Creating Resilience

Benchmark Study 2024 – Property Developers Going Digital

VIEWPOINT

Against the backdrop of challenging environment for the real estate industry, a survey conducted on German property developers reveals the varying degrees of their digital maturation.

CBRE DIGITAL ADVISORY
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Property development as the real estate industry's ultimate discipline is confronting new digital challenges

Profitability in Germany's property development environment is coming under growing pressure from changing financial and regulatory framework conditions. Digitalization holds a promise of the best route to optimizing processes, cutting costs and enhancing efficiency.

Benchmark study on the various stages, property developers have reached in digitalization

Germany's property developers are tasked with meeting rising requirements for return while putting up cutting-edge, sustainable smart buildings. Digitalization is one way of optimising processes while, at the same time, furthering the construction of sustainably operated and ESG-compliant properties in an environment of constantly changing requirements and demands.

The study, conducted on behalf of CBRE Digital Advisory, surveyed 19 property developers focusing specifically on their digitalization projects and strategies. The study's findings show that making headway with digitalization is allied to the size of a company. In conclusion, recommendations are derived as to how digitalization expertise can be enhanced and finally how the preconditions for creating smart buildings can be improved.

Figure 1: Digitalization as a tool for mastering property development challenges

Difficult macroeconomic environment

- Financing conditions
- Cost of materials
- Availability of skilled personnel and experts
- Declining demand for space

Digitalization as a tool for selling a property

Structural change in the demand for real estate

- New technical requirements placed on office, retail and residential buildings
- New patterns of work and changed occupier requirements (e.g., mobile working)
- Changed purchasing behaviour (online versus stationary retail)
- Affordability of living space

Digitalization as a means of facilitating innovation

New requirements placed on ESG and sustainability

- Carbon neutrality
- Sustainable materials
- New build versus renovation
- Surface sealing
- New safety requirements
- Innovative building monitoring

Digitalization as an instrument for reducing the environmental footprint, implementing social considerations, and creating transparency

Source: CBRE Digital Advisory, 2024.

(Non-exhaustive) digitalization glossary

Smart building

A smart building is a building that is intelligently managed and monitored with the aid of technologies such as networks, building control systems, access controls, smart metering and IoT platforms. The aim is to raise energy efficiency and enhance occupant comfort while improving safety aspects.

Smart metering

Smart metering is the digital capturing, processing and transfer of energy consumption data. Smart metering is used to make energy consumption transparent and enable the targeted implementation of energy efficiency measures.

IoT platform

The Internet of Things (IoT) is a network of devices that exchange data via the Internet. IoTs are used in buildings to collect and analyse data on a building, which allows it to be efficiently and intelligently managed with the aim of conserving energy and enhancing comfort, among other things.

Building management system (BMS)

A building management system is a specific aspect of building automation focused on the centralized management and monitoring of technical installations and systems in a building. BMS is often managed via a central control system. This technology plays a key role in guaranteeing the efficiency of building systems.

Big data in smart buildings

Big data is defined as the volume of data collected from sensors and devices in smart buildings.

These data can be used to gain insights on how the building is used, energy consumption, and other aspects of operating a building.

Building automation class (BAC)

The building automation class demonstrates the degree to which the building has been automated. The higher up in the ranking, the more extensive the degree of building automation. BAC A buildings have achieved the highest level of automation, with comprehensive building management systems that manage and monitor all the important aspects of operating a building.

Scope of the study and survey design

From July through September 2023, a total of 19 German property developers based in the regions of Berlin, Frankfurt, Hamburg and Munich were surveyed online. The participants who together manage more than 150 projects responded to 20 questions on the following topics:

- Size of the company and headcount
- Number of projects and project development volumes
- Specific responsibilities, roles and investment budget for digitalization processes
- Point at which digitalization is used in the service phases
- Implementation of digitalization components in the property and in lease agreements
- Significance of building certification
- Challenges in the field of digitalization

The response options were selected to allow for neutral, attenuating and amplifying statements. The responses to the questions were operationalized and normed on a scale of 1-100. The findings were presented in a matrix denoting the size and digitalization competence of the respondent companies.

> We must help property developers, occupiers and portfolio holders to overcome their fear of digital systems and, among other aspects, work on norming the system language with regard to smart cities.
>
> **Study participants**

Virtually no property developers with a comprehensive digitalization process

Survey findings show a heterogeneous picture of property developers. Three of the 19 respondents achieved the maximum score in the Size cluster. In terms of digitalization competence, none of the companies surveyed achieved the highest score. Only one company achieved 90 of 100 points. The finding that large developers are at a more advanced stage of digitalization compared with smaller operations comes as no surprise as their project developments are much more complex and the advantages that digitalization can confer here are very high. When considering the actual findings based on a means analysis, the following company clusters can be identified:

- Cluster 1:
  Medium size and greatest digitalization competence
- Cluster 2:
  High development volumes and high digitalization competence
- Cluster 3:
  High development volumes, but low level of digitalization
- Cluster 4:
  Medium size and average level of digitalization
- Cluster 5:
  Below-average size and low level of digitalization

Figure 3: Matrix showing size index and digitalization competence

Source: CBRE Digital Advisory, 2024.

Digitalization is possible (Clusters 1 and 2)

Property developers that have reached a mature stage in digitalization demonstrate to the market that digitalization can be integrated into the organisational environment as well as into development processes. Property developers whose digitalization competence is very advanced pursue three different approaches in their projects:

- Systematic and holistic approach at company level
- Specific, customized approaches at property level
- Focus on flagship projects in the form of smart buildings as a tangible and visual part of the core brand.

Hesitant middle tier (Clusters 3 and 4)

Property developers in the middle tier are characterized in particular by more or less distinctly defined, isolated measures in digitalization. Such measures may be associated with individual projects, improving digitalization know-how and/or establishing organization structures. Most of the measures do not pursue an overarching strategy. The significance of individual measures should not be underestimated, however. The middle tier displays a number of characteristic features:

- Sensitivity for the necessity of digitalization, but no actual digitalization strategy
- Implementation of individual digitalization measures in a project and in company organisation (e.g., smart buildings)
- Passive observance of the market and market participants with regard to their digitalization activities

Traditional digitalization stragglers (Cluster 5)

Characteristic of stragglers is that they continue to opt for traditional organizational structures and conventional project management. At the same time, their project volume is not very big – but they nevertheless have a digitalization agenda with different components:

- Strategic work at concept level but without necessarily implementing these concepts
- Isolated functions of the building are designed more in line with digitalization
- Digitalization of individual aspects by service providers or software solutions in late construction phases (starting with Performance phase 3 pursuant to HOAI (German schedule of services and fees for architects and engineers)

Business model adjustments to reflect changing occupier requirements

53%

Property developers with advanced digitalization expertise

4 of 19

Property developers who at least integrate digital core systems

42%

Believe that digitalization adds value to projects

78%

All developers opt for sustainability certification

100%

So far, no clear definition of the roles of digitalization competence

Planning in the conventional process of developing a building (in terms of design and installed technology) generally starts from scratch each time. In consideration of the requirements placed on efficiency, planning must focus most particularly on much more scalable and digitalized approaches with a view to leveraging synergies across projects.

All the companies surveyed are aware that embracing digitalization as an integral component of a property developer's service portfolio is imperative to safeguarding their competitiveness.

Consequently, around two thirds of the respondents indicated that they are developing or intend to develop expertise step by step for operational processes or, at minimum, build software competences in their companies. Only one fifth of the companies surveyed had a full-time position or an entire team dedicated to digitalization.

The responsibility for digital issues generally rests with project management or with external consultants.

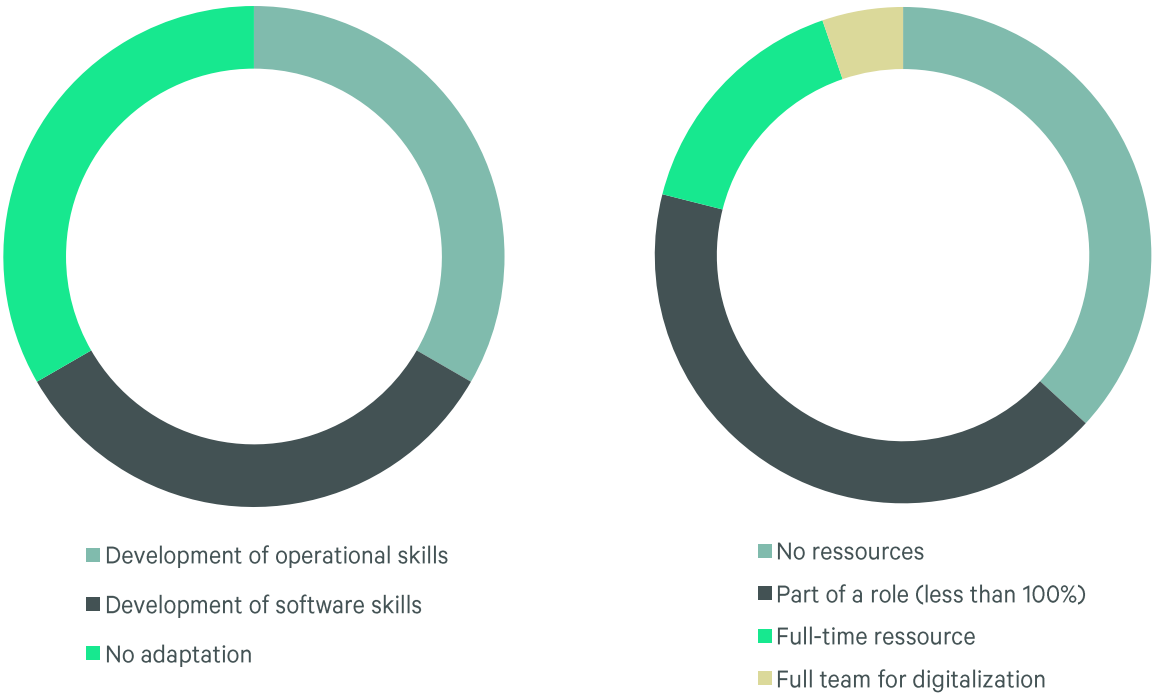
The share of developers with digitalization responsibility in project management

57%

At least one full-time position for the topic of digitalization in property development

21%

Figure 4: Awareness for (left) and actual deployment of digital resources (right) at property developers



Source: CBRE Digital Advisory, 2024.

Digitalization is destined to become part of the business model

The transformation of the building industry, and consequently, also of property developers, will result in digitalization becoming an integral part of their business activities. This means that digitally networked smart buildings will become the standard for buildings in the future.

This is a view adopted by the majority of the respondents who are familiar with the potential and areas of applications of smart building components. The respondents consider gaining special know-how for erecting smart buildings (e.g., network technology, IoT, cyber security and TBE) as essential to their business models. Only around one third of the respondents define digital requirements in Performance phase 0, however, the majority only starting with Performance phase 3 or even later – this even though digitalization will permit greater differentiation for buildings and allow them to be adapted to the needs of occupiers. Digitalization requirements embedded at a later stage in development processes ultimately result in smart buildings' potential not being fully realized in terms of connectivity and flexibility.

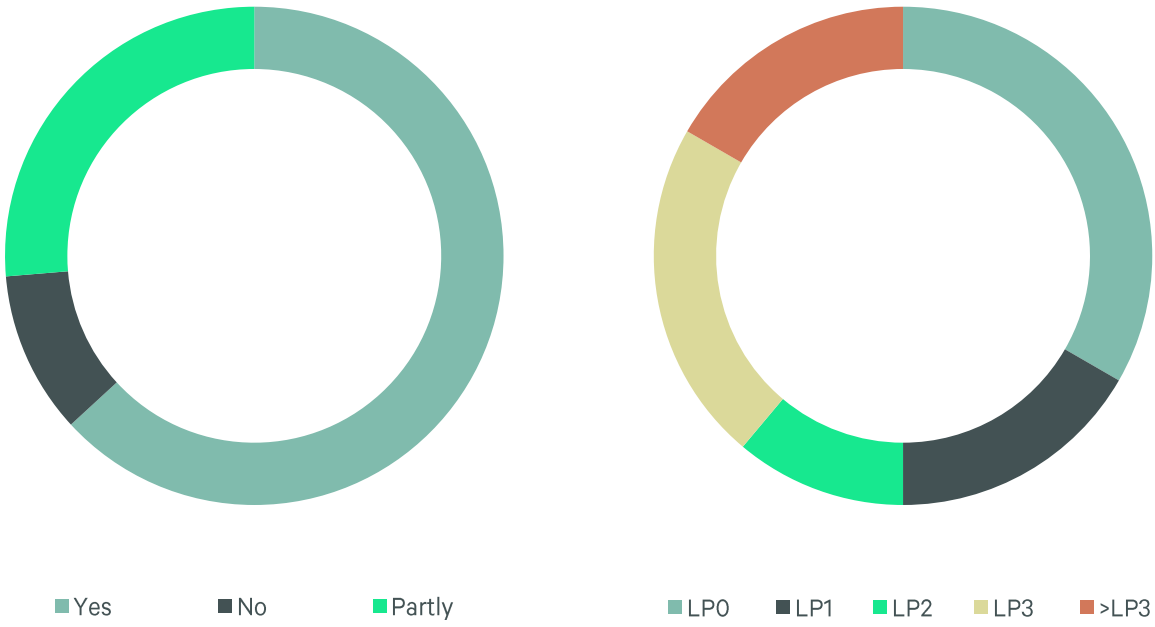
Developers with extensive knowledge of smart building technologies

63%

Involving digital processes upfront in Performance phase 0

30%

Figure 5: Overview of smart building technologies (right) and integration of digitalization processes by performance phase (LP, left)



Source: CBRE Digital Advisory, 2024.

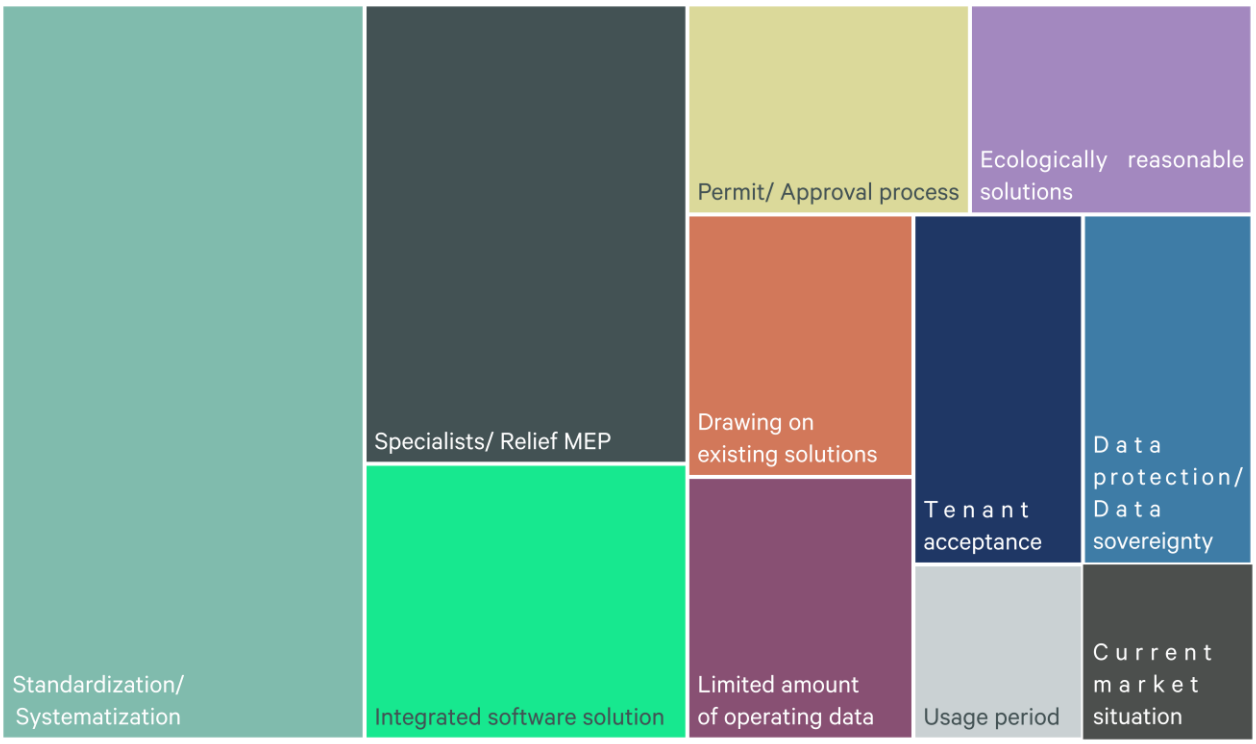
Challenges of the respondent developers

To conclude, the survey sheds light on the future challenges for property developers arising from their digitalization agendas. Based on an open question, participants in the study were requested to formulate their thoughts on future challenges. Tenant satisfaction featured as a fundamental aspect of the responses. In this context, the following issues are assigned priority:

- Standardization/systematization: Standardization enables the digitalization of buildings to be systematized, reduces complexity and facilitates the implementation of technologies. Standards play a pivotal role in leveraging synergies and cutting costs.
- Skilled personnel: The lack of skilled personnel who understand smart buildings and their interfaces and can act on this knowledge is acute. This applies to the planning stage (e.g., TBE planners) as well as the implementation phase (e.g., mandated companies). There is a need for experts who have technical know-how combined with an understanding of tenant demands and the requirements of managing buildings.
- Cross-disciplinary software solutions: The search for suitable software solutions and open interfaces is yet another challenge. This applies particularly to software architecture that ensures compatibility between component systems while allowing for add-ons.

Further challenges consist of regulatory barriers in approval procedures and certifications, along with data transparency in lease agreements, open interfaces and monitoring via dashboards.

Figure 6: Challenges for German property developers in erecting smart buildings



Source: CBRE Digital Advisory, 2024.

Conclusion and recommendations for action

The benchmark study shows that property developers need to embrace digitalization in the context of structural change in the construction industry and increasingly difficult market conditions. All respondents acknowledged the necessity of digitalization, albeit in varying degrees of implementation. At the present point in time, only four of the 19 surveyed are well to very well positioned. Trade developers are top of the league as they are exposed to greater efficiency pressures and understand digitalization as an opportunity of evolving their core brand.

The other participants in the study are well positioned in individual aspects and in terms of development volumes, but generally need to catch up in making headway with their digitalization. This applies both to dedicated digital personnel capacities and to integrating digital processes into the company as well as into specific projects. Know-how about smart buildings, networked systems and handling data is needed, among other things.

The following aspects can support property developers in achieving higher levels of digitalization:

Strategy and planning

- Crafting a digitalization and smart building strategy tailored specifically to the company while factoring in regulatory requirements for ESG (e.g., Germany's Buildings Energy Act [GEG]), data transparency and data protection
- Defining responsibilities and interface functions in the respective company
- Recalibrating brand positioning and incorporating digitalization into the core promise of all projects

Resources and personnel

- Ensuring availability of cross-company (line staff) and project-specific personnel resources, with a focus on integrated digitalized processes and smart building
- Acquiring knowledge and developing resources in projects or across projects by temporarily involving consultants or freelancers, or by involving qualified lateral entry experts from the domain of computer science

Technical implementation and exchange of information

- Participation in sharing information across organizations with the aim of defining technical standards for smart building components and/or TBE systems
- Promoting the internal exchange of information among developers for collaborative progress, also by way of actively encouraging knowledge transfer between project managers and TBE experts with the aid of best practices
- Giving preference to open systems in the technical implementation of smart building components

Ultimately, understanding how digitalization can contribute to ensuring ESG-compliant buildings and efficient management needs to be fostered, in particular given limited personnel and financial resources. Digitalization offers an opportunity of optimising processes and harnessing resources more efficiently – a step that is important in successfully mastering the challenges in the market.

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