# CIMdata

# PLM Industry Summary

Sara Vos, Editor

Vol. 21 No. 16 - Friday, April 19, 2019

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# CIMdata News

***CIMdata Announces the Completion of its 2019 PLM Status & Trends Research***

16 April 2019

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces the completion of its annual status and trends research related to the global product lifecycle management (PLM) economy.

The goal of the research was to deepen the PLM community's collective understanding of the status, drivers, and preconditions necessary for companies to derive value from their investment in PLM enabling solutions. A web-based survey was developed and distributed to identify the key issues.

Significant findings show that:

The majority of respondents identified that they have more than one commercially available PLM solution operating in their company.

Current implementations heavily focus on the "traditional" product data management aspects of PLM.

There is a heavy emphasis on business process enablement.

The business objectives for future PLM implementations have significant focus on getting faster, better, cheaper.

Compared to 2018 results there has been a shift somewhat away from Global Programs to Technology Simplification.

Over the next two years 64% of respondents said that they plan to increase the amount budgeted for PLM spend.

The use of the term "PLM" might have worn out its welcome.

According to Mr. Peter Bilello, CIMdata's President, "Many of the research findings are heavily weighted towards the traditional aspects of PLM, which is consistent with CIMdata's experience with its industrial clients. Survey responses indicate that industrial companies find PLM to be worth the investment and that PLM budget trends show a continued investment in the near term. The major

challenges facing users going forward are the confusion surrounding the overlapping processes and functions of enterprise systems (e.g., PLM, ERP, and MES), the lack of understanding around PLM payback opportunities, and cultural issues."

For more information on this research plan to join us on Thursday, May 9 for a CIMdata Educational Webinar on this topic. For more information or to register visit the CIMdata website at https://www.cimdata.com/en/education/educational-webinars/webinar-plm-status-trends.

**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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*Customization at Scale: Reaching a Market-of-One Profitably (CIMdata Commentary)*

16 April 2019

*Key takeaways:*

- *To stay competitive and profitable, manufacturers must respond to consumers' increasing demand to personalize the products they buy.*

- *Companies with complex and highly configurable product lines must have an end-to-end lifecycle mindset.*

- *Manufacturers require a flexible, scalable platform that supports the full lifecycle of product knowledge and incorporates robust configurator capabilities integrated with their product development process, as well as business systems to support a broad range of product features and complexity.*

- *Siemens PLM Software has developed a broad configurator solution suite that delivers best-in-class variability management capabilities.*

**Introduction**

The Internet has changed many facets of life, including how we, as consumers, find, configure, and purchase almost everything. The customer-centric focus and the associated personalized experience that configurable products offer has changed customer expectations. Buying standard, off-the-shelf products is no longer the norm; replaced by the ability to personalize each purchase without a penalty in cost or delivery time.

Customers want what they want and are demanding more complex and highly configurable products. Unfortunately, with increased product configurability (personalization and the need to serve markets of one) comes increased complexity in design, manufacturing, and service, and resulting costs and inefficiencies. In the past, the answer to managing complex configurability was to make the product simpler (i.e., reduce configuration options) or to create custom product development software tools to help manage the complexity. Neither is a good option any longer as customers are driving the demand for more options, not fewer, and software development costs continue to rise as capabilities and variations continue to grow.

Efficiently delivering products to markets of one while keeping costs in check requires manufacturers to make accurate assessments of how consumer features being considered or offered will impact product requirements, design, manufacturing, and service. As a result, companies that want to thrive in today's rapidly evolving, highly configurable product market need a new and more efficient end-to-end approach to the design, sales, production, delivery, and maintenance of their products' configurability.

Similarly, as the trend in product definition increasingly focuses on the importance of electronics and software content holistically integrated with the mechanical product definition, there is a need for a consolidated configuration knowledge base that can support complete multi-domain product definition.

Just as it is increasingly critical to have consistency and seamless definition across the multi-domain product definition of mechanical, electrical, and software, it is also important to understand how decisions related to consumer choice impact the end-to-end product and production process. Closely connecting product features and configuration rules to support impact analysis and guide end-to-end product definition increases clarity and accuracy which improves the bottom line.

To be successful, companies need to be able to quickly and efficiently configure their products to meet their customers' needs without having to specifically engineer each and every variation. Beyond product design, variability also needs to be supported seamlessly downstream. Variation in products typically drives variability in manufacturing and assembly processes, packaging, technical documentation, service contracts, and other functions. For many functions, this requires companies to know not only what configurations were delivered, but also the specific configuration of each as-maintained product (that is, a "digital twin") so that they can deliver tailored customer service throughout the product's life. Not only do companies need to respond quickly to ever-changing customer expectations by offering new product options, but they need to manage all the variations ever sold that remain in service.

For many companies their products have not been architected with configuration in mind—especially with the capabilities needed to meet markets-of-one requirements. Their systems are disconnected and not optimized for the complete end-to-end lifecycle. These shortcomings may be addressed by enabling consistent variability management across the product lifecycle, however accomplishing this can be daunting.

Fortunately, the technology and services needed are available to support this transformation.

**Variant Configurator Capabilities**

Manufacturing companies need highly capable, scalable, variant configurator solutions that enable them to develop, produce, and service literally millions of product variations and configurations across the full product lifecycle.

Any capable configurator is expected to support a core set of capabilities. To be considered as best-in-class, more advanced capabilities are required. Core and advanced capabilities include:

### Core Capabilities:

- Easy creation and management of rules, features, constraints, and product line breakdown including definition, validation and debugging

- Dynamic, accurate viewable representations of any configuration

- Bill-of-Materials generation of any product variant

- Presentation of market-facing features to end consumers for selection

- Scalable configurator platform that can quickly and efficiently solve small to very large and complex rule sets for representing variability

- Integrated with other capabilities within the platform to enable performing efficient analysis and optimizations

- Ability to integrate with other enterprise systems, e.g. ERP, CRM, web sites, etc.

### Best in Class Advanced Capabilities:

- Central configurator knowledge base plus solver for technical, sales, manufacturing, service, and other domains

- Comprehensive support of configuration impact analyses spanning variability and content to ensure that the complete "collateral" impact and cost of feature or product changes is clearly understood

- Revision/version and effectivity control for features and constraints to enable controlled changes to the variability knowledge base

- Seamless connectivity to mechanical, electrical, software, formulation, resulting documentation, and other product data

- Ability to consistently guide product definition from requirements through engineering, manufacturing, and service

- Support the flow of data across and throughout the structure of elements in the planning, development, and manufacturing processes, known as the digital thread, enabling digital twins

- A decoupling of the configurator from any one PLM solution, providing flexibility when integrating to existing business processes

### Siemens PLM Software's Configurator Solution

Siemens PLM Software (Siemens) is a recognized leader in end-to-end product definition and lifecycle configuration management. They have worked successfully with many manufacturers of complex products over many years to develop a deep understanding of the needs and issues of variant configuration management. Their primary variant configurator solution is built on Teamcenter, which

has had solid core functional configurator capabilities for many years. Siemens is now making large investments in more advanced configurator technology to ensure it provides a comprehensive configurator solution that incorporates the best-in-class capabilities needed in today's market of complex products.

CIMdata believes Siemens' latest offering delivers a robust configurator solution suite that enables the end-to-end, multi-domain product definition capabilities supported by the rest of their broad portfolio.

The strengths of the Siemens configurator solution include:

- Constructed on a solid platform architecture that supports effective scalable performance for any magnitude of product variations and configurations across the full product lifecycle

- Manages complex product variability across the full product lifecycle

- Delivers a variant capability that supports the digital thread product definition across a very wide range of design and manufacturing applications and beyond

- Provides Product Line Engineering: supporting the full lifecycle starting with product planning inputs and driven through the entire end-to-end product definition

- Seamlessly manages mechanical, electrical/electronic, and software data

- Has visual configuration on-demand for any (and across many) product variants

- Provides the ability to perform comprehensive engineering analysis, change management, and impact analysis across product configurations and related content

- Provides micro-services that ensure variant capabilities are available across the entire application ecosystem

- Supports the full continuum of Configure-to-Order (CTO) through Engineer-to-Order (ETO)

By delivering these capabilities, CIMdata believes that Siemens has demonstrated that they understand the evolving needs of their customers and the key role that a world-class configurator solution plays in supporting the increasingly complex, multi-domain products these customers produce and deliver to their consumers.

To support the growing drivers of product complexity, e.g., software and electronics, the Siemens configurator solution is designed to integrate with the increasingly broad Siemens portfolio such as the recent acquisition of Mentor Graphics. It is seamlessly connected across the Teamcenter lifecycle collaboration backbone as well as available independently (it supports use cases that do not require Teamcenter) as a central knowledge base to support Mentor solutions and other adjacent applications such as Configure-Price-Quote (CPQ).

**Conclusion**

Product manufacturers are being pushed to support a high degree of product variety and personalization without driving up costs or eroding profitability. To get a handle on this growing complexity and manage it through the product definition process, these manufacturers are increasingly requiring that product variability be managed consistently along with product definitions as they mature.

CIMdata sees the Siemens response to this demand as a competitive configurator solution with a comprehensive set of functionalities that can support a full range of product complexity across the product lifecycle. The centralized configurator knowledge base can be integrated to the technical

product definition, externalized for sales and marketing, and fed downstream for manufacturing execution, procurement, and service. Teamcenter users with complex product variability or who are currently using other configurator technology should explore Siemens' capability. Manufacturers not using a PLM or collaboration backbone, or one other than Teamcenter, should still explore the Siemens configurator version designed to run independent of Teamcenter.

**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

### *ANSYS Announces Indian Institute of Technology Bombay PhD Fellowship Program*

9 April 2019

ANSYS and the Indian Institute of Technology Bombay (IIT Bombay) will accelerate groundbreaking research across healthcare and conservation industries through a newly launched PhD fellowship program funded by ANSYS.

Over five years, ANSYS will fund PhD fellowships to accelerate healthcare, environmental sustainability, conservation of resources and technology research with an underlying social impact.

"ANSYS is supporting the next generation of inventors to sustain continuous growth and innovation in the healthcare and conservation sectors," said Rafiq Somani, area vice president - India and South Asia Pacific, ANSYS. "Through this PhD fellowship program, we will provide students from IIT Bombay the resources they need to innovate and deliver cutting-edge advancements to India and the rest of the world."

"IIT Bombay has made serious efforts towards the promotion of research and innovation among our faculty and students," said Prof. Suhas Joshi, Dean (Alumni and Corporate Relations), IIT Bombay. "Over the years, IIT Bombay has transformed from an undergraduate teaching institution to one of the leading research universities in the world. We are happy to collaborate with ANSYS to sponsor PhD fellows over the course of five years. We hope to pave the way for future collaborations between large corporations and educational institutes."

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***Bentley Systems Announces Winners in First Future Infrastructure Challenge: DEC Hyperloop***

11 April 2019

Bentley Systems announced Drummond Community High School of Edinburgh, Scotland as the winning team of the first ever *Future Infrastructure Challenge: DEC Hyperloop*, which took place April 7 through 9. Hosted by Bentley Institute and Class of Your Own, the challenge included sixth form students, ages 16 to 18, from four schools in the UK whose assignment was to conceptualize a design of a hyperloop transport system and stations for Singapore.

Students from participating schools, The Cardinal Wiseman Catholic School from Greenford, London; Drummond Community High School from Edinburgh, Scotland; King Ecgbert School from Sheffield, South Yorkshire; and More House School from Farnham, Surrey, traveled to Bentley Systems' offices in London on April 7. They were tasked with creating the hyperloop concept and a presentation to convey their cohesive plan to a judging panel.

The overall winners of the challenge are students from Drummond Community High School, Faye Fulton, Ryan Gordon, Alizah Mughal, and Wiktor Rauba, led by DEC teacher, Mark Holden. The winning team members and their teacher were awarded a complimentary trip to Singapore from Bentley Systems to attend its annual Year in Infrastructure Conference, which will be held this year October 21 through 24 at the Marina Bay Sands Resort in Singapore.

The four participating schools were selected from 100 schools studying the Class of Your Own *Design Engineer Construct!* (DEC) learning program, which is intended to educate students about and encourage exploration of careers in architecture, engineering, and construction.

In the spring of 2018, following meetings with students studying DEC at a higher or advanced level, the four schools were invited to enter teams to take part in the first *Future Infrastructure Challenge* to mark the 10th anniversary of Class of Your Own. Delivered in partnership with Bentley Systems, the program will be released as a full curriculum for schools around the world later this year.

Mark Holden, teacher for the winning team, said, "Drummond High School is committed to nurturing big ambition in its students and equipping them for the world and workplace of tomorrow. The school became involved in the DEC curriculum after seeing its success – and the attributes of its students – from across England and recognizing how closely this fit our own aims. We have enjoyed several years of unparalleled opportunities and great successes and are delighted that this has led to this collaboration with Bentley and COYO. The development of our team has been incredible to watch, but also the effect on the school community as a whole has been palpable. Knowing that students from our school are taking part in such a huge project, working with such esteemed professionals on this scale is a constant reminder to all of our students of what they can achieve."

Over the two days prior to the presentation day, the students created their designs using laptops and software provided by Bentley Systems at the offices of four globally recognized companies: Arup, Rogers Stirk Harbour and Partners, Turner Townsend, and WSP.

### *FMI Communications Partners with Market Thrive*

10 April 2019

FMI Communications has joined forces with Cincinnati-based Market Thrive. The new partnership offers companies an alternative to traditional photography with photorealistic 3D animated renderings as the demand for product imagery grows in online marketing and sales channels.

Great quality product imagery is more important than ever. Whether for eCommerce page listings, new product launches, web site galleries or social media campaigns, the high demand for beautiful product lifestyle images or close-up product feature photos is overwhelming for most marketers.

With advances in technology, 3D animated renderings offer an indistinguishable realism that requires no photo studio, travel time, product installation or building of a set. The animated image delivers CAD file accuracy with the versatility to revise or change angles in the future, offer a unique perspective or even animate in motion once the image is rendered.

"One of the biggest hurdles with clients we see is access to good, current product imagery," says Greg Weyman, Managing Partner of Market Thrive. "Marketers may suddenly need dozens of images for their product listings on Amazon and have no time for a photo shoot of that scale. In working with FMI for the last few years, I've seen firsthand how their team solves that problem by providing beautiful product shots in less time and at a better value than traditional photography."

"Market Thrive adds another level of service that complements our product offering", explains Keith Hyatt, President of FMI. "For the last 18 years we created the imagery and then just handed it off to the client. We were only helping our clients halfway through the race. Now we can see them to the finish line by providing strategic plans to utilize these assets in the array of eCommerce marketplace platforms."

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### *GE Healthcare and Rockwell Automation Collaborate to Drive the Next Generation of Bioprocessing Automation*

16 April 2019

GE Healthcare and Rockwell Automation are combining their automation, IT and single-use solution expertise to build bioprocessing operations for the digital age. The two companies will help biopharmaceutical companies create flexible and scalable facilities of the future, focused on rapid response to market demands, streamlined production technologies and adaptable manufacturing environments. GE Healthcare has also joined the Rockwell Automation PartnerNetwork Program as an OEM Partner to help drive a best-in-class distributed control system offering.

Kevin Seaver, executive general manager, Bioprocess Automation and Digital, GE Healthcare, said: "As GE Healthcare and the healthcare ecosystem move toward precision health, flexible and scalable solutions are critical for companies to efficiently manufacture smaller batches of tailored medicines. Our collaboration with Rockwell Automation is an integral part of our strategy to confirm we deliver innovative solutions that meet the needs of the biopharma 4.0 era."

Fran Wlodarczyk, senior vice president, Architecture and Software, Rockwell Automation said: "Our collaboration with GE Healthcare will help make bioprocessing operations more agile. The facility of

the future reimagines what's possible in production of biopharmaceuticals. It uses connectivity, information, and modular equipment to create smaller-scale, more efficient operations. As GE Healthcare becomes a member of our PartnerNetwork program, our joint work will help GE Healthcare bring the Connected Enterprise to life, so they can meet demands for more targeted drugs and get products to market faster."

Automation improves operational efficiency with reduced production risk and streamlines workflows resulting in faster times to market. This collaboration leverages the combined expertise in single-use bioprocessing with deep automation and IT knowledge to turn data insights into productive outcomes.

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### *IdenTrust® and Device Authority Collaborate to Deliver Secure Lifecycle Management to the IoT*

15 April 2019

IdenTrust and Device Authority announced a strategic alliance with a vision to provide trusted identity lifecycle management for enterprises on their digital transformation journey.

Device certificates have traditionally been used to secure routers, firewalls, servers, and other devices capable of securely handling private keys and implementing PKI technologies. However, in the new IoT world, device certificates can be used to secure a wide range of networked assets, such as ATM machines, medical devices, surveillance cameras, industrial machines, refrigerators, vehicles and much more.

IdenTrust's comprehensive identity-based digital certificate solutions deliver assured individual and device identity for financial institutions, healthcare providers, government agencies and enterprises around the world. With over 5 million certificates in active production, IdenTrust supports over 18 billion validations per year and is the world's leading digital Certification Authority.

Device Authority's KeyScaler automation engine provides secure IoT device registration and provisioning through an innovative policy-driven credential delivery and management system that ensures certificates can be easily rotated, renewed and managed without human intervention. The platform is designed for swift integration and interoperability in support of today's rapidly expanding IoT application market.

Combining Device Authority's KeyScaler platform capabilities with IdenTrust's trusted digital certificate solutions provides customers with a complete IoT security solution that automates compliance, minimizes costly manual intervention and manages risks in a diverse industrial regulatory marketplace.

"The relationship between IdenTrust and Device Authority links our trusted certificate authority with a seamless and scalable means to efficiently manage the lifecycle of issued digital certificates in the rapidly expanding IoT device market," said Brad Jarvis, Vice President and Managing Director of Identity & Access Management Solutions (IAMS) with HID Global. "The combination simplifies the process of enhancing device security and its administration for our customers."

"We're delighted to be working with the IdenTrust team to provide device and data trust for their customers embarking on their IoT journey. With a mixed environment of devices emerging in healthcare, industrial, and government sectors, the combined value delivered from both companies has a

strong positioning for physical, enterprise and IoT IAM customer solutions," said Darron Antill, CEO of Device Authority.

To sign up for Device Authority and IdenTrust's joint webinar -- "Five Tips for Securing and Managing your IoT environment with Public Key Infrastructure (PKI)."

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### *IrisVR Takes Home Technological Innovation of the Year Award at 2019 New York City Construction Awards*

16 April 2019

IrisVR announced it was awarded Technological Innovation of the Year for 2019 by the New York City Construction Awards (NYCCAs).

The NYCCAs, which take place yearly at the Build New York Expo, aim to recognize achievements within New York's construction industry by awarding solution providers, contractors, architects, developers, and local authorities. IrisVR received Technological Innovation of the Year for Prospect, their VR software for immersive design review and collaboration.

Other companies that were considered for the award included PlanGrid, Assignar, and Reign Maker, among others. The judging panel for the award featured industry experts from top AEC firms - such as HOK, Stantec Inc., and AECOM.

**Building a VR Tool for the Construction Industry**

Prospect unlocks VR for decision making by instantly processing 3D models into VR experiences, allowing BIM (building information modeling) and VDC (virtual design and construction) teams to walk through models in an immersive, 1:1 environment. In 2018, IrisVR specifically focused on building and improving construction industry use cases for the software - including Multiuser VR Meetings and a BIM-friendly Navisworks to VR plugin. The NYCCAs recognized IrisVR in light of these advancements.

IrisVR officially released Multiuser VR Meetings last February, after unveiling the technology at AIA in 2017. IrisVR's Multiuser technology creates a workflow that is new to the building industry - offering a real time virtual reality environment with voice audio and motion feedback accessible to anyone.

Now, construction industry professionals can host guided walkthroughs of a space pre-construction, extending the concept of in-person client meetings and design review to the VR world.

2018 also saw the release of IrisVR's first-ever Navisworks integration. Navisworks is one of the primary project review programs used by the construction industry. With the ability to step into Navisworks models in VR, VDC and BIM teams can bring important parts of their virtual design workflows - such as coordinating trades, running QA/QC, and detecting clashes - into a more productive setting.

Additionally, IrisVR added the ability to access BIM data in VR for Navisworks and Revit files. With this addition, construction professionals can review materials, manufacturer data, budget, construction phasing information, and all the other data drawn from their original BIM file in VR for the first time.

"Prospect has been a tremendous addition to Gilbane VDC's tool belt," says Rawle D. Singh of Gilbane

Building Company, one of IrisVR's customers. "[The software] helps our project teams better understand installation and sequencing requirements for complex spaces - and our designers can understand the impact of coordination issues and time constraints."

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### Open Mind Technologies Announces New hyperMILL Reseller for Texas, Louisiana

5 April 2019

OPEN MIND Technologies USA, Inc. has announced that it recently partnered with a new authorized reseller, 5 Cell Technologies, located in Houston, Texas. 5 Cell Technologies will offer industry leading *hyper*MILL® CAM software from OPEN MIND in Texas and Louisiana, with a strong focus on 5-axis milling and mill-turn capabilities.

"We are very pleased to welcome 5 Cell Technologies to our reseller network," said Alan Levine, Managing Director of OPEN MIND Technologies USA, Inc. "5 Cell Technologies is known for their 5-axis technology expertise and strong customer service, which ideally complements our 5-axis milling strength."

5 Cell Technologies Vice President, Daniel Davila, said, "We are looking forward to working closely with OPEN MIND to support *hyper*MILL® customers. In addition to the Houston area, we will have a strong presence in Austin, San Antonio as well as Louisiana, and will be establishing an office in Dallas soon."

OPEN MIND's focus on CAM, and its continued commitment to the latest technologies, produces trend-setting innovations that make it significantly easier for customers to achieve substantial quality, time and cost improvements. OPEN MIND's *hyper*MILL® software is a state-of-the-art CAM solution with 2.5D, 3D, 5-axis milling and turning strategies, as well as specialty applications, that are all available in one interface.

5 Cell Technologies is an authorized reseller for *hyper*MILL® CAM software from OPEN MIND Technologies.

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### SAP North America Appoints Greg Petraetis to Lead Mid-Market Business and Drive Cloud Customer Growth

18 April 2019

SAP North America, a subsidiary of SAP SE, announced that industry leader Greg Petraetis has assumed the role of head of Mid-Market and Partner Ecosystem in North America.

While the SMB market represents more than 80 percent of SAP North America's customers, the mid-market business segment specifically continues to exert a huge influence on the global economy, driving innovation and technology adoption. In his new role, Petraetis will be responsible for bringing SAP's mid-market business to the next level of success as it presents remarkable cloud growth opportunities for SAP. In 2018 alone, the organization brought in close to 250 new customers for North America, making

it the region's fastest net-new customer growth acquisition engine. Among these customers were Rivian and Key Food Co-Operative Member Stores.

"Through more than 20 years of software sales and leadership experience — most recently as COO of the Mid-Market Business segment — Greg has built a reputation for his operational excellence, his effectiveness in building a winning team culture and his laser focus on customer success," said DJ Paoni, president of SAP North America. "Greg's appointment reflects SAP's dedication to the mid-market, a segment defined by its first-mover mentality and a key driver of innovative growth in North America."

Petraetis will be responsible for all facets of the organization's operations and will apply his deep industry experience in analytics, business intelligence, data management and behavioral applications to help bring mid-market customers to the next level of success. He will lead efforts to drive growth in this business through SAP North America channel partners.

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***Tata Technologies and FutureMove Automotive Enter a Strategic Partnership Agreement to Develop Comprehensive and Unique Connected Mobility Solutions for the Automotive Industry***

18 April 2019

Tata Technologies announced that it has entered into a strategic partnership with FutureMove Automotive, a leading high-tech Chinese enterprise specializing in connected services, to develop comprehensive and unique connected mobility solutions for automotive manufacturers in China and worldwide. The companies signed the Memorandum of Understanding (MoU) at Auto Shanghai, the biggest auto fair of the South East Asia region.

The association will enable both the companies to complement their value offerings for the automotive industry and serve their customers better towards future mobility. Tata Technologies has strong capabilities in delivering end-to-end vehicle programs. With over 9000 professionals, Tata Technologies serves clients in 27 countries from its 17 global delivery centers across Asia Pacific, Europe, and North America. FutureMove Automotive, with its digital and mobility services is a strategic partner to its customers in Mainland China, Hong Kong, Macao and the US. Through the agreement, the two companies will integrate technologies, products, solutions, and resources to respond to demands within the automotive industry. The joint strategy will help support their clients across the globe by providing the capacity, capability, competitiveness and a range of innovative solutions for future mobility and ensure their leadership in the industry.

Mr. Warren Harris, Chief Executive Officer & Managing Director, Tata Technologies, said, "In support of our vision towards "Engineering a better world", Tata Technologies is committed to building an ecosystem of partners. These strategic partnerships will be underpinned by a commitment to complimentary positioning and mutual success. The relationship with FutureMove will combine Tata Technologies' market-leading connected car service offerings with the platform and technology of FutureMove to provide a suite of services to the Chinese automotive industry. We are extremely excited about the opportunity to accelerate the value that we deliver to this dynamic and constantly evolving market."

Mr. John Wang, Founder & Chairman, FutureMove Automotive said, "Tata Technologies is one of the

most important strategic cooperation partners for FutureMove worldwide, the cooperation not only meets the current business need, but also has profound strategic significance for FutureMove to develop overseas market especially in Southeast Asia and Asia-Pacific."

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### TrueCommerce EDI Recognized as a Leader by Verified Users on G2 Crowd

16 April 2019

TrueCommerce announced that its Electronic Data Interchange (EDI) platform has been positioned in the Leaders category of the G2 Grid for EDI platforms. The product was identified as one of the category-best, based on its high levels of customer satisfaction and likeliness to recommend ratings from real users on G2, the World's leading business solutions review website.

"We work relentlessly to make our unified commerce technology most effective and customer care – top-notch," said TrueCommerce senior vice president, sales and marketing, Haitham Ghadiry. "And we are thrilled that our efforts have been recognized by our most valuable judges – our customers. The G2 rankings prove that TrueCommerce's investments into customer care, product reliability and ease-of-use are paying off."

TrueCommerce achieved Leader ranking on the G2 Spring 2019 Grid Report for Electronic Data Interchange (EDI) by receiving positive reviews from verified users compared to similar products in the EDI category. For inclusion in the Report, a product must have received ten or more reviews.

"Rankings on G2 reports are based on data provided to us by real users," said Michael Fauscette, chief research officer, G2. "We are excited to share the achievements of the products ranked on our site because they represent the voice of the user and offer terrific insights to potential buyers around the world."

G2 reviewers gave TrueCommerce high rankings for the product business value and outstanding customer care.

Sample customer quotes displayed on the G2 website:

"Software has great flexibility (mapping) to allow for many different scenarios both on your end and that of your customer. Great integration with my back end software (Sage 50). Customer support is excellent! Generally very responsive and capable. Reps are knowledgeable, but also have access to higher levels of support when needed (and not afraid to use the resource). Very satisfied overall. Excellent value!"

"It is a very flexible system and has a great support team. Integration with most of the big box retailers is quite smooth, and there is not much testing needed to go live. The option of label printing is a nice addition as well."

"There is fabulous customer service. It seems like a small team of people because I always get the same representatives, but they are knowledgeable and always take the time to get the answers I need. The system is very simple to use. Once you get accustomed to the layout and the way the system operates, it is a very easy program to navigate. No frills, but then none are necessary. It's kind of a relief."

"A benefit is being able to communicate with our customers instantly when orders are received. We will

either confirm the Purchase Order, or if changes need to be made I'm able to submit this request via the EDI system immediately for a quick turnaround. This allows us to fulfill our customer orders much quicker."

TrueCommerce EDI is an extension of TrueCommerce Foundry - a broad set of unified commerce services and apps that connects customers, suppliers, channels, and systems. This platform revolutionizes supply chain visibility and collaboration by helping organizations make the most of their omni-channel initiatives through business P2P connectivity, order management, collaborative replenishment, intelligent fulfillment, cross-functional analytics, and product information management.

The solution leverages TrueCommerce's Global Commerce Network that includes over 92,000 pre-connected retailers, distributors and logistics service providers. A true managed services provider, TrueCommerce manages the onboarding process for new trading partners as well as the ongoing management of trading partner specific mapping and labeling changes.

To learn more, visit https://www.truecommerce.com/solutions/truecommerce-platform/web-based-edi

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### *VMH International Announces Company Name Change to ApexDMS (Digital Manufacturing Solutions)*

1 April 2019

VMH International Inc., a Siemens PLM Solutions Partner and unit of the Sconce Group of Companies, announces its corporate name change to ApexDMS Inc. effective April 1, 2019. The company's headquarters will remain in Frisco, TX.

The company has used the name, "VMH International," for more than 10 years, achieving company and product recognition in the United States. Customers, vendors, and partners will find no change in the quality of products or services offered, obtaining information on products or services, or conducting business with the new business identity. Along with the name change, ApexDMS Inc. will align with the new Siemens digital brand identity, and all future business activity will be conducted under the new name.

"United as ApexDMS, we will continue to provide best-in-class digital software solutions as a Smart Certified Siemens Channel Partner, while our customers will reap the many benefits of the global Siemens brand," said Brian Bezdek, Managing Partner, Sconce Group and ApexDMS. "The brand ApexDMS better reflects the emerging integrated digital technologies that the company provides to the manufacturing and engineering industries."

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# Events News

### *Aras ACE UK: 14 May 2019*

18 April 2019

Aras extends the invite for the global PLM community to attend the UK Aras Community Event on May 14th in Birmingham, UK. There is a food & drinks reception on the evening of 13 May to open the event.

Topics include challenges for organisations and future direction of travel; systems engineerings and traceability; insights into key PLM industry trends, and the Aras vision for what's ahead.

To see the full agenda and to register, please visit https://events.aras.com/ace-2019-uk/agenda

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## PLM ReInvented MeetUp: Connected and Automated Vehicles – End-to-End Design, Traceability and Security

17 April 2019

**Connected and Automated Vehicles**

**End-to-End Design Traceability and Security**

Join us to discuss managing key functions of the product lifecycle for connected and automated vehicles (CAV). This event will focus on current strategies and solutions for CAV's with an emphasis on solutioning trusted-platforms, connected services, and traceability of data generated necessary to build these vehicles.

Hear Richard Doak, Chief Strategist for Automotive MFG at Microsoft, and Bill Bone, CTO for Automotive at Aras, present their views on business/technical challenges and solution opportunities for these vehicles in a casual environment. We will provide food, drinks and a chance to win a door prize.

Tuesday, April 30, 2019 ● Microsoft Technology Center ● Detroit, MI ● 5:30 PM - 8:00 PM

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## XPRIZE Founder Peter Diamandis to Keynote LiveWorx, the Definitive Conference for Digital Transformation

17 April 2019

PTC announced that Peter Diamandis, MD, will keynote the LiveWorx® digital transformation event for the industrial enterprise, on Tuesday, June 11, at 5:30 pm. An entrepreneur, medical doctor, New York Times bestselling author, and MIT and Harvard graduate, Diamandis will discuss how cutting-edge technology like mixed reality, artificial intelligence, and robotics can transform the way companies and humanity will operate in the digital era.

As part of the four-day event, Diamandis joins a packed agenda of international influencers, experts, and technologists who will explore digital transformation, the augmented workforce, and how technology complements, rather than replaces, the human's unique qualities and strengths.

Known for saying "The best way to predict the future is to create it yourself," Peter Diamandis is a perfect addition to the LiveWorx lineup. Diamandis, who was recently named one of the World's 50 Greatest Leaders by Fortune Magazine, is the founder and executive chairman of the XPRIZE

Foundation, a world leader in designing and operating large-scale incentive competitions. He is also the executive founder and director of Singularity University, a global learning and innovation community using exponential technologies to tackle the world's biggest challenges. Diamandis co-founded a venture fund that invests specifically in exponential technologies and has started over 20 companies in the areas of longevity, space, venture capital, and education. He is a New York Times bestselling author.

To experience his keynote presentation, as well as hundreds of breakout sessions and the Xtropolis™ interactive technology playground, register to attend LiveWorx from June 10-13 in Boston's Seaport Innovation District at [www.liveworx.com/register](http://www.liveworx.com/register).

Leaders on the Forefront of Technology

In addition to Diamandis and previously announced keynote speaker Pattie Maes, and Track Spotlight presenters Cathy Hackl and Kat Holmes, other influential LiveWorx Track Spotlight presenters include:

- Jeff Hojlo, the Program Director of Product Innovation Strategies for IDC Manufacturing Insights, leading IDC's research and analysis of the PLM and collaborative innovation market.
  *Track: Digital Engineering*

- Kathleen Mitford, the Executive Vice President of Products at PTC.
  *Focus: PTC Products*

- John Nosta, the founder of NOSTALAB, a member of the Google Health Advisory Board, and a blogger for Forbes and Psychology Today.
  *Track: Life Sciences*

- Helen Papagiannis, augmented reality expert and author of Augmented Human: How Technology is Shaping the New Reality.
  *Track: AR/MR/VR*

- David Rose, a senior lecturer at MIT, author of Enchanted Objects, and VP of Vision Technology at Warby Parker.
  *Track: IIoT & Smart Connected Products*

- Max Tegmark, author of Life 3.0: Being Human in the Age of Artificial Intelligence and a professor of physics at MIT.
  *Track: AI & Robotics*

- Amy Webb, a professor of strategic foresight at the NYU Stern School of Business and the founder of the Future Today Institute.
  *Track: IIoT & Smart Connected Products*

New at LiveWorx19: Co-Located Events

LiveWorx has partnered with leading organizations to provide attendees with additional educational and networking opportunities during the conference. Attendees are invited to attend one of many co-located events taking place on June 10 including: CAD & PLM Technical Day; Enterprise Blockchain Summit by Readwrite Labs and VRARA Enterprise Summit. In-depth software training coursesfor CAD, PLM, Industrial Automation, IoT, and AR are also available at an additional cost.

Don't Miss Out: Register Now

Register for LiveWorx and co-located events at www.liveworx.com/register.
Visit www.liveworx.com and join the conversation @LiveWorx on Twitter for up-to-the-minute agenda

and event information.

To request a press pass, please contact Alexandra Puig at apuig@ptc.com.

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# Financial News

### *ANSYS to Release First Quarter 2019 Earnings Results after Market Close on May 1, 2019*

15 April 2019

ANSYS, Inc. announced that the Company expects to release its first quarter 2019 earnings on Wednesday, May 1, 2019, after market close. The Company will hold a conference call conducted by Ajei Gopal, President and Chief Executive Officer, and Maria T. Shields, Chief Financial Officer, at 8:30 a.m. Eastern Time on May 2, 2019, to discuss first quarter 2019 results and future outlook.

CONFERENCE CALL INFORMATION:

What: ANSYS First Quarter 2019 Earnings Conference Call
When: May 2, 2019 at 8:30 a.m. Eastern Time

We encourage participants to pre-register for the conference call using the enclosed link. Callers who pre-register will be given a unique PIN to gain immediate access to the call, bypassing the live operator. Participants may pre-register any time, including up to and after the call start time. You will immediately receive an online confirmation, an email with the dial-in number and a calendar invitation for the event.

To pre-register, go to: http://dpregister.com/10130626

You may also reach the pre-registration link by logging in through the investor section of our website at https://investors.ansys.com and clicking on the Audio Webcasts link. Click the event under News & Events.

For those who do not have internet access or are unable to pre-register, simply join the call on the day of the event by dialing (855) 239-2942 (US) or (412) 542-4124 (Canada & INT'L). Ask the operator to join you into the ANSYS Conference Call.

The call will be recorded with replay available within two hours after the call at https://investors.ansys.com or at (877) 344-7529 (US), (855) 669-9658 (toll-free Canada) or (412) 317-0088 (INT'L). Passcode: 10130626

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### *CIVC Partners Announces Investment in Computer Aided Technology*

16 April 2019

CIVC Partners, L.P. ("CIVC"), a Chicago-based middle market private equity firm focused on investments in the business services and financial services industries, is pleased to announce the firm's investment in Computer Aided Technology ("CATI" or the "Company"), in partnership with the

management team.

CATI is a leading provider in 3D design and engineering solutions across the product development continuum, including 3D CAD, 3D CAE, PDM and PLM software, 3D printing and scanning hardware, and other related technologies and consulting, training and support services. CATI is the oldest partner in North America to leading design software provider Dassault Systemes SolidWorks and carries the highest partner designation with leading 3D printing manufacturer Stratasys.  For additional information on CATI, visit https://www.cati.com/.

CATI's entire management team will remain in place following the investment and will maintain a meaningful ownership position in the Company. The partnership will support CATI's continued growth, both organically and through acquisitions.

The Company's President, Rich Werneth, said, "We are excited to be partnering with a CIVC team that shares our vision for CATI and who has the resources and capabilities to help us execute on that vision." CATI Partner, Rod Levin added, "CIVC has been an active investor for nearly 30 years and has extensive experience partnering with management teams. We expect CIVC to be a value-added partner going forward as we execute on our growth strategy."

John Compall, a partner at CIVC, commented, "CATI is one of the leading providers in the highly attractive 3D design technology industry. We are looking forward to our partnership with Rich, Rod, and the rest of the CATI management team to support the Company in accelerating organic growth and pursuing strategic acquisitions." Andrew Roche, a senior associate at CIVC, added, "CATI is a great investment opportunity for CIVC and a strong fit with our experience investing in high growth engineering-focused business services companies."

The partnership with CATI builds on CIVC's investment experience in outsourced business services companies. Other representative investments within this focus area include EN Engineering (utility engineering and consulting services), GPRS (private utility locating services), Magna Legal Services (litigation support services), and KPA (compliance services and software).

### IGE+XAO: A favourable first quarter

17 April 2019

Consolidated turnover for IGE+XAO over the 1st quarter of 2019 stands at 8,516,319 euros, up 7.3% compared to 2018. This sharp increase is the result of both the sustained activity of SME/SMI sales in France as well as abroad and the good resistance of Major Accounts sales.

Like commercial activity, the beginning of this period was particularly dynamic from a technical standpoint, with in particular the achievement of significant developments concerning the future versions of the SEE Electrical PLM (Management of the life cycle of electrical facilities), SEE Electrical Expert (Computer Aided Design software dedicated to electricity) and SEE Electrical 3D Panel+ (Design and manufacture of electrical cabinets in 3D) software. In addition, substantial efforts were deployed in the area of Cloud technology.

From a financial standpoint, the Group is solidly structured with, at 31 December 2018, equity of 37 million euros, almost no bank debt and a cash flow of over 33 million euros. Backed with its results and

its solid fundamentals, the Group intends to pursue its development plan while still retaining a high level of profitability.

In this context, the Combined Annual General Meeting of 12 April 2019 approved the distribution of a dividend of 1.55 euros per share effective 18 April 2019.

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### Propel Wraps FY 2019 with Record Revenue Growth as Dario Ambrosini and Kishore Subramanian Join as CMO and VP Engineering

17 April 2019

Propel announced strong revenue growth for Fiscal Year 2019, as well as the addition of Dario Ambrosini as Chief Marketing Officer and Kishore Subramanian as Vice President of Engineering. The two executives join the team following the recent additions of Sean Jacobsohn, Partner at Norwest Venture Partners, and Ashley Stirrup, Chief Marketing Officer at Algolia, to its Board of Directors. Propel has raised a total of $28 million from Cloud App Capital Partners, Norwest Venture Partners, Salesforce Ventures, Signalfire, TIFF, Green D Ventures, and Egora Holdings.

Propel experienced revenue growth across all industry segments, with consumer goods, high tech, and medical devices more than doubling, while revenue from existing clients increased over 200%. Ambrosini and Subramanian join as the company expands its efforts to target every manufacturer in every industry, from the smallest business to the largest enterprise. "Propel is suited for a mid-size company but has everything if we grow to a Fortune 500," said Chuck Renz, Vice President of Product Engineering & Quality at S'well. "It's perfect for a Fortune 500 company."

"The product development cycle has accelerated over the past five years, with more companies using Propel to deliver a combination of quick deployment, ease-of-use and configurability to accelerate time to market," said Ray Hein, CEO. "Propel is redefining product lifecycle management to extend beyond product data management and engineering lifecycle management from concept to customer. Propel's cloud-based approach helps companies of all sizes, from the very largest to the up-and-comers, beat competitors by getting their products to market ridiculously fast."

"Our team is growing to meet strong demand for our unique approach to product lifecycle management," continued Hein. "Over the past few months, we've added employees with decades of product lifecycle management experience to Propel as we continue to build upon our customer use cases and support them through multiple product releases per year. By expanding our executive team, we can continue to deliver the best possible experience for our customers." Ambrosini joins Propel's marketing team from Manta, one of the largest communities for small business, where he was COO and previously CMO. Prior to that, he held roles in enterprise and small business marketing at Switchfly, Yahoo! and American Express. Subramanian joins the Propel engineering team from Google, where he was Senior Software Engineer, Developer Relations for Google Assistant's conversational platform. His previous experience includes senior engineering roles at Motorola Mobility, JackBe, and Agile Software.

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### *SAP to Announce Results for First Quarter of 2019 on April 24*

16 April 2019

SAP SE will release its results for the first quarter of 2019 on Wednesday, April 24.

SAP CEO Bill McDermott and SAP CFO Luka Mucic will host an analyst conference call to present first quarter financial figures.

Media representatives may also listen in on the call via Webcast at 2:00 p.m. CET, accessible at: https://broadcast.co.sap.com/go/QReport.

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### *Strong Order Book and Double-Digit Growth Mark Stand-Out Year for TCS*

12 April 2019

Tata Consultancy Services reported its consolidated financial results according to Ind AS and IFRS, for the quarter and the financial year ended as on March 31, 2019.
Commenting on the Q4 performance, Rajesh Gopinathan, Chief Executive Officer and Managing Director, said: "This is the strongest revenue growth that we have had in the last fifteen quarters. Our order book is bigger than in the prior three quarters, and the deal pipeline is also robust. Despite macro uncertainties ahead, our strong exit positions us very well for the new fiscal."

He added: "Our full spectrum digital transformation capabilities and thought leadership is what is driving the strong demand for our services, and making us the preferred innovation and transformation partner to our customers. Our Business 4.0™ framework has now become the de facto model for enterprises looking to embrace new technology-enabled business models, pursue new revenue streams or deliver superior customer experiences."

N Ganapathy Subramaniam, Chief Operating Officer & Executive Director, said: "It is a very satisfying finish to a year marked by steady growth acceleration and order book expansion every quarter. The expanding scale and scope of our cognitive business operations engagements have been central to our growth. Our Machine First™ approach and location-independent Agile methods are helping our customers reimagine their processes and underlying systems, participate in ecosystems and transform themselves into Business 4.0 organizations."

V Ramakrishnan, Chief Financial Officer, said: "Double digit growth, higher quality of the incremental business, and best-in-class execution capabilities have helped us expand our operating margin year on year. Our foresight in investing very early on in building digital skills and transformational capabilities has not only gained us market share, but has also resulted in our very resilient, industry-leading margin today."

To see the full results, please visit https://www.prnewswire.com/news-releases/strong-order-book-and-double-digit-growth-mark-stand-out-year-for-tcs-300831537.html

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***Trimble First Quarter 2019 Earnings Call and Web Cast***

16 April 2019

Trimble will hold a conference call on Wednesday, May 1, 2019 at 2 p.m. PT to review its first quarter 2019 results. The call will be broadcast live on the web at http://investor.trimble.com. Investors without Internet access may dial into the call at 800-528-9198 (U.S.) or 702-928-6633 (international). The passcode is 9089723.

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# Implementation Investments

***Allies and Morrison Selects Deltek to Power Its Project Success***

18 April 2019

Deltek today announced that Allies and Morrison – the architecture and urbanism practice based in London – has selected Deltek as its project management tool. The award-winning practice, one of the largest in the UK, selected Deltek's innovative solution to eliminate manual resource management processes, improve project delivery and reduce time managing company finances.

Allies and Morrison needed a solution to manage its resources and projects, built in such a way that works for architecture and design firms. Deltek Vantagepoint was able to meet complex requirements for their resource management and reporting, automate revenue recognition processes and easily configure the solution to meet the firm's needs. By selecting Deltek as a partner, Allies and Morrison will get more robust reporting, approval and notification workflows, as well as improve its month-end process.

"When it became apparent our teams were spending too much time manually manipulating data, we knew it was time for a change from our current systems. We evaluated several products and ultimately selected Deltek," said Stuart Williams, Finance Director at Allies and Morrison. "Deltek has expert knowledge in our field with software that is designed specifically for architecture and engineering firms. We are looking forward to using Deltek's products to provide us with the tools we need to manage our projects so that we can continue to deliver great work."

Deltek Vantagepoint is an intuitive, powerful product that puts projects and people at the centre of businesses. It provides a complete view of company information in a single place, allowing for more efficiency, productivity and profitably. Vantagepoint empowers companies to deliver successful projects, proactively manage performance, nurture client relationships and make better, more informed decisions to drive the business forward.

"We are thrilled to welcome Allies and Morrison to the Deltek family. Architectural practices like Allies and Morrison need tools to deliver complex projects," said Fergus Gilmore, Deltek's VP and Managing Director, UK & CE. "With Deltek's purpose-built solutions, we will help them to be more efficient and productive. We look forward to partnering with Allies and Morrison for years to come."

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### *Ameri100 Secures Digital Transformation Project at Fortune 500 Client with New Solutions Win*

15 April 2019

AMERI Holdings, Inc., a specialized SAP® cloud, digital and enterprise services company, today announced that it has been selected by an existing client, a Fortune 500 company and provider of facilities and corporate identity services, to implement a data lake strategy powered by SAP HANA. The project will enable the client to manage its data more simply and efficiently and extract big data-driven business insights to better service its global customer base.

Ameri100 will design and develop a technical architecture to consolidate the client's disparate data sources resulting from prior acquisitions into a single repository that utilizes SAP HANA, the digital core to SAP's product portfolio that offers customers the flexibility and opportunities of managing data and running applications across multi-cloud, hybrid and on-premise environments.

"This award demonstrates our continuing ability to expand our footprint within clients by leveraging our cloud and solutions teams' capabilities to achieve business improvements through digital transformation and deliver projects that are more strategic to clients' business goals," stated Ameri100 Chief Executive Officer Brent Kelton. "We were selected for our deep data lake experience by this client who is committed to turning data into business value by harnessing the power of SAP applications. We look forward to an exciting new chapter in our partnership with this client."

### *ANSYS Fast Tracks Ferrari GT Race Car Designs Through New Partnership Agreement*

17 April 2019

Ferrari Competizioni GT is leveraging cutting-edge ANSYS simulation software to create next-generation vehicle designs that promise a substantial advantage on the track. Through a new partnership agreement, Ferrari Competizioni GT engineers are advancing the aerodynamic performance of their elite race cars with ANSYS' industry-leading engineering simulation software.

Every two or three years, the Ferrari Competizioni GT engineering team pushes themselves to engineer an upgraded racing GT within a 12-month window. Production efficiency is the formula for their success and the team has historically used ANSYS® Fluent™ meshing to deliver cutting-edge turbulence models and solver technology to take their cars' performance to the next level.

Adoption of the new Mosaic-enabled Poly-Hexcore™ meshes greatly accelerated the team's simulation process. The team leveraged automated workflows to cut hands-on development time, use parallelization to create high-quality mesh faster and solve in ANSYS Fluent more efficiently — creating 3x more simulations without additional development time or resources.

"Mosaic-enabled meshing is making a considerable impact on our aerodynamics designs — letting us achieve improved accuracy using far less cells and solving in half the time," said Ferdinando Cannizzo, head of GT racing car development at Ferrari Competizioni GT. "With Mosaic technology and the Fluent end-to-end workflow, our team runs three times as many simulations in the same amount of time and develops cars faster than we ever could before."

"Ferrari Competizioni GT cars represent the pinnacle of racing performance and we are proud to help them engineer new aerodynamic designs to obtain more victories on the track," said Sandeep Sovani,

director of Global Automotive Industry at ANSYS. "Teams are always looking for performance advantages and Mosaic meshing accelerates all stages of the simulation workflow, answers design questions sooner to help maximize production efficiency and supports tight developmental timelines."

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### PC Construction Selects DESTINI Estimator Platform

15 April 2019

Beck Technology announced that PC Construction has chosen DESTINI® Estimator as its new estimating platform.

Founded in 1958, PC Construction is a 100% employee-owned company headquartered in Vermont, with five offices along the east coast. From specialized buildings in the northeast to complex water and wastewater treatment plants in the southeast, PC is ranked annually as one of the top contractors in the country.

The multi-year enterprise agreement will enable the company to utilize DESTINI Estimator for its estimating efforts.

"PC Construction is constantly evolving and we wanted a tool that could grow with us while streamlining our processes and creating greater efficiency," said Randy Lessor, Director of Information Technology at PC Construction. "Beck Technology worked with us to adapt the software to our needs, and we are looking forward to putting the tool into practice across the company."

"We really enjoyed getting the opportunity to work with PC Construction and develop a solution that addresses not only their current needs, but also their plans for future growth and development," said Chris Torbert, Account Executive at Beck Technology. "We look forward to continuing to collaborate with them as we develop innovative solutions to estimating challenges."

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### PUES adopts Siemens' Capital electrical design software to streamline next-generation EV system design

16 April 2019

Siemens today announced that leading Japanese electric vehicle (EV) systems provider PUES Corporation has selected Capital™ electrical design software from Mentor, a Siemens business, to help speed and simplify the development of next-generation automotive electrical/electronic (E/E) systems. PUES is an EV systems pioneer with a 30-year track record of helping the world's leading car manufacturers and their suppliers integrate advanced technologies into their products.

PUES turned to Siemens' Capital software after years of using discrete point solutions across multiple engineering domains. These legacy tools were ultimately overwhelmed by increasingly complex E/E challenges resulting from automated driving requirements, stringent global emissions regulations and unyielding market pressure to reduce costs and speed time-to-market. With the limited compatibility of the legacy tools and the challenges of coherent data exchange through the E/E flow, making design

changes in one domain required time-consuming and error prone rework in other domains, executed using diverse design environments.

The latest in a series of industry-leading products from Mentor to join Siemens' expanding software portfolio, the Capital suite provides PUES with a unified platform delivering design automation and design change management across multiple E/E domains. PUES uses Capital for a wide array of tasks including E/E system architecture definition, electrical system and wire harness design, configuration and change management, as well as functional verification and manufacturing process generation.

"At PUES, we've being working closely with our customers to rapidly develop EV/HEV system prototypes and to fulfill other related development requests. Capital is a true electrical collaboration platform that provides the digital continuity we need across a broad range of critical tasks to get EV electrical systems to customers faster," said Kishi Shingo, executive officer for PUES. "Because many of the world's leading automotive OEMs and suppliers also use Capital, as well as adjacent Siemens products such as embedded software for AUTOSAR-based systems, we expect to realize even more efficiency moving forward, due to streamlined collaboration with our global customer base."

Because the Capital software automates the production of documentation linking assets such as wiring schematics, component locations, harness views and diagnostic procedures, PUES can add value and boost customer satisfaction, even as autonomous drive functionality and other fast-evolving requirements dramatically increase the complexity of EV systems.

"PUES is a longtime leader in EV systems, and its relevance continues to grow as electrified powertrains become increasingly central to automotive innovation," said Doug Burcicki, automotive market director for Siemens' Capital Software portfolio. "Using Capital software can help PUES achieve new levels of efficiency as it continues to deliver world-class EV system technologies for its large and growing base of customers."

Developed particularly for transportation applications, Siemens' Capital software spans an extended flow from concept and electrical architecture definition to wire harness design, manufacture and vehicle maintenance. Combining powerful design automation and modern enterprise integration capabilities, the software creates digital continuity within the electrical domain to help compress development cycle time and deliver a significant cost reduction. Capital tools can be implemented individually or deployed together in a unified flow that seamlessly matures data within a consistent environment. Robust integration with adjacent domains (such as requirements management, mechanical CAD and PLM) is fully supported, as is cross-organizational collaboration.

### Rip Curl Selects NGC Andromeda Platform for Global Collaboration

17 April 2019

New Generation Computing, Inc. ("NGC") announced that Rip Curl will replace its legacy PLM system with Andromeda PLM® from NGC.

Based in Torquay, Australia, Rip Curl is a designer, manufacturer and retailer of high-tech surfing sportswear and a broad spectrum of accompanying products, including wetsuits, boardshorts, watches, apparel and travel gear for both men and women. Rip Curl, one of the largest surfing companies in the world, strives to be the "Ultimate Surfing Company," always innovating and pushing surfing to new

levels.

For more than 15 years, Rip Curl's legacy supply chain software solution created a siloed environment that required each global office to have its own database and unique ways of working across products. To accelerate product design and sourcing for Rip Curl's fashion and performance collections, the company searched the market for a single collaborative platform to connect its global network and seamlessly integrate ERP data to increase visibility and efficiency.

"It is important we continue to push the limits and innovate in both the products we offer consumers as well as in how we do business," said Milan Thompson, group general manager of Technical Products, Rip Curl. "We saw a great opportunity to work more efficiently and collaboratively with modern, advanced systems to help streamline our global processes."

Following a comprehensive market evaluation, Rip Curl selected NGC's cloud-based Andromeda PLM solution based on the platform's robust planning functionality, strong vendor interaction capabilities, and efficient data management and entry.

"NGC understands the challenges we have as a global business and the opportunities available to us with a modern system in place," said Heather Evans, project manager, Rip Curl. "We are excited to operate in a highly collaborative environment on a single platform to help bring together both our internal and external partners across the global supply chain."

NGC's Andromeda® platform will help Rip Curl accelerate time to market and ensure all departments across the globe are on the same page in real time. Rip Curl will also be able to automate many of its processes to provide complete visibility and control from product concept to customer delivery.

"We are excited to work with Rip Curl and help make a difference in how its global team collaborates with vendors," said Mark Burstein, president, NGC. "NGC's Andromeda PLM is created specifically for fashion brands and retailers like Rip Curl, and we look forward to helping the company transform its supply chain to accelerate product development and delivery."

### SWAROVSKI Forges Brilliant Future with Centric Software

16 April 2019

SWAROVSKI has selected Centric Software's Product Lifecycle Management (PLM) solution.

Founded in Wattens, Austria in 1895, Swarovski is a family-run, independent company which designs, creates and markets high-quality crystal, genuine gemstones and created stones, as well as finished products such as jewelry, accessories, crystal creations, watches and lighting.

Headquartered in Switzerland, Swarovski's Consumer Goods Business (CGB) required a new solution to replace two existing PLM systems and streamline its fashion jewelry, watches and accessories collection development.

"We were working with one system for our technical side and another for our creative side, which proved to be complex and inefficient," says Martin Buchbauer, Director Marketing Operations at SWAROVSKI. "Over-customization also had a negative impact. We investigated the possibility of merging both systems but soon realized it wouldn't work with any of our existing PLM systems. We

approached Centric to see how they would handle our defined use cases and help us take our collection development process to the next level."

Convinced by Centric PLM's performance and the expertise of the Centric team, SWAROVSKI opted to implement Centric 8 PLM for internal users across jewelry, home, watches and accessories, as well as selected external suppliers in Asia.

As Buchbauer explains, "Centric offers great out-of-the-box functionality, and the Centric team are very competent. They engage and challenge us on ways to improve our systems and processes. Our key users immediately embraced the intuitive and modern interface, which convinced us we were on the right path."

"Centric PLM will help to manage the complexity of designing, manufacturing and retailing 1,000 new Stock Keeping Units per year across different segments. We're also working on an innovation partnership with Centric on the next Centric PLM releases. It's great to work with a partner who takes our needs into account," Buchbauer concludes.

"We are thrilled to announce that SWAROVSKI has chosen Centric PLM," says Chris Groves, President and CEO of Centric Software. "This cements our expansion into the jewelry vertical in partnership with one of the world's most respected jewelry brands. We look forward to partnering with SWAROVSKI now and for years to come."

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# Product News

### 3D Repo Updates Cloud-Based Digital Construction Platform

15 April 2019

3D Repo has just released the latest version of its cloud-based digital construction platform. Newly added features include data validation using Smart Groups, native Revit file support, updates to SafetiBase (Health & Safety Issue Tracker), API key access, and additional rendering options. The latest update has a strong focus on democratizing otherwise difficult data operations, along with time-saving features to increase overall productivity for all users of the platform.

The newly added Smart Groups feature is one of the most highly anticipated updates to the platform, giving users a simple way to validate the data and group model elements. "Smart Groups democratizes the process of data validation, makes progress tracking easy and ultimately results in more reliable data outputs for the client," says founder & CEO of 3D Repo, Jozef Dobos. "The great thing about this feature is that it opens up the data validation process to all stakeholders regardless of their knowledge of software or licensing limitations of other software," added Dobos.

3D Repo now includes native Revit support meaning users can now upload Revit files directly to the 3D Repo platform where they can be managed in an online database and used in federations for design coordination. "This is a great addition to the platform as it is going to save users potentially hours of time when federating models with each design iteration. Where previously users would export to IFC file format before uploading, now you can simply upload files directly from Revit," said Dobos.

3D Repo's SafetiBase feature, a collaborative way to share and use health and Safety information and

project risk data within the model has also had an update. Key updates include a full audit trail of changes for each risk, additional post mitigation risk options, ability to add and track residual risk and support for multiple markups. SafetiBase conforms to the specification for 'collaborative sharing and use of structured health and safety information using BIM' (Publicly Available Specification PAS 1192-6).

Going a step further to improve collaboration and compatibility with the platform, 3D Repo now also offers API Key to its users. Making the authentication process easier when integrating custom workflows or making API calls from other software. One of the key benefits of the 3D Repo platform is its compatibility with other software and file formats and this update goes further to promote its ease of use with other software platforms that people in the industry interact with.

Along with these new key features, the platform now comes with additional rendering options to enhance model presentation for better visualization. New users are being encouraged to sign up for a free starter account at 3drepo.com to experience the power of the digital construction platform for themselves.

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### *Latest version of Kineo software components for robotics simulation available now*

9 April 2019

Siemens Digital Industries Software has released the latest version of Kineo™ software components to provide new simulation capabilities in robotics/machine automation. Highlights include:

- KineoWorks – new trajectory simulation/optimization tools and accelerated robot scenario development/verification
- Kineo Flexible Cables – enhanced dress pack simulation with cable retraction systems
- Kineo Collision Detector – improved performance and new point cloud-wireframe tests
- KineoWorks Interact – new and improved tools for developing Kineo-enabled applications quickly and easily

Full details are available on our community site: Kineo version 7.0 releases

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### *Latest version of Parasolid with Convergent Modeling now available*

11 April 2019

The latest version of Parasolid® software is now available from Siemens Digital Industries Software. It provides new capabilities in model editing and blending, sheet modeling and imprinting, and facet modeling. Convergent Modeling technology has been enhanced to benefit workflows that leverage both facet data and B-rep models. Parasolid also delivers support for 64-bit Android hardware to reflect growing customer interest in fully-functional, Parasolid-based applications on mobile devices. Parasolid is the geometric modelling kernel used in many world-leading CAD/CAM/CAE/AEC products

including Siemens' own Solid Edge® software and NX™ software systems.

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### *MecSoft Releases CAMJam 2019*

8 April 2019

MecSoft Corporation announces today the release of CAMJam 2019, the Video Training Companion for their popular VisualCAD/CAM®, RhinoCAM®, VisualCAM® for SOLIDWORKS and AlibreCAM® Milling modules. CAMJam 2019 is a video archive and viewing guide of training sessions conducted by the support staff at MecSoft Corporation. It includes updates for the new 2019 products as well as all of the CAMJam 2018 version videos.

"We're super excited about our new CAMJam 2019 video archive and viewing guides. It builds upon previous versions and now includes videos on all of our CAM modules including MILL, TURN, NEST, ART and MESH. It also includes indexed and simultaneous 4 and 5 axis milling, multi-axis robot machining, the effective use of selections, additional bonus tutorial videos, printed user guides not available anywhere else and links to our popular Learn CAD/CAM blog series and case studies, all organized, indexed and searchable, so you know exactly which video to watch to get questions answered!" said Don LaCourse, Senior Application Engineer at MecSoft Corporation and one of the principals involved in the creation of this product.

**CAMJam 2019 includes:**

1. New instructional videos covering the complete suite of the MecSoft CAM module functionality including MILL, TURN, NEST, ART and MESH!

2. CAMJam 2019 PDF user guide for the organization and easy retrieval from the video library.

3. The source 2D & 3D practice part files referenced in the CAMJam video archive!

4. Plus bonus user guides including the 2019 Question & Answer Guide, the 2019 Cutting Tools Workbook and other print media.

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### *NCSIMUL Drives Tasks on Remote Servers: Hexagon's CNC Verification Software Optimises Machining Results*

18 April 2019

The latest CAM simulation software release from Hexagon Manufacturing Intelligence includes new and enhanced functionality giving users the ability to execute tasks for existing projects on a remote server.

Based on client/server scheduler architecture, the new version of NCSIMUL's machining module includes new automation functionality which gives the user wider control of their jobs on other devices, by communicating with distant servers.

Philippe Legoupi, NCSIMUL Technical Director, says a dedicated GUI allows tasks such as simulation,

cut analysis and 3D movies to be performed on any device. "Users can follow the status of the job and receive a notification when it's complete."

The Automation Module provides a number of significant benefits, including a guarantee that a full 100 per cent of the program sent to the workshop is validated by the simulation. "For most minor modifications in the CAM, such as the number of passes, or changing the cutting conditions, the end user won't verify the program because it's too tedious – for example, starting the software, reloading the program and starting the simulation."

The system enables customers to implement their own automation rules, according to constraints and production priorities. He adds that the tasks all feature in a command file, which also shows the parameters to use, and can be customised. It means customers can be sure that all program verification and simulation accurately follows requirements.

It also maximises license usage. For example, if a manufacturer has just one license, they can use this module to postpone tasks with the scheduler, until lunchtimes or overnight. "Companies with several licenses don't need to use the scheduler at all – the server starts automatically when there are enough licenses for interactive sessions.

The high-end NCSIMUL MACHINE 2020.0 which detects NC programming errors and any potential collisions from the same NC code that drives the CNC machine, also contains enhancements to a variety of functions, including Probing and Optitool.

Probing:  It is now possible to set specific simulation parameters for probing simulation during decoding. There is also the option to simplify the tool shape to reduce calculation times; default values can be defined into preferences; and interactive comments and ACNU functions can define any elements to ignore during the calculation of probing contact points.

Optitool: The latest version of NCSIMUL features an improvement of chips flow computation and display on each increment, and the flow can also be used for optimisation as a limitation parameter.

The latest release of NCSIMUL's flexible CNC programming module, 4CAM, also includes a number of items of new and enhanced functionality.

**Sequences optimisation:**

- Dependencies computation displays the link between operations, allowing the user to know which ones create the initial stock.

- Proposal of tools sequence reorganisation, to reduce the number of machine stops for changing inserts.

**Link between operation:**

- Calculates, by iterations, the nearest link between operations which have the same tool orientation.

**Apt Import:**

It is now possible to import multiple files in one process for each group of operations, and the default settings are defined into preferences. "Also, the import can update existing trajectories, while keeping the options and repeat functions," says Philippe Legoupi. "And a report displays the actions carried out during the import, such as updating, and adding and deleting operations."

Other enhancements to NCSIMUL 4CAM include options within Scraps Management for computing

intermediate stock and cut analysis, and the ability to write an interactive comment in the program; defining an origin on rotary axes; and managing tool sisters by writing a tool change code in the program for a selected operation, culminating in the machine loading the sister tool if required.

In conclusion, he says NCSIMUL MACHINE continues to build users' confidence that their parts will be accurately and swiftly validated offline, speeding up production, and optimising resources and machinng results. "And updates in the latest NCSIMUL 4CAM module enrich the existing CAM process by simplifying CNC programming even further, while providing unparalleled flexibility on the shop floor. The software's major benefit is that with one click users can change the target machine without any CAM reprogramming."

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### New BIMcollab ZOOM 2.2 ready for large projects

11 April 2019

BIMcollab ZOOM 2.2 breaks new records in IFC performance. Being already one of the fastest IFC viewers available, ZOOM became even better in handling very large models. [EP1] BIMcollab ZOOM 2.2 introduces an improved render engine which combines a much more efficient memory usage with high frame-rates for ever-smooth navigation. The update also adds improved IFC import capabilities for reliable loading of any model up to IFC4. With this latest update BIMcollab ZOOM users will be able to validate models of any size fluently, even on low-end machines.

**Improved render engine**

The memory usage of the improved rendering engine is reduced up to 40% allowing to load almost twice as much IFC- or Pointcloud data. The adaption to the available graphical processors optimized resulting in 5 times more entities to remain visible on high-end machines while on low-end machines the navigation always remains fluent. Support of the newest OpenGL on MacOS brings brighter colors, better looking annotations and 5K graphics.

Gerben Boutshoorn product owner BIMcollab: *"We want to offer users a fast and powerful experience with a very simple interface when using IFC data from any source and size. With this new version BIMcollab ZOOM will perform better than ever, encouraging users to validate IFC models of any size fast and easy without bottlenecks."*

BIMcollab offers BIMcollab ZOOM for free and can be downloaded here.

**Ecosystem**

BIMcollab ZOOM is part of the BIMcollab ecosystem for issue management and allows users to view and check BIM models. The uniquely simple interface brings a very easy to use yet powerful set of options to analyze, check and validate IFC data. The creation of issues is close at hand via the fully integrated issue-management. This smooth communication helps BIM managers to inform modelers right away about clashes or other model-errors. The ease of use of ZOOM also allows building owners and other stakeholders to keep a close eye on project progress, or even join the communication workflow.

BIMcollab bridges the gap between BIM applications by offering a broad set of add-ons for all popular BIM tools connecting them together via the BIMcollab cloud. It reduces time spend on communication about issues dramatically and helps to improve model quality: less construction errors, lower costs.

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### Pinnacle Series now offers content for Bentley OpenRoads Designer and MicroStation

11 April 2019

Eagle Point Software Corporation continues to expand their Pinnacle Series content library with the recent addition of Bentley OpenRoads Designer and MicroStation.

OpenRoads Designer provides complete detailed design capabilities for surveying, drainage, subsurface utilities, and roadway design.

MicroStation gives users the power and versatility to precisely view, model, document, and visualize information-rich 2D and 3D designs of all types and scales, working for professionals in every discipline on infrastructure projects of every type.

This addition adds to the asset library subscriptions for Adobe, Autodesk, Business & Management Skills, Health & Safety, Ideate Software, McNeel, Microsoft and Bluebeam that are currently available in Pinnacle Series.

"This addition is for our customers. They have been asking for Bentley content because they want to gain the same value from Pinnacle Series with Bentley that they have been getting related to Autodesk products. They want users to have a single source of truth to learn, capture & share knowledge and increase productivity," John Biver, President & CEO at Eagle Point.

"As a firm that uses multiple software tools, we are excited about this release. In addition to documenting and sharing our company standards for Bentley, this offers our employees further learning and productivity opportunities which increases the overall value we receive from the Pinnacle Series," said Rob McKenna, Engineering BIM Lead, HDR.

Pinnacle Series is the industry leading AEC learning and productivity solution that focuses on bringing continuous learning, knowledge capture/sharing, and productivity increases to design firms around the globe.

Pinnacle Series is developed by Eagle Point Software Corporation, a company dedicated to bringing productivity to the AEC market. Eagle Point's status as one of the longest running members of the Autodesk Developer Network, coupled with its 36 years of history in the AEC marketplace and knowledge of AEC products makes Eagle Point uniquely qualified to deliver unparalleled results.

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### Siemens brings power of Mendix low-code enterprise application development platform to MindSphere

16 April 2019

Siemens today announces the immediate availability of Mendix for MindSphere, bringing the powerful and transformational digitalization and business benefits of Mendix™ software, the world's leading low-code application development platform for the enterprise, to software development for the industrial internet of things (IoT). MindSphere®, the cloud-based, open IoT operating system from Siemens, provides developers with open APIs, services and the support needed to quickly and easily build, test and deliver MindSphere applications. Mendix was acquired by Siemens in 2018, and this integration is the first step in leveraging the investment in the low-code software developer to help bring new leading-edge industrial software solutions to market.

The Mendix for MindSphere integrated solution, announced as part of the company's Spring '19 Release at Mendix World, is a key innovation driver for IoT, which will help accelerate the time-to-value for industry investments in connected sensor technology. The Mendix application platform's AI-assisted, visual development model expands the pool of talent available to develop IoT applications. Business developers, domain engineers, and plant operations staff — in addition to professional developers — can now build advanced IoT solutions without the need for coding.

"Innovative MindSphere applications are being created everyday by Siemens, our partners and our customers,'" said Tony Hemmelgarn, President and CEO at Siemens Digital Industries Software. "With technology from Mendix, we can empower customers, regardless of technology background, to use low-code development to transform the way they approach and solve business problems. Adding the ability to create native MindSphere applications using the Mendix no-code/low-code approach can provide capabilities that are unmatched by any other industrial IoT provider."

Companies need cost-effective ways to quickly build industry-vertical IoT applications and leverage built-in connectivity with edge devices. The Mendix and MindSphere integration is a single solution that addresses these needs as well as the challenge of a dramatic shortage of development talent. By expanding the pool of human capital available in an enterprise to support the development process, and radically accelerating that process through the low-code platform, companies can achieve a faster, greater return on their IoT investment.

For further information on how to use Mendix with MindSphere, please see https://developer.mindsphere.io/howto/howto-app-mendix.html

## Simcenter Amesim speeds up simulation processes with major upgrades for automotive, aerospace and marine industries

16 April 2019

The latest release of Simcenter Amesim™ system simulation software helps accelerate digital twin creation through greater ease of use and democratized access to system simulation. By further extending Modelica support and integration with other Simcenter solutions, Simcenter Amesim helps users to set up a unique toolchain throughout the development cycle.

With the latest release, Siemens Digital Industries Software accelerates the Simcenter Amesim delivery model to provide access to new enhancements every 6 months, while maintaining focus on the technical excellence.

The latest updates to Simcenter Amesim help:

- Address vehicle electrification, by importing Simcenter™ Motorsolve and Simcenter™ Battery Design Studio models;

- Frontload aircraft systems performance engineering, thanks to upgraded CAD import capabilities for fuel systems and enhanced post-processing apps for gas turbines;

- Tackle shipbuilding challenges, by taking advantage of validated components and ready-to-use model templates for marine applications;

- Streamline controls engineering, using a new tool for PID controller calibration and real-time components for thermal and valvetrain systems;

- Boost system simulation efficiency, thanks to a new Modelica compiler and 1-click conversion of hydraulic models into thermal-hydraulic ones.

Those are only a few of the major capabilities introduced to the latest version. For more information, please see what's new in Simcenter Amesim 2019.1.

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### Theorem Releases CADverter for CATIA V5

15 April 2019

Theorem Solutions has announced the release of their latest CADverter for CATIA V5 > NX users.

This uni-directional CADverter can also be licensed with Theorem's NX > CATIA V5 CADverter to create a bi-directional translator.

Integrated within the CATIA application, v22.0 supports all revisions of CATIA V5-6R2015- V5-6R2018 and NX 10, NX 11 and NX 12.

New features and enhancements in v22.0 include

- NX import options will now accept CGR files in .cgr and .CGR format

- Improvements in maintaining visibility state of geometry

- Improvement in Capture View visibility

- Support for PMI colour

- Support for line styles

CADverter products translate assembly structure, geometry, attributes and, where available, 3D product manufacturing information (PMI) and Metadata between CATIA V5 and NX, supporting model based definition (MBD) processes.

The aim of the CADverter is to allow the user to translate any data that they have held in a CATIA format and make it useable in NX for various use cases, whether the downstream user wants a lightweight reference part to model around, or a precise copy of the data translated to allow measurement and editing of translated models.

Theorem's strategic partnerships with Dassault Systemes and Siemens ensures that there is parallel development between the latest releases of CATIA V5 and NX, and Theorem's CADverter products,

allowing Theorem to continue to provide data solutions for the CAD community.

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***Trace Software Launches elec calc BIM 2019***

11 April 2019

Trace Software International announces the launch of the latest version of elec calc™ BIM.

elec calc ™ BIM 2019 is the first software in the world that perfectly integrates the **electrical calculation into the Open BIM process**. With elec calc™ BIM, the user can design, calculate and size the electrical installation in the digital model in IFC 4 format, generated by any 3D architecture software (Revit, ArchiCAD, SketchUp …).

This state-of-the-art software allows information to be shared by different stakeholders along the different stages of design, construction, and operation. The software facilitates the construction of the one-line diagram in connection with the **3D model**. From the aspect of cable routing, the software will propose an optimal routing of the cables and the possibility of exporting the cables as objects in the source IFC model. With elec calc™ BIM, 3D model updates are available. It is possible to **import a review of IFC** and receive a notification of the changes in the installation one-line diagram and export both IFC and BCF.

By using elec calc™ BIM, professionals can benefit from the latest in electrical calculation efficiency within the BIM process. In fact, a more rigorous and integrated design leads to **lower constructions costs**, through less waste. Furthermore, the software allows improved risk management as it is possible to count on more **reliable information**.

**NEWEST FEATURES**

- Improved navigation in the integrated 3D viewer
- Ability to import multiple IFC files with the management of common objects to different files.
- Ability to draw paths in the viewer to complete the routing network. The user is not blocked in case of missing paths in the digital model.

**Revit plug-in**

To be integrated into Revit, it facilitates communications with elec calc ™ BIM:

- Pre-configuration of the IFC export
- Import in Revit the properties of the components that have been completed in elec calc™ BIM with a synchronization management function between elec calc ™ BIM and Revit.
- Creation of nomenclatures from elec calc ™ BIM data

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