



Press Release

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Bentley Systems Launches *iTwin Experience*, *iTwin Capture*, and *iTwin IoT* to Extend iTwin Platform

*iTwin to Empower Bentley Infrastructure Cloud and
Advance Bentley's Engineering Applications*

LONDON – Nov. 15, 2022 – At the 2022 *Year in Infrastructure Conference*, Bentley Systems, Incorporated (Nasdaq: BSY), the *infrastructure engineering software* company, today announced new capabilities of its iTwin Platform, significantly extending the scope and interoperability of infrastructure data that engineering firms and owner-operators can use to create and leverage digital twins in design, construction, and operations workflows.

The new iTwin Platform capabilities will power Bentley Infrastructure Cloud, a set of solutions that span the end-to-end infrastructure lifecycle and value chain, encompassing ProjectWise, SYNCHRO, and AssetWise, unified and made interoperable by **Bentley's infrastructure schemas**.

iTwin Experience is a new cloud product to empower owner-operators' and their constituents' insights into critical infrastructure by visualizing and navigating digital twins. Significantly, iTwin Experience accelerates engineering firms' "digital integrator" initiatives to create and curate asset-specific digital twins, incorporating their proprietary machine learning, analytics, and asset performance algorithms. iTwin Experience acts as a "single pane of glass," overlaying engineering technology (ET), operations technology (OT), and information technology (IT) to enable users to visualize, query, and analyze infrastructure digital twins in their full context, at any level of granularity, at any scale, all geo-coordinated and fully searchable.

Additional iTwin products include:

iTwin Capture, for capturing, analyzing, and sharing reality data, enables users to easily create engineering-ready, high resolution 3D models of infrastructure assets using drone video and survey imagery from any digital camera, scanner, or mobile mapping device. Infrastructure digital twins of any existing assets can accordingly start with reality modeling, rather than requiring a BIM model. iTwin Capture offers the highest-fidelity and most versatile means of capturing reality to serve as the digital context for surveying, design, monitoring, and inspection processes.

iTwin IoT, for acquiring and analyzing sensor data, enables users to seamlessly incorporate Internet of Things (IoT) data created by sensors and condition monitoring devices. Infrastructure IoT can be used effectively for real-time safety and risk monitoring in operations and construction activities, including to measure and visualize environmental changes, structural movement, or deterioration for condition assessment, maintenance scheduling, and to prompt precautionary interventions. By securely incorporating real-time data at scale from among hundreds of sensor types, iTwin IoT increases the value of engineering and geotechnical data.

Bentley's Engineering Applications, Powered by iTwin

In the 2022 *Going Digital Awards*, the proportion of finalists crediting iTwin reached 42%. Noting the sophistication and maturing of digital delivery approaches, as evidenced by the 2022 finalists' projects, Bentley presented a broadening of its strategic priorities for iTwin, including adding "digital-twin native" advantages to its infrastructure engineering applications.

In the keynote, Founder and CTO Keith Bentley described the evolution of iTwin from a set of open-source programming libraries to a platform-as-a-service used by Bentley and partners to develop, run, and extend applications that use digital twin workflows. Bentley's engineering applications will next take advantage of iTwin capabilities on the desktop. Users will continue to work with these applications as they are accustomed to, but alongside the usual resulting .dgn file, the engineering applications will also create and synchronize an iModel, Bentley's specialized container to semantically align and federate infrastructure engineering data within digital twins. iModel and iTwin will enable users to participate in data-centric workflows, including for integration, validation of design intent, rules checking, clash detection, component queries and reuse, quality assurance, and digital-twin deliverables creation.

Keith Bentley said, "It is clear to me that infrastructure digital twins are the future of our industry and our company. Our digital twin journey began four years ago with a series of open source projects to create cloud-native tools, called iTwin.js. It has evolved into the iTwin Experience that is the workhorse for digital twin solutions from Bentley and others. I'm very proud of the tremendous progress we and our users have made using the iTwin Platform, as evidenced in the current YII submissions. Phase 2 of our journey involves improving our existing desktop products using the same iTwin engine. Users of our MicroStation and engineering design and

analysis applications will next gain new features that can make their projects more efficient, more connected, and the results more valuable. We can do that by augmenting, not replacing, their existing tools, workflows, file formats, and deliverables. The iTwin engine will run on the same desktop ‘in process’ with the design applications, synchronizing a local iModel and connecting to cloud services when and as necessary.”

Integration with Immersive 3D Environments

At the same time, Julien Moutte, vice president of technology, described the enhanced interoperability of the iTwin Platform, including integration with 3D environments, such as Unreal, Unity, and NVIDIA Omniverse, to enable immersive experiences across a wide range of devices. “From the start, we created services in the iTwin Platform that allow software developers to align and federate infrastructure data from different sources. We are now opening the doors of the metaverse for those digital twins, enabling new use cases and immersive experiences. Our interoperability with game engines via USD, glTF, DataSmith, and 3DFT unlocks a whole new world of possibilities for application developers. We are excited to see what our users can achieve by combining such technologies, which are fundamental building blocks of the infrastructure metaverse.”

Describing the broadening ecosystem adoption of iTwin technologies, Moutte announced that Adobe has licensed Bentley’s iTwin Capture for its Substance 3D Sampler application, which enables designers to easily transform real-life pictures into a photorealistic surface or environment. Alexis Khouri, vice president, growth, 3D and metaverse at Adobe, said, “Bentley’s iTwin Capture capabilities in Substance 3D Sampler will help Adobe’s creative professional customers to populate their 3D experiences and save many hours (or even days) of 3D modeling time. Adobe’s strategic collaboration with Bentley will allow us to offer an easy-to-use and state-of-the-art 3D capture solution for 3D artists and designers of all levels.”

In a performance-redefining breakthrough, Bentley has developed a new iTwin Platform service that enables software developers and digital integrators to stream digital twins into Unreal Engine, the leading game engine from Epic Games, to create immersive experiences for fly-throughs and multi-user collaboration.

“Infrastructure digital twins are becoming fundamental building blocks of virtual worlds that empower people to interact, collaborate, and solve problems together,” said Marc Petit, vice president, Unreal Engine Ecosystem at Epic Games. “The seamless workflow and high performance that Bentley offers by integrating the iTwin Platform with Unreal Engine will help developers achieve new levels of immersion in complex visualizations and simulated experiences.”

Availability

iTwin Experience is in early access; iTwin Capture and iTwin IoT are available now. iTwin Experience incorporates capabilities from OpenCities Planner. iTwin Capture incorporates capabilities from ContextCapture and Orbit 3DM. iTwin IoT incorporates capabilities from the sensemetrics platform and Vista Data Vision. To find out more, visit www.bentley.com.

Image 1



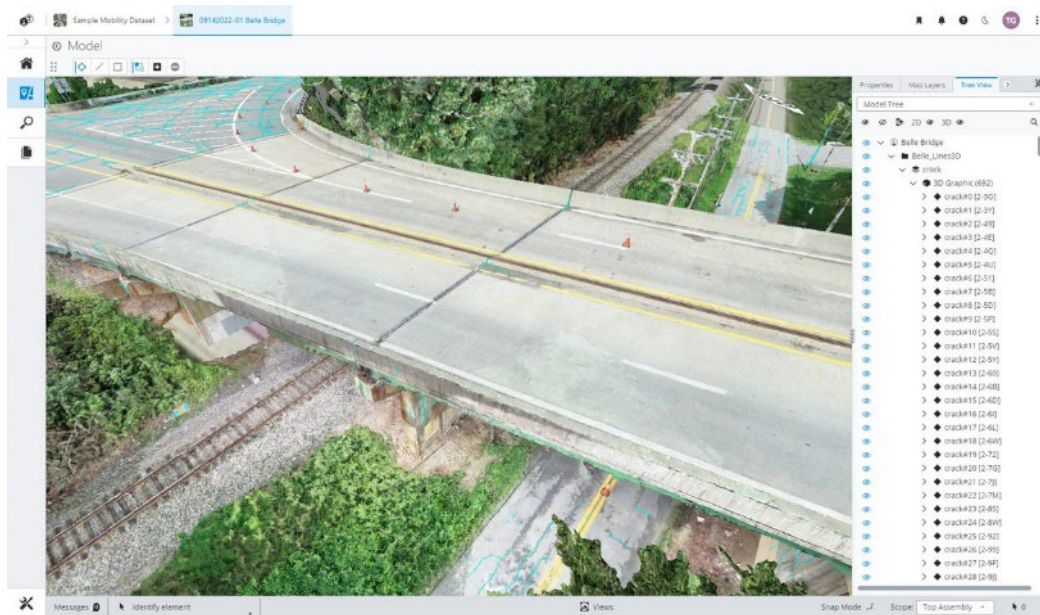
iTwin Experience. *Image courtesy of Bentley Systems.*

Image 2



iTwin IoT. *Image courtesy of Bentley Systems.*

Image 3



iTwin Capture. Image courtesy of Bentley Systems.

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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, mining, and industrial facilities. Our offerings include *MicroStation*-based applications for modeling and simulation, *ProjectWise* for project delivery, *AssetWise* for asset and network performance, Sequent's leading geoprofessional software portfolio, and the *iTwin* platform for infrastructure digital twins. Bentley Systems employs more than 4,500 colleagues and generates annual revenues of approximately \$1 billion in 186 countries.

www.bentley.com

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