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Transforming Real Estate

from what's next to what's now with Gen AI and Immersive Tech

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Right now, the media is awash with talk of AI (artificial intelligence). Just a couple of years ago, 'the metaverse' was the big news, which is also now often referred to as immersive technology or spatial computing, depending on its focus and use. Technology trends are arriving more and more rapidly, and the pace can seem bewildering. However, the real challenge is not to chase the latest wave, but to recognise the broader potential of such technology for real estate.

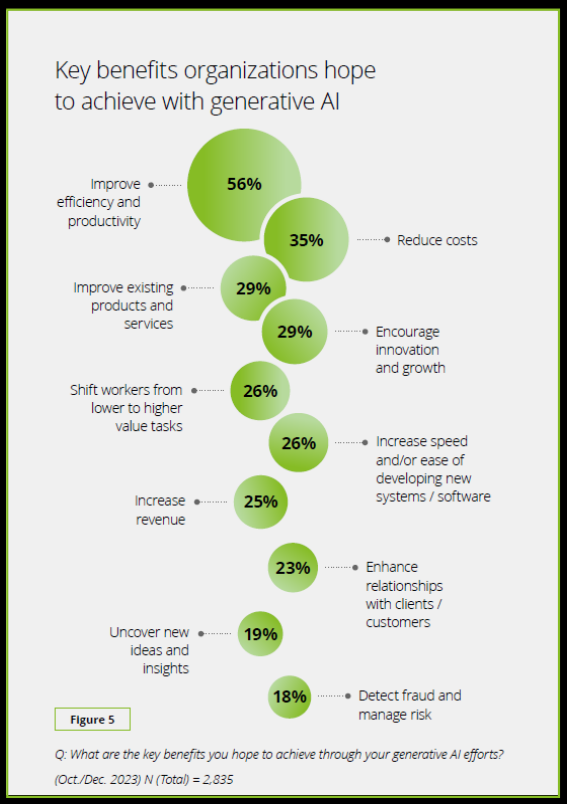
One scenario might see a broker sitting on a beach, while manifesting online as a realistic avatar, to accompany clients on virtual walk-throughs of properties all over the world. Another might see an asset manager's routine workload being handled by an AI agent, allowing them to focus on high-value human interactions and relationship-building – or sipping cocktails.

Such examples won't come from simply adopting the latest single technology, but by recognising how they can be harnessed most effectively, and in combination. Here, we review the recent developments of generative AI and immersive technology, and consider how they could drive the future of real estate.

Artificial intelligence is not new – in theory or practice. AI is a well-established general class of technology for understanding and learning intellectual tasks such as communication, but it's now making headlines because of recent advances in generative AI (Gen AI). Gen AI allows machines to create new and plausible content – text, code, audio or images – by learning from a much larger pool of source data than previously. As such, it's simply the latest stage in the evolution of AI, from intelligent automation, speech recognition and predictive analytics, through virtual assistants, machine learning and visual recognition, and toward future developments such as artificial general intelligence.

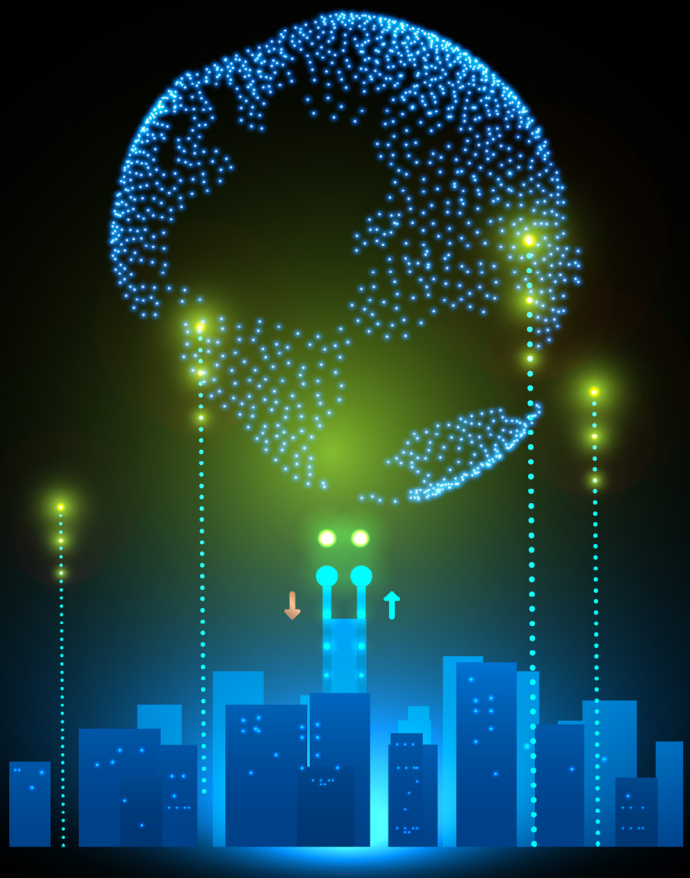
Although its ability to create new material has seized the public imagination, Gen AI offers huge potential for businesses, in cost reduction, revenue generation, product and service innovation, or customer relationships. In Deloitte's own work, our AI Institute provides a thought leadership hub, while the Gnosis Intelligence Center uses our in-house language model (integrated with ChatGPT) to deliver an unprecedented level of market intelligence, based on around four million news articles daily.

Our Gen AI Survey, of 2550 participants, revealed the likely disruption across industries, and indicates particularly high impact on rental, hiring and real estate services, and – to a lesser extent – on construction. Further key findings in our latest study on Generative AI was that the majority of organizations is targeting tactical benefits such as improving efficiency, productivity and cost reduction.



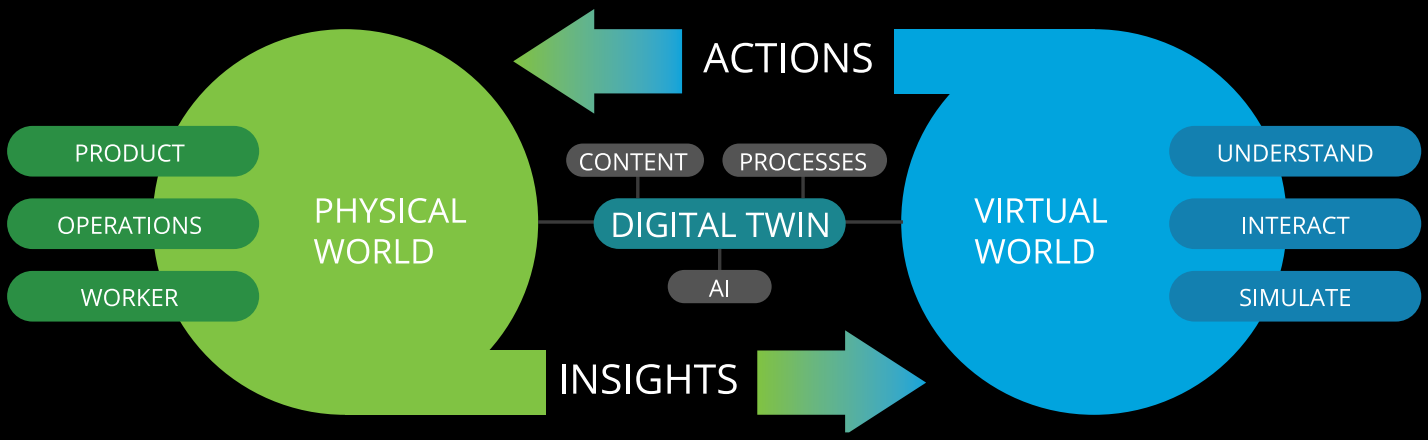
Current generative AI efforts remain more focused on efficiency, productivity and cost reduction than on innovation and growth.

In practical terms, our analysis identifies more than 60 use cases across six major industries, showing the wide-ranging impact of generative AI. Real estate practitioners are therefore invited to identify which use cases are most applicable to their needs, and our own research has already revealed at least ten ways in which the sector could be transformed over the next two to three years. For instance, generative AI can analyse portfolios, lease contracts and general company data, to create a reliable and accurate fact-base for decision-making and forecasting, in areas such as sustainability, rentability and space utilisation. Service delivery chatbots can deal intelligently and plausibly with customers (e.g., complaints, ticketing or visitor management), in forms that range from cross-platform plain text through to photorealistic 3D avatars with speech and motion - giving customers an improved experience, and freeing up agents to focus on high-value tasks. For buildings, Scan-to-BIM intelligently converts videos and scanned plans into digital twins, using accurate 3D/BIM models for visualisation and simulation, to optimise activities such as maintenance, repair or modification. Finally, Generative AI will also have a huge impact on the future of work. In its perfect state, it can bolster innovation, productivity and outcomes while making work easier for people. Generative AI isn't designed to replace humans, but to change how we work and collaborate.



'The metaverse' was a much-hyped expression a couple of years ago, although the practical reality is less a single virtual world and more a variety of immersive experiences, built from a combination of technologies: 3D interaction, AI and machine learning, blockchain, internet of things, cloud computing, and 5G networks. These immersive environments will disrupt how we work and learn, transform how companies operate, and stimulate new business models and revenue channels. As with generative AI, such technology represents the current evolution of interactive technologies, from passively reading documents and photos, through simple interactions with two-dimensional screens (mouse, then touch), to occupying three-dimensional environments and interacting through natural gestures and language. For a sector that's all about three-dimensional physical environments, this technology will be crucial.

The latest advancements in AI video generation technology already provide a glimpse into the future of 3D scene creation. By transforming AI-generated videos into 3D point clouds (so called Gaussian Splatting), fully immersive virtual environments can be utilized with the ability to freely explore, navigate or model these scenes for planning, collaboration or sales, while preserving an astonishing level of quality and detail on any device. A central real estate application will be enterprise simulation, which allows businesses to create digital twins of existing buildings, construction projects or even whole cities, to simulate the operation of physical assets in real time. Using extended reality (XR) and AI, such simulations will improve the effectiveness and efficiency of planning, 3D design, and process development. Technology leaders are already rolling out XR platforms, and Deloitte's Unlimited Reality offering extends our partnership with NVIDIA, using its Omniverse technology to provide real-time collaboration in virtual architectural scenes.



Artificial Intelligence (AI) and Extended Reality (XR) will empower Digital Twins to be the major driver for the convergence of the physical with the virtual world.

Immersive technologies will also provide an augmented workforce experience, and enhance how people work together in organisations. Hybrid working has already proved to be cost-effective, sustainable, and popular with many employees – it's even a deal-breaker for the newest talent. Immersive technology could give employees a more rewarding and productive remote working experience, such as three-dimensional meeting rooms that promote effective collaboration, training and development, or a choice of task-specific virtual workspaces. The technology could also enhance personal workspaces with spatial computing, using XR to display interactive virtual screens and augment interactions with the physical environment. Spatial computing - as a new era after mobile computing - enables spatial interactions in 3D with digital assets, information and environments through gestures, movements, eyes and voice. It blends virtual experiences with the physical world through the use of AI, computer vision and XR.

It's no coincidence that everyone's talking about XR glasses as a spatial computer right now. Future developments are likely to bring further advances in how human interactions are captured and represented digitally. For example, Deloitte's Metaverse Lab is now collaborating with the Neuroscience Institute to assess the implications of the Neuroverse, such as machine-recognition of more subtle physiological and psychological human behaviours. For instance, eye movements or galvanic skin response might be captured to record subtle customer preferences within virtual environments, and provide richer insights for product and service design.

Right now, we are already seeing how Gen AI and immersive technologies are converging, to create digital functionality and experiences that are richer and more intelligent than ever before, to offer unprecedented potential for businesses.

How Generative AI is shaping the Metaverse

The convergence of Generative AI and immersive Tech as a key enabler to build, evolve and interact within extended realities and virtual enviroments.

Reality Capture

Build the experience

- Text-to-3D
- Scene capturing
- Virtual avatars

3D Design & Modelling

Shape the experience

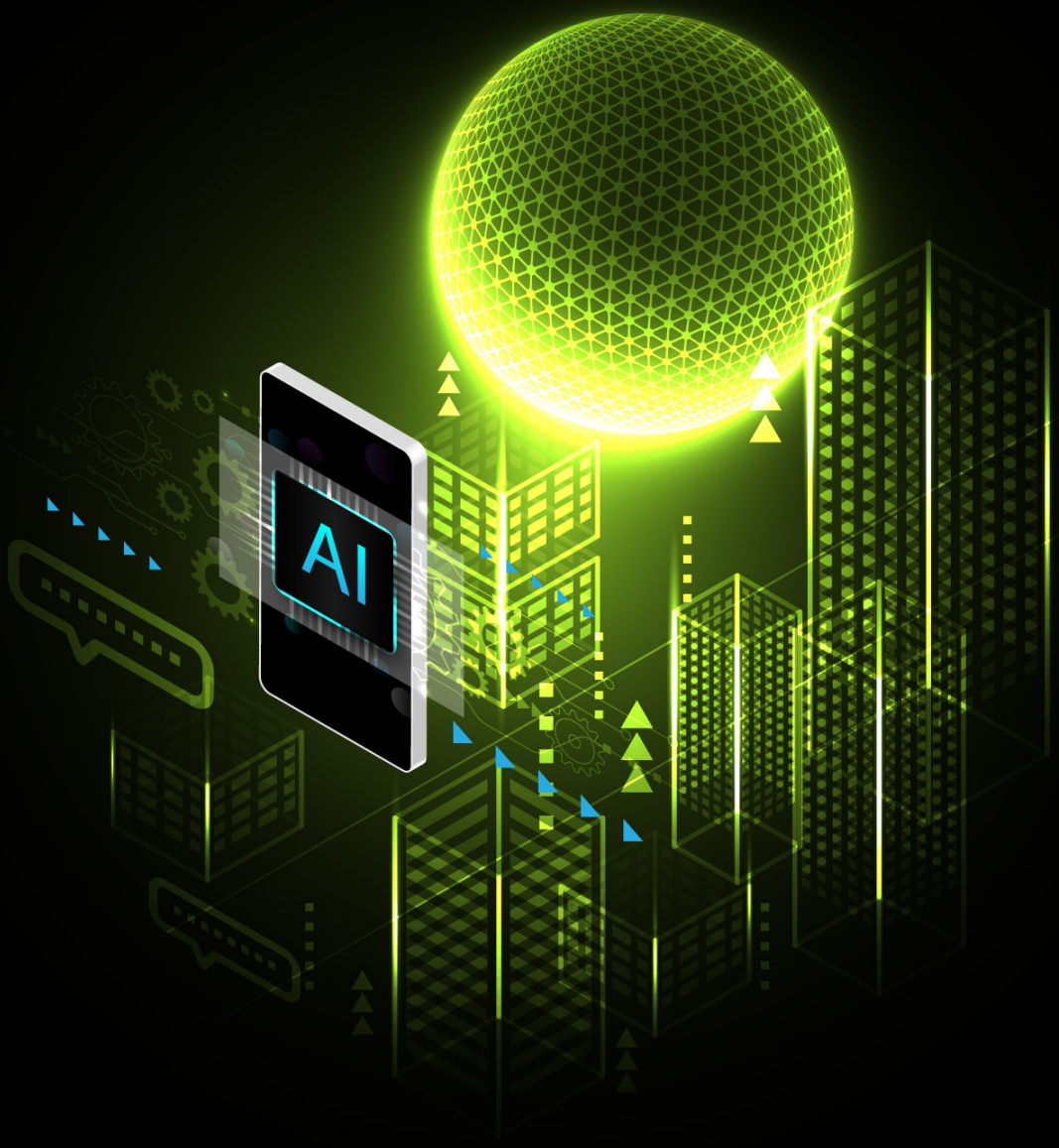
- Software embedded co-pilots
- Content generation
- Simulation and storytelling

Interaction & Communication

Enrich the experience

- Interactive knowledge management
- Enhanced customer services
- Intelligent agents for sales & training

Far from being competing trends, generative AI and immersive experiences will both become part of the bigger picture. That picture might be in three dimensions, in real time, and inhabited by your workforce or clients. It could replicate existing or future buildings precisely, or provide the perfect workplace even if no such place exists physically. For a sector that already understands physical space, now is the time for real estate to get virtual.



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