

# PLM Weekly Summary

Editor: CIMdata News Team

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# CIMdata News

#### CIMdata Highlight - Aras and ANSYS Announce a Strategic Partnership

#### 14 January 2020

On January 14, 2020, Aras announced a strategic partnership with ANSYS (NASDAQ: ANSS) that includes ANSYS licensing Aras' platform technology. The press release states "ANSYS is leveraging Aras' resilient platform services combined with its proven simulation domain expertise and technology for new product offerings to improve productivity and maximize business value from simulation investments. ANSYS will deliver commercial offerings for simulation process and data management, process integration, design optimization and simulation-driven data science."

#### Digital Transformation Support

Aras' open ecosystem strategy helps partners leverage and even incorporate Aras technology in their own solutions. This approach enables customers to adopt a platform approach within their digital transformation initiatives which gives them confidence that they will be able to adapt their product lifecycle solutions to future challenges. The beauty of this strategy is that partners, ISVs, and customers can leverage the services to integrate and extend their solutions and the Aras platform. CIMdata is looking forward to seeing how Aras and ANSYS customers improve their digital threads by leveraging the combined capabilities.

For years CIMdata has noted the complexity of today's advanced multi-physics simulation and analysis activities and the lack of success in getting simulation data and processes connected to the rest of the product design and development lifecycle. The acquisition of Comet in September 2019 showed Aras was serious about extending their lifecycle support into the simulation arena, and this partnership with ANSYS provides further validation of the Aras strategy and platform capability.

#### Impacts

This is not Aras' first OEM license agreement, their most notable agreement to date is with Infor who uses the Aras platform for their PLM Accelerate product. 1 A key element of the Aras strategy is openness, and they are known for the Enterprise Open Source distribution of their product. The OEM licensing of their solutions to other ISVs gives another proof point to that openness commitment while driving revenue from new areas of enterprises and new customers.

This is also a validation of Aras technology as ANSYS, a global leader in the simulation and analysis market decided to partner rather than build from scratch their next generation simulation data and process management technology. While many see data and process management as a commodity, doing it well at scale is still a non-trivial problem. Both ANSYS and Infor have built solutions in the past but

have chosen the Aras platform as the foundation for their go forward solutions. Aras tells CIMdata there are other OEM deals in the works, so we are looking forward to future announcements.

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#### CIMdata Commentary - CONTACT InSync Helps Deliver High Quality User Experiences

16 January 2020

Key takeaways:

Over the last forty years, the quantity and capability of digital tools to support the product lifecycle has exploded, and the solutions employed to manage lifecycle data and processes have evolved in tandem.

In the last decade, enterprise software has evolved to a platform approach where the platform offers core technical capabilities to help synthesize more sources of data to better support cross-functional collaboration and decision making.

CONTACT Software embraces the platform concept and offers CONTACT InSync, a user interface design system based on comprehensive usability standards to help create first-class user experiences for solutions based on the CONTACT Elements platform.

Since our beginnings early in the Industry 3.0 era, CIMdata has witnessed the application of digital technologies broadly and deeply across the product lifecycle from idea through life. A range of applications are used to create intellectual assets that describe the product, its manufacture, deployment, use, maintenance, and end of life. The concept of product lifecycle management (PLM) coalesced around 2000, focused on the creation, management, and collaboration on these intellectual assets. Enterprise-grade solutions emerged to provide the needed data and process management capabilities to enable PLM strategies. Over the last decade, the broader enterprise software market moved toward delivery of platforms that often supported their own ecosystems of both organic and partner applications. The PLM market joined that trend, with many providers expanding their solutions to mashup data from multiple sources to support new and more sophisticated use cases. The "consumerization of IT" phenomenon drives business users to want their business applications to be as simple to use as their personal devices, while demanding ever more complex applications. PLM users want the same kind of simple, yet powerful user experience (UX).

CONTACT Software, a leading independent provider of PLM-enabling solutions, is addressing this need with their new CONTACT InSync, the focus of this commentary. Research for this commentary was partially supported by CONTACT Software (CONTACT).

#### From Industry 3.0 to Platformization

The talk in industry today is about Industry 4.0, the on-going transformation of products, manufacturing, and commerce to being smart and connected. But we are entering the Industry 4.0 era, one that will require new ways of working, running on mostly legacy technology from the Industry 3.0 era.

About twenty years ago, the idea of PLM emerged. Companies have always managed their products through their life. They may have designed them using 2D drafting and paper drawings, figured out how to make them and to sell them to the market, supporting them for their useful life, if that support was part of their full product offering. Now companies are using digital tools to take products from ideas through life. That notion of the lifecycle is the core of CIMdata's PLM definition. It is not a technology. We see PLM as a strategic business approach that is enabled by technology and a consistent set of business processes. The technologies used may vary because manufactured products can range from

fighter jets to toothpaste. All have digital intellectual property that needs to be managed, and often collaborated on by increasingly global value chain partners.

The solutions that help manage this lifecycle information have evolved in the last ten years, in part in response to a broader enterprise software trend of delivering capabilities through platforms that more readily embody data from many sources and offer ready access to applications from multiple providers. Several years ago, CIMdata teamed with other leading PLM industry analysts to produce agreed-upon definitions of a platform around the PLM realm. At the core of the definition, PLM strategies are enabled at the product innovation platform level, which focuses on enabling continuous creativity, yielding successive improvements in existing products and processes, and inspiring new products across full lifecycles and across multiple product generations.2

Historically, PLM solutions focused on product-related managed data, but in today's business environment, data is coming from every direction and organizations want to mine that data, combine multiple data sources, and provide actionable insights to their users all in a manner that is flexible and intuitive to them. Most PLM-enabling platforms readily allow these "mashup" capabilities to combine PLM data with data from other enterprise systems, the Internet of Things (IoT), weather, location services, or any other source that can help identify issues and quickly lead to timely solutions. That vision is being realized today using technologies like HTML5, low-code/no-code development, microservices, and artificial intelligence/machine learning (AI/ML) to surface that data and leverage it to support important use cases and improved decision making.

Meeting all of these requirements demands improvements in the user experience. Many business computing systems are barely tolerated by their users, but the consumerization of IT applies here as well. In the PLM space the solutions are often liked by power users and barely tolerated by more numerous casual users. In any case, people come to their work computing environment with usability expectations from their experience with the Web and their smartphones. They want the same clean, simple user interfaces they see in their home life mimicked to support complex product lifecycle processes at work. That is a difficult problem, made even more complex by the wide range of applications, data types, and use cases that span the complete lifecycle. Yet, solving it is essential because today's data-driven strategies—in particular the IoT, AI/ML, analytics, and cloud—can deliver the enhanced decision-making capabilities that industrial companies seek.

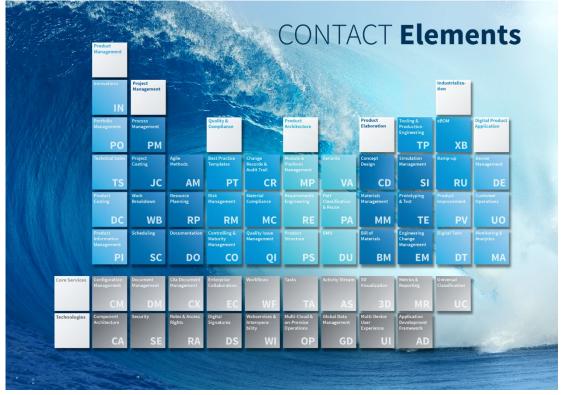
CONTACT Elements from CONTACT, a leading independent PLM solution provider, is a great example of a product innovation platform. To address usability requirements, CONTACT is expanding their offering to include CONTACT InSync, its new UX design system with capabilities focused on helping design and deliver high-quality user experiences for solutions built on the CONTACT Elements platform.

#### CONTACT InSync

Founded in 1990 in Bremen, Germany, CONTACT is a leading independent provider of PDM solutions. While the company always provided strong PDM capabilities, their vision was always much broader. CONTACT has pushed the boundaries of product lifecycle support, always focused on a core aspect of their mission: "making complex product data more accessible and connecting employees across technical and organizational boundaries." One key way CONTACT worked to make data more accessible was to be a leading early proponent of openness in PLM solutions. Their diligence helped

<sup>&</sup>lt;sup>2</sup> More detail on the platform definitions can be found in an earlier CONTACT Software commentary: <u>https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/12102-contact-elements-a-future-proof-digital-platform-commentary</u>

# CIMdata PLM Late-Breaking News





lead to the Code of PLM Openness, a core statement of principles acknowledged by the leading players in the PLM market.3 CONTACT also expanded their platform to support digital product models and systems engineering, making key technology acquisitions as needed. The company was also early to the platform concept, with companies like Zuken and ISKO engineers AG building commercial solutions on top of the CONTACT Elements platform, their core product offering. On 7 November 2019, CONTACT Software announced their acquisition of a majority stake in ISKO.

CONTACT Elements provides an expansive set of capabilities as illustrated in Figure 1. Key capabilities support application areas like product management, project management, quality & compliance, product architecture, product elaboration, industrialization, and digital product applications. These leverage core technologies and services for managing documents and CAx models, developing and deploying workflows, configuration management, classification management, and a range of other functions. CONTACT also offers applications dedicated to specific tasks like requirements engineering, model-based systems engineering (MBSE), product costing, and simulation data management. There is much more detail on the technical aspect of the CONTACT Elements platform in the previous CIMdata commentary cited earlier.4

CIMdata has worked with CONTACT for nearly twenty years and has watched their evolution with great interest, in part because their vision was as expansive as any other PLM solution provider. In our interactions with the company it was also clear that CONTACT Software could be described as a

<sup>&</sup>lt;sup>3</sup> <u>https://www.prostep.org/en/projects/code-of-plm-openness/</u>

<sup>&</sup>lt;sup>4</sup> Please see <u>https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/12102-contact-elements-a-future-proof-digital-platform-commentary</u>

"reflective practitioner," a concept from the innovation literature.5 The company has always demonstrated great skill in the technical areas they chose to pursue. But, as Mr. Schon described in his article, they also have an ability to step back, consider what they have done, and find ways both to improve it and to generalize from it. This ability to reflect on practice, and CONTACT's responsiveness to their customer's needs, led to the expansive set of capabilities shown in Figure 1.

CONTACT's focus on customer experience motivated their introduction of CONTACT InSync (InSync). CONTACT supports a wide range of user perspectives from their work across multiple, varied industries like automotive and mobility, machinery, plant engineering, infrastructure, consumer goods, high-tech and electronics, and medical devices. Their use of the CONTACT Elements platform, often from well outside discrete manufacturing, served to push the boundaries of UX. Beyond their own customers they also had experience with others, like Zuken and ISKO, building new solutions on top of the CONTACT Elements platform.

To support these requirements, CONTACT developed a set of tools for their own development team and codified their use. CONTACT relied on de facto standard technologies to provide these new capabilities, including HTML5 and the React framework, a JavaScript library for building user interfaces from UI component libraries,6 Their reliance on such standards is typical of CONTACT Software but is also important for another reason. Skills with these standards are common in the marketplace, making it easier for customers to adopt and use InSync. Figure 2 illustrates a user interface that was created using InSync, detailing key process indicators from a digital twin.

Today, the InSync design system is a component library of design patterns and associated best practices to guide UX design on the CONTACT Elements platform. InSync also provides underlying design guidelines such as design principles, icons, and other resources to create high-quality Web applications consistent with the InSync design principles. CONTACT believes this approach leaves room for expressing unique brand identity for their own product editions, as well as offering those same capabilities for OEMS, partners, and customers to develop their own proprietary solutions. The InSync

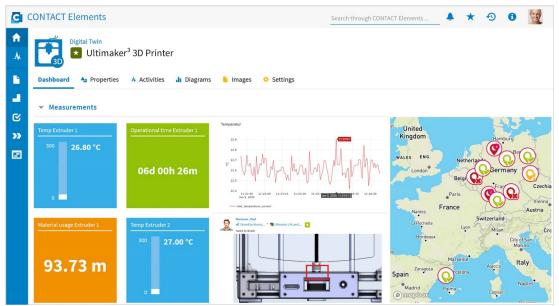


Figure 2—Sample Digital Twin Dashboard Created Using InSync

<sup>5</sup> Donald A. Schon (1983). <u>The Reflective Practitioner: How Professionals Think in Action</u>. New York: Basic Books, Inc. Publishers.

6 https://reactjs.org/

resources are part of the CONTACT Elements platform and are made available to customers and partners through CONTACT's software product delivery and its customer and partner portals.

Finally, it is important to note that most applications today are developed using agile methods like Scrum. The goal is to efficiently develop software, starting early, even before all requirements are known and stable. InSync includes methods and tools to support such agile approaches. In more traditional development processes, UIs used to be delivered fully formed, making changes hard and expensive to incorporate. Sticker Sheets, an InSync library of visual user interface components, can be used to easily create realistic UIs to quickly get user input into the design and development. Using Sticker Sheets, mockups can be created in minutes or hours that can mimic nearly 100% of planned functionality, thereby making it easier to get more detailed feedback from the user community early. CONTACT reports very positive experiences in their deployments from having early and deep feedback on UX design, a capability now better enabled by InSync. CIMdata believes this is a sound approach. Support for Agile development is crucial and this is another example of CONTACT learning from their experience and helping their clients reap the benefits.

Companies will soon be able to easily experience CONTACT Elements and InSync for themselves. CONTACT plans to offer cloud demonstrators for PLM and IoT scenarios. CONTACT anticipates that these InSync-based cloud demonstrators will be available in Q1 2020.

#### Conclusion

The computing era has wrought great changes in how products are defined, manufactured, and supported through life. The notion of PLM has been around for at least twenty years and the range of solutions enabling PLM strategies have greatly expanded, pushing existing data and process management solutions beyond their intended use. Product innovation platforms emerged as the way PLM strategies are enabled, and most such platforms help users to mashup PLM and non-PLM data sources to improve collaboration and decision-making.

CONTACT InSync brings professional-grade tools to users and partners to help them quickly and efficiently adapt the CONTACT Elements platform to their needs. These new capabilities are based on CONTACT Elements design standards and their application across the CONTACT Elements user base. InSync supports developing a high-quality UX consistent with the design elements and usability of core CONTACT Elements. CIMdata believes that this consistency will help support user adoption and acceptance of the CONTACT Elements solution in any industrial application.

#### About CIMdata

CIMdata, an independent worldwide firm, provides strategic management consulting to maximize an enterprise's ability to design and deliver innovative products and services through the application of Product Lifecycle Management (PLM). CIMdata provides world-class knowledge, expertise, and best-practice methods on PLM. CIMdata also offers research, subscription services, publications, and education through international conferences. To learn more about CIMdata's services, visit our website at http://www.CIMdata.com or contact CIMdata at: 3909 Research Park Drive, Ann Arbor, MI 48108, USA. Tel: +1 734.668.9922. Fax: +1 734.668.1957; or at Oogststraat 20, 6004 CV Weert, The Netherlands. Tel: +31 (0) 495.533.666.

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# Acquisitions

#### Accenture Completes Acquisition of Clarity Insights

17 January 2020

Accenture has announced that it has completed the acquisition of U.S.- based data consultancy Clarity Insights. Accenture had announced its intent to acquire the company on December 13, 2019. Financial terms of the transaction were not disclosed.

Headquartered in Chicago, Clarity Insights brings nearly 350 employees with deep data science, artificial intelligence (AI) and machine learning (ML) expertise, along with a strong portfolio of accelerators, to Accenture's Applied Intelligence business. The addition of Clarity Insights further enhances Accenture's ability to help enterprise clients scale AI, and bolsters its critical skills and capabilities in strategic, high-growth areas of the market.

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#### Cadence Completes Acquisition of AWR Corporation from National Instruments

17 January 2020

Cadence Design Systems, Inc. announced that it has completed the acquisition of AWR Corporation from National Instruments Corporation. The addition of AWR's technologies and talent will further expand Cadence's reach into 5G RF communications and support system innovation for the aerospace and defense, automotive and wireless market segments.

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#### Synopsys Completes Acquisition of Certain IP Assets from eSilicon

#### 13 January 2020

Synopsys, Inc. announced that it has completed its acquisition of certain IP assets from eSilicon. This acquisition expands Synopsys' DesignWare® Embedded Memory IP portfolio with TCAMs and multiport memory compilers, as well as its Interface IP portfolio with High-Bandwidth Interface (HBI) IP. The acquisition also adds a team of experienced R&D engineers to further scale Synopsys' IP development in the most advanced process technologies to address customers' evolving design requirements in growing markets such as AI and cloud. The remaining entirety of eSilicon, including its ASIC business and 56/112G SerDes design and related IP, was acquired by Inphi Corporation.

The transaction is not material to Synopsys' financials and the terms are not being disclosed.

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#### Synopsys to Acquire Certain IP Assets of INVECAS

17 January 2020

Synopsys, Inc. announced that it has signed a definitive agreement to acquire certain IP assets of INVECAS, headquartered in Santa Clara, California. This acquisition will broaden Synopsys' DesignWare® Logic Library, General Purpose I/O, Embedded Memory, Interface and Analog IP

portfolio. The acquisition will also add a team of experienced R&D engineers to accelerate Synopsys' physical IP roadmap across a range of process technologies to address customers' evolving design requirements in markets such as consumer, IoT and automotive. INVECAS will retain its HDMI IP and ASIC Design Solutions businesses.

The transaction, which is expected to close the first half of fiscal 2020 and is subject to customary closing conditions, is not material to Synopsys' financials. Terms are not being disclosed.

"With more functionality being integrated into a single chip, high-quality IP continues to be key for enabling designers to speed time-to-market, while reducing risk," said Joachim Kunkel, general manager of the Solutions Group at Synopsys. "With this acquisition, Synopsys is broadening our DesignWare IP portfolio to address the requirements of consumer, IoT and automotive designs and adding a strong R&D engineering team to meet the growing IP needs of our customers."

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# Company News

#### 2020 Masters of CAM Wildest Parts Competition Now Accepting Entries

13 January 2020

Mastercam, CAD/CAM software developed by CNC Software, Inc., is proud to sponsor a competition to inspire students and professionals in the manufacturing arena. The 2020 Masters of CAM Wildest Parts Competition is now accepting entries.

The challenge is simple. Create a bold, original item using Mastercam. The competition challenges students and professionals to create something that shows off imaginative design and exciting machining.

Participating in the Wildest Parts Competition is a great opportunity for instructors and students to get inspired in the classroom and motivated to expand their CAD/CAM abilities by the spirit of competition. Entrants are expected to create high quality parts that either haven't been done before or add a new twist to an existing concept.

Now until June 30, 2020, entries will be accepted in four divisions:

Secondary (1st, 2nd, 3rd) – open to individual students at high school level of education.

Postsecondary (1st, 2nd, 3rd) – open to individual students at college/university level of education.

Teams (1st, 2nd, 3rd) – open to groups of students at any level of education.

Professional (1st, 2nd, 3rd) – open to anyone with professional manufacturing experience.

"Last year we received a lot of amazing and creative parts from students and professionals around the world," said Peter Mancini, Education Product Manager at CNC Software. "For example, Riley Traver from Van Buren Tech in Lawrence, MI, was the winner in our Secondary division with a Sprinting Spike Base Plate, and Colin May from Erie Community College in Williamsville, NY made an Engine Block for our Postsecondary division. The parts that they submitted blew our minds, and we look forward to seeing what entries are submitted this coming year!"

All entrants receive a Mastercam t-shirt for participating. Winning entries receive cash, \$3,000 for first place; \$1,500 for second place; and \$500 for third place, in addition to certificates of achievement and more. Anyone interested in a manufacturing and design challenge to break the mold, think outside the box, cut outside the lines, and share their creativity is encouraged to enter.

For more information about the Masters of CAM Wildest Parts Competition, visit https://www.mastercam.com/community/competitions/.

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# 3D Systems and CollPlant Biotechnologies Join Forces to Accelerate Breakthroughs in Regenerative Medicine

#### 13 January 2020

3D Systems and CollPlant Biotechnologies announced signing a joint development agreement intended to play a pivotal role in advancing and accelerating breakthroughs in the biomedical industry. The collaboration brings together two industry pioneers--3D Systems, renowned for its 3D printing technologies and healthcare expertise; and CollPlant, the developer of proprietary recombinant human collagen (rhCollagen) BioInk technology currently used for 3D bioprinting of tissues and organs. The two companies plan to jointly develop tissue and scaffold bioprinting processes for third party collaborators.

3D Systems and CollPlant recognized an unmet market need for a comprehensive solution to produce tissues and scaffolds for regenerative medicine applications. The companies intend to create integrated 3D bioprinting solutions comprised of state-of-the-art 3D bioprinters and BioInks to produce tissues and scaffolds. In accordance with the collaboration agreement, both companies may use a combination of 3D Systems' printers, CollPlant's BioInks, and new formulations of rhCollagen-based BioInks jointly developed by the companies, for their own products, as well as for deployments with third parties.

"3D Systems is excited to work with CollPlant to develop groundbreaking bioprinted tissue and scaffold technologies," said Chuck Hull, co-founder and chief technology officer, 3D Systems. "We believe 3D printing to be a key technology for regenerative medicine, and this collaboration is one of many we are entering to play an integral role in this exciting field. Combining our innovative 3D printing technologies with CollPlant's rhCollagen based BioInks has the potential to make a significant impact in bioprinting and regenerative medicine."

"We strongly believe that our proven rhCollagen is the finest building block for regenerative medicine tissues and scaffolds available today," Yehiel Tal, chief executive officer of CollPlant, stated. "As the leading additive manufacturing printing solutions company, 3D Systems is the perfect partner for us. Together, we can offer the best combined technology for 3D bioprinting. We are honored to have established this important collaboration and we look forward to working together to advance 3D bioprinting technology to the commercial phase."

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#### Accenture Announces Changes to Its Growth Model and Global Management Committee

#### 13 January 2020

Accenture announced changes to its growth model and Global Management Committee, effective March 1, 2020.

Accenture will organize its market-leading capabilities into four services: Strategy & Consulting, Interactive, Technology, and Operations. The company will manage its business through three geographic markets — North America, Europe, and Growth Markets — instead of operating groups. Accenture will continue to go to market by industry and will expand its global industry programs. At the same time, Accenture will be making leadership changes and expanding its Global Management Committee to include a broader representation of leaders from its services and geographic markets.

Accenture is making these changes at a time of unprecedented change for its clients. Digital and technology are now core to their success, fueling the need for enterprise-wide transformation and continuous innovation. Digital disruption is blurring traditional industry lines, making cross-industry expertise an imperative. This disruption and other changes are happening at the intersection of geography, industry and technology.

Given these dynamics, Accenture is increasing its agility to bring to its clients a unique range of services, from strategy to operations, with digital skills everywhere. Embedded across these services are applied intelligence and deep industry, cross-industry and functional expertise. Accenture also will accelerate innovation by moving seamlessly between global and local, leveraging its unmatched network of more than 100 innovation hubs and working even more closely with its ecosystem partners to create solutions that create value at speed. These changes will make the company an even stronger partner of choice for transformation and innovation.

"Accenture's formula for market leadership is enduring: We continually transform our business and embrace change to create value for our clients with incredibly talented people, including our deep bench of experienced leaders," said Julie Sweet, Accenture's chief executive officer. "The changes we are announcing today will unleash the full potential of the extraordinary capabilities we have built, create greater opportunities for our people, and act as a catalyst for us to again set the new standard in our industry."

Accenture's rotation to the New — digital, cloud and security — over the last six years has demonstrated an unmatched ability to identify and scale new opportunities in the most strategic, high-growth areas of the market. These changes are designed to increase the company's ability to anticipate client needs and market changes.

"Our growth model has always been a source of competitive advantage for us," Sweet said. "In 2014, we created Strategy, Digital and the Growth Markets to grow our capabilities and position Accenture for the next waves of growth. Now, in 2020, with number one global market share and at about 65% of revenues in the New, we are changing to better serve our clients today and tomorrow and continue to scale from over 500,000 people and \$43 billion in revenue."

Accenture confirmed that there is no change to its business outlook for the second quarter and full fiscal year 2020 that the company provided as part of its first-quarter fiscal 2020 earnings announcement on Dec. 19, 2019.

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#### Accenture Opens New Intelligent Operations Center in Canada to Help World's Leading Companies Power Growth

#### 15 January 2020

Accenture has opened an intelligent operations center in the Niagara region that serves as the hub for its newly launched intelligent sales and customer operations business.

Spanning 68,000 square-feet in downtown St. Catharines, the new "Niagara North" location is Accenture's second in the region and the company's third intelligent operations center in Canada, with similar sites in nearby Thorold, Ontario ("Niagara South") and Fredericton, New Brunswick. The company plans to create an additional 100 local jobs by 2021 to support a variety of business functions such as marketing, sales, customer care and IT support.

Local officials and community groups are expected to attend the center's opening event today, with St. Catharines' Mayor Walter Sendzik taking part in the ribbon-cutting.

"On behalf of the City of St. Catharines, I want to thank Accenture for this incredible investment in our city, which not only brings much needed jobs, but also plays an important role in bringing more people to our downtown," says Walter Sendzik, Mayor of the City of St. Catharines. "The arrival of Accenture in downtown St. Catharines sends a powerful signal about the transformation that we have seen here in recent years, and we are proud of the fact that a Fortune 500 company with a global reach like Accenture's has chosen our city for this intelligent operations center."

Other attendees expected at today's opening include business leaders, like Enbridge and Metrolinx, which have embarked on innovative initiatives with Accenture, using emerging technology, shared services models and process innovation to drive sustained growth. For example, working with Accenture, Enbridge was able to reduce the call volume at its customer care center by 20%, significantly reducing the cost to serve each customer.

"Through our partnership with Accenture, we've been able to transform how we serve our customers with cutting-edge solutions and leading support capabilities provided by our team in the Niagara region," said Darren McIlwraith, director of customer care operations at Enbridge.

Designed with collaboration and co-creation in mind, the new center includes open areas with interactive digital surfaces, immersive demonstration space and theater seating for larger groups.

Emphasizing the well-being of employees — Accenture was recently named one of Canada's Top 100 Employers for the 10th consecutive year — the center offers sit-to-stand desks, two wellness rooms, a mothers' room, a meditation and prayer room with a foot-washing station, a café and green areas. The site also has a fitness room equipped with treadmills, an area for yoga and Zumba classes, and a games room featuring ping-pong, air hockey and a pool table.

"We've been in the Niagara Region since 2001 and are thrilled to expand our footprint in the heart of St. Catharines with new employment opportunities for the deep talent pool and a new service offering for our clients," said Jeffrey Russell, president of Accenture in Canada. "In today's competitive customer landscape, we help our clients reinvent themselves with intelligent operating models, using the newest technology solutions to deliver value by working side-by-side with them to reimagine their futures and solve their biggest challenges."

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Accenture Report - Companies That Govern Innovation Extensively Achieve Twice the Revenue Growth of Those That Do Not

14 January 2020

Fewer than one in eight companies govern innovation extensively, and those that do have achieved twice the revenue growth of the vast majority of companies that govern innovation in a more haphazard way, according to a new report from Accenture (NYSE: ACN).

The report, titled Governing Innovation: The Recipe for Portfolio Growth, is based on a global survey of executives at nearly 1,100 companies, a financial analysis of those companies, and in-depth interviews with innovation experts in business and academia. The goal of the research was to determine how organizations apply different types of innovation across their business portfolios, identify how they allocate innovation investments, and help executives understand how to govern more strategically across their business portfolios to get greater value from their innovation investments.

A key finding: Only 12% of companies govern innovation extensively, and those companies achieved a compound annual growth rate (CAGR) of 5.9%, on average, from 2013-2018, compared with a CAGR of 2.9%, on average, for the 88% of companies that govern innovation more haphazardly.

While the vast majority (84%) of executives surveyed said they direct innovation centrally — e.g., through a chief innovation officer or an innovation committee — the report notes that centralized direction and management might not be enough.

"The growing hunger for innovation is putting it at the core of every new business decision, but many companies lack the discipline needed to turn their innovation investments into growth," said Paul Daugherty, Accenture's chief technology & innovation officer. "While many see innovation as a creative force that can't be controlled, our research reveals that a systematic approach to managing innovation and governing it extensively can provide tangible financial impact."

Once it's clear which type of innovation is needed — and in which businesses — organizations need to identify the right governance rituals to ensure that their innovation investments are geared toward achieving the desired growth.

One example illustrated in the report is Schneider Electric, a leading company specializing in energy management and industrial automation. The company takes a pervasive approach to innovation, applying incremental and non-incremental innovation across its entire portfolio of businesses. Doing this has enabled Schneider to generate balanced growth — increasing revenues in both its core and newer businesses in 2018 by 7% and 9%, respectively.

Accenture discovered that organizations are better able to exert control over their innovation investments when they follow at least some of the 12 rituals — and that the more rituals they follow, the greater their revenue growth. In fact, organizations that approach innovation haphazardly today, but plan to switch to governing innovation investments extensively, expect to more than double their compound annual revenue growth at the portfolio level — from 2.9% today to 6.5% in the future, on average.

"Innovation governance rituals are the bread and butter for insatiable portfolio growth," said Dr. Vedrana Savic, a managing director with Accenture Research. "While some people fear that governance will stifle innovation, the reality is that having a systematic approach to managing innovation is the key to achieving greater financial performance. This new and active form of governance is ultimately about being a more strategic innovation investor at the portfolio level."

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#### Aras Licenses Platform to ANSYS in Strategic OEM Deal

14 January 2020

Aras announced a strategic partnership with ANSYS that includes the licensing of the Aras platform technology to enable the next generation of digital engineering practices.

ANSYS will leverage the underlying Aras platform technologies such as configuration management, PDM/PLM interoperability, API integration and add simulation specific capabilities to deliver highly scalable and configurable products that connect simulation and optimization to the business of engineering — creating completely new ways of exploring and improving product performance.

Organizations increasingly expect to leverage simulation throughout the product lifecycle to interoperate with their existing PLM, ALM and ERP applications. Additionally, customers must address scale and complexity challenges with data and process management, traceability and availability of simulation results across the lifecycle.

ANSYS is leveraging Aras' resilient platform services combined with its proven simulation domain expertise and technology for new product offerings to improve productivity and maximize business value from simulation investments. ANSYS will deliver commercial offerings for simulation process and data management, process integration, design optimization and simulation-driven data science.

"With our open ecosystem approach, this unique collaboration combines the strengths of ANSYS' industry-leading multiphysics portfolio and the resilient platform from Aras for digital connectivity to dramatically enhance customer value," said Navin Budhiraja, vice president of cloud and platform business unit, ANSYS. "As simulation technologies impact every product decision, we see the ability of ANSYS solutions to interoperate and link with heterogeneous systems as an important step to accelerate the digital transformation for our customers."

"We believe that simulation is essential to developing tomorrow's next generation products, and that better data and process management of simulations is required to enable the digital processes of the future which will support these products," said Peter Schroer, president and CEO, Aras. "We see the ANSYS and Aras partnership as a potential game changer in connecting simulation to engineering processes for traceability, access and reuse across the product lifecycle."

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#### Cadence Expands Collaboration with Broadcom for 5nm and 7nm Designs

#### 15 January 2020

Cadence Design Systems, Inc. announced that it expanded its collaboration with Broadcom Inc. for the creation of semiconductor solutions targeting next-generation networking, broadband, enterprise storage, wireless and industrial applications. Building upon successful 7nm designs, Cadence and Broadcom are expanding the collaboration to include the creation of 5nm designs using Cadence® digital implementation solutions. With these Cadence solutions in place, Broadcom can further augment engineering productivity and improve silicon performance and power.

"As a global infrastructure technology leader, we're committed to delivering innovative products that enable our customers to excel in their respective markets," said Yuan Xing Lee, vice president and head, Central Engineering at Broadcom Inc. "With Cadence as a key silicon design partner, we're able to achieve our power and performance goals and provide our customers with the highest quality solutions that they've come to expect from us."

"We've collaborated with Broadcom for many years, and our expanded partnership on advanced-node design development is a result of the series of successes we've had together over time and our overall digital technology leadership," said Dr. Anirudh Devgan, president of Cadence. "Given the continued proliferation of networking, broadband, enterprise storage, wireless and industrial applications, we're dedicated to ensuring that Broadcom achieves design excellence using our latest toolsets to fuel design innovation."

The Cadence digital implementation solutions are part of the broader digital suite, which provides optimal power, performance and area (PPA) and reduced turnaround time. The tools support Cadence's Intelligent System Design<sup>™</sup> strategy, which enables systems and semiconductor companies to achieve system-on-chip (SoC) design excellence more efficiently. For more information on the digital suite, visit www.cadence.com/go/dspr

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#### **CONTACT** Software is partner in the European cloud project SmartCLIDE

15 January 2020

How can cloud solutions be deployed quickly, operated securely and easily expanded? CONTACT Software, the Eclipse Foundation and other partners are researching this in a project funded by the European Commission. The results will be published as open source software.

In January, the European project SmartCLIDE\* was launched under the leadership of the Bremen Institute for Applied Systems Technology ATB. Its aim is to foster the use of cloud services in companies and public administrations. The project will provide an integrated development environment (Cloud IDE) that accelerates and secures the creation and deployment of sector-specific web solutions as well as simplifies updates.

Nine research institutes, software companies and universities from six European countries collaborate in SmartCLIDE. With the help of security-by-design experts from The Open Group (UK), they are implementing a universal reference architecture based on GitHub or similar online services. It includes tools for the classification and context-related configuration of software modules, automatic testing and distribution of solutions, and generic interfaces to the leading cloud service providers.

The SmartCLIDE solution builds on the behavior-driven development (BDD) approach, which involves users in the software development process at an early stage and in an agile manner. In addition, a deep learning engine analyzes the apps' usage by means of runtime monitoring. This AI component will help software developers in future to design their customer solutions to fit perfectly and to detect and eliminate bugs more quickly.

The EU Commission is funding the project as part of its Horizon 2020 programme to strengthen the digital sovereignty of the European economy. "The cloud is the motor of digitization, but many companies are still hesitant to use it," says Stefan Gregorzik, Business Development Manager at CONTACT Software. "SmartCLIDE should make it possible to combine high security requirements with easy system integration and a good user experience, so that cloud solutions are widely accepted".

CONTACT's task is to test, evaluate and validate the SmartCLIDE development environment with its Elements platform. The Eclipse Foundation Europe takes over the project communication in the worldwide open source community, as the central components of the new Cloud IDE will be published under OSS license. This means that software developers and business users can view, freely utilize and

further develop the later project results.

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# Luxoft and LG Electronics to Form Joint Venture to Enable Digital, Consumer-grade Experiences in Automotive

#### 13 January 2020

Luxoft, a DXC Technology Company and LG Electronics announced that they will form an automotive joint venture to advance the deployment of production-ready digital cockpit, in-vehicle infotainment, rear-seat entertainment (RSE) and ride-hailing systems based on the webOS Auto platform.

The JV will bring together one of the industry's most innovative automotive software engineering providers with one of the world's leading innovators in technology and home entertainment.

"This new venture reinforces Luxoft's capabilities in the design, development and deployment of largescale digital cockpit and connected mobility solutions based on open platforms," said Dmitry Loschinin, executive vice president, DXC Technology, and president and CEO, Luxoft. "The combined strengths of LG and Luxoft will create invaluable synergy to deploy webOS Auto, the platform for digital, consumer-grade experiences to automakers and their key partners."

Luxoft will lead the deployment of webOS Auto platform in production-ready systems in automotive by contributing its global delivery network and its engineering at-scale delivery organization.

"The JV builds on the long-established and successful relationship between the two companies, creating a great synergy effect in next-generation customer experiences," said Dr. I.P. Park, president and CTO of LG Electronics. "Luxoft's combined capabilities and execution with its global delivery network will accelerate the deployment of webOS Auto in production-ready systems."

Automakers and their key partners, fleet operators, and shared mobility services providers can already deploy webOS Auto to large-scale series production systems, including:

Digital Cockpit systems;

Rear Seat Entertainment (RSE) for traditional needs;

Rear Seat Entertainment (RSE) with ride-hailing mode; and

Cabin and center stack display for ride-hailing systems.

It is anticipated that the JV will commence operations in the first quarter of 2020. The transaction is subject to regulatory approval and other customary closing conditions.

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#### ModuleWorks and InssTek Collaborate on Simultaneous Multi-Axis Additive Technology

13 January 2020

InssTek Inc. has integrated the ModuleWorks additive manufacturing calculation core into its DMT® (Direct Metal Tooling) technology. The innovative ModuleWorks software enables InssTek to use the multi-axis traversing capabilities of its DMT® machines to provide a fully automated, cost-effective solution for simultaneous 5-axis additive manufacturing and repairing of complex parts.

Delivered as a Rhino plugin, DMT® with the integrated ModuleWorks calculation core automatically generates a toolpath that uses the 5-axis motion capabilities of the machine to enable the production of parts with highly complex geometries. This means that these parts, e.g. guide vane rings, can be

manufactured in a single, continuous production step. The additive toolpaths are collision-free and can be optimized via user-defined parameters to reduce residual stresses in the material.

For optimal process safety, the integrated ModuleWorks simulation software checks for potential collisions between the component and print head. Printing errors can also be predicted and prevented. Custom tool profiles (e.g. powder nozzle, laser) provide application flexibility and the simulation generates an in-process model of material flow that can be used for subsequent processing steps.

The integrated high-performance ModuleWorks Post-Processor Framework (PPF) ensures that all the switching and laser commands are optimally adapted for the respective machine and streamed to the controller at a rate of over 50,000 path points/s without the need for further editing to provide a fully automated, cost-effective Direct Energy Deposition solution.

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#### SAP Joins the Ellen MacArthur Foundation's Circular Economy 100 (CE100) Network

15 January 2020

SAP SE announced that the company has joined the Ellen MacArthur Foundation's Circular Economy 100 (CE100) Network.

The CE100 is a collaborative network of businesses, innovators, cities and governments, universities and thought leaders who work together to accelerate adoption of circular economy practices and processes that maximize the use of resources. The Ellen MacArthur Foundation is an organization that leads in transitioning to a circular economy model built on three principles: design out waste and pollution, keep products and materials in use and regenerate natural capital.

"SAP believes that business can deliver circular solutions at scale," said Daniel Schmid, Chief Sustainability Officer, SAP. "We aspire to a world of zero waste and enable companies with digital solutions to enhance their resource productivity. We are excited to join and collaborate with CE100 Network to bring our technical capabilities to both large and small companies across industries, and to help them to innovate ways to advance the circular economy."

Many of the world's largest companies are SAP's customers, and 77 percent of the world's transaction revenue touches an SAP system. SAP frequently collaborates with industry partners to contribute to Goal 12 of the UN Sustainable Development Goals: "Responsible Consumption and Production." The objective is to create new circular solutions that accelerate marketplaces for waste materials, enable more responsible production methods through the use of advanced data, provide waste management insights and ensure better consumer and citizen experiences.

"Having SAP join CE100 is exciting because they have experience working across major industries," said Joe Murphy, CE100 lead, Ellen MacArthur Foundation. "It will be great to have their unique expertise in the network."

The SAP product portfolio includes cloud software designed specifically to support corporate materials management, such as plastics and packaging, metals, wood and paper products, electronics and capital equipment. The company's Ariba Network, the world's largest business-to-business network, is creating a new global marketplace for suppliers of recycled plastics and plastic alternatives. It will allow brands to connect more sustainably with recycled plastics and alternative supply sources through waste-picker communities.

SAP is committed to eliminating single-use plastics in the organization by the end of 2020 and aims to

be a carbon-neutral organization by 2025.

The Ellen MacArthur Foundation was launched in 2010 with the aim of accelerating the transition to the circular economy. Since its creation, the UK-registered charity has emerged as a global thought leader, putting the circular economy on the agenda of decision-makers around the world. The Ellen MacArthur Foundation's CE100 Network is the world's leading circular economy network, providing a precompetitive space to learn, share and put ideas into practice.

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#### Synopsys Joins New Autonomous Vehicle Computing Consortium

#### 17 January 2020

Synopsys, Inc. today announced that it has joined the new Autonomous Vehicle Computing Consortium. The Consortium brings together leading experts in the automotive, automotive supply, semiconductor and computing industries to help accelerate the delivery of safer and affordable vehicles. As a member of the Consortium, Synopsys will actively contribute to the development of a set of recommendations for system architectures and computing platforms that will be used to address the challenges of deploying self-driving vehicles at scale.

"The Autonomous Vehicle Computing Consortium is focused on tackling the complexities and obstacles associated with the deployment of autonomous vehicles," said Pereira, Armando, president of the Autonomous Vehicle Computing Consortium. "We look forward to Synopsys' active contribution to the consortium, helping to define a reference architecture and platform that address the design requirements for autonomous driving and move today's prototype systems to reality."

"Autonomous cars are the future of automotive industry and require massive amounts of electronic hardware and software," said Burkhard Huhnke, vice president of Automotive at Synopsys. "Synopsys' triple shift left strategy is dedicated to addressing functional safety, security and reliability challenges in the automotive industry with a comprehensive suite of automotive-grade IP, design and verification solutions, and software. The Autonomous Vehicle Computing Consortium enables us to join forces with leading automotive experts to further advance the development of automotive systems."

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# Trimble Joins Geotab Marketplace to Accelerate Expansion of Video Safety Technology with Focus on Light- and Medium-Duty Vehicle Market

#### 14 January 2020

Trimble announced that its Video Intelligence<sup>™</sup> solution is now part of the Geotab Marketplace—a portfolio of mobile apps, software add-ins and hardware add-ons—to enable the expansion of video safety technology in new markets. Trimble's Video Intelligence solution includes a two-channel DVR and forward-facing camera, with the option to add secondary cameras. Creating a unified customer experience for its users, Video Intelligence integrates directly with Geotab's MyGeotab fleet management software.

"We are excited to work with Geotab, an industry leader in providing the light- and medium- duty vehicle market with innovative solutions and outstanding customer service," said Jim Angel, vice president of Trimble's Video Intelligence Solutions. "Through this collaboration, we can expand the reach of our Video Intelligence solution, helping these light- and medium- duty fleets leverage technology to protect their drivers and company from false claims sometimes associated with

accidents."

Trimble's Video Intelligence gives fleets a neutral eyewitness perspective of their vehicles on the road. Through this objective viewpoint, fleets can protect themselves in the event of an accident as well as enhance coaching opportunities across their driver base.

"The Geotab Marketplace provides an extensive ecosystem of partners and applications, which are designed to meet the needs of businesses leveraging our telematics offering," said Clive Cawse, chief operating officer at Geotab. "By providing our customers with access to innovative solutions such as Trimble's Video Intelligence, we are helping to equip them with the tools necessary to improve safety and operations."

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#### Wipro announces Fund to Invest in Emerging Digital Enterprise Software Leaders

16 January 2020

Wipro Ventures, the strategic investment arm of Wipro Limited, announced the closing of its \$150 million Fund II. Buoyed by the success of its first \$100 million fund launched in 2015, Wipro Ventures will continue to invest in early to mid-stage companies building innovative enterprise software solutions across key areas, including cybersecurity, application development, analytics, cloud infrastructure, test automation, and AI.

"Wipro Ventures has become an integral part of our innovation ecosystem," said Abidali Z Neemuchwala, Chief Executive Officer and Managing Director, Wipro Limited. "Our strategy has been to invest in promising enterprise software startups, establish strategic partnerships with them and bring their leading-edge solutions to our customers. By doing this, we differentiate our customer services, generate revenue for our portfolio companies and deliver strategic as well as financial returns to Wipro. Wipro Ventures' Fund II demonstrates our continued commitment to this strategy."

Wipro Ventures, managed by Biplab Adhya and Venu Pemmaraju, has so far invested in 16 early- to mid-stage startups, including 11 in the US, 4 in Israel and 1 in India. More than 100 of Wipro's global customers have benefited by deploying solutions from these portfolio companies.

Companies within the portfolio have seen successful exits, including Demisto, a cybersecurity company that was acquired by Palo Alto Networks. Rishi Bhargava, a co-founder of Demisto, credited Wipro's commitment to joint sales and go-to-market support, as one of the key drivers of its success

"Within the first year of our partnership, Wipro and Demisto were working together on dozens of Fortune 1000 opportunities and closing a majority of them," said Bhargava. "It's exciting to see Wipro Ventures continue to enhance the startup ecosystem with new capital while helping companies boost their bottom line."

In addition to making direct equity investments, Wipro Ventures has also invested in five early-stage enterprise focused venture funds in Israel, New York and Los Angeles.

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# **Financial News**

#### TCS Third Quarter: Strong Share Gains in Europe Stand Out in Seasonally Weak Q3

17 January 2020

Tata Consultancy Services reported its consolidated financial results according to Ind AS and IFRS, for the quarter ending December 31, 2019.

Financial Highlights for Quarter Ended December 31, 2019 Revenue at \$5,586 million, +6.4% YoY Constant currency revenue growth: +6.8% YoY Operating Margin at 25%; Net Margin at 20.4% Net Income at \$1,138 million; Earnings Per Share at \$0.3 Net Cash from Operations at 116.4% of Net Income Dividend per share: ₹5.00 Record date 25/01/2020; Payment date 31/01/2020 Business Highlights for Quarter Ended December 31, 2019 Life Sciences & Healthcare continues to outperform, growing +17.1%YoY; Manufacturing grew +9.2% YoY and Communications & Media grew +9.5% Europe grew +15.9% YoY Net addition of 22,390 employees YTD 93% of the 30K freshers onboarded in H1 deployed in projects Continued investments in organic talent development: 327K+ employees trained in digital technologies 404K+ employees trained in Agile methods Industry-leading talent retention: IT Services attrition rate at 12.2%LTM

Commenting on the Q3 performance, Rajesh Gopinathan, Chief Executive Officer and Managing Director, said, "We saw the sectoral trends of the first half of the year continue to play out in the third quarter. Our robust order book during the quarter reflects our ability to pitch innovative technology solutions to address the business needs of different stakeholders in the enterprise, and participate in our customers' enterprise-wide transformation initiatives. This is also helping deepen and broaden our

customer relationships, and make the business more resilient."

He added, "Our participation in the growth and transformation spends of our customers is most evident in our sustained success in Continental Europe where our revenues have more than doubled in the last five years. Our thought leadership in areas like the Business 4.0<sup>TM</sup> framework, Enterprise Agility and the Machine First Delivery Model, our domain and technology consulting expertise, investments in research and innovation, and our ability to design complex solutions leveraging multiple capabilities from across TCS, have made us the preferred partner for CEO-level initiatives at progressive organizations." N Ganapathy Subramaniam, Chief Operating Officer & Executive Director, said, "In a seasonally weak quarter characterized by furloughs across multiple industry verticals, we focused on execution, while continuing to invest for future growth. Having onboarded over 30,000 trainees in the first half of the year, we worked on driving up utilization in Q3 and had good outcomes. Our client metrics were also very good, with additions across most revenue buckets."

He added, "Our large core transformation engagements are all progressing very well. At M&G Prudential as well as at Scottish Widows, we crossed important transformation milestones, successfully migrating hundreds of thousands of policies from legacy systems onto our platform, significantly enhancing the customer experience for those policy holders. These are industry-defining engagements, closely watched by other insurance companies. Our achievement of these key milestones adds further impetus to their own transformation plans."

V Ramakrishnan, Chief Financial Officer, said, "Our ability to expand our margins in a volatile environment speaks of the strength of our business model, strong execution focus and the higher quality revenues we are getting on account of our strong positioning in our customers' growth and transformation spends."

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#### WIPRO Releases Results for the Quarter ended December 31, 2019

14 January 2020

Wipro Limited announced financial results under International Financial Reporting Standards (IFRS) for its quarter ended December 31, 2019.

Results for the Quarter ended December 31, 2019:

Gross Revenue was ₹154.7 billion (\$2.2 billion1), an increase of 2.7% YoY

IT Services Segment Revenue was at \$2,094.8 million, a sequential growth of 2.2%

Non-GAAP2 constant currency IT Services Segment Revenue increased by 1.8% QoQ

IT Services Operating Margin3 for the quarter was at 18.4%, an increase of 0.3% QoQ

Net Income for the quarter was ₹24.6 billion (\$344 million1), a decrease of 2.2% YoY

EPS for the quarter was ₹4.3 (\$0.061) per share and grew 3.2% YoY

Wipro declared an interim dividend of ₹1 (\$0.014 1 ) per equity share/ADS Performance for the quarter ended December 31, 2019

Abidali Z. Neemuchwala, CEO and Managing Director said, "We have delivered a good quarter with secular growth across all business units, geographies and practices. We remain focused on deepening

our customer relationships, converting our funnel and winning large deals." Jatin Dalal, Chief Financial Officer said, "We expanded operating margins by 0.3% aided by a favorable movement in the currency. Further, we generated strong operating cash flows led by disciplined execution at 124% of our Net Income."

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# Implementation Investments

# Atos supercomputer to enhance weather prediction capabilities for leading European numerical weather centre ECMWF

#### 14 January 2020

Atos has signed a new four-year contract worth over €80 million (approximately £67.8 million) with the European Centre for Medium-Range Weather Forecasts (ECMWF) to supply its BullSequana XH2000 supercomputer, which is one of the most powerful meteorological supercomputers in the world. It will increase ECMWF's computing power by a factor of around 5 and will support hundreds of researchers from over 30 countries across Europe in their work on medium and long-range weather forecasting and prediction. Notably, it will enable them to reliably predict the occurrence and intensity of extreme weather events significantly ahead of time, essential to respond to the climate and weather crisis facing us today.

"Weather forecasting is computationally intensive and demands the best in high performance computing power" said Dr Florence Rabier, Director General at ECMWF. "This is one of the main reasons we chose Atos. We trust in its ability to supply and integrate the best technologies available, but also in its proven expertise to deliver effective solutions to the weather forecasting community across Europe. Thanks to this investment, we will now be able to run higher resolution forecasts in under an hour, meaning better information will be shared with our Member States even faster to enable much improved weather forecasts as they combine this enhanced information with their own data and predictions. As governments and society continue to grapple with the impacts of increasingly severe weather, we are also proud to be relying on a supercomputer designed to maximise energy efficiency."

Once operational, the new supercomputer will allow ECMWF to run its flagship world-wide 15-day ensemble prediction at a higher resolution of around 10km, offering significant improvement in the ability to forecast severe weather events.

Sophie Proust, Atos Group CTO said: "We're really delighted to have been selected by ECMWF for this major contract. This is testament not only to our solid expertise and operational excellence needed to install, manage and run such a large system, but also to the best-of-breed technology which we are supplying, with our BullSequana XH2000 and our partners AMD, Mellanox and DDN. This new solution will optimize ECMWF's current workflow to enable it to deliver vastly improved numerical weather predictions. Most importantly though, this is a long-term collaboration, one in which we will work closely with ECMWF to explore new technologies in order to be prepared for next-generation applications. "

Adrian Gregory, Group SEVP, CEO UK&I and Global Head of Atos Syntel said: "We believe that our BullSequana supercomputing technology, people and collaborative approach will reinforce the ECMWF's reputation as a world class research and operational centre and that this partnership will stand as a flagship model for industry-meteorological collaboration."

Günther Tschabuschnig, Convener of the ECMWF Technical Advisory Committee which reviewed ECMWF's HPC selection said: "One cannot overestimate the importance of accurate weather prediction. This has never been truer than in our current age, as the effects of climate change and severe weather are increasingly felt. Individuals and societies need ever greater amounts of information to ensure they are prepared. Atos brings an impressive track record of success in this field and its background in delivering advanced supercomputing solutions to some of the world's best meteorological services will ensure we are placed on a firm footing for success."

Atos has successfully deployed BullSequana systems at many leading European supercomputing centres that either undertake production or research work into weather forecasting, earth systems and climate modelling including Meteo France, the German Climate Computing Centre, the Spanish AEMet, Royal Netherlands Meteorological Institute and Plymouth Marine Laboratory in the UK. Atos is also a partner of the ECMWF and other national weather centres in the ESCAPE2 and ESIWACE2 European projects developing next generation weather models which contribute to informing the future of atmospheric sciences.

Based in Reading in the UK, ECMWF is an independent intergovernmental organisation supported by 34 Member and Co-operating States across Europe and holds the largest archive of numerical weather prediction data in the world. The system will be delivered and installed at the ECMWF data centre in Bologna, Italy in 2020, with service commencing in 2021. Atos will work locally with E4 Computer Engineering to manage, run and maintain the system.

Atos has produced thought leadership on the topics of supercomputing and big data, which is also included within its Digital Vision programme.

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#### Autodesk – Introduction of The New Eco-Friendly Chair by Philippe Starck and Kartell

16 January 2020

In April 2019, design history was made as the first chair created in partnership between humans and artificial intelligence was unveiled during Milan Design Week. The "A.I. Chair" is the result of a collaboration between Philippe Starck, Kartell, and Autodesk.

A.I. Chair was developed with generative design, a form of artificial intelligence that leverages the power of the cloud to create better outcomes for products, buildings, infrastructure, systems and experiences.

At IMM and Maison & Objet, two international interior design fairs taking place this week in Cologne and Paris, Kartell is officially launching the A.I. Chair. To add to the excitement, the chairs are being manufactured using 100 percent recycled material.

The Kartell team is using a pure and uncontaminated recycled material that fully respects the aesthetic quality and structural requirements. This is the first time that the world–renowned furniture company is using materials derived solely from the scraps of their industrial production.

"This chair is a perfect example of the design and manufacturing industry moving toward sustainability and circularity," says Arthur Harsuvanakit, Senior Designer at Autodesk.

Kartell has been focused on sustainability for more than a decade. In 2019, for their 70th anniversary, they introduced a manifesto, "Kartell Loves the Planet," which emphasizes the company's commitment to sustainability and environmental friendliness. With A.I., Kartell is taking another step forward in its ongoing commitment towards safeguarding the environment.

"Unconsciously, we're trying to produce objects with less material. Ultimately, design is about the theory and strategy to reduce the amount of material used. That's why it was so important to use the minimum material possible for this chair. We should be trying to use less material with the objects we create," says Starck.

With an expected 10 billion people living on the planet in a matter of decades, we need to radically rethink how we use materials and energy in a responsible and circular way.

Learn more about Autodesk's efforts with design and circularity.

For decades, products have been designed as if resources were unlimited. The need to reduce our negative impact on the planet and on people is a reality that's here. In implementing circularity, materials are used in a closed-loop system with the goal of reducing waste by reusing, refurbishing, remanufacturing, recycling, and upcycling. And circularity starts with design.

"Circularity is not about simply recycling. It's about truly embracing this idea of upcycling and making sure that the materials that we put in our products can be upcycled and used in a new product," said Lynelle Cameron, CEO of Autodesk Foundation and Vice President of Sustainability for Autodesk, in a recent video.

Claudio Luti, Chairman of Kartell, said, "It's not a question of simply creating a product that seems green, but of generating an industrial strategy that involves the entire manufacturing process, from the business plan and marketing to communication actions and the sales network."

During the chair design process, injection molding was specified as the best manufacturing process for mass production. But with injection molding come certain constraints around wall thickness of the product being manufactured.

"We had to kind of push the tool toward producing solutions with relatively minimal wall thickness for injection molding. That meant figuring out new strategies and adjusting our algorithms to accommodate for those constraints," explained Harsuvanakit. "With generative design, you are able to, in order of magnitude, create more solutions and strive for better solutions faster."

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#### Finn Flare Begins New Journey with Centric Fashion PLM

#### 13 January 2020

Finn Flare, the Russian apparel brand, has selected Centric Software's Product Lifecycle Management (PLM) solution. Centric Software® provides the most innovative enterprise solutions to fashion, retail, footwear, outdoor, luxury, consumer goods and home décor companies to achieve strategic and operational digital transformation goals.

Finn Flare is well-known in Russia for casual wear, with 150 stores across the Russian Federation, Kazakhstan and Belarus, and has expanded to the German market via online outlets. Finn Flare's brand DNA emphasises trendy design, comfort and high-quality materials for a reasonable price.

Finn Flare had a legacy PLM solution, but began looking for a replacement to enhance data management and analysis.

"Our collection development process is constantly being improved, and our existing program could not provide enough analytical data," explains Valentina Khilmanovich, Deputy director of design and production at Finn Flare. "We needed a single platform to combine flows of information, including photos, boards, sketches, spreadsheets, files and e-mails, and give the entire team updated data."

Finn Flare selected Centric Fashion PLM after a Centric seminar on digital transformation and a subsequent personalized demo.

"Centric is the best fit for us," says Valentina. "It combines planning, calendar management, material management, collection management, technical product design, quality management and production. The Material Sample and Final Inspection mobile apps will allow our representatives in Southeast Asia to give us information in near-real time on materials and components confirmed for production and the results of final product quality checks."

Finn Flare expects to reduce development time for new collections while maintaining high quality standards, says Valentina.

"Centric will add flexibility to our processes and enable us to create collections that satisfy our customers. Analytical data from a single platform will drive accurate and quick product decisions. We expect to reduce time to market and further improve product quality."

"Digital technologies are constantly evolving, so we look forward to a long-term partnership with Centric," Valentina concludes.

"We are delighted that Finn Flare has selected Centric Fashion PLM," says Chris Groves, President and CEO of Centric Software. "Centric's entry into the Russian market marks an exciting new chapter, and we are looking forward to working with Finn Flare as they begin their PLM implementation."

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#### Hexagon to Support Leidos UK in Metropolitan Police Command and Control System Upgrade

16 January 2020

Hexagon AB announced it will support Leidos UK in the recently announced upgrade to the Metropolitan Police Service (MPS) command and control system. Under the 10-year programme, Leidos will implement HxGN OnCall, a comprehensive portfolio of advanced public safety solutions, to deliver a system that captures emergency contacts from the public and subsequently coordinates deployment of officers to incidents, pre-planned events and other operations.

The new HxGN OnCall command and control solution will provide a modern, easy-to-use, cohesive system with capabilities spanning dispatch, analytics, mobility and major event management. The cloud-based solution will drive efficiency within MPS and serve as a key pillar in the One Met Model 2020 and Policing Vision 2025 initiatives.

Responsible for the protection of eight million citizens, the MPS will improve information sharing and collaboration with other emergency services to achieve greater connectivity, collaboration and intelligence for keeping citizens and visitors of London safe. In addition to Hexagon, Leidos will work with Chaucer Consulting and Frequentis to deploy a flexible system that can be scaled and enhanced to meet the needs of the public and the MPS through the life of the programme.

"With the new Hexagon command and control solution, the Metropolitan Police Service will be able to modernize systems, improve service quality and increase employee engagement and well-being," says Hexagon President and CEO Ola Rollén. "By leveraging the power of data and the cloud, MPS can achieve greater agility and empower officers to better protect the people of London."

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#### Houdini Enables Sustainability and Agility with Gerber YuniquePLM

#### 15 January 2020

In order to support their sustainability efforts, Houdini Sportswear has selected Gerber Technology's cloud-based product lifecycle management software, YuniquePLM, to improve efficiency and be more transparent in their process. By implementing YuniquePLM, Houdini will make significant progress towards their "impact positive" status for the company's operations, striving to have 100% of their products be made from recycled or biodegradable fibers and be recyclable or biodegradable at end-of-life.

"We chose YuniquePLM as it can facilitate all of Houdini's specific demands – from financials to finished product," said Eva Karlsson, CEO of the outdoor brand. "As we design every product with the intention of it making a difference for the end-user and for the world, transparency and traceability are essential in our way of doing business. Up until we leveraged YuniquePLM, we had worked in many different ways, using documents and lists."

As a pioneer in sustainability, Houdini Sportswear proves apparel brands can go green while still maintaining profitability, leading the way for the rest of the industry. The cloud-based PLM's strategic, transversal approach to information will allow Houdini to manage the full scope of activities across the product lifecycle in today's permanently renewing collection process.

"These solutions help create high performance, comfortable products and support the reduction of environmental impact", underlined Michael Lock, Vice President of Gerber's Global Software Sales. "Gerber's end-to-end applications, including YuniquePLM, fulfill the needs of businesses of all sizes allowing them to benefit from increased scalability and performance collaborating with colleagues, partners and suppliers around the world. In providing visibility to information and boosting traceability throughout the supply chain, YuniquePLM helps drive the transformation towards a sustainable and responsible business." Lock added.

Houdini Sportswear was founded in 1993. The complete collections for women, men and children became an instant success in the climbing and ski community. The progressive outdoor company based in Stockholm, Sweden, along with a dedicated team of scientists, artists, designers and adventurers, is pushing the boundaries of how outdoor clothing is made. Working closely with their customers, Houdini is recycling, renting, repairing and reusing their way to a new, sustainable outdoor industry. The company's mission: Reconnect humanity with the planet that sustains it. Through our products, experiences, and communities we hope to provide a literal connection to nature as well as level the balance between the planet and those out to experience it.

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#### Infosys to support digital transformation of GEFCO

#### 14 January 2020

Infosys has partnered with GEFCO, a world leader in multimodal supply chain solutions and the European leader in automotive logistics, to support its digital transformation over the next five years.

As a key business and technology partner of GEFCO, Infosys will help transform the group's nextgeneration business application management services. Building upon the foundation of these services, Infosys will also leverage its Live Enterprise Suite to help GEFCO evolve into a 'Digital Native' organization. This will enable new supply chain capabilities to extract and process information in real-time and generate purposeful insights with very low latency to help GEFCO respond intelligently and effectively across the value chain. The end objective is to help GEFCO create new sustainable sources of competitive advantage and continuously improve value for its customers.

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# Jerry Leigh Upgrades to NGC Andromeda Cloud Platform to Streamline Product Development and Accelerate Lead Times

#### 14 January 2020

New Generation Computing, Inc. announced that Jerry Leigh of California, Inc., a global clothing manufacturer and brand management company, will upgrade to NGC's Andromeda Cloud Platform®.

Jerry Leigh is a large licensed apparel company with global retail relationships and partnerships with top licensors and brands including The Walt Disney Company, Warner Bros., NBC Universal, Sanrio, Inc. and Williamson-Dickie Mfg. Co., LLC. Jerry Leigh began working with NGC in 2010 and will expand that relationship as the company streamlines operations from product concept to customer availability.

Jerry Leigh will implement the full Andromeda® platform, which delivers advanced PLM, SCM, Quality Control and Vendor Compliance capabilities. Jerry Leigh anticipates increased visibility and new productivity by leveraging built-in workflow calendars, time and action tracking, vendor onboarding and social compliance tracking. The Andromeda Cloud Platform will enable Jerry Leigh to streamline all aspects of its product development and supply chain management processes.

"We enjoy working with NGC as a result of the technical depth of its solutions and the excellent support we receive from NGC's responsive team," said Vickie Zaura, chief information officer, Jerry Leigh. "Upgrading to Andromeda will allow us to extend this relationship while implementing the latest in digital supply chain best practices."

"We are thrilled to expand our longstanding relationship with Jerry Leigh and help the company along its digital transformation journey," said Mark Burstein, president, NGC. "The Andromeda Cloud Platform will help Jerry Leigh fast-track its ability to design and deliver new collections to market and improve collaboration across its organization and with global partners, to ensure the right merchandise is available at the right location at the right time."

Family-owned Jerry Leigh is a leading design, manufacturing and brand management firm, servicing the nation's top retailers, from boutique to mass market, with a wide range of brands and licenses. With offices in Los Angeles, New York City and Orlando, and state-of-the-art manufacturing operations in Guatemala and Shanghai, the company's 1,000+ employees are dedicated to serving the needs of its partners since 1962.

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#### Largest Israeli Furniture Group Turns to Infor to Integrate its Supply Chain

#### 13 January 2020

Infor announced Aminach, Israel's largest furniture company, is embarking on an enterprise resource planning (ERP) project with Infor M3. The project, which is being managed by Infor partner Intentia Israel, will serve 280 users across 46 stores nationwide and the manufacturing site in Israel.

Aminach chose Infor M3 (version 13.4) after examining a number of competing ERP solutions with the assistance of a professional consulting company. Infor M3 was chosen due to the depth of its

functionality; the fact it can support both Aminach's manufacturing and commercial operations and due to the level of integration between the different modules. Aminach's business processes were then mapped to meet the synergy requirements between all technological systems and establishing a standard of organizational work processes and supply chain management.

Infor M3 is expected to provide Aminach with a range of capabilities required by a multi-branch distributed manufacturer and marketer, such as retail chain store management, item and product infrastructure management, supply chain management, production planning and management, costing and finance management, as well as technician service system management.

The project will run in two stages. The first phase, which began in May 2019 and expects to complete in January 2020, with the financial module, network and pricing being embedded in all the company's branches will be connected to an order interface as well as all existing systems such as inventory and production planning. The second phase, which is scheduled to begin in April 2020 and end in January 2021, will embed production management and supply chain, complete and full branch management capabilities.

"Infor M3 provides best practices in diverse manufacturing, distribution and retail verticals based on the experience of thousands of organizations around the world and therefore does not require development or customisations, saving valuable time and money," said Amichay Keidar, Intentia project area manager. "The ERP solution supports organizational change and handles the fact that running a manufacturing and distribution company requires flexibility and the ability to respond quickly to market changes over many years."

"More and more organizations are coming to the realization that there is tremendous significance to the experience and expertise both of the implementation teams and of the ERP solution," said Eli Maisels, CEO of Intentia. "Aminach joins a number of leading Israeli organizations that chose Infor M3 as a comprehensive knowledge-based solution that allows them to operate in their local and international markets smoothly and productively."

Infor M3 provides industry-specific functionality and best practices dedicated to industries including furniture, plastics, chemicals, metal, packaging, fashion, food and pharmaceuticals. The ERP solution has been implemented successfully by many Israeli organizations including Delta Galil, Angel Bakery, Dexel, Carmel Wineries and Carmel Frankel.

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## ManTech to Provide Support for Systems Engineering Directorate, Marine Corps Systems Command

14 January 2020

ManTech announced that it has been awarded a five-year \$67 million task order to provide scientific and technical information support for the Systems Engineering Directorate (SED), Marine Corps Systems Command. ManTech was awarded this contract under the Department of Defense Information Analysis Center's (DoD IAC) Multiple Award Contract (MAC). DoD IAC MAC task orders are competitively awarded by the U.S. Air Force Installation Contracting Center (AFICC) for work at various U.S. military organizations.

"ManTech is Bringing Digital to the Mission® by delivering world class Marine Air Ground Task Force systems and capabilities to the warfighter," said Matt Tait, president of ManTech's Mission Solutions and Services (MSS) Group. "Our technical support of SED will enable vital, relentless and pinpoint accurate weapons systems that advance the defense of our nation on land, sea and air."

Under this contract, ManTech will support DoD IAC's mission in the areas of Architecture & Interoperability Certification, Competency Management, Developmental Test and Evaluation, Expeditionary Energy Systems, Counter Improvised Explosive Devices, Afloat Command, Control, Communications, and Computers Systems Integration. In addition, ManTech will advance capabilities in Joint and Naval Integration and Transportability, Modeling and Simulation, USMC Systems and Equipment Safety, Systems Engineering, Systems Security, Technology Transition, Knowledge Management, Spectrum Management, Fire Support Systems Integration, and Assured Command and Control Technologies.

SED conducts detailed systems engineering analysis for Marine Corps programs providing critical capabilities to the warfighter. Marine Air Ground Task Force (MAGTF) systems engineering and integration combines numerous engineering disciplines with the detailed technical and analytical processes required to define, integrate, certify, plan, and oversee the development/sustainment and security of complex IT, weapons and safety systems used by American warfighters.

The DoD IAC program operates as a part of the Defense Technical Information Center and provides technical data management and research support for DoD and federal government users. Established in the 1940s, the IAC program supports the DoD science & technology (S&T) and acquisition communities to drive innovation and technological developments by enhancing collaboration through integrated scientific and technical information (STI) development and dissemination for the DoD and broader S&T community. The DoD IAC serves as a bridge between the warfighter and the acquisition community, offering an enhanced research base of STI and flexible MACs that yield new STI for reuse within DoD daily.

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# Product News

#### 3D Systems - New Production Solution Optimized for Jewelry Workflows

#### 16 January 2020

3D Systems announced Figure 4® Jewelry - a specially designed and optimized solution for the burgeoning 3D printed jewelry market, which is expected to grow 26% over the next four years according to Technavio (October 2019). Figure 4 Jewelry is the latest example of how 3D Systems optimizes its Figure 4 platform across hardware, software and materials to deliver application-specific production solutions. Figure 4 Jewelry delivers speed, high accuracy, fine feature detail and smooth surface finish for jewelry-specific production workflows: jewelry casting patterns, master patterns for molds, and prototype/fit check models.

3D Systems has incorporated two significant technology innovations into the Figure 4 Jewelry solution that are unparalleled in the industry. Figure 4's non-contact membrane technology combined with exclusive MicroPointTM support structures minimizes part-to-support interaction resulting in high speed and the smoothest sidewalls and finest resolution for jewelry applications. The company's 3D Sprint® software also includes proprietary print build styles developed specifically for jewelry, both for thin, delicate geometries, as well as thicker geometries, enable optimized jewelry prints with detail for settings, sharp prongs, fine mesh and more.

Figure 4 Jewelry is designed for productivity, and with a print speed of 16 mm/hr at 30 um layer resolution and projection-based imaging, Figure 4 Jewelry can print a full platform of rings at up to 4X

faster than comparable printing systems. In addition, MicroPoint ultra-fine tip support structures enable both easy support removal and smoother surface finish, reducing downstream labor costs and production time by minimizing polishing of support intersection points.

As an integrated production solution, Figure 4 Jewelry is designed to address three application-specific workflows: jewelry casting patterns, master patterns for molds, and prototype/fit check models. The jewelry casting workflow is available today for manufacturing ultra-high resolution jewelry patterns directly from CAD, and can be executed using 3D Systems' Figure 4 JCAST-GRN 10 material. The material yields minimal ash and residue after burnout for easy casting. The complete solution – Figure 4 JCAST-GRN 10, Figure 4 technology, 3D Sprint – is designed for high productivity enabling jewelers to create prints ready for casting or molding in hours, not days.

There is already considerable anticipation for this game-changing solution in the industry. "Jewelry manufacturing demands flexible, scalable and affordable 3D printing that can deliver the highest quality parts in the shortest time," said Mo Kinj, managing partner, 3D Middle East LLC – a member of 3D Systems' reseller network. "With Figure 4 Jewelry, there was no compromise on part quality or CAD-to-cast workflow efficiency whether the job was investment casting, silicone molding or try-on prototyping. The system is fast, reliable and accurate. Figure 4 Jewelry allows jewelry manufacturing to be two or even three times more productive and cost-effective compared to traditional methods and alternative desktop printers."

3D Systems is planning general availability of additional materials specific for the master pattern molds and prototyping/fit check in 1H 2020. The master pattern molding workflow is intended to print detailed, fine featured master patterns for high volume, mass production. The prototyping/fit check workflow will be supported by specific 3D Sprint build styles and a high-contrast prototyping material developed to show fine detail for fittings and try-on, as well as accuracy and fidelity to ensure the final fit of stone settings.

"With the launch of our Figure 4 jewelry solution, 3D Systems continues to enable new applications for our Figure 4 production solution," said Menno Ellis, senior vice president and general manager, plastics, 3D Systems. "Building upon our industry-leading technology and materials portfolio, we are able to help jewelers create designs with unprecedented speed and accuracy. This is just one more example of how 3D Systems is blending our expertise in materials science, application engineering, 3D printing technology and software to deliver solutions that keep our customers at the forefront of their respective industries and markets."

Figure 4 Jewelry complements 3D Systems' comprehensive portfolio of jewelry solutions, with both wax and plastic printers for investment casting patterns, including the ProJet MJP printer for jewelry and its line of Stereolithography printers and castable resins.

The Figure 4 Jewelry solution is on display at Vicenzaoro 2020 in 3DZ's booth (booth 153A, hall 9, area T–Gold) and is available exclusively through 3D Systems Reseller Network. To find a Reseller in your area, please visit the company's website.

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#### CADbro 2020: Real-time Collaboration in 3D CAD Space

15 January 2020

ZWSOFT unveiled the new CADbro 2020, an easy-to-use 3D CAD viewer designed for everyone who needs to collaborate on engineering data. Featuring real-time collaboration, more powerful online viewing, and 3D BOM, CADbro 2020 delivers smoother-than-ever internal and external collaboration to

users in 3D CAD space. The highlighted features are as below:

Real-time collaboration tools

CADbro 2020 supports 3D CAD data collaboration in real time. After logging in the cloud account, users can invite project members to join an online discussion and start chatting in Dialog on the right, while operations such as rotating, viewing sections, adding dimensions, etc. will be synchronized instantly to the project members' windows. Playback is also available to review the discussion.

#### More powerful online viewing

Online viewing functions have been extended and optimized. First, there are more options for link sharing, like expiry date, passwords, view times, etc. Second, common operations such as isolating and hiding are added to the right-click menu. Third, changing view angle is easier by rotating the cube on the upper-right corner. The list of enhancements still goes on, such as exploding based on assembly structure, Perspective View, Unit Switcher, etc.

#### New 3D BOM

Users can generate BOM directly in 3D space. In the generated BOM, they can select items by filters, calculate, search and edit attributes, export the information to excel files and reuse the customized templates. 3D BOM empowers users to manage part attributes efficiently.

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#### EMA Launches CADSync with a Native SOLIDWORKS Connector

#### 15 January 2020

EMA Design Automation announced CADSync<sup>TM</sup>, providing a streamlined way to accurately pass highfidelity design data and changes between Cadence PCB and SOLIDWORKS. "This patent pending technology provides native bidirectional collaboration and traceability," said Manny Marcano, president and CEO of EMA. "Design teams can now work in concert for early communication and data sharing, enabling them to successfully launch mechatronic products on time and on budget."

The current state of ECAD/MCAD 'collaboration' typically involves throwing large STEP files over the wall hoping each team can derive the data they need. This results in inaccuracy, miscommunication, delays, and even design re-spins. CADSync is the first and only native, bi-directional conduit between SOLIDWORKS and OrCAD®/Allegro® PCB Editor, providing a connection between ECAD and MCAD domains and eliminating the need for any middleware. PCB designers now have in-tool access to leverage native CAD data structures for maximum performance, efficiency, and accuracy, versus other solutions using common interchange formats.

CADSync includes a unique PCB toolkit for SOLIDWORKS which enables SOLIDWORKS teams to work on PCB features in their native design environment, while automatically capturing the data needed to properly specify changes and requirements in Cadence PCB. Since ECAD data is communicated to SOLIDWORKS using native solid parts, features, and assemblies, MCAD designers can also easily simulate and manipulate PCB elements in context of the mechanical assembly, which is not possible using traditional interchange format methods.

"Traditional ECAD/MCAD interface solutions either have a heavy server configuration that accompanies the product, or they have limitations in what information can be synchronized between the mechanical and electrical domain–CADSync has neither," said Dan Fernsebner, PCB product marketing director, Cadence Design Systems, Inc. "Its incredibly simple to deploy and easy to use, immediately empowering engineering cross-domain collaboration."

"CADSync is a product truly driven by our customers' needs to collaborate effectively and operate efficiently across the entire product development cycle," added Marcano. "The EMA development team included both electrical and mechanical domain experts with over 20 years of experience in this space to ensure this product provided the best experience for both sides and delivered on the promise of a true, collaborative mechatronics design environment."

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#### JETCAM releases new versions of Expert and Orders Controller

#### 16 January 2020

JETCAM International s.a.r.l announced the launch of new versions of JETCAM Expert and JETCAM Orders Controller (JOC), containing various new features and enhancements.

JETCAM Expert v20.31.00 benefits from several global interface enhancements including a new Screen Macro Recording feature that allows users to assign menu options or keyboard shortcuts to strings of commands, drastically reducing the time to perform common functions. Unlimited UNDO/REDO allows the user to step back through multiple actions if required. Logic improvements across the board in areas such as fly cutting and common cutting can further reduce CNC machine runtime.

JETCAM Orders Controller (JOC) 3.37 now includes enhanced static nest ordering\*, allowing users to select one or more nests in the nests screen and see if they can be used to fulfil parts in the orders list. Users can then modify the number of runs of each nest in order to see the optimum number required to fulfil the orders list. JOC can also create image thumbnails of components during CAD import. These can then be used by third-party systems such as MRP to show an image against a component. To aid customers where network stability and performance are sub-optimal JOC now makes multiple attempts to ready component data, ensuring that temporary network glitches will not impact processes from taking place.

Martin Bailey, General Manager said; "These releases focus on the user experience, with features such as Screen Macro Recording in JETCAM Expert and Static Nest Ordering in JOC both allowing users to perform tasks much quicker than before. We've also made significant 'under the hood' enhancements to many of our automation technologies, so not only do they take less time to run but they also deliver improvements in CNC machine and material efficiency on the shop floor."

Videos of new functions are available to view in the JETCAM online video tutorial 'University', which is free for all JETCAM customers. Both products are available for immediate download for free for all customers with a current maintenance contract.

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# MathWorks Speeds FPGA and ASIC Verification with Universal Verification Methodology (UVM) Support

#### 15 January 2020

MathWorks announced that HDL Verifier provides support for the Universal Verification Methodology (UVM) starting with Release 2019b, which is currently available. HDL Verifier enables design verification engineers developing FPGA and ASIC designs to generate UVM components and test benches directly from Simulink models and use them in simulators that support UVM such as those from Synopsys, Cadence, and Mentor.

"HDL Verifier's capability to generate UVM and SystemVerilog DPI components from existing

MATLAB and Simulink models can boost the productivity of DV engineers and improve collaboration between system architects, hardware designers, and DV engineers."

A recent study by Wilson Research Group found that 48% of FPGA design projects and 71% percent of ASIC design projects rely on UVM for design verification. Typically, algorithm developers and system architects develop new algorithmic content in MATLAB and Simulink. Design verification (DV) engineers then use the MATLAB and Simulink models as a reference as they handwrite code for RTL test benches, which can be an extremely time-consuming process. Now with HDL Verifier, DV engineers can automatically generate UVM components such as sequences or scoreboards from system-level models already developed in Simulink. This approach reduces the time verification engineers spend developing test benches for ASIC and FPGA designs used in applications such as wireless communications, embedded vision, and controls.

"Simulink allows for us to reduce time spent on hand-writing production UVM test benches, test sequences and scoreboards by about 50% - leaving more time for us to focus on application for breakthrough innovations," said Khalid Chishti, ASIC development manager, Allegro MicroSystems. "Our ASICs designed for automotive applications rely on UVM for production verification – MATLAB and Simulink simplify the once tedious task of developing the algorithms for these devices."

With new features such as generation of UVM components, SystemVerilog assertions, and SystemVerilog DPI components from MATLAB and Simulink, HDL Verifier now offers extended support to design verification teams responsible for production verification of ASICs and FPGAs. Tasked with developing rigorous test benches in HDL simulators by handwriting code in SystemVerilog, these design verification teams can now generate verification components directly from existing MATLAB and Simulink models, and re-use these models to speed creation of production verification environments.

"According to the 2018 Functional Verification Study by Wilson Research and Mentor Graphics, DV engineers spend about one-fifth of their time on ASIC and FPGA projects in test bench development," said Eric Cigan, principal HDL product marketing manager, MathWorks. "HDL Verifier's capability to generate UVM and SystemVerilog DPI components from existing MATLAB and Simulink models can boost the productivity of DV engineers and improve collaboration between system architects, hardware designers, and DV engineers."

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#### New MapleMBSE release from Maplesoft improves workflow of systems engineering process

#### 17 January 2020

Maplesoft<sup>TM</sup> announced a new release of MapleMBSE, the software that enables companies to employ a Model-Based Systems Engineering (MBSE) process within their design projects without requiring every stakeholder on the project to be an expert in complex MBSE tools. The latest release, MapleMBSE 2020, offers improved workflow for creating and documenting models.

MapleMBSE provides a streamlined, Excel®-based interface to the systems model with task-specific views for editing the model directly, thereby ensuring consistent information and knowledge sharing across the design group. The familiar Excel interface enables subject matter experts to obtain and analyze the information they need to make decisions, and to feed the results back into the model. By eliminating the need to funnel everything through a small number of systems engineering tool experts, MapleMBSE democratizes the engineering process and significantly reduces the overhead, time, and errors that typically come with using a standard systems engineering tool. The new release provides

more flexibility in working with the model, including the ability to view and edit previous revisions of the model easily to support experimentation and "what if" scenarios, to revert changes and return to a previous state, and to create, view, and modify documentation for model elements for improved transparency and traceability. In addition, improved performance means the time to load a MapleMBSE model has been significantly reduced.

"Most project stakeholders aren't trained to use complex MBSE tools, nor should they have to be. In the past, true stakeholder involvement has been very difficult to achieve, and yet it is vital to the success of the project and the organization. With MapleMBSE, it is easy for all stakeholders to contribute to the systems engineering process," says Paul Goossens, Vice President of MBSE Solutions at Maplesoft. "This new release further improves the workflow to support efficient and effective model development and communication."

In addition to connectivity with Teamwork Cloud from No Magic, which allows customers to seamlessly access models created in a number of different tools, including MapleMBSE, MagicDraw®, and Cameo® Systems Modeler, the new release also has ability to integrate MapleMBSE with the latest release of IBM® Rational® Rhapsody, as well as other SysML-based tools.

MapleMBSE customers include Nissan, Honda, NASA JPL, Sandia Laboratories, and Lockheed-Martin Space Systems.

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#### Oracle Helps Customers Easily Move to Autonomous Cloud

#### 15 January 2020

To help customers easily move Oracle Databases to the cloud and simplify management of hybrid cloud environments, Oracle announced significant enhancements to its enterprise management platform, Oracle Enterprise Manager. The new release adds functionality that automates database migration and provides a single dashboard that improves visibility, control, and management for hybrid IT environments.

Oracle Enterprise Manager's migration capabilities provide unprecedented flexibility and ease of use to accelerate and simplify the transition to the cloud. Since most large organizations have to move multiple databases to the cloud over an extended period of time, it's critical to have a cloud migration solution that eliminates the timing and pricing pressures typical with other vendor's rigid migration solutions.

"As organizations move to the cloud, they are faced with complex, time-consuming, manual, error-prone migration tasks," said Wim Coekaerts, senior vice president, Software Development, Oracle. "Only Oracle provides Autonomous Cloud services, as well as the tools and migration services to help customers easily move to the cloud. Oracle Enterprise Manager removes the complexity with highly automated, guided migrations and provides a single dashboard for easily managing hybrid cloud environments."

"IDC's research shows that well over 90 percent of major enterprises rely on a mix of on-premises IT, dedicated cloud environments and public cloud services, and are seeking efficient ways to onboard, monitor, and manage across these hybrid environments," said Mary Johnston Turner, IDC Research vice president for Cloud Management. "Enterprise cloud management leaders tell us that analytics is their number one priority, since the scale and complexity of hybrid and multi-cloud operations requires robust automation that is informed by deep performance and optimization intelligence."

Built for Hybrid Environments

Oracle Enterprise Manager provides enhancements in three key areas to help enterprises more easily manage hybrid database environments, including:

Intelligent Analytics: New intelligent analytics provided by the Exadata Warehouse enable users to maximize performance and utilization of Oracle Database and Exadata environments on-premises or in the cloud via improved capacity planning and forecasting. Additionally, the new version improves visibility of the entire hybrid estate through comprehensive monitoring and management for Oracle's latest technology, including Autonomous Database and Exadata Cloud Service.

Comprehensive Lifecycle Automation and Control: Advancements in lifecycle automation and control enable enterprises to easily adopt Autonomous Database and Exadata Cloud Service and improve their security posture.

Mobility and Security: New comprehensive security controls include fleet maintenance support for Transparent Data Encryption, improved compliance monitoring, fine-grained control of on-premises fleets, and new security standards for Oracle Database 18c and 19c. The new functionality also provides access to a new mobile app and new Grafana plug-in for rich visualization of Oracle Enterprise Manager data.

Additionally, Oracle is expanding deployment and access choices for Oracle Enterprise Manager. DBAs can now deploy Oracle Enterprise Manager on Oracle Cloud Infrastructure using Oracle best-practices for high availability, capitalizing on Oracle Enterprise Manager features while enjoying the benefits of a cloud deployment.

In addition, Oracle announced today that Oracle Enterprise Manager has been certified by the Center for Internet Security Benchmarks to compare the configuration status of Oracle Databases against the consensus-based best practice standards contained in the Oracle 12c Benchmark v2.1.0, Level 1-RDBMS. Organizations that use Oracle Enterprise Manager can now ensure that the configurations of their critical assets align with the CIS Benchmarks consensus-based practice standards.

Organizations Benefit from Highly Automated Capabilities, Easy Migration to Cloud

"We depend on Oracle Enterprise Manager to optimize our Oracle Database and Exadata fleet, which provides a mission-critical shared service for all of our most important business functions," said Jones John, Database Services Manager, Technology and Innovation Division at Link Group. "The latest release of Oracle Enterprise Manager allows us to adopt the newest Exadata X8 environments without delay, and to continue to use Oracle Enterprise Manager's comprehensive management automation capabilities across our entire hybrid database fleet."

"Our key public sector and commercial customers and our own experts use Oracle Enterprise Manager every day to manage their Oracle Database and Exadata fleet," said Erik Benner, Vice President, Transformation at Mythics, an Oracle Cloud partner. "The new Oracle Enterprise Manager functionality to ease migration to Autonomous Database and to apply machine learning analytics to their Oracle Enterprise Manager data is precisely what is needed to help ensure they can continue to operate seamlessly across their entire Database fleet."

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