

# **PLM Industry Summary**

Sara Vos, Editor

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### Contents

CIMdata News	2
CIMdata Brings the PLM Industry's Premier Education and Training Program to The Netherlands	$\frac{-}{2}$
CIMdata to Host Free Webinar on Model-Based Enterprise & Standards	3
CIMdata Publishes "Digital Twins"	4
Acquisitions D3 Technologies Announces Acquisition of JVH CAD Solutions	
Hexagon Acquires AGTEK, a Leading Software Solutions Provider to the Civil Construction Industry_	6
Company News	7
Blacoh Digitizes Company with Industrial IoT Expert AMI Global	/
BRAX continues to expand its digitization program – with PLM. GoLive and Assyst	8
CONTACT Elements for IoT at the Bosch Connected World 2018	8
DHL and Accenture Unlock the Power of Blockchain in Logistics	9
EMA Provides Free Access to Ultra Librarian – the World's Largest Library of Verified EDA Symbols,	
Footprints, and 3D Models ESI Customer Hwaseung R&A Manages Product Reliability while Cutting Development Time and Cost	is 11
Lantek collaborates with Belgian laser manufacturer Balliu to achieve the digital transformation of its customers	12
Mentor's Tanner EDA Partners with VPIphotonics to Speed Silicon Photonic Innovation	13
Rolls-Royce, the University of Nottingham, and ANSYS Partnership formed to transform aero engines	
SAP Appoints Industry Expert Cathy Smith to Lead Africa	15
Siemens Donates Cash, Equipment, and Software for New Lawrence Tech Lab	16
Trimble Announces Call for Speakers for its 2018 Dimensions International User Conference	17
U.S. Department of Defense Validates ForeScout for IoT Security	18
Events News	_ 19
Hannover Messe: START digital Production	19
Ideate Software to Demonstrate its Revit Productivity Applications at BiLT Asia 2018	20
Messe Frankfurt sets up UK subsidiary	20
Theorem Solutions to demonstrate Augmented (AR), Mixed (MR) and Virtual Reality (VR) App at Develop3D Live 2018	
Financial News	22
ESI Group: Full Year 2017 Sales	22
Implementation Investments	_ 23
Auchan Retail Chooses Centric Software	23
Bharat Forge Limited Chooses PTC's ThingWorx IoT Platform to Adopt Industry 4.0	23
Intradeco Apparel and Gerber Childrenswear Select CGS BlueCherry® PLM to Streamline Productivity	24
Loudoun Water selects Innovapptive's Mobile Inventory Solution to Drive Operational Efficiencies in the	
Warehouse	25
lululemon Upgrades to Latest Version of PTC FlexPLM	<u></u> 26
Vida Shoes International, Inc. Streamlines Supply Chain Operations with Infor	26
Product News	27
Accruent Announces Meridian Enhancements Including First Cloud-Based ALIM Solution	_ 27
13 March 2018	27

CGTech Releases VERICUT Composite Applications Software Version 8.1	29
InfluxData's Open Source Telegraf Project Significantly Expands Ecosystem of Applications Supported	for
Collecting Metrics and Events	29
MathWorks Announces Release 2018a of the MATLAB and Simulink Product Families	31
New FloMASTER thermo-fluid solution offers CAD connectivity, new physics and enhanced user	
experience	34
Robin Systems Announces Free Trial Edition of Robin Cloud Platform on AWS	35
RomaxDESIGNER Component Now Available for Dassault Systèmes' SIMULIA Isight Application	36
Siemens' Teamcenter updated certification on Microsoft Azure delivers PLM cloud diversity	37
Synopsys Advances Custom Platform to Accelerate Robust Custom Design	38

### CIMdata News

# CIMdata Brings the PLM Industry's Premier Education and Training Program to The Netherlands 15 March 2018

CIMdata, Inc., the leading global PLM strategic consulting and research firm, will bring its highly acclaimed Product Lifecycle Management (PLM) Certificate Program to the Mercure Hotel in Amsterdam, The Netherlands from 11-15 June.

Recognized as the PLM industry's most comprehensive solution-agnostic education offering, with over 400 PLM professionals certified to date, the program helps prepare PLM professionals to successfully address the challenges commonly faced in PLM strategy development and implementation. The assessment-based program includes a personalized classroom experience, individual and team-based exercises, and individual evaluations of achievement. The program is facilitated by a team of CIMdata experts. Upon successful completion of the program, participants receive a CIMdata PLM Certificate and are invited to join CIMdata's global PLM Leadership community.

The program, which is available to industrial companies that are considering or are already implementing PLM, and to PLM software and service providers, is built on CIMdata's 35 years of experience guiding industrial companies in successfully defining and implementing best-in-class PLM strategies and tactics. In addition to the Amsterdam program, classes will be held in Ann Arbor, Michigan from 21-25 May, Boston, Massachusetts from 1-5 October, and in Santa Clara, California from 3-7 December.

CIMdata's one-day Executive Short Course and two-day PLM Fundamentals for Solution Providers Short Course will also be available at this time.

For more information on CIMdata's PLM Certificate Program visit our website at <a href="https://www.cimdata.com/en/education/plm-certificate-program">https://www.cimdata.com/en/education/plm-certificate-program</a>.

#### 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: <a href="http://twitter.com/CIMdataPLMNews">http://twitter.com/CIMdataPLMNews</a>, 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.

Click here to return to Contents

#### CIMdata to Host Free Webinar on Model-Based Enterprise & Standards

13 March 2018

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces an upcoming free educational webinar, "Model-Based Enterprise & Standards." The webinar will take place on Thursday, April 12, 2018 at 11:00 a.m. (EDT) and will last for one hour.

Many companies are adopting Model-Based Enterprise (MBE) as a fundamental business practice. In doing so, these companies enter some uncharted waters concerning how to create a model that can become the base for their product lifecycle processes. For hundreds of years we have relied on drawings and associated documents to be the basis of product realization. With MBE, companies need guidance on how to move from what has been a well-established drawing-based enterprise practice into one that is model-based. A primary problem is that standards for many aspects of MBE are non-existent or immature. This webinar will take a look at what standards do exist for MBE and what still needs to mature.

John MacKrell, CIMdata's Chairman and the host for this webinar, stated, "Companies CIMdata has been working with are being challenged to adopt a model-based enterprise strategy. The current state of the art is that not only are people challenged to explain what an MBE is, but what is necessary to implement a workable solution in their organization. Standards are critical to support communication in a model-based environment."

Mr. MacKrell has over 40 years of experience in the application of computer-based solutions to engineering and manufacturing, with more than 20 years at CIMdata. He has held senior positions in product management, marketing, research and development, and consulting.

This webinar will be of interest to people from many parts of an organization including; managers, MBE planners, product engineers, manufacturing planners, maintenance and repair practitioners, IT professionals, purchasing, and anyone impacted by how an organization defines, uses, and communicates the designs of its products.

During the webinar attendees will have the opportunity to ask questions about the topics discussed. To find out more, visit: <a href="https://www.cimdata.com/en/education/educational-webinars/webinar-model-based-enterprise-standards">https://www.cimdata.com/en/education/educational-webinars/webinar-model-based-enterprise-standards</a>.

To register for this webinar please visit: https://register.gotowebinar.com/register/7136145311220915969

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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 <a href="http://twitter.com/CIMdataPLMNews">www.CIMdata.com</a>, follow us on Twitter: <a href="http://twitter.com/CIMdataPLMNews">http://twitter.com/CIMdataPLMNews</a>, 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.

1 Click here to return to Contents

#### CIMdata Publishes "Digital Twins"

13 March 2018

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces the publication of an eBook titled "Digital Twins," how they are changing the way we engineer, validate, market, and operate our products. The physics-based Digital Twin plays a key role in the business transformations needed to meet the increased complexity of cyber-physical products and their IoT-enabled operating environments, which demands thinking beyond traditional stage-gate oriented engineering approaches.

Being competitive in the modern fast-paced business environment means applying the latest principles in organization, process, and technology to the business—essentially, moving to higher maturity levels than the competition. Market segment leaders are already striving to achieve the highest level of sustainable innovation for their businesses. In a Digital Twin strategy this means enabling a holistic "Cognitive Digital Twin" approach.

This eBook explains how the Digital Twin can address current business challenges and meet market trends in engineering. This is a first step in defining the holistic picture of the Digital Twin and position it in the product lifecycle as well as its relationship to platforms and the digital thread. According to Mr. Frank Popielas, CIMdata Executive Consultant and Managing Partner & Co-Founder of SMS\_ThinkTank<sup>TM</sup>: "This eBook highlights the complexity of the Digital Twin. It is a first step to holistically explain the Digital Twin as well as aspects of the related ecosystem, and how leading software providers, like Mevea with its simulation solutions, approach the Digital Twin utilizing examples from the industrial equipment industry."

Mevea of Finland, with its end-to-end solution, is helping leading industrial equipment companies to realize first mover benefits of implementing the Digital Twin approach. Mevea's technical capabilities enable companies to start the journey in achieving increased competitiveness for the overall business by rapidly reaching higher levels of digitalization maturity. Mr. Popielas, stated: "Mevea is a thought leader within the engineering simulation industry. They are well poised to partner with leading OEMs and suppliers to deliver highly accurate and robust Digital Twin solutions."

To find out more and to download the eBook on Digital Twins, visit www.CIMdata.com.

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Click here to return to Contents

### Acquisitions

#### D3 Technologies Announces Acquisition of JVH CAD Solutions

14 March 2018

D3 Technologies announced today the acquisition of the Autodesk division of JVH Engineering, Inc. based in Grandville, Michigan. JVH Engineering, Inc. will continue normal operations with its industrial automation business, but the addition to D3 will operate as JVH CAD Solutions, a Division of D3 Technologies.

The entire JVH CAD Solutions team will be joining D3 Technologies, including General Manager Rick VanWort, who has been leading the CAD division of JVH Engineering, Inc for 7 years. JVH CAD Solutions will continue to serve clients throughout Michigan and Northern Indiana.

"Our clients continue to have the same great customer service and support from the trusted JVH employees over the years, and they will also now have access to an expanded manufacturing portfolio. Operating as a division of D3 Technologies will add a lot of value to our available services."- Rick VanWort, GM of JVH CAD Solutions.

D3 provides many Autodesk manufacturing and plant solutions for their numerous United States based clients. With offices and training centers throughout the Midwest, South, West, and Northwest regions, D3 brings a solid team of professionals with recognized expertise in engineering, design, simulation, data management, lifecycle, process automation, and programming.

"We are very excited to welcome JVH CAD Solutions team into the D3 family. Joining forces with them continues to support our founding purpose; to field a team of experts to help our manufacturing customers be the absolute best at what they do. As our professional services and consulting team continues to grow, we always focus on helping our customers pursue their vision and reach their goals first and foremost."- Kevin Schlack, president of D3 Technologies

With advanced expertise in Autodesk manufacturing and plant solutions and a strong services bench, D3 also provides strategic training, programming, implementations, and consulting services for clients of other Autodesk value-added resellers throughout the country.

"One of the most important factors in making this decision was ongoing client support and consistency. We have always taken pride in the relationships we have built with our clients and I wanted that to stay the same. It is evident to me that D3's success comes from a similar approach to ours, making me confident in this transition."- Kathleen Jacobitz, president of JVH Engineering, Inc.

Click here to return to Contents

# Hexagon Acquires AGTEK, a Leading Software Solutions Provider to the Civil Construction Industry 15 March 2018

Hexagon AB announced today the acquisition of AGTEK, a US-based software company specialising in planning and productivity solutions for the heavy civil construction industry.

With headquarters in Livermore, California, AGTEK is the pioneer of 3D takeoff (cost estimation) software for civil construction and the developer of the widely used Earthwork 4D, a complete takeoff, modelling, and production tracking solution for civil contractors. AGTEK's products are aimed at streamlining the contractor's workflow for estimating and project management, using an Internet-enabled graphical toolset that is shareable between office and field. They provide the ability to integrate innovative machine control and positioning solutions with intuitive software that enables fast and accurate quantity takeoffs, 3D models, production plans, and machine tracking analysis. This provides construction companies with a unified approach for optimising plans, controlling grade, and monitoring performance to maximise productivity.

"This acquisition gives construction contractors comprehensive field to enterprise solutions for construction management. AGTEK's track record for developing ground-breaking, easy-to-use products make them an important addition to Hexagon's Heavy Construction technologies portfolio," said <a href="Hexagon President and CEO">Hexagon's Heavy Construction technologies portfolio,"</a> said <a href="Hexagon President and CEO">Hexagon President and CEO</a> Ola Rollén. "As we move towards a more connected world, civil construction projects will become increasingly digital, with a focus on intelligent workflows, asset management, and collaboration. The AGTEK acquisition reflects Hexagon's commitment to integrate intuitive 3D control solutions that minimise learning curves and implementation costs for results-oriented construction professionals. Ultimately, AGTEK's solutions will also bring value to our enterprise construction management software solution, HxGN SMART Build, designed to alleviate cost

overruns and delays."

AGTEK will be fully consolidated as of today. The acquisition has no significant impact on Hexagon's earnings.

Click here to return to Contents

### Company News

#### Blacoh Digitizes Company with Industrial IoT Expert AMI Global

12 March 2018

Industrial Internet specialist, AMI Global, and Blacoh, a world-leading fluid controls manufacturer, today announced Blacoh's new embedded IIoT technology partnership with AMI. The integration of AMI IIoT technology into new Blacoh products will expedite the development of innovative solutions to address industry problems, and increase customer productivity. The technology will initially be deployed to expand the capabilities of Blacoh's patented SurgeWave<sup>TM</sup> product offering which is a transient condition monitoring system designed to analyze pumping systems and detect dangerous water hammer or rapid surges in pressure. Future developments will include fluid system products featuring cloud-networked sensors and software to more effectively measure, guide and control flow and pressure in process systems. The digital transformation of their products will also allow Blacoh and their customers to bring actionable insight from field data into business operations – providing a leap in understanding of process dynamics and performance compared to legacy systems.

"The bottom line is that tomorrow's factories will be shaped by IIoT, or the Industrial Internet of Things, and anyone who is in the industrial space knows that 'assets' in factories face harsh environments and challenges. Over time this equipment will fail and need to be serviced or replaced. We are keenly and aggressively looking to shape this space through IIoT and enable manufacturers to utilize their assets more efficiently, protect their aging infrastructure and maximize production while also minimizing and managing downtime. With the launch of this project between Blacoh and AMI, we believe we are opening new doors of productivity and safety in the industrial space – giving birth to an initiative that will have positive effects far beyond the customers and markets we currently serve today. There are exciting times with limitless opportunities ahead and working together, I believe that Blacoh and AMI can truly have a significant impact globally." – Greg Duncan, VP of Innovation and Engineering

The rise of predictive IIoT monitoring and control solutions is expected to open up significant revenue streams for fluid equipment manufacturers through new business models that simultaneously add value and diminish service costs for customers. Blacoh believes that manufacturers that choose rapidly deployable IIoT strategies will avoid disruption and outperform competitors over the next decade of widespread digital transformation.

"Blacoh is known for its innovative thinking and drive to provide its network of distributors and customers with proven and effective solutions," stated David Drake, CIO of AMI Global. "AMI is proud to embed our highly scalable Industrial Internet solutions in their products to respond to the high-performance, digital expectations of Blacoh's client base."

The corporations that will most benefit from our current era of digital transformation are ones not

hesitating to adopt the benefits of smart industrial products. The key is to provide not just connectivity, but customer value. In turn, these firms will benefit from increased revenue streams, customer retention, and future-proofed business models in a time of competitive market upheaval.

1 Click here to return to Contents

#### BRAX continues to expand its digitization program - with PLM. GoLive and Assyst

9 March 2018

Leineweber GmbH & Co. KG's BRAX, Eurex, Raphaela and BRAX Golf brands announces the successful integration of Assyst's PLM GoLive to develop its products and collections even faster and more efficiently in the future.

Leineweber now controls, manages and networks its entire development process with PLM GoLive – from article planning to the handover in production. "Our PLM system is based on a proven reference process that we have adapted to the individual requirements of BRAX," says Michael Stöhr, Director PLM at Assyst. "BRAX is distinguished by the extremely high quality of its products – and the perfection with which they are developed in the company is also reflected in the new process."

Around 250 of the 1250 employees at BRAX have been working with the PLM system since January. "Together with Assyst, we have thoroughly prepared the introduction of PLM GoLive and involved our employees extensively in the development process – and this commitment has paid off. The startup with PLM GoLive ran really smoothly," says Nicola Ionfrida, BRAX Head of Procurement for Pants. PLM GoLive has now replaced several BRAX internal tools, bringing together data that was previously managed at different locations. "This creates leaner structures and avoids sources of error, since a lot of our data is only centrally stored once. We're also creating more synergies, enabling us to develop new collections faster and more efficiently. The BRAX 'feel smart' world is slowly taking shape," adds Thomas Dalsass, Managing Director at BRAX.

BRAX has been using Assyst software solutions for several years now. The CAD.Assyst pattern system was integrated with PLM GoLive. All the information stored in CAD.Assyst, like material quantities and different pattern pieces, is directly entered into BOMs – and consequently into the cost estimate. The company's own measurement chart is also stored in PLM from the outset, making it available for production and quality assurance. PLM also ensures that employees obtain important information for their particular areas of responsibility more quickly than before.

Another milestone on the road to digitization is the creation of yet another integration: BRAX and Assyst are currently working to establish a link between PLM and the 3D simulation software Vidya. This will result in photorealistic patterns of a garment be-ing integrated into the process at an early stage, achieving yet another level of quality.

<u>Click here to return to Contents</u>

#### CONTACT Elements for IoT at the Bosch Connected World 2018

12 March 2018

The Bosch Connected World - #BCW - is one of the largest conferences on digital transformation. "The

future lies in the net," said Volkmar Denner, Chairman of Bosch, at the start of BCW 2018, which attracted more than 4,000 visitors to Berlin. The event is focused on the Internet of Things (IoT) and thus around 20 billion devices, which will be networked with each other and with the Internet in two years' time.

The 70 exhibitors - including numerous departments from the Bosch Group, young start-ups and IT companies such as Microsoft and CONTACT Software - showed what is already possible today and where the journey is heading. A significant part of Bosch's products and systems are designed to solve the problems of road traffic. The production facilities of the future will also be networked like the car and its surroundings. The vast amounts of data are stored, viewed and evaluated in a cloud.

#### Digital twin as pivot and linchpin

At our booth, we showed how CONTACT Elements for IoT can be used to implement processes for smart business models very quickly and effectively. The linchpin is the digital twin. It connects the real products in the field with their virtual master over the entire product lifecycle. A highlight of our presentation: The interactive visualization of the digital twin on the basis of its 3D model, in order to identify problem and spare parts or to present simulation results.

#### The central role of open source software

Partnerships and the use of open source software are a central component of Bosch's IoT strategy. The Group has been working very closely with the Eclipse Foundation for some time now. Several projects of the Eclipse IoT Working Group were a topic at the conference - among them the Production Performance Management Testbed, which CONTACT developed together with Bosch and other well-known partners. The sensor manufacturer Balluff presented the project, in which different modules from our Elements for IoT platform are used, together with other participating companies in two discussion panels. Eclipse and CONTACT also presented the testbed at an extra booth.

All in all, the BCW 2018 was a top-class, international IoT event from which we took good impulses and interesting new contacts with us. Those who were unable to attend this year's conference can take a look at some of the highlights on YouTube.

Click here to return to Contents

#### DHL and Accenture Unlock the Power of Blockchain in Logistics

12 March 2018

DHL has released a trend report in cooperation with Accenture, a leading global technology consultant, on blockchain technology's potential to transform the logistics industry. Global supply chains are notoriously complex, with a diverse set of stakeholders, varying interests, and many third-party intermediaries – challenges that blockchain is well suited to address. The report includes initial findings on a working prototype developed by DHL and Accenture, which tracks pharmaceuticals from the point of origin to the consumer, preventing tampering and errors.

"The experiments with blockchain in finance are well known, but we believe logistics is an area where the new technology will have a truly profound impact," insists Matthias Heutger, Senior Vice President DHL Customer Solutions & Innovation. "Implementing productive solutions however, will require further technological development and, critically, collaboration between all stakeholders."

Blockchain is a new type of database system that maintains, records and authenticates data and transactions. In supply chains, products are assigned unique identifiers that allow their entire history to be captured as it moves to the end customer. Stakeholders validate this information in real time and if anyone tries to tamper with, alter or erase a record, everyone will know.

#### Saving patients by authenticating medications

"We see especially exciting potential for blockchain in pharmaceuticals, which is why we focused our proof of concept with Accenture on the life sciences and healthcare industry," says Keith Turner, CIO Chief Development Office, DHL Supply Chain. "By utilizing the inherent irrefutability within blockchain technologies, we can make great strides in highlighting tampering, reducing the risk of counterfeits and actually saving lives."

As many as one million lives are lost each year due to counterfeit medications, according to Interpol, and it is estimated that up to 30 percent of pharmaceutical products sold in emerging markets are counterfeit. DHL and Accenture created a blockchain-based serialization prototype with nodes in six geographies to track pharmaceuticals across the supply chain. The ledger tracking these medicines may be shared with stakeholders, including manufacturers, warehouses, distributors, pharmacies, hospitals, and doctors. Lab-simulations show how blockchain could handle more than seven billion unique serial numbers and 1,500 transactions per second.

"We've worked closely with DHL to understand and document the broad impact blockchain will have on supply chains of the future," adds Andreas Baier, Accenture lead for the travel and transportation industry and DHL client team leader. "Using a common, indelible and secure ledger, the industry can achieve much higher safety standards – from the factory to the patient – at much lower cost. This is one of several opportunities blockchain affords to restructure business processes while reducing cost and complexity."

#### Applying blockchain technology to supply chains

Blockchain technology shows great promise for dramatically improving the efficiency and reliability of supply chains in all industries. According to the International Data Corporation (IDC), global spending on blockchain solutions is forecast to reach US\$2.1 billion in 2018, more than double the US\$945 million spent in 2017. In 2021 annual spending is expected to reach US\$9.7 billion.

DHL and Accenture's pharmaceutical prototype is just one of the use cases highlighted in their trend report. Blockchain could also be used for asset management, to improve transparency and traceability, and to automate commercial processes with "smart contracts," which facilitate and verify the performance of contracts without third parties. The potential for blockchain in logistics is significant. However, moving from concepts and pilot applications to actually deploying viable solutions will require the technology to be further developed, organizational transformation and a willingness to collaborate between all stakeholders. Success depends on all parties working together to transform legacy processes and to jointly adopt new ways of creating logistics value.

You can find the Trend Report "Blockchain in Logistics" for free download at logistics.dhl/blockchain

Click here to return to Contents

# EMA Provides Free Access to Ultra Librarian – the World's Largest Library of Verified EDA Symbols, Footprints, and 3D Models

14 March 2018

EMA Design Automation®, a full-service provider and innovator of Electronic Design Automation (EDA) solutions, today announced that access for its more than 14 million component library is now free, allowing downloads from the world's largest collection of verified symbols, footprints, and 3D STEP models through <a href="www.ultralibrarian.com">www.ultralibrarian.com</a>. "Today's engineers don't have the time or the desire to do the tedious work of creating library parts," said Manny Marcano, president and CEO of EMA. "By providing free access to the world's largest library of verified EDA component models, we can help them maintain focus on their primary task of designing circuits."

Ultra Librarian contains symbols, footprints, and 3D models for over 14 million electronic components, making it the largest EDA model library in the world. Working closely with component manufacturers, EMA has doubled the size of the library from seven million to over 14 million parts in less than two years. The Ultra Librarian team can achieve this rate of growth by using the Ultra Librarian Desktop software, which uses a sophisticated combination of templates, pdf extraction, and verification algorithms to quickly capture all important component information necessary to create the unique library components required for over 20 CAD model formats, including Altium, Eagle, KiCad, OrCAD, and PADS. To ensure the highest accuracy, consistency, and adherence to IPC standards, models undergo more than 30 different verification checks.

Ultra Librarian also helps with the mechanical side of PCB design by offering 3D STEP models for the vast majority of the parts in the library. "Many electrical engineers and PCB designers do not have the tools or the mechanical expertise to create 3D models," said Marcano. "Their primary focus is the electrical side of the problem, so being able to download a 3D model together with the symbol and footprint saves a lot of time and eliminates many errors. Ultra Librarian 3D component models are available in STEP format providing superior compatibility with virtually all 3D CAD systems, including SOLIDWORKS and Autodesk Inventor."

"By removing the barrier of cost, we're making EDA library components far more accessible, allowing every designer to create designs faster and with fewer errors," added Marcano. "This is just the next step in our quest for us to build the 'Gold Standard' of EDA libraries."

For more information about Ultra Librarian, go to www.ultralibrarian.com

1 Click here to return to Contents

# ESI Customer Hwaseung R&A Manages Product Reliability while Cutting Development Time and Costs

13 March 2018

<u>ESI Group</u> announces the successful application of virtual prototyping by Hwaseung R&A, Korean automotive supplier specialized in high & low pressure hoses and weather strips. Using the automation of trunk joint simulation processes in <u>ESI Visual-Environment</u>, the equipment manufacturer was able to correct seals defects and improve their design, while reducing development time and costs.

Hwaseung R&A, a company supplying automotive and other industrial rubber parts, faced a trunk seals issue that needed to be corrected, as it became deformed or distorted at the corners after assembly. The function of a trunk seal is to absorb vibrations and to close the gap between the vehicle body and trunk assembly. When the seal has an irregular shape the pressure on trunk panels is non-uniform, which degrades their ability to control of noise and water leakage can result in failure of trunk panels.

Hwaseung R&A's engineers looked to simulation to address their design problems and wanted a fully automatic model creation process. Their research led them to ESI's Virtual Prototyping solutions and specifically ESI Visual-Environment, a platform for Computer Aided Engineering (CAE) and simulation process automation. Working with ESI, the Hwaseung team was able to build an automated process that reduced model creation time and facilitated performance evaluation. The process they developed uses Computer-Aided Design (CAD) geometry, product design and modelling parameters to build ready-to-run 3D models automatically. Using this process, the Korean company was able to set up parametric studies that allowed them to quickly experiment with different positioning methodologies for thread and ribbed shapes, as well as other sectional shapes.

Thanks to the solution built on ESI's Visual platform, Hwaseung R&A engineers are now able to virtually simulate the assembly of the trunk seal and evaluate its performance without using real prototypes. Chang-Soo Lee, Deputy Manager at HWASEUNG R&A Corporation, stated "The customtailored process automation built in ESI Visual-Environment made trunk seal assembly simulation possible. We are now able to analyze the contribution of steel insert design changes using a trunk seal assembly process simulation. The solution we have built using ESI Visual-Environment is fully implemented in our production process and is used as the main tool to decide of design parameters at the initial stage and also for solving problematic issues in production."

Not only was Hwaseung R&A able to correct the trunk seal defects and reduce their development time and costs, but the process automation in Visual-Environment was so successful that it is now implemented as a standard in their design process for trunk and body seals. Today, they are also using the solution to assist building models of trunk and door closing.

<u>Click here to return to Contents</u>

# Lantek collaborates with Belgian laser manufacturer Balliu to achieve the digital transformation of its customers

15 March 2018

Lantek is collaborating with Balliu, a Belgian manufacturer of laser cutting machines for sheet metal, to provide its customers with management and process digitalization solutions (Industry 4.0). The objective is to help them on their path towards digital transformation to evolve technologically towards advanced manufacturing.

The sheet metal sector is going through a stage of great changes, which is driving companies to interconnect machines, processes and plants globally using digital technologies. A high level of connectivity and integration provides a large amount of data and allows manufacturers to see production needs in real time, as well as to anticipate possible errors and carry out more efficient maintenance. The tangible benefits of having connected factories include a decrease in costs and an increase in productivity and efficiency. Companies that do not go digital in the next 3-5 years are likely to be shut out of the market.

"Despite the fact that access to technology has become democratized and its cost is not as high, the rapid changes we are experiencing make it necessary to carry out this digital transition in collaboration with firms who have the necessary knowledge to develop and implement the appropriate technology. In this sense, Lantek presents itself to its customers as a trusted firm to support them in their digital transformation", says Francisco Pérez, director of Lantek's OEM channel.

Lantek's mission is to promote and help the digital transformation of companies in our sector, accompanying them in this transition and adapting to their different states of digital maturity. The specific advanced manufacturing solutions developed by Lantek are exclusive for the sheet metal sector. "The digital transformation of our customers is the challenge that will keep us occupied in the coming years here at Lantek. We are facing the Fourth Industrial Revolution, which will change the way we manufacture. Our commitment to growth and to supporting our customers in the process of digitalization has led us to invest an additional 1.6 million euros during 2017 in R&D, as well as in our implementation and project development teams," states Alberto Martínez, CEO of Lantek.

"We are very pleased to collaborate with a company with such great digital qualifications. Thanks to Lantek's experience, our customers can benefit from their know-how and move faster and more accurately towards Industry 4.0", says Lieven Vervaeke, Balliu's General Manager.

Click here to return to Contents

#### Mentor's Tanner EDA Partners with VPIphotonics to Speed Silicon Photonic Innovation

12 March 2018

Mentor, a Siemens business, today announced that its Tanner EDA group is partnering with VPIphotonics to deliver dynamic and cost-effective design and analysis solutions for companies developing devices for the emerging silicon photonics market. Silicon photonics brings fiber optics directly into ICs for speed-of-light wired communication infrastructure and computing applications, as well as for more affordable LiDAR systems, which is seen as an essential step for the mass deployment of the autonomous vehicle market.

Through this partnership, Mentor is leveraging VPIphotonics' 20-plus years of photonic simulation for active/passive/hybrid integrated circuits and systems. The collaboration places unique capabilities in the hands of the designers of complex optoelectronic and photonic integrated circuits and systems.

"With its standard interface to Calibre verification tools, native Open Access data model and quick PDK turnaround times, Mentor's Tanner EDA technology provides the right environment for photonics IC designers to scale their innovations from the research stage and into production," said Greg Lebsack, general manager for Tanner products at Mentor, a Siemens Business. "We are pleased to include VPIphotonics technology in our offerings for the photonics community."

The VPIphotonics simulation environment, in conjunction with Mentor's Tanner EDA IC layout environment, provides customers with a complete photonic circuit modeling capability that allows them to benchmark circuit performance in simulated system applications. Prior to this collaboration, silicon photonic design teams would need to run and manage multiple platforms to accomplish a complete circuit design and performance assessment.

"VPIphotonics is proud to integrate its best-in-class photonic circuit simulation solutions with the Tanner framework," said Dr. André Richter, general manager of VPIphotonics. "This collaboration continues our strategy to provide practical and cost-effective design methodologies that meet the needs of our joint customers and the photonics community as a whole."

VPIphotonics (vpiphotonics.com) is recognized as an industry leader for end-to-end photonic design automation comprising design, analysis and optimization of components, systems and networks. The company provides professional simulation software supporting requirements of optoelectronics, integrated photonics and fiber optics applications, optical transmission system and network applications, as well as cost-optimized equipment configuration.

Mentor will exhibit at OFC 2018. Please visit Mentor at the San Diego Convention Center March 13-15 at Booth # 5903.

Click here to return to Contents

# Rolls-Royce, the University of Nottingham, and ANSYS Partnership formed to transform aero engines

16 March 2018

Rolls-Royce, the University of Nottingham, and ANSYS have embarked on a five-year collaboration to develop breakthrough technology for advanced aircraft engines.

The research project known as AERIS, will improve modelling and simulation in aero engine bearing chambers and internal gearboxes by developing, validating and optimising new techniques to address air and oil flows in the engines.

The project is part of Clean Sky 2 where the University is a Core Partner and Member of the Systems, Airframes and Engines Integrated Technology Demonstrators (ITD). In this role, researchers are working with aerospace primes and supply chain organisations on a range of areas. These include the design and manufacture of advanced wings for compound helicopters; development of low-power ice protection systems, technology bricks for More Electric Aircraft and two-phase flows for aero-engine bearing chambers, which is the subject of AERIS.

The University won a call for Core Partners issued by Clean Sky 2 to join the Engines ITD under the leadership of Rolls-Royce. This initiative builds on 10 years of research conducted at Nottingham's Gas Turbine and Transmissions Research Centre (G2TRC), headed by Professor Herve Morvan, Director of the Institute for Aerospace Technology (IAT).

AERIS harnesses the expertise of the IAT, which holds a portfolio of 15 projects worth €38 million that are directly tied to meeting the goals of Clean Sky 2. The University's leading role in aerospace and aviation research helps to bolster the UK's position as one of the top ten participants in Clean Sky 2.

Simulation is crucial to achieving the challenging goals set out in Clean Sky 2. To this end, concepts are

designed on Ansys' engineering simulation software, which enables the researchers to consolidate their models and numerical methods for industrial applications.

Professor Herve Morvan, Director of IAT commented: 'Clean Sky 2 includes physical demonstrators that integrate several technologies at a larger, aircraft level and show how they work under operating conditions. This helps to determine their potential and enables them to reach a higher level of maturity. The ability to do this virtually is really important - software demonstration is a significant way of delivering innovation and competitiveness to the aerospace sector. However, demonstration is not limited to physical hardware. It is essential to develop and progress designs and computational methods - and this is what AERIS is about. This is an essential task which supports competitiveness through the reduction of design times.

'With AERIS, we are working at Technology Readiness Levels (TRL) 4 to 6. This means that we first verify our ideas and methods in our laboratories but also support the testing and validation of critical system functionalities in a realistic and industry-relevant environment. After this, we progress the technology to and past TRL6 where it becomes useable and can be exploited by Rolls-Royce.'

'ANSYS is thrilled to collaborate with Rolls-Royce and the University of Nottingham to achieve the highly challenging goals set by Clean Sky 2,' said Paolo Colombo, Director, Industry Marketing, Aerospace and Defence at ANSYS. 'We will increase the robustness and speed of multiphase technology and introduce the ability to transition between multiphase regimes – key capabilities to design the next generation of cleaner and quieter aero-engines.'

This programme is aligned to the Gas Turbine and Transmissions Research Centre (G2TRC) priority strategy on providing leading thermofluids insight and methods to Rolls-Royce, to support future design options and engine architectures. It is also aligned to the Institute for Aerospace Technology's (IAT) longer-term priority strategy on future propulsion, which brings together our expertise on gas turbine with more electric aircraft propulsion, as embodied in the Propulsion Futures Beacon programme funded by the University of Nottingham in June 2017, which the IAT has inspired for the aerospace sector.

Click here to return to Contents

#### SAP Appoints Industry Expert Cathy Smith to Lead Africa

12 March 2018

SAP today announced the appointment of Cathy Smith as managing director of SAP Africa.

Cathy brings more than 25 years of leadership and technology experience to the role and is the first female leader of SAP Africa.

Steve Tzikakis, regional president for EMEA South at SAP, says Cathy is an experienced and inspirational leader who joins the business at an exciting time in the continent's history: "Africa is on the cusp of exponential growth and development enabled by digital technologies. As one of the foremost experts in driving digital transformation on the continent, Cathy is imminently suited to leading our Africa operations. We have great confidence in her ability to realize our innovation vision across our customer base."

Cathy joins SAP from Cisco, where she was managing director for Sub-Saharan Africa, leading the

development and execution of the company's go-to-market sales and digital transformation strategies for the region. Prior to that, she spent 23 years at IBM in a variety of leadership roles. As a fellow of the African Leadership Initiative, Cathy is also committed to developing the next generation of value-based African leaders, capable of guiding and leading their countries as they balance the demands of globalization with local visions of a sustainable society.

Supported by Steve and the newly bolstered SAP South Africa Board, Cathy assumes the responsibilities of her new role today.

"Augmenting a culture of leadership, high performance and accountability, both internally and externally, is the core of Cathy's mandate. This appointment also reaffirms SAP's commitment to empowering women in leadership and is in line with the company's dedication to furthering South Africa's employment equity and transformation agenda," adds Steve.

Cathy takes over from Claas Kuehnemann, who took on the role of acting managing director for SAP Africa over the past eight months and who now assumes a new leadership position with SAP in Switzerland. Claas will remain closely allied with SAP Africa as he will continue to be a non-executive director on the SAP South Africa Board.

Click here to return to Contents

#### Siemens Donates Cash, Equipment, and Software for New Lawrence Tech Lab

13 March 2018

Siemens Corp. has given \$75,000 in cash, hardware and software to Lawrence Technological University. The university will use the donation to equip a new laboratory for its industrial engineering programs.

The donation will take place in a March 13 noon event on the LTU campus, and a March 14 formal presentation at noon at the Manufacturing in America conference and exhibition at Ford Field in Detroit.

Industrial engineering deals with the optimization of complex processes and systems. Industrial engineers work to eliminate wasted time, money, energy and materials. LTU offers fully accredited bachelor's and master's degree programs in industrial engineering.

"Like Lawrence Technological University, we see the great potential growth in high-tech manufacturing jobs in the United States," said Raj Batra, president, Siemens Digital Factory, U.S. "And we also see the need to close the skills gaps and make a positive impact on workforce development. We are honored that our contribution will allow the school to open its first Industrial Engineering Lab to prepare students for the technology they will encounter in real manufacturing environments."

Batra is a 1990 LTU graduate, with a bachelor's degree in electrical engineering. He received the university's Alumni Achievement Award in May 2017.

Batra said the donation is part of an ongoing effort by Siemens to address the growing workforce skills gap, as well as provide new pathways to the middle class in manufacturing employment.

The donation is the latest step in a longstanding relationship between Siemens and LTU. Since 2013, LTU has received two in-kind software grants from Siemens PLM Software commercially valued at more than \$200 million. The university now uses NX<sup>TM</sup> software for computer-aided design,

manufacturing and engineering; Teamcenter®, the world's most widely used digital lifecycle management software; the Tecnomatix® portfolio of digital manufacturing software; and Solid Edge® software, a hybrid two- and three-dimensional CAD system.

"This generous gift from Siemens is yet another example of Lawrence Tech's longtime motto, 'Theory and Practice,'" said LTU President Virinder Moudgil. "Our students will use the equipment and software from Siemens in the tasks industrial engineers undertake every day in the workplace, combining classroom theory with real-world practice."

Added Ahad Ali, associate professor and director of LTU's Bachelor and Master of Science in Industrial Engineering programs: "Siemens' donations will help establish an industrial engineering and manufacturing lab at LTU's campus, and help establish a semi-automated mini assembly line using Siemens Digital Factory tools. It will be a great learning experience for our students, and help prepare a skilled workforce in the industrial and manufacturing sectors."

Manufacturing in America is a two-day forum designed to show students the high-tech future of manufacturing. It includes a Student Zone, where ninth through 12th graders from Oakland, Macomb, and Wayne counties will participate in hands-on workshops with state-of- the-art equipment. Manufacturing in America is presented by Siemens and Electro-Matic Products Inc.

Siemens participates with hundreds of educational institutions across the country through the Siemens Cooperates with Education (SCE) program, in which schools partner with Siemens on leading edge industrial technologies in their classrooms, research projects and workforce development initiatives.

Siemens Corp. is a U.S. subsidiary of Siemens AG, a global powerhouse focusing on the areas of electrification, automation and digitalization. One of the world's largest producers of energy-efficient, resource-saving technologies, Siemens is a leading supplier of systems for power generation and transmission as well as medical diagnosis. With approximately 372,000 employees in 190 countries, Siemens reported worldwide revenue of \$92.0 billion in fiscal 2017. Siemens in the USA reported revenue of \$23.3 billion, including \$5.0 billion in exports, and employs approximately 50,000 people throughout all 50 states and Puerto Rico.

Lawrence Technological University, <a href="www.ltu.edu">www.ltu.edu</a>, is a private university founded in 1932 that offers more than 100 programs through the doctoral level in its Colleges of Architecture and Design, Arts and Sciences, Engineering, and Management. PayScale lists Lawrence Tech among the nation's top 100 universities for the salaries of its graduates, and U.S. News and World Report lists it in the top tier of best Midwestern universities. Students benefit from small class sizes and a real-world, hands-on, "theory and practice" education with an emphasis on leadership. Activities on Lawrence Tech's 107-acre campus include more than 60 student organizations and NAIA varsity sports.

Note: Teamcenter, Solid Edge, NX and Tecnomatix are trademarks or registered trademarks of Siemens Product Lifecycle Management Software Inc. or its subsidiaries in the United States and in other countries.

Click here to return to Contents

Trimble Announces Call for Speakers for its 2018 Dimensions International User Conference 13 March 2018

Trimble has opened its Call for Speakers for the 2018 Trimble Dimensions International User Conference, which will be held November 5-7 at The Venetian in Las Vegas, Nevada. This unparalleled combination of education, technology and networking is a premier opportunity for speakers to share best practices, insights and real-world experiences with industry peers from around the globe.

Of particular interest to the thousands of attendees at Dimensions are sessions addressing cutting-edge topics and groundbreaking trends in agriculture, building design, construction and operation, civil engineering and construction, forensics, forestry, geospatial, mapping and GIS, government (local, state, federal), land administration, marine construction, mobile mapping, monitoring, photogrammetry and remote sensing, quarry and aggregates, rail, scanning, surveying, transportation and logistics, and utilities.

Those interested in speaking at Dimensions can submit presentation proposals at <a href="www.TrimbleDimensions.com/CallForSpeakers">www.TrimbleDimensions.com/CallForSpeakers</a> through June 1, 2018. Selected speakers will be notified in mid-July and receive a significant discount for the full conference registration rate.

Click here to return to Contents

#### U.S. Department of Defense Validates ForeScout for IoT Security

12 March 2018

ForeScout Technologies, Inc. today announced that the U.S. Department of Defense's (DoD) Defense Information Systems Agency (DISA) added ForeScout CounterACT® to its select list of commercial technology products receiving Security Technical Implementation Guides (STIG). The DoD issues STIGs for technology innovation from vendors that meet and help enforce the Pentagon's rigorous security requirements for military agencies and contractors. Today's announcement reflects ForeScout's strategic role and expanding footprint across DoD customers, helping them gain foundational visibility of devices, including non-traditional Internet of Things (IoT) devices, connecting to their networks.

"The DoD's STIG validations by design are reserved for select, strategic vendors comprising keystone parts of the military's IT assets, networked operations and security defenses," said Wallace Sann, vice president of Global Systems Engineering, ForeScout. "This is a distinct achievement for our company and recognizes years of collaboration with partners and DoD agencies to integrate our technology and proven capabilities within the military's demanding worldwide enterprise."

ForeScout helps the DoD and other government organizations discover, classify and manage diverse devices and applications arriving on networks via the IoT's explosive growth. The STIG validation follows an enterprise-wide IoT security agreement that ForeScout separately reached with the DoD's Enterprise Software Initiative (ESI) program, which helps defense customers expand CounterACT deployments across their environments. ForeScout's STIG and ESI milestones underscore the scope of CounterACT's role in implementation requirements like the DoD's "Comply-to-Connect" (C2C) framework, which is responsible for protecting both IoT devices and traditional IT systems from evolving security threats.

ForeScout offers a visibility platform across defense organizations to help them see and control connected assets – from laptops and ruggedized devices in the field, to IoT gear and networked Industrial Internet of Things (IIoT) and operational technology (OT) control systems, including medical equipment – across bases and shared facilities. ForeScout's agentless technology discovers, classifies

and assesses devices. After discovering a device, ForeScout uses a combination of passive and active methods to classify the device according to its type and ownership, then assesses the device's security posture and allows an organization to set policies that establish authorized behaviors.

In DoD deployments, ForeScout meets rigorous C2C requirements, including:

- Network-based discovery and classification of devices
- Redundant manageability and control of devices
- Orchestration with other mandated security technologies, such as the DoD's Host Based Security System (HBSS) and Assured Compliance Assessment Solution (ACAS) – confirming these third-party tools are configured and functioning properly
- Continuous monitoring of connected devices
- Helps the DoD enforce its policies prohibiting personal and/or wearable devices or applications on DoD workstations and networks

DISA's STIGs form an enterprise-wide configuration standard for DoD systems supporting information assurance. Each STIG contains technical guidance detailing how defense agencies use commercial technologies to lock down information systems and software that might otherwise be vulnerable to malicious attacks and disruption.

Defense agencies and contractors can download DISA's overview memo and STIG for ForeScout at this link: https://iase.disa.mil/stigs/net\_perimeter/network-infrastructure/Pages/other.aspx

Click here to return to Contents

### **Events News**

#### Hannover Messe: START digital Production

14 March 2018

Trebing + Himstedt presents individual schedules for digital transformation and offers standardized SAP services in the new online service shop.

Something with industry 4.0, but what exactly? Or I know what it should look like, but what do I have to do, in which order, to get there? These or similar questions will be answered at this year's Trebing + Himstedt booth in Hall 7, Stand B12 from 23 to 27 April 2018.

Using the following six-step model, visitors will be able to determine their own status and determine the further schedule for digital production.

- Strategy
- Readiness
- Roadmap
- Technology
- Prototyping
- Realisation

"No matter what level you are at in the process of digital transformation, we will show you tools and methods to help you find and continue on the right path in a structured and focused way," says Steffen Himstedt, Managing Director of Trebing + Himstedt. At the booth, an industry 4.0 toolbox will be presented for the first time, which is currently being developed as part of the MyCPS research project.

For all those who already know exactly what they want, the SAP expert offers standardized services ranging from architecture consulting and installation to 24x7 hotline support in the new online shop. Appointments and free tickets for trade visitors can be registered at <a href="https://www.t-h.de/hannovermesse">www.t-h.de/hannovermesse</a>

Click here to return to Contents

#### Ideate Software to Demonstrate its Revit Productivity Applications at BiLT Asia 2018

8 March 2018

Ideate Software announced that Craig H. Dodge, Director of Sales, and Richard Taylor, Technical Evangelist, will attend and exhibit at <u>BiLT Asia 2018</u> in Singapore. They, along with representatives from Ideate Software's partner in Singapore, BIMAGE, will demonstrate how Ideate Software tools streamline Revit workflows. The conference will be held at the Marina Bay Sands Hotel and Conference Center on April 5-7, 2018.

"This conference, which is recognized as a global leader in BIM education, provides a perfect opportunity for us to meet with customers and potential customers," said Mr. Dodge. "In addition to demonstrating our products, we will ask Revit users to explain challenges they face, so we can consider addressing them in future releases of our software."

Here are highlights of Ideate Software tools that dramatically reduce the time spent on tedious tasks and increase the accuracy of Revit models by eliminating error-prone editing and updating processes:

- Ideate BIMLink Revit data management via Excel
- Ideate Explorer Project auditing and exploration
- Ideate Sticky Excel file linking and management of non-BIM data
- IdeateApps Productivity tools for every Revit user

Attendees of BiLT Asia can visit the Ideate Software and BIMAGE team at booth number 5.

Click here to return to Contents

#### Messe Frankfurt sets up UK subsidiary

1 March 2018

In the last financial year, over 560 exhibitors and around 15,300 visitors came from the United Kingdom to trade fairs in Frankfurt. Wolfgang Marzin, President and Chief Executive Officer of Messe Frankfurt, explained the background to the latest acquisition: "It is important for our company to promote

commercial exchanges at European and global level at our 30 trade fair locations around the world. In addition, the UK is an attractive trade fair and export market for our international customers. Even Shakespeare, one of the most important figures in world literature, was aware of the importance of trade links between the United Kingdom and Germany in his day. He made mention of the 'Frankfurt mart' and the trading activities with his homeland there in his play 'The Merchant of Venice'. Another important strategic factor for us today is the proximity to our British partners and organisers who are regular visitors to Frankfurt."

Ray Bloom, organiser and CEO of IMEX, the global trade fair for incentive travel, meetings and events, and as such also one of the British customers holding events in the Frankfurt exhibition grounds, confirms: "Establishing a subsidiary in the United Kingdom is a smart move on Messe Frankfurt's part. We see this decision as an excellent opportunity to intensify the ties between our two nations."

The acquisition of Forest Exhibitions Ltd is also linked with the 100 percent acquisition of Automechanika Birmingham, which the company has established in the National Exhibition Centre to date as a licensee. The previous owner of Forest Exhibitions Ltd, Rob Sherwood, who has represented Messe Frankfurt in the UK since 2008 with his company Sherwood Event Services Ltd, had organised Automechanika Birmingham for the first time in 2016 – with over 500 exhibitors on a net exhibition space of 10,000 square metres. The following year's event recorded an increase in exhibitor figures and exhibition space, with 844 companies showcasing their products and services to over 12,000 visitors on a net exhibition space of over 17,000 square metres.

Last year, Automechanika Birmingham won four awards in its sector, including "Best Trade Show", during the renowned high-profile AEO Awards. Detlef Braun, the member of the Executive Board of Messe Frankfurt responsible for the Mobility & Logistics business field, which includes the Automechanika trade fair brand with 17 events in 15 countries, commented: "With our subsidiary in the United Kingdom, we aim to continue helping Automechanika Birmingham go from strength to strength."

The former Event Director of Forest Exhibitions Ltd, Simon Albert, is to be Managing Director of the new Messe Frankfurt subsidiary and is "proud to be part of one of the largest trade fair companies in the world and to contribute to its success from the UK". In this position, he succeeds Rob Sherwood, who will continue to represent Messe Frankfurt in international sales with his company Sherwood Event Services Ltd.

**1** Click here to return to Contents

# Theorem Solutions to demonstrate Augmented (AR), Mixed (MR) and Virtual Reality (VR) App at Develop3D Live 2018

13 March 2018

Theorem Solutions is back at Develop3D Live this year and is excited to be exhibiting as a Gold sponsor. You can find them at stand #54/55 in the Mead Gallery.

Taking place on 20th March 2018 at Warwick Arts Centre, Warwick University, Develop3D Live is the perfect opportunity to demonstrate the latest Multi-Device <u>Visualization Experience</u> Application for:

• Augmented Reality– Windows 10 and Android tablets and phones

- Mixed Reality- Microsoft HoloLens
- Virtual Reality-HTC Vive and Oculus Rift

Principal Technical Consultant Trevor Leeson will be speaking (10.50am in the Oculus Theatre) about how to start your Augmented, Mixed and Virtual Reality journey in Engineering and Manufacturing.

Theorem Solutions has been helping engineering and manufacturing companies to leverage the value of their CAD and PLM data assets and processes for over 25 years and has recently released a data and device agnostic Visualization Experience application to utilize those data assets for Augmented, Mixed and Virtual reality devices – part of the Digital Realities product portfolio.

The Visualization Experience is a single application built from the ground up using a gaming graphics engine to produce stunning graphical representations of your data, which is a real game changer compared to the world of traditional CAD graphics and visualization.

By being data and device agnostic, the application allows you to use the same data, in the same visualization application, on ALL of the different low-cost devices. The application can be downloaded and installed on each device in minutes.

These low-cost devices are bringing an entirely new dimension to the way you can interact with your Engineering and Manufacturing data, democratising the use of AR, MR and VR and complementing the use of Caves and Powerwall's by putting the technology in the hands of everybody.

The Theorem Solutions Visualization Experience must be 'experienced' in order to realise the potential, and you will be able to have hands-on demonstrations on stand #54/55. Information on Publish 3D – 3D PDF, Visualize 3D, Multi-CAD and CADverter products and solutions will also be available.

Click here to return to Contents

### Financial News

ESI Group: Full Year 2017 Sales

15 March 2018

Commenting on full-year sales, Alain de Rouvray, Chairman and Chief Executive Officer of ESI Group, said: "Our fourth quarter of 2017 marked a return to growth in Licenses at constant exchange rates. However, the strong investments in the Group's transformation, aimed at securing the success of the "Objective 2020" five-year plan, will substantially impact the 2017 EBIT. On the other hand, the reported rebound in Licenses bodes well for better sales momentum in 2018, supported by the benefits of the strategic investments and management reorganizations made over the last two years. Our new value proposition, based on the Hybrid TwinTM, aims at supporting our customers on predicting their products' performance and piloting once in operation. This approach has required an in-depth adaptation of our marketing strategy as well as a new alignment of our sales and support teams. Meanwhile, the excellent performance of our Virtual Prototyping core business should continue to boost ESI's competitiveness in 2018 as the manufacturing industry experiences an unprecedented and accelerated change driven by the demands of the 'Smart Factory' and of the 'Outcome Economy'.

Please click here for financial charts and additional information.

1 Click here to return to Contents

### Implementation Investments

#### Auchan Retail Chooses Centric Software

13 March 2018

Centric Software is delighted to announce the signature of a new partnership with Auchan Retail. The retail distribution giant selected Centric Software's Product Lifecycle Management (PLM) solution to improve collaboration between multi-category product development teams for textiles, consumer electronics and household appliances, school/toys/office, home & deco and outdoor pursuits.

Centric Software provides the most innovative enterprise solutions to fashion, retail, footwear, outdoor, luxury and consumer goods companies to achieve strategic and operational digital transformation goals.

"We want to harmonize our work practices and have a centralized and reliable database for our teams, especially in sourcing and quality, in order to guarantee better collaboration between business lines," explains Catherine Tran, Information Systems Portfolio and Product Manager in Auchan Retail's Corporate Product Department. The objective for Auchan Retail is to grow its global brands in all regions where the company is present.

"Our decision to choose Centric PLM was influenced by the experience and knowledge demonstrated by the Centric team," explains Grégory Bonte, Project Manager with Auchan Retail. "Centric will help us to achieve not only our operational goals, such as reducing time to market and optimizing the value chain, but also our objectives of excellence for our customers and also for ourselves. Finally, Centric PLM will offer our teams a collaborative system to help them to work together more easily."

"We are proud to include Auchan Retail among our clients," says Chris Groves, President & CEO of Centric Software. "We are honored to partner with one of the world's multi-category retail giants to drive growth and excellence in operations."

Click here to return to Contents

#### Bharat Forge Limited Chooses PTC's ThingWorx IoT Platform to Adopt Industry 4.0

14 March 2018

PTC today announced that Bharat Forge Limited, a technology-driven leading Indian multinational has selected the ThingWorx IoT Platform from PTC to monitor its factory operations to improve operational efficiency and factory quality.

Bharat Forge Limited is a Pune-based multinational company with a presence across automotive, power, oil and gas, construction and mining, rail, marine and aerospace. The world's largest forging company with manufacturing facilities spread across India, Germany, Sweden, France and North America, Bharat Forge, manufactures a wide range of high performance, critical & safety components for the automotive & non-automotive sector.

Bharat Forge Limited was looking at improving its operational efficiency at its manufacturing facilities. After an exhaustive due diligence process, during which various software vendors were evaluated, Bharat Forge selected ThingWorx IoT Platform for its rapid application enablement, connectivity, machine learning capabilities, augmented reality, and integration with leading device cloud offerings.

Speaking on the partnership with PTC, Yogesh Zope, Group CIO, Bharat Forge Limited said, "Industry 4.0 is critical for India's manufacturing sector to thrive in the next decade. For this to thrive, the need of the hour is for a strong, scalable IIoT platform to support quick adoption of Industry 4.0 best practices. With PTC's ThingWorx platform we foresee a good synergy in terms of technology and vision for adoption of IIoT in India. We have kick started initial deployment of ThingWorx at our manufacturing plant at Pune, India. We expect to drive value by capturing real time OEE, Machine Downtime, Quality KPI's in the first phase followed with adoption of Machine learning and Artificial intelligence for achieving predictive maintenance capability in the near future."

Kalyan Sridhar, Country Manager, PTC India said, "Bharat Forge Limited is known for constantly enhancing and transforming its manufacturing facilities across the world with latest technologies that improve various aspects of their business. With Bharat Forge now being powered by PTC's ThingWorx IoT Platform, we believe that the company will be able to utilize the latest Industry 4.0 technologies and significantly improve their productivity, innovation & operational efficiency. We look forward to collaborating with Bharat Forge at a strategic level to build the foundations for accelerated Industry 4.0 adoption in India through some joint programs in the future."

ThingWorx was purpose-built from the ground up for the Internet of Things. It contains the most complete set of integrated IoT-specific development tools and capabilities available, offering the industry's deepest functional capabilities. ThingWorx makes it easy to develop and deliver powerful Enterprise IoT solutions that deliver transformative business value.

- ThingWorx platform will leverage Industry 4.0 technologies Artificial Intelligence and Machine Learning technologies to reduce product failures
- Reduce downtime caused by unplanned events by sending breaking news alerts of the errors to the proper parties and predict the amount of time until a system fails
- Improve the quality of products by providing a full digital reporting of products produced
- Reduce delays in decision making by enabling team members with real-time detailed data and creating dynamic visualizations of the status of production systems
- Identify trouble spots within the facility by observing real-time data on the factory floor

<u>Click here to return to Contents</u>

# Intradeco Apparel and Gerber Childrenswear Select CGS BlueCherry® PLM to Streamline Productivity

12 March 2018

CGS today announced that Intradeco Apparel, Inc., and Gerber Childrenswear LLC each selected BlueCherry® Product Lifecycle Management (PLM). BlueCherry PLM is an essential module within

the <u>BlueCherry Enterprise Suite</u> of solutions, and can be deployed as a standalone solution or as part of the end-to-end BlueCherry offering for apparel and consumer lifestyle brands. CGS made the announcement at its annual customer fashion, apparel and consumer goods event, INSIGHT 2018, taking place this week in Las Vegas.

Intradeco Apparel, a privately held company based in Miami focused on fashion basics, and Gerber Childrenswear, a leading marketer of children's everyday apparel and related products. Each entity began a search for a PLM solution to help increase overall productivity in product concept through product development and adoption. With such well-known brands as Fruit of the Loom, Izod, Jockey, Russell, Geoffrey Beene and Chaps, among others, Intradeco identified specific requirements that were needed in selection of a new system.

"We embarked on a process of digitizing our supply chain with the objective of taking our efficiency, speed and flexibility to the next level. Product Development and Product Lifecycle Management are key components of the supply chain," said Luis Marquina, COO, Intradeco. "We proceeded to do an extensive search of PLM systems in the marketplace and found BlueCherry PLM to be the best fit for our needs. The CGS BlueCherry PLM solution not only had the comprehensive features that we needed, but the team also had the knowledge and expertise to back it up and the most committed to a true long-term partnership. With BlueCherry PLM, we could streamline and automate our global development process."

"With more than 30 years of fashion and apparel experience, CGS understands the value of having the right solutions in place to help business operations run efficiently and effectively," said Paul Magel, president, Business Applications and Technology Outsourcing division, CGS. "With its vast array of well-known brands, we're excited to have Intradeco Apparel and Gerber Childrenswear join the BlueCherry community to support its growing operations."

Click here to return to Contents

# Loudoun Water selects Innovapptive's Mobile Inventory Solution to Drive Operational Efficiencies in their Warehouse

14 March 2018

<u>Innovapptive Inc.</u>, today announced that Loudoun Water has selected Innovapptive to implement <u>mInventory – Mobile Inventory and Warehouse Management solution</u> to deliver a consistent, reliable and a seamless inventory management experience that tightly integrates with their SAP Inventory & Warehouse Management system.

The solution will replace Loudoun Water's current manual paper-based processes within their Operations and Maintenance (O&M) Division. Innovapptive will provide Loudoun Water with the ability to streamline work processes, reduce manual data entry, produce accurate reports and work offline with real-time access and visibility across the warehouse. The mInventory solution will be deployed on iOS-based mobile devices that connect to long-range barcode scanning peripherals and wireless barcode label printers.

"Innovapptive approached our warehouse management business initiative with a high degree of subject matter experience and their configuration technology removes development risks from the initial implementation and empowers Loudoun Water with a compelling solution sustainment model," said

Alton C. Echols, PE., Director of O&M Programs. Loudoun Water.

"We are pleased to welcome Loudoun Water as the newest member of our growing client community," said Sri Karthik, Senior Vice President at Innovapptive Inc. "As the enterprise mobility market continues to change at a rapid pace, the market leaders recognize the importance of new technology to support their digital journey. The continued adoption of our mInventory solution further validates that our ongoing investments in the supply chain space are meeting the needs of enterprises' modernization initiatives."

The Innovapptive mInventory solution will be deployed throughout Loudoun Water in 14 weeks using Innovapptive's RACE<sup>TM</sup>- enabled configuration implementation methodology with a planned go-live by July this year.

Click here to return to Contents

#### lululemon Upgrades to Latest Version of PTC FlexPLM

12 March 2018

PTC today announced that technical athletic apparel company lululemon has upgraded to the latest version of PTC FlexPLM® retail software.

The upgrade delivers greater functionality and an improved user experience and enables further process efficiencies.

PTC FlexPLM offers comprehensive retail PLM capabilities, including line planning, specification management, merchandising, and other essential PLM capabilities for managing a retailer's complete assortment of products. Designed for retail's precise needs, PTC FlexPLM enables companies to achieve faster time-to-value and to develop more innovative products more quickly.

"We are thrilled to continue our long-standing collaboration with lululemon. At PTC, we understand that retail has become increasingly digital. To compete, retailers and brand owners need to transform their traditional processes in order to capitalize on new opportunities," said Eric Symon, general manager, retail, PTC.

Click here to return to Contents

#### Vida Shoes International, Inc. Streamlines Supply Chain Operations with Infor

12 March 2018

<u>Infor</u> today announced that Vida Shoes International, Inc. has selected a suite of Infor applications specialized for the retail industry to help simplify its supply chain network, achieve process improvement, and provide the organization with trusted, real-time data in a fully integrated business solution.

Specifically, Vida will deploy Infor CloudSuite Fashion, which offers access to industry specific analytics providing critical metrics and key performance indicators to end-users through a unique user interface that utilizes <u>Infor ION®</u>, a purpose-built middleware, and <u>Infor Ming.le<sup>TM</sup></u>, a social collaboration engine. These enhancements support global value chains by allowing users to view real-

time data at any time and from any location. In addition, Infor Fashion PLM will deliver tools to bring products to market faster and finish in a few days what would otherwise take weeks or months, linking every step in the product development process, which will help reduce errors, costs, and time to market. Better collaboration tools will help Vida automate communications to save time, communicate more effectively across the supply chain, and connect more closely to partners, while supplier self-service functionality will provide the teams with up-to-date real-time information.

"We decided to partner with Infor because of its ability to provide footwear specific business software and applications that will help our company respond quickly to changing market demands and streamline communication across divisions," said Arthur Levine, CFO, Vida. "We have grown rapidly over the past five years, both organically and through new licenses and brand acquisitions. We needed to be sure that we were partnering with a company that could provide us with software and solutions to support similar future growth. We needed a technology platform that would unify our operations and give us a single, trusted source of data from the supply chain through to the end user."

Vida will also implement a suite of GT Nexus-powered supply chain solutions including Purchase Order Collaboration and Procure to Pay. These applications will deliver rapid payment approval and notice of discrepancies, with a clear picture of cash flows and expected payment dates to suppliers. Vida will have a single view of order data between their suppliers, and confirm or negotiate order terms across multiple orders and items simultaneously.

Corey Tollefson, General Manager and Senior Vice President of Infor Retail added, "We are excited to partner with Vida in the deployment of a next generation omni-channel supply chain solution. Infor's CloudSuite Fashion solution combined with the Infor GT Nexus Commerce Network provides Vida with a digital supply chain platform that will provide them the dependability, agility, and accuracy they need to be successful in the ultra-competitive fashion industry. This suite not only allows Vida to manage its business within the four walls of its organization, but also gives them the visibility and capability to manage the supply chain across one of the world's largest business networks, Infor's GT Nexus Commerce Network, which includes over 55,000 companies globally."

Click here to return to Contents

### **Product News**

# Accruent Announces Meridian Enhancements Including First Cloud-Based ALIM Solution 13 March 2018

<u>Accruent</u> has announced major enhancements to Meridian, Accruent's innovative Asset Lifecycle Information Management (ALIM) software used by over 1,200 companies. These new products mark the first upgrades to <u>Meridian</u> since it was added to Accruent's portfolio through the BlueCielo acquisition in November 2017.

These enhancements include new cloud and analytics products, an enhanced mobile interface and major updates across existing Meridian client and server applications. The improved product line will provide organizations in asset-intensive and highly regulated industries even greater real-time accessibility to their mission-critical asset information.

"As we've moved from working with 1,200 BlueCielo customers into Accruent's world of over 7,000 global customers, there's a growing demand for the maximum reliability and global availability of a cloud-based solution for managing engineering information throughout the asset lifecycle," said Willem-Jan Scholten, Accruent's SVP of International Sales. "The Meridian development team and our beta customers are delighted by the way Accruent's scale and expertise have helped accelerate the timing and expanded the scope of these enhancements."

The new product announcements include:

#### Meridian Cloud

Meridian Cloud is the world's first complete ALIM solution in the cloud. This secure cloud service for engineering information management, built on Microsoft Azure, ensures that users are informed, aligned, compliant and in control throughout asset lifecycles. Offered through a subscription-based model, Meridian Cloud reduces startup costs, simplifies procurement and operational budgeting, and enables costs to stay in line with changing requirements and actual software usage.

"Meridian Cloud will allow us to take advantage of built-in industry best practices for asset information data management, with workflows 'preconfigured' within the software," said Christopher Bornstein, Kaneka Global Asset Information Management Systems Coordinator. "This service will simplify and accelerate our implementation of asset lifecycle information management at new sites around the world."

#### **Meridian Analytics**

Meridian Analytics is a new service for providing insights into engineering data captured within the Meridian platform. Its quality analytics provide visibility into the metadata on documents and information managed within Meridian. This service enables customers to quickly and effectively analyze and understand their data quality and integrity and plan for improvement.

"We already rely on Meridian to manage our critical asset information for nine plant locations worldwide, and are working to roll out to an additional seven plants by the end of 2018," said Bill Eager, Drawing Management Engineer at AbbVie. "The new Meridian Analytics offers extended visibility into all of our existing asset information. With this new service, we'll gain far-reaching insights into our data and ensure that our users get the right information every single time, which will have a tremendous positive impact."

Product updates include:

#### **Meridian Server**

Meridian Server, the on-premise platform, has been upgraded to provide new consolidated capabilities including support for advanced information types, workflow auditing, performance enhancements for very large datasets and Enterprise Asset Management (EAM) integrations.

#### **Meridian clients**

- Meridian Power Enables creation and modification of engineering data in Meridian.
- Meridian Explorer Provides easy search, retrieval and sharing across departments.
- Meridian Portal Enables secure collaboration with external stakeholders.
- Meridian Mobile Enables barcode scanning and data retrieval via smartphone or tablet.

### **1** Click here to return to Contents

#### CGTech Releases VERICUT Composite Applications Software Version 8.1

13 March 2018

CGTech is now shipping the next major release of VERICUT Composite Applications: VERICUT Composite Programming (VCP) and VERICUT Composite Simulation (VCS). VERICUT Composite Applications are being used by leading manufacturers to program and simulate automated fiber placement and tape-laying machinery from machine tool builders such as, Electroimpact, MTorres, AFPT, Automated Dynamics, Fives, Accudyne, BA Composites and others.

"With a specific focus on laminate design, we've added powerful and innovative features to help our customers every step of the way in producing quality composites parts," said Product Manager André Colvin. The Composites 8.1 suite focuses on streamlining the flow of data between design applications, VCP itself, and analysis packages. "VCP 8.1 allows users to import the engineered laminate design while providing tools to export defects caused from manufacturing limitations back to analysis packages, thus closing the design for manufacturing loop," said Colvin.

Many features have been added in version 8.1, including a new "Laminate Manager" which automates file management and processing for the entire laminate. This release also includes a completely redesigned graphical interface, enhanced reports, laminate analysis tools, advanced collision avoidance, and more. A complete list of enhancements is available on the <u>cgtech.com</u> website.

VCP starts by reading in CATIA, NX, Solidworks, STEP, or ACIS surface models. This data can be combined with information from composite design packages such as Fibersim and CATIA Composite Workbench. VCP adds material to fill ply boundaries according to user-specified manufacturing standards and machine limitations. Layup paths are linked together to form specific layup sequences and are output as NC programs for the automated layup machine.

VCS reads CAD models and NC programs, either from VCP or other composite layup path-generation applications, and simulates the sequence of NC programs on a virtual machine. Material is applied to the layup form via NC program instructions in a virtual CNC simulation environment. The simulated material applied to the form can be measured and inspected to ensure the NC program follows manufacturing standards and requirements. A report showing simulation results and statistical information can be automatically created.

<u>Click here to return to Contents</u>

# InfluxData's Open Source Telegraf Project Significantly Expands Ecosystem of Applications Supported for Collecting Metrics and Events

6 March 2018

InfluxData today announced the significant growth and popularity of Telegraf, its open source project used for collecting and reporting metrics.

Telegraf, a plugin-driven small footprint agent, is proven easy to use and extend for collecting and reporting metrics. As a result of its popularity, Telegraf has built a vibrant and growing community of

users and contributors. The growth and breadth of agents Telegraf supports has increased more than 80 percent over the past 12 months, driven by community demand. This is a proven testament to Telegraf's ease of use, minimal memory and disk footprint, and ability to enable the developer community to quickly extend collecting metrics from a variety of local or remote services.

"We started the Telegraf project 3 years ago with just six plugins from a small contribution by our own engineers," said Paul Dix, Founder and CTO at InfluxData. "Our goal was to make it easy to build plugins for any device, system, or app; and the proof is evident in the numbers. With plugins supporting thousands of metrics, built by more than 400 contributors, this is a great example of an active and thriving open source community."

The core framework delivered by Telegraf and extended through community development of plugins powers the data gathering and collection within the InfluxData Platform. Telegraf is used to gather and shape a variety of metrics from the system it's running on, from third party APIs, or by listening for metrics via a variety of standard formats such as StatsD. Currently, the input plugins developed by the community cover gathering of metrics from sources such as Amazon CloudWatch, Docker, Kubernetes, MongoDB, Nginx, Redis, and wide variety of open source technologies from the Apache Software Foundation. The community has also developed output plugins to send metrics to a variety of other data stores, services and message queues, including InfluxDB, CrateDB, Graphite, OpenTSDB, Datadog, Librato, Kafka, MQTT, NSQ, and many others. Telegraf makes it easy for integrations to be created and released as new technologies come along.

Telegraf follows the open source development model, allowing the plugin to work with any system to collect as well as store metrics in any data store that supports tags. As data sources change, developers can easily contribute to a Telegraf plugin to keep it up to date. New plugins added just in the last quarter include Salesforce, fluentd, OpenLDAP, Jolokia2, NginXPlus, Particle.io, Apache Solr, Mesosphere's DC/OS, and Wavefront.

Telegraf is a key component of the InfluxData Platform which provides a comprehensive set of tools and services to accumulate metrics and events data, analyze the data, and act on the data via powerful visualizations and notifications. InfluxData's unique features enable customers to quickly build:

- Monitoring, alerting and notification applications supporting their DevOps initiatives
- IoT applications supporting millions of events per second, providing new business value around predictive maintenance and real-time alerting and control
- Real-time analytics applications that are focused on streaming data and anomaly detection

InfluxData has rapidly built its developer and customer base across industries – including manufacturing, financial services, energy, and telecommunications – by delivering the fastest growing Open Source Platform that enables customers to derive better business insights, data-driven real-time actions, and a consolidated single view of their entire infrastructure – from applications to microservices, and from systems to sensors. More than 400 customers, including Cisco Systems, Coupa Software, IBM, Houghton Mifflin Harcourt, Nordstrom, and Tesla, have selected InfluxData as their modern data platform for metrics and events. InfluxData is pioneering the shift to time series in a modern metrics and events platform, and is making it possible for customers to become data-driven and take on digital transformation initiatives.

Pricing and Availability

Telegraf is available for free under the OpenSource MIT license. For more information

see: <a href="https://www.influxdata.com/time-series-platform/telegraf/">https://www.influxdata.com/time-series-platform/telegraf/</a>

Click here to return to Contents

#### MathWorks Announces Release 2018a of the MATLAB and Simulink Product Families

15 March 2018

MathWorks today introduced Release 2018a (R2018a) with a range of new capabilities in MATLAB and Simulink. R2018a includes two new products, Predictive Maintenance Toolbox for designing and testing condition monitoring and predictive maintenance algorithms, and Vehicle Dynamics Blockset for modeling and simulating vehicle dynamics in a virtual 3D environment. In addition to new features in MATLAB and Simulink, and the new products, this release also includes updates and bug fixes to 94 other products.

#### **MATLAB Product Family Updates Include:**

#### MATLAB:

Live functions, documentation authoring, debugging, and interactive controls for embedding sliders and drop-down menus in the Live Editor

App (UI) testing framework, C++ MEX interface, custom tab completion, and function assistants for advanced software development

#### MATLAB Online:

Hardware connectivity for communicating with USB webcams

**Econometrics Toolbox:** 

Econometric Modeler app for performing time series analysis, specification testing, modeling, and diagnostics

Image Processing Toolbox:

3-D image processing and volume visualization

Partial Differential Equation Toolbox:

Structural dynamic analysis to find natural frequencies, mode shapes, and transient response

**Optimization Toolbox:** 

Branching methods for solving mixed-integer linear problems faster

Deep Learning

Neural Network Toolbox:

Support package for importing deep learning layers and networks designed in TensorFlow-Keras

Long short-term memory (LSTM) networks for solving regression problems, and doing text classification with Text Analytics Toolbox

Adam, RMSProp, and gradient clipping to improve network training

Accelerated training for directed acyclic graph (DAG) networks using multiple GPUs and computing

intermediate layer activations

Computer Vision System Toolbox:

Image Labeler app to automate labeling of individual pixels for semantic segmentation

GPU Coder:

CUDA code generation for networks with directed acyclic graph (DAG) topology and pretrained networks like GoogLeNet, ResNet, and SegNet

C code generation for deep learning networks on Intel and ARM processors

Data Analytics

Statistics and Machine Learning Toolbox:

High-density data visualization with scatter plots in the Classification Learner app

Big data algorithms for kernel SVM regression, computing confusion matrices, and creating nonstratified partitions for cross-validation

Text Analytics Toolbox:

Multiword phrase extraction and counting, HTML text extraction, and detection of sentences, email addresses, and URLs

Stochastic LDA model training for large datasets

Predictive Maintenance Toolbox:

A new product for designing and testing condition monitoring and predictive maintenance algorithms

#### **Simulink Product Family Updates Include:**

Simulink:

Predictive quick insert to connect a recommended block to an existing block in a model

Simulation Pacing for running simulations at wall clock speed or other specified pace for improved visualization

Simulation Data Inspector in the Live Editor for directly adding, viewing, and editing plots

Simulink 3D Animation:

Collision detection for sensing collisions of virtual world objects using point clouds, raytracing, and primitive geometries

Simscape:

Moist air domain and block library to model HVAC and environmental control systems

Partitioning local solver to increase real-time simulation speed

Automotive

Automated Driving System Toolbox:

Driving Scenario Designer app for interactively defining actors and driving scenarios to test control and sensor fusion algorithms

Model Predictive Control Toolbox:

ADAS blocks for designing, simulating, and implementing adaptive cruise control and lane-keeping algorithms

Vehicle Network Toolbox:

CAN FD protocol support in Simulink, and XCP over Ethernet to communicate with ECUs from MATLAB or Simulink

Model-Based Calibration Toolbox:

Powertrain Blockset integration for using measured data to calibrate and generate tables for Powertrain Blockset mapped engines

Vehicle Dynamics Blockset:

A new product for modeling and simulating vehicle dynamics in a virtual 3D environment

**Code Generation** 

Embedded Coder:

Embedded Coder dictionary for defining custom code generation configurations for data and functions Code Perspective for customizing Simulink desktop for code generation workflows

MATLAB Coder:

Row-major array layout to simplify interfacing generated code with C environments storing arrays in row-major format

Sparse matrix support to enable more efficient computation using sparse matrices in generated code

C code generation for machine learning deployment including k-nearest neighbor, nontree ensemble models, and distance calculations with Statistics and Machine Learning Toolbox

Fixed-Point Designer:

Lookup table optimization for approximating functions and minimizing existing lookup table RAM usage

HDL Coder:

Matrix support enabling HDL code generation directly from algorithms with two-dimensional matrix data types and operations

Signal Processing and Communications

Signal Processing Toolbox:

Signal Analyzer app for processing multiple signals and extracting regions of interest from signals Vibration signal analysis from rotating machinery using RPM tracking and order analysis

LTE System Toolbox:

NB-IoT support to model the narrowband Internet of Things transport and physical downlink shared channel

RF Blockset:

Power amplifier model for capturing nonlinearity and memory effects based on input/output device characteristics

Wavelet Toolbox:

Continuous and discrete wavelet transform filter banks

Robotics System Toolbox:

Lidar-based SLAM for localizing robots and map environments using lidar sensors

Verification and Validation

Simulink Requirements:

Requirements import with ReqIF for importing requirements from third-party tools such as IBM Rational DOORS Next Generation or Siemens Polarion

Simulink Test:

Coverage aggregation to combine coverage results from multiple test runs

Polyspace Code Prover:

AUTOSAR support for static analysis of AUTOSAR software components

R2018a is available immediately worldwide.

Click here to return to Contents

# New FloMASTER thermo-fluid solution offers CAD connectivity, new physics and enhanced user experience

13 March 2018

Mentor, a Siemens business, today announced the latest release of the FloMASTER® 1D thermo-fluid system modeling product. Combining integration with 3D mechanical computer-aided design (MCAD) with new physics and an improved user experience, the latest release of the FloMASTER tool is the result of extensive years of research and development, and accuracy validated by running more than 13 million unit test runs. The new FloMASTER release offers significant advancements in productivity through automated connectivity to 3D CAD design tools. The new "CAD-to-FloMASTER" (CAD2FM) functionality enables design engineers to rapidly create representations of their 3D systems. CAD2FM automatically abstracts the 3D descriptions of piping networks into a collection of connected FloMASTER components, reducing manual, labor-intensive and error-prone measure and re-enter methods.

"With the new CAD2FM capability in the FloMASTER release, we managed to massively speed up the conversion process of our piping systems from a 3D MCAD model to a system model," stated Stefano Morlacchi, CFD solution specialist, CADLOG. "We achieved this while still maintaining the accuracy of a fully-detailed FloMASTER network with all pipes, bend and junctions defined."

The highly automated workflow allows users to control the fidelity level of the abstracted models and the number of FloMASTER components created to represent the piping geometry for efficient thermofluid simulation. This new one-touch workflow is available in a standalone version, as well as integrated

within PTC Creo, Dassault CATIA V5, and Siemens NX<sup>TM</sup> software and Solid Edge® software CAD tools.

In addition, the FloMASTER release includes new functionality for air conditioning (AC) systems. Enhancements have been made to the FloMASTER Enthalpy Solver and 14 new components added to the Vapour Cycle (VC) component library. These enhancements enable AC systems to be modelled and simulated for a wide range of use cases, from traditional automotive and building systems, to complex, multi-component and multi-loop systems for aerospace and advanced electrical vehicle (EV) cooling applications. By leveraging both the new AC developments and the existing VC components, several advanced thermodynamic cycles can be investigated including (but not limited to) Trilateral Flash Cycles, Trans-critical Rankine Cycles, and advanced multi stage cycles. Using these powerful engineering components, designs can be quickly and easily created at the earliest stage possible, enabling accurate and quick system level design exploration.

The FloMASTER release also enhances the user experience through a number of new and improved features that offer improved result processing while facilitating common operations. In this framework, a new results dashboard is available as a quick reference tool to monitor critical results for transient simulations. A new gas turbine cavity result viewer provides the user with all results of a cavity in a single location. In addition, output parameters have been enhanced to allow the user to quickly view the result at the end of the simulation, while the addition of schematic annotation allows users to highlight areas of interest and improve system understanding.

"Our new FloMASTER release provides feature-rich capabilities that deliver the accuracy, flexibility, and speed that address many key areas important to our customers, including those in today's highly competitive automotive systems market," stated Roland Feldhinkel, general manager of Mentor Graphics' Mechanical Analysis Division, now part of Siemens PLM Software's simulation and test division. "Leveraging our extensive knowledge and expertise in 1D and 3D mechanical analysis, our new 1D/3D CAD import tool represents a step change in automation that will significantly benefit our customers."

#### **Product Availability**

The new FloMASTER product is available today. To learn more, visit the product website at: <a href="https://www.mentor.com/products/mechanical/flomaster/">https://www.mentor.com/products/mechanical/flomaster/</a>

Click here to return to Contents

#### Robin Systems Announces Free Trial Edition of Robin Cloud Platform on AWS

14 March 2018

Robin Systems today announced a Free Trial Edition of Robin Cloud Platform on Amazon Cloud.

The Free Trial allows users to fully test drive Robin Cloud Platform Enterprise Edition in a SaaS model (software-as-a-service) at no cost. With a short registration, the entire platform is available for consumption, including all features and functions. Full access is granted for the entire range of preconfigured data-heavy workloads and pipelines of <a href="Big-Data">Big-Data</a> applications (<a href="Hadoop">Hadoop</a> Cloudera, Hortonworks, Kafka, SPARK etc.), <a href="NoSQL">NoSQL</a> (Cassandra, MongoDB, Elastic etc.) as well as <a href="Enterprise">Enterprise</a> <a href="Databases">Databases</a> (Oracle, MySQL, Postgres and more) so that users can test drive the robust platform with an app-store experience, and experiment with the wealth of 1-click lifecycle management features ranging

from initial deployment, resource and service scaling, performance management and SLA guarantees, full application snapshots to clones and time travel.

"We found Robin's Free Trial to be a great way to get hands-on experience with the Robin software and its capabilities without having to commit funds upfront to building out and running our own cluster. It has proven useful to easily provision and then test drive Big Data and NoSQL applications on Amazon. Clearly the snapshot and cloning features could benefit our company and streamline our workflow," said <a href="Steve Seike">Steve Seike</a>, principal software engineer, VitalConnect, Inc.

This release follows the well-received Robin Cloud Platform Community Edition (CE) which is free forever for deployments of up to 5 instances (regardless of AMI type). Robin Cloud Platform CE does require users to use their own Amazon account and resources (AMIs, Storage/EBS, etc.), whereas the Free Trial Edition eliminates even those requirements - so that it can be used with no prior setup and is totally free.

"The Free Trial edition is a natural extension of community and enterprise editions of Robin Cloud Platform on AWS. This makes it even simpler for users to get hands-on experience with Robin Cloud Platform to explore all of the unique features and functions it offers," said <a href="Premail Buch, CEO of Robin Systems">Premail Buch, CEO of Robin Systems</a>.

Robin Cloud Platform offers the broadest support for enterprise data apps in the market. It is the only solution that lets you share resources across multiple applications and users, while guaranteeing performance isolation. Robin is also the only solution that slashes application deployment, as well as management times from days to minutes. Robin Cloud Platform is a container-based pure software solution that sits between the application and the infrastructure and enables 1-click application workflows for the user by letting the applications auto-configure storage, compute and networking across on-premise and cloud-based environments. It has REST APIs and hooks to interface with the rest of the ecosystem and requires no changes to the applications.

Click here to return to Contents

# RomaxDESIGNER Component Now Available for Dassault Systèmes' SIMULIA Isight Application 2 February 2018

A component for embedding RomaxDESIGNER processes into Dassault Systèmes' SIMULIA Isight application is now available.

The component enables the engineering analyst to effortlessly combine detailed driveline models within their SIMULIA Isight process, bringing its automation, integration and optimization capabilities to bear on the driveline discipline.

SIMULIA Isight is a powerful tool for simulation-based, repeatable, automated design processes. Its processes, including Design of Experiments and Six-Sigma reliability and robustness studies, can now be used to drive RomaxDESIGNER analyses to provide insight into design decisions, increasing confidence in designs for real world duty cycles.

Through processes created by SIMULIA Isight, RomaxDESIGNER can work alongside a whole host of other industry standard software tools (such as Excel, MATLAB, Dassault Systèmes' SOLIDWORKS and many others), enabling automatic mapping of input and output parameters, improved process

automation and decreased development time.

Sumanth Kumar, Vice President, Growth, SIMULIA, Dassault Systèmes, comments:

"In today's complex product development and manufacturing environment, designers and engineers are using a wide range of software tools to design and simulate their products. Often, chained simulation process flows are required in which the parameters and results from one software package are needed as inputs to another package. Rather than manually entering the required data, the RomaxDESIGNER component enables analysts to integrate detailed driveline models within a

the RomaxDESIGNER component enables analysts to integrate detailed driveline models within a SIMULIA Isight process, thus helping to improve efficiency, accelerate product development, and reduce errors in modelling and simulation assumptions."

Jamie Pears, Head of Product Management, Romax Technology, comments:

"SIMULIA Isight is used to combine multiple cross-disciplinary models and applications together in a simulation process flow, automate their execution across distributed resources, explore the resulting design space, and identify the optimal design parameters subject to required constraints.

"The component links SIMULIA Isight processes, such as Design of Experiments, Optimizations and Six-Sigma studies into RomaxDESIGNER and other third-party tool analyses, allowing your simulation to account for realistic application conditions."

For more information, please visit - <a href="http://www.romaxtech.com/about-you/software-partners/romaxdesigner-isight-component/romaxdesigner-isight-component-details/">http://www.romaxtech.com/about-you/software-partners/romaxdesigner-isight-component/romaxdesigner-isight-component-details/</a>.

Click here to return to Contents

# Siemens' Teamcenter updated certification on Microsoft Azure delivers PLM cloud diversity 15 March 2018

Siemens announces today the updated certification of the <u>Teamcenter</u>® portfolio for Microsoft Azure. Continuing to build upon their cloud computing strategy, Siemens moves Teamcenter beyond traditional product lifecycle management (PLM) offerings by diversifying its cloud partner base and expanding its delivery methods, resulting in less costly and more flexible customer deployments. Through the Microsoft Azure certification, Siemens' PLM customers can realize a lower cost of PLM ownership, with more flexibility in deployment options.

As software, hardware, services, policies, and security requirements continue to evolve, updated certifications can help companies confirm that evolving technologies continue to work together. Siemens' longstanding collaboration with Microsoft is one aspect that helps customers understand the technology supplied by both companies can help them reach their innovation and product delivery goals.

"Offering Siemens Teamcenter on Microsoft Azure gives customers much more flexibility and affordability when it comes to PLM deployments," Çağlayan Arkan, general manager, Worldwide Manufacturing and Resources, Microsoft Corp.

"Azure allows for more flexibility in deploying and maintaining Teamcenter, while lowering the cost of PLM ownership with reduced IT resource and infrastructure requirements."

As more enterprises embrace the cloud for PLM, Siemens is helping support and enable those customers to achieve their goals of lower cost of ownership, ease of deployment, and faster time to value. With

Teamcenter Infrastructure as a Service (IaaS) on Microsoft Azure, customers can spend less on infrastructure, get up and running more quickly, and potentially reach greater returns on their PLM investment.

"Teamcenter already helps our customers develop their own market-leading products. Now, with the updated certification of Teamcenter on Microsoft Azure, our customers can deploy PLM more quickly, with lower infrastructure cost, and scale it whenever the business need arises," said Joe Bohman, senior vice president of Lifecycle Collaboration Software, Siemens PLM Software.

For further information, please see <a href="https://community.plm.automation.siemens.com/t5/Teamcenter-Blog/PLM-Deployment-Flexibility-with-Addition-of-Teamcenter-on/ba-p/470521">https://community.plm.automation.siemens.com/t5/Teamcenter-Blog/PLM-Deployment-Flexibility-with-Addition-of-Teamcenter-on/ba-p/470521</a>.

Click here to return to Contents

#### Synopsys Advances Custom Platform to Accelerate Robust Custom Design

12 March 2018

Synopsys, Inc. today announced release of the latest versions of its circuit simulation and custom design products—HSPICE®, FineSim® SPICE, and CustomSim simulators and the Custom Compiler™ IC design tool—to address the growing need for robust custom design. The growth in automotive electronics and transition to FinFET process nodes have led to a significant increase in IC design complexity and the need for rigorous analysis to validate custom and analog/mixed-signal (AMS) designs across a broad spectrum of process corners and environmental conditions. The latest releases of Synopsys' custom design solution provide 2X faster simulation and Monte Carlo analysis speed, as well as enhancements to Custom Compiler, including interactive device-level routing to accelerate robust custom design.

#### Circuit Simulation Performance for Robust Design Validation

FinFET designs have significantly more post-layout parasitics, making transistor-level simulation of large analog and custom digital designs a formidable challenge. The 2017.12 release of FineSim SPICE delivers core engine innovations and RC optimizations to provide 2X speed-up for FinFET post-layout simulation of large designs.

To accelerate robust design validation, the latest release of FineSim SPICE also delivers 2X Monte Carlo simulation speed-up by streamlining Monte Carlo model generation and results post-processing. Similarly, new RC reduction and partitioning algorithms in the 2017.12 release of the CustomSim FastSPICE tool deliver 2X speed-up for post-layout SRAM simulation and maintain multi-core scalability by providing additional 2X speed-up on four cores. Additionally, the 2017.12 release of HSPICE delivers 1.5X speed-up for large post-layout designs.

#### **Custom Compiler Enhancements Accelerate Custom Layout**

Custom Compiler's industry-pioneering visually-assisted layout automation technologies provide a substantial boost to custom layout productivity, especially for FinFET process nodes. In the 2017.12 release, this feature set has been enhanced to include device-level pattern routing. Unlike typical routers, the pattern router in Custom Compiler creates connections that mimic interconnect patterns that a layout designer creates by hand. Achieving hand-crafted-quality routes is important for device-level connections, especially for sensitive analog circuitry.

Custom Compiler includes a library of built-in routing patterns. In addition, the pattern router can extract patterns from a hand-created layout and reapply those patterns to other connections that need to be routed. This new feature complements the previously released feature that enables placement patterns in the design to be reused. Now Custom Compiler can place and route devices automatically, following patterns learned from an example layout. We call this approach template-based design, a powerful way to accelerate custom layout by reusing layout knowledge.

"High-reliability applications, such as automotive and FinFET process node designs, pose new challenges for companies needing to ensure custom design robustness," said Bijan Kiani, vice president of marketing at Synopsys. "The latest enhancements in Synopsys' Custom Design Platform enable design teams to accelerate custom and AMS design and validation through innovations in visually-assisted layout automation and simulation performance technologies."

**1** Click here to return to Contents