

PLM Industry Summary

Sara Vos, Editor

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CIMdata News

CIMdata Practice Manager Tom Gill Quoted in Article About Aras

6 December 2018

The company's latest investment of \$70 million was led by Goldman Sachs Private Capital and follows a \$40 million investment round last September.

But the company's trajectory wasn't always so certain. Schroer founded the company with his wife, Karen Schroer, in 2000, just before the dot-com collapse. The company grew slowly, funding itself largely through its own sales before it attracted a few rounds of venture funding, starting in 2003.

Aras had a roster of mid-size clients at that point, but Schroer said the company needed to distinguish itself if it was going to succeed in a crowded market. So he decided on a new business model, essentially giving its open-source software away for free and charging money to support and adapt it to clients' specific needs.

That decision was going to mean slower growth, Schroer said. He said his venture investors were not willing to wait around, so he made the painful decision to buy them out. (Kaiser says Greylock is willing to be patient with companies that have good plans.) The company, which had grown to about 50 employees, shed all but about a dozen.

"I think Peter knew that he wasn't getting traction trying to compete in the existing playing field, and in order to survive, he needed to do something different," said Tom Gill...

Click here to read the full article:

http://edition.pagesuite.com/popovers/dynamic_article_popover.aspx?artguid=f1fc9842-2ab5-4ef6-8efa-98f54646d995&appid=1165

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Moore's Law – Another Perspective (CIMdata Blog)

7 December 2018

The impact of Moore's Law is a topic that CIMdata's Executive Consultant, Dr. Keith Meintjes, really likes to talk about. In his most recent blog posting he looks at in the context of one of his recent purchases, the Raspberry Pi.

His own experience is shared to demonstrate his point:

"When I was at GM Research Laboratories in the early 1980s, we bought a Cray-1 supercomputer for about \$40 million. The Raspberry Pi is about 20 times as capable as that Cray-1. If you multiply that out and include the inflation factor (1983 - 2018) of 2.5, the Raspberry Pi is a resource that in the 1980s would have cost about two billion (of today's) dollars!"

Dr. Keith Meintjes, CIMdata

Learn more by reading the full blog post at: https://www.cimdata.com/en/resources/cimdata-blog/item/11137-moore-s-law-another-perspective

Don't forget to share it with your colleagues and let Keith now what you think!

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The Opportunity of Better: Autodesk University 2018 (CIMdata Commentary)

5 December 2018

Key takeaways:

- Autodesk has just about completed their business model transition from perpetual licensing to subscription.
- "The future of making" is still central to their vision, with automation and augmented reality/virtual reality (AR/VR) playing significant roles.
- Autodesk sees the Architecture, Engineering, and Construction (AEC) market as a huge manufacturing opportunity in the next 10 years.

CIMdata had the pleasure to attend Autodesk University 2018 (AU 2018), held in Las Vegas, NV on November 12-15, 2018. Over 11,000 attendees could gorge on over 650 classes, many presentations, and other sessions. Autodesk also stated that thousands of others attended AU 2018 online.

AU 2018 finds Autodesk a much different company than in previous years. Completing his first full year as CEO, Mr. Andrew Anagnost has seen Autodesk nearly complete their financial resurrection from the trough created by their 2016 move to subscription-based licensing. Based on comments from Autodesk executives the company is now much younger than it was, with more than half the company filled with people with 5 years or fewer at Autodesk. But in some ways Autodesk is the same. In his keynote address, Mr. Anagnost put a new spin, "The Opportunity of Better," around their commitment to transforming the way people design and make things, a message that has been consistent from Autodesk for the last several years. Better, in this case, refers to the opportunity for companies to improve how they work and to create enhanced products using the technologies Autodesk provides. But in his remarks Mr. Anagnost added a new emphasis on how automation is central to this vision. When most people see the word "automation" they think factories populated by robots, but Autodesk is riffing on their work in generative design, looking to automation to help users explore design options early, choosing those that best meet the stated requirements to share with downstream stakeholders. Effectively sharing this information and collaborating through the lifecycle puts their customers' data at the center of their vision, as highlighted in Figure 1. This graphic is also interesting because of its evolution over the last few years. Autodesk picked up on the product innovation platform definition that CIMdata and other leading market analyst firms proposed several years ago, with the first version of the graphic showing Fusion 360 at the center. While the Fusion branding has worked well for Autodesk, this graphic could be interpreted to leave out Autodesk Inventor, their flagship 3D mechanical computer-aided design (MCAD) product. In 2015, the graphic was changed to put an Autodesk logo in the center, and now the newest version, shown in Figure 1, is product-less, which CIMdata agrees is a better message. It is the data that is important and that data can come from many applications in today's extremely heterogeneous PLM environments. This is Autodesk's take on the digital thread, messaging adopted by almost all PLM solution providers and many others in neighboring enterprise segments.

Mr. Anagnost later ceded the stage to Mr. Scott Borduin, recently named Autodesk CTO, a position he previously held from 1999 to 2005. Mr. Borduin also highlighted the importance of automation, going back to his days working with Autodesk's first platform, AutoCAD. Mr. Borduin claimed that

AutoCAD was successful because it was a platform, with many applications built on top of their solution, supported by ecosystems of partners and resellers. According to Mr. Borduin just about any successful Software as a Service (SaaS) company owes their success to being a platform, with Salesforce as a leading example. But, Mr. Borduin claimed that it is hard to be successful by selling a platform from the start. Autodesk is employing this measured, evolutionary strategy with their Forge initiative, an effort CIMdata has documented in previous commentaries on Autodesk events. (While Forge is essential to their future it got very little emphasis in the sessions promoted to Analysts at the event. There is a developer's conference that kicks off the event that CIMdata will plan to attend next year to keep up to date on this important effort.) As described previously, the Forge platform is evolving to underpin all three prongs of Autodesk's business: manufacturing, media and entertainment, and architecture, engineering, and construction. But its application in AEC was more front and center in the executive sessions held for analysts. In fact, during the executive Q&A Autodesk acknowledged their increased investments in this space because AEC is not just an interesting opportunity. Autodesk believes that the AEC opportunity will be the fastest growing manufacturing market over the next 10 years. Leveraging 3D information in the construction pipeline will help make "better" a reality in AEC, an industry with sluggish productivity growth over the last few decades, huge amounts of waste, and budget and timeline overruns.



Figure 1—The Convergence of Design and Manufacturing (Courtesy of Autodesk)

The Q&A also revealed the evolving relationship between Autodesk and Amazon Web Services (AWS), one echoed by others leveraging AWS to deliver cloud-based applications to their customers. In the past, Autodesk had to build technological solutions into their platform because they were not available from AWS. In a recent CIMdata Webcast, AWS highlighted the incredible evolution of their platform and Autodesk is finding that they can do less in their platform because they can rely upon enterprise-grade capabilities from AWS. This is one reason that there are start-ups, like FusePLM, building PLM-enabling solutions directly on top of AWS. Of course, other PLM leaders are also leveraging AWS services in their cloud implementations as well.

Many companies use their flagship user event to announce new initiatives, products, and partnerships and AU 2018 did not disappoint. Mr. Anagnost hinted at what was to come in his keynote, a partnership

with Unity Technologies, Inc., a provider of a cross-platform augmented reality/virtual reality (AR/VR) engine at the heart of many leading video games, including more than 50% of new mobile games. In some ways, this was a confusing move since Autodesk has solutions to create such applications in their portfolio. But it goes back to the same platform argument mentioned earlier. Autodesk had a good solution, but Unity brings with it a mature platform with legions of developers, something that would require a huge investment of time, resources, and effort for Autodesk to replicate. CIMdata thinks this is a good move for Autodesk, allowing them to focus on how to leverage these technologies for their different constituencies. Other AEC competitors are leveraging AR/VR to good effect, like AVEVA, and this will greatly expand Autodesk's reach in this area. In the AEC keynote, Mr. Jim Lynch, Autodesk Vice President & General Manager for Autodesk Construction Solutions and Mr. John Riccitello, CEO of Unity, partnered to describe some of their early work on combining these solutions. They demoed how a combination of Unity and Autodesk's 3ds Max can be combined to help win construction bids, quickly changing different finishes and materials from any device, anywhere, resulting in high quality real-time presentations. They went on to describe how Unity and Revit can work together to help architects leverage Revit data to support construction and facilities maintenance. It is easy to see how such technologies, if embraced and broadly deployed in the construction business, could bring "better" to the AEC business. They expect the full integration of Unity and Revit to be available in fall 2019.

In conclusion, the "Opportunity of Better" is a catchphrase that could equally apply to Autodesk as a company. They have taken steps to enhance their recurring revenue which will help them invest to keep their portfolio vital and to fund important efforts like the Forge initiative. They are changing their workforce to help them meet the very different needs of millennials and the generations that come after. Their partnership with Unity builds on an existing strength and provides access to Unity's platform and their loyal global ecosystem. All of this better positions Autodesk to "better" themselves and their customers.

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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¹ https://unity3d.com/company/public-relations/news/unity-technologies-collaborates-autodesk-strengthen-link-autodesk-3ds. Their platform helped bring the world Pokémon Go.

Acquisitions

Infor Acquires Alfa-Beta Solutions

4 December 2018

Infor today announced the acquisition of Alfa-Beta Solutions, a Dutch system integrator. Alfa-Beta Solutions, a Gold Infor Channel Partner, specializes on mid-market and large enterprises in the food & beverage (F&B) industry across Benelux and Germany. The acquisition of Alfa-Beta Solutions, with decades of deep industry expertise, expands Infor's capabilities to support the company's growing F&B customer base in Europe.

"As companies across Europe embrace the cloud as an enabler of modernization and digitization, demand for our CloudSuite products has been strong; in no industry has this demand been higher than food & beverage," said Charles Phillips, CEO of Infor. "The acquisition of Alfa-Beta Solutions will bring a talented and experienced team to meet the growing demand for our products, and help new customers quickly realize their value."

Based in Arnhem, Netherlands, Alfa-Beta Solutions is a leading consulting firm specializing in Infor M3 and BI with approximately 70 employees based at its Dutch headquarters or its German location in Darmstadt. Alfa-Beta Solutions concentrates on F&B, with a specialization in the Dairy, Agrofood, and Convenience micro-verticals. Alfa-Beta customers include Royal A-Ware, Cono Kaasmakers, HZPC, Colbrand, Riedel, Huuskes, Roerink Food Family, Fransen Gerrits, Coroos Conserven and Jermi.

"Infor delivers modern solutions that are tailored to the F&B industry and we have specialized on that industry for the past decades. The increasing demand for specialized solutions for F&B can only be met predicatable, profitable and quick implementations using standard software and industry expertise. This acquisition allows Infor and us to extend and grow our methodologies and best practices." said Frank Resink, CEO of Alfa-Beta Solutions.

The acquisition closed today, and the terms are not being disclosed.

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Siemens acquires COMSA to further extend lead in automotive electrical systems design

3 December 2018

Siemens today announced it has acquired COMSA Computer und Software GmbH, a Munich-based company which develops software for electrical systems design and wire harness engineering. Its LDorado suite is the leader in automotive harness design and engineering software in Germany, reflecting deep local expertise and market presence with a well-established product portfolio and strong emphasis on standards. The COMSA team and technology will join the Mentor business, part of Siemens PLM Software, where it will add key harness engineering and design data analytics capabilities to the Siemens product range.

"The acquisition of COMSA is part of Siemens' continued investment in technology for the automotive industry," said Tony Hemmelgarn, president and CEO of Siemens PLM Software. "The combination of

Siemens and COMSA solutions and specialist staff is unrivaled in the industry. Together, we will take electrical systems and harness engineering to the new levels needed to meet the demands of electric and autonomous vehicle development, and provide deeply integrated technical capabilities that will benefit COMSA and Siemens customers worldwide."

Bishop and Associates estimate that in 2017 the worldwide revenue for the cable assembly market was \$155 billion with approximately 30% of the market from automotive. According to Cowen Research (Oct.19, 2018), "The wiring harness today is the third highest cost component in a car (behind the engine and chassis). Harnesses are built one at a time and can comprise about 50 percent of the cost of labor for the entire car. The wiring harness is also the third heaviest component (behind the chassis and engine). Any technology that reduces this weight directly contributes to fuel economy." Through this acquisition, Siemens plans to extend worldwide the delivery of new technology offerings that address disruption in the automotive harness industry caused by megatrends such as autonomous driving and electric vehicles.

Siemens' CapitalTM software, part of the portfolio of recently acquired Mentor Graphics, extends from electrical/electronic architecture development through electrical systems design and service into wire harness design and manufacture. The addition of COMSA adds key harness engineering and design data analytics technologies, with strong support for new data standards emerging especially in Europe.

"With Siemens' acquisition of COMSA, we will be able to participate and contribute to this growing market in ways and locations that we could not have reached alone. The strength of COMSA's LDorado software in wire harness engineering and analytics is a perfect complement to the Capital portfolio developed by Mentor, and we are excited to be a part of the forthcoming journey together," said Josef Biermeier, CEO of COMSA. "This combination is a win-win for both our companies, for our customers and the entire automotive industry."

"We have long admired the COMSA team and their products, and through this acquisition we are bringing together the complementary skills of two of the strongest players in the industry for the benefit of our customers," said Martin O'Brien, senior vice president, Integrated Electrical Systems at Mentor, a Siemens business. "The combination of Capital and LDorado technology with Siemens expertise in adjacent design domains and factory automation will enable us to better assist our customers in transforming their operations' competitiveness and increase profitability."

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SSA & Simuleon join Addnode PLM

4 December 2018

Addnode PLM division, with TechniaTranscat and Intrinsys, today announced that they have acquired Strategic Simulation & Analysis Limited (SSA), a UK simulation leader based in Charlbury. SSA's sister company, Simuleon, a simulation leader based in Zaltbommel, Benelux is also part of the acquisition.

SSA and Simuleon will become part of the PLM division of Addnode Group, covering the UK, Ireland, Nordics, Benelux and South Africa.

Background

Customers of Dassault Systèmes 3DEXPERIENCE Platform are increasingly looking for more sophisticated simulation capabilities. The new combined team with 30 simulation experts will provide customers with access to world leading expertise and experience.

SSA and Simuleon are very strong in Oil & Gas, Life Sciences and Materials Science complementing the existing strong simulation heritage in Automotive and Industrial Equipment.

Simulation is the fastest growing subsegment within PLM with a projected annual global growth of 12% (Source: CIMdata, 2018 PLM Market Analysis Report Series)

The Addnode PLM division, following the transaction, will have 620 employees in: Austria, Finland, Germany, Sweden, Slovakia, Norway, UK, Ireland, India, South Africa and the USA. In addition, these countries will represent combined revenues of €100 million (proforma 2017). The division will in early 2019 converge under one single brand.

"SSA and Simuleon, two very successful simulation companies with specialist knowledge, will enable the Addnode PLM division to further extend its position as the knowledge leader, providing superior capabilities and service to our European and international customers. The combination of Intrinsys, TechniaTranscat and SSA/Simuleon will form the clear #1 Dassault Systèmes Value Solution partner with the most extensive experience selling, implementing and supporting the 3DEXPERIENCE platform." Says Jonas Gejer, President of Addnode PLM division.

"The growth in SSA and Simuleon over the last 10 years has been achieved by focusing the business on SIMULIA high level simulation technologies and how these are applied and supported in customer scenarios. The application of this simulation technology on the 3DEXPERIENCE platform opens up exciting opportunities for our customers and joining the most experienced team in Europe will strengthen our ability to deliver even greater value to our customers and further growth with new clients. says Laurence Marks, founder and Director of SSA.

"By joining the #1 leaders in PLM, we will be able to address our current and future customer's needs with unique 3DEXPERIENCE & high-end Simulation knowledge, and at the same time be of added value to the TechniaTranscat Benelux Customers on Simulation perspective," says Dolf Broekaart, Managing Director of Simuleon.

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Company News

121nexus Announces Rebrand to "Soom"

6 December 2018

121nexus, a pioneer in utilizing barcode technology to bridge information gaps between data sources and physical products, announces today its new company name, Soom. Through the rebranding, the company is also declaring its exclusive focus on the healthcare industry that goes hand in hand with its mission — to harness the power and efficiency of technology to advance the quality and safety of healthcare. For everyone.

"Soom, meaning 'breath', encapsulates all that the company stands for. Like a breath of fresh air, we're

rethinking how the healthcare industry uses proven technologies like barcodes and mobile scanning, as well as emerging technology like blockchain, to improve safety, collaboration, efficiency and equality throughout the healthcare value chain," says Charlie Kim, Soom's president and CEO.

In 2015, the launch of the FDA's openFDA databases provided a wealth of product data, such as expiration dates and recall information. Soom combined the power of mobile scan and cloud-based technology to be the first and only company to unlock a simple solution that connects this data to individual medical devices. It applied this approach to connecting with other healthcare information sources, weaving together various data threads to deliver the most accurate and relevant product information.

Soom's enterprise software solution makes an immediate positive impact on medical device manufacturers by solving the critical needs to eliminate backlogs in the supply chain caused by data errors, improve IT efficiency and productivity, maintain regulatory compliance with Unique Device Identification (UDI) and Medical Device Regulation (MDR), and avoid adverse events like product recalls. With Soom's solution, medical device manufacturers can feel confident about the accuracy of their product master data. Manufacturers and their customers will save time, recapture costs and keep their supply chains moving.

In early 2019, Soom will deliver SoomScan, its next generation Version 4 mobile scan app, adding functionality to share safety and use information about a unique medical device, signaling synergy within the entire medical device ecosystem. SoomScan will connect multiple data sources, including openFDA, UDI barcode data, and enterprise resource planning (ERP) and product lifecycle management (PLM) systems.

"Our technology connects the work of many companies, government agencies and standards organizations, bridging the gaps between siloed sources of important healthcare information," says Kim. "Putting this critical information at the fingertips of users makes for healthier businesses and, most importantly, healthier patients."

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Accenture Joins the Data Literacy Project to Build a More Data Literate World

3 December 2018

Today, on behalf of its founding partners, Qlik® is pleased to welcome Accenture to the Data Literacy Project. Accenture joins as a founding partner, committing to the Project's mission to build a data literate culture across the world.

Data literacy is an essential skill in the Fourth Industrial Revolution, empowering people to ask questions of data and machines, build knowledge, make decisions and communicate its meaning with others. Yet, only 24 percent of business decision makers are fully confident in their ability to read, work with, analyze and argue with data.*

The Data Literacy Project, launched this October, is a community dedicated to making society fluent in the language of data, and places data literacy at the heart of individual and organizational success.

The Project will provide individuals and organizations with extensive educational and professional training materials, interactive assessment tools and access to a community of experts. The community

will not only support personal skills development, but also promote greater understanding around the importance of creating a data-driven culture within business.

The founding partners will drive the Project's agenda, provide educational resources and training, and ensure it achieves its mission.

"As data becomes increasingly critical to every stage of the business decision making process, it must also become increasingly trustworthy. Individuals must be able to trust the integrity of the data and recommendations being provided by analytics," said Sanjeev Vohra, Group Technology Officer of Accenture Technology Services and Global Lead for Business Data Group. "Data literacy is an essential skill that enables us to probe and question information before making critical decisions. That's why we're committed to the Data Literacy Project's mission of inspiring major organizations globally to make data literacy an imperative and will be providing guidance to individuals as they take their next steps on their data literacy journey."

"We're excited to have Accenture as a founding partner in the Data Literacy Project," said Mike Capone, Qlik CEO. "Accenture excels in implementing solutions that help build intelligent enterprises, and fully understands the business value of data literacy that was outlined in our recent Data Literacy Index global research. Accenture will be a great partner to the project in helping organizations understand their role in creating a more data literate world."

For more information on how to get involved in the Data Literacy Project, visit: https://www.thedataliteracyproject.org/

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Accenture Names 762 New Managing Directors and Senior Managing Directors

3 December 2018

Accenture has named 762 people to managing director and senior managing director, including a record number of women.

"Our new managing directors and senior managing directors truly embody what it means to be leaders at Accenture," said Pierre Nanterme, Accenture's chairman and CEO. "With their dedication to our core values, commitment to our people and superior service to our clients, they represent the future of Accenture and the best of a new generation of leaders in our industry."

The promotions — which span every geographic region and every part of the company's business — reflect Accenture's unwavering commitment to equality: A record 229 women were promoted to managing director, accounting for 32 percent of managing-director promotions, and 22 percent of all promotions to senior managing director were women, up from 19 percent last year.

"We always look for ways to grow and innovate in how we develop and support our people," Nanterme said. "Our ambition is to be the most inclusive and diverse company in the world — a true 'culture of cultures' — and this newest group of leaders will play a significant role in helping us get there."

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CONTACT University: India's MIT starts a new PLM era

3 December 2018

The Manipal Institute of Technology (MIT) is India's elite forge for computer scientists and engineers. New high-tech projects now rely on CIM Database PLM to strengthen team collaboration.

The MIT in the Indian state of Karnataka is known for its outstanding teaching excellence. CEOs such as Satya Nadela (Microsoft) or Rajeev Suri (Nokia) have started their careers here. Now MIT is deploying CIM Database PLM in its technical degree programs and current projects - supported by the global CONTACT University offering.

Mechatronic Engineering is the first department to use the new collaboration platform. The Mars Rover Manipal and Manipal Formula-1 teams are now preparing for the 2019 international competitions and are developing the next generation of their high-tech vehicles with CIM Database.

MIT has nine further projects in the pipeline in which CONTACT's PLM solution will play a central role. "We are designing prototypes for e-mobility, Mars missions and other innovation topics," says Prof. Dr. Chandrashekhar Bhat, head of the Department of Mechatronic Engineering. "CIM Database now makes it much easier for our teams to collaborate across disciplines and realize their ideas".

CONTACT Software and its partner QSO Technologies from Bangalore ensure that students and their professors stay up to date with CIM Database PLM by offering high-quality consulting and training services.

The Indian MIT, founded in 1957, today belongs to the Manipal Academy of Higher Education. On the modern campus, 27,000 students of different nationalities have the choice between 18 disciplines such as Aeronautical and Automobile Engineering, Information Technology, Electrical & Electronics or Mechatronics Engineering.

MIT graduates are in demand both in India and internationally, especially in view of the progressive digitalization. More than ever, companies need good junior staff who have advanced professional knowhow.

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D3 Technologies & Cetec ERP Announce Strategic Partnership

4 December 2018

D3 Technologies, a leader in Autodesk manufacturing solutions, announces a strategic partnership with Cetec ERP which will allow D3 Technologies to provide custom ERP integrations specifically for Autodesk manufacturing clients. Along with these new ERP capabilities, various other enterprise solutions are available from D3 Technologies, which are presented as D3's Enterprise Solutions (PLM, PDM, ETO, CTO, etc.).

D3 Technologies will now be able to deliver cloud-based enterprise resource planning (ERP) solutions tailored specifically for their Autodesk manufacturing clients nationwide. Additionally, plans are to expand upon the Cetec ERP platform over the coming months to create an exclusive D3 ERP version which will include even more capabilities unique to manufacturing companies who rely on Autodesk solutions to engineer & design their products.

"With Cetec ERP providing a full ERP suite that is deployed in the cloud, on a subscription-based model, we recognized this partnership would be invaluable to our Autodesk clients. Now, our clients can share crucial production-related data with not only internal employees & departments, but with outside constituents such as vendors, suppliers, and distributors. Also, the reality is now here to automate business processes for valuable insight into operations, all from one system which can be fully integrated with their current Autodesk solutions, I couldn't be more excited!." Said Kevin Schlack, President of D3 Technologies.

"It is our great pleasure to enter into this partnership with D3 Technologies. Not only as the only Platinum Autodesk Manufacturing-focused reseller in North America, but also one who has a strong history & proven track record of implementing enterprise solutions, we knew that we had found the team with the right experience, and customer success philosophy to complement the Cetec ERP product and expand our market to the Autodesk client base", said Brent Barton, CEO of Cetec ERP.

By combining decades of experience, and the right solutions for now and the future, D3 is providing a path to scale for growing manufacturing companies seeking a newer and better way to do ERP.

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Maya HTT and Siemens PLM host space movie premier in Montreal

30 November 2018

Approximately 250 suppliers to the Montreal aerospace community gathered at the Colossus de Laval theater and entertainment complex in the Cosmodome for a premier showing of "First Man," the movie which traces the history of the first moon landing in 1969. The film focuses on the life of Neil Armstrong, the American astronaut who took that "one small step for [a] man, one giant leap for mankind."

This event was sponsored jointly by Maya HTT and Siemens PLM, partners in service to the aerospace industry in Montreal. Hosting the event was Rita Azrak, marketing director for Maya, who began the technical presentation portion of the day by musing that the actual "first foot" on the moon was Canadian, as the landing leg cones on the lunar excursion module Eagle were fabricated in Canada.

A recorded message from the first Canadian astronaut, Marc Garneau, now Minister of Transport in Canada and a veteran of three flights on the Space Shuttle, began the presentation. Three main speakers gave insights on their companies' involvement in the industry and shared their optimism for the future, as funding for renewed space exploration by both Canada and America is in the works with the respective countries' governments.

Mike Greenley, group president for aerospace supplier MDA Corp.; George Rendell, senior director at Siemens; and Marc Lafontaine, vice-president of Maya spoke of the benefits in our daily lives from the space program, as well as the next major project now under way, the Lunar Orbital Platform-Gateway, a lunar orbit space station which will serve as a solar-powered communications hub, science lab, short-term habitation module, and holding area for space rovers and other robots.

The program also included a variety of successes achieved with Siemens PLM products, especially NX CAD and NX CAM through the Teamcenter of product lifecycle management. Maya is the Siemens partner in Montreal and brings further value to these products and others in the Siemens suite as a Platinum Level VAR, serving a broad spectrum of industries, including aerospace, defense, automotive,

marine, and commercial building.

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Plex Systems Appoints Bill Berutti Chief Executive Officer

3 December 2018

Plex Systems named Bill Berutti its chief executive officer and a member of its board of directors. Berutti has spent the last two decades in cloud and enterprise software leading global, high-growth businesses.

"The future of manufacturing ERP and MES is in the cloud, and Plex's position at the intersection of technology innovation and manufacturing presents an enormous opportunity for growth," said Petri Oksanen, partner at Francisco Partners and Plex Systems lead board director. "Bill's deep enterprise software and cloud experience and manufacturing roots make him the ideal leader for Plex, and he is the right person to lead Plex in the next stage of its growth. We're thrilled to welcome him to the team."

Prior to joining Plex, Berutti served as the president of cloud and enterprise solutions at multi-cloud management firm BMC Software, overseeing the company's division with revenues more than \$1 billion. Prior to BMC, he spent 17 years at PTC delivering solutions to manufacturers. He was PTC's executive vice president and general manager of service lifecycle management (SLM) where he was responsible for the company's fastest growing business unit.

Berutti holds a bachelor's in business administration from Miami University and is a graduate of Harvard Business School's Finance for Senior Executives program. He is currently a board member of both product cost software company aPriori and data center hardware maintenance company Park Place Technologies. Berutti will be based in Boston.

"Plex is trusted by hundreds of modern manufacturers managing thousands of facilities around the world," said Berutti. "I'm thrilled to join a strong team delivering a market leading product in the cloud, and look forward to helping manufacturers connect their businesses and fully take advantage of the opportunities created by Industry 4.0."

"I am excited to see someone with Bill's background and credentials at the helm of Plex," said Cindy Jutras, president and founder of Mint Jutras. "It is hard for someone who has not lived in the world of manufacturing to truly understand the complexities of the industry. He will bring a blend of deep manufacturing expertise and cloud/SaaS DNA. While Plex has achieved steady, double-digit growth over the 12+ years I have been following the company, it has yet to break out with the kind of explosive growth I have always felt was possible. That window of opportunity remains open and it will be exciting to see Bill scale Plex to its full potential."

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Siemens USA Inc awards PROLIM as "2018 Small Business Supplier of the Year"

6 December 2018

PROLIM has been selected by Siemens USA as the 2018 Small Business Supplier of the year. This

award is one amongst nine that recognize a supplier's exemplary co-operation in building a healthy relationship with Siemens USA while delivering a high level of performance in relevance with their product and services and optimizing processes in the shared supply chain.

Siemens USA Inc with its associated business units Siemens Mobility Inc, Siemens Power and Gas, Siemens Corporation Pooling Categories, Siemens Building Technologies, Siemens Government Technologies, Siemens PLM, Siemens Gamesa Renewable Energy, Siemens Healthliners went through the selection process that is grounded on SB Supplier with a valid contract, minimum of 3 years doing business with Siemens USA, and has demonstrated one or more of the following:

- Excellent Quality
- Cost savings
- Performance
- On-time delivery
- Innovation
- Ease of Use
- Sustainability

"We are extremely pleased and proud to be honored with this award, especially given Siemens' wide range of high-quality suppliers, it is a tribute to all the dedicated and committed PROLIM employees" said PROLIM CEO & President Prabhu Patil.

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Events News

Aerospace & Defense PLM Action Group at Aeromart Toulouse: 4-6 December

3 December 2018

The global platform that brings together the entire aeronautical ecosystem: 4-6 December in Toulouse features several speakers from the Aerospace & Defense PLM Action Group which is administered by CIMdata.

Speakers from the Aerospace & Defense PLM Action Group include:

- Jean-Francois Cugy from Dassault Aviation and Henrik Weimer from Airbus will make a short overview presentation about the A&D PLM Action Group during the afternoon of 5 December.
- Javier Reines from Airbus will make a presentation on PLM-AG / Multi-view Bill of Material during the afternoon of 5 December.

For more information visit on Aeromart Toulouse visit http://toulouse.bciaerospace.com/en/conferences-2018/conferences-workshops-dec-5.html

For more information on the Aerospace & Defense PLM Action Group visit www.ad-pag.com

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CORTIME to exhibit SolidWorks Integrated Design Exploration at SolidWorks World 2019

6 December 2018

CORTIME is proud to announce that the CORTIME software will be exhibited at SolidWorks World 2019 in Dallas TX from Feb 10-13, 2019. CORTIME provides SolidWorks Design Exploration for both analysts and designers in booth 228.

CORTIME is the next generation design exploration tool leveraging advanced parametric optimization, sensitivity analysis, visualization tools, and an intuitive user experience that is fully integrated with SolidWorks. CORTIME came about as a result of a PhD thesis in 2012 when Thøger Kari Hass, an optimization specialist and software developer saw the need for a much simpler and more efficient way to optimize CAD designs.

CORTIME helps engineers explore optimal designs, by automating their design evaluation process by exploring based on the demands for your design and its performance goals. An example could be wanting to reduce the mass, while not compromising the durability of a product. CORTIME utilizes advanced parametric optimization, sensitivity analysis, and design study visualization to enable intelligent automated exploration of the potential design options.

Design Exploration has been available for quite some time with SolidWorks, but before CORTIME nobody has made this powerful technology accessible enough to use for every SolidWorks user. For too long, powerful optimization technology has been collecting dust because the current design exploration software is too complicated to use. What makes CORTIME different is that the powerful capabilities are provided with a robust and intuitive user experience enabling designers to evaluate design options early and often in the design process. As an example, CORTIME includes robust behavior that automatically handles any SolidWorks model rebuild issues.

"Optimization and design exploration have been limited to simulation experts for far too long," said Rasmus Høtoft, CEO of CORETIME. "We have developed CORTIME to make this powerful capability available to everyone in the design process and thereby enabling smarter design decisions throughout the entire design lifecycle."

A design exploration in CORTIME can be set up in three easy steps:

- 1. Define the areas of your design, where CORTIME can make alterations
- 2. Identify the objectives you want CORTIME to achieve
- 3. Click "Start optimization" and CORTIME will do the rest

When the optimization is finished, CORTIME provides intuitive data analysis tools for selecting and analyzing the optimal design. CORTIME requires no expert knowledge or lengthy and expensive training to get started.

"CORTIME simply gives me a better overview of the data and it gives me more time to focus on other tasks," said Morten Hansen, R&D Engineer at BROEN.

CORTIME breaks the expertise barrier making Design Exploration broadly available. Design Exploration is not just for experts anymore.

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Financial News

Twine Solutions Successfully Completes its Growth Stage Investment Round

4 December 2018

Twine Solutions, the world's first digital thread dyeing system manufacturer, has completed its growth stage investment round, co-led by New Era Capital Partners and Maverick Ventures Israel.

Two strategic investors COATS Group and HP tech Ventures, as well as its existing shareholders, Landa Ventures and Gefen Capital also participated in the investment round.

Alon Moshe, Twine CEO and Co-Founder: "By digitally dyeing thread, Twine brings a unique solution to a most basic and fundamental global problem. This basic component, thread, is prevalent everywhere and is literally in 'every wear'. It is a primary and critical production bottleneck, limiting today's manufacturing of textile goods, ever more pronounced with the advent and growing of mass personalization and customization.

"It is with much pleasure that we announce and welcome our new investors and partners, in joining Twine to meet these challenges and push the boundaries to great heights. COATS will not only join as investors, but as Alliance Partners to cross boundaries and transformations between digital and traditional frontiers among others. By addressing this singularity point, thread, Twine brings immense economical value, as well as brings paramount importance to the ecological benefits from its offerings and solutions, thus allowing for industry 4.0 to truly set in."

Rajiv Sharma, Group Chief Executive, said: "This is an exciting and innovative strategic move. We are investing in future technology which will improve our industry and its sustainability by directly addressing the key needs of our customers: speed, innovation and sustainability. The disruptive technology has the potential to revolutionize the thread industry and Coats will work closely with Twine to commercialize this opportunity."

Irit Hillel, Partner at HP tech Ventures, said: "Twine's unique technology, positions the company to be a major player in the digital transformation of the textile industry, which we believe is ripe for disruption. We are excited to join Twine's mission to improve the industry's efficiencies, foster creativity and make a sustainable impact on the world."

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Implementation Investments

Chinese Apparel OEM and ODM SC Fashion Transforms Manufacturing with Centric PLM 6 December 2018

SC Fashion has successfully implemented Centric Software's Product Lifecycle Management (PLM) solution. Founded in 1992, Jiaxing Senchuang Fashion Co., Ltd. (SC Fashion) is an international fashion company with world-class manufacturing technologies and quality management systems. With a presence in a dozen countries and regions, the company delivers Original Equipment Manufacturer (OEM) and Original Design Manufacturer (ODM) services to high-end retailers and women's clothing brands in the West. Covering a factory area of 80,000 square meters, the company employs a workforce of more than 1,500 and generates over 800 million yuan in annual revenue from its knitted and woven products.

The OEM fashion industry in China faces many challenges including rising land and labor costs and an escalating trade conflict with the USA. On top of this, many customers are focusing on branding, expecting manufacturers to take on more responsibility for product design and development.

"Many brand customers are starting to downsize their product development teams," explains Mr. David Wong, co-founder of SC Fashion. "This in turn requires us to have the ability to meet their demands for product development. I don't believe a pure OEM company will survive in the future. Product-oriented thinking as well as design and development capabilities are critical for future success."

Today, SC Fashion has transformed its 'product-oriented' capabilities. Using Centric PLM as a platform to communicate with brand partners and efficiently manage product development, SC Fashion has optimized its ability to deliver additional services to customers. The initial aims of the PLM project were to build a master product data platform, which could be a complicated process due to the absence of established standards and shorten the cycle for sample production by 25%. Since completing the implementation, both of these aims have been achieved at SC Fashion.

As Mr. Wong says, "More and more leading clothing manufacturers have implemented Centric PLM. Unlike other providers whose solutions are mostly based on an order-oriented way of thinking, Centric has a truly product-oriented way of thinking, which is crucial to optimizing our services. Moreover, the Centric team is professional, and we enjoy working with them."

"We are very pleased that SC Fashion's implementation of Centric 8 has been successful and is already delivering results," says Chris Groves, President and CEO of Centric Software. "SC Fashion is a forward-looking manufacturing company that understands how the industry is evolving and is on the forefront of change. We are happy to partner with them throughout their digital transformation and future growth."

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Tommy John Finds Comfortable Fit with Centric PLM

4 December 2018

Tommy John has successfully gone live with Centric Software's Product Lifecycle Management (PLM) solution. Tommy John was founded in 2008 by Tom Patterson, a former medical device salesman. Frustrated by the discomfort of wearing traditional men's underwear, socks and undershirts in his life on the road, he set out to redesign men's base layers from scratch with a focus on fabric, fit and function.

Stephanie Schulz, Business Analyst at Tommy John, explains that the company's rapid growth and desire to expand into new products led them to invest in a new PLM solution.

"Tommy John is ten years old, but in some ways it still feels like a startup, as we have had such high levels of growth and success in the last five years," says Schulz. "We've recently launched our women's division, and we're expanding into new categories such as lifestyle, loungewear and athleisure. Using our old combination ERP and PLM system, data had to be exported and managed offline in spreadsheets and emails, which caused issues with data consistency and visibility. It took our teams a long time to update tech packs and make changes on the fly. We needed a solution that could scale with us, matching our growing numbers of teams and products in development."

Tommy John investigated several PLM solutions, but references from Centric customers swung the balance toward Centric PLM.

"Our consultant had experience with Centric PLM and helped to guide our decision," says Schulz. "We looked at Centric's client list and saw how many large, reputable brands use it, and we set up calls with other companies who had recently implemented Centric PLM. Throughout the vendor selection process, the Centric team was very dedicated in terms of walking us through demos and answering all of our questions. On a functional level, we were impressed by Centric's agility, configurability and welcoming user interface. It's refreshing compared to the archaic systems we were dealing with before. It's also very flexible, and we need a system that supports our business processes rather than slowing us down."

Tommy John implemented Centric PLM in a little over seven months, and went live on the system in May 2018.

As Schulz notes, "The big win is that all of our users have visibility. They're all connected to one version of the truth within the system. It's transforming the way we develop styles and create tech packs, as information that was previously offline is now instantly accessible in Centric PLM. Mass functionality is very important, saving our teams time and allowing us to work together at a much faster pace. We're also excited about the new features that Centric adds on all the time with new service packs and upgrades."

"The Centric team have been so helpful throughout the implementation and great at coming up with solutions to map the system to the way we work," concludes Schulz. "We really like the creative and proactive responses from the Centric team, who are always looking to grow and innovate. It's something Tommy John and Centric have in common."

"We are proud to have Tommy John as part of the Centric family, and happy to hear that Tommy John is already saving time and working more efficiently with Centric PLM," says Chris Groves, President and CEO of Centric Software. "Tommy John is an innovative and dynamic brand with a commitment to making premium products and we are very excited to partner with them as they continue to grow."

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Product News

ANSYS Develops Open File Format for Thermal Simulation

4 December 2018

Electronic component manufacturers and their customers can now easily share design models between different thermal simulation toolsets thanks to the new open neutral file format developed by ANSYS.

The open model format will promote interoperability and ease the exchange of data throughout the supply chain – saving manufacturers time, reducing import errors and improving accuracy.

Thermal analysis is critical for new designs in the electronics industry, making it more important for suppliers and customers to exchange information and models. Many suppliers support the major industry leading tools with their component models to allow larger system modeling and a common format for data exchange. The release of a standard file format enables component suppliers to create a single compact model file to describe its thermal characteristics that work with any simulation software tool that adheres to the standard and will save users valuable time and reduce errors.

ANSYS collaborated with several industry leading companies, led by Intel, to develop thermal model exchange standards that would facilitate easy data exchange and consolidate the many different file formats currently being used. The companies validated that the file exchange format met the necessary criteria and have endorsed the ANSYS open neutral file format standard.

"Thermal engineers at Intel support this collaborative effort to enable a direct method of tool interoperability and multi-disciplinary simulation," said David Ochoa, data center platform applications engineer, Intel. "Productivity is expected to increase with automation and custom tools that will be directly compatible with commercial software via this standard. Intel's customer support for thermal simulation will be simplified and streamlined since we can provide customers a single format rather than spend time developing, validating and supporting multiple types."

"Open standards and interoperability in the simulation industry are very important and together with guidance from the industry group, we are excited to release this file format," said Steve Pytel, director of product management for the Electronics Business Unit, ANSYS. "This model will work with all simulation tools that support the standard – saving customers a tremendous amount of time, improving accuracy and reducing import errors."

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FEATool Multiphysics MATLAB CAE Simulation Toolbox 1.9 Released

4 December 2018

FEATool Multiphysics version 1.9 has now been updated and released as a dedicated MATLAB Add-On and self-contained Toolbox. Available directly from the MATLAB Add-Ons Toolbar, FEATool now features easy and convenient one-click installation and Toolbox accessibility.

Improved OpenFOAM GUI

Introduced with FEATool 1.8, the OpenFOAM CFD solver interface has been significantly enhanced and improved with the following enhancements

- Support for non-constant and general initial and boundary condition expressions (automatic interpolation of non-constant expressions to OpenFOAM boundary case files, such as parabolic flow profiles)
- Support for axisymmetry and swirl flows (automatic conversion of 2D grids to 3D periodic wedge grid

slices compatible with axisymmetric OpenFOAM case files)

- Support for inviscid compressible flows with the rhoCentralFoam solver
- Improved k-epsilon and k-omega turbulence modeling interface with automatic calculation of turbulence inlet quantities via given turbulence intensity and length scale
- Real-time convergence curves plots. Convergence curves are now displayed during the solution process for easier and more convenient solution process monitoring

The MATLAB CFD interface for the OpenFOAM CFD solver allows users to conveniently model both laminar and fully turbulent incompressible and compressible flow problems all within an easy to use fully integrated Graphical User Interface (GUI).

The modeling and simulation steps can optionally be saved from the FEATool GUI and exported as editable m-file script files. This allows for programmatic modeling and custom scripting with support for all MATLAB toolboxes and functions.

New Physics Modes for Flow Simulation

FEATool 1.9 features two new pre-defined physics modes for flow simulations. The new compressible Euler equations physics mode allows for modeling of inviscid and supersonic fluid flows with shockwaves. In addition, the built-in CAD tools now also feature built-in and pre-defined wing shapes for NACA 4-series wing profiles. Moreover, a dedicated axisymmetric physics mode for flows with swirl effects is now also available (modeling axisymmetric flows with non-zero azimuthal velocity).

Solver Improvements

Along with the new pre-defined flow equations the built-in solvers have been significantly improved to better handle more challenging flow regimes. Incompressible flows are now per-default discretized with linear P1 FEM elements and stabilized with a Pressure Stabilized Petrov-Galerkin (PSPG) formulation. In contrast to the previously employed P2P1 FEM elements this new approach leads to a more cost effective discretization and faster time to solution. Furthermore, incompressible flow problems can now be initialized with inviscid potential flow solutions for better initial guesses and improved solver convergence.

In addition, for high Reynolds number and convection dominated problems a new discrete TVD type upwinding approach is employed which, in contrast to traditional FEM artificial (SUPG) stabilization, can eliminate unphysical under and over-shoots and also efficiently capture discontinuous phenomena such as shocks. This type of stabilization also improves general convection-diffusion type problems, such as heat transfer problems involving advection and chemical reaction problems.

Additional New Features

- Improved grid generation interface with support for boundary layer meshing
- More accurate parametrization and meshing of curved boundaries

- Built-in automated tutorial models and examples
- Direct point evaluation for 2D surface plots (by clicking in the plot)
- GUI and user interface (UI) improvements
- Extended backwards compatibility to MATLAB 2009b

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Latest Radan Does More With Fewer Clicks

6 December 2018

Users of the latest Radan release can benefit from streamlined processes, and doing more with fewer clicks.

A company-wide investment in development, combined with data from software analytics, means the latest updates are based largely on customer usage and preferences. Product Manager Olaf Körner says analytics have been able to identify common themes – the sequences people click most, and why. "It shows how customers achieve certain results, and we've used those measurements to incorporate sequences that are used many times every day, into just one click."

A significant update in Radan 2019 R1 makes the popular Radquote function easily accessible to different categories of employees. "Radquote users are generally not the staff who program machine tools with Radan. So we've made Radquote completely standalone and easy to use by anyone — automatically using machine technology for the quote, with Radquote calculating the accurate cycle time and the best material usage." This achieves an accurate quote every time, providing consistency and transparency, irrespective of who is producing the quote.

Radquote not only competitively calculates costing on sheet metal, but all aspects of quoting are now included – such as cutting, bending, welding, painting and assembly.

"It's also been enhanced to effectively deal with DXF files and also, soon, 3D files, as well as geometry that hasn't been created yet. For example, if a component contains a number of holes, Radquote can produce a quote based on that information, without needing to know exactly where the holes are."

Radquote also links seamlessly with most ERP systems, particularly WorkPLAN. This means that if there's a material price rise recorded in the ERP system, Radquote will utilise that information.

Radan CAD/CAM is a key area where click habits have been reviewed and advanced for simpler use – saving time and refining business processes. "Part preparation is a time-consuming task and some operations have been reduced from two clicks to one, to apply settings.

The Grab Part In Nest mode function, to change a part in nesting mode, has also been simplified saving average users an estimated minimum of 50 clicks per day."

The latest update also provides material cost saving through importing remnants via the Raster to Vector function, and a stronger web option. Olaf Körner explains: "Import a remnant via Raster to Vector can be used to eliminate wasting expensive remnants, such as specialised metals which can't be scrapped. Users can now take a photograph of the sheet and bring it into the CAM system, giving the approximate dimensions, to use later. The system then draws a remnant with that shape cut out and you can use it again."

The Batch Nest function now benefits from a stronger web option which allows parts to be nested evenly across a sheet. This is optimised for the best cut option, where nothing else will fit on the sheet, and is particularly useful to stop sheets moving on punch presses, while preventing heat build-up on lasers by ensuring an adequate space between parts.

Three important updates feature in Radbend, including: improved automatic fingerstop positioning for sharp-angled parts; pre-selection of the bend process depending on the tool selection; and filter tool profiles. Olaf Körner explains the tool filter options: "While every tool purchased is in Radbend's tool library, it can also now show tools filtered according to manufacturer. It also shows all the tools capable of producing the required bend. To reduce that list even further, you can set additional filters. 'Available,' is for all tools in the system; 'Valid' are tools that would fit the job; and 'Mapped' shows tools which are already programmed and ready to go onto a specific machine. Mapped tools are particularly valuable for identifying what tool is available on which machine and in saving time, as setting up a tool involves measuring, and maybe even carrying out test bends, which can take around 20 minutes."

Radm-ax developments include automatic heat avoidance, hazard avoidance and common line cutting. A new cutting sequence for heat avoidance has been added to prevent heat build-up in the component. Improvements to hazard avoidance, calculating a better and safer path around hazards, and an increase in the ability to cut more difficult angles, such as 30-degree angles, with common line cutting, will also benefit production times.

Multiple Nesting in Radm-ax is now easier, as setup nesting screens have been updated to improve workflow and clarity. A basic nester was added to provide a faster way to nest a single part with the addition of different parts to fill the remaining tube. Organising the workflow is also easier, thanks to an improved naming convention for generated files. And changes have been made to tube alignment options, making it easier to pick the correct point for alignment with the machine axis.

Concluding, Olaf Körner says: "Radan 2019 R1 provides a mix of getting to the result faster, with improving the results themselves. It streamlines what users have to do in their daily jobs. Analytics have enabled us to see how users are interacting with the software, and what steps they're repetitively taking. We've focused on reducing the time to perform these tasks, improving workflow and increasing production times, as a result."

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Siemens Partners with Modelon

3 December 2018

Announced on the Modelon blog:

Siemens Simcenter Amesim will use Modelon's OPTIMICA Compiler Toolkit as its Modelica engine in the upcoming Simcenter Amesim 17 release.

OPTIMICA is the most advanced Modelica-based mathematical engine on the market, built from the ground up to natively support the Modelica and FMI open standards. It offers a powerful API, native open-standards compliance, and a broad range of solvers capable of transient, steady-state and dynamic optimization. OPTIMICA is the calculation engine behind a growing list of commercial system simulation platforms.

The partnership between Modelon and Siemens will allow Simcenter users to use develop, reuse and integrate Modelica libraries with Simcenter Amesim native libraries for dynamic multi-physics systems modeling. As a result, Simcenter Amesim 17 will fully support the Modelica standard, benefit from optimized code generated by OPTIMICA, and continue utilization of the Simcenter Amesim solver for simulation while remaining compatible with all Simcenter Amesim platform capabilities. Additionally, support of Modelon industrial libraries will come in future Simcenter releases.

"We're thrilled to start this journey with Siemens, and to see the continued success of our Modelon Inside strategy, which allows integration of Modelon technology into third-party software platforms," said Magnus Gäfvert, CEO at Modelon. "With OPTIMICA as the Modelica engine of Simcenter Amesim, we're confident Simcenter Amesim users will experience more flexibility and an overall improvement in their design and simulation processes."

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SimScale Releases a GPU-based Lattice Boltzmann Solver with An Unparalleled Combination of Accuracy and Speed

6 December 2018

SimScale announces the groundbreaking release of a brand-new GPU-based solver using the Lattice-Boltzmann method (LBM), which pairs high accuracy with unparalleled speed and is accessible via cloud. Partnering with Numeric Systems GmbH to develop this innovative feature through their tool Pacefish®, the cloud-based simulation company has now reduced running times for transient simulations from weeks and days to hours and minutes.

Developed by Numeric Systems GmbH, Pacefish® is a completely new implementation of the Lattice-Boltzmann method (LBM) tailored to the massively-parallel architecture of GPUs. Its ability to efficiently run on multiple GPUs in parallel enables turnaround times that are 20-30x shorter than with traditional methods. Moreover, Pacefish® supports several turbulence models such as Smagorinsky LES, hybrid uRANS-LES SST-DDES and SST-IDDES and uRANS k-omega SST making it unique and superior among other LBM solvers.

In its first release, SimScale's new solver enables virtual wind tunnel analysis for a variety of applications, including wind loads on buildings, pedestrian wind safety analysis, automotive aerodynamics, and other external flow applications. Several validation projects have been carried out, comparing the generated simulation results with wind tunnel measurement data and will be shown in this webinar dedicated to the release.

As with every solver on SimScale, every user can benefit from this innovative technology without specific hardware requirements related to graphics cards, data storage or CPU performance. Relying on cloud computing, users can run industrial-scale external flow analysis with hundreds of millions of cells within just a few hours computing time on up to 16 GPUs.

"The accurate analysis of transient flows has historically been fraught with very long computing times and high up-front costs in order to yield realistic results. With the release of this new Lattice-Boltzmann solver, CFD engineers no longer need to choose between speed and accuracy—and on top of that, can access it with the convenience of an entirely web-based workflow. We're very excited to see our customers seize the new opportunities this technology is opening up," said David Heiny, CEO and co-founder of SimScale.

Companies and engineers interested in learning more about SimScale's new GPU-based solver using the Lattice-Boltzmann method can register for a free webinar here: <u>Introducing SimScale's First LBM Flow Solver Webinar</u>.

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TCS Launches Intelligent Power Plant Solution to Digitally Transform Utilities' Operations

4 December 2018

Tata Consultancy Services announced the launch of its intelligent power plant solution, TCS IP2, to help power generating utilities digitally transform their operations and gain a competitive edge in the dynamic power market. The solution will support critical plant assets for uninterrupted power generation, improve operational efficiency, and minimize emissions.

The increasing share of decentralized renewable power generation sources and the fluctuating structural needs of generation, transmission and distribution are creating challenges for power plants in their price competitiveness, operational flexibility, and compliance with ever tightening emission standards.

TCS IP2 is an intelligent digital solution that leverages the Business 4.0™ thought leadership framework and artificial intelligence (AI), Internet of Things (IoT), and digital twin technologies, to optimize the performance of power plants that are operating at full and even partial load conditions. The solution, which can be on the cloud or on-premise, uses inputs from sensors in utility control systems and advanced, proprietary industrial analytics developed by TCS to provide real-time insights on assets such as boilers, turbines, and generators, working within the constraints of the existing equipment and systems.

These insights will help plant operators predict and preempt failures, optimize operations, lower fuel consumption, and cut emissions. TCS IP2 can reduce operational and maintenance costs by up to 2 to 3 percent. An early version of the solution has helped a power plant save upwards of \$1.5 million per gigawatt per year.

"Innovative digital technologies are enabling opportunities to completely transform operations across the power sector," said Regu Ayyaswamy, Vice President and Global Head, IoT and Engineering Services, TCS. "We have uniquely combined utilities' domain requirements with state of the art digital technologies to develop this solution. IP2 uses data science and physics-based AI and IoT analytical models and frameworks to improve the entire power generation ecosystem, increase sustainability, and deliver exponential value and enhanced customer experience."

