

# Visualizing the Future at the AVEVA World Summit

## *CIMdata Commentary*

### *Key takeaways:*

- *The AVEVA World Summit drew a global audience of senior leaders and decision-makers from the AEC and shipbuilding industries*
- *AVEVA announced several interesting new products, including their first ever mobile application, AVEVA E3D Insight, and the AVEVA Activity Visualization Platform, which relies on gaming technology to deliver advanced visualization capabilities*
- *Visualization and visual decision making are central to AVEVA's strategy and offerings, and their early solutions show they are off to a strong start*

CIMdata was pleased to attend the AVEVA World Summit in Boston, MA on October 30 to November 1, 2013. AVEVA is one of the AEC market leaders tracked by CIMdata in our annual PLM Market Analysis Report. The AVEVA World Summit is a business meeting focused on influencers and decision-makers, with presentations by AVEVA and selected customers. This Summit attracted over 340 delegates; more delegates were from Asia-Pacific (36%) than from the Americas (33%). All were treated to Boston's celebration of their World Series title the first night of the event.

The AVEVA World Summit is one of three levels of customer and market engagement the company hosts each year. At the C-level, AVEVA holds AVEVA World Executive Councils, small gatherings of a dozen or so senior customer executives where AVEVA solicits requirements and issues to support strategy development. At the user level, AVEVA conducts AVEVA World User meetings around the world (18 according to AVEVA.com), held in countries where they have operational offices. These user meetings can be as large as 200 people, and focus on knowledge transfer and regional/country operations.

Richard Longdon, AVEVA's CEO, kicked off the event with an update on the company and made some interesting product announcements. In business for 45 years, AVEVA grew strongly the last few years even with the global recession. Their 1500+ employees include many recent hires and additions from acquisitions, with their employee numbers up 25% in 2012-2013. Mr. Longdon provided some insights into their planning process, "horizon planning," which he claimed are central to their success:

- 60% of R&D is invested in core products, on which they make the most revenue.
- 30% is invested in growth areas, a much more difficult task, one that includes significant planning and iterative development to get the new solutions right.
- 10% is invested in research, which he claimed was "only for the brave hearted." Many of these projects are ultimately stopped, but AVEVA learns from each one.

In December 2012, AVEVA launched AVEVA Everything 3D (E3D). Mr. Longdon cited E3D as a milestone for the company. This offering is a combination of technologies acquired and built in-house. (In a later presentation, their CTO said that E3D provided 15x the performance of their previous generation 3D offering, AVEVA PDMS.) Mr. Longdon said this milestone product is seen as game changing for AVEVA, and supports their focus on "lean project execution."

At the Summit, AVEVA announced AVEVA E3D Insight, their first ever mobile application (“app”), for use by both Engineering, Procurement and Construction (EPC) and Owner-Operator (OO) customers. This app, Mr. Longdon claimed, liberates the 3D model for use across the lifecycle for all stakeholders. They are not targeting designers, per se, but focusing on collaborators. With this native Windows 8.1 app, users can navigate, view, annotate, and submit approvals. It provides live access to real data, streamed from an AVEVA database. Based on the demonstrations at the event, massive models can be loaded, such as huge offshore platforms. The app is configured so that if you lose your connection, you can still work using the data on the tablet. Their original focus was on EPCs, believing it would help to smooth their business processes by providing the right information at the right time in the right context. But OOs who have seen it are also very interested. It will allow OOs to see and collaborate on early views of the design. This app can be supported with in-house infrastructure or through Microsoft Azure.

In December 2012 AVEVA acquired Global Majic, a Huntsville, AL-based gaming company to strategically leverage their 3D technology. (This move is consistent with similar actions in the mechanical PLM space over the last few years and others in the AEC space are emphasizing 3D visualization as well.) Since the acquisition, they have been working to integrate the new technology into their portfolio. At the Summit, they announced the AVEVA Activity Visualization Platform, a realistic simulation environment that is coupled with their engineering tools and data. This supports their OO clients need for enhanced training and simulation for their operating staff. With this new solution, they can familiarize users with an asset, conduct virtual training, and even use it to test options in maintenance and operations procedures. They and their customers envision applications well beyond maintenance, such as employing these visualization techniques back into design and engineering. AVEVA has already employed augmented reality techniques, bringing other data into the simulations, but acknowledge they are just getting started.

Visualization is becoming more strategic and pervasive in AEC and the AVEVA portfolio, so it was appropriate that they chose Dan Roam, author of *The Back of the Napkin*, to talk about visual thinking. According to Mr. Roam, more than half of our brains are dedicated to visual processing, and that we need to take better advantage of our visual system which includes our eyes and mind’s eye. Even the most complex problems can be decomposed visually, claimed Mr. Roam, and drawings work for humans because we “see” in 6 ways: who and what, how many, where, when, how, and why. He used an example from the Boeing 787 program, where Boeing created a visual language to collaborate and a network structure to support it across their far-flung design and manufacturing partners. In conclusion, Mr. Roam challenged the audience, offering an iPad Mini to the person who could best depict a scheme to move Mt. Fuji, all on a single napkin.

Three tracks, for EPCs, OOs, and shipbuilders, included a number of very interesting presentations from around the globe, too many to mention in this commentary. (Our attendance at this event focused on the EPC-OO tracks.) One of particular note was from Korea Southern Power (KOSPO), who is building their own AVEVA NET-based PLM system for managing EPC-O&M (Operations & Maintenance) technical information for thermal power plants. Their Cyber ATP-1000 system must support data from multiple mechanical CAD systems, plant 3D systems, lists, intelligent P&ID, and other sources. This 57-month project is about 50% complete, and looks promising, but there is much work still to do.

In the closing plenary, Dave Wheeldon, AVEVA’s CTO and Head of their Engineering & Design Systems group provided a look into the future. Beyond 3D, AVEVA will expand their solutions to help their customers to simulate around:

- The planned schedule and sequencing of construction
- The materials and costs associated with the on-going effort
- The operations and maintenance requirements

These capabilities are consistent with suggested extensions to Building Information Modeling (BIM), where 3D is extended to 4D (time—to visualize the entire duration of a series of events and display the progress of construction activities through the lifetime of the project), 5D (cost—enables the various participants to visualize the progress of construction activities and its related costs over time), and possibly 6D BIM (handing over 5D data for use in facilities management). Reaching these goals will help AVEVA to attain their overall corporate objectives, and to support lean project execution.

## **Conclusion**

CIMdata's definition of PLM has included AEC for many years, and it is interesting to compare this segment and the more mechanically focused lifecycle solutions in the rest of our definition. In some ways, AEC is still far behind, with many partners, business processes and authorities requiring complete 2D documentation and having little interest in 3D. In other areas, AEC is facing the same challenges, such as trying to capture and maintain product and process information across very long lifecycles, where 70 to 100 year operational lives are not uncommon. Similarly, AEC contracts resulting in the handover of the IT system housing the asset data face the same issues as aerospace & defense companies delivering an aircraft carrier and its (virtual) mountain of documentation. Finally, in some ways AEC is ahead, particularly in leveraging mobile technologies for the “deskless” worker. Their use cases are perfect for mobility, and more of their workers spend their hours away from workstations and networks. AVEVA introduced some impressive new offerings at the 2013 AVEVA World Summit, but stated they are just getting started. CIMdata looks forward to next year's event!

## **About CIMdata**

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