighborhood and area, among others. Nevertheless, it is possible to define a variety of quality features that do help to operationalize the success factors of quarters.

A distinction is often made according to location and relation to the city center. Developments in the city center and in core city areas are often contrasted with those on the city periphery. In this context, it is common to refer to quarters developed on repurposed sites (brownfields) or as components of urban expansion in peripheral areas (greenfields). The initiators of these developments are both private investors and public development companies; sometimes with and sometimes without private participation.

Quarters can consist of individual buildings (single assets) or several functionally linked buildings (multi-assets).

The defining factor of any quarter is its diverse mix of uses. This mix of uses combines a variety of traditional real estate asset classes: office, retail, commercial and residential, together with social amenities and public meeting places for leisure, education and culture.

Probably the most important characteristic of quarters is their multidimensionality. Location, scale and function are not just juxtaposed, but interlinked. Such links are provided by pathways, green spaces and integration into the surrounding urban space. Stakeholders, such as municipalities, investors, developers and users, determine the character of the quarter and how they identify with it.

All of these influencing factors have an impact on the success of a quarter. The challenge is to operationalize these factors in order to map their strengths and weaknesses.

Probably the most important characteristic of quarters is their multidimensionality.



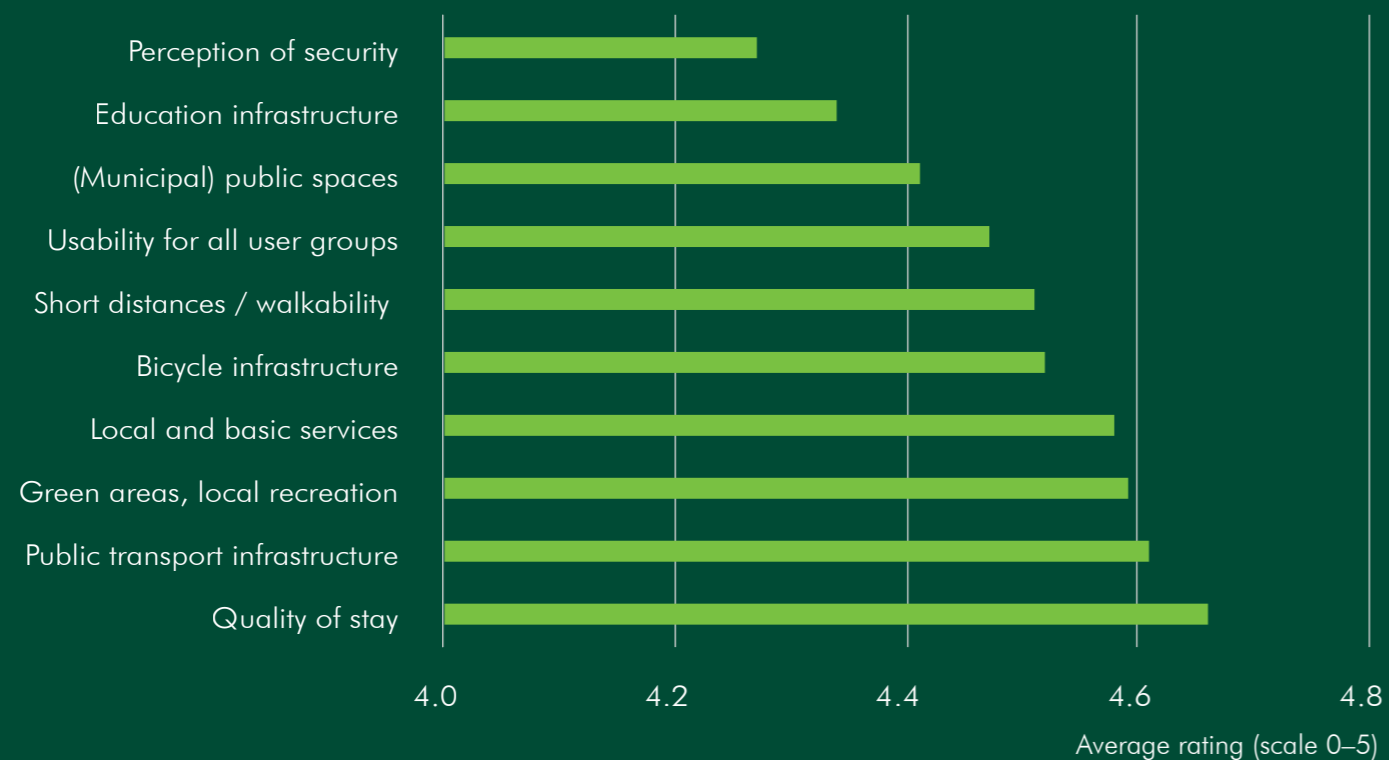
WHAT MAKES A SUCCESSFUL QUARTER?

Mixed-use assets and, on a larger scale, mixed-use quarters, have the potential to offer greater resilience than homogenous assets.

Understandably, investors want their portfolios to be stable and crisis-proof over the long term. Consequently, it is necessary to identify parameters that contribute to a quarter's success. But how can the specific factors that contribute to the success of a quarter be measured?

One approach is to use a parameter-based evaluation matrix, much like the instruments employed by standardized certificates such as BREEAM, DGNB, LEED and WELL to quantify a building's energy footprint or the well-being of a company's employees. These matrixes contain individual success criteria that can be clustered and weighted using groups of indicators.

Figure 3: Most important factors for successful quarter developments



Source: Unpublished master thesis by David Grüter, CBRE Research, 2021.

In a scientific discourse, experts from the European Business School and the Northern Business School developed five categories to identify and map economic, environmental and social sustainability. This discourse also drew on a survey of 108 experts from the fields of business, science, academia, the public sector and citizen representatives, conducted as part of a master's dissertation.

The most important success factors identified in this master's dissertation included the categories of mobility and connectivity, acceptance and perception, use and mix of uses, social aspects and everyday space. In contrast, individual items such as infrastructure for motorized private transport, the actual mix of uses and the structural demarcation of the quarter were considered less important.

As a result of the above discourse and survey, CBRE identified the Urban Needs / Urban Mix, Infrastructure, Identity, Connectivity, and Built Environment clusters as necessary categories that connect like individual puzzle pieces to determine a quarter's overall success.

The five categories can be operationalized via 25 individual indicators. The characteristics of the indicators allow conclusions to be drawn about the strengths, potentials and interdependencies of a quarter. Indicators can be weighted according to the alignment and type of the quarter. The weighting can be adapted to a specific quarter, depending on its location in the urban space and access to existing infrastructures. The aforementioned survey also serves as an orientation for weighting.

The result, for example in the form of a quarter index, shows where and to what extent structural or conceptual measures are necessary within the lifecycle of a quarter – from initial development to repositioning – with the aim of facilitating transformations. In addition, a quarter index serves to illustrate a wide range of sustainability aspects and, in particular, indicates the future orientation and innovative strength of the quarter.

Figure 4: Multidimensional success factors for sustainable quarters



Source: CBRE Research, 2021.

A quarter index serves to illustrate a wide range of sustainability aspects and, in particular, indicates the future orientation and innovative strength of the quarter.

Urban Needs / Urban Mix

A quarter is defined by its functionality and mix of uses.

The long-term success of a quarter is driven by a diversity of uses in multiple or single buildings that are closely interlinked and create a reciprocity of mutually supportive functions.

Synergies between user groups provide resilience to economic and social trends, reduce volatility and guarantee risk diversification. The mix of uses should also be seen as a complement to functions in the urban space. A successful quarter caters to the wants and needs of all users, commercial as well as social. Quality of stay serves as another indicator of success and is enhanced by green areas, public access and the positive impact this has on the vibrancy of the quarter. Equally importantly, the design of public spaces within the quarter also needs to focus on users' sense of security.

The attractive mix of uses, high quality of stay and equal consideration of all user groups are key success factors.

Indicators

Mix of uses

What mix of uses does the quarter accommodate? Are some uses more than just yield generators? A good quarter has a variety of uses that, ideally, also exhibit interdependencies.

Public access / Public spaces

Is the quarter physically accessible to the public and is it well integrated into the surrounding environment? The better a quarter is integrated into the public space, the more likely it will find acceptance among users.

Places for interaction

How can a quarter's users interact? Does the quarter offer public dining options and street furniture? Do quarter management teams promote the active formation of cultures / scenes?

The green factor

The provision of green spaces in the quarter can range from minimal, selective greening to park-like spaces and green space management. A high proportion of green spaces contributes to the social and environmental sustainability of a quarter.

Quality of stay

How does the quarter's layout enhance the quality of stay? Do some spaces, for example, offer protection from the elements, possibly in combination with quarter management and a structural safety concept?

Security

Is there a security concept and is it actively implemented? Security is essential if a quarter is to find acceptance among users.

Engagement with all user groups

How are different user groups involved in life in the quarter? Engagement can be boosted by the provision of walkable green spaces, play areas and a proactive quarter management team.



Infrastructure

In addition to the mix of uses, accessibility plays a key role in the extent to which a quarter is integrated in the urban fabric.

Well-developed streets, easily accessible and highly frequented public transport, parking for all types of vehicles and shared mobility services are all key factors in a quarter's success. Essential features include short distances within the quarter, combined with a network of pedestrian and bicycle paths that connect to adjacent urban areas. Such infrastructure serves in particular to embed the quarter with the existing urban fabric, as does an attractive mix of uses. And infrastructure is not only about providing the fastest possible transport links within the framework of a 15-minute city, but above all about avoiding and minimizing traffic.

Traffic is reduced when users don't have to use their vehicles so often. Local services that meet users' daily needs, such as a grocery stores and healthcare, can help cut car use significantly. The integration of the quarter into the social environment of the city, for example through a daycare center or care home, can also greatly enhance the attractiveness of the quarter for users and residents.

Infrastructure serves in particular to embed the quarter with the urban fabric.

Indicators

Provision of goods and services

How is the supply of goods and services in the quarter ensured? Ideally, the quarter's retailers supplement those in the surrounding areas with higher-quality products and fulfill more than just a basic supply function.

Access to social infrastructure

Does the quarter have its own widely accessible social infrastructure? A quarter's social infrastructure should supplement the social infrastructure of the surrounding area and avoid duplicating existing structures.

Connections to the urban public transport system

Convenient connections to the urban public transport system are essential and can be organized in a number of different ways. If the quarter is not connected to the local public transport network, it is essential to establish new connections. In the case of quarters with a high degree of centrality, supraregional and pedestrian connections significantly increase acceptance among users.

Connection to road networks

Regional and supraregional connections, including highway connections, that can be accessed in less than five minutes by car can significantly increase the radius of potential users. However, it is important to consider that connections to the freeway or highway network, or to other highly frequented streets, can lead to conflicts of use in terms of environmental and residential quality.

Mobility strategy / modal split optimization

Does the quarter support intermodal travel?? Modal split, i.e. the ability to seamlessly switch from one means of transport to another, reduces environmental pollution and optimizes transport links to the surrounding area. Ideally, a quarter's modal split will involve more than just a parking space system and integration into the public transport system, and could include, for example, shared mobility services.

Services

Can users take advantage of additional services? Alongside the provision of everyday goods, a quarter should, in the best case, offer a variety of services, ranging from hairdressers to extensive on-demand and, if necessary, sharing services.



Identity

In successful quarters, positive associations help users to identify with their surroundings and the layout of the built environment, to feel at home in the quarter, to contribute to their ‘neighborhood’ and, thus, to ultimately to accept it.

Established quarters have been able to develop a distinct identity through years of interaction with their users. In contrast, new quarters are faced with the challenge of minimizing the distance to surrounding areas beyond their borders, encouraging interaction between users on the inside, and establishing an identity as quickly as possible. Open design, public spaces that are accessible to all stakeholders, and a unique architectural vocabulary can all combine to help create an appealing and distinct identity.

Identification with a quarter plays a key role in ensuring that users and residents feel comfortable there.

Indicators

Quarter layout / design

How is the quarter conceptually integrated into the existing environment? The structural and conceptual layout can be used to maximize the extent to which users identify with the quarter, for example through open design, expanding existing pathways or adding new functions and amenities.

Branding

Are there strategies that can be used to turn a quarter into a unique brand? Building and maintain a brand identity leads to positive acceptance among users. If a quarter can develop a supraregional, or even international, level of awareness, for example through specific USPs and active brand management, it can attract a larger number of different user groups.

Social networking

Does the quarter promote or create social networks? On a basic level, a quarter website can be used to share useful information. A quarter management team can also be tasked with facilitating communication between users and stakeholders via a dedicated quarter app, which could also offer integration into standard social networks.

Public acceptance / atmosphere / image

What are public perceptions of the quarter? The local image of a quarter is an essential factor in its success. A quarter’s image could range from a social hotspot to upscale neighborhood, with public perceptions having a major impact on user demand.

Diversity / synergies

What synergies does the quarter create? A collection of isolated uses doesn’t contribute much to a clear-cut identity. If a quarter has a strong thematic focus and offers both internal and external synergies, it will also be more attractive for users.



Connectivity

In addition to providing an attractive and user-centric built environment, it is also important to ensure that a quarter is designed to maximize acceptance among all stakeholder groups.

This includes involving stakeholders during construction, adopting a user-centric approach to the ongoing management of the quarter and proactively facilitating interaction between users, residents and the general public. Classic stakeholder engagement processes in construction planning can, for instance, be supplemented by a community app or social media.

As with brand building, identity creation and ensuring a sustainable mix of uses, the organization of social networks can also be supported by a quarter management team, whose horizons should extend far beyond the management of operational processes to include (inter-)active stakeholder communication via all available channels – offline and online.

Quarter management must play an (inter)active role in linking the quarter with its surroundings.

Indicators

Sharing

How does the quarter incorporate sharing platforms? Sharing services allow resources to be shared and used more sustainably. Sharing services can also help to make better use of parking space capacities, for example, while at the same time better integrating the quarter into its surroundings. With all such services, it is important to make sure that they are networked and can be accessed via a community app.

Social networks / community

How does a quarter actively generate a sense of community and local identity? Proactive quarter management is an essential factor in establishing links and cultivating relationships between a quarter's users and stakeholders. Quarter management should be responsible for creating and deepening social cohesion and a sense of identity within the quarter, perhaps via a series of public events, an interactive app or a combination of different measures.

Participation / stakeholder involvement

How are relevant stakeholders involved in quarter policy? Here it is important to not only address the quarter's direct users, but also relevant neighboring institutions and local politicians. It is important to proactively inform the public on a regular basis about activities in the quarter that could have an impact on respective stakeholders, above and beyond the statutory participation processes.



Built Environment

The image and identity of a quarter can be positively shaped by its architecture and layout.

The design, arrangement of buildings and open spaces, and the flexibility of a quarter's layout are all fundamental factors in guaranteeing that users will want to live and work in a quarter. In this context, urban density determines the centrality of the quarter in the urban space. At present, the long term development of a quarter can be supported by forward-looking technologies, such as smart building systems, which are becoming increasingly relevant for investors.



Architecture, design and a sustainable approach make a significant contribution to the extent to which a quarter is accepted by users and residents.

Indicators

Design / density

What impressions does the quarter's built environment create? The quarter's design can incorporate anything from anonymous closed structures to an open architecture that combines a lot of public space with a high building density. Proactive quarter management can enhance acceptance among users by organizing promotional events. Flexible structural elements and street furniture allow for a wide range of different uses.

Architecture

Does the quarter have a distinct architectural language? Architecture without an idea or functional concept does little to contribute to the success of a quarter. In contrast, a clear architectural vocabulary and the integration of existing regional architectural styles increases the attractiveness of a quarter for users and stakeholders alike.

Energy and carbon neutrality

How can a quarter achieve carbon-neutrality and generate its own energy? Is the aim to supplement or completely replace traditional energy sources such as gas, district heating or oil? Furthermore, is the goal of CO₂ neutrality being pursued in addition to active and, if necessary, external energy management?

Anthropogenic factors

Does the quarter cater to people and their environmental requirements? Built elements that maximize natural light and offer protection from wind, regional and seasonal weather are anthropogenic factors that contribute to the success of any quarter.

Smart buildings / IoT

Is the quarter equipped with smart technologies? Smart building systems can have an impact on the performance and acceptance of quarters in different ways, enhancing anthropogenic factors and positively influencing the behaviors and reactions of users in the built environment. The more integrative and customizable, the more users are likely to embrace the new technologies.

Sustainability / Certification

Is the quarter certified as sustainable? Many modern real estate developments have sustainability certificates to confirm their environmental credentials. Common certificate schemes are graded for different levels of quality, for example from silver to platinum. The higher the certification, the more likely it is that a quarter will find acceptance among users. In the best case, a quarter will already be positioned to satisfy future requirements.



EXCURSUS

SUCCESS FACTORS OF SMART QUARTERS

The smart quarter concept

The growth of metropolises, disruptive innovations and social upheavals are also leading to a change in living space requirements and a transformation of quarters. The latest developments are also being driven by changes resulting from the digital revolution, which has become an integral part of everyday life.

The concept of the smart quarter / smart city is already quite widespread, especially in Asia, due to the region's pronounced digital affinity and low legal and bureaucratic hurdles. But smart places also have to constantly reinvent themselves, as they are subject to the permanent change of society and the forward march of digital technologies.

The current digital transformation of all areas of life and work makes it possible to align quarters more quickly with emerging social trends. In future, therefore, quarters will increasingly rely on digital technologies, for example, to strengthen the personal lifestyles, quality of life and self-fulfillment of their residents.

Events such as the current Covid-19 pandemic are also placing new demands on buildings and sharpening people's focus on a building's technical features and equipment. The circulation of indoor air and the monitoring of occupancy and users' movements are among the issues that can be addressed with technical solutions. In addition, long-term changes, both major and minor, require appropriate responses. These looming challenges include drastic climate change and shifts in

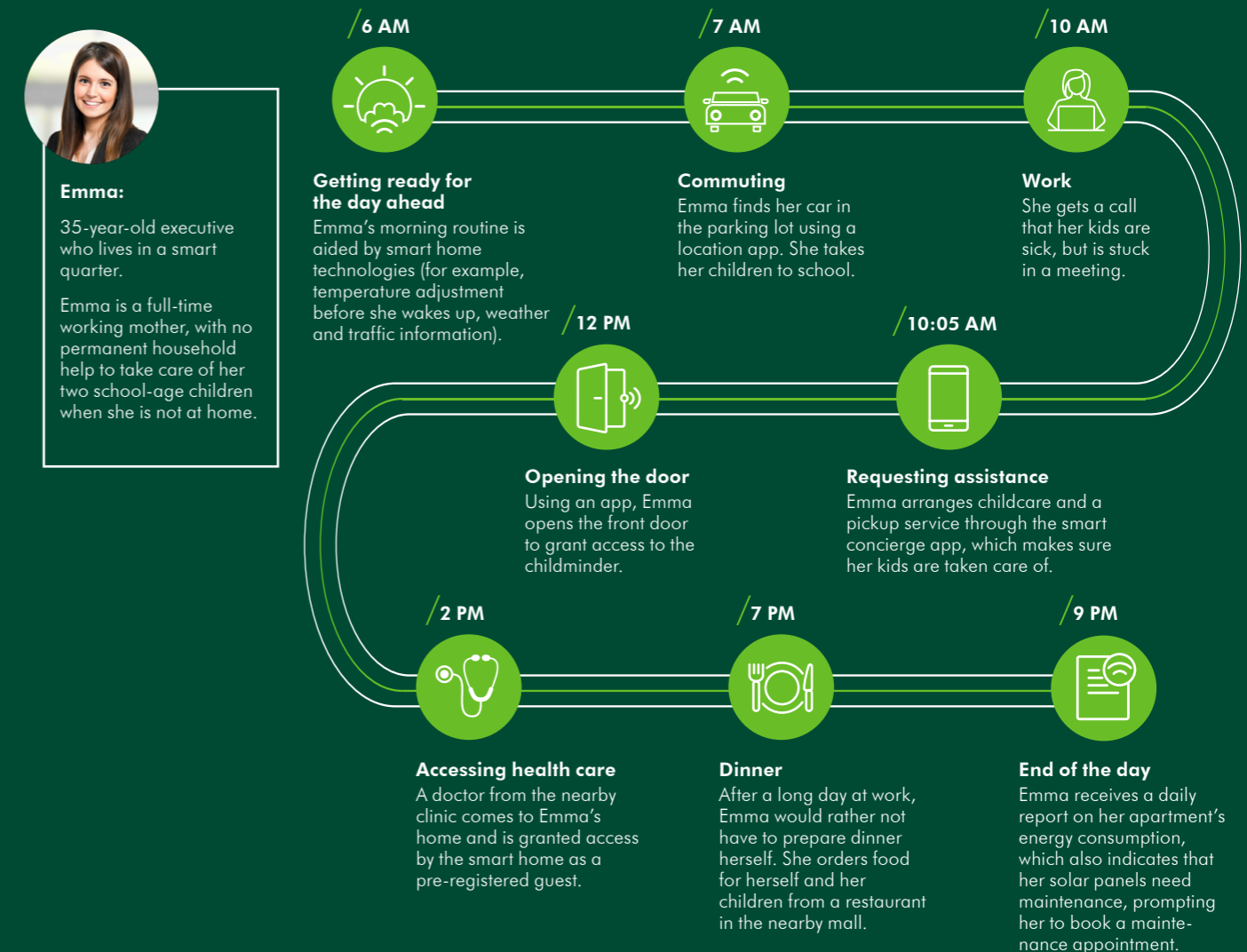
social structures and the resulting changes in user needs, both of which will require technical solutions.

In recent years, the concept of the smart quarter has also arrived in Germany, exemplified by places such as Quartier Heidestraße in Berlin, Panasonic Future Living Berlin and Jena-Lobeda. In all of these quarters, users benefit from the very potentials of digital and digitally supported quarter services, including:

- One-click booking of tickets and meeting rooms
- Access to authorized locations via smart lock
- Networking with other users via digital platforms
- Manual control of apartments and commercial units via app

These services and digital tools make life easier, quicker and better for occupiers and residents alike. They also enhance the attractiveness of the smart quarter for project developers and quarter managers and open up a wide range of possibilities, from potential savings to new business models.

Figure 5: The Smart Quarter – Customer Journey



Source: CBRE Research, 2021.

Smart quarters provide a wide range of services for users, owners and operators via an integrated digital infrastructure.

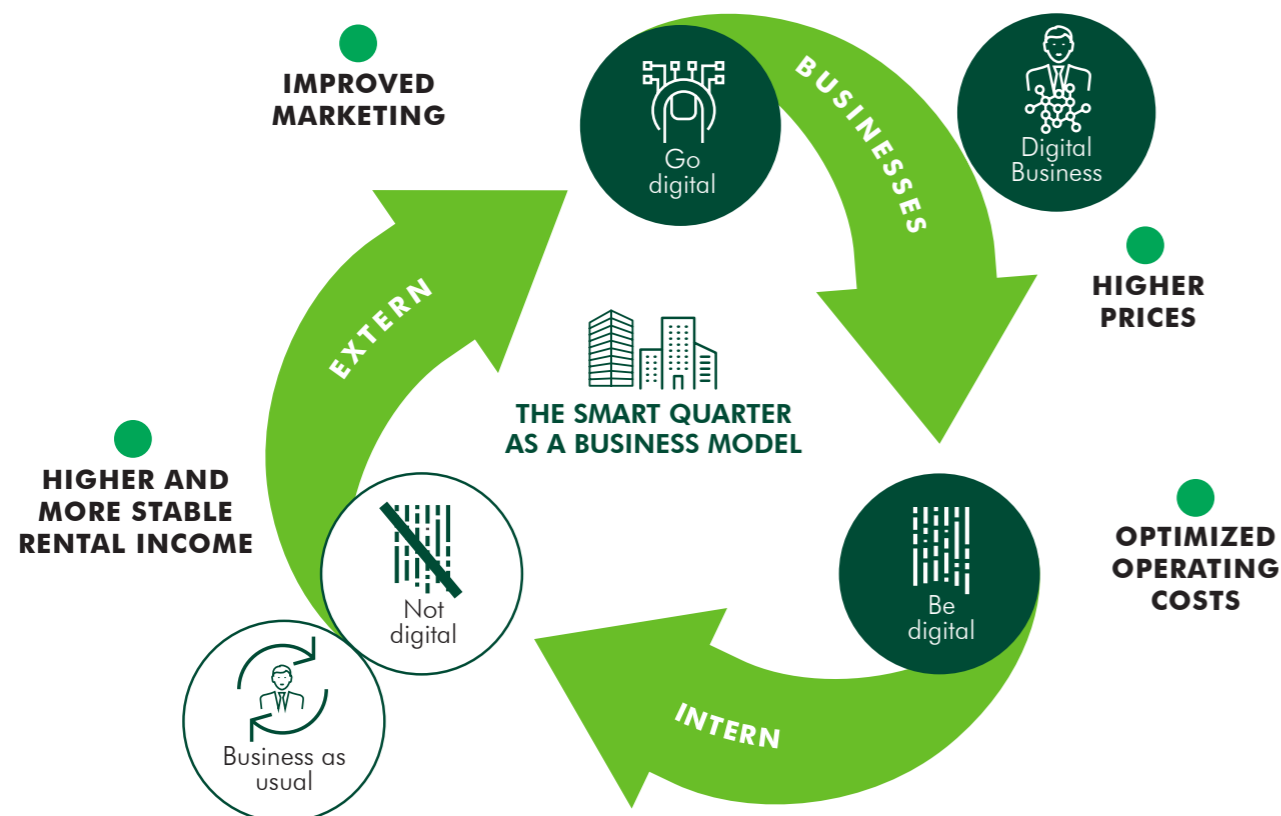
The positive impact of digitalization on the bottom line

The technologies deployed in smart quarters create a range of direct and indirect opportunities to optimize a quarter's economic parameters.

Improving marketing

A survey of more than 1,000 respondents conducted by the opinion research institute Forsa on behalf of CBRE revealed that quarters with a digital concept are very popular with almost two-thirds of respondents. Thus, these concepts add a tangible boost to the marketing of new quarters. With the aid of digital technologies, which can include VR glasses and virtual property viewings, automated rental processes and the data-driven targeting of potential tenants, marketing opportunities increase by 4-5% compared to purely analog marketing.

Figure 6: The smart quarter as an optimized business model



Source: CBRE Research, 2021.

Increased rental income

Both developers and investors benefit from higher rental income. According to the Forsa survey, tenants are generally willing to pay more rent for the privilege of living in a smart quarter. For example, one of the quarter development projects supported by CBRE achieved an additional EUR 4.00/sq m/month. In principle, it can be assumed that rental income can be increased by around 5-10% as a result of offering supplementary digital services.

Higher prices

In traditional real estate valuation, there is currently no methodology to include digital services and infrastructure in the overall evaluation. However, there is every indication that this will change in years to come. As a result of digitalization, completely new business models are emerging and are set to have a significant impact on the value of an asset.

Analyses by CBRE have shown that in individual real estate developments, the provision of smart services can generate revenue growth potential of EUR 4.5 million per year for the quarter's operator. Accordingly, the value of properties with integrated digital concepts and the deployment of additional digital business model options can be up to 10% higher.

Reduced operating costs

Finally, digital services allow developers to design management processes more efficiently and thus significantly reduce quarter operating costs. The constant monitoring of building data combined with predictive analytics can, for example, help detect vandalism, reduce maintenance and avoid equipment failure.

In addition, building and usage data can help prevent water damage and optimize elevator operation and cleaning services. Other services, such as digital contracting and smart key management, also deliver significant savings for the quarter's operator. Based on the practical experience of the smart building department CBRE|ESI, digital technologies create savings potentials of more than 20% in the area of energy management alone.

With the help of digital technologies, marketing opportunities increase by 4-5% compared to purely analog marketing.

Factors that contribute to the success of smart quarters

Despite the obvious added value of smart quarters, occupiers and residents remain wary of the way certain new technologies are applied.

Data protection, a lack of focus on end-users, and a perceived over-reliance on digital services often lead to a lack of acceptance among potential residents and users. In light of these reservations, it makes sense for the designers of smart quarters to consider such specific objections. Depending on the developer's ultimate objectives, such reflection is sure to have a positive impact on the new quarter's strategic objectives and design criteria.

In particular, the following factors can be seen as key to the smart quarter's future success:

Digital as an enabler of smart services

Smart services are enabled and supported by a digital infrastructure. The focus should not be on the digital component in the foreground, rather it should be seen as a facilitator of the services in the background. Such an approach helps users to embrace the topic of "digital."

Data protection strategy

Despite the fact that institutional data protection is strongly anchored by law in Germany through the DSGVO and

the European Union's GDPR, many stakeholders are keen to know that their data are even better protected than the legal minimum. Based on our experience, we would recommend that a quarter's data strategy be formulated as early and as transparently as possible. This includes user education via articles, videos, and social media posts, for example.

High flexibility of areas and platforms

In principle, quarters are subject to changing user requirements. These potential changes should also be anticipated in the flexible design of the quarter's spaces and digital infrastructure. In this context, it is important to recognize that constant technological innovations, for example through new sensor technology, software and data platforms, are as easy as possible to adapt and maintain compatibly with the latest technological ecosystems. In addition, jointly used areas and their technological components need to be as easy as possible to repurpose.

User-centric services

Another success factor is a consistent focus on end-users. It almost goes without saying that that users' wants and needs should be integrated from the outset of the smart quarter's development, including the apps and services that represent real added value for users and more digitally averse groups (not just seniors). Technologies need to be user-friendly and require well-designed and delivered training concepts and tenant onboarding, both of which are essential components of a user-centered approach.

Figure 7: The Smart Quarter – Customer Journey



Scaling and modularization

The implementation of smart technology not only makes sense for the operator/investor once the quarter reaches a certain size or the infrastructure set up is replicated. Scaling and modularization of the platform and hardware across multiple assets, for example in the club model, deliver significant savings and additional revenues.

Digital quarter management

A smart quarter places completely new demands on its operators. Traditional tasks such as classic facility and property management (FM/PM) are supplemented by digital components such as digital platform management and operation, data-based FM, and the provision of smart services. In order to be able to manage the new tasks and processes and ensure smooth quarter operations, it is essential that the quarter's operator has the required digital FM/PM skills.



WHY QUARTERS? WHAT DO MARKET PARTICIPANTS SAY?

Interview with Norman Weichhardt Managing Director, Head of Development Germany, Covivio Office Holding GmbH

“The goal is to develop vibrant and interconnected spaces rather than monocultures.”

What specific spaces will you create in your project at Berlin’s Alexanderplatz, and how will they be interconnected?

The goal is to develop vibrant and interconnected spaces rather than monocultures. We have conceived our mixed-use, high-rise project at Berlin’s Alexanderplatz as a vertical and vibrant quarter. It is not just a question of which types of use are added, but more about consistent networking and complementing, rather than arbitrary juxtaposition.

Designing a vibrant quarter is not about adopting a passive “wait and see” approach, it is an active process. This requires digital and physical platforms, such as our community area and “Garden Club,” where we bring the public, our tenants and our customers together to create an active network.

How does your development fit into the existing built environment in and around Alexanderplatz? Are there any special agglomeration effects that particularly benefit your project?

From an urban planning perspective, our building clearly defines this section of the large city plaza and makes it recognizable as such. Covivio’s central aim is to make Alexanderplatz attractive by opening up the building and creating a culinary offer for all users, including in the outdoor areas, and thus to make a positive contribution to the quality of stay at Berlin’s iconic Alex.

You can’t build high-rises in every place in the city, but at Alex they represent the perfect fit. The agglomeration, i.e. the interplay of several high-rise buildings around the existing Park Inn Hotel, forms the new and equally historic center of Berlin with the best infrastructure, including a shuttle connection to the capital city’s airport, BER.

How do you intend to upgrade the quality of stay in the surrounding environment and take advantage of the high frequency of pedestrians?

Firstly, we see the key to enhancing the quality of stay in opening up the building to all users and, secondly, in the diversity of the shared spaces and outdoor areas. Quiet zones and more secluded areas are just as important as communal areas and a wide variety of public amenities.

We sense a great desire at Alexanderplatz for sustainable and high-quality eateries and retail concepts, as well as for pedestrian zones. We are currently taking a close look at a wide variety of concepts and are also interested in integrating spaces for art, culture and history to create an exciting interplay with the new buildings we are developing. That’s why we’re thinking about how we can incorporate the exciting history of Alexanderplatz into our new project.

“Identity springs from the wants and needs of users, the ‘genius loci’ of the place and a clear vision for the future.”

Can the quarter approach increase the development’s long-term economic viability, even if returns on investment are initially reduced by the integration of public spaces and social facilities into the building?

We want to create an attractive and functioning quarter that generates long-term added value for our tenants and users. We believe that this has a positive impact on the economic viability of the development. Our plans include a terrace that is partially open to the public, for example, because we are convinced of the benefits of such areas. And, of course, our office tenants are also attracted by a property that already has a daycare center. We are convinced that our approach will create a building that is greater than the sum of its individual parts and that the diverse range of amenities will add to the sense of well-being throughout the quarter, including for residents in the apartment units.

Are you planning independent branding for the quarter? Are you focusing on creating a distinct identity for the new quarter?

Creating a distinct identity and mission statement has been one of the aspects we have focused on from the earliest stages of development. Identity springs from the wants and needs of users, the ‘genius loci’ of the place and a clear vision for the future, which is ultimately the foundation of a strong brand identity.

We will use digital solutions to connect users with the ideal spaces and thus strengthen identity and brand. However, these can never be a substitute for individual service offerings, especially as Covivio’s DNA is an expression of values such as collaborative partnership.

How are you integrating sustainable mobility concepts into the project?

Alexanderplatz is already a high-frequency mobility hub with 360,000 people using public transportation there every day. We will supplement this with individual services. We are already exploring a strategic partnership with the neighboring Q-Park and a range of additional digital service providers. In one of the basement floors, we will have designated areas for eBikes, bicycles and scooters.

How long does it take to complete the development of a successful quarter?

Quarters evolve constantly. Ideally, they live through several generations of tenants and users. That’s why I prefer not to consider the success of a quarter development in a specific time window, but rather measure it in terms of the flexibility of its initial design and planning and how well it takes changing user needs into account. The flexibility of our planning creates a building that can adapt to its users for decades to come.

**Mr. Weichhardt,
thank you for the interview.**

Source: Covivio, Sauerbruch Hutton, 2020.



Interview with Siena Golan, Research & Strategy Europe, DWS Alternatives Global Limited, and Martin Lippmann, Research & Strategy Europe, DWS Alternatives GmbH

When and in what form did DWS start investing in quarters and what significance do they have in the DWS real estate portfolio?

As part of its “Emerging Office / Micro Locations” investment strategy, DWS has been investing in individual properties and project developments in emerging submarkets since around 2015.

Investment volumes can range from EUR 50 million to EUR 500 million and largely comprise office properties right now. Given the low interest rate environment and the associated pressure on real estate yields, such investments have become increasingly important for us.

In terms of individual markets, where does DWS focus its office investments?

Our investment targets are basically all of Europe’s major office markets, such as London, Paris, Stockholm, Barcelona, Frankfurt and Berlin, supplemented by other locations. We prefer locations in urban areas that have evolved over time and are currently experiencing growth, as well as those with good prospects for future growth. Our investment strategy focuses on the development

potential of individual locations, for example in the context of large- and small-scale urban developments, along with the potential created by the growth of the overall market. As a result, we don’t focus so much on the “property story,” i.e. optimization measures with a clear “value-add character.”

Which indicators play the most important role in your investment decisions?

Quantitative indicators such as socio-economic factors, commuter networks and the proportion of young professionals, combined with details on the (office) tenants and urban development projects in the quarter. We also base our decisions, at least in part, on growth potentials such as below-average rent levels compared to the top submarkets in the respective city.

Of course, qualitative indicators also play a role. In addition to an attractive, lively environment (often in locations close to the city center), these include public transport accessibility and a balanced user mix. In addition, we also look at whether the location is experiencing a positive image change.

What mix of uses do you look for in the assets you acquire?

In principle, the locations we are most interested in offer a mix of different types of use, in particular residential and retail uses in combination with office space.

In addition, social amenities, restaurants and cafes, as well as green and open spaces, play an important role in creating more open, increasingly sought-after quarters and districts that offer a high standard of living. These features greatly enhance the quality of locations, which is reflected in rising tenant demand and subsequent rent increases.

Moreover, what tend to be below-average rent levels compared with the prime submarkets also contribute to the mix of uses and diversity of users. Ultimately, even rent increases in individual spaces, not least due to the general upgrading of specific locations, can have a positive impact on rents across all segments.

Do you think that innovative, integrated and networked approaches in asset management, digital networking, mobility and identity creation will enhance the economic viability of your assets?

Digital quarter networks, i.e., networked locations with constant data exchange between users and their surrounding environments – from smart homes to smart mobility – are likely to lead to increased sustainability in the future, as well as delivering greater economic efficiency. However, there are still many questions to be answered about the legal limits of data exploitation, combined with the issue of acceptance by tenants and users.

Ms. Golan, Mr. Lippmann, thank you for the interview.

“Social amenities, restaurants and cafes, as well as green and open spaces, add to the quality of a location.”

„Auf AEG“ – former AEG washing machine factory. An MIB Coloured Fields project.

With the demise of AEG in Nuremberg, the company’s factory and logistics site was sold by its owner, Electrolux, in 2007. The 16-hectare site was home to a disparate range of buildings, all united by their shared architectural language and solid construction. Under the project name “Auf AEG – Creating Communities,” the vision from the outset was to develop a city quarter that would become synonymous with diversity, urbanity and a high quality of stay. The sale of the site was linked to the leaseback of around 16,000 sq m of refurbished and converted office space to serve as Electrolux Germany’s new headquarters. Supplemented by a roster of other tenants’ leases, including Siemens, the IT service provider Bechtle, and the specialty retailer Golf House, the development was also significantly shaped by smaller-scale leases concluded with artists, craftsmen, and creative professionals, as well as a diverse range of food and beverage services. Since 2012, the site has increasingly attracted companies from the fields of science and research. With university institutions, including Friedrich-Alexander University Erlangen-Nuremberg (FAU) and Georg Simon Ohm University of Applied Sciences Nuremberg, the Free State of Bavaria became Auf AEG’s largest tenant. The quarter has become a place where art, culture, science and education meet and a physical home for modern digital working environments. On this solid and vibrant basis, the quarter will be completed by 2025 with the development of the 9-hectare urban area in the northern section of the site, which will accommodate around 100,000 sq m of residential space and 40,000 sq m of commercial space.

Figure 8: The “Auf AEG” city quarter in Nuremberg



Source: MIB Coloured Fields, 2021.

Tenants in “Auf AEG”

Office:	Headquarters of Electrolux Germany, Bechtle, RA Schultze & Braun, etc.
Manufacturing:	Siemens transformer plant, luxury shoe manufacturer Henry Kern Shoes
Education and Research:	TÜV Süd Akademie, E-Drive Center, Energie Campus Nürnberg (EnCN), Fraunhofer Institute of Applied Energy Research, etc.
Service sector:	Energy and technology business incubator and service center
Food & beverages:	Restaurant Akimoto, Die Rösttrommel
Associations:	70 business, research, political and administrative associations
Culture:	„Auf AEG“ cultural workshop
Wohnen:	By 2025: Development of approx. 100,000 sq m of residential space in the site’s northern section

Interview with Bertram Schultze, Managing Director of MIB Coloured Fields GmbH

What is it that makes the Auf AEG city quarter's mix of commercial, science, education, social and cultural spaces so attractive?

Diversity is the lifeblood of an attractive environment, both in the quarter and in the city as a whole. People want diversity, not uniformity! A large, homogenous factory site and fenced-off area is now being integrated into the urban fabric. We are creating a home for a diverse range of disciplines, giving them spaces where they can meet and cross-fertilize each other without constraint. With the inclusion of residential, we are also taking the decisive step towards the "city of short distances" and attractive urbanity. People will work in the refurbished factory complex with its high quality of life and live next door on the meadows of the Pegnitz floodplain with bike paths to downtown Nuremberg and Fürth.

How did the existing infrastructure of the city of Nuremberg feed into your quarter planning, and how will you open the site up to the city as a whole?

The commercial development of the former factory site was based on the current urban planning reality and the site's existing architecture. Almost 100,000 sq m of gross floor area of valuable substance was redeveloped, converted and upgraded. The existing "hardware" was already there, ready and waiting to be exploited. On a social level, however, the site was initially little more than an island. Today, however, new content – the "software," if you will – is being added. And the area has now developed a size and radiance that redefines the entire western section of Nuremberg and reflects the broader changes underway in the region. We have opened up the entire area and created so many new pathways. In the master plan for the northern section of the site, which will be home to 100,000 sq m of residential space, the planned traffic routing in particular was based on established but informal routes.

Did the location of the quarter play a role in its design?

The transport links certainly did. The subway station on the doorstep, the unbelievably high visibility on Fürther Strasse, to which we are adjacent for almost 500 meters, and the "quieter" access via Pegnitzau all played a major role. As did the fact that large-scale, single tenant complexes in the surrounding area, such as Triumph Adler and the Quelle mail-order center, were in decline everywhere. This all created the need and freedom for a major change, which fed into the concept and its success. In principle, however, good quarter developments can create their own location quality once they have reached a critical mass.

Are you planning to implement smart features and sensor technologies in the quarter to measure its success in quantitative terms?

We already use smart tech in the existing stock and will take it to the next level when we develop Auf AEG Nord. We are less concerned with gimmicks than we are with sustainable, resource-saving technologies.

Diversity is the lifeblood of an attractive environment, both in the quarter and in the city as a whole. People want diversity, not uniformity!

How did you involve the public sector and other stakeholders in the planning, and what is the role of quarter management in this context?

Not only in operations, but also in development, we have always had close contact with the city and local stakeholders, without ever relinquishing control of our project. It's the same with management – you'll never get anywhere without intensive communication between all stakeholders. Quarter developments are living organisms. They have so many individual users, some of whom are pursuing very egoistic and specific interests, all of whom want and need to be listened to.

Did the quarter concept have an impact on the pre-letting rate during planning, and which user groups were most interested in the quarter?

Not initially, rather the opposite. Who would dare to take the first step into an old factory in a location that is not exactly well known? You'd be on your own. Later, we became a known quantity and have long since been able to choose the tenants we offer spaces to. What really helped us go from frustration to elation as we were establishing the location were the more than 100 artists and small tradesmen, who love unrenovated structures (and affordable rents) and tend not to draw clean lines between living and working. Economically, however, the sale-and-lease-back transaction with Electrolux was what really made a major difference. Actually, many different users were interested in "Auf AEG" because it offers so many very different building structures and a distinctive campus character.

The site then really established itself on the Nuremberg market in 2012 with the first university settlement – the E-Drive Center – which was followed by a host of institutions from the field of energy research.

What type of investors would you look for if you get to the stage of planning an exit? Are there already domestic or international institutional investors who have expressed an interest?

It would have to be an investor that appreciates the overall quality of the site and wants to maintain it. There are actually talks underway. We have no plans for the kind of piecemeal sales that would break-up the whole. Should the sale as a whole not succeed, however, we also see ourselves as a portfolio holder, especially since we firmly believe in the value appreciation potential of "Auf AEG", both in financial and urban development terms.

Do you think investors will increase their interest in quarter developments?

I think that is already the case today. Neighborhoods and city quarters offer the possibility of sustainable quality control because you are your own neighbor and have a larger sphere of influence. In addition, there is a growing demand among investors to get seriously involved in urban development issues, and that is only possible when your developments reach a certain size.

**Mr. Schultze,
thank you for the interview.**



Source: MIB Coloured Fields GmbH. www.colouredfields.com, 2021.



SUMMARY

WHAT COMES NEXT?

Summary and outlook

Neighborhoods and urban quarters are a highly diverse asset class that has not yet been clearly defined either conceptually or spatially and are also difficult to delineate in administrative terms.

The term 'quarter' has long been used by developers and investors as a seal of quality, although they have largely failed to communicate precisely how this quality is expressed. This report therefore attempts to underpin quality with usable indicators.

Quarters are inherently mixed-use. They are complex in their structure and exhibit a high diversity of phenotypes:

They can be intuitively embedded in the urban space or function as a cornerstone for new districts and urban expansions. Through their individuality, in combination with both internal and external integration, quarters offer a range of potentials and functions for all stakeholder and user groups.

The success of any city quarter depends on the diversity of uses and functions it accommodates. By their very nature, city quarters offer investors a high degree of resilience, even in volatile times. They also offer users positive synergies and, ultimately, they also add value to adjacent urban spaces, which benefit from the new infrastructure they provide. New quarters need to be fully integrated into the urban space, infrastructurally, economically and socially, and they need to take the individual needs of disparate user groups into account. The potential success

of any new quarter is also determined by the satisfaction of its users. Residents and employees should enjoy living and working in the quarter and have their basic needs satisfied.

Smart quarters, in which operational data is permanently generated by sensor systems, are currently little more than an isolated phenomenon. In the future, smart features will be added to all quarters, delivering a range of benefits, including reduced costs and increased revenues.

By means of the specific success criteria described in this report and the empirical catalog of indicators, the foundation has been laid for operationalizing the successes of different quarters across Germany. This enhances transparency, reduces the complexity of the 'quarter' asset class, whose strengths, combined with their as yet unidentified potentials, still needs to be leveraged. CBRE has set itself the aim of supporting municipal authorities, developers and investors in making quarters successful in the long term.

CBRE will use the findings set out in this report to assess existing and planned quarters in the coming months to determine whether their design promises sustainable success.

CBRE Research Deutschland

This report was prepared by CBRE Research Germany. As part of the CBRE Global Research Network, we provide comprehensive data, information, econometric forecasts and detailed analysis and reports on the German real estate market for investors and occupiers from around the world.

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