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News Alert

Bentley Systems Announces Availability of Life Cycle Assessment and Embodied Carbon Calculation Capabilities for Infrastructure Digital Twins

Integration of One Click LCA with the Bentley iTwin Platform Enables Engineers to Add Environmental Impact Workflows

EXTON, Pa. – March 8, 2022 – Bentley Systems, Incorporated (Nasdaq: BSY), the *infrastructure engineering software* company, today announced the availability of integrated workflows for lifecycle assessment (LCA) and embodied carbon calculation capabilities in the Bentley iTwin platform to support the sustainable-development goals of infrastructure projects. This integration is a result of Bentley’s collaboration with One Click LCA Ltd. (www.oneclicklca.com) – the world’s leading construction sector lifecycle assessment and environmental product declaration software. The software can be used for buildings, infrastructure, renovations, construction products and materials, and portfolios. The One Click LCA platform is used in over 100 countries by manufacturers, consultants, designers, contractors, and investors to decarbonize the entire construction value chain.

The partnership is a natural step in Bentley’s strategy for empowering its users to achieve sustainable development goals (SDGs), particularly addressing climate action and decarbonizing infrastructure. Infrastructure digital twin solutions will be an essential enabler and accelerator of carbon transparency and disclosure use cases, and the adoption of digital twin solutions will help accelerate the transformation of infrastructure performance.

With this integration, Bentley’s infrastructure digital twin solutions *powered by iTwin*, and third-party applications built on the Bentley iTwin platform can unlock infrastructure lifecycle assessment workflows. The Bentley iTwin platform is an open, scalable, platform-as-a-service offering enabling an ecosystem of developers to create and bring to market solutions that solve real infrastructure problems by leveraging digital twins.

Kaustubh Page, director of product management, Bentley iTwin platform, said, “We are excited to see developers in the Bentley iTwin platform ecosystem tackling sustainability and carbon

reduction challenges. Tracking the environmental impact of an infrastructure project involves a constant stream of design changes coming from various engineering disciplines. By unifying these data streams, users can quickly create a quantity takeoff report at the right aggregation level required for LCA calculations while reducing the lifecycle assessment workflow from weeks to hours. We are excited to see engineering firms build fully automated lifecycle assessment workflows for their infrastructure projects.”

Designers and sustainability engineers spend a significant amount of time assessing or reporting on the environmental footprint of infrastructure projects. With multiple design tools used in these projects, a typical lifecycle analysis can be time consuming, especially when manually exporting and aggregating data from bills of quantity and bills of material. It can also be error-prone, requiring additional verification of successful ingestion by LCA tools.

The One Click LCA integration creates time savings and improves accuracy. Users can incorporate engineering data created by diverse design tools into a single view using the Bentley iTwin platform, generate a unified report of materials and quantities and share it with One Click LCA via cloud synchronization. This integration gives users the ability to analyze environmental footprints, accelerate environmental reporting, perform project optioneering, and optimize the selection of materials and products.

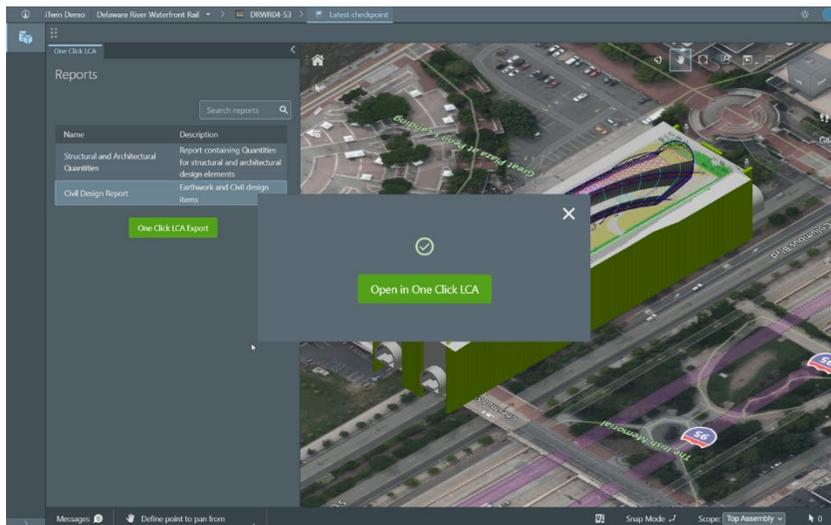
Rodrigo Fernandes, director ES(D)G (empowering sustainable development goals), said, “Infrastructure engineers are at the forefront of disrupting climate change. And our collective conscious is that climate change and its effects won’t be solved without strong collaboration and ecosystem partnerships. One Click LCA can actively contribute by helping our users accelerate their low-carbon pathways—adopting low-carbon materials and products, minimizing resource consumption, and optimizing structural design—in every type of infrastructure, not just vertical infrastructure.”

With the ability to integrate lifecycle assessment workflows with the Bentley iTwin platform, users will be empowered with new opportunities for environmental intelligence around embodied carbon and environmental footprints of linear infrastructure projects.

Panu Pasanen, CEO, One Click LCA Ltd., said, “We are very pleased to work with Bentley Systems to automate carbon accounting and reduction using the Bentley iTwin platform. Bentley’s focus in civil engineering and infrastructure with this integration make automated lifecycle assessment finally a reality also for public works. This partnership allows infrastructure designers and contractors, as well as contracting authorities anywhere in the world, to coordinate, calculate, and reduce carbon, as well as other environmental impacts of their projects. The speed and ease of the automation will also be greatly appreciated by projects pursuing third-party environmental certifications, such as PAS 2080, CEEQUAL, Envision, LEED, and BREEAM or regulatory tools. We keep working with Bentley to develop further innovations in this space, such as circularity assessment tools.”

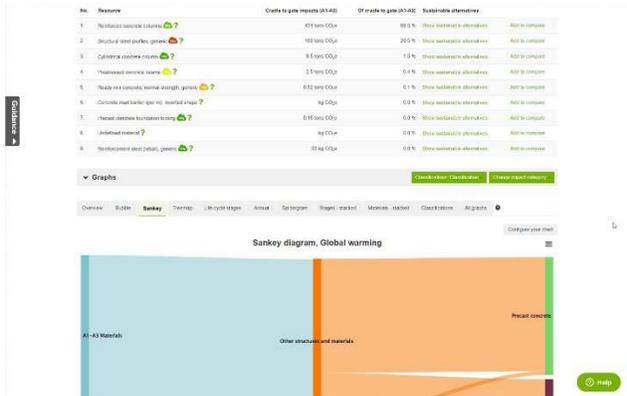
Kelvin Saldanha, associate at WSP, said, “iTwin has quickly become an indispensable platform on some of our largest projects. It has made our federated models even more accessible and has brought a new simplicity to multidisciplinary coordination, making for more robust design reviews, conflict detection, and issue resolution. The integration between iTwin and One Click LCA is a potential game-changer in offering unprecedented efficiency to our carbon calculation and lifecycle analysis workflows. We are so excited to see iTwin services continue to evolve and are keen to see how this will bring us another step closer to realizing WSP’s Net Zero ambitions.”

Image 1: Carbon Calculation Reporting – Civil Design Report



Caption: Exporting quantities to One Click LCA from an infrastructure digital twin (via the Bentley iTwin platform).

Image 2: Carbon Calculation Report



Caption: One Click LCA Carbon Report obtained from the quantities exported via the Bentley iTwin platform.

Video: Carbon Calculation Example

Caption: Workflow for exporting infrastructure quantities from an infrastructure digital twin to One Click LCA via the Bentley iTwin platform.

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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 without disrupting 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, mining, and industrial facilities. Our offerings include *MicroStation*-based applications for modeling and simulation, *ProjectWise* for project delivery, *AssetWise* for asset and network performance, Seequent'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.

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