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CIMdata News

CIMdata Releases Series of Country-Specific PLM Market Analysis Reports

26 November 2013

CIMdata, Inc., the leading global PLM strategic consulting and research firm announces the release of seven additional country-specific PLM Market Analysis Reports. These new reports follow the release of the 2013 China PLM Market Analysis Report earlier this year.

The CIMdata PLM MAR series presents CIMdata's analysis of the 2012 product lifecycle management (PLM) market. The complete global analysis provides CIMdata's perspective on PLM across a variety of industry and geographic sectors, identifies market trends, reviews investments in PLM-related software and services during 2012, and forecasts PLM investments for 2013 through 2017. It includes charts that present the overall PLM market and its various sectors as defined by CIMdata. These include collaborative Product Definition management (cPDm), tools and tools sub-sectors, and digital manufacturing.

In addition to its global reports, CIMdata now offers eight country-specific PLM Market Analysis Reports:

- Brazil
- China
- Germany
- India
- Japan
- Russia
- South Korea
- United States

These reports focus on the PLM market in each country, including its main segments and the 2012 financial results for PLM solution and service providers. Each country report includes estimates of spending by industry segment within the country, market presence within the country, growth of the top 10 suppliers in that country, revenue by global mindshare leaders, market shares in each measured segment, and five-year forecasts.

“2012 was a good year in the countries examined in these Country reports,” commented Stan Przybylinski, CIMdata's Vice President of Research. “At over \$5.8 billion in 2012, the United States is the largest market and is forecast to grow at a compound annual growth rate (CAGR) of 8.2% through 2017. Japan was second in this group, with 2012 revenues of \$3.5 billion and a CAGR of 8%. PLM

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revenues in Germany were \$2.8 billion, and a CAGR of 7.3%. These three countries have dominated the PLM market for years, and will maintain that position. However, South Korea (at \$467 million and a 10.5% CAGR) and the emerging PLM economies of Brazil, China, Russia, and India have great potential. CIMdata estimates the 2012 PLM revenues in Brazil were \$262 million (9.9% CAGR), in China \$749 million (16.1% CAGR), in India \$552 million (13.1% CAGR), and in Russia \$277 million (11.9% CAGR), and that these high growth rates will place them among the global PLM revenue leaders.”

The CIMdata country-specific PLM Market Analysis Reports are available for purchase at www.CIMdata.com.

About CIMdata

CIMdata, a leading 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) solutions. Since its founding in 1983, CIMdata has delivered world-class knowledge, expertise, and best-practice methods on PLM solutions. These solutions incorporate both business processes and a wide-ranging set of PLM-enabling technologies.

CIMdata works with both industrial organizations and providers of technologies and services seeking competitive advantage in the global economy. In addition to consulting, CIMdata conducts research, provides PLM-focused subscription services, and produces several commercial publications. The company also provides industry education through PLM certificate programs, seminars, and conferences worldwide. CIMdata serves clients around the world from offices in North America, Europe, and Asia-Pacific. To learn more about CIMdata’s services, visit our website at www.CIMdata.com, follow us on Twitter: <http://twitter.com/CIMdataPLMNews>, 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.

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Meeting Today’s Challenges, Reaching AEC’s Future: a CIMdata Commentary

26 November 2013

Key takeaways:

- *The Architecture, Engineering, and Construction (AEC) industry faces severe challenges, with productivity issues topping the list.*
- *Construction firms need to better leverage advanced computing technologies and off-site fabrication to improve competitiveness and efficiency.*
- *Tools and experience supporting other major industries with off-site fabrication—such as automotive, aerospace, and shipbuilding—can be leveraged to great benefit.*

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- *To best meet these challenges, companies need open, integrated systems that enable the free flow of information from product concept, through design and construction with current and future partners, and eventually through to owner operators.*

Industry Challenges

Most of the built world results from work by the Architecture, Engineering, and Construction (AEC) industry. Buildings, bridges, roads, processing plants, and other engineering marvels come from professionals in this important global market. The AEC industry's mission is to complete the projects that shape our world. The AEC industry, estimated by some to be as high as 10% of global GDP, is an engine of the economies around the world. (In 2012, the global world product value was estimated at nearly \$85 trillion.)

Just as in other industries, this global powerhouse faces significant challenges today and in the years ahead that impact both the top and bottom lines. Traditional building methods are reaching the limits of productivity improvement. Companies face rising costs on a number of fronts, including materials and insurance. New standards such as the desire for "green" buildings entail increased costs and complexities.

At the same time, the dynamics of the market, and the relationships between buyers and suppliers, are creating additional challenges. Historically, many projects had a clear separation between the engineering and construction of the physical asset, and the owner-operators who ran, used, and managed the asset throughout its life. Now, to save money and reduce risk, new models of collaboration, delivery, and management, such as public-private partnerships (PPPs) and private finance initiatives (PFIs), are making project management, subcontract management, and other skills, more essential to achieve shrinking margins. In response, some architects are moving to an integrated project delivery (IPD) model, a form of contractual agreement that helps information flow more freely among the participants, which is showing promise to address some of the issues facing AEC. But like any new approach, it too changes the relationships between the parties and requires new skill sets to be successful.

Players in the AEC industry are looking for ways to protect and increase their margins in this dynamic business environment. Just like their counterparts in automotive and aerospace value chains before them, they are looking to raise their stature by providing more value-added products and services that give them a unique competitive advantage. One example of this trend is the rise of specialty contractors who provide more comprehensive engineering and construction services.¹ But with all of these changes affecting the industry low productivity is the most critical issue. AEC industry leaders agree there is at least 25% waste built into current projects. A benefit of focusing on productivity is that if it can be successfully addressed, it could be a lever to achieving other goals for the market.

What is the vision to achieving productivity improvement? How can the construction industry become more competitive? The recommendations from a recent study by the US-based National Research

¹ http://california.construction.com/california_construction_news/2013/0321-subs-engineers-clamor-for-collaboration-at-futuretech.asp

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Council (NRC) provide some useful guidance.² They point to five key areas that are ripe for change and improvement:

1. Widespread deployment and use of interoperable technology applications
2. Improved job-site efficiency through more effective interfacing of people, processes, materials, equipment, and information
3. Greater use of prefabrication, preassembly, modularization, and off-site fabrication techniques and processes
4. Innovative, widespread use of demonstration installations
5. Effective performance measurement to drive efficiency and support innovation

The focus of this paper is on three of these areas: the use of improved technologies, off-site fabrication, and more effective performance measurement.

Using More Advanced Tools: Leveraging Models Across Domains

The AEC industry is a project-based business where groups of independent specialists come together to collaborate to complete a specific project like a building, plant, or bridge. To work together effectively, these companies need to exchange information about the various aspects of construction, including graphical representations of the desired results.

In some respects, the AEC industry is following a digital trail blazed by the automotive, aerospace, and high-tech industries over the last thirty years. Companies in those industries have moved away from a reliance on 2D information and locking up vital data in documents and drawings. Currently, the AEC industry is moving towards relying on “a digital representation of the physical and functional characteristics of a facility, . . . a shared knowledge resource for information about a facility forming a reliable basis for decisions during its lifecycle; defined as existing from earliest conception to demolition.”³ Models are developed from various perspectives, e.g., virtual design models, energy models, construction and scheduling models, cost estimating models, and ingress and egress models. Just as in manufacturing, all of this information is associative, so that changes in one area should be immediately reflected in the other views.

This approach is also being expanded beyond 3D information to cover more aspects of the lifecycle. Some include the time dimension and refer to 4D, allowing participants to visualize the entire project duration as a series of events and display the progress of construction activities through the lifetime of the project. The next added dimension, cost, is essential to getting the higher productivity and cost savings necessary to move the industry forward. Referred to as 5D, this addition enables the various participants to visualize the progress of construction activities and their related costs over time. The next dimension refers to the handing over of 5D data for use in facilities management. In this way, 6D is replicating the experience in aerospace, where the builder of an asset (in this case a jumbo jet) and the

² National Research Council. “Advancing the Competitiveness and Efficiency of the U.S. Construction Industry.” Committee on Advancing the Competitiveness of the U.S. Construction Industry. 2009.

³ National BIM Standard—United States. National Building Information Model Standard Project Committee. <http://www.buildingsmartalliance.org/index.php/nbims/faq/>

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eventual owner can be separate. This is especially important in aerospace and AEC industries as more and more asset creators rely on after-delivery service and support for their profits.

Currently digital techniques that support AEC are being adopted most heavily in the United States, but a wave is starting in Europe, and emerging countries like China see the value of moving to 3D. In many ways, this is the AEC industry's product lifecycle management (PLM) approach—one that integrates the people, processes, and information systems used to design, construct, and operate facilities. Just as in PLM, clear, concise, and valid information is crucial to success.

While these new techniques and solutions provide some 3D capabilities, many of the partners in such projects still rely on 2D drawings for communication and collaboration. Just as manufacturing has benefited from the move of value chains to full 3D, so could the AEC space.

Recent CIMdata research focused on how building product manufacturers can support this need for a 3D approach to provide a major area of benefit. Companies designing and building physical assets need to (virtually) combine all of the CAD data for building products and equipment with the 3D models from AEC solutions to provide a comprehensive picture of the project. MCAD solution providers with strong positions in the market for building equipment design will have a leg up in supporting the AEC industry with complete 3D information reaching all project participants.

Off-Site Fabrication

Because much of the cost and waste in construction comes from on-site building practices, the NRC recommends off-site fabrication of major elements of a project to take advantage of factory-like efficiencies. Many of us know this as “prefabrication” or “prefab,” which has a negative connotation in the public realm due to a history of poor quality products. The bad reputation was often well deserved, and the rebranding of this approach as “off-site construction” was a conscious decision to change perceptions.

Construction costs fit into three primary categories: installation cost, material cost, and fabrication cost. Most construction projects depend on on-site installation, using highly skilled workers doing on-site fabrication consuming a large portion of total materials, which drives up installation costs. The more that can be fabricated off-site, the less space is needed to store materials on site. In many cases, lower priced workers can do the fabrication in factories, reducing overall labor costs. The fabricated units can be delivered just in time, like in automotive, and installed using less-skilled teams. The ability to plan accurately, unaffected by weather, subcontractor availability, or other constraints can also improve cash flow. Using 3D tools to support the modeling, simulation, fabrication, and installation can greatly improve the effectiveness of off-site approaches.

Of course, many components have been fabricated off-site for some time; a practice that has provided significant value. A current example from infrastructure is prefabricated bridge elements and systems.⁴ These highly engineered components are fabricated off-site, delivered just in time, and installed rapidly.

⁴<http://www.fhwa.dot.gov/hfl/innovations/pbes.cfm>

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Benefits cited by this program include reduced traffic disruption, construction zone safety, environmental sensitivity, and improved constructability, with increased quality and lower lifecycle costs.

Industrial companies have proved the value of off-site fabrication for large, complex deliverables in automotive, aerospace, and shipbuilding for many years, supported by PLM strategies and enabling solutions. Leveraging this experience in AEC could be greatly beneficial to all involved. This point is strongly argued by Kieran and Timberlake in their 2004 book *Refabricating Architecture: How Manufacturing Methodologies are Poised to Transform Building Construction*.⁵

This approach is being promoted globally. For example, practitioners in the United Kingdom are being urged to adopt off-site fabrication in the short term.⁶ Rapidly growing economies like China will not be able to meet their aggressive development goals without it. The approach has the added benefit of helping Chinese firms and agencies address their often conflicting speed and quality demands.

Off-site construction allows for grouping similar methods, supporting repeatability and consistency, all with a reduced need for skilled trades on site. Construction is completed in a controlled environment, improving quality and precision, while reducing waste. This echoes the concept of “lean,” another idea from the automotive industry (an early investor in PLM), which has great applicability in AEC.

Off-site fabrication benefits include:⁷

- More controlled fabrication conditions
- Fewer environmental impacts at job site
- Compressed project schedules
- Fewer crew-scheduling conflicts, more efficient use of craftspeople
- Reduced on-site storage requirements
- Increased worker safety

The use of off-site manufacture and modern methods of construction can drastically reduce construction waste. Big waste streams in traditional construction include packaging (up to 5%), timber (up to 25%), and plasterboard (up to 36%). By eliminating wood pallets, shrink wrap, and cardboard, and reducing waste plasterboard, timber, concrete, bricks, and cement, companies can reduce such waste by up to 90%.⁸

Off-site fabrication changes the AEC process on-site from construction to manufacturing and installation. The Modular Building Institute claims that buildings can open 30-50% faster when off-site fabrication is used in construction.

⁵ Kieran, Stephen, and James Timberlake. *Refabricating Architecture: How Manufacturing Methodologies are Poised to Transform Building Construction*. McGraw-Hill Professional. New York. 2004.

⁶<http://www.buildoffsite.org/>

⁷ www.modular.org/marketing/documents/WRAP_ModernMethodsConstruction_Report.pdf.

⁸ Ibid

Effective Performance Measurement to Drive Efficiency and Support Innovation

Some of the existing solutions in the AEC space enable improved performance measurement with project or program management functionality. More advanced firms may use standalone project management tools like Microsoft Project or Primavera, but adoption is limited across the value chain. As in other areas, the solution used most often is Microsoft Excel.

Companies can improve their performance by using an integrated tool to track project status and costs in real time. Having a platform that can be used to both plan and execute the complex tasks in most projects can provide significant value. This is another area with proven results over many years in the PLM space. Management is greatly improved if the project management tools are integrated with solutions to manage 2D documents, 3D models, and other artifacts necessary for project execution.

Getting There

Many tools exist to help address these problems and to support new AEC paradigms. Existing solutions targeted at the AEC space can support some use cases. Some firms are also working to apply mechanical design tools in the AEC domain. To achieve the maximum benefits, the best of the AEC and mechanical domains must be integrated. Tools to support complex project management must also be part of the solution.

Just like in PLM, the ability to leverage technology is limited by an organization's ability to make process changes. AEC companies have to be willing to change their longstanding work processes to be successful. This is no small feat. In spite of all of the success of 3D CAD in designing manufactured goods, many supply chains and shop floors continue to run on 2D drawings. For AEC, the chosen solutions need to support collaboration across domains within firms and across the entire extended enterprise—to include all project stakeholders across the entire lifecycle. To reiterate what was said earlier in the commentary, what is needed is an integrated platform for managing 3D (and other information), that supports modeling and analysis for 4D and 5D. When employed appropriately across the project life to capture all data, it could be delivered as a single source of truth to enable 6D.

Just as in manufacturing, these types of tools will enable users to conduct complex tradeoffs among competing objectives. For example, solutions could help define an optimal sourcing approach, in this case the mix of on-site and off-site fabrication. Users can develop initial plans, and then run simulations to find the right combination.

Building and enhancing such a platform requires a commitment to openness. New standards are emerging, such as Industry Foundation Classes (IFCs). Like manufacturing, the AEC space has many standalone legacy tools that must be included (or replaced) to support all lifecycle requirements.

Looking to the Future

The AEC industry is just beginning its journey to support the full lifecycle of construction assets (buildings, plants, infrastructure, etc.) using 3D tools, collaborative platforms, and integrated project

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management. The world of manufacturers has advanced because of the adoption of PLM strategies and supporting solutions.

Dassault Systèmes, a leading PLM solution provider, has some experience supporting the use cases necessary to support AEC, and is building on this learning to develop new offerings for the AEC market. The Lean Construction Solution Experience is a good first step toward meeting this vision. To build this solution, they applied key learnings from their leading customers, including:

- Skanska, who showed the value of a platform approach for supporting integrated program management to reduce cost
- Hardstone Construction used CATIA for complex 3D modeling on a Las Vegas project
- SHoP used CATIA and CNC to create the unique façade of the Barclays Center in Brooklyn, New York

These projects demonstrate the applicability of tools and learning from the PLM market applied to AEC business problems. Dassault Systèmes has a range of technologies with potential applicability, so it will be interesting to follow the evolution of their AEC offerings.

Conclusion

The global construction business faces huge challenges. Meeting the NRC recommendations highlighted in this commentary will require significant changes for both AEC companies and solution providers. Beyond these objectives there are other challenges and opportunities going forward. For example, the NRC report also references the provision of real-time information for improved management at the job site. Mobile access to decision-making tools for the “deskless” (i.e., those who work away from offices, often in remote locations) is already emerging, mostly through custom applications, as highlighted in a recent CIMdata presentation at our PLM Market & Industry Forum. Given the high collaboration requirements in the AEC space, there are certainly openings for other Information Technology solutions like social computing applications to capture and more readily leverage the many conversations that take place during project execution.

One thing we do know: today’s challenges are just the start. New problems will certainly emerge, and AEC firms will need to adapt accordingly. Any solutions they adopt today or in the near future must be flexible enough to expand to meet tomorrow’s requirements.

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.

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Company News

Integware Named Top Software Developer in Northern Colorado

26 November 2013

Integware is proud to announce that they have been named the top software developer in northern Colorado by the Northern Colorado Business Report (NCBR).

“We are honored to have earned this distinction from the NCBR,” said an Integware spokesperson. “We are glad that the NCBR and people of northern Colorado recognize Integware for the innovative PLM solutions that we provide.”

Integware is a group of committed professionals who, as a company, are built around the core values of integrity, courage and leadership, which are the foundation upon which the company makes every decision, business or otherwise. These values have successfully guided Integware for over 20 years and continue to do so today.

Integware’s expertise ranges from [PLM Consulting](#) and [PLM Evaluation](#), to [PLM strategy](#) and [PLM training](#). This expertise can help any business to make employees more productive and independent all via an easy to use interface.

Integware’s philosophy is rooted in a lean equality, which means they believe that their PLM solutions should only be a minimal burden on their customers by offering integrated processes that ensure optimal quality.

“We would like to thank northern Colorado for their continued support,” says a company spokesperson. “This is the perfect way to celebrate 20 years in the business, and we are looking forward to the next 20 years as well.”

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MSC Software's Nastran Embedded Fatigue (NEF) Honored as CAE Innovation of the Year by Automotive Testing Technology International Magazine

27 November 2013

[MSC Software Corporation](#) today announced that [MSC Nastran Embedded Fatigue \(NEF\)](#) has been honored as CAE Innovation of the Year by *Automotive Testing Technology International*.

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The *Automotive Testing Technology International* awards honor individuals and companies who have made a difference in the world of vehicle development. Simulation software is an essential tool that helps automotive manufacturers cut design and prototype costs, and [MSC Nastran Embedded Fatigue](#) (NEF) does so in helping manufacturers calculate fatigue damage and life span, optimizing product designs for weight and durability.

"Fatigue analysis is important, but it has always been quite difficult to integrate into the development process. It's often done separately and so adds time. MSC's NEF software goes a long way towards solving this. By doing the stress and fatigue work simultaneously, it gives engineers the chance to do more to extend the life of their products," said Tristan Honeywill, automotive technology journalist and *ATTI* contributor.

The recent update to the Corporate Average Fuel Economy (CAFE) Standard has challenged automakers to design for lighter weight but still maintain structural integrity and safety. MSC NEF is designed to meet both of these challenges by coupling the stress and fatigue calculation process into one simultaneous operation. This new immersed capability has wide-ranging implications in relation to the way fatigue and reliability is handled within large mechanical engineering organizations. There is no real limit to the size of fatigue analysis models that can be handled, yet this solution is actually simpler because it eliminates the need for intermediate data by combining the traditionally separate processes of stress and fatigue analysis.

"It's a great honor to be named CAE Innovation of the Year at a time of such change in the automotive industry, when innovation is so vital to meeting government mandates and customer needs," said Dominic Gallelo, president and CEO of MSC Software. "Fuel efficiency and environmental sustainability are exerting an enormous influence on vehicle design. Nastran Embedded Fatigue demonstrates our commitment to giving engineers the tools to predict how long products will last when designed with new materials and produced through new methods."

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PTC to Change Stock Ticker Symbol to "PTC"

26 November 2013

[PTC](#) will change its NASDAQ ticker symbol to "PTC" – effective at the start of trading on December 3, 2013.

In January, the company changed its legal name from Parametric Technology Corporation to PTC Inc. The legal name and ticker symbol changes reflect the company's expanded technology portfolio, market scope, and corporate vision.

"The global manufacturing industry is in the midst of a significant transformation," said Jim

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Heppelmann, president and CEO of PTC. "To help our customers address the challenges presented by such change, PTC has been strategically expanding its own technology solution portfolio. By updating our stock ticker, we are taking the final step in aligning this public symbol of our company with the reality of what PTC is today."

As of December 3, all stock trading, filings and market related information will be reported under the new symbol "PTC."

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Red Herring Names Centric Software to Celebrated Top 100 Global List

25 November 2013

Centric Software, Inc. has earned a coveted spot on the prestigious [Red Herring Top 100](#) Global list after competing in a comprehensive, global selection process.

To earn its place on the 2013 Top 100 Global list, Centric—maker of [PLM software for retail, apparel, footwear, luxury and consumer goods](#) companies—first won a prized position on the Red Herring Top 100 List for North America. The Top 100 Global competition subsequently evaluated Top 100 winners from North American, Europe and Asia before naming the 2013 Top 100 Global list.

"Choosing the companies with the strongest potential was by no means a small feat," said Alex Vieux, publisher and CEO of Red Herring. "After rigorous contemplation and discussion, we narrowed our list of candidates from across the globe to the Top 100 Winners. We believe Centric embodies the vision, drive and innovation that define a successful entrepreneurial venture. Centric should be proud of its accomplishment, as the competition was the strongest it has ever been."

The Top 100 Global list identifies promising private companies and entrepreneurs. Red Herring's editorial staff evaluated the companies on both quantitative and qualitative criteria, such as financial performance, technology innovation, management quality, strategy and market penetration. The publication states that this assessment of potential is complemented by a review of the track records and standing of startups relative to their peers, allowing Red Herring to see past the "buzz" and make the list a valuable instrument of discovery and advocacy for the most promising new business models from around the world.

Since 1996, Red Herring has kept tabs on the "up and comers." The publication's editors, it says, were among the first to recognize that companies such as Facebook, Twitter, Google, Yahoo, Skype, Salesforce.com, YouTube, Marin Software, Palo Alto Networks, and eBay would change the way people live and work.

"The Red Herring Top 100 Global list award is a tremendous acknowledgment of Centric's growth, innovation and industry leadership as a provider of [PLM software for retail, fashion, footwear, luxury](#)

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[and consumer goods](#) companies," says Chris Groves, president and CEO of Centric Software. The prestigious recognition underscores the global achievements made by the entire Centric team, including a remarkable track record of rapid business benefit delivery to renowned customer brands and retailers, he explains. "Centric has been recognized as the industry innovation leader with the best-in-class PLM solution, breakthrough mobile apps and a rapid [Agile Deployment](#) (SM) methodology. This innovation has driven the highest growth rate in the consumer products PLM industry."

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Events News

Applied Software® Launches CONSTRUCTION: Technology™ Solutions at Autodesk® University 2013 in Las Vegas, December 3-5, 2013

25 November 2013

[Applied Software](#), a leading service provider of design technology optimization and a Construction Specialized, Platinum Partner Reseller for Autodesk® design software for architects, engineers, construction owners and manufacturing facilities, will be a premier exhibitor (Booth #2422) at this year's Autodesk University (AU), at the [Venetian Hotel](#) in Las Vegas, December 3-5, 2013. Applied Software's Construction Technology Group has developed a suite of professional services to assist [construction owners](#) in the Pre-design, Design, Construction and Post-occupancy stages of building project lifecycles. "We are excited to showcase our Construction Technology Group service offerings at Autodesk University," commented [Richard Burroughs](#), President, CEO and founder of Applied Software. "This group is uniquely qualified to provide construction owners with a path to facilitate the design process through mobile field solutions, building information modeling, and point layout placement, import, and export."

The Construction Technology Group has introduced an "Autodesk BIM 360 Field Mobile Field Technology Solution" for tracking field issues, checklists, punch lists, and safety and quality compliance checklists. This strong mobile platform functions both online and offline allowing project data, documents, and models to be viewed in real time from the field. Field personnel can make appropriate responses, including photos, sketches, and other information. For construction owners, there is a dashboard that can drill down to any level to obtain project status in real-time. Plus, being a cloud-based software solution allows customers to view project information from anywhere, anytime.

In addition to the Applied Software booth (#2422), [Zack Brust](#), new with Applied Software and formerly with [Vela Systems](#) (inventors of the mobile field technology acquired by Autodesk), will demonstrate in the Autodesk University [Construction Zone](#) how tablets and cloud-computing are changing the way project teams collaborate. "From field operations personnel to key project executives, having reliable, consistent, and up-to-date information is invaluable," stated Brust. "Whether it's the latest plan or specification on your tablet, a specific deficiency that needs to be addressed, or a high-level look at the progress of multiple projects, our mobile field solution is giving construction

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professionals what they need, when they need it.” [Brent Pearce](#), [Michael Ruiz](#), [Mark Petrucci](#), and [Skyler Sanford](#) round out the Construction Technology Team with world class experience in the field and hands-on design technology experience with mobile field applications.

Applied Software will also be showcasing its FACTORY:Technology™ Solutions, total turnkey scanning and factory optimization strategies to help [industrial manufacturing](#) facilities minimize design and [digital prototyping](#) costs, optimize processes, and get the most return from their investment.

Further, two of Applied Software’s Senior Application Engineers – [Michael Zeeveld](#) and [Mike Massey](#) – have been selected from a prestigious field of experts to teach five classes at AU. Massey and Zeeveld also provide live, virtual instruction through Applied Software’s global training branch, [LiveLab™ Learning](#) (livelablearning.com) which will also be featured in booth #2422 at AU.

"Our participation at this year’s AU will be particularly relevant to our customers and to our firm,” Burroughs, CEO, went on to say. “Through our Construction Technology, BIM, Factory and LiveLab Learning services, customers can truly achieve competitive advantage and a profitable position in their respective markets.”

Visit Applied Software at Booth #2422 at Autodesk University: <http://au.autodesk.com/las-vegas/overview>

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Autodesk to Present at the Credit Suisse Annual Technology Conference

27 November 2013

[Autodesk](#), Inc. Chief Financial Officer Mark Hawkins, will present at the Credit Suisse Annual Technology Conference in Scottsdale, Arizona, on Wednesday, December 4 at 2:30 p.m. Mountain Time. A live webcast, replay and podcast of the presentations will be available through Autodesk's Investor Relations Website at www.autodesk.com/investors. Please go to the Website at least 15 minutes early to register, download and install any necessary software. For more information, please call Autodesk Investor Relations at 415-507-6705

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Cimatron Eliminating Human Error in Mold Design

27 November 2013

[Cimatron Limited](#) today announced that CimatronE 11, the latest version of its integrated CAD/CAM software, will be demonstrated at the Euromold trade show, Frankfurt/Main, Germany, from December 3-6, 2013.

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"Some of the biggest frustrations that mold makers can face are the human errors that can creep into almost all aspects of mold design and programming," said Mr Dirk Dombert, Cimatron's General Manager for Germany.

"The smallest error in the mold's design or the machining process can have severe consequences, impacting a shop's ability to meet customer deadlines, in addition to curtailing project profitability.

"Aside from ongoing staff training, human error can also be reduced or eliminated through the adoption of intelligent CAD/CAM process-driven software systems, such as CimatronE. Such systems utilize powerful automation and analysis tools, and incorporate advanced techniques and simulations to prevent the possibility of human error. Even if a mistake does occur, it is identified early on in the process, well before the mold is ready to be machined."

Key features of CimatronE that help to eliminate human error include:

- **Analysis tools:** ECO, wall thickness, cooling and channel, plastic flow, parting, etc.
- **Reliable DI:** automatic data validation and the ability to easily heal and stitch data.
- **Parting tools:** detection of problematic areas (e.g. undercuts) early on in the design.
- **Smart use of catalogs:** automatic cut by catalog components.
- **Motion analysis and collision detection:** powerful design validation.
- **Intelligent NC process management:** error-free toolpath creation, with full geometric associativity and tight control over remaining stock.
- **Automated drilling:** tools for gouge prevention while drilling and collision prevention during connections.
- **Simulation and posts:** confident machining with simulation of kinematics and toolpath motion, and access to a rich library of post processors for error-free machining.
- For a one-on-one demonstration of these capabilities in CimatronE, visit the Cimatron booth (Hall 8, Booth F70) at Euromold.
- Also on show at the Cimatron booth will be the GibbsCAM product line supporting 2-5 axis milling, turning, mill/turning, multi-task simultaneous machining and wire-EDM.

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Create 5-Axis Toolpaths from Existing 3-Axis Paths – WorkNC Shows How at Euromold

25 November 2013

Visitors to the 20th Euromold exhibition can learn how WorkNC automatically generates 5-axis toolpaths from existing 3-axis paths. Training Manager Juergen Frank will present “WorkNC Auto5-Innovation With Short Tools” during the exhibition’s Rapid Prototyping conference in hall 11 on December 5.

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WorkNC Auto 5 has been described as a unique and revolutionary innovation in the field of 5-axis CNC machining. Users automatically generate 5-axis collision-free programs based on existing 3-axis toolpaths while taking into account the specific kinematics of the 5-axis milling center selected.

The new WorkNC Dental V4 will feature on WorkNC's booth – F22 in hall 8. This latest version of the dental solution provides a wide range of innovative automatic machining functions for dental prosthesis, whatever the process. It includes new automatic cavity recognition for fully automatic machining on both 3 + 2 and 5-axis machines, through the faultless detection of concurrent or diverging insertion axes. This new functionality provides optimal use of 3+2 machines which do not have simultaneous 5-axis capabilities.

Another step forward in its automatic machining processes: machine characteristics and kinematics are now taken into account before calculations are run. This means users are immediately aware of any feasibility issues, managing project preparation in real time.

And visitors to the exhibition can see the software in action on the Datron booth (D68, hall 8), which will include machining Chrome Cobalt and Titanium dental implants using WorkNC Dental on a D5 dental CNC 5-axis mill.

In addition, WorkNC's booth at the show, which is being held at Frankfurt in Germany, from December 3 to 6, will feature WorkNC V22, WorkXplore 3D V3, and WorkPLAN Solutions V3.

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Delcam's latest CAD/CAM Developments on Show at Southern Manufacturing

25 November 2013

Delcam will demonstrate the latest developments in its complete range of CAD/CAM software at the Southern Manufacturing exhibition to be held in Farnborough, UK, on 12th and 13th February. Highlights will include the new Vortex area clearance strategy in both the PowerMILL and FeatureCAM CAM systems, extra modelling for manufacturing tools in the PowerSHAPE design software and improvements to the Delcam Electrode package for the integrated design, machining and inspection of electrodes.

The Vortex strategy for high-speed area clearance, for which Delcam has a patent pending, has been developed by the company specifically to gain the maximum productivity from solid carbide tooling, in particular those designs that can give deeper cuts, and therefore higher metal-removal rates, by using the full flute length as the cutting surface. It can be used for two- and three-axis roughing, three-plus-two-axis area clearance and for rest machining based on stock models or reference toolpaths.

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Unlike other high-speed roughing techniques that aim to maintain a constant theoretical metal-removal rate, the Vortex strategy produces toolpaths with a controlled engagement angle for the complete operation. This maintains the optimum cutting conditions for the toolpath that would normally be possible only for the straight-line moves. As a result, the cutting time will be shorter, while cutting will be undertaken at a more consistent volume-removal rate and feed rate, so protecting the cutter and the machine. A series of trials run by Delcam on different machine tools within its Advanced Manufacturing Facility has shown that a time saving of at least 40% is not untypical, with savings of up to 70% achieved in some cases.

The Solid Doctor in PowerSHAPE has offered quick and easy repair of imported data from other CAD systems for many years. For the 2014 release, these capabilities have been enhanced with the addition of the Smart Feature Manager. PowerSHAPE can already recognise a variety of solid features within imported "dumb" geometry, such as fillets, slots, bosses etc. The Smart Feature Manager allows users to identify all these features within a solid in a single operation and so makes the analysis of the imported data easier and faster.

In addition, the core/cavity separation wizard for mould and die design within PowerSHAPE has been rewritten to make it even faster and more effective. It divides the solid model into core and cavity pieces of a tool that can then be separated dynamically using a simple slider.

Another program that has seen significant development is the Delcam Electrode integrated solution for the design, machining and inspection of electrodes. The latest enhancements include support for burn-vector electrodes, automated machining of electrode frames, batch processing of multiple machining projects and faster generation of electrode drawings.

Delcam Electrode combines functionality from PowerSHAPE, PowerMILL and the PowerINSPECT inspection software to give a completely integrated solution for the design, machining and inspection of electrodes. At the heart of the solution is a novel file format – the .Trode file. This contains all the information for each electrode project, including not only the electrode design but also the machining and inspection information, plus the set-up sheets for its manufacture and use. Having all the required information in a single file simplifies data management as well as increasing overall efficiency.

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ModuleWorks to show real time Simulation at Euromold

27 November 2013

ModuleWorks will be showing innovative real time simulation applications running on the CNC control at Euromold, the premium event for moldmaking and tooling, in Frankfurt (Hall 8, Booth E-112) from 3-6 December 2013.

ModuleWorks is at the forefront of CNC verification and simulation technology and has been working

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with two partners, Bosch Rexroth and ISG to bring this technology to the shopfloor on the CNC control.

ModuleWorks have been collaborating with CNC control manufacturers for some time to scale its simulation and verification technology to the CNC control. This has presented a number of challenges, in particular scaling to an environment with less memory and slower CPU technology than typical CAD/CAM workstations. The development team have overcome these issues and the end result allows G-Code programs to be verified on the control in real time, helping ensure a safe and right first time environment.

Rexroth IndraMotion MTX is the individually scalable CNC platform with an integrated PLC for machining and metal-forming applications. Excellent performance and comprehensive technology functions provide maximum productivity and flexibility. ModuleWorks and Rexroth have partnered to integrate real-time simulation onto the IndraMotion CNC control and will show live G-code simulation in action on the booth.

ModuleWorks have also been working with partner ISG to integrate simulation with the ISG-kernel software and provide an offline solution for controls using the ISG-kernel, a software solution, integrated on CNC controls for the programming of robots, tool, wood working and plasma and jet cutting machines as well as packing and textile machines.

At Euromold, ModuleWorks will also be previewing the latest version of the ModuleWorks components, 2013.12 with a range of new 5-Axis and Simulation features on show.

Jens Beissel, Marketing Manager for ModuleWorks comments, “It is always good to have our partners exhibit with us at these major trade shows. It shows how our component technology can be applied to provide solutions to real world manufacturing challenges. We’re delighted to have Bosch Rexroth and ISG with us at Euromold to show these innovative solutions”.

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OPEN MIND at EuroMold 2013 with hyperMILL

26 November 2013

OPEN MIND Technologies AG is set to present at the 20th EuroMold trade fair at the trade fair grounds in Frankfurt, Germany, from 3 to 6 December 2013. Everything at Stand 8.0 L07 will revolve around machining strategies in the *hyperMILL*[®] 2013 CAM software and the *hyperMAXX*[®] high-performance cutting module. The *hyperCAD*[®]-S CAD software, which is specially geared towards the requirements of CAM users, will also form part of OPEN MIND’s exhibition.

Tool and mould manufacturers are familiar with typical challenges in machining. OPEN MIND has implemented machining strategies in *hyperMILL*[®] 2013 that address these challenges. For example, the

software developer developed the new ‘Rib Milling’ cycle together with one of the largest German automotive manufacturers. This is good news for tool makers who need to mill deep, narrow cavities for ribs in their moulds. The cycle automatically detects grooves that have to be milled. Steep areas and floors are machined separately. Depending on the workpiece geometry, the system selects a suitable roughing strategy, and contiguous areas are completely machined.

An additional highlight of *hyperMILL*[®] 2013 is its extension for ‘5axis contour offset finishing’: Barrel cutters can now be used here. This strategy uses the large effective radius of the barrel cutter with a point milling contact style. This allows increased step-over distances between passes for free-form surfaces.

Harmonic movements during roughing

hyperMAXX[®], the roughing module fully integrated into *hyperMILL*[®], combines optimal milling paths, maximum material removal and the shortest possible machining times. Ideally distributed milling paths and the dynamic feedrate adjustment to existing cutting conditions ensure that milling always takes place at the fastest possible feedrate. Machining is always performed using climb milling, in a spiral retraction of tool movements that increasingly approximate the required contour as they reach the end. The *hyperMAXX*[®] tool path is calculated with regard to the chip volume, machine data, the material to be cut and balanced movement.

CAD for CAM users

The architecture, core, graphics, database, user interface and API for *hyperCAD*[®]-S have been redeveloped. The software is perfect for imported data. Users have the advantage of being able to easily modify any of the geometry elements at any time. Curves and free-form surfaces are depicted using Bezier and NURBS geometries. In addition to the familiar basic elements for construction, the core now also provides a number of elements that specifically aid CAM programmers, including tool paths, polygon networks, point clouds and a rectangle element.

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SolidCAM for Mold Machining at Euromold 2013

25 November 2013

SolidCAM will be exhibiting at Euromold 2013. From December 03-06, the fair will be held at Frankfurt/Main Exhibition Center. SolidCAM will exhibit in hall 8, booth J134. This year is Euromold’s 20th year, which provides an ideal opportunity for SolidCAM, the leader in SolidWorks integrated CAM, to present its latest and greatest contributions to machining in the moldmaking industry.

Moldmaking is a competitive industry and its main challenge is short delivery times. In this industry it is necessary to combine excellent toolpath quality with optimal performance. SolidCAM has a powerful CAM solution for any factory in the moldmaking industry. In SolidCAM’s latest version, there have been major enhancements in its revolutionary iMachining 3D, HSM and Simultaneous 5 Axis modules,

that provide a winning combination for mold and insert machining.

iMachining 3D automatically produces a complete, ready to run CNC program. It generates optimal cutting conditions to rough, rest rough and semi-finish a complete 3D part, with True Scallop on all slopes, all in a single operation. The tool path is automatically adjusted to avoid collisions between the holder and the updated stock at every stage. The optimal cutting conditions are achieved with iMachining's expert knowledge based Technology Wizard.

iMachining 3D provides amazing 3D machining results, regularly providing 70% savings in machining time, often reaching up to 90%, compared to other CAM systems.

SolidCAM's HSM module provides the optimum 3D finish toolpath for any mold or insert part. The result of HSM is an efficient and smooth toolpath, translating to the best possible surface quality.

HSM avoids sharp angles in tool path, ensuring that the tool stays in contact with part as much as possible. It also optimizes non-machining moves to reduce air cutting and generate smooth and tangential lead in/out trajectories.

SolidCAM users will benefit from advances in the company's Simultaneous 5 Axis strategies - the most tested and proven 5-axis CNC milling toolpaths in the industry. These include highly advanced control over all aspects of toolpath and collision checking, combined with a very friendly user interface.

The latest enhancements in SolidCAM's Simultaneous 5 Axis modules include multi-axis drill, Contour 5 Axis and enhancement to the Convert HSM to Sim 5 Axis strategy. In Contour 5 axis, the tool follows the selected 3D curve, staying parallel to predefined tilting lines. This is ideal for chamfering and pencil machining of complex contours with undercuts.

Many mold shops are introducing simultaneous 5-axis machines. SolidCAM's Convert HSM to Sim 5 axis strategy makes programming easy as it enables conversion of 3D HSM toolpath to full 5-axis toolpaths. Moving to 5-axis machining results in better surface quality by using different tool tilting strategies and short tools.

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Financial News

HP Reports Fourth Quarter and Fiscal 2013 Results

26 November 2013

HP announced financial results for its fiscal fourth quarter and fiscal year ended Oct. 31, 2013.

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Fourth quarter GAAP diluted net earnings per share (EPS) was \$0.73, up from a GAAP diluted net loss per share of \$3.49 in the prior-year period. Fourth quarter non-GAAP diluted net EPS was \$1.01, down from \$1.16 in the prior-year period. Fourth quarter non-GAAP net earnings and non-GAAP diluted net EPS exclude after-tax costs of \$545 million and \$0.28 per diluted share, respectively, related to restructuring charges, the amortization of intangible assets and acquisition-related charges.

Fourth quarter net revenue of \$29.1 billion was down 3% from the prior-year period and down 1% when adjusted for the effects of currency.

Fiscal 2013 GAAP diluted net EPS was \$2.62, up from a GAAP diluted net loss per share of \$6.41 in the prior-year period and below the previously provided outlook of \$2.67 to \$2.71 per share. Fiscal 2013 non-GAAP diluted net EPS was \$3.56, down from \$4.05 in the prior-year period and within the previously provided outlook of \$3.53 to \$3.57 per share. Fiscal 2013 non-GAAP net earnings and non-GAAP diluted net EPS exclude after-tax costs of \$1.8 billion and \$0.94 per diluted share, respectively, related to the amortization of intangible assets, restructuring charges and acquisition-related charges.

Fiscal 2013 net revenue of \$112.3 billion was down 7% from the prior year and down 5% when adjusted for the effects of currency.

The complete news release is available at:

<http://h30261.www3.hp.com/phoenix.zhtml?c=71087&p=irol-newsArticle&ID=1880346&highlight=>

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Implementation Investments

Cidon Construction choose Tekla

22 November 2013

UK-based reinforced concrete and civil engineering contractor Cidon Construction have selected Tekla software for concrete modelling and project planning as they adopt Building Information Modelling (BIM) in an effort to improve their business productivity.

Since the company formed in 2000, Cidon have evolved to provide a wide range of construction services as both a subcontractor and principle contractor. When Managing Director Ciaran Donnelly saw a presentation by Eric Lindquist of Adjustable Forms Inc. a Tekla user in the USA, he began to understand why Tekla was the most appropriate software for contractors like Cidon who plan and pour in-situ concrete.

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“It was great to see somebody like Eric, a construction professional, who does what we do, talking about how we as concrete contractors can work smarter and manage more of our processes in one place using BIM. For me it was obvious that we could improve our efficiency and be more competitive by changing how we worked and choosing the right software solution in Tekla.” Mr Donnelly says. “Technology may be confusing and even daunting to some in the UK concrete industry but I am convinced that there are clear benefits to be achieved if we use the right product. In fact it was so obvious that we went from knowing nothing about Tekla to purchasing software and producing models within five weeks. We have started modelling our first live projects and are really excited about how the implementation of this software will change our business.”

“We are really looking forward to working with Cidon Construction” says David Evans, Business Development Manager for Tekla UK. “Ciaran and his team are demonstrating desire and, more importantly, intent to change and revolutionise how they construct concrete projects by modelling and planning their concrete construction as early as possible, creating greater certainty in their estimating and scheduling processes. We are confident that this new approach will have a hugely positive impact on both our companies and the UK concrete industry as a whole.”

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Ogle Chooses ZW3D for Easy-to-use 3D CAD Modeling

25 November 2013

[ZW3D](#) today announced that after a rigorous selection process it has been selected by [Ogle Models and Prototypes Ltd](#) for its easy-to-use features for modeling and CNC machining.

Based and manufacturing wholly in the UK, Ogle specializes in making some of the best models and prototypes available today. Equipped with unrivalled expertise and cutting-edge manufacturing technologies, including industrial 3D printing for prototyping and additive manufacturing together with CNC machining and traditional bench model making skills, Ogle has been delivering an exemplary service and has won the trust of various customers including Bentley, Jaguar Land Rover, Nissan, Rolls-Royce, GSK, QinetiQ, Fosters and Virgin.

The Need

As one of the most accomplished companies in its sector, Ogle which is celebrating its 60th anniversary in 2014, has a long-standing and envied reputation for making high-quality models and prototypes. To optimize their modeling strategy and cut the cost of manufacture, they were trying to find an easy-to-use CAD/CAM package with timely technical support for use by their internal model makers instead of relying completely on external CAD designers.

The Solution

Ogle has selected ZW3D mainly because of its flexible and powerful 3D CAD modeling which can be mastered by any mechanical designers or 3D industrial designers at ease. With clear workflow, friendly user interface and embedded tutorial of “Show-n-Tell”, model makers in Ogle can get skilled at ZW3D

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quickly to handle large and complex designs like aircraft interiors and seating projects, divorcing themselves from external R&D services to reduce cost and boost productivity.

Plus, speedy support and service provided by ZW3D ensures Ogle's CAD/CAM problems answered within 24 hours, assisting them to build a well-developed and highly-professional model making team.

"When choosing the 3D design software, whether it is easy-to-use and efficient or not is a priority. But ZW3D offers more than that." said Dave Bennion, the Sales and Marketing Director of Ogle. "We are very glad to receiving answers to technical questions from ZW3D within 24 hours."

The Service

The ZW3D technical team provides technical support to directly help Ogle stay up-to-date with the latest technology. Optimized for ease of use, model makers can quickly master ZW3D, helping them to ensure maximized design and machining efficiency during actual work.

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Product News

AViCAD / AutoCAD® Alternative - Now Supplying Complimentary Upgrade For Upcoming 2014 CAD Software Release

26 November 2013

AViCAD.com is supplying a cost-free upgrade to AViCAD 2014 for new orders of their current 2013 software placed on or after November 25th, 2013.

Much like AutoCAD®, AViCAD includes both 2D and 3D capabilities. The big difference is that AViCAD has a Full Suite of Engineering Tools (aimed on Plant & Piping, HVAC Engineers and other related industries).

The new 2014 CAD software application will also include a built-in Architectural Module capable of producing both 2D and 3D 2D/3D Walls, Windows and Doors.

Victor Abela explains "the brand-new AViCAD 2014 is an exciting launch for us and includes some really powerful new 3D features. The free upgrade will allow users to get started today utilizing the 2013 version, then afterwards, update to 2014 at no addition cost."

In addition, the CAD company also announced that a new PDF publisher will be included to allow CAD users to rotate a 3D model directly within a PDF file without any CAD software required.

The AViCAD 2014 version (a major upgrade to the existing 2013 release) includes users to:

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- Rotate your 3D models inside a PDF file **
- Read AutoCAD® 2014 DWG's
- Create and edit tables
- Edit existing dynamic blocks
- Trim hatch patterns
- Create multi-line styles

** PDF feature will be available in Pro Version

The AViCAD 2014 update will also offer the following software benefits:

- Full CAD Program with Rendering Engine.
- Built-in 2D / 3D Engineering Tools.
- 2D/3D Wall, Window and Door Architectural Tools.
- [AutoCAD® Alternative](#) - commands are the same

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CGTech Releases VERICUT Version 7.3

26 November 2013

CGTech is now shipping version 7.3 of VERICUT® CNC machine simulation and optimization software. VERICUT 7.3 features many enhancements that significantly improve performance thereby simplifying manufacturing engineers' ability to simulate the CNC programming and machining process. Changes to how users interact with VERICUT further improve VERICUT's workflow, and are a direct result of CGTech's philosophy of continuous product improvement.

“We have thousands of customers and their needs vary greatly,” said CGTech Product Marketing Manager Bill Hasenjaeger. “VERICUT has been designed to meet the needs of all types of shops – from the small job shop with simple parts, to the OEM and Tier 1 supplier that is regularly pushing the limits of CNC technology. VERICUT is constantly refined to provide the flexibility and tools our customers require.”

VERICUT Product/Function Overview:

VERICUT is CNC machine simulation, verification and optimization software that enables users to eliminate the process of manually proving out NC programs. It reduces scrap loss and rework. The program also optimizes NC programs in order to both save time and produce higher quality surface finish. VERICUT simulates all types of CNC machine tools, including those from leading manufacturers such as DMG-Mori Seiki, Mazak, Makino, Matsuura, Hermle, DIXI, and Chiron. VERICUT runs standalone, but can also be integrated with leading CAM systems such as Catia, NX, Creo Parametric, MasterCAM, PowerMill, EdgeCAM, hyperMILL, Esprit, GibbsCAM, and surfcam.

New User Interface Enhancements

The VERICUT user interface is very customizable. In version 7.3, the first thing a user will notice is the all-new icons, available in multiple sizes. There are also several user-selectable color themes, and every window and icon can be optionally displayed or hidden.

User-configurable “Favorites” further simplify setting up a simulation session. “Favorites” can consist of commonly used folders and files, and each item can be drag/dropped into a project.

To help objects stand out in the machine simulation scene, an “Edge Display” option analyzes models on-the-fly and finds and displays their edges, all without affecting simulation speed.

During simulation, a user can create a list of “Stop At” events. These events, such as “Collisions”, “Warnings”, “Tool changes”, or “End of each setup”, can be managed interactively in the NC program dialog. The user can add, move, remove, or temporarily disable the events that pause the simulation.

Improved Collision Checking Speed

Version 7.3 performance is now 5-10x (or more) faster when the NC program moves the simulated machine into potential collision conditions. A significant in-house development effort produced enhancements to VERICUT’s industry leading collision algorithms, removing the need to adjust complex machine models to improve performance.

Other New Features since Version 7.2

- Drag/drop files from Windows for quick setup.
- Check cutting tool wear limits based on time, distance, and volume.
- Constant gouge check simulation with very large design models is now 2-5x faster.
- Automatically save a Reviewer file during the simulation session. The VERICUT Reviewer incorporates all the functionality of NC Review mode in a stand-alone viewer that does not require a license.
- Measure tool assembly components in the tool manager.
- New CAD/CAM interface is available for Surfcam. Many other CAD/CAM interface improvements have been implemented.
- SpacePilot Mouse/Navigator motion is improved.
- Over 400 customer-driven enhancements and software change requests have been completed since version 7.2.

CGTech will also be demonstrating VERICUT Composite Applications at SOUTH-TEC. VERICUT Composite Applications are machine-independent off-line programming and simulation software solutions for automated composite tape (ATL) and fiber-placement (AFP) CNC machines.

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Design Simulation Technologies, Inc. Releases New Version of Dynamic Designer Motion for Solid Edge

22 November 2013

DST announced the release of Dynamic Designer Motion (DDM) for Solid Edge V10.0 which brings increased integration between DDM and Solid Edge Simulation.

Dynamic Designer Motion for Solid Edge performs Kinematic and Dynamic motion simulation on mechanical assemblies designed in Siemens' Solid Edge CAD system. DDM is integrated into Solid Edge as an add-on and extends the Solid Edge User interface and simulation capabilities to include Kinematics and Dynamics. These simulations are performed right inside of Solid Edge directly on the Solid Edge parts and assemblies without requiring any data translation.

Dynamic Designer Motion for Solid Edge Version 10 introduces a new capability that allows the dynamic forces calculated by DDM to be directly applied to a Solid Edge Simulation Study thereby allowing the stresses that result from the dynamic loads to be calculated in a seamless and accurate manner.

“One of the biggest challenges for designers of moving parts and assemblies is answering the fundamental questions that determine whether their design is a good one or not,” said Alan Wegienka, President of DST. “DDM allows the performance of a design to be evaluated, answering the question ‘Does it Work?’ and the new integration with Solid Edge Simulation allows the question ‘Will it break?’ to be quickly and easily answered also.”

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Gerber Scientific Launches Gerber University Online Learning Portal

25 November 2013

Gerber Scientific launched Gerber University™, a flexible training option for customers and industry professionals. The online education gateway is designed for users who wish to increase their proficiencies, learn new features and functionalities of Gerber's systems and software or gain industry knowledge and training while deriving maximum benefits from their software investments or career planning. At launch, Gerber University will focus on training offerings related to its YuniquePLM™ suite of product lifecycle management solutions. In addition, select AccuMark® pattern design, grading and marker making webinars are available through the portal. Content from other Gerber Scientific businesses will be available in the coming months.

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The extensive collection of easy-to-use, self-paced content consists of bite-sized courses offering learners access to the information they need as quickly as possible. Because users are able to participate in and complete courses at their own speed and convenience, they are able to maximize their educational experience while minimizing costs.

“In today’s fast-paced work environments, saving time is essential,” said Elizabeth King, vice president, Software Customer Experience at Gerber’s Yunique Solutions business. “We want to offer industry professionals more options for continuous education, including the ability to learn at their own pace. Students of Gerber University will be able to use online training in place of/or in addition to our traditional instructor-led courses to help ensure they maintain their competitive edge.”

Today, technology is rapidly changing the landscape of learning. With “modular” learning programs, users and companies have a broad range of choices to supplement their existing knowledge base. For a company with high employee turnover, educating new employees can be time consuming and costly. With Gerber University, new employees can take advantage of:

- instructor-led, in-house training
- instructor-led, online training
- online, self-paced training
- ...or any combination thereof

Additionally, individuals who want to focus on improving their knowledge in certain areas can do so at their own pace from the comfort of their home or office.

King added, “Gerber University is brought to you by industry professionals with practical experience in design, planning, sourcing, costing, manufacturing, product development, software development, integrated apparel systems as well as adult education. We continually look for ways to leverage our knowledge, insight, and relations for the benefit of our customers. Over the coming months, our industry experts will help users of Gerber University achieve their diverse set of learning objectives.”

To register, visit www.GerberU.com.

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Infinite Skills' "Learning SolidWorks 2014 Tutorial" Provides Foundation in 3D CAD Design Software

27 November 2013

Software training firm Infinite Skills Inc. this week released its "Learning SolidWorks 2014 Tutorial," an introductory course teaching the tools and techniques involved in creating mechanical models with the popular computer aided design software for mechanical engineers and designers.

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SolidWorks is a leader in 3D computer aided design industry and is used by 2 million engineers and designers worldwide. The program uses a parametric, feature-based assembly system for building mechanical models, allowing users to create and assemble parts into an overall design.

Infinite Skills Learning SolidWorks 2014 Video Training provides students with a basic skill set and core proficiencies with the fundamental elements of design in SolidWorks.

Course author Dean Kerste is a college professor with more than a decade of experience in industrial design and more twenty years experience as a professor in a mechanical design technology program. Kerste began his career as a draftsman detailing large industrial combustion systems for power generation and transitioning them into natural gas distribution systems. After working as a CAD operator and systems administrator, Kerste began a career in academics. He holds multiple degrees, including a bachelor's in industrial design and a doctorate in higher education.

The course begins with learning the basics of sketching such as lines and rectangles, advancing quickly to intermediate sketching with lessons on creating shapes, including polygons and slots.

From there, Dean explores the basics of designing in SolidWorks, explaining how to work in the features environment, use design elements such as fillets and chamfers, and create various patterns.

The course then advances into creating models by assembling parts using tools such as mating, positioning, and feature management. Finally, Kerste shows how to navigate the drawing environment, teaching the essential drawing tool palette and annotation features.

"After completing the lessons in this course, students will be well versed in SolidWorks 2014 fundamentals from parts to assemblies to drawings," Kerste says. "This foundation will not only set you on an exciting path of creating SolidWorks parts assemblies and drawings, it will spark your interest in more advanced SolidWorks functionality."

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KeyShot and IronCAD Integration Brings Faster Creation of 3D Visuals for Improved Communication

21 November 2013

Luxion with IronCAD, LLC, announced the integration between KeyShot and IronCAD, bringing the single-click transfer of IronCAD data into KeyShot along with the ability to keep model geometry updated to streamline the 3D visual creation process.

This tight integration between KeyShot and IronCAD, featuring Luxion's LiveLinking™ technology,

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allows IronCAD users to develop their design within IronCAD, export the data to KeyShot, maintaining assembly structure and all appearances, while continuing to work on the design inside IronCAD. As the design development proceeds, users can select to update the model inside KeyShot from the IronCAD interface with the click of a button without disrupting previous applied materials, views or animations set up within KeyShot.

This new integration both compliments and bridges the modeling flexibility available within IronCAD and the rendering flexibility within KeyShot to deliver an efficient workflow to design engineers. With the installation of the 2014 or later versions of the IronCAD Design Collaboration Suite of products, users can launch KeyShot directly from the IronCAD interface without the need to export to another file format. Options include the ability to Export the IronCAD model directly into KeyShot, update the model within KeyShot and export a KeyShot .bip file without KeyShot installed. Color assignments at the part and assembly level are maintained while assembly structure and camera views are transferred accurately into KeyShot.

“The KeyShot integration is a valuable extension for the IronCAD community, extending the capability to quickly develop high quality visual representations of their products,” commented Cary O’Connor, V.P. Marketing at IronCAD. “KeyShot is providing a simple to use, high quality product that ties perfectly to IronCAD’s commitment to deliver increased productivity to our users and we are excited to bring this integration to our customers,” he continued.

“IronCAD is an incredibly flexible 3D modeling application combining both parametric and explicit modeling in the same interface.” says Thomas Teger, Vice President of Products and Strategy at Luxion. “With the new KeyShot integration with IronCAD, users can extend that flexibility with the ability to quickly create stunning visuals from their IronCAD data while continuing to refine their design.”

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Nemetschek Vectorworks Releases Spanish-Language Vectorworks 2014 Software

27 November 2013

Nemetschek Vectorworks, Inc., is pleased to announce the Spanish-language release of the 2014 version of its award-winning Vectorworks® line of design software, including: Vectorworks Designer, Architect, Landmark, Spotlight, Fundamentals and Renderworks®. The Spanish-language version will be available throughout the Americas, the Caribbean and Spain.

“With the release of Vectorworks 2014, we’ve improved our offering of software tools to help designers capture their ideas, develop them, and communicate them ... easily, accurately, and efficiently,” said Jeremy Powell, director of product marketing at Nemetschek Vectorworks, Inc. “We continue to listen to customer feedback, and innovations such as the new patent-pending X-ray Select tool and a new visualization engine with fast interactive rendering reflect that effort.”

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The Vectorworks 2014 software includes more than 130 improvements that were developed for better modeling, BIM management, interoperability, usability, performance, and quality. The 2014 product line also features new BIM tools for architects, increased site design capabilities for landscape architects and designers, as well as enhancements to lighting devices, documentation and graphic controls for entertainment designers.

Please visit <http://www.vectorworks.net/espanol> for Spanish-language resources. Additional information about the 2014 release is available online; visit <http://www.vectorworks.net/2014> to learn more. To find your local distributor, visit <http://www.vectorworks.net/international>.

Also, the Portuguese localized version of Vectorworks 2014 software was released in Brazil on October 31. A recording of the Vectorworks 2014 Brazil launch virtual event is currently available online: <http://www.vectorworks.com.br/2014/login>.

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SolidWorks Reseller Announces Partnership with EpiGrid to Bring Customers EPDM on the Cloud 25 November 2013

Hawk Ridge Systems and EpiGrid, creator of the first private hosted solution for product data management, announced today a partnership that will give SolidWorks EPDM users the ability to implement their data management solution on the cloud.

As part of this partnership, Hawk Ridge Systems can offer new and existing customers EpiGrid's solution which provides scalable delivery of hosted architecture and top level security. It will also allow Hawk Ridge account executives to provide remote product demos and unprecedented backend support.

"Customers have been asking for a cloud solution, but no one really offers it," said John Peros, Director of Data Management and Software Development for Hawk Ridge Systems. "With this partnership, we're giving our customers the opportunity to utilize new technology and do so with a solution that's optimized for [SolidWorks Enterprise PDM](#). It's a huge advantage and we're excited about being on the forefront of this shift."

[The EpiGrid Solution](#) is changing the face of SolidWorks EPDM by removing the infrastructure and processes that hinder engineering departments while significantly lowering IT costs, but that's just the beginning. "Running EPDM on the cloud is just the start from our perspective," said Peros. "There are a ton of future opportunities and right now we're laying the groundwork for future expansion."

EpiGrid CTO, Chad Garrish, has been a pioneer in this movement and is thrilled to have a partner that is equally dedicated to revolutionizing data management. "We're really excited about the opportunity to

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work with Hawk Ridge and help their customers increase productivity, streamline design processes and just improve PDM overall."

Visit <http://www.EpiGrid.com> to learn more about the EpiGrid Solution and <http://www.hawkridgesys.com/> to learn more about Hawk Ridge Systems.

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Version 8.4 of aspenONE® Software Expands Activation Capability to Optimize Energy, Economics, and Heat Exchanger Designs

26 November 2013

[Aspen Technology, Inc.](#) announced the availability of aspenONE V8.4 software, featuring new Activated Exchanger Design and Rating (EDR) and updates to Activated Energy and Activated Economics in Aspen HYSYS and Aspen Plus. In addition, the new software adds crude assay data and new reactor models for refinery modeling with Aspen HYSYS and expands solids models for chemicals in Aspen Plus.

A Unified Engineering Environment

First introduced in aspenONE V8 software, AspenTech's breakthrough [Activation](#) capability in Aspen Plus and Aspen HYSYS enables process engineers to do instant analysis of heat exchangers, energy, and economics without specialist knowledge of these engineering disciplines. This unified engineering environment enables engineers to work more efficiently and achieve better results within tight project timelines. The new Activation capabilities in V8.4 software include:

- **Activated EDR** – The new release introduces Activated EDR, an all-new Activation capability to optimize heat exchanger design and operation. From within the new Aspen Plus and Aspen HYSYS engineering environment, users can do rigorous heat exchanger design and view heat exchanger status to quickly perform revamp studies and debottlenecking.
- **Activated Energy** – The latest Activated Energy, which automates pinch analysis for non-experts, adds the ability to group process units in a flow diagram and optimize energy across the grouping. Activated Energy also identifies optimum design modifications for energy savings and automatically recommends lower cost utilities that are available.
- **Activated Economics** – Powered by AspenTech's proprietary costing engine and the process industry's only cost estimation software, Activated Economics in V8.4 adds cost overlays to process flow diagrams, annual updates for cost estimation, and enhanced features for upstream safety standards.

Faster, More Accurate Refinery Modeling for Heavy Crudes

In V8.4, AspenTech continues to integrate the workflow between Planning and crude evaluation and Process Simulation and design. By automating the import of crude data from Aspen Assay Management into Aspen HYSYS Petroleum Refining, AspenTech eliminates the manual process of entering hundreds

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of crude data points in order to accurately model a crude slate. In addition, Aspen HYSYS V8.4 adds models for Visbreaker and Delayed Coker units required for processing heavy crudes.

Expanded Conceptual Solids Models for Specialty Chemicals

Building on solids modeling technology released in Aspen Plus V8, V8.4 bridges process engineering and particle science and extends solids modeling to non-experts. Using AspenTech's solids models, including two new operating units, spray dryers and fluidized bed reactors, both process engineers and particle scientists are able to build designs in parallel using a common frame of reference for faster and more efficient process design. With the latest version of Aspen Plus, AspenTech expands its lead as the only company that offers process modeling of fluids and solids in one simulator.

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