Construction Lifecycle: From 3D to Metaverse

May 2023
Andreas Gerster
VP Software Technology Geosystems - Reality Capture
Hype Cycle for Emerging Tech, 2022

Time

Innovation Trigger → Peak of Inflated Expectations → Trough of Disillusionment → Slope of Enlightenment → Plateau of Productivity

- Foundation Models
- Web3
- Computational Storage
- Superapps
- Industry Cloud Platforms
- Internal Talent Marketplaces
- Digital Humans
- Dynamic Risk Governance
- Observability-Driven Development
- Cloud Sustainability
- Metaverse
- Augmented FinOps
- Machine Learning
- Code Generation
- Generative Design AI
- Autonomic Systems
- Cybersecurity Mesh Architecture
- Minimum Viable Architecture
- Digital Twin of a Customer
- Open Telecom
- Platform Engineering
- Central AI

Plateau will be reached:
- less than 2 years
- 2 to 5 years
- 5 to 10 years
- More than 10 years
- Obsolete before plateau

As of August 2022

Source: Gartner
© 2022 Gartner, Inc. and/or its affiliates. All rights reserved. Gartner and Hype Cycle are registered trademarks of Gartner, Inc. and its affiliates in the U.S. and other countries.

gartner.com
Defining the Metaverse

The metaverse is here!

Web3
- Decentralized
- Blockchain
- NFT / IoT

Digitization

Artificial Intelligence

Immersive Technologies
What is the Metaverse? A HxGN Perspective

Physical World
Real people, real places, real things

Hexagon's Smart Digital Realities
Connect the virtual world to real people, places and things

Virtual World
The can-be-anyone-anywhere-anything world

Honest
Beauty
You’ve heard of ChatGPT right…?

*User adoption of AI tools is going to be swift!*

![Graph showing user adoption](chart.png)
The construction industry has traditionally relied on 3D modeling and visualization to plan and execute building projects. With the advent of digital twin technology, a new approach to the construction lifecycle has emerged, transforming the industry towards a metaverse-based approach.

Digital twin technology creates virtual replicas of physical buildings, enabling real-time monitoring, analysis, and simulation of building performance, leading to optimized construction processes, reduced costs, and improved sustainability.

Digital twins provide a holistic and data-driven view of the entire building lifecycle, from design to operation, allowing for better decision-making at every stage.

Furthermore, the digital twin concept extends beyond individual buildings to encompass entire urban environments, forming the foundation of the metaverse. The metaverse is a virtual space that enables immersive and interactive experiences, and it is being leveraged to create virtual representations of entire cities, where digital twins of buildings and infrastructure are interconnected, allowing for real-time monitoring and management of the urban environment.

ChatGPT on April 20, 2023, https://chat.openai.com/
Reality Capture from the Air to Interiors

Airborne Mapping
HxGN Content Program

Mobile Mapping

Underground Mapping
Ground Penetrating Radar

High-End Scanning

BLK: Reality-Capture for Everyone
Towards a Smart Digital Reality