



Bentley Systems Brings Infrastructure Digital Twins to NVIDIA Omniverse

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Bentley iTwin First to Harness Real-time Rendering, AI, and Simulation Capabilities of NVIDIA Omniverse

EXTON, Pa.--(BUSINESS WIRE)--Apr. 12, 2021-- GTC21 – Bentley Systems, Incorporated (Nasdaq: BSY), the *infrastructure engineering software* company, today announced that it is developing applications using the NVIDIA Omniverse platform for photorealistic, real-time visualization and simulation of digital twins of massive-scale industrial and civil infrastructure projects.

This press release features multimedia. View the full release here: <https://www.businesswire.com/news/home/20210412005214/en/>



Image courtesy of Houston Waterworks Team (a Joint Venture of Jacobs Engineering Group, Inc. and CDM Constructors, Inc.)

Bentley Systems has extended the Bentley [iTwin platform](#) to integrate with [NVIDIA Omniverse](#) to provide a graphics pipeline for AI-enhanced, real-time visualization, and simulation of infrastructure digital twins. This integration allows engineering-

grade, millimeter-accurate digital content to be visualized with photorealistic lighting and environmental effects on multiple devices including web browsers, workstations, tablets, and virtual reality and augmented reality headsets from anywhere in the world.

Bentley iTwin is an open, scalable cloud platform that enables engineering firms and owner-operators to create, visualize, and analyze digital twins of infrastructure assets. Digital information managers use it to incorporate engineering data created by diverse design tools into a living digital twin and align it with reality data, IoT data, and other associated data without disrupting their current tools or processes.

Bentley Systems CEO Greg Bentley said, “Visualization and simulation underpin many of the use cases for infrastructure digital twins. The collaboration of Bentley iTwin and NVIDIA Omniverse is delivering real-time, immersive 3D/4D experiences that will enable true-to-reality, physics-based simulation of even the largest and most complex infrastructure assets. GPU-computing is transforming the world of engineering and construction and promises to unleash the potential of AI for simulation and advanced analytics in infrastructure digital twins.”

“Modern infrastructure are magnificent feats of engineering. NVIDIA and Bentley share a vision of physically based digital twins – so accurate and realistically simulated that they will revolutionize everything from infrastructure design to operations,” said Jensen Huang, founder and CEO of NVIDIA. “NVIDIA Omniverse was built precisely to realize this vision – to create shared virtual worlds that are simulated with physical and photo realism. We are delighted Bentley is developing applications for infrastructure digital twins on NVIDIA Omniverse.”

Unmatched High-Fidelity Infrastructure Visualization

The combination of the Bentley iTwin platform and NVIDIA Omniverse provides an unmatched, high-performance user experience at a scale that had previously not been possible.

The integration of the capabilities of the Bentley iTwin platform and NVIDIA Omniverse enables users to virtually explore massive industrial plants and offshore structures as if they are walking through the infrastructure in real time, for purposes such as wayfinding and safety route optimization.

“The industry is moving in a positive direction toward more automated and sophisticated tools that improve client outcomes,” said Donna DeMarco, plant information modeling, Jacobs. “Jacobs is proud to partner with Bentley in leveraging tools like iTwin linked with NVIDIA Omniverse to achieve strong results for our clients.”

Image and caption:

[Houston Waterworks](#)

Image courtesy of Houston Waterworks Team (a Joint Venture of Jacobs Engineering Group, Inc. and CDM Constructors, Inc.)

About NVIDIA Omniverse

NVIDIA Omniverse is an open platform for virtual collaboration and physically accurate simulation. Based on NVIDIA RTX technology, it leverages the Universal Scene Description (USD) common interchange format for real-time 3D visualization and simulation that was originally developed by Pixar to simplify entertainment industry workflows and is now being adopted in other industries including architecture, construction, and engineering, and digital factories.

About the Bentley iTwin Platform

The Bentley iTwin platform is an open, scalable cloud platform that enables project teams and owner-operators to create, visualize, and analyze digital twins of infrastructure assets. It enables digital information managers to incorporate engineering data created by diverse design tools into a living digital twin and align it with reality data, and other associated data with no disruption to their current tools or processes. Users are able to visualize and track changes including changes in real world conditions from IoT connected devices, such as sensors and drones. The Bentley iTwin platform facilitates actionable insights for decision makers across the organization and asset lifecycle. Users make better-informed decisions, anticipate and avoid issues before they arise, and react more quickly with confidence, resulting in cost savings, improved service availability, lower environmental impact, and improved safety. The Bentley iTwin platform is the foundation for applications ‘powered by iTwin’ and digital twin solutions created by Bentley and its strategic partners, digital integrators, system integrators, independent software vendors, and software developers.

About Bentley Systems

Bentley Systems (Nasdaq: BSY) is the *infrastructure engineering software* company. We provide innovative software to advance the world's infrastructure – sustaining both the global economy and environment. Our industry-leading software solutions are used by professionals, and organizations of every size, for the design, construction, and operations of roads and bridges, rail and transit, water and wastewater, public works and utilities, buildings and campuses, and industrial facilities. Our offerings include *MicroStation*-based applications for modeling and simulation, *ProjectWise* for project delivery, *AssetWise* for asset and network performance, and the *iTwin* platform for infrastructure digital twins. Bentley Systems employs more than 4,000 colleagues and generates annualized revenues of more than \$800 million in 172 countries. www.bentley.com

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