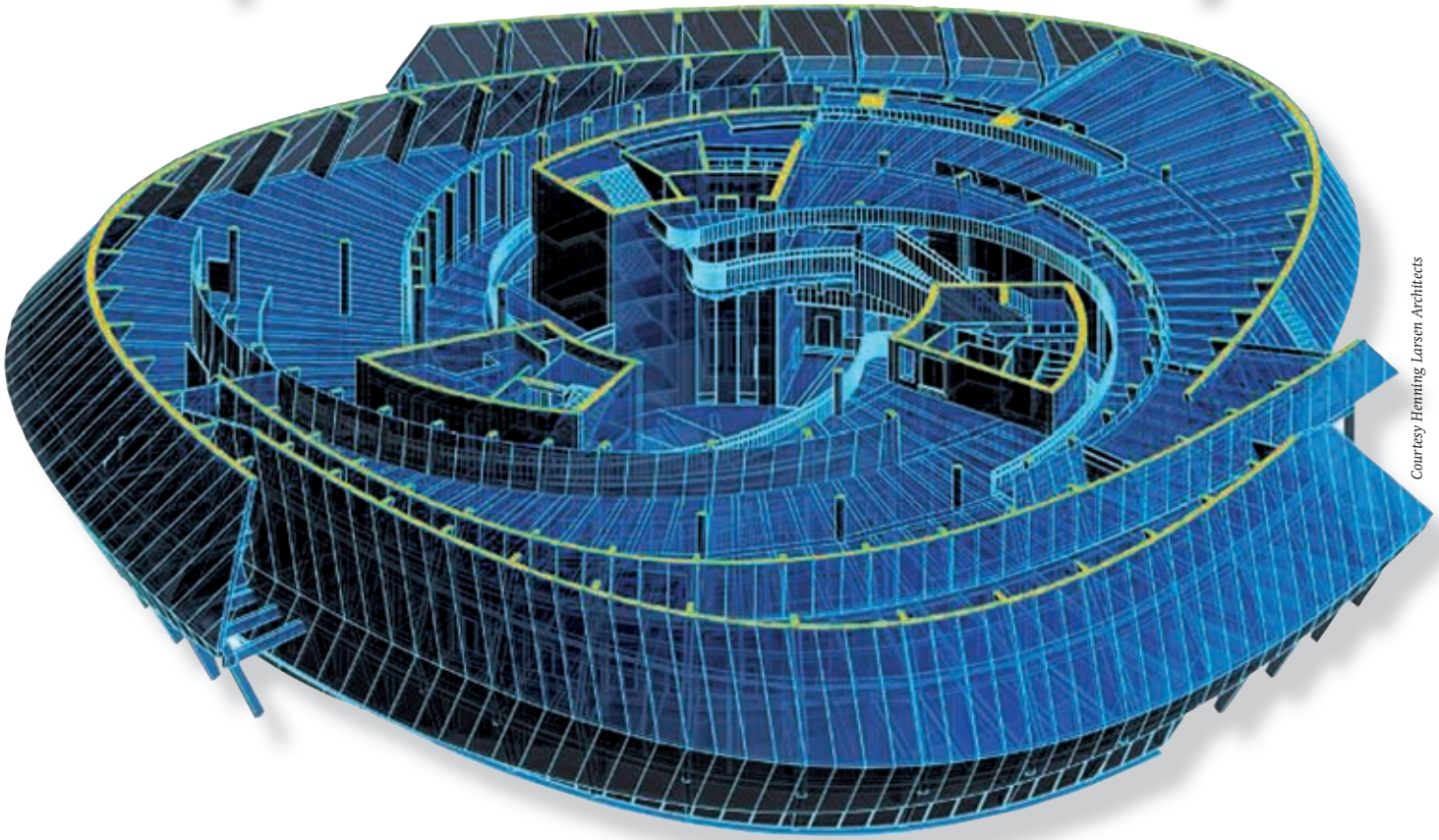
The Continuing Story of MicroStation

European Launch of Bentley V8i



Courtesy Henning Larsen Architects

The main news from the Bentley contingent seems to be enhancements in design modeling, dynamic views, geo-coordination, and project performance within an integrated platform. The V8i software portfolio is built on those five core capabilities. Specific capabilities found in MicroStation V8i that Bentley found noteworthy include the integrated print organizer and the iterative Luxology rendering.

By Remco Takken and Eric van Rees

In November 2008, Bentley launched V8i, the most comprehensive software portfolio for infrastructure professionals ever delivered in a single release. Encompassing products for all of the solution communities served by Bentley, the V8i portfolio leverages and extends the core capabilities of its interoperability platform to enable integrated project delivery.

V8i's interoperability platform enables Bentley applications to persist, share, and visualize infrastructure asset data in a common way, promoting collaborative workflows. The resulting project environment offers engineers, architects, GIS professionals, constructors, and owner-operators choices across discipline-specific integrated software and of course, services incorporated in Bentley solutions. Developed as a collective whole, the V8i software portfolio facilitates workflows among multiple disciplines and across project teams throughout the infrastructure lifecycle.

Interoperability

The latest developments within V8i are meant to give the user increased information quality, enhanced infrastructure asset quality, improved operational safety, reduced project costs, and shortened delivery times.

The focus of the V8i portfolio is on interoperability. Used together, the components enable broader reuse of project and asset information generated during the design, construction, and operation of infrastructure, and enhances the ability of project teams to choose among multiple software offerings.

'Intra-operability' occurs across and between closely-coupled Bentley's V8i products without loss of information. Inter-operability comes into play when dealing with necessarily distributed projects where participants reuse their work with that of other practitioners using software based on DGN, PDF, DWG, SHP, ISO 15926, IFC, and other industry or de facto standards.

Core V8i Capabilities

During Bentley's European launch of V8i, the core V8i capabilities within the portfolio were emphasized. They kept coming up in all presentations. These are intuitive design modeling, interactive dynamic views, intrinsic geo-coordination, incredible project performance and of course the interoperability platform. Specific capabilities found in MicroStation V8i that Bentley found noteworthy include the integrated print organizer and the iterative Luxology rendering.

Impressive Real-life Example

One of the most impressive examples seen during the launch events in Europe was a project designed by Henning Larsen Architects. The genesis of this unique building executed in the Middle East, in the form of a rose, was described showing how the five core capabilities of the V8i portfolio benefited the designers. (see Imagery) The challenge for Henning Larsen Architects was to create a sustainable design highlighting passive energy, natural ventilation and re-use of water. Added to this, local materials had to be used.

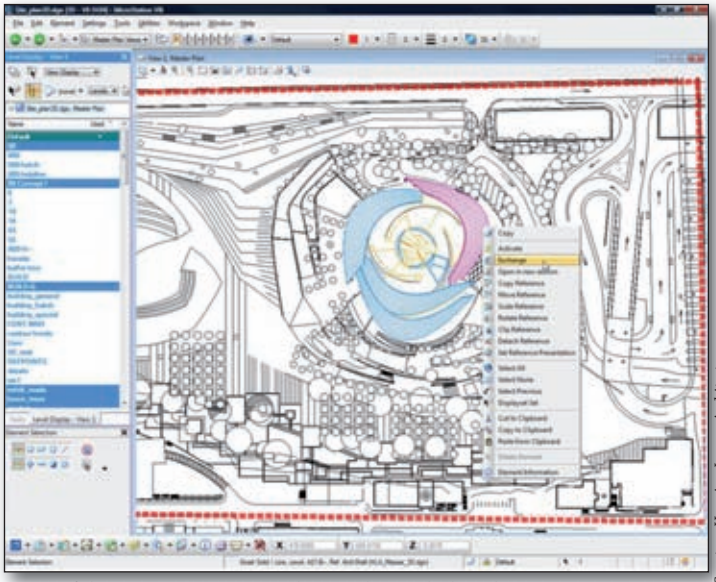
The project team had to do research for alternative designs, decide between form and function and make thoughtful decisions. For this, they used GenerativeComponents, an associative, parametric modeling system for architects and engineers to automate the design process and to speed up iterations. GenerativeComponents can be used as a stand-alone application, or within a MicroStation 3D workflow or with other Bentley interoperable applications like BIM, Civil and Plant.

Intuitive Design Modeling

Intuitive design Modeling in V8i lets users seamlessly transition from conceptual modeling and visualization to complete architectural and engineering models in a single environment. These innovations help solve processes that involve disparate software tools, which can waste time and result in errors and data corruption. For example, the new GenerativeComponents, surface, and push-pull modeling tools enable teams to capture innovative thinking and transition rapidly from concept to completion. In addition, the parametric and associative modeling tools allow users to iterate more easily on design alternatives and answer more questions earlier in the process. Through this flexible toolset, infrastructure professionals can explore and embrace innovations to improve the performance of the projects and assets their teams deliver.

Interactive Dynamic Views

V8i's interactive dynamic views make working in 3D more interactive and more informative. V8i builds on and extends existing approaches to solving the problem of drawing coordination for complex models by actively supporting the workflows of distributed multi-disciplinary teams all working on the same project. These capabilities help users avoid the time consuming and costly activities associated with coordinating changes between 2D and 3D documents. V8i will help users simplify the 3D model creation process. Employing something called 'display sets', V8i users can easily change the way different parts of a 3D model are displayed in the same working view to interactively visualize and re-symbolize 2D and 3D designs in real time.



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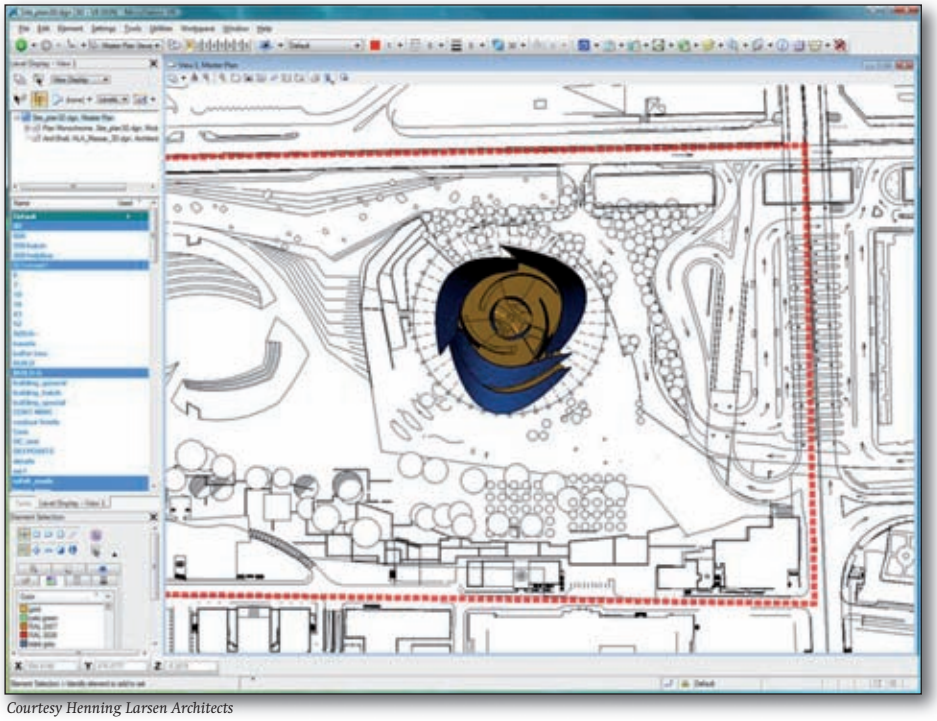

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Intrinsic Geo-coordination

Infrastructure projects need collaboration between many disciplines, and also, different coordinate systems to locate them accurately in the real world. This capability lets infrastructure professionals synchronize and coordinate true and projected coordinate systems, use a single interpretation system for universal and industry-standard reference sources, reducing the risks of errors on site. Geo-coordination is an interesting example of technology developed by Bentley's geospatial development teams making its way back into the desktop platform - MicroStation. Bentley talks a lot about 'Advancing GIS for infrastructure' and this is a good example of the strategy being put into action.

Incredible Project Performance

According to most software vendors, project performance will always be 'incredible' when you buy their stuff, and Bentley makes no exception in using this claim. During the launch of V8i we were told that all kinds of users will work 'faster and collaborate more effectively' when using V8i to make the process of work sharing across multiple, distributed offices 'easy and efficient', even for the world's largest infrastructure projects. V8i delivers a series of productivity and accessibility gains through accelerated file transfer between locations – with ten times performance gains being the norm for average files sizes – and full read/write integration with Microsoft SharePoint provided for improved overall usability. Bentley has traditionally focused on larger user organizations so performance in distributed work environments is a hot issue for them.

Iterative Luxology Photorealistic Rendering

The new Luxology rendering engine, incorporated in MicroStation software and available to all MicroStation-based applications, provides near-real-time rendering in the design application. From now on, there will be no more data transfers needed to external renderers. This saves time and improves the quality of rendered images for stakeholder review and buy-in. Most importantly, the integration of the Luxology rendering engine within MicroStation widens the practical use and application of rendering for organizations, because high-quality renderings and visualizations may be developed in a fraction of the time it takes in other third-party applications.

The inclusion of Luxology dates from August 2008, when Bentley licensed Luxology's photorealistic rendering technology. There will be an even deeper integration with Luxology in future releases says Bentley.

Integrated Print Organizer

The print organizer presented during the European launch in November 2008, seemed to be aimed at users who still invest a lot of time in preparing and producing single sheet prints. The integrated organizer streamlines 'publishing workflows' and reduces manual steps, thus accelerating workflows. Some of the time saved, can instead be used to enhance the quality and consistency of the needed plots. For users who require batch and scheduled production of paper deliverables and/or electronic and intelligent work packages from CAD files and Microsoft Office documents, Bentley offers ProjectWise InterPlot V8i.

ProjectWise Project Team Collaboration

Bentley's ProjectWise software connects people and information across project teams, wherever they are located. This project collaboration system provides OnLine and OnPremise deployment options to ensure the right fit for teams of all kinds and sizes that may be tightly integrated with existing Microsoft SharePoint implementations

Richard Zambuni, Global Marketing Director Geospatial says "Any company that shares work across offices should take a close look at ProjectWise; you don't have to be a very large organization to benefit from the benefits of a collaboration environment. If you want to banish data silos and ensure consistent, auditable workflows in multi-office organizations, then you need ProjectWise. We are seeing a steadily increasing penetration of ProjectWise across all of our different addressable markets – and our users always see a payback on ProjectWise implementations."

Bentley offers both OnLine and OnPremise deployment options for ProjectWise right now. Regarding the OnLine option, Zambuni said: "Bentley provides this as a managed service to help organizations that don't have the resources to administer a ProjectWise implementation, take full advantage of the benefits of ProjectWise."

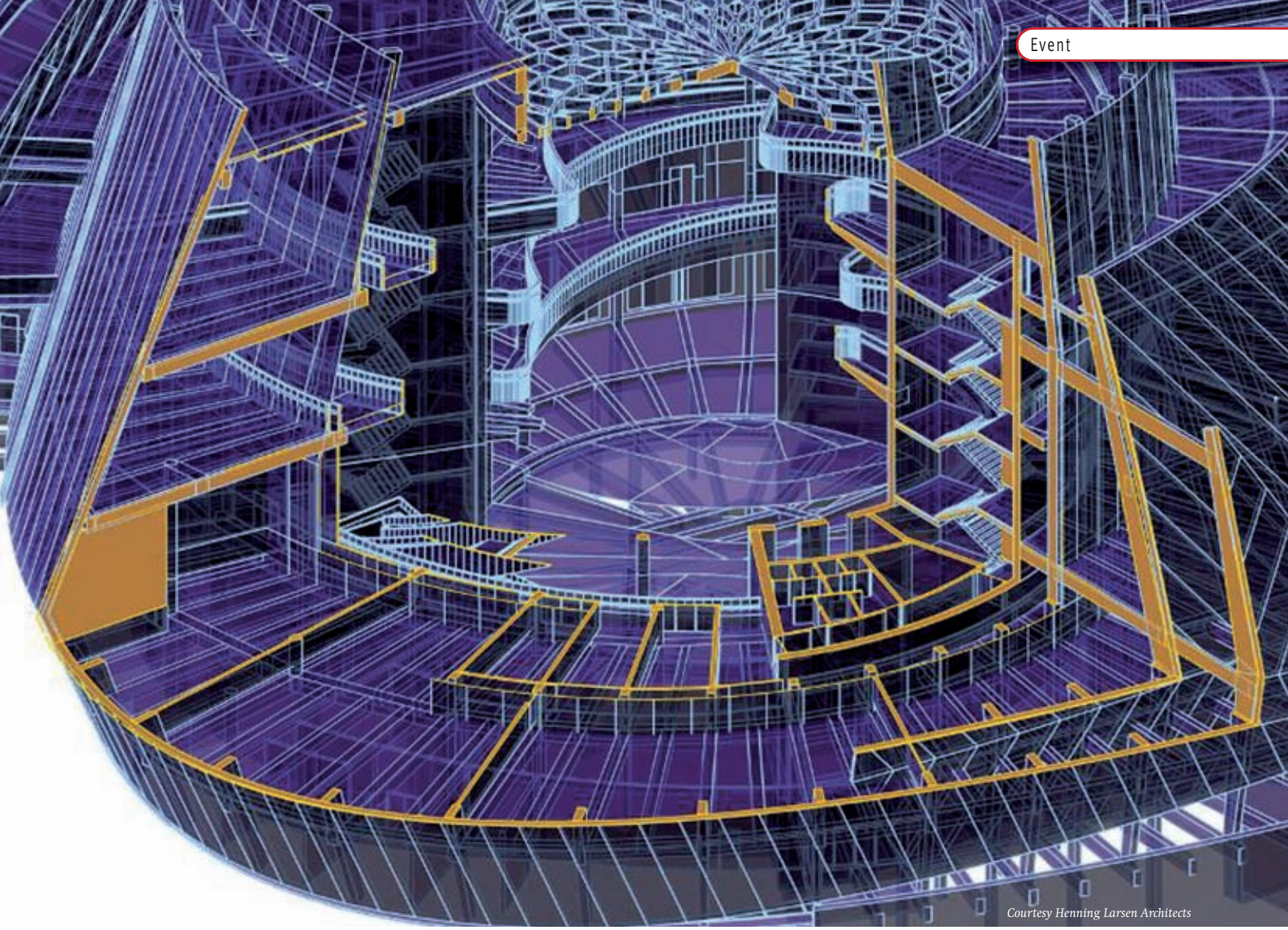
ProjectWise Delta File Transfer

Now, with ProjectWise V8i, only the changes within a file will be transferred when a file is extracted a second time or repeatedly. Zambuni explains: "This makes file transfers much faster and this is a real benefit for complex models where the file size will be substantial - download times are shortened by several orders of magnitude."

Geospatial Capabilities in ProjectWise

With the release of ProjectWise V8i, ProjectWise Integration Server now ships with a standard map-based interface – this is another example of Bentley's geospatial technology enriching platform technology – this time on the server side.

For more advanced component indexing, and spatial indexing and navigation there is ProjectWise Geospatial Management. At the top of the hierarchy, Bentley Geospatial Server which bundles several server side products to deliver an enterprise GIS platform to organizations. Bentley Geospatial Server includes ProjectWise Geospatial Management, ProjectWise InterPlot and the ProjectWise Connector for Oracle.



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"ProjectWise is the perfect environment through which to manage heterogeneous engineering documentation", says Zambuni. How are all these different file formats being managed? Zambuni explains: "We're not doing file extractions or transforming them in any way. In that respect, we're not doing ETL (Extract, Transform, Load). There would be data loss. A better answer is working with your current data. We're not changing the original format at all. We support heterogeneous file types and they don't require file transformation. Our approach is a federated approach. We accept the data in its original form and federate it at a higher level. No matter what geospatial data store or other database is being used, you'll be able to search and find engineering documentation through ProjectWise. We've moved away from the database approach. We believe that federated databases are the future and better than the 'mother of all databases' approach."

The Economic Situation

COO Malcolm Walter seems well aware of the current economic situation. He cites Dennis K. Berman in one of his Wall Street Journal articles, saying: "...Perhaps America would do well to have a few more people thinking about engineering actual structures rather than the "structured products" of Wall Street. The market has indeed spoken. Its message is clear: It is time to get back to work. Real work."

He also points out to his audiences that governments all over the world consider investing in infrastructural projects in order to keep the economy running.

Sustaining Infrastructure

Keeping in tune with the current drive within organizations to become 'sustainable' or even 'green', Bentley not only wants to sustain our environment, but also sees an opportunity to sustain 'our society, our profession'. This might sound a bit pompous, but it is especially true when you think about the dual challenge which Bentley users face these days. There are not only environmental sustainability requirements but also global economic developments and an ageing infrastructure to deal with. The need for more and better infrastructure all over the world clashes with a workforce that is diminishing due to mass retirement and a shortage of 'young blood'.

Walter says: "It isn't hard to imagine a world infrastructure without Information Modeling. You can see examples of bridges and buildings where not enough engineering intelligence was applied. They failed and fell apart. On the other hand: too much engineering would also be a waste." According to Walter, we are ready for a new term: ROI -cubed (ROI3), with the three 'I's' standing for Interoperability, Innovation and Investment.

Bentley's Joe Croser takes this up when he runs through the main facts concerning V8i. He emphasizes that no DGN file format change takes place in the process, and that, just as with earlier developments within Bentley's portfolio, there's still a seamless connection with earlier versions of MicroStation. Also, ProjectWise deals well with earlier versions of applications. In line with what Malcolm Walter said about the global economy, Croser thinks 'there never was a better time for an upgrade'. He sees that during peak periods, organizations are simply lacking the time, while there is the need to innovate their business cycles and processes. Croser concludes "During the 'quieter' periods, there's still the need, but there's also more time."

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