



Digital Construction Works Simplifies Digital Transformation and Improves Operational Efficiencies for the Construction Industry

October 21, 2019

Digital Construction Works

Provides End-to-end Digital Automation of Workflows and Processes, Technology Integration, and Digital Twinning Services for the estimated \$10 Trillion Global Construction Industry

SINGAPORE - The Year in Infrastructure Conference, October 21, 2019 - Digital Construction Works (DCW), a new digital automation, integration, and digital twinning services and fit-for-purpose solutions company formed by Bentley Systems and Topcon Positioning Group, will help revolutionize the construction industry by simplifying digital transformation. *DCW* solutions span every phase of the project – from planning to construction and operations through to asset management – creating a digital thread that connects technologies and workflows.

Contributing 13 percent of global GDP and an estimated \$12.9 trillion market by 2022, construction is the largest industry in the world and is positioned to benefit from significant value through productivity improvements. The World Economic Forum estimates within ten years, full-scale digitization could lead to savings between USD 700 billion to 1.2 trillion (13% to 21%) in design, engineering, and construction efforts. Construction organizations need capabilities to analyze historical data, forecast what might happen in the future to avoid operational issues before they occur, reduce waste and downtime, improve safety, and reduce risk and liability. Logistics and on-site materials can be managed using digital tools to reduce waste and optimize for just-in-time delivery, increasing productivity on the construction site.

DCW end-to-end services automate and optimize construction operations through the digital transformation of the asset lowering full-lifecycle asset costs. Through digital twins, you can visualize the asset, check status, perform analysis, and generate insights to predict and optimize asset performance. Fast and continuous site surveying using modern technology shortens the digital twinning cycles between the physical and digital twin, achieved in combination with automated analytics. This process is applicable for linear infrastructure, but also vertical construction or the extensive off-site modular construction.

"We see the benefits of working with organizations such as *DCW*, whose position in the market as the only end-to-end construction solutions service provider brings us confidence in how our core business targets will be kept a priority throughout the entire project," said Harry Parnell, head of digital project delivery for Balfour Beatty. "Their ability to be agnostic to technology is also important. We know that a combination of technology and process improvement will provide us with the best digital solution and make sure that technology follows the operational process change efforts, but never leads it. The use of technology in silos throughout our organization will never bring real operational, or industry change, but the use of technology with digital twin workflows and key operations processes in a focused and strategic effort will enable Balfour Beatty to reduce the gap between the office and the site continually."

[Brief Video Interview with Harry Parnell](#)

[Extended Video Interview with Harry Parnell](#)

"Balfour Beatty's vision of 25% less on-site work on projects by 2025 can only be achieved through the successful implementation of digital twin workflows and key operational processes and the use of technology. Implementing full digital construction solutions into our business, such as those provided by *DCW*, will enable us to achieve our project outcomes and business goals, including 'Zero Waste' and ensure that Balfour Beatty projects can continually improve by learning from our successes", said Harry Parnell, head of digital project delivery for Balfour Beatty.

Owners don't need to do it on their own. *DCW* can do it for them. *DCW* will help them to automate and connect disparate tools, including fit-for-purpose software and cloud services from Bentley and Topcon or, if needed, by other third parties. *DCW* can provide next best practices and enable project teams to gain visibility and insights through data and analytics to improve construction planning, execution, reduce project costs, increase safety and reduce liability, and improve capital project delivery.

Through its Partnering and Community, *DCW* has a global network of service providers who engage in projects with our customers to deliver digital transformation outcomes. The network includes technology partners such as Bentley Systems and Topcon Positioning Group and other third-party technology providers. Educational resource providers, including schools, unions, and trades, will be partnered-with to help fill the construction skills gap.

The Labs at *DCW* drive increased transparency and efficiency in construction operations. The Labs turn big ideas into solutions and serves as the construction industries R&D engine, where we prove repeatable workflows and technology integrations affecting interoperability, reporting, analytics, and digital twin delivery. *DCW* Labs use analytical solutions to extract meaning from enormous volumes of data to help organizations improve their data-driven decision making. Such solutions help support the integration of project data across disciplines and teams, at every step of the construction process, for better collaboration to identify conflicts and risks. It helps to transform the industry from its legacy document-centric paradigm to a complete digital space-time operating system. Project teams receive verification in near real-time for on-time, predictable, and on-budget project delivery.

Ted Lamboo, CEO of *DCW*, said: "The construction industry sees that digitizing their workflows will increase efficiency and avoid risk and overruns. Leveraging Digital Twins will accelerate this process, and *DCW* can support the marketplace to make this transition. Our broad spread of digital

solutions and services will support our users in this process."

"We believe that open collaboration and a commitment to improving the industry are the primary requirements for step-function advancement in digital construction, said Jason Hallett, COO of *DCW*. No single tool company can, or should, own the entire construction process as that journey only leads to a lack of innovation. *DCW* is starting with the backing of two large product companies, and we will welcome technology partnerships and service providers that can contribute to delivering a complete portfolio of digital solutions that are capable of moving the industry toward a more efficient and automated future."

DCW brings together both a combination of Bentley and Topcon colleagues, including Domain Experts from the construction industry.

Meet the DCW Leadership Team:

DCW is led by CEO, Ted Lamboo, who most recently served as a senior vice president of strategic partnerships and held previous positions including senior vice president of reality modeling and business development, , senior vice president of international operations, president of Bentley Asia/Pacific, and vice president of sales for Bentley Europe, Middle East, and Africa. Before joining Bentley in 1994, Ted served for 12 years at Intergraph Europe.

Jason Hallett, formerly a vice president at Topcon responsible for global software business development and digital construction initiatives, serves as chief operations officer of *DCW*. Jason's responsibilities span global operations, including the Labs (Digital Twin Lab and Solutions Integration Lab), project delivery, partnering, and third-party resource management. His career spans 31 years in the surveying and construction industries.

Tom Dengenis, former chief executive for SYNCHRO, a 4D construction technology provider that Bentley Systems acquired in 2018, will serve as Principle Research Officer for the new company. With 40 years of experience in construction, both on the site and in the office, and construction consulting working for one of the big-4 professional services and accounting firms, Dengenis is committed to improving the construction industry through software platform development and systems implementation.

Susan Brandt serves as vice president of business development, where she has global responsibility for business strategy, growth, and user success within Digital Construction Works. Over a solid 30-year career, Susan has built a reputation as a trusted advisor to some of the largest and most respected owner-operators, engineers, and constructors in the world. She began her career in the OG&C industry as an early adopter of 2D and 3D CAD (BIM). Before joining Digital Construction Works, Susan served as Bentley's vice president of global accounts, achieving consistent top growth results for the company. In her 23-year tenure at Bentley, she has held several leadership roles in sales, product management, and business development and was a key contributor in scaling ProjectWise, one of Bentley's flagship products, from a first-mover advantage in 1998 to a sustainable #1 market share in top ENR firms. No matter the position, Susan has and will remain the voice of the user, always taking an 'outside-in' approach partnering with users on their outcomes. We are delighted that Susan will be on the Senior Leadership Team, as the voice and advocate for our users during this time of required change in the industry.

Beth Emmert serves as senior director of marketing joining the *DCW* leadership team most recently from Bentley Systems, where she held positions including that of strategic partnerships marketing director and head of Americas marketing. Beth is an industry award-winning marketing professional whose marketing career spans over 30 years, having started in marketing and communications for a global environmental engineering, design, construction, and consulting firm. Beth's background also includes 15 years in biotech and healthcare software technology and services. She's held positions including product management, product and industry marketing, strategic marketing, communications, and global marketing responsibility for publicly traded and private start-ups. Her experience also includes M&A's and corporate restructuring.

DCW operates independently with a board of directors comprising members from both organizations. Bentley and Topcon will continue to co-develop AEC products for use across many industries. *DCW* serves as the Strategic Partner for both Topcon and Bentley for servicing the digital transformation in the construction industry.

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About Digital Construction Works

[Digital Construction Works: Company Launch Video](#)

Founded in 2019, *Digital Construction Works* (*DCW*) provides digital automation, integration, and "twinning" services, around fit-for-purpose software and cloud services from Topcon Positioning Group, Bentley Systems, and other software vendors, to realize the breakthrough potential of constructioneering for industrializing construction. *DCW* is transforming the construction industry from its legacy document-centric paradigm and simplifying and enabling digital automated workflows and processes, technology integration, and digital twinning services for infrastructure. company. *DCW* is a Bentley Systems and Topcon Positioning Group joint venture www.digitalconstructionworks.com

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