

AVEVA Inspires Customers to Engage

CIMdata Commentary

Key takeaways:

- *Over 330 customers from 45 countries converged on the AVEVA World Summit in Dubai on 20-22 October 2015*
- *AVEVA's acquisition of software assets from Schneider Electric will result in a much larger company, serving more industrial markets that will reduce AVEVA's traditional reliance on the oil & gas industry*
- *AVEVA extended their support for visual decision making by introducing AVEVA Engage, a new solution that puts lifecycle data in context and makes it more accessible to all types of users supporting the design, construction, and operation of complex assets*

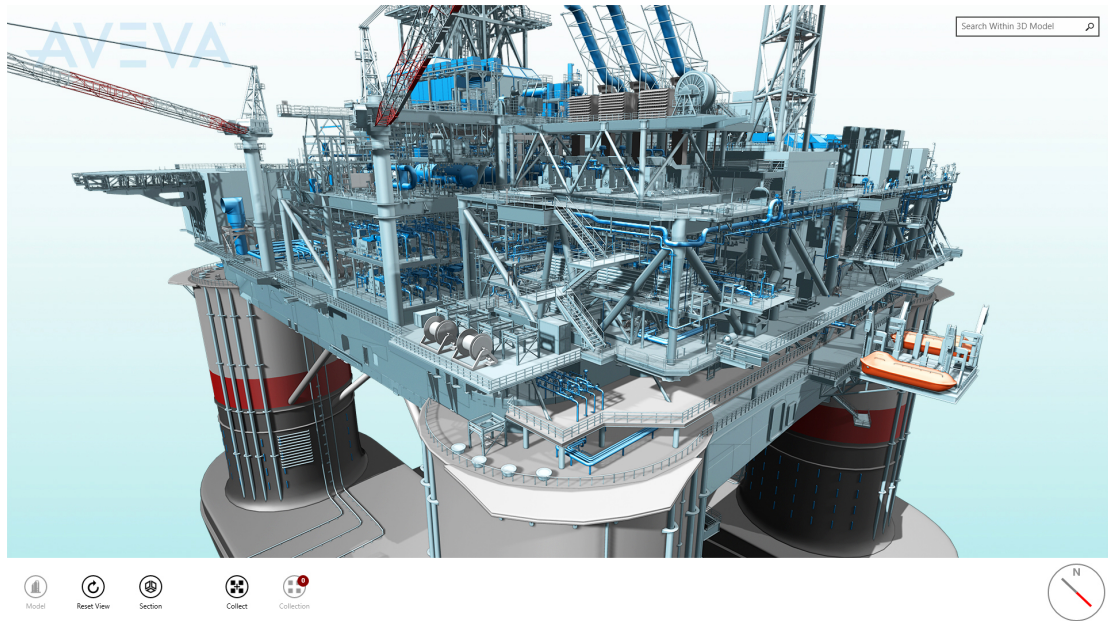
Over the last decade, Dubai pursued a vision to become the world's international trade and transit hub with significant investments in infrastructure, regional development, and airlines. AVEVA took advantage of this new East-West nexus to convene their 2015 AVEVA World Summit on 20-22 October 2015. According to the company, over 330 customer delegates from 45 countries registered for this year's event, including about 100 people from the local region. Based on conversations with AVEVA executives, they took advantage of being in Dubai to hold several other regional meetings earlier in the week.

The AVEVA World Summit focuses on middle managers that sit between the executives (who can attend AVEVA World Executive Councils) and users (who can attend AVEVA World User Meetings in various locations). The agenda opened and closed with plenary sessions, and broke into parallel tracks for Engineering, Procurement and Construction (EPCs); Owner Operators (OOs); and shipbuilding for much of the two-day event. AVEVA stated that 56% of attendees focused on the EPC agenda, 26% OO, and 18% shipbuilding. Each track included a good mix of presentations from leading AVEVA customers and presentations by AVEVA staff.

Richard Longdon, AVEVA's CEO opened the event. In July 2015, AVEVA and Schneider Electric announced their intent for AVEVA to acquire the software assets of Schneider Electric, which include Invensys, a leading industrial automation player¹. Mr. Longdon claimed that after the deal closed he would be the CEO of a much larger AVEVA, with £500 million pounds of revenues, nearly reaching the FTSE 100. The combined product offerings would span from process simulation to operations, training, real time data management, and the human-machine interface (HMI) to control equipment. This deal will also expand their presence in other verticals including chemicals, food and beverage, mining, water, and pharmaceuticals. This could not come at a better time for the company, with sagging oil & gas markets (45% of AVEVA's current revenue) making drilling and production rig investments less attractive, affecting demand for AVEVA's software. In the deal, AVEVA will issue new shares equaling half of the new company. Schneider Electric stated their desire to report consolidated revenues, and will pay an additional £550 million for a majority 53.5% stake. After the deal, AVEVA will remain independent, with their financials reported with Schneider's results. Early reports said that the closing would happen at the end of 2015 or early 2016, and Mr. Longdon did not comment further on timing.

¹ This article provides more details on the transaction: <http://www.automationworld.com/process-control-software/schneider-join-its-software-assets-aveva>

Mr. Longdon also provided a high-level view of AVEVA’s strategy and offerings. AVEVA’s goal is to provide an information and knowledge hub for their customers. According to Mr. Longdon, there is a wealth of information generated during the design stage that is still not available to other users and organizations later in the lifecycle. Previewed in Boston two years ago, AVEVA introduced their Project Voyager touch-screen user interface (UI) at last year’s Summit, a UI that showed how information can be linked and accessible, using the visualized asset at the core of the interface. CIMdata research shows that such contextual visualization and decision support, powered by ready access to all types of information, is required when designing and executing complex projects. For AVEVA, this is the future of their approach.



**The Digital Asset is the User Interface in AVEVA Engage
(Courtesy of AVEVA)**

Context was also the theme for the External Keynote from Danny Forster, principal of a leading global architectural firm who is better known for his “Build It Bigger” series on the Science Channel. After doing 80 episodes in over 60 countries, he saw a common theme: well-executed projects fit best within the context of their sites. Examples included a Hong Kong bridge designed to withstand typhoons, tunnels under the Andes to pipe water from the wet climate of eastern Chile to the dry west along the Pacific coast, and mining gold 2 to 3 miles deep in South Africa. According to Mr. Forster, the new airport in Mumbai has an enormous covered outdoor space in part to accommodate the Indian tradition of 60+ people seeing family members off at the airport.

His most noteworthy example—one that showed both the power of design and data management tools and the importance of context—was the fabulous design of the Yas Viceroy Hotel, built to celebrate Abu Dhabi being selected to host Formula 1 races. The building is actually two separate, but functionally integrated structures. A grid shell made up of 5,200+ individual glass panels hovers over the building, creating a “veil” that works to induce airflow between the building and the shell, much in the way the veiled clothing worn in the Middle East helps keep occupants cool. Combining these two design elements created a huge construction challenge that required a significant amount of building information modeling (BIM) and 4D BIM work to execute the project successfully. For example, grid shells

need to be complete before they have structural integrity, so external bracing was needed to shore up the grid while under constructed, bracing that needed simultaneously to allow for erecting the hotel building underneath the grid shell while supporting the shell. The glass panels themselves are quite complex, with each panel having a coating designed to block sunlight, and LED lights to allow the building to create amazing lighting effects². Clearly, this complex design fits within the cultural, physical, and climate of its context in Abu Dhabi.

After the tease about new products offered by Mr. Longdon, Rick Standish, AVEVA's VP of Solution Strategy provided more details in his session on "The Future of Decision Support." Mr. Standish rhetorically asked "how do we combine AVEVA NET's ability to organize and filter information to get organizational excellence and deliver processes in a more efficient way?" AVEVA wants to redefine how people can access information resources, and to put directly relevant information in the hands of those who need it most. Project Voyager was the first step. The World Summit exhibit area included an 85" Microsoft 4K touch screen display available for all to try out this technology. According to Mr. Standish, Project Voyager taught them some lessons. For example, conducting design reviews required support for doing measurements and assessing clearances. Their Early Access program, a beta testing and customer engagement activity, included 11 visionary customers who helped AVEVA develop and refine their solution over last the 12 months. This resulted in a new offering focused on providing this new contextual decision support tool: AVEVA Engage—"Power With Simplicity, the Digital Asset Realized." This solution is much more than just a viewer. It maintains contextual links between all types of data, including 1D, 2D, and 3D information generated by AVEVA tools. AVEVA Engage also links to other enterprise solutions to expand the accessible knowledge base. For example, they are currently linking to enterprise asset management (EAM) systems on the backend to bring as-maintained information to bear to support improved decision-making. Other linkages are planned. AVEVA Engage is planned for general availability in Q1 2016. This is the next logical step from Project Voyager, and is a great use of touch screen technology. CIMdata found the interaction to be very responsive even for large models, due in part to backend visualization investments by AVEVA. Using the Digital Asset as the user interface makes perfect sense. Whether creating or maintaining an asset, the asset is at the center of the collaboration. This is AVEVA's "digital twin," just as Dassault Systèmes, PTC, and Siemens PLM Software have theirs. Through acquisitions and partnerships, AVEVA is working to ensure the Digital Asset can extend into other necessary enterprise systems to link relevant lifecycle information.

Of course, AVEVA Engage was not the only product introduced at the World Summit. According to AVEVA, "everyone loves BubbleView™," their immersive virtual reality solution that puts users into plant scenes, so they now offer HyperBubble™ which expands virtual accessibility to full asset walkthroughs. Much of the context in these visualizations comes from point cloud data, usually captured in brownfield facilities. AVEVA uses this data to support design in context, a method used in the mechanical CAD space for some time, using existing 3D data (from whatever source) to provide a critically important geometric context in which to execute new design work. These 3D point cloud scans also provide essential context for understanding the as-maintained asset and to support extending its useful life. While AVEVA can use this scan data to enable clash management and to generate new geometry, there is always the question of how up to date the as-maintained scan actually is. At the event AVEVA announced Trusted Living Pointcloud™ that puts scanners in the hands of field workers to capture up-to-date local scans that can seamlessly update the scanned records of the asset.

² <http://www.jebiga.com/the-yas-viceoy-hotel-abu-dhabi/> has some great images of this impressive structure.

The AVEVA World Summit included 20 customer presentations, delivered in the plenary session and various tracks. Many of the sessions mentioned the tension in the EPC and OO relationship. EPCs create huge, complex engineered assets, often using an equally complex value chain to execute detailed project plans. Even though they generally create these assets at the behest of the OOs, there is often not agreement on what data is important for asset lifecycle management, who should capture it and when, and how the information should flow across all the value chain participants. Just as in other domains, there are many applicable standards, but Anders Thorstrup, a Strategy Advisor for Shell, claimed that historically OOs did not participate in the standardization process. Shell is teaming with Chevron and BP to change that. The Information Standards Forum of the International Association of Oil & Gas Producers (iOGP) was chosen to host the activity. Their initial focus is on information handover, a major pain point for OOs, in part because different clients pull EPCs in different directions. Mr. Thorstrup described their on-going work on a Capital Facilities Information Handover Specification to ensure process and information consistency. It includes a technical specification document, a dictionary that provides ISO-based consistent naming conventions for equipment and documents, a data model, process guidance, and software implementation requirements. The group is leveraging Shell's experience on more than 60 projects to draft these materials, and are welcoming feedback and comments. They do not want this to be a Shell standard, or one from Chevron or BP. Clearly if they are successful this could be a huge step forward for the industry. Casual discussions with Summit delegates often included comments like "I have been doing this 20 years but..." where the "but" suggests that no matter how much things change, the same issues still plague companies working in this market space. Of course, the hard work in the standards process is still ahead.

In summary, the AVEVA World Summit in Dubai showed how AVEVA is doing its part to support positive change in the industry, and working hard to create the future environment for their clients, anticipating their needs. The AVEVA presentations were often aspirational, identifying problems and describing potential solutions, hoping to inspire the delegates with their product offerings, on-going initiatives in cloud, work on standards and other important topics for both today and tomorrow. When it closes, the linkup with Schneider Electric will create a new, much larger AVEVA with money in invest in its portfolio, which the event showed is very healthy and expanding today. Context is everything, and AVEVA is expanding their support for the Digital Asset to truly be the virtual single source of truth that can provide the just-in-time contextual information to help optimize lifecycle decision-making. Next years Summit should be very interesting.

About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at <http://www.CIMdata.com> or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.