

## Bentley Systems Focuses on the Digital Twin

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### Keywords

Bentley Systems, ARC India Forum, Digital Twins, Collaboration, Siemens, Connected Data Environment (CDE), PlantSight

### Summary

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Bentley Systems is a leading global provider of software solutions to engineers, architects, geospatial professionals, constructors, and owner-operators for the design, construction, and operations of infrastructure. This includes roadways, bridges, airports, skyscrapers, industrial and power plants as well as utility networks. ARC Advisory Group has been tracking the growth of Bentley Systems globally and is aware of its offerings, capabilities, and vision for collaborative partnerships.

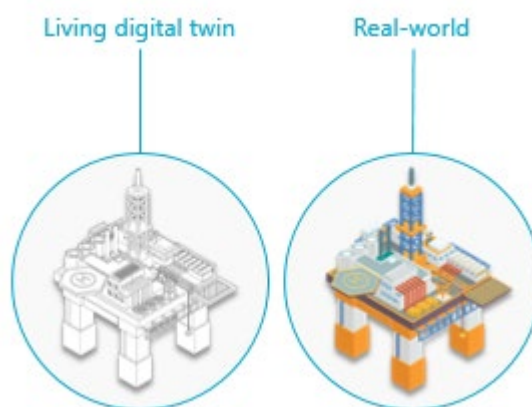
As a Global Sponsor at the recently concluded ARC India Forum, Bentley Systems made two interesting presentations. Last year, the focal point of the presentations was the connected data environment (CDE); this year it was on digital twins and successful collaborations for industrial growth. While collaborative growth has been on the company's agenda for a few years; digital twins have garnered attention only recently. To understand the company's thrust on these two areas, we met with Anne-Marie Walters, Industry Marketing Director, Process & Resources, Bentley Systems and Amit Shrivastava, Director, Business Development - Digital Twin Solutions, Bentley Systems.

### Bentley's Thrust on Digital Twins

Ms. Walters explained that with the convergence of technologies such as reality modeling, cloud computing and real-time analytics, delivering a true digital twin is now possible. At the [Year in Infrastructure Conference](#), held in London last October, Bentley focused on digital twins and key among the

list of announcements was iTwin services, a package of cloud services that contains distinct functionality sets for both infrastructure projects, which Bentley calls project digital twins, and infrastructure assets, which the company refers to as performance digital twins. Bentley wants to be known as *the digital twin company for infrastructure assets*. Bentley's cloud service can bring together the reality modeling and asset data that can be linked with OT data and visualized in 3D and 4D on the web in an open, CDE.

Digital twins require data from information and operational technologies to understand the current state of the project or asset. Combining data from engineering technologies into a digital twin enables simulations so users can try out different scenarios or predict the performance of an asset. For example, the Siemens and Bentley jointly developed solution, PlantSight, is designed specifically to enable operators in the process industries to create, visualize, and analyze the digital twins of their projects and assets.



Source: Bentley Systems

### Understanding PlantSight

Taking this further, Mr. Shrivastava said that Siemens and Bentley Systems jointly developed PlantSight, based on their highly complementary software portfolios. PlantSight is a digital solution to benefit customers through more efficient plant operations. Process plant operations are documented in data. Typically, this information is stored in multiple silos of information in various formats, which makes it difficult to access and verify reliability. PlantSight brings all this data and information together and then contextualizes, validates, and visualizes it. It transforms data into one complete digital twin – an evergreen, continuously updated digital twin. PlantSight makes it possible for every process plant owner-operator to

realize the benefits of as-operated digital twins – without disrupting their existing physical or virtual environment.



**The Author Discusses PlantSight with Bentley Systems' Amit Shrivastava and Anne-Marie Walters**

### **Benefits of PlantSight**

Owners that have invested in multiple systems and have data in many silos are looking for easier access to data for all on-site personnel; and provide management with a higher overall view to make better decisions. PlantSight can help operations managers, engineers, and EPCs:

- *Operations managers:* PlantSight provides them with a complete overview of the plant to help them make informed decisions. The solution also enables tracking and comparing global operations to spot possibilities for improvement – anytime, anywhere.
- *Engineers:* PlantSight allows engineers to access and see all the data in a single data environment. At a glance, the engineer can understand what engineering decisions were previously made – and why.
- *EPCs:* PlantSight enables EPCs to deliver more reliable project data at a lower cost to their clients.

### **Collaboration with Siemens in India**

India, the world's third largest electricity producer, predominantly uses coal, which accounts for 54.6 percent of total energy produced in the country; followed by crude oil (29.5 percent), natural gas (7.7 percent), hydroelectricity (5.5 percent) and natural gas (1.3 percent).

As is common knowledge, power plants are hugely expensive to build and the owners face numerous challenges to keep them operating efficiently. Bentley and Siemens have collaborated to provide a solution that can help reduce costs and increase availability for value across all power plant assets. Asset Performance Management (APM) for Power Plants leverages that company's domain knowledge of operating power plants and the algorithm and asset models they have created for the Power Island and BOP (balance of plant); and Bentley's CDE and APM solutions. This joint solution recently won Uptime magazine's *Solution Award for Excellence in Asset Management*.

Power plants in India can leverage this solution to improve their availability and reduce O&M cost, said Mr. Shrivastava.

### **YII 2019 Event in Singapore**

Ms. Walters said that the theme of the upcoming *Year in Infrastructure 2019* Conference in Singapore will be *Advancing Building Information Modeling through Digital Twins*. Attendees will hear about the next advancements of digital twins being deployed across many industrial sectors. In the Industrial Infrastructure Forum, for example, a panel of early users of PlantSight will share their experiences and aspirations. In addition, the finalists will present the most innovative uses of digital technology on projects from across the world. Bentley has received some very interesting submissions from India in the areas of transportation and digital cities that we hope will be selected as finalists, added Mr. Shrivastava.

### **Conclusion**

The discussion with Ms. Walters and Mr. Shrivastava made it clear that, in the digital world, companies must constantly innovate, collaborate, and move ahead with agility across geographies. The company's new focus area, the digital twin, fuses the virtual and real worlds. Digitalization brings with it a host of challenges and uncertainties; but companies like Bentley Systems and Siemens are working jointly to help end user companies on their respective digital journeys and accelerate industrial growth.

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