

New Siemens solution optimizes the performance of capital assets in project delivery and operations

- **Siemens' Teamcenter software weaves a digital thread of data through an enterprise's portfolio of plants and related projects, from capital project delivery into operations, to drive new efficiencies in design, construction, and operations as well as decrease project delivery costs and timeframes**
- **Bentley Systems Inc., whose iTwin™ cloud services enable project digital twins and asset performance digital twins for infrastructure engineering, provides comprehensive and scalable data exchange and change synchronization**
- **Solution benefits the discrete and process industries, including Energy, Consumer Goods, Automotive and Transportation industries**

Siemens Digital Industries Software and Bentley Systems announce today the immediate availability of a new Capital Asset Lifecycle Management (CALM) solution for Teamcenter® software. This new solution, developed collaboratively by both companies, was created to address the challenges typically faced across an enterprise's greenfield and brownfield capital projects, including rampant delays and cost overruns, which can be caused by lack of system interoperability and a failure to appropriately leverage digitalization. These challenges can adversely affect the efficiency of the operational plant or system. To address these challenges and realize greater efficiency throughout the lifecycle of capital assets, Teamcenter CALM solutions help companies make the transition to digitalization for the planning, design, procurement, construction, and operation of capital assets. The Teamcenter CALM solution can consolidate asset data and weave a digital thread from project delivery into operations, enabling the creation of a closed-loop digital twin— the

virtual representation of a physical asset—to visualize and simulate project designs, construction execution, and operational performance.

“The Teamcenter for Capital Asset Lifecycle Management solution is the latest offering to come out of our collaboration with Siemens Digital Industries Software. Last month, our jointly-developed [PlantSight](#) cloud service went live and is now available from either Siemens or Bentley, to jump-start digital twin benefits for any operating process plant. Now the CALM solution, available exclusively from Siemens, works with Teamcenter across the enterprise to advance and improve capital program decision making,” said Greg Bentley, CEO of Bentley Systems. “It leverages Bentley’s iTwin technologies to extend digital twin advancements to the enterprise level!”

Capital assets form the productive base of an organization, and organizations invest a large portion of their funds into their capital assets, which are the facilities, plants, factories, and critical infrastructure that are the foundation of operations. Today, many capital asset stakeholders who design, construct, and/or operate capital assets have yet to digitalize their assets for improved efficiencies. They struggle to aggregate, manage and trace capital project and operational data at an enterprise level, leading to efficiency losses in capital project delivery and throughout the entire asset lifecycle. According to McKinsey & Company, 98% of megaprojects incur cost overruns or delays, averaging a cost increase of 80% and delaying delivery by 20 months. The inefficiencies that are created in project delivery are passed down to the owner/operator where they can exist for decades. New capital projects and plant modernizations continue to be completed in the same inefficient manner and the cycle repeats.

The CALM solution provides advanced capital program management capabilities as well as a simulation-driven approach to design, construction, and operations. By leveraging these new simulation and optimization technologies, capital program stakeholders can initially monitor, then improve, their assets’ performance. The solution consolidates project and operational data from disparate systems, including 1D, 2D, & 3D design and engineering data from third-party CAD/CAE/BIM tools and/or from PlantSight, forming a single digital thread of asset data that is accessed through a secure, traceable and well-orchestrated enterprise ecosystem.

The asset data is enriched by enterprise-level visualizations and insight, as well as proven data-driven enterprise business processes to manage the evolution of data, understand requirements, manage the impact of change and enable decision-support via dashboards and analytics. This combination can provide unparalleled insight and oversight for increased safety and risk management across projects. Finally, the digital thread enables the creation of a comprehensive digital twin which can be simulated and used to bring the virtual and real worlds together, creating a closed loop decision environment for the continual optimization of an enterprise's capital assets.

“We have been working closely with Bentley Systems to address the challenges faced by our customers across the process and discrete industries to efficiently deliver their enterprise's capital projects portfolio and to manage their capital assets,” said Tony Hemmelgarn, president and CEO at Siemens Digital Industries Software. “The CALM solution for Teamcenter supports a digitalization strategy and helps increase efficiencies across the organization. It can help companies digitalize their capital assets earlier in the lifecycle by establishing Teamcenter as the enterprise data management and collaboration foundation for the capital asset lifecycle, beginning in feasibility and planning through modernization and decommissioning.”

The Teamcenter CALM solution is sold exclusively through Siemens. For further information on the Teamcenter software for capital asset lifecycle management solution, please see [Teamcenter for Capital Asset Lifecycle Management](#) on our website.

Siemens Digital Industries Software is driving transformation to enable a digital enterprise where engineering, manufacturing and electronics design meet tomorrow. Our solutions help companies of all sizes create and leverage digital twins that provide organizations with new insights, opportunities and levels of automation to drive innovation. For more information on Siemens Digital Industries Software products and services, visit www.sw.siemens.com or follow us on [LinkedIn](#), [Twitter](#), [Facebook](#) and [Instagram](#). Siemens Digital Industries Software – Where today meets tomorrow.

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Siemens Digital Industries (DI) is an innovation leader in automation and digitalization. Closely collaborating with partners and customers, DI drives the digital transformation in the process and discrete industries. With its Digital Enterprise portfolio, DI provides companies of all sizes with an end-to-end set of products, solutions and services to integrate and digitalize the entire value chain. Optimized for the specific needs of each industry, DI's unique portfolio supports customers to achieve greater productivity and flexibility. DI is constantly adding innovations to its portfolio to integrate cutting-edge future technologies. Siemens Digital Industries has its global headquarters in Nuremberg, Germany, and has around 75,000 employees internationally.

Siemens AG (Berlin and Munich) is a global technology powerhouse that has stood for engineering excellence, innovation, quality, reliability and internationality for more than 170 years. The company is active around the globe, focusing on the areas of electrification, automation and digitalization. One of the largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of efficient power generation and power transmission solutions and a pioneer in infrastructure solutions as well as automation, drive and software solutions for industry. With its publicly listed subsidiary Siemens Healthineers AG, the company is also a leading provider of medical imaging equipment – such as computed tomography and magnetic resonance imaging systems – and a leader in laboratory diagnostics as well as clinical IT. In fiscal 2018, which ended on September 30, 2018, Siemens generated revenue of €83.0 billion and net income of €6.1 billion. At the end of September 2018, the company had around 379,000 employees worldwide. Further information is available on the Internet at www.siemens.com.

Bentley Systems is the leading global provider of software solutions to engineers, architects, geospatial professionals, constructors, and owner-operators for the design, construction, and operations of infrastructure. Bentley's MicroStation-based engineering and BIM applications, and its digital twin cloud services, advance the project delivery (ProjectWise) and the asset performance (AssetWise) of transportation and other public works, utilities, industrial and resources plants, and commercial and institutional facilities.

Bentley Systems employs more than 3,500 colleagues, generates annual revenues of over \$700 million in 170 countries, and has invested more than \$1 billion in research, development, and acquisitions since 2014. From inception in 1984, the company has remained majority-owned by its five founding Bentley brothers. Bentley shares transact by invitation on the NASDAQ Private Market. www.bentley.com

Note: A list of relevant Siemens trademarks can be found [here](#). Other trademarks belong to their respective owners.