

Overview of AWS IoT TwinMaker with Matterport for operational digital twins.



Business Challenge

To ensure profitability and stay competitive, Enterprise organizations everywhere are challenged with finding fast and easy ways to improve operational efficiency while simultaneously providing flexibility, agility, and scale. They're turning to digital twin technology for solutions.

Digital twins are built to enable remote access to facility operations, streamline planning decisions, and ultimately increase workforce effectiveness. Enriching digital twins with live data drives even more value, although this introduces complexities, as operational insights are derived from many different data sources within a facility, including sensors, SCADA, production systems, and business applications. However, companies who achieve this are able to view all relevant operational and spatial insights throughout their facilities in a unified user experience. These operational digital twins help companies optimize building operations, increase production output, and improve equipment performance, but creating comprehensive digital twins is notoriously costly and time-consuming.

Organizations need a solution that simplifies the primary challenges of digital twin creation: Capturing the physical space and converting it into a 3D model without spending too much time or money, and the ability to seamlessly integrate this model with the real-world system data.

Solution Overview

The Matterport and AWS partnership allows customers to simplify the process of creating digital twins of real-world systems. By integrating Matterport with AWS IoT TwinMaker, customers can easily bind their operational and IoT data with Matterport models. The result is a visually immersive, interactive, and accurate 3D model of buildings, factories, industrial equipment, and operational data.

The integration of Matterport with AWS IoT TwinMaker provides a unique advantage over standalone services. Matterport offers the fastest and easiest method to capture physical spaces and convert them into detailed, dimensionally-accurate digital twins. AWS IoT TwinMaker provides methods for accessing and organizing data, then binding it to the respective assets within the Matterport digital twin. This comprehensive approach enables customers to accurately model real-world environments for remote visibility, in turn, increasing overall operational efficiency.

Furthermore, the Matterport and AWS IoT TwinMaker solution provides a single operational view into facilities so that dispersed teams can learn, collaborate, and respond to facility insights quickly and efficiently. Overall, the integration of Matterport with AWS IoT TwinMaker is the simplest way to create and leverage comprehensive digital twins.

Use-Cases and Value



Remote Monitoring and Service Management

Use-case: Monitor equipment and operations from a centralized location. Enable the ability to manage remotely, prepare properly before going onsite, and give proper context to remote experts in case of escalation.

Value: Sustainability/save travel time. Efficiency gains from contextually informed decision making



Predictive Maintenance

Use-case: Access real-time data on equipment performance to predict maintenance needs and efficiently conduct root-cause analysis, which results in increased equipment uptime and improves operational efficiency.

Value: Reduce equipment downtime and optimize production. Save cost by preventing more serious equipment maintenance/repair.



Training and Onboarding

Use-case: Accelerate training and onboarding of new employees by providing immersive and interactive learning experiences within digital twins.

Value: Scale knowledge transfer globally and increase employee effectiveness and health and safety through remote training. More quickly ramp employees through immersive training experiences.

Customer journey to operational digital twins:

High-level steps for creating data-enriched digital twins with AWS and Matterport: **Note: Detailed steps will vary on a case-by-case basis. Discovery is necessary to determine each customer's specific journey.*

1. Capture.

Use Matterport's cutting-edge 3D scanning technology to capture a facility's physical environment. This process involves scanning the space using [Matterport Capture Services](#), or capturing it yourself with a variety of camera options. The digital twin will be created and stored in the Matterport cloud for easy access.



2. Tag points of interest.

Use Mattertags to identify and annotate important areas of your space. Once step 3 is completed, these tags will be accessible in AWS IoT TwinMaker and can be leveraged to bind data to your digital twin (step 4).

3. Integrate Matterport with AWS IoT TwinMaker.

Follow the steps outlined in the AWS Integrator for [Matterport Digital Twins User Guide](#) to connect your Matterport account with your AWS IoT TwinMaker account.

4. Data binding.

Use AWS IoT TwinMaker to bind operational data to your Matterport digital twin.

5. Add your operational digital twin to your dashboard.

Add your live data-enriched digital twin to Grafana, or any dashboard of your choosing via the AWS IoT TwinMaker Grafana Plug-In or AppKit. Also available for Amazon-Managed Grafana.

Conclusion:

Overall, the Matterport integration with AWS IoT TwinMaker offers a comprehensive solution that covers the key aspects of the digital twin journey, including capturing a physical space and converting it into a 3D model, and seamlessly integrating this model with real-world system data. This innovative solution can help companies improve operational efficiency, reduce costs, enhance overall performance, and drive sustainability goals.

About Matterport



Matterport, Inc. (Nasdaq: MTTR) is leading the digital transformation of the built world. Our groundbreaking spatial data platform turns buildings into data to make nearly every space more valuable and accessible. Millions of buildings in more than 177 countries have been transformed into immersive Matterport digital twins to improve every part of the building lifecycle from planning, construction, and operations to documentation, appraisal, and marketing. Learn more at [Matterport.com](#) and visit our [Discover](#) page to browse a collection of digital twins captured by our customers.



Learn more about the Matterport & AWS partnership by scanning the QR code.

About Partner



For over 15 years, Amazon Web Services has been the world's most comprehensive and broadly adopted cloud offering. AWS has been continually expanding its services to support virtually any cloud workload, and it now has more than 200 fully featured services for compute, storage, databases, networking, analytics, machine learning and artificial intelligence (AI), Internet of Things (IoT), mobile, security, hybrid, virtual and augmented reality (VR and AR), media, and application development, deployment, and management from 87 Availability Zones within 27 geographic regions, with announced plans for 21 more Availability Zones and seven more AWS Regions in Australia, Canada, India, Israel, New Zealand, Spain, and Switzerland. Millions of customers—including the fastest-growing startups, largest enterprises, and leading government agencies—trust AWS to power their infrastructure, become more agile, and lower costs. To learn more about AWS, visit [aws.amazon.com](#).