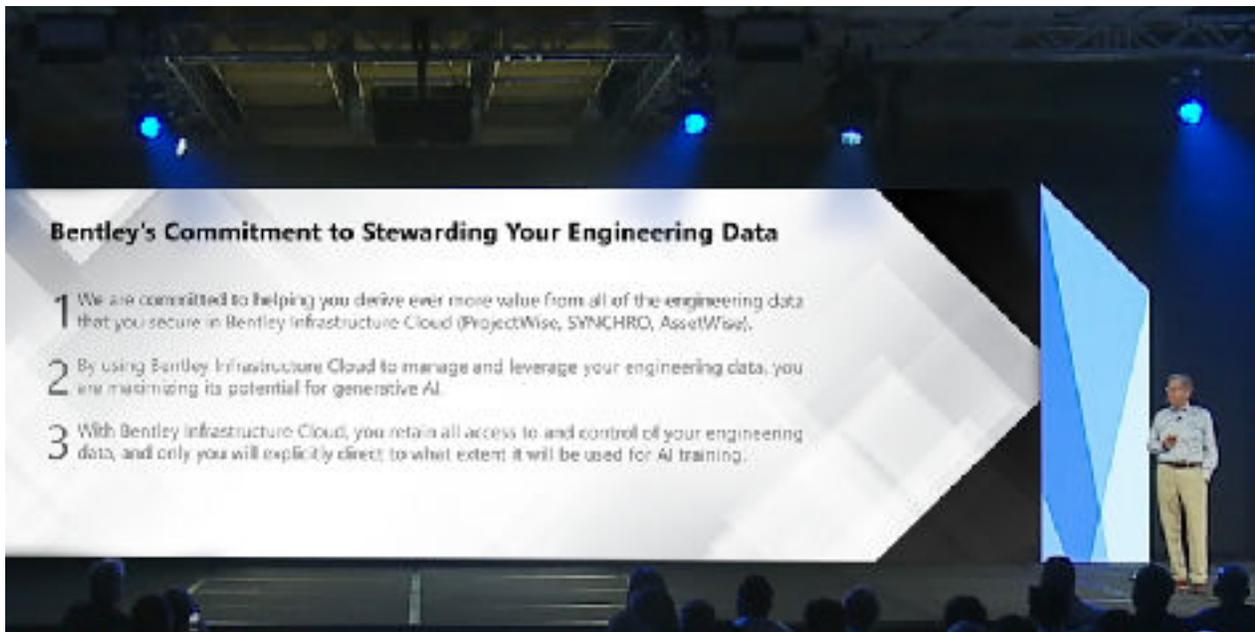




Bentley YII 2023

Highlights Spectacular Projects and Reinforces Data Stewardship



How to describe Bentley's Year in Infrastructure (YII)? It's a chance for the AEC world's media to hear from some of the most innovative infrastructure projects on the planet, how they use technology from Bentley Systems and others to bring these assets to life, and for Bentley execs to talk a little about how they view the future of technology. It all ends, as you probably know, with a gala dinner at which the Year in Infrastructure awards finalists find out who among them wins the ultimate prize in their categories — even as all of the project teams are recognized and gain visibility from their peers across the industry.

I was a juror again this year, and it's only gotten more challenging to determine which projects should be advanced to the finalist stage and invited to present in person at YII, and then, after the presentations, to pick a single winner. A couple of words of advice:

- **If you're thinking of applying, DO!** Yes, it takes time to complete the paperwork, but you will learn about your project as you try to answer the application's questions, and the recognition you get will advance your career.

- Please **read the application and answer its questions** to the best of your ability. It pains judges when we cannot advance a great project because something crucial is missing — usually savings or other return-on-investment metrics— so answer everything. If you can't answer a numbers-based question (How much time did you save?), think about an alternate answer: give a percentage instead of a definite number.
- **If you advance to the presentation stage, don't be scared.** We want you to succeed — even other finalists do; there's no sense of us or them here— so do your best. We all understand the struggles of someone for whom English is a second language and are so impressed that you even tried. Put more words on your slides so we can read your comments; rely on the translators to help you. Do, however, be aware of the time limits — Bentley strictly enforces these— and budget time to ensure you get through all your presentation content.



OK. Enough of that. If you didn't already get the message, these awards are a fantastic recognition of project excellence. Apply already!

So, **what did I learn from the projects and sessions** I attended? Lots. Main takeaways:

- Bentley CEO Greg Bentley and many attending companies highlighted the **talent shortage across AEC**. One in ten (1/10!) engineering and design positions are unfilled because there just aren't enough applicants for those jobs. (And it's worse in the construction trades.) **The only way to make up for some of the slack is by the intelligent application of technology.** Mr. Bentley said that he sees engineers increasing their time on Bentley's tools by 23 minutes a day (as measured by software usage — so the workday is likely more than 23 minutes longer). Many are worried about technology making workers obsolete, but in AEC, **many projects wouldn't be possible without today's technology.**
- **Doing more with less**, therefore, is critical to success in today's AEC project environment. Mr. Bentley told us that **this year's projects said they saved 18% of the project's hours by adopting digital processes.** That's significant — and it appears from the entries I saw that "extra" time is spent on design, construction, and process innovation.

- **Artificial Intelligence (AI)** was, of course, a hot topic. Mr. Bentley said this, which is reinforced by the title image: “We are committed to helping you derive ever more value from all of the engineering data that you secure in Bentley Infrastructure Cloud (ProjectWise, SYNCHRO, AssetWise) ... **With Bentley Infrastructure Cloud, you retain all access to and control of your engineering data and only you will explicitly direct to what extent it will be used for AI training.**”

This matters because AEC companies have decades’ worth of expertise locked in that data, and they don’t want to share with their competitors how they cost and bid on projects, the details of proprietary processes, and so on.

- With those promises made, Mr. Bentley said, “generative AI is a reminder that there’s **unrealized value in the data** we’re accumulating, often in ways we can’t anticipate.” Some early productized examples are bridge and dam inspections, which use AI to train an image processing algorithm to look for cracks and other imperfections. Look for more over 2024.

- **Subsurface rules.** I presented in an energy-focused session and got to hang out with Seequent’s CEO, Graham Grant, before and during YII. Bentley acquired Seequent in 2021 and since then, Seequent has also made acquisitions, most recently Flow State Solutions for its geothermal simulation software. What Seequent brings to Bentley is massive and important: mining, geothermal, and other verticals specifically rely on subsurface models for their businesses; many industries are cyclical, but all are critical for modern product and energy transitions. But Seequent is also more prosaic: its solutions apply to every civil engineering project, enabling engineers and geotechnical teams to work together to manage what Mr. Grant calls “ground risk.” Just look at images on CNN of sinkholes, and you’ll know what he’s talking about. (I wrote about the Flow State Solutions acquisition [here](#).)



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- GREG BENTLEY

- There were relatively few product announcements at YII 2023; the most important one, to me, is that **Bentley's iTwin format will be built into its modeling solution, MicroStation**. MicroStation is the basis for all of Bentley's vertical solutions, so by extension, this means that iTwin workflows will be embedded in OpenRoads, OpenBridges, etc. Bentley CTO Julien Moutte explained it this way: "MicroStation remains the MicroStation that users have always used; it produces DGN files. What's new is a plug-in that synchronizes with an iTwin locally on your machine. [The user] is not [making] a choice of file versus database. The [DGN] file and the database are created and synchronized at the same time. It's transparent for you as a user." This is a big deal because it means that **customers can transition from file-based DGN-based workflows to iTwin-based workflows when they're ready**. Why does this matter? Because files are, as company founder Keith Bentley said a couple of years ago, "dark data." Stuff is inside, and no one knows precisely what or who last touched it — we only see when the file was last accessed. Databases are granular and can be shared and accessed at many different levels. They lend themselves more readily to collaboration, change trading, history-like roll-backs, and much more that is impossible with files.

“MicroStation remains MicroStation ... The file and the database are created and synchronized at the same time. It's transparent”

- JULIEN MOUTTE

This year's YII was held in Singapore, the poster child for AEC digital twins. During the awards banquet, I was honored to chat with Dr. Victor Khoo, Director of Survey and Geomatics at the Singapore Land Authority. The Authority is the driving force behind the digitization of Singapore's infrastructure, including creating a **nationwide reality mesh** that's accurate to 0.225 meters (from aerial surveys; a YII award winner a couple of years ago). Dr. Khoo told me that Singapore's commitment to digital twins is genuine and not just something said at a technology conference about digital twins — it makes a fundamental difference in the lives of its residents. It also creates a more resilient city-state even as climate change threatens this island nation's infrastructure. Singapore is not typical at all, but there are definite things to learn from their approach.

For replays of the event, go to <https://www.bentley.com/events/going-digital-awards/> . In the Energy breakout session, I highly recommend the Seequent content listed as Energy Chapter Two, Infrastructure Intelligence Foundations, here: <https://www.bentley.com/events/going-digital-awards/highlight-videos/> . And, of course, wander through the finalists' project descriptions, here <https://www.bentley.com/events/going-digital-awards/winners/>.

Note: Bentley graciously covered some of the expenses associated with my participation in the event but did not in any way influence the content of this post. The cover picture is of Greg Bentley during his keynote presentation, highlighting Bentley's commitment to customer data stewardship. I think it's important for CEOs to make statements like this and then to be held accountable for their implementation. All images are by Bentley Systems.

This post originally appeared on Schnitger Corporation Hot Topics Blog, [schnitgercorp.com](https://www.schnitgercorp.com), on 10 November 2023.