PLM Weekly Summary

Editor: CIMdata News Team

01 November 2019

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CIMdata News

CIMdata's President & CEO, Peter Bilello, to make a Presentation at PI PLMx San Diego

30 October 2019

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces that its President & CEO, Peter Bilello, will make a presentation at PI PLMx San Diego entitled, "Digitalization Transformation & PLM: Keys to Success & Why Projects Fail." PI PLMx San Diego will be held at the Paradise Point resort in San Diego, California on 10-11 November. Mr. Bilello's presentation will take place directly after lunch on day 1 of the event as part of the PLM-enabled Disruption track.

Digitalization is rapidly moving from a fuzzy concept to the newest data-driven derailment of the status quo as new sources of information speed up innovation throughout the product lifecycle. In many ways, digitalization is the logical next step in representing anything and everything in 1s and 0s. Digitalization is transforming products from physical goods and tangible services. In fact, in many cases data is displacing them as the "product." In today's world of nearly total information digitalization, products and services are often bought and installed as much for the information they generate or collect as for the nominal benefits spelled out in requirements, designs, product datasheets, and advertising. In CIMdata's view, the digitalization of business cannot happen without an end-to-end PLM strategy and its enabling practices, processes, and tools. This presentation will focus on the important role PLM plays in a digital transformation, the keys to success, and why some projects fail.

Mr. Bilello has over 30 years of experience in the development of business-enabling IT solutions for research, engineering, and manufacturing organizations worldwide. He has participated in PLM analysis, selection, implementation, and training; CAD/CAM/CAE/CIM implementation and management; synchronous and lean manufacturing consulting; software engineering; and general data management strategy development and support. He has authored numerous papers and research reports on PLM, Digital Transformation, and related topics. His articles, commentaries, and perspectives have appeared in publications throughout the Americas, Europe, and Asia.

For more information about the presentation and the event please visit:
https://www.cimdata.com/en/events/plm-industry-events/event/506-pi-plmx-san-diego

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Acquisitions

Accenture Interactive Acquires U.K. Digital Ventures Consultancy Bow & Arrow

31 October 2019

Accenture has acquired Bow & Arrow, a U.K.- based digital ventures consultancy that helps clients identify and create new digital products and services that fulfil unmet customer needs. Financial terms were not disclosed.

The acquisition strengthens Accenture Interactive's ability to reinvent experiences for communications, media and technology companies, to help them seize new market and customer opportunities and diversify their revenue streams.

Bow & Arrow's expertise is in the emerging category of "white space" identification — finding opportunities for businesses to grow in new market sectors and to offer new experiences. Leveraging its proprietary Crossbow methodology, Bow & Arrow transforms the launch rate for new digital products, services and ventures for clients.

Founded in 2009, Bow & Arrow has built its success on its ability to blend analytics with creativity and vision with execution. The consultancy works with clients across a variety of industries, with a particular focus on communications, media and technology.

"Research has shown communications and media to be the most disrupted industry in the U.K., so these companies are looking for growth opportunities outside of their core businesses," said Joy Bhattacharya, head of Accenture Interactive in the U.K. and Ireland. "It's hard to identify where that white space is, and even once you've found it, you need help to change course and grow in the right direction. The acquisition strengthens our capabilities in guiding clients toward these opportunities for experience reinvention — from discovery to delivery — helping clients find and unlock avenues for business growth."

Bow & Arrow sits at the center of the disruption and innovation agenda for clients. They work in cross-functional 'Start Up' teams, which combine strategists with commercial, research, creative thinking and analytical skills. They also incorporate creatives who have commercial, strategic, customer and product understanding to design transformational experiences. These teams work together from the beginning to the end of the Crossbow process, keeping momentum by removing handovers to different disciplines, and creating more than the sum of their parts through unique collaboration and mutual understanding.

Lisa De Bonis, Communications, Media & Technology lead at Accenture Interactive, said, "Bow & Arrow's client-centric approach and novel operating model fit perfectly with how we approach all of our work. Real innovation is not about building something amazing in isolation, but about value — which comes when you can scale something new for your whole business or all of your customers. Bow & Arrow is built on strong people, with specialist skills, and a collaborative approach that makes it an ideal addition to Accenture Interactive."

Bow & Arrow Creative Partner and Co-Founder, Natasha Chetiyawardana, said: "Joining forces with Accenture Interactive is an amazing opportunity to broaden the work we can do with clients. Our experience of white space innovation complements their extensive expertise in the platforms, creativity, consulting and venturing. Now we can help identify and implement new opportunities for clients on a global scale."

Bow & Arrow CEO and Founder, Ben Slater, added: "We work with clients when there is an urgent need for fast growth outside of their core business, but they don't know what to do next. Working with Accenture Interactive dramatically increases our capacity to provide game-changing implementation too for these clients."

Dassault Systèmes announces CFIUS clearance for Medidata acquisition

28 October 2019

Dassault Systèmes SE ("Dassault Systèmes") and Medidata Solutions, Inc. ("Medidata") announced that the Committee on Foreign Investment in the United States ("CFIUS") approved the proposed acquisition of Medidata by Dassault Systèmes.

Receipt of CFIUS clearance was one of the final conditions to the merger. In accordance with the terms of the merger agreement, and subject to the remaining customary closing conditions, the parties are expected to close the transaction in the coming days.

Dassault Systèmes would like to include its advisors to this successful transaction:

Goldman Sachs Paris Inc. et Cie acted as financial M&A advisor in the acquisition of Medidata Solutions and Skadden, Arps, Slate, Meagher & Flom LLP acted as legal advisor.

Rothschild & Co acted as its financial advisor in the successful rating process (S&P A-), the financing of the acquisition and the inaugural senior unsecured Eurobonds placement completed early September for 3.65 billion Euros. Clifford Chance acted as financing legal advisor.

Finally, Crédit Agricole CIB, Goldman Sachs, MUFG and Société Générale CIB acted as Joint Global Coordinators of the financing.

Dassault Systèmes Completes Acquisition of Medidata

29 October 2019

Dassault Systèmes announced the completion of its acquisition of Medidata Solutions, Inc. , whose clinical expertise and cloud-based solutions power the smarter development and commercialization of treatments. The acquisition positions Dassault Systèmes to lead the digital transformation of life sciences in the age of personalized medicine and patient-centric experience through a comprehensive offering that reflects a deep understanding of healthcare, its ecosystem and market needs.

"Together with Medidata's solutions and its great talents that we are delighted to welcome, we bring an unmatched combination of assets to reinforce our vision, science-based culture, and life sciences industry knowledge and know-how. Medidata will be a core brand in our information intelligence domain," said Bernard Charlès, Vice Chairman and CEO, Dassault Systèmes. "By combining data intelligence and simulation, we power smarter therapeutics for healthier people. The inclusive and multi-discipline 3DEXPERIENCE platform will be key for healthcare innovators to anticipate and address the needs of the industry's transformation toward affordable precision healthcare in the 21st century. The virtual world will push the bounds of possibilities to transform not only research and science, but also the entire pharmaceutical and medical device industry and medicine, in general. We made virtual twins of cars and airplanes possible. We will do the same for the human body."

Life sciences companies today are following the path of companies in aerospace, automotive and high-

tech, as well as many other industries that have embraced digital transformation in the experience economy to deliver personalized experiences, instead of just products. Managing the complexity of personalized medicine requires a digital platform to connect the dots between people, ideas and data. The combination of Dassault Systèmes and Medidata solutions will enable that connection.

With the 3DEXPERIENCE platform and Medidata solutions, life sciences companies can accelerate industrial performance, improve clinical trials, design and drug development efficiency, and create tailored treatments that deliver tangible benefits to patients.

Building on historical strengths and further leveraging real-world data, Dassault Systèmes is able to close the loop and allow everyone involved in the innovation and commercialization of therapeutics – the research laboratory, the clinical trials site, the factory and the patient – to collaborate, enriching the entire continuum with data-driven decision-making and continuous knowledge capitalization.

"The Medidata and Dassault Systèmes teams already share a common vision to build sustainable innovation and improve lives, and now we will move forward with our shared commitment to a full integration that will benefit our clients and partners," said Tarek Sherif, Co-founder, Chairman and CEO, Medidata. "With the combination of Dassault Systèmes and Medidata, we have never been in a stronger position to fulfill our ambition to bring the right treatment to the right patient at the right time."

Following the rapid integration of Medidata talent into Dassault Systèmes, Medidata will operate as a Dassault Systèmes brand powered by the 3DEXPERIENCE platform. The life sciences industry will become Dassault Systèmes' second largest core business after transportation and mobility, advancing sustainable innovation in the biosphere through the intelligent use of biological, chemical and materials science, clinical trials and real-world data on the cloud.

Under the terms of the agreement, as announced on June 12, 2019, Dassault Systèmes acquired all of the issued and outstanding common shares of Medidata for $92.25 per share in cash, representing a total enterprise value of approximately $ 5.8 billion.

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Company News

Bentley Systems Announces Winners of Year in Infrastructure 2019 Awards
30 October 2019

Bentley Systems, Incorporated has announced the winners of the Year in Infrastructure 2019 Awards. The annual awards program honors the extraordinary work of Bentley users advancing design, construction, and operations of infrastructure throughout the world.

Twelve independent jury panels of industry experts selected 54 finalists from 571 nominations submitted by more than 440 user organizations in more than 60 countries.

Bentley Systems acknowledged 18 Year in Infrastructure Awards winners and nine Special Recognition Awards winners at a ceremony and gala on October 24 at the conclusion of the Year in Infrastructure 2019 Conference in Singapore.

Year in Infrastructure 2019 Special Recognition Awards winners:

Advancing Urban Planning through Digital Twins
Civil Engineering and Development Department, Hong Kong SAR Government and AECOM
The Town Plaza Urban Design Study for the Establishment of the Kwu Tung North, New Development Area
Hong Kong, Special Administrative Region

Advancing Industrial Sustainability through Digital Twins
MCC Capital Engineering & Research Incorporation Ltd.
Henan Jiyuan Iron & Steel, 80MW High-Temperature Ultrahigh-Pressure Gas Power Generation Energy-Saving Renovation Project
Jiyuan, Henan Province, China

Digital Cities Award for Comprehensive Roadway Digital Twins
Shenzhen Highway Engineering Consultant Co., Ltd.
Yangang East Interchange Project
Shenzhen, Guangdong Province, China

Digital Cities Award for Comprehensive Water Digital Twins
Águas do Porto, EM
H2PORTO Technological Platform for the Integrated Management of Porto's Urban Water Cycle
Porto, Porto, Portugal

Advancing Infrastructure Resilience through Digital Twins
Italferr S.p.A.
The New Polcevera Viaduct
Genova, Liguria, Italy

Advancing Construction Industrialization through Digital Twins
Heilongjiang Construction High-Tech Capital Group Co., Ltd.
Smart and Digital Application in Heilongjiang Construction Industry Modernization Demonstration Park
Harbin City, Heilongjiang Province, China

Advancing Economic Infrastructure through Digital Twins
CCCC Water Transportation Consultants Co. Ltd. (WTC)
SAPT Automatic Container Yard and Housing Project in Pakistan
Karachi, Sindh, Pakistan

Advancing Digital Workflows through Digital Twins
Mott MacDonald / Systra Designers working with Balfour Beatty / Vinci Joint Venture

High Speed Two Sectors N1 and N2 Main Works Civil Contract
Birmingham, Country North Sectors, United Kingdom

Bentley Institute Knowledge Advancement Advocate Award
Alison Watson, chief executive and founder, Class of Your Own

The winners of Year in Infrastructure 2019 Awards for going digital advancements in infrastructure are:

4D Construction
Mortenson, Clark – a Joint Venture
Chase Center and Warriors Mixed-use Office and Retail Development
San Francisco, California, United States

Bridges
PT. Wijaya Karya (Persero) Tbk.
Design and Build Harbour Road 2 Project
North Jakarta, Jakarta, Indonesia

Buildings and Campuses
Voyants Solutions
Detailed Design, Tendering and Project Management Services for Establishment of 12 IT/Hi-Tech Parks in Bangladesh
Bangladesh

Communications and Utilities
POWERCHINA Hubei Electric Engineering Co., Ltd.
Technology Application in Miluo Western 220kV Substation Project
Miluo City, Hunan Province, China

Digital Cities
Shanghai Investigation, Design & Research Institute Co., Changjiang Ecological Environmental Protection Group Co.
Application of Digitalization in Jiujiang Smart Water Management Platform
Jiujiang, Jiangxi, China

Geotechnical Engineering
ARUP Singapore Pte Ltd.
Tanjong Pagar Mixed Development
Singapore

Manufacturing
Hatch
Sulfuric Acid Plant Project in the DRC
Katanga, Democratic Republic of the Congo

Mining and Offshore Engineering

Shanghai Investigation, Design & Research Institute Co., Ltd.
China Three Gorges New Energy Dalian Zhuanghe III (300MW) Offshore Wind Farm Project
Dalian, Liaoning, China

Power Generation
Hunan Hydro & Power Design Institute
Hanjiang Yakou Shipping Hub Engineering Project
Yicheng, Hubei, China

Project Delivery
South Carolina Department of Transportation (SCDOT)
Seamless Information Sharing and Integration Across Multiple Platforms Using ProjectWise
Columbia, South Carolina, United States

Rail and Transit
Italferr S.p.A
AV/AC in Southern Italy, Napoli-Bari Route
Napoli-Bari, Campania-Puglia, Italy

Reality Modeling
MMC Gamuda KVMRT (T) Sdn Bhd
Drone Surveying for BIM and GIS Data Capture - Malaysian Metro Megaproject
Kuala Lumpur, Malaysia

Road and Rail Asset Performance
Lebuhraya Borneo Utara Sdn Bhd
Pan Borneo Highway
Sarawak, Malaysia

Roads and Highways
Foth Infrastructure & Environment, LLC
Foth Transforms, Connects, and Revitalizes Cedar Falls, Iowa Corridor
Cedar Falls, Iowa, United States of America

Structural Engineering
WSP
WSP Delivers Optimized Design for Complex Basement under Iconic Admiralty Arch
London, United Kingdom

Utilities and Industrial Asset Performance
EPCOR Utilities
Implementing Risk Based Asset Management for Power Distribution
Edmonton, Alberta, Canada

Water and Wastewater Treatment Plants
Jacobs Engineering Group and Singapore's National Water Agency, PUB

Tuas Water Reclamation Plant
Singapore

Water, Wastewater, and Stormwater Networks
Balfour Beatty, Morgan Sindall, BAM Nuttall Joint Venture
Thames Tideway Tunnel
London, United Kingdom

All awards finalists and winners

Detailed descriptions of all nominated projects are in the print and digital versions of Bentley's 2019 Infrastructure Yearbook, which will be published in early 2020. To review the past editions of this publication, access Bentley's Infrastructure Yearbooks.

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Gerber Announces Grand Opening of New York City Innovation Center

28 October 2019

Continuing their quest to drive technology-based innovation for flexible materials industries, Gerber Technology opened their state-of-the-art Innovation Center in the heart of New York City during their annual FashionTech conference, ideation, with more than 300 attendees. The 18,000+ square foot Innovation Center will provide visitors with a unique experience that will help them stay connected to the latest trends and technology in fashion & apparel, as well as flexible material processing.

The Gerber Innovation Center is located on the 19th floor of the Starrett-Lehigh Building in New York City, which is home to many other fashion industry icons and long-standing Gerber customers.

"Our Innovation Center is the first of its kind in the industry," said Mohit Uberoi, Chief Executive Officer, Gerber Technology. "Visitors will meet our experts and experience first-hand how our end-to-end platform can enable an on-demand workflow, taking personalized consumer requests from design to print, cut and sew in a matter of hours".

We are not aware of any other facility in the world that allows visitors to experience an end-to-end platform that features the latest 2D/3D CAD and PLM solutions, as well as Industry 4.0 enabled smart machines."

In addition to the end-to-end experience, the Gerber Innovation Center will also serve as an innovation hub for educational institutions and major companies from across the industry. It will be a space for partners, industry associations, students, designers and manufacturers to come together to redefine the future.

"The Gerber Innovation Center is unlike anything else I have seen in the industry," said SPESA President, Michael McDonald. "It offers an extraordinary experience that will drive innovation and help to shape the future of the fashion & apparel markets."

The space will host a number of forums, workshops and collaborative working sessions where industry leaders can come together and prepare ways to address the new pace of the industry. The Innovation Center will be available for industry events in fashion, home & leisure, transportation and other high-tech markets.

"I really enjoyed our time at the Innovation Center and want to thank the Gerber Team for their kind hospitality," said Mark Harrop of WhichPLM. "It's genuinely very impressive and the team should be incredibly proud of their work."

Infor Appoints Saudi Bugshan Barmaja as New Alliance Partner for Middle East & Africa

29 October 2019

Infor today announced that Saudi Bugshan Barmaja Co. Ltd., the major diversified business group headquartered in Saudi Arabia, has been appointed an Infor alliance partner for the region.

As an alliance partner, Saudi Bugshan Barmaja will be deploying a range of Infor solutions including Infor LN, Infor CloudSuite Industrial, Infor CloudSuite Retail, Infor CloudSuite Healthcare, Infor CloudSuite HCM and Infor EAM (Enterprise Asset Management) solutions with an industry focus around automotive, manufacturing, distribution, retail, healthcare, education and real estate.

Saudi Bugshan was formed in Makkah in the 1920s as a textile business, but quickly diversified into consumer brands. It now has 30 businesses spread across 10 countries and three continents, involved in diverse sectors including fast-moving consumer goods (FMCG), automotive, healthcare, education and real estate.

"Saudi Bugshan Barmaja is already a major Infor customer and advocate of ours across the Middle East and Africa, rolling out a modern suite of Infor solutions to help transform its own business," said Darryl Cox, alliance director, Infor Middle East and Africa. "We are now in a position to utilize the breadth of their incredible resources and skills across 10 countries, where they will assist companies in their quest for a digital future, by deploying the latest, most modern, transformative solutions from Infor."

"Saudi Bugshan has immense, deep industry expertise across a diverse set of industries," said Hatem H. Bakheet, Saudi Bugshan Barmaja CEO. "We can bring tremendous industry and market knowledge to companies across the region, which combined with the latest industry-specific, disruptive solutions from Infor, is a market-leading combination of strengths for the Middle East and Africa region."

Leeds University partners up with Bombyx PLM to bring PLM to their innovators of tomorrow

28 October 2019

Leeds University adds PLM to their curriculum by implementing Bombyx PLM to give their students the reality of the fashion industry today, and its digital future.

The platform will be available across BA and MA fashion courses, giving the students a real-life scenario of the industry and jobs that are ahead of them, giving them a realistic view point and source to give them a taste of their careers to come.

"Bombyx PLM provides fantastic training with a fully functional PLM that our students can experience. The system is intuitive in nature and user friendly for students and tutors alike. This experience of PLM will be invaluable for our students as they search for careers within the fashion and textile industry." – Pammi Sinha, Associate Professor Fashion Management University of Leeds

"And the students will fully understand the contexts for how the business of fashion product development happens in the way that it does" – Muriel Rigout, Associate Professor, Textile and Printing and Design

The implementation of PLM within the Universities curriculum will roll out from November 2019.

On Demand Manufacturing Customers to Gain Seamless Design Capabilities as 3D Systems Partners with ZVerse

31 October 2019

ZVerse Inc., developer of the only CAD as a Service (CADaaS) platform for digital manufacturing, is partnering with 3D Systems (NYSE:DDD), a provider of parts manufacturing services. The strategic alignment will provide 3D Systems' customers with access to ZVerse's network of certified designers who can lend their expertise to optimize file formats – facilitating desired final parts. These services include everything from design modifications to revising file formats to ensure the final part matches the customer's requirements.

"The customer is at the center of everything we do," said Thomas Donahue, vice president of global sales for 3D Systems On Demand. "The combination of ZVerse's expertise and 3D Systems' design for additive manufacturing (DfAM) processes will allow us to provide advanced design capabilities to our customers. This partnership enables a seamless customer experience, helping them achieve the final part they need, as efficiently as possible."

Users will gain process-specific guidance throughout their manufacturing project's design phase with file optimization for their specific manufacturing needs and pre-production quality checks.

Because the ZVerse technology and designer network can handle high volumes of projects, it also offers increased speed of service for 3D Systems' On Demand customers.

The news reflects the evolving needs of the fast-growing additive manufacturing industry, which anticipates growth to $35.6 billion by 2024 according to the Wohlers Report 2019.

"We're excited to grow our relationship with 3D Systems as they leverage our CAD as a Service platform to improve customer experiences," said ZVerse founder and CEO John Carrington. "The desired and proven outcome is providing the fastest path from idea to finished product at the scale required for on-demand manufacturing customers, particularly those who may not have 3D printable files or ready access to a design team to create them."

The partnership will enable even more innovators, creators and manufacturers to use integrated design and manufacturing solutions within the 3D Systems On Demand services.

RIZE Adds Inceptra, LLC as Value Added Reseller

30 October 2019

RIZE, Inc., a next-generation additive manufacturing company dedicated to bringing industrial 3D Printing to all users, named the largest Dassault Systèmes (DS) 3DEXPERIENCE solutions partner in North America – Inceptra, LLC – as a new Value Added Reseller. With this announcement, RIZE significantly expands access to its award-winning, next-generation 3D printing platforms – RIZE ONE and full color capable XRIZE in North America, particularly to engineering and manufacturing enterprises.

Headquartered in Weston, FL, with resources throughout North America, Inceptra provides Dassault

Systèmes' full product portfolio, plus complementary solutions and internally developed PLM acceleration solutions. Its customers span a variety of industries including aerospace, automotive, industrial equipment, consumer goods, high tech, life sciences and civil engineering. Inceptra's offerings include software, support, training and consulting services, and key industry best practices in disciplines such as composites design.

"Inceptra and RIZE share the same vision for safe and sustainable desktop 3D printing," said Tim Peterson, CEO of Inceptra. "With RIZE ONE becoming the first industrial 3D printer to receive the UL 2904 Greenguard Certification, we are extremely excited to announce our partnership with RIZE and begin offering the RIZE 3D printing systems to all of our customers in North America. By adding RIZE to the Inceptra solution portfolio, we are able to help our customers further reduce their product development cost and risk, while at the same time accelerate bringing their products to market using the revolutionary technology the RIZE 3D printers offer."

"Inceptra has exceptional capabilities in PLM, design, simulation and manufacturing and serves some of the best customers in North America," said Andy Kalambi, CEO of RIZE, Inc. "Together with Inceptra, RIZE will implement Smart Spaces – connected, intelligent, interactive environments with RIZE's 3D printers and Dassault Systemes' 3DEXPERIENCE platform – to accelerate innovation and time to market for its customers," he said. "We look forward to helping organizations find heightened efficiency, safely and sustainably."

With continued leadership in innovative materials and processes, RIZE 3D printers give organizations a competitive edge building intelligent parts with smarter workflows while helping them to support healthier indoor environments.

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TCS' IoT Solutions Win the Emerging Digital Technologies Awards 2019

01 November 2019

Tata Consultancy Services (TCS) announced that its IoT solutions have won two awards at the Emerging Digital Technologies Awards 2019 organized by the Associated Chambers of Commerce and Industry of India (ASSOCHAM).

The awards recognize outstanding applications and deployment of emerging digital technologies such as AI, IoT, blockchain, and robotics for business and governance transformation in India. TCS was named the winner in the category 'Most Innovative Use of Emerging Digital Technology – IoT' for its Remote Monitoring and Predictive Maintenance solution. The solution has helped equipment manufacturers in India improve asset availability and operational efficiency, enhance customer experience, and offer more value to customers in product operations, maintenance and services.

TCS also won the 'Intelligent Enterprise Award for Most Innovative Application – Developed for Government', for leveraging its IoT- and AI-powered fleet management solution, TCS DigiFleet™, to transform public transportation in India. The SaaS solution uses GPS, telematics and mobile (GSM/GPRS) technologies to provide fleet operators with real time visibility and actionable insights on assets, on-the-move, enabling data-driven route planning and work assignment. It also provides a superior commuter experience by enabling accurate live tracking, shorter wait times and instant SOS alerts for the safety of women.

"Our IoT solutions are built based on our IoT business framework Bringing Life to Things™ that combines physical context with digital intelligence to unlock business value at every stage, for every stakeholder," said Regu Ayyaswamy, Global Head, IoT & Engineering Services, TCS. "We are honored

to win the ASSOCHAM Emerging Digital Technologies Awards for the transformation of both business and government services. This recognition validates our commitment towards harnessing the power of IoT and other digital technologies to deliver more value to our customers in the Indian and global market."

TCS has been partnering with leading Fortune 1000 corporations in their business transformation initiatives, leveraging its deep contextual knowledge of their businesses, and expertise in IoT, AI and digital-twin technologies to build custom-tailored solutions that provide competitive differentiation and create value. It offers a comprehensive portfolio of IoT-related intellectual property, industry-specific solutions and professional services spanning strategic planning, systems design, implementation, technical and business integration services, and post-deployment support and maintenance. The company has been ranked among the Top 3 global IoT service providers in 2019 by an independent research firm, and as a Leader in the NelsonHall NEAT for IoT in Business Transformation.

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Events

Lantek to demonstrate groundbreaking 2020 releases at FABTECH 2019

30 October 2019

Lantek Sheet Metal Solutions is eager to present three new advanced manufacturing software modules for sheet metal manufacturers in booth A3521 at FABTECH in Chicago, IL November 11-14. Available in the first half of 2020, Lantek Analytics, MetalShop, and iQuoting modules aim to provide quick and easy access to decision makers and production planners for more accurate business analytics and quoting.

Slated for release in early 2020, Lantek Analytics presents manufacturing and customer KPIs in a graphical interface allowing quick and accurate decision making. Manufacturing Analytics offers KPIs such as equipment availability, OEE, parts produced, percentage of good parts in a certain period, percentage of remnants over total raw material, stock status, and weight of parts produced.

Customer Analytics offers KPIs such as percentage of accepted quotes, best customers by accepted quotes and margins, deviation from estimated costs, and history and location of quotes. Both modules are highly customizable for any shops' reporting needs. These cloud-based platforms keep cost for new hardware minimal and provide increased security and accessibility while simplifying the installation and maintenance.

MetalShop, available for pre-release in early 2020, is an online interface that enables customers of suppliers to login, submit a request for quote, and place an order online by uploading the geometry part and selecting material, quantity, deliver date and delivery method. Once the request is submitted, a series of automated tasks occur within Lantek to calculate cut time, cost of material, stock levels and the margins to be applied. Additionally, queries are made to the company's MES to check levels of work in the workshop and schedule cutting and other operations to meet the deadline.

The iQuoting app allows sales teams to generate quotes for customers rapidly without the need for highly technical skills. Once a part is uploaded to the system it checks for anomalies in the data such as

bad CAD data or zero weight of a part and notifies an engineer to intervene with the customer. This platform aims to reduce quote time and increase output for companies generating large volumes of quotes.

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Financial News

Dassault Systèmes Q3 and YTD Total Revenue and EPS Growth Up Double-digits

28 October 2019

Dassault Systèmes announces IFRS unaudited financial results for the third quarter and nine months ended September 30, 2019. These results were reviewed by the Group's Board of Directors on October 23, 2019. This press release also includes financial information on a non-IFRS basis with reconciliations included in the Appendix to this communication. All IFRS and non-IFRS figures are presented in compliance with IFRS 15 and IFRS 16, which have been applied since January 1, 2018 and January 1, 2019, respectively.

Q3 and Nine Months Highlights and Financial Summary

(Unaudited, all revenue growth at constant currency)

Q3 non-IFRS basis: total revenue €914 million, up 10%, EPS €0.78, up 20% or 16% at constant currency

YTD non-IFRS organic basis: total revenue up 9%, driven by recurring software up 9%

3DEXPERIENCE non-IFRS software revenue up 32% at constant currency YTD, represents 27% of related non-IFRS software

Cash flow from operations up 34%, crossing €1.00 billion milestone YTD

Toyota Motor Corporation adopts 3DEXPERIENCE platform

Poised to Reach Five-Year Goal of Doubling non-IFRS EPS to €3.50 in 2019; Reaffirming 2019 non-IFRS Total revenue up 10% to 11% in constant currency; updating non-IFRS EPS to €3.50-€3.55, up 12%-14% before Medidata Solutions Inc. ("Medidata")

Medidata acquisition completion expected in the coming days

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Hexagon Interim Report 1 January - 30 September

31 October 2019

Third quarter 2019

Net sales increased by 1 per cent to 956.3 MEUR (946.1). Using fixed exchange rates and a comparable group structure (organic growth), net sales decreased by -3 per cent
Operating earnings (EBIT1) increased by 2 per cent to 235.8 MEUR (231.8)
Earnings before taxes, excluding non-recurring items, amounted to 229.3 MEUR (225.7)
Net earnings, excluding non-recurring items, amounted to 188.0 MEUR (185.1)
Earnings per share, excluding non-recurring items, amounted to 0.51 EUR (0.51)
Operating cash flow, excluding non-recurring items, increased to 174.2 MEUR (17.2)

For further information please contact:
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Implementation Investments

Dell EMC to Deploy World's Largest Industrial Supercomputer at Eni

01 November 2019

Eni has started the updating work for its new supercomputer system, HPC5, in order to strengthen the existing HPC4, tripling its computing power from 18 to 52 petaflops, equivalent to 52 million billion mathematical operations a second. Thanks to HPC5, powered by Dell Technologies, Eni's Green Data Center, will become the world's most powerful supercomputer infrastructure in the industrial sphere, with a total peak power of 70 petaflops.

The new HPC5 supercomputer has been designed according to the same philosophy as its predecessors, based on hybrid cluster technology (Central Processing Unit or CPU and Graphics Processing Unit or GPU). Eni has introduced this accelerated architecture to the industry in 2013 and is now recognised as a benchmark and widespread in the world's biggest computing centres. HPC5 will be provided by Dell Technologies and made up of 1,820 Dell EMC PowerEdge C4140 servers, each with two Intel Gold 6252 24-core processors and four NVIDIA V100 GPU accelerators. The servers will be connected through an InfiniBand Mellanox HDR ultra-high-performance network with a speed of 200 Gbit/s and a full non-blocking topology that ensures efficient and direct connection among every server. HPC5 comes with a high-performance 15-petabyte storage system (200 GB/s aggregate read/write speeds).

Eni continues to draw a strategic path on which the new supercomputer system will be crucial both to

digital transformation throughout the energy value chain and to Eni's vision for energy in the future. HPC5 allows the use of the "big data" generated during the operations phase by all of the production assets, and will further accelerate R&D into non-fossil energy sources, as well as supporting exploration, development and monitoring of oil fields during all stages

In line with Eni's unwavering commitment to sustainability, HPC5 has been designed to be as energy-efficient as possible, using energy produced by the solar plant at the Green Data Center to reduce emissions and running costs.

Claudio Descalzi, CEO of Eni, commented: "Our investment to strengthen our supercomputer infrastructure and to develop proprietary technologies are a crucial part of the digital transformation of Eni. Having great computing power and sophisticated algorithms at our disposal makes us leaders in the modern energy sector and projects us on to the future. Eni is forging that future through a range of alternative energy projects, and through a solid R&D investment plan. With HPC5, we are entering the world of exascale computing in the energy sector, which will revolutionise company processes in the future."

Eni's Green Data Center opened in 2013 and was one of the first facilities of its kind and size in Europe. The launch of HPC5 confirms the excellence that defines the company's technical infrastructure.

iBASEt Assists Lockheed Martin's Johnstown Plant to Scale Production and Meet Accelerated Demand

31 October 2019

 iBASEt, announced today that Lockheed Martin's operation in Johnstown, Pennsylvania, successfully implemented iBASEt's solution for manufacturing execution (MES). Lockheed Martin expanded production for components of the F-35 Lightning II with a new facility in Johnstown, which also added more jobs at the facility. To support the growth of production, the company recognized the need to replace paper with an MES to help meet accelerated demand.

Lockheed Martin's Johnstown team worked alongside iBASEt to implement the solution for manufacturing process planning, execution, and quality management. The out-of-the-box functionality iBASEt offers allowed Lockheed Martin to rapidly deploy the MES initiative with full integration to existing enterprise systems and roll it out plant-wide on day one.

Lockheed Martin Johnstown met its project goals to eliminate multiple disparate systems; improve data entry quality and reduce data duplication; improve part and resource traceability and visibility; and enhance quality by monitoring processes and identifying areas where more detailed visual work instructions are necessary.

"Our MES initiative is a critical part of our efforts to modernize our manufacturing operations as we continue to grow at a rapid rate," said Wayne Davis, Johnstown's plant manager.

"We are excited to partner with Lockheed Martin to help modernize manufacturing operations at their Johnstown facility," said Naveen Poonian, President of iBASEt. "This rapid deployment underscores

that iBASEt offers the only out-of-the-box, integrated shop floor solution specifically designed for complex discrete manufacturing. We look forward to helping Lockheed Martin continue to achieve program success."

Studio F Powers Phenomenal Growth with Centric PLM

30 October 2019

Studio F is one of the major women's fashion brands in Colombia and has expanded internationally through its network of 380+ owned stores in Mexico, Chile and Panama, and franchises and wholesalers in Peru, Guatemala and Ecuador and more. Studio F also sells through several localized e-commerce sites. The brand has recently added men's and children's collections.

Jorge Mario Serrate, head of solutions for Latin America at Studio F explains, it was impossible to increase speed and agility using Studio F's previous proprietary solution.

"We did not have complete traceability of our processes, and they were carried out very slowly. For certain parts of the process flow, we had to communicate outside the system using email or send Excel files with the status of items in development. Information was dispersed in different places, so it was hard for anyone to see the bigger picture."

Today, with Centric Fashion PLM providing a digital foundation, Studio F has doubled its number of products, increased its number of stores in Mexico and Chile from 57 to 156, launched e-commerce sites across multiple countries and decreased time to market by 14%.

Synopsys and AMD Execute Multi-Year ZeBu Emulation Agreement

31 October 2019

Synopsys, Inc. today announced a multi-year agreement with AMD to utilize its ZeBu®Server 4 emulation system, accelerating verification of the growing number of AMD high-performance processor, graphics, and gaming projects. As part of this new agreement Synopsys will optimize its ZeBu and VCS® software for execution on AMD EPYC™ processor-based servers. AMD continues its development strategy to enable early customer enablement using the high-performance ZeBu emulation system. AMD and Synopsys will extend their successful emulation collaboration to support system-level debug and analog/mixed-signal emulation, in addition to software-driven power and performance analysis, hybrid emulation, and virtual host solutions.

"The complexity of high-performance processor, graphics and gaming chips continues to increase dramatically," said Alex Starr, Senior Fellow, Emulation and Fast Platform Modeling at AMD. "High-performance emulation has become a critical component in our development strategy. Our deployment of ZeBu Server 4 allows us to efficiently analyze energy efficiency and performance of new architectures and execute our customers' workloads."

ZeBu Server 4 is the industry's fastest emulation system offering 2X higher performance over

competitive solutions and a rich portfolio of virtual solutions. With its small footprint and one-tenth the power consumption compared to its largest competitor, ZeBu enables software and verification teams to efficiently scale their emulation farm to verify their most complex designs. ZeBu also enables companies to reduce the risk of missing critical power issues in their high-performance architectures by running actual customer application workloads rather than synthetic scenarios to validate performance and power requirements.

Initial optimization results for VCS on the new EPYC 7002 series processor-based servers demonstrate a total cost of ownership reduction from a dual-socket to a single-socket server configuration while additionally improving simulation performance by greater than 30 percent as compared to executing the same design and testbench on a previous-generation EPYC 7000 series processor-based server.*

"Collaborating with market makers at the leading edge of innovation has been our strategy for many years," said Rajiv Maheshwary, vice president of marketing and business development in the Verification Group at Synopsys. "AMD and Synopsys continue to collaborate to evolve emulation technology to enable earlier engagement with AMD customers. We are looking forward to our next chapter which will include optimizing ZeBu and VCS software for AMD's EPYC servers."

Product News

3D Systems combines with Antleron to Lay Foundation for Groundbreaking Bioprinting Solutions
28 October 2019

3D Systems and Antleron are announcing a collaboration, intended to play a pivotal role in advancing and accelerating breakthroughs in the biomedical industry. Bringing together two industry pioneers – 3D Systems for 3D printing technologies and healthcare expertise, and Antleron for leadership and innovation in the development of regenerative products and personalized patient care - the companies will collaborate to support Antleron's development of bioprinting solutions utilizing 3D Systems' printing technologies.

Antleron has created an R&D facility at their headquarters in Leuven, Belgium - a location known as an incubator for medical and life science innovation, including regenerative medicine, to support and validate customer projects in the field of 3D bioprinting. Antleron's 'living therapy factory' merges cells, biomaterials, biologics, bioreactors and 3D Systems printers to accelerate the engineering of living therapies. Using quality-by-design and artificial intelligence the Antleron multidisciplinary specialists translate these core technologies into pioneering workflows that turn cells into therapies.

The 3D Systems/Antleron relationship addresses solutions for medical device and ATMP applications, incorporating innovative technologies such as 3D Systems' ProJet® MJP 2500 3D printer.

The 3D Systems/Antleron relationship addresses solutions for medical device and advanced therapy medicinal product (ATMP) applications, incorporating a variety of innovative technologies that are of benefit to biomedical manufacturing process, beginning with 3D Systems' ProJet® MJP 2500and Figure 4® 3D printers and existing portfolio of 21 biocompatible, USP Class VI materials;

Sprint® and 3DXpert® software, and post-processing equipment and processes. The goal is to establish a flexible, scalable Digital Factory approach, built on modular, closed parametric processes which include digital monitoring and quality control for risk mitigation. An example is to advance the way cells and tissues are grown to enable the transition from a static 2D to bioreactor-based 3D cell culture. This can lead to new ways to manufacture functionalized medical implants, vaccines, cell therapies, and living tissues.

According to Antleron CEO, Jan Schrooten, "The vision of Antleron is to sustainably bring living therapies into the clinic. 3D printing is key to this endeavor, and we are eager to collaborate with 3D Systems and its experts. I look forward to the pioneering solutions we'll be able to achieve to elevate the efficacy of bioprinting and extend its biomedical application reach."

"3D Systems is excited about working with Antleron as they explore bioprinting, and especially their capability to develop end-to-end solutions utilizing the 3D Systems' state of the art printing platforms and materials," said Chuck Hull, co-founder and chief technology officer, 3D Systems. "As we look to the future, bioprinting and regenerative medicine are large opportunities for 3D printing, and we look forward to expanding the role 3D Systems will play in these exciting fields."

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Autodesk BIM 360 Design Now Offers Anytime, Anywhere, Cloud Collaboration On Projects With Both Infrastructure And Building Features

30 October 2019

Autodesk, Inc. announces the expansion of Autodesk BIM 360 Design, Autodesk's fastest-growing cloud solution, to include Autodesk Civil 3D. With this announcement, Autodesk now offers one of the most comprehensive solutions enabling teams to collaborate on complex projects with horizontal and vertical structures, nearly anytime, anywhere in a single connected cloud platform.

Collaboration for Civil 3D, now included with a BIM 360 Design subscription, allows subscribers of BIM 360 Design and Civil 3D to work collaboratively with project partners at anytime and from anywhere, regardless of team locations and disciplines, including architects, engineers, and contractors. With the existing Revit Cloud Worksharing capabilities and the addition of Collaboration for Civil 3D to the same platform, designing airports, rail stations, and other complex projects with vertical and horizontal structures is simpler and more efficient.

Not only can customers collaborate using streamlined workflows on a unified platform, they can also perform their day-to-day data management activities in the same place.

"Complex projects often require similarly complex teams spread across offices, multiple companies, and perhaps across time zones, and include both horizontal and vertical features," said Nicolas Mangon, vice president, Autodesk AEC Business Strategy and Marketing. "Adding Civil 3D to BIM 360 Design responds to the cross-discipline challenges our customers are facing on projects which include building and infrastructure features. Autodesk strives to meet our customers' changing needs, and this is a major shift in how they will be able to get their work done and hopefully win more business."

The 2018 launch of BIM 360 Design for Revit brought Autodesk customers a compelling new way to work on Revit building design projects by allowing them to collaborate in real-time and co-author Revit models, and then connect design data downstream to the jobsite because all project information is centralized on the BIM 360 project delivery platform. Customers are already experiencing

extraordinary return on investment using BIM 360 Design for Revit.

Customer Feedback

AECOM is one of the world's premier global infrastructure firms, delivering professional services throughout the project lifecycle – from planning, design and engineering to consulting and construction management. AECOM is committed to enabling and increasing collaboration with all stakeholders across the project lifecycle. Global AECOM staff participated in the beta-program testing of the BIM 360 design collaboration tool for Civil 3D.

"Collaboration for Civil 3D on BIM 360 Design has proven to align our site development and civil design teams so they can use BIM 360 holistically across all disciplines," said Russ Dalton, AECOM's BIM Director for the Americas. "By expanding the collaboration capabilities of BIM 360 we can align with other disciplines in real time at a point in the lifecycle when decision making is key. This will ensure we're in immediate step with all disciplines including civil, which will benefit the entire project team."

Pennoni is a leading US-based consulting engineering firm with more than fifty years of experience helping communities and private sector clients navigate the ever-changing technological advancements available and discover how best to integrate these into the current landscape. Pennoni is increasing collaboration with all stakeholders across the project lifecycle and has actively participated in the BIM 360 Design collaboration tool for Civil 3D beta-program.

"Autodesk's launch of Collaboration for Civil 3D for BIM 360 Design connects our horizontal infrastructure teams with other project stakeholders, allowing real-time design collaboration across all lines of service," said Stacey Morykin, Design Technology Manager, Pennoni. "The ability to incorporate horizontal design with vertical design teams has made a monumental impact on making the right decisions for our partners at vital moments during the project life-cycle."

Key benefits of Collaboration for Civil 3D for BIM 360 Design

Anytime, anywhere collaboration. The ability to collaborate across multiple locations and companies, securely and in real time.

Connected data throughout the project lifecycle. Now architects, engineers, contractors and extended project team stakeholders can seamlessly collaborate to improve project outcomes.

Visualize Design Changes. Experience how new information will impact ongoing work to improve decision-making.

Single Source of Truth. Centralized collaboration and data management on a common data platform removes silos and keeps teams on the same page with the most up to date information.

Easy Team Handoff. Fast adoption from one team to the next, accessible historical data, and collaboration and data management in the field with mobile connectivity.

Save on IT maintenance and benefit from the cloud. Scale up and down as project needs change. No

more wasting time on uploads, downloads, or costly server maintenance.

Coursera and MathWorks Announce New Data Science Course

01 November 2019

MathWorks and Coursera announced a joint effort to address the data science skills gap. MathWorks is developing a series of courses entitled "Practical Data Science with MATLAB," with the first course, "Exploratory Data Analysis with MATLAB," now available on Coursera. Registration for the four-course Specialization, which helps learners solve domain-specific data problems using MATLAB, is now open at: coursera.org/specializations/practical-data-science-matlab.

According to a March 2019 Coursera Global Skills Index (GSI) report, the demand for data science skills is increasing by both individuals and companies alike. Looking at year-over-year learner enrollment numbers within the domain of data science, there was a notable increase in demand for the competencies of machine learning (+14%) and statistical programming (+9%). The increasing amount of data being collected across industries has fueled demand for greater personalization in products and services, influencing the popularity of these skills.

The "Practical Data Science with MATLAB" Specialization helps address this demand as it is aimed at engineers, scientists, and researchers who need to learn data science either as part of their job or to branch into new career opportunities. The series enables these domain experts to learn and apply data science without spending time building or honing software development skills. Each course takes approximately five weeks, and, upon completion of the four-course Specialization, students will be ready to start applying MATLAB to common analysis tasks found in applications such as autonomous systems, voice recognition, predictive maintenance, and medical imaging.

"The data science skills gap spans industries and countries. We're excited to launch this new content featuring MATLAB, which has worldwide appeal given its use across disciplines in industry and academia," said Dil Sidhu, Chief Content Officer at Coursera. "In this Specialization, learners will work with trusted MATLAB capabilities and use community-driven solutions from the large MATLAB user base, gaining skills they can use to do their jobs more efficiently and strengthen their careers."

"Engineers, scientists, and researchers are increasingly working on projects that demand data processing, feature engineering and machine learning to build and operationalize predictive models. They rely on learning platforms like Coursera to acquire and hone these data science skills," said Seth DeLand, Technical Marketing Manager – Data Science, MathWorks. "Our new series of courses supports multiple types of learners, including those new to data science who want to learn and understand where to apply this in their work, as well as domain experts already involved in projects requiring data science who want a deeper understanding so they can begin immediately using data science on a project."

Each course within the series forms a progressive bridge to building competencies to use MATLAB for data science:

·   Course 1 - Exploratory Data Analysis with MATLAB

·   Course 2 - Data Processing and Feature Engineering with MATLAB

·   Course 3 - Predictive Modeling and Machine Learning with MATLAB

·   Course 4 - Data Science Project: MATLAB for the Real World

More details on the Practical Data Science with MATLAB Specialization can be found here: coursera.org/specializations/practical-data-science-matlab.

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Latest release brings engine combustion modeling to Simcenter STAR-CCM+

30 October 2019

Siemens Digital Industries Software announces the latest release of Simcenter™ STAR-CCM+™ software, which includes new physics models that allow engineers to increase the realism and fidelity of their simulations. The new release includes the hotly anticipated combustion capability and time-saving tools that allow engineers to make better decisions in hours instead of weeks.

The new combustion modeling capability allows engineers to quickly and easily assess the performance of gasoline direct-injection engines and automatically run engine speed and load sweeps for the generation of digital performance maps.

All practical flow problems involve the interaction between fluids and solids. The new direct coupling between Simcenter STAR-CCM+ and Simcenter™ NASTRAN® software enables users of either tool to directly account for the effects of fluid-structure-interaction, reducing the need for overly conservative design choices.

Refraction and radiation are especially important when considering the design of modern headlamps, which have multiple radiation emitting sources. These, along with the sun, can create hot spots as the light is reflected and refracted. The newly implemented Photon-Monte-Carlo is a statistical method for solving this type of radiation problem and is significantly faster and more accurate than alternative approaches.

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ModuleWorks announces Visual Twin

01 November 2019

ModuleWorks announces Visual Twin, its next generation of machining visualization technology. Visual Twin combines the proven ModuleWorks simulation components with state-of-the-art computer graphics to achieve a new level of realism.

With lighting, shadows, textures, flying chips and high-quality audio, Visual Twin delivers an authentic and immersive experience that takes real-time simulation beyond mere technical functionality and turns it into a powerful business tool. With Visual Twin, sales teams can deliver impressive and convincing demonstrations of a customer's specific machining process. As part of a company's marketing strategy, Visual Twin is a cost-effective alternative to shipping large, heavy machines to trade fairs and

exhibitions. It is also a valuable training tool, enabling operators to learn and practice in a realistic environment without expensive downtime, waste material or the risk of collisions.

Built upon the proven ModuleWorks simulation technology, the high-performance Visual Twin runs on consumer grade hardware and connects to CNC controls for fully integrated and realistic real-time simulation on the shop floor.

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Optima Design Automation Announces "Optima Safety Platform"

29 October 2019

Optima Design Automation today rolled out its next-generation Optima Safety Platform, (OSP), based on its Fault Injection Engine (FIE™) technology. OSP includes Optima's first two automated solutions: Optima-HE™ and Optima-SE™ for hard-error and soft-error analysis, respectively. By increasing fault analysis performance by orders of magnitude over the next fastest solution, Optima offers its customers a reduction in analysis time from months to days, as well as automated coverage improvement and design safety.

OSP has been shown in private benchmarks to increase fault analysis performance more than two orders of magnitude over its nearest rival. To date, fault analysis of large automotive safety critical devices, as stipulated by the ISO 26262 standard, can require months of compute time to perform. By reducing this time to a matter of days or hours, new forms of analysis can be performed that dramatically improve device safety and quality while ensuring an accurate measure of fault resistance. The addition of Optima's automated CoverageMaximizer™ technology allows for design areas not analyzed during verification to be easily eliminated, further improving the analysis process.

"Up to now, automotive ISO 26262 fault analysis has made use of traditional, slow fault simulation technology designed for a different purposes, using 30-year-old algorithms and methods," noted Jamil Mazzawi, Optima's Founder and Chief Executive Officer. "We have taken an entirely new approach to this problem, building the fault-simulation algorithms from the ground up to realize dramatic improvements in this time-consuming process. This has opened the potential for new analysis solutions that allow previously unavailable operations to be performed that maximize functional safety coverage and ultimate device quality."

Optima Fault Injection Engine Technology
The only tool available for safety fault analysis has been traditional fault simulation, a 30-year-old technique that was designed to target semiconductor manufacturing testing. Optima's engineering team has developed a new, proprietary set of fault analysis algorithms that specifically targets safety analysis fault injection.

By leveraging modern parallel simulation and formal verification technologies, avoiding issues caused by manufacturing fault simulation requirements, and taking a new slant on fault optimization methods such as fault list pruning and collapsing, the FIE provides revolutionary analysis performance. One private benchmark of the FIE versus the broadly considered fastest rival fault simulator on a commercial design showed the FIE executing more than 1000X faster.

Optima has used the FIE technology as a basis on which to build specialized solutions for different fault scenarios

Optima-HE and Optima-SE Automated Analysis Solutions
The Optima Safety Platform includes a broad range of fault analysis solutions for different applications and industries. Its two initial solutions that target ISO 26262 automotive safety fault analysis provide streamlined solutions for hard errors, or permanent faults, and soft errors, or transient faults.

Optima-HE uses the FIE to perform exhaustive fault analysis for stuck-at-1 and stuck-at-0 hard errors. Based on the ISO 26262 standard categorization, the solution identifies dangerous faults in a design that are not trapped by a safety mechanism and could cause a significant failure that might lead to personal injury. It analyzes large design code bases extremely rapidly, reducing a process that used to require months down to a few days or less. This enables development teams to predict an accurate metric for fault coverage that makes an ASIL-D rating for their devices possible. Furthermore, Optima-HE includes CoverageMaximizer technology that identifies areas of the device not adequately tested and provides guidance for the engineers to cover these hard-to-find gaps in the process.

Optima-SE also uses the FIE to perform soft-error analysis on transient faults. Transient faults are notoriously hard to identify due to their temporary nature. A technique of "flip-flop hardening" for critical areas of the design may be used to eliminate transient fault effects. However, hardening every flip-flop in a design is extremely expensive in terms of silicon area and power consumption. By iteratively applying fault analysis it is possible to identify a subset of the design flips-flops, which if hardened will ensure a high degree of transient fault resistance while minimizing additional flip-flop circuitry. However, this valuable process requires many fault analysis runs making it prohibitive for most device development programs. Leveraging the high performance of the FIE, Optima-SE makes this process possible in a reasonable amount of time, thereby dramatically increasing device quality. Running on a customer design of a commercially available CPU, Optima-SE has been shown to run over 10,000 times faster than regular RTL simulation.

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Siemens expands SaaS offerings to Simcenter Amesim and Simcenter 3D
29 October 2019

Siemens Digital Industries Software announces the availability of Simcenter™ 3D software and Simcenter™ Amesim™ software delivered as a service. Through a strategic collaboration between Siemens and Rescale, a leader in enterprise big computing, engineers can now gain immediate, cost-effective software-as-a-service (SaaS) access to high-end simulation tools. Particularly useful for small to medium-sized businesses, the SaaS framework offers new tiered product bundles in which customers can select the right level of capabilities they need, as well as monthly subscription-based billing and licensing and a pay-per-use computing infrastructure.

Large enterprises can also benefit from the availability of Simcenter on the Rescale cloud platform with multiple flexible licensing options available to solve specific business challenges. SaaS licensing can be

used to add short-term software licenses in times of peak usage or bring your own licensing (BYOL) can be used to let Simcenter customers leverage their existing investments when high-performance computing (HPC) capabilities are needed.

Siemens is committed to using the cloud to deliver its software and make high quality simulation capabilities available to all businesses. In addition to Simcenter Amesim and Simcenter 3D, Simcenter Nastran and Simcenter STAR-CCM+ can be accessed through the cloud so that companies of all sizes can create and simulate digital twins of their products, on-demand on an established HPC platform.

Synopsys Ships More Than 3,000 HAPS-80 Prototyping Systems

29 October 2019

Synopsys, Inc. announced that it has shipped more than 3,000 HAPS®-80 prototyping systems since its introduction. HAPS-80 is deployed at more than 100 companies worldwide, including nine of the top 10 semiconductor companies, to accelerate software development and system validation across a wide range of consumer, wired and wireless communications, industrial, AI, and computing/storage applications. These companies selected HAPS-80 due to its high performance and cost effectiveness. HAPS-80 offers proven scalability, including deployment in data centers, a rich catalog of real-world I/O interfaces, and a tool set leveraging 20+ years of FPGA synthesis technology leadership.

"MediaTek is a leader in advanced 5G modems," said Gauss Lin, head of LRM at MediaTek, "Verifying our advanced 4G/5G architectures and protocol software requires scalable and high-performance prototyping. Synopsys' HAPS-80 allows us to deliver cost-effective prototypes to our 5G software and system validation teams that include our interface daughterboards and connect to 5G protocol testers. With the HAPS-80 software stack we are achieving between 5MHz to more than 100MHz performance."

For more HAPS success stories, click here to read quotes from ISSI, Kalray, and Novatek.

With more than 3,000 units shipped, HAPS-80 is the proven choice for accelerating software development and system validation. In addition, HAPS system's rich ecosystem of Synopsys DesignWare® IP and HAPS Connect daughtercards supports a broad set of industry standard protocols such as USB, PCI Express®, Ethernet, and others, making HAPS the most versatile prototyping solution on the market. HAPS systems are available in various sizes, enabling designers to quickly assemble prototypes to meet project needs, as well as leverage the same hardware investment over many projects.

"The demand for high-performance prototyping for early software development and system validation has exceeded our expectations," said Tom De Schutter, vice president of engineering in the Verification Group at Synopsys. "This significant milestone demonstrates how our customers are benefitting from cost-effective HAPS prototyping to verify increasingly complex designs and accelerate time-to-market."