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## CIMdata News

### ***CIMdata Publishes eBook: “Low-code Platforms Accelerate Business Value”***

30 November 2021

Today, CIMdata, Inc., the leading global PLM strategic management consulting and research firm, published a new eBook focused on Siemens Digital Industries Software’s (Siemens) Mendix, a complete, all-in-one low-code application development platform. This eBook describes the broad capabilities available within the Mendix platform and how it can enable companies to accelerate business value.

Mendix is designed to make it easy for domain experts (also known as citizen developers) to co-create personalized applications, processes, and integrate data across diverse, distributed information repositories alongside professional developers. Built on a modern microservices architecture, Mendix is consistently ranked as an industry-leading, modern low-code platform in Gartner’s Magic Quadrants (MQ) for LCAP and Multi-experience Development Platforms (MXDP) and Forrester Wave reports.

A foundational part of the Siemens Xcelerator portfolio, Mendix can extend the capabilities of the Xcelerator portfolio and can also be used as a standalone tool by any company that needs to develop tailored business applications and integrate data and processes across their extended value chain.

Mendix integration capabilities enable companies to define and create the complete digital thread and comprehensive digital twins required as part of establishing a modern, digitally-driven enterprise. Mendix also provides a DevOps pipeline and the deployment tools needed to streamline an application’s time to value.

Mendix tools automatically create cloud-native solutions. Every application developed in Mendix is deployed as a containerized cloud-native application, ensuring scalability, portability, and reliability. Whether organizations are committed to a cloud strategy that is public, private, on-premises, or hybrid, or haven’t yet established a cloud strategy, the Mendix platform provides one-click automated cloud deployment for every application, to the Mendix Cloud or to the enterprise cloud provider of choice, including AWS, Azure, and GCP.

According to Mr. Ken Amann, CIMdata Executive Consultant, “The Mendix platform of low-code development and integration tools and services helps enable a business achieve the flexibility and rapid response to changing market and customer demands required to maintain market competitiveness.” CIMdata believes Siemens’ Mendix platform not only improves the configurability of Siemens-developed and third-party solutions, but also enables digital transformation due to the ease with which it connects data and processes across extended enterprises.

Please download and read the complete eBook

at <https://www.cimdata.com/en/resources/complimentary-reports-research/white-papers>.

### ***Digital Thread: Are You Progressing? – a CIMdata Commentary***

1 December 2021

*Key takeaways:*

- The concept of a digital thread is becoming mainstream within manufacturing companies and is often part of a digital transformation program.
- Connecting silos throughout the lifecycle with a digital thread to improve data integrity, access,

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and business performance is a common goal of many digital transformation programs.

- CIMdata research shows companies continue to struggle to achieve success in their digital thread projects even as they adopt agile-based development methodologies.
- Successful digital transformations need to address people, process, and technology.
- The Aras PLM Platform's low-code approach and web services architecture enables agile development, easy silo connection, app development, and business process evolution, to properly support digital thread creation and maintenance.

## Introduction

Many companies have had digital transformation programs running for several years focused on creating a digital thread. CIMdata's annual *PLM Status and Trends survey*[\[1\]](#) shows the following:[\[2\]](#)

- PLM appears to have gained momentum in 2020 but management disconnect is believed to be widespread.
- Implementation scope continues to be focused on the traditional PDM aspects of PLM such as engineering release, change management, engineering data management (pre-release), configuration management, product engineering process management, and global engineering collaboration.
- Digital thread, digital twin, and digitalization are not growing in scope as fast as other advanced PLM topics such as additive manufacturing and artificial intelligence and machine learning.

For the traditional PDM-focused implementation scope items, 35% to 63% of the respondents indicated the areas listed about in the second bullet were in scope and the number of companies claiming this scope has grown over the last three years. According to the same survey, digital twin/digital thread and digitalization adoption were basically flat from 2019 to 2021. This point is interesting considering the buzz in the PLM industry over digital thread, digital twin, and digitalization. A possible explanation for the lack of growth is that these are hard to implement, and companies are not achieving their goals. We hope next year's survey will show more growth in PLM-related "digital areas."

Furthermore, CIMdata's extensive experience working with industrial companies and our resulting knowledgebase indicates that, while many companies have pieces of their digital thread connected and in production, most of these pieces are within a few domains or departments and only a few cross those boundaries. CIMdata often sees PLM to ERP integrations, but few operate as a true digital thread, most just pass items and BOMs in one direction helping avoid rekeying data, but workflows, such as change processes, rarely cross boundaries automatically and require manual checking across multiple systems—a broken digital thread.

These facts beg the question, are companies having success with their digital transformation programs? What functions contribute information to your digital thread? Are elements connected and running in production? Are benefits of a digital thread being seen, or are such initiatives moving slowly, stuck, or even failed? Please answer the [short survey](#)[\[3\]](#) so we can get more insight on this topic.

This lack of digitalization success is interesting and in CIMdata's experience at least one of the following three elements has failed: people, process, or technology. Often, legacy technology cannot be adapted to support people and process needs. In general, investigation to determine why the projects are not going as planned and to develop a comprehensive strategy to move forward are required. This will likely result in significant updates to a company's digital strategy, and in the worst case a restart may be needed.

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## Digital Transformation

Many of the benefits related to digital transformation are well understood. Digitalization of data, extracting it from documents into data elements makes it more useable, re-usable, and actionable. Elimination of application and data silos by consolidating systems and building integrations among data silos makes information flow faster and easier while providing better traceability. These changes lower cost, while improving quality and speed to market and enabling more resources to be focused on innovation.

Digital transformation is still a project with a large IT component that needs proper planning and management. While people, process, technology, and data all need to be addressed holistically many believe that the best practice is to lead with process design and follow with technology design. Unfortunately, this isn't true. In fact, there is a high likelihood that technology will influence process design. Business opportunities and processes can be significantly improved when they take advantage of technology capabilities and features. For example, a digital thread that uses IoT to connect digital twins to their physical instances can enable condition-based and predictive maintenance models that can improve field service revenue and even enable a new business model. As a result, the true best practice is to look to improve people, processes, and technologies in an iterative and continuous manner.

Unfortunately, most companies are still struggling with the IT project portion of digital transformation. This issue has been recurring since the inception of IT and most IT projects fail to meet expectations—digital transformation projects are not an exception. According to the Boston Computing Group, 70% of digital transformations fall short of their objectives, often with profound consequences and digital leaders achieve earnings growth that is 1.8 times higher than digital laggards.[\[4\]](#)

CIMdata often sees failures due to legacy technology and strategies. A key takeaway is to not get stuck in the sunk cost fallacy. Continuing to invest in a failed strategy is not a good business decision. Write the loss off and move forward with a more considered approach. For PLM, the product innovation platform is the best-in-class strategy.[\[5\]](#) Business processes must be designed to meet the company vision and business objectives and those processes implemented with a product innovation platform that is configurable and sustainable.

## Aras Platform

CIMdata has [written extensively about Aras over the years](#),[\[6\]](#) including that they have an architecture that provides excellent support for data and process management needed to manage product lifecycles. Additionally, it is adaptable to business and IT architecture changes (e.g., the most recent adaptation is Aras' recent release of a SaaS option). Aras Innovator has been able to leverage cloud infrastructure from any cloud provider including Amazon AWS, Microsoft Azure, and Google Cloud, via virtual machines since its inception, but the new release transforms Aras Innovator into a containerized solution so it can leverage the cloud provider's infrastructure for scalability and management tools. The Aras SaaS solution is based on Microsoft's Azure platform. CIMdata believes that being Microsoft only will be fine, and if there is customer demand, we are confident that Aras will create a SaaS version for AWS and any other necessary platform.

## Creating Digital Threads

Aras' customers have been creating digital threads from Aras' inception. The service-oriented architecture (SOA), federation, and low code approach have been available from Aras Innovator from the beginning. An early memorable customer was Xerox[\[7\]](#) who presented at ACE 2010 and reviewed how they used Aras Innovator to encapsulate existing silos and connect them together for improved business performance, creating a digital thread long before the term was defined. The advantages listed

in the presentation were:

- Not tied to a single vendor
- Data is not held hostage
- Agility to meet business needs
- Best of breed tools approach
- Make use of existing legacy information/tools
- Map business practices to business data
- Enable communication between disparate systems

Xerox used a handful of people to create a solution that linked data from many systems to create an item master that referenced data from many source tools and a complex change process that referenced information from many silos, logically breaking them down without the pain of really doing it. CIMdata found this solution impressive back in 2010, and believes all the concepts Xerox implemented in 2010 are still relevant.

## Digital Thread Infrastructure

Aras' architecture is a modern rendition of what Xerox used to develop their advanced solution in 2010. New services and additional applications have been created to broaden and deepen Aras Innovator's lifecycle support including visualization, systems engineering, technical documentation, and MRO. The services and flexible data model enable creation of apps that connect data from anywhere in the lifecycle. For example, what if changes in requirements need to be connected to technical documents and spare parts lists? Within Aras Innovator all the information is accessible from the platform services making the app creation and data access use the same low code engine as any other part of Aras Innovator making it easy for developers and business analysts to not only extend digital threads easily but also quickly create new apps.

Aras's approach to enabling digital threads with the Scalable Agile Framework (SAFe) to improve Aras Innovator is having great success. Aras develops web services to address a problem space then builds apps that leverage those services to solve specific problems. This approach makes developing their product and testing it more complex, as is it difficult to predict how customers will configure the solution, but it ensures that customers who want Aras Innovator to connect silos can be easily supported as the web services are built to solve a more general problem rather than just link their own solutions. This also incentivizes Aras to ensure services perform well, and does not incentivize Aras to make 3rd-party or competitor solutions perform worse.

While Aras is known for the ability to create custom solutions via configuration, while at the same time guaranteeing that they are upgradeable, Aras also has a growing suite of Out of the Box (OOTB) solutions. Product Engineering is prebuilt to support CAD data and documents with a preconfigured CM2 change process and embedded viewer. Program management is a multi-user Microsoft Project-like application that connects to Product Engineer and supports deliverables management. Digital Twin Core enables the connection of physical assets to the digital model.

## Conclusion

Creating the digital thread, connecting silos to integrate data and processes is a major element of most digital transformation initiatives. The benefits of digital threads are well understood, but so far companies have struggled to achieve the promise. Every implementation has its reasons for lack of progress, but they usually come down to people, process, technology, and data.

# CIMdata PLM Industry Summary

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Platforms are the state-of-the-art for digital transformation technology and agile development is the state-of-the-art for solution development and deployment. Both are critical enablers of digital transformation. CIMdata believes these foundational elements combined with a well-defined vision and strategy will enable companies to meet their business vision and digital thread objectives.

The Aras platform is proven to deliver the technological capabilities required to create and manage digital threads. CIMdata has talked with many Aras customers that have created digital threads. They often comment on the ease of development the low-code platform enables and how they can embrace and extend legacy solutions and configure new solutions. Companies looking to create or extend digital threads need to develop a holistic plan that addresses all the dimensions of the issues, and should evaluate the Aras platform as a solution to enable their plan.

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[1] <https://www.cimdata.com/en/education/educational-webinars/webinar-2021-plm-status-trends>

[2] Travel and/or other expenses related to this commentary were provided by Aras

[3] <https://www.eSurveysPro.com/Survey.aspx?id=04343dee-37d4-4a00-b4c3-b7efd3a1ce80>

[4] <https://www.bcg.com/publications/2020/increasing-odds-of-success-in-digital-transformation>

[5] <https://www.cimdata.com/en/resources/about-plm/a-cimdata-dossier-plm-platformization>

[6] <https://www.cimdata.com/en/resources/solution-provider-profiles/plm-dossier-aras>

[7] <https://www.aras.com/-/media/files/resources/whitepapers/aras-plm-model-based-soa-architecture-enterprise-application.ashx>

## ***Siemens Broadens MBSE to Engineer Beyond Individual Autonomous Vehicles – a CIMdata Commentary***

1 December 2021

### ***System of Systems Engineering Requires Architectural Frameworks***

*Key takeaways:*

- New sensors, automotive software including on-vehicle embedded and off-vehicle (cloud) software, and computing advances are the building blocks that are enabling advanced driver-assisted system (ADAS) features and eventually driverless autonomous vehicles. The exponential growth of vehicle-related electronics and software is changing vehicle differentiation, development, verification and validation, and lifecycle support.
- To bridge the gap between today's advanced driver-assisted systems and tomorrow's fully autonomous vehicles (AV), transportation management systems, from fleet coordination to traffic management, need to become connected with today's vehicles.
- System of systems practices are needed to organize multi-disciplinary information, pre-validate complex system assumptions before detailed designs, and include new groups outside of historical vehicle engineering and manufacturing.
- Coordination beyond a vehicle in a traffic ecosystem requires a blueprint for safety cooperation. An architectural framework for situational awareness, e.g., obstacle detection and avoidance, is needed so AVs can assist each other.

CIMdata's definition of product lifecycle management (PLM) emphasizes the complete lifecycle of a product and all its related data, from requirements to actual performance, to planning and supply chain

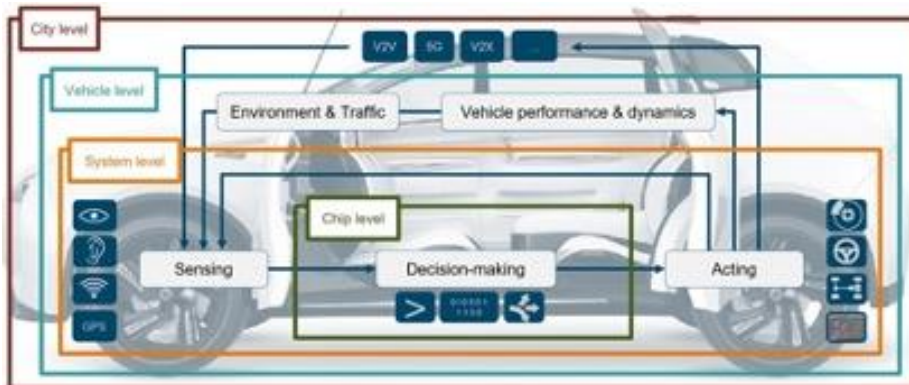
# CIMdata PLM Industry Summary

participation, then mass production, and product service and upgrades. Systems Engineering helps Autonomous Vehicle (AV) development and operations by considering a broader context—one that includes the operational environment of the vehicles. Model-based systems engineering (MBSE) helps support increasing product and systems complexity driven by more sensors, actuators, and computing electronics. Accurate digital twins have improved virtual and physical correlations delivering improved and faster solutions for AV development and validations.[1]

In a recent CIMdata eBook covering AV development, we described the need for a broader view of collaborative engineering and operations where the AV may well rely on feedback from the city and other AV sensing to provide safer, efficient route guidance, and robotic driving[2]. It summarized AV challenges:

“There remains a gap in the journey from today’s Level 1, 2, and 3 ADAS capabilities to capabilities needed for a fully AV... With AV development, integrating the sensing, communications network, and traffic management beyond the vehicle will be required to bridge this gap. Complexity grows as connecting vehicles to different infrastructures expands. Connected transportation systems with AVs go beyond the boundary of an individual vehicle. Complexity is caused when connecting vehicles to different infrastructures—starting with service and moving quickly toward travel efficiency. A system’s engineering view of these different systems’ boundary diagrams shows that the vehicle is now a sub-system of a connected transportation service.”

Figure 1 shows the systems of systems AV Product Development contexts, from chip to system to vehicle to city, which is driving Siemens AV solutions development.



*Figure 1—System of Systems AV Product Development  
(Courtesy of Siemens)*

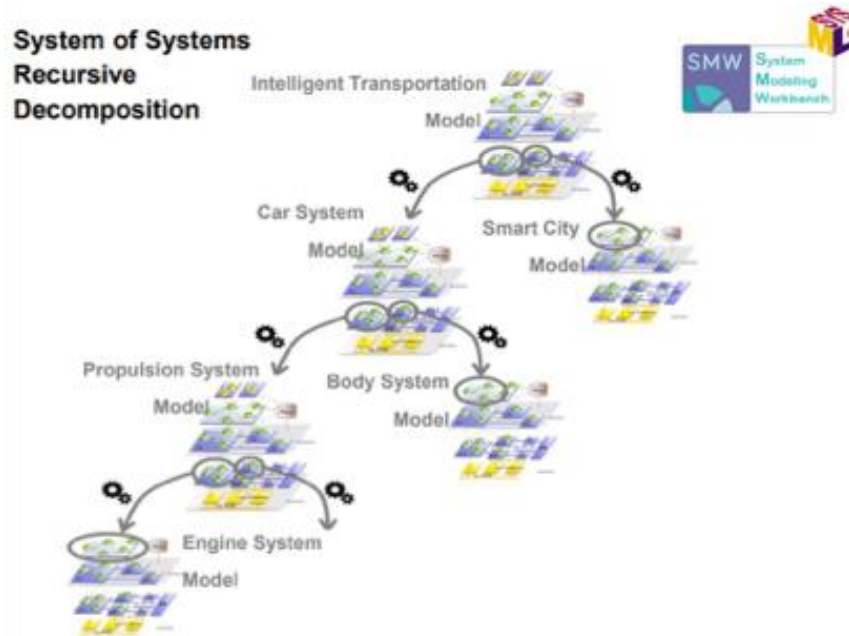
As product complexity increases with new and expanded features, even being delivered while a product is in-service, a more expansive use of broad, integrated MBSE is needed. Siemens Digital Industries Software (Siemens) continues to expand their Systems Engineering solution set, now addressing product development within a system of systems, relying on technology like the Arcadia method[3] and the emerging version 2 of SysML. Building trust within the operational environment requires an appreciation of system of systems thinking, starting with systems engineering practices applied to not just the AV during development, but also the environment in which it operates, especially as that environment changes.

## Engineering Beyond Individual Vehicles

AV development requires considering complex operational scenarios which can only be done by applying model-based systems engineering principles supported by architectural frameworks to ensure

consistency. By leveraging real-world measurements to correlate virtual model-based scenarios using digital twins, assessing complex operational anomalies will make AVs upgrades more reliable and thus earn customer and society trust.

At the 2021 Global INCOSE conference, Mr. Mark Malinoski, Siemens' MBSE Solutions Director, presented more details on their vision of systems of systems development and the integration of it with continuous testing and incremental development. These are key capabilities for successful operational upgrades after the AV is manufactured. One can even imagine different AV feature sets based on the specific city they operate in, and then adapting as the AV moves from one city to another. Siemens sponsored projects have started and forums like INCOSE are now seeing the pilot results.



*Figure 2—Autonomous Vehicle's Architectural Framework  
(Courtesy of Siemens)*

To support this vision, an architectural framework is needed to exchange digital twins that must be available on demand and accurate to the latest customer usage patterns. Figure 2 describes capturing the breadth and integration needs for AVs operating in a city. They comprise the Intelligent Transportation System. Different cities will likely be at different levels of sensor fusion and traffic management. AV developers need to support these various kinds of cities. The gears in the figure identify the need for tools that enable joint systems engineering, across AVs, their subsystems, and the cities they will be used.

### What Siemens is Demonstrating with Architectural Frameworks

For AVs, one must appreciate that the top-level requirements at the city and transportation system are evolving in parallel, maybe even behind the AV manufacturers original development. So, engineering an adaptable AV that is resilient in the future becomes essential. Competitive and complexity pressures require faster decisions made well.

Product requirements are best managed in a repository containing the authoritative truth that enables different views and analyses as product lines are conceived and enhanced. A bill of requirements (BoR) should be managed like a BoM, as part of the product's Bill of Information (BoI). The BoI is inclusive

# CIMdata PLM Industry Summary

of all information related to a product covering its whole lifecycle. The new challenge is requirements not yet known (e.g., the next city where the vehicle is used).

Siemens recognizes that all core business processes for all product domains must collaborate not only to produce an AV, but also to provide the appropriate service and upgrade it during use. This means breaking down diverse data silos, providing a capable and flexible work product repository assisting complexity management, data sharing, and configuration management. Siemens integrated MBSE solutions have been designed to help their clients bridge gaps between engineering disciplines, which in turn improves collaboration, and even spans organizations. Connecting SE with all requirements is shown in Figure 3.

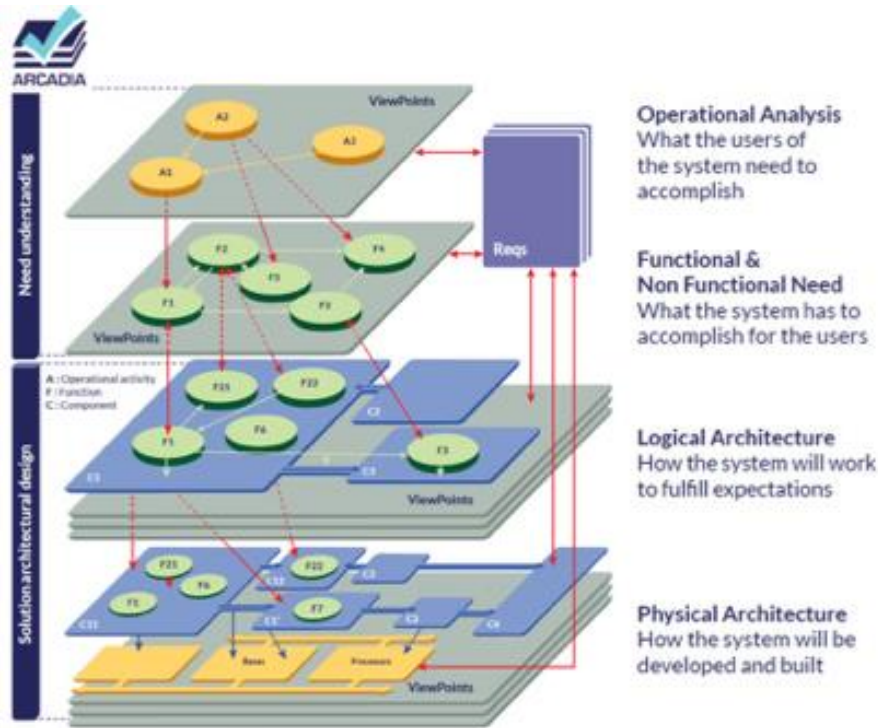


Figure 3—Connecting SE with Requirements and Viewpoints (aka Contexts)  
(Courtesy of Arcadia)

Figure 4 illustrates how digital twins and threads lead to the authoritative source of truth with the broader AV product development contexts depicted in Figure 1. These contexts establish the digital twins. AV development needs MBSE to cover these broader domains and their viewpoints (i.e., contexts) beyond a single vehicle. AV adaptation to its operational environment needs accurate digital twins of the systems they operate in (the city). Continuous upgrades and taking advantage of external sensing for traffic, obstacles, and even time of day will make for safer AVs. Digital threads and useful twins will help. Siemens’ approach utilizes Teamcenter to provide a product lifecycle collaboration backbone that orchestrates the appropriate MBSE models of everything.

Data integration across siloed applications, from separate organizations, is a key to success for streamlining broad systems engineering and keeping it “closed-loop” with continuous, contextual feedback. Using Siemens’ Mendix technology for open-systems integration with other systems, the Teamcenter platform expands as digital twins are used everywhere. Combined with the Arcadia method (see Figures 2 and 3), the systems of systems engineering needed for AVs development is possible now.

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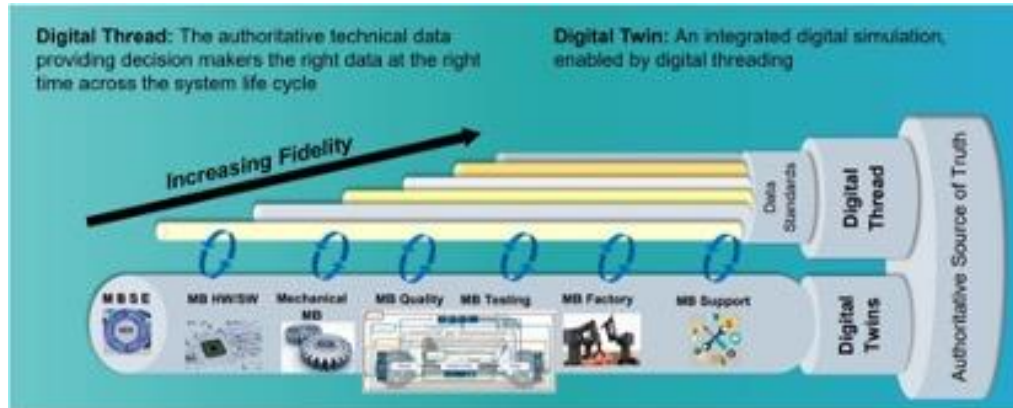


Figure 4—Digital Twinning and Threading Provides Truth  
(Courtesy of Siemens)

The notion of the expanding Agile development’s DevOps[4] into interconnected infinity cycles helps shift the mental model to one that builds trust continuously across the lifecycle. A few automakers are asking for the SAFe[5] which expands agile practices into portfolio planning and program management as well as operational considerations, all while executing incremental product improvements and deployments. As new AV field and associated phenomena results are captured, models and their simulations will be improved, and quality risks and learnings can be explored. It incorporates lessons continuously through improvements learned effectively. With AVs, this will include the city where it operates, which is outside of the vehicle manufacturer’s control. Getting multiple AVs manufactured and serviced by different competitors to share their operational awareness in a framework to collaborate needs PLM and SE to work across organizations.

## Concluding Remarks

Siemens’ AVD solution set broadens SE capabilities enabling a system of systems framework needed for AV development and operations. CIMdata forecasts that companies connecting data with learning digital twins will realize significant benefits during AV development and operations—building trust with cities and passengers. Siemens’ advances in Quality Management[6], Systems Engineering[7], Simulation with Executable Digital Twins[8], and many more concepts in the works will provide a rich set of capabilities that product designers will use for the next generation of mobility, Autonomous Vehicles. Siemens is addressing the gaps in AV capability with engineering tools that can be used to explore operational conditions as they are experienced. As usage experiences are collected, continuous testing can be updated with newer scenarios, which in turn build a basis for systems validation.

The AVD focus from Siemens expands SE beyond a specific AV. By providing examples of their tools in use in pilots, early adopters are beginning to realize that the development of AVs will be able to bridge many existing gaps. This is what happens when the leading solution providers build on their strengths. In Siemens’ case, their Xcelerator solution portfolio, which includes Teamcenter as the collaboration and data management backbone, provides the necessary tools and openness to enable customers to accelerate learning and enhancement cycles. CIMdata looks forward to what comes next.

[1] Research for this commentary was partially supported by Siemens Digital Industries Software.

[2] Go to <https://www.cimdata.com/en/resources/complimentary-reports-research/white-papers> see 21 July 2021 eBook “Autonomous Vehicle Development Requires Closed Loop Solutions

[3] [https://en.wikipedia.org/wiki/Arcadia\\_\(engineering\)](https://en.wikipedia.org/wiki/Arcadia_(engineering))

[4] <https://en.wikipedia.org/wiki/DevOps>

[5] <https://www.scaledagileframework.com/>

[6] <https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/16341-a-broad-approach-to-quality-management-commentary>

[7] Go to <https://www.cimdata.com/en/resources/complimentary-reports-research/white-papers> and see 24 November 2020 eBook “Driving the Change for the Future of Automotive Development”

[8] <https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/16725-siemens-making-the-digital-twin-executable-predictively-aligning-its-real-world-counterpart-highlight>

## ***Technology Convergence Accelerating for a Smarter, More Connected World – a CIMdata Commentary***

02 December 2021

*Key takeaways:*

- The convergence of Simulation, Artificial Intelligence, and High-Performance Computing enables the cost-effective use of predictive digital twins in a wide range of industrial applications across entire product lifecycles.
- IT, computational science technologies, and cloud computing accelerate IoT initiatives.
- Simulation and meaningful models are being adopted at an accelerated pace in part due to technology convergence and in part due to the pandemic driven need to find better, safer ways of working.
- Altair continues their annual Future.Industry virtual conference’s focus to explore “Future of” macro trends and technologies. Together with industry and academic thought-leaders, the conference highlighted the accelerating and growing convergence of data analytics, computational science, and cloud HPC technologies and their relevance to product and process innovation, academic instruction, tomorrow’s innovators, and society.
- An annual survey conducted by CIMdata in collaboration with Altair explored the role of these key trends and their growing impact today as well as in the future, with a trend analysis comparing 2020 results with 2021 results.

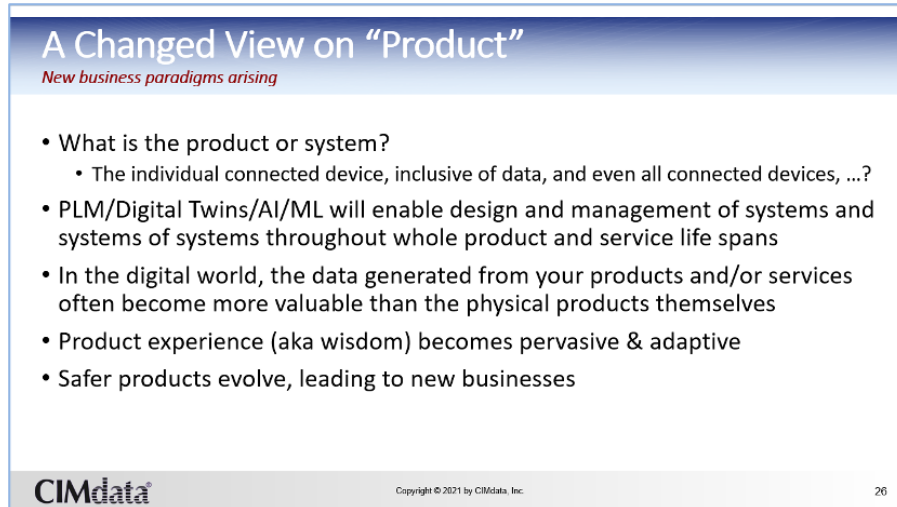
### **Pandemic Accelerated the Need for Change**

In 2020, CIMdata and Altair surveyed over 350 participants from management and engineering ranks to understand how converging technologies were enabling the future. The summary of that survey and its insights were published in a CIMdata commentary in December 2020. [1] Altair and CIMdata decided to repeat this survey in 2021, with a few additional questions regarding the pandemic, to assess whether the trends identified in 2020 continue as the pandemic rages. With over 500 participants, and a shift towards more practitioners, the trends not only continue, but have accelerated. The increased survey population involves smaller companies who are not only aware of digital twins but have embraced them to lead to new ways of working remotely. [2]

Safely working during this pandemic has been a challenge to us all. The convergence of technologies to explore virtual representations easily has enabled work to continue, even when it must be physically remote. In fact, the impact to companies’ revenues is less than expected and really enabled by pervasive computing, simulation technologies, and virtual work capabilities. Digital twins kept meaningful with the latest sensed data, often from real usages, are no longer just a hypothesis or ideal. Rather the

# CIMdata PLM Industry Summary

convergence of technologies is making it affordable and critical for a company's future business. Even the notion of what a product might become is changing as the data sensed becomes as valuable as the manufactured product. This is leading to new kinds of businesses. At the Future.Industry 2021 event, CIMdata presented the survey findings[3] and Figure 3 is the last conclusion slide from that webinar.



*Figure 1—2021 Future.Industry Survey Summary—A Changed View on "Product"*

Altair understands the need to move beyond physical product testing, both verification and validation. Their thought leaders have embraced data sciences and the commoditization of HPC to realize that digital twins in 4D, 3D plus motion and thermal, provide for richer, more meaningful simulations of a product. As more insights are measured and acquired from actual usage, these digital twins are adjusted to new knowns. This in turn can lead to more robust products, even upgraded after the original mass production. These capabilities will allow companies to use simulation technologies more broadly as their competitive landscapes morph. Increasing product complexity of "smart, connected" cyber-physical systems (hardware, electronics, software, sensors, controls, biological/chemical, etc.) requires integrated multi-disciplinary capabilities for cross-domain design, simulation, analysis, test, and optimization augmented by big data analytics and AI/ML.

## Key Results and Findings from CIMdata/Altair 2021 Survey

While Altair is known primarily for being an engineering modeling and simulation company, they have expanded their product scope and customer base significantly over the past decade into complimentary technologies in material data, conceptual design, manufacturability assessment, scalable high-performance computing, big data analytics, and physics-based simulation enhanced via the application of AI/ML technologies. As a result, the attendees of the Future.Industry virtual event were a diverse group spanning the engineering, IT, and computational sciences domains with a balanced representation of both management and technical practitioners. In 2021, the market trends survey was repeated with several identical questions from the 2020 survey, and a few new questions concerning the ongoing pandemic.

CIMdata collaborated with Altair senior staff to refine and repeat that market research survey. CIMdata also conducted the same survey with a subset of its own industry contacts. Besides gathering background information on the respondents (title/role, industry, geography, size of company by revenues, number of employees, number of engineers), the survey posed questions covering the individual's perspective on the current and future adoption of key technologies across the engineering product lifecycle such as AI/ML, predictive analytics, physics-based simulation, and digital twins. The

# CIMdata PLM Industry Summary

impact of the COVID-19 pandemic on business practices was expanded. A total of over 500 survey responses were received and analyzed. A shift to smaller enterprises was noted and the effect this had on digital twin adoption and the pace of acceptance with AI/ML was noted. The responses by industry segment and size of organization were in line with the overall engineering software industry profile based on CIMdata's experience with performing similar PLM market surveys for many years. The broader population was welcome and in CIMdata's opinion is a reflection of awareness and adoption of broader uses of simulation.

Since the global pandemic continues to profoundly impact our world throughout 2021, we'll address those results first (see Figure 2). In 2020 we identified the future work locations after the pandemic subsides and 67% expected most of the work to be back in the office. After another year of working remotely, now the survey says < 50% will be in office. In just a year, as businesses remained viable, a significant shift in remote working acceptance has occurred. In fact, policies around encouraging remote work (aka work from home (WFH)) are accelerating.

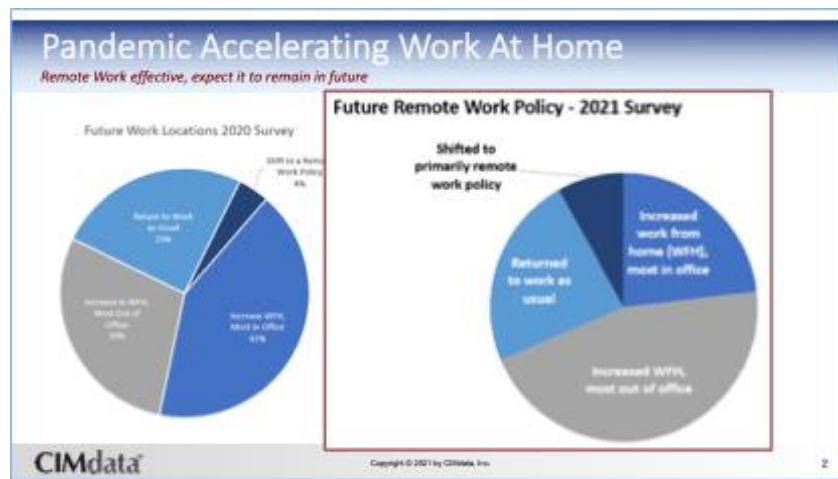


Figure 2—The Impact of the COVID-19 Pandemic (2020 vs. 2021 Survey Response)

A comparative analysis of the technology trend results, and selected charts are provided below. When answer percentages are shown, the 2021 results are first, followed by the 2020 results in parentheses. Using figure 2, “Increased WFH, most out of office” is 45% (29%), a 16% increase working out of office. “Increased WFH, most in office” is 23% (42%), a 19% decrease for in office work.

## Data Analytics, AI, and ML

Not surprisingly, the use of data analytics and AI/ML will play a much greater role in providing business and engineering insights going forward. Awareness and comfort in the technology are improving. A new survey question for 2021 examined the comfort level of the participants. Figure 3 shows growing awareness and comfort.



Figure 3—Comfort with AI/ML

The use of mature AI/ML applications in decision making is expected to grow from less than 1% today to approximately 21% within 5 years. The development and use of early-stage AI/ML apps are estimated to grow from less than 16% today to up to 24% within 5 years. Given the broader survey population, this is a very promising trend, increasing faster than what was measured in the 2020 survey.

## Cloud

The broader survey population has similar predictions for cloud adoption in 2021 as they did in 2020, with lower current cloud-based practices accelerating to slightly more in five years. The survey posed the question: How aggressively has your company embraced moving data analytics and simulation activities to the cloud? Participants predicted that their company’s usage of data analytics and simulation tools in the cloud would be increasing from 10% (~15%) today to 29% (35%) in the cloud over 5 years, with 31% (30%) used in a hybrid cloud/on-premises environment. Participants forecast that the remaining 39% (35%) of usage would remain mostly or all on-premises.

## Smart, Connected Products and IoT

As the world continues to transition to smart, connected products, we asked the respondents how linked their company’s IoT strategy is to their mainstream product development activities. While only 17% stated that these strategies were tightly linked today, they predict 57% of IoT and product strategies would be either tightly linked or coupled within 5 years, no change from the 2020 survey. Given the broader audience, this tells us more industries are not only aware of IoT benefits, but the majority are planning on it for the future.

## Digital Twins

There are many types of digital twins that span the entire enterprise, including not only product development and engineering functions but also business and financial functions as well as manufacturing and in-service operations. To date, data-driven only digital twins (i.e., physical asset data is used but is not directly connected to physics-based models of the asset) have been the dominant application of IoT, data analytics, AI/ML, and digital twin technologies.

While almost (50%) of the respondents in 2020 indicated that they were investigating the use of digital twins, in 2021 41% are piloting or in production with some sort of digital twin, while an additional 44% are actively investigating digital twin applications. In five years, they predict 70% pilot or production use, an increase over the 2020 survey of 16%—just one year later with a broader population. This is a

# CIMdata PLM Industry Summary

clear acceleration in making digital twins instrumental to product development and operations.

The digital twin functional areas where the respondents expected the greatest business impact within the next 5 years were as follows (ranked in order of % of responses):

1. Manufacturing 22% (24%)
2. Maintenance 18% (14%) {up two}
3. Physics-Based Engineering 18% (21%) {up one}
4. Operations 17% (12%) {up one}
5. Engineering Data Analytics 17% (21%) {down three}
6. Financial 8% (5%)

It is interesting to note the changes (the 2020 results are in parentheses), partly driven by the increased sample size and industry segments, as well as likely driven by broadened understanding of how digital twins are more useful. The braces point out the shift up or down the ranked list with 2021 compared to 2020 respondents' rankings.

Respondents identified on average 2 to 3 types of digital twins' usage. Just a few years ago, most engineers identified a single digital twin as a virtual, static assembly or mockup for design reviews. Now they identify many more types of digital twins supporting all kinds of product decisions, many beyond design. These are clear indicators that digital twins have arrived and are being enhanced to improve many decisions. Figure 4 summarizes roadblocks to broader application of digital twins as identified in the new 2021 survey—the constraint is becoming more human related (skills, collaboration, and time) rather than technology related (compute resources).



Figure 4—Organizational Roadblocks to Achieving a Digital Twin Vision

For those interested in more information on the CIMdata survey questions and the results, look at the 2021 Future.Industry webinar, [How Key Technologies are Converging for a Smarter, More Connected World\[4\]](#) by CIMdata Executive Consultant, Craig A Brown. Still have questions, please contact CIMdata at [info@cimdata.com](mailto:info@cimdata.com).

Conclusion

# CIMdata PLM Industry Summary

CIMdata believes there is an acceleration in the adoption of IoT, digital twin, IT/data analytics, and AI/ML technologies with respect to the design, development, manufacture, and sustainment of complex cyber-physical systems (i.e., smart, connected products). As the survey results indicate, there is still work to be done but there is also great opportunity and tangible business impact to be realized by industry in effectively implementing these emerging technologies in engineering and product development as well as other domains such as manufacturing, quality assurance, maintenance, and in-service operations.

To date, the impact of COVID-19 on engineering software and services market growth appears to have been less than was feared and certainly less than the major economic disruption/depression of 2008-2009. In fact, the pandemic has been a positive business factor for selected industry segments and agile companies that were positioned to respond rapidly to the changing global market dynamics and customer needs. The business challenge is enabling smart people, augmented by the effective use of digital technologies, to achieve the business objectives of private enterprise while benefiting society. Business agility, creativity, and product innovation will always prevail.

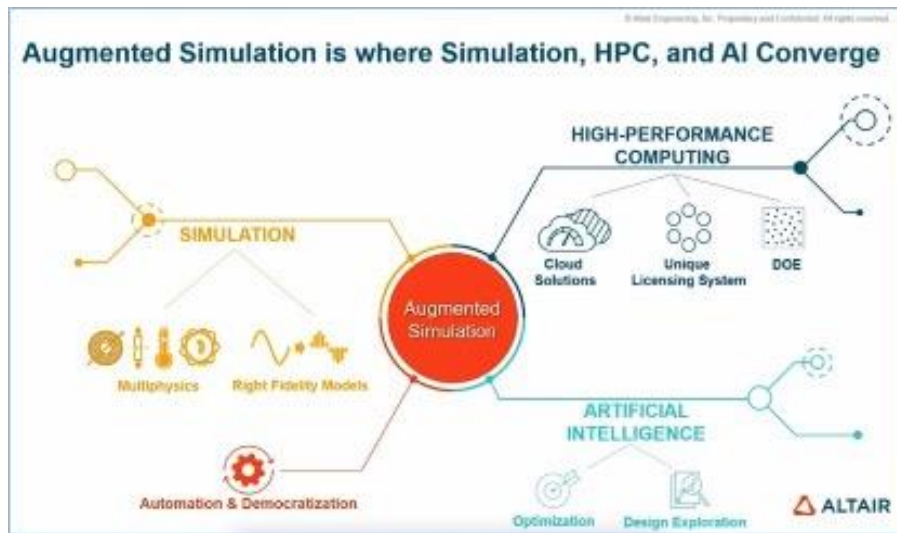


Figure 5—Dr. Uwe Schramm’s Conclusion

Dr. Uwe Schramm, Altair’s CTO, gave us a summary of augmented simulation being where simulation, HPC, and AI converge, at the 2021 Future.Industry conference, see Figure 5—the last slide in his keynote presentation.<sup>[5]</sup> Altair is investing heavily in these areas as a cornerstone of its business vision and strategy. We commented on the forward thinking and applauded the AI/ML focus at Altair in 2019.<sup>[6]</sup> Two years later, with the pandemic as a challenge and a catalyst, Altair’s focus has proven just how wise their strategy has been.

Year 2 of the technology convergence survey confirms an acceleration is occurring and the early adopters are getting past their concerns with the converging technologies and embracing just how radical this can change their businesses. CIMdata looks forward to further progress at Altair and their customers in realizing the business impact of a smarter, more connected world. Look for the survey next year as we continue this research in 2022.

<sup>[1]</sup> <https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/14706-technology-convergence-for-a-smarter-more-connected-world-market-trends-commentary>

<sup>[2]</sup> Research for this commentary was partially supported by Altair

[3] <https://www.altair.com/resource/how-key-technologies-are-converging-for-a-smarter-more-connected-world>

[4] <https://www.altair.com/resource/how-key-technologies-are-converging-for-a-smarter-more-connected-world>

[5] <https://www.altair.com/resource/path-to-augmented-simulation>

[6] <https://www.cimdata.com/en/resources/complimentary-reports-research/commentaries/item/12998-altair-continues-to-expand-solution-portfolio-for-simulation-and-analysis-of-mechatronics-systems-commentary>

## Acquisitions

### ***Accenture Acquires Headspring to Expand and Enhance Cloud First Platform Engineering Capabilities***

1 December 2021

Accenture has acquired the consulting practice of Headspring, a cloud native and platform engineering services firm based in Austin, Texas. Headspring provides a broad range of cloud services including platform architecture, engineering, modernization and product management. Headspring’s services and cloud experts will boost Accenture Cloud First’s platform engineering capabilities aimed at helping clients accelerate their transformations and derive greater value from their cloud investments. Terms of the transaction were not disclosed.

“Accenture’s acquisition of Headspring will help us scale one of the most comprehensive platform engineering and cloud native capabilities in the world. The depth and breadth of Headspring’s cloud-focused services and their significant experience working with Fortune 500 companies over the past two decades will be a valuable addition to our existing cloud engineering capabilities in North America and globally,” said Karthik Narain, global lead of Accenture Cloud First.

Founded in 2001 and with approximately 90 employees in the U.S. and Mexico, Headspring serves public and private sector clients across numerous industries, including energy, financial services, government and nonprofit.

“We’re relentlessly focused on helping clients utilize the cloud to move faster, work better, and stand out in a shifting market. We do this by understanding their teams, goals and vision — that’s the Headspring difference — which aligns perfectly with Accenture’s focus on business outcomes,” said Dustin Wells, founder, president & CEO of Headspring. “Joining the Accenture team will collectively elevate our position as trusted transformation advisors and executors.”

Headspring’s consulting team of highly skilled professionals with accreditations in cloud engineering and cloud native services will join Accenture Cloud First, enhancing Accenture’s platform engineering capabilities in working closely with hyperscalers. Headspring’s broad and comprehensive suite of services includes:

- **Platform Engineering:** including end-to-end cloud native platform architecture and development from the foundation to the experience layer
- **Platform Modernization:** including re-platforming and cloud migration, code transformation, visual redesign, and integration modernization
- **Platform Architecture:** re-architecting platform foundations to support the new platform

architecture

- **Product Management:** overall assessment and analysis of pain points based on scaled severity, frequency of occurrence, time inefficiency, risk of inaccuracy and technology bottlenecks.  
Creating product roadmap and requirements for platforms for prioritized outcomes

Headspring has been voted one of the Best Companies to Work for in Texas every year since 2013.

## ***Accenture Completes Acquisition of King James Group***

30 November 2021

Accenture has completed the acquisition of King James Group, a highly awarded creative agency with deep expertise in brand strategy, creativity and digital marketing services. Financial terms of the transaction, which was announced on September 7, were not disclosed.

Founded in 1998 with locations in Cape Town and Johannesburg, King James Group offers integrated communications solutions across several industries, including financial services, consumer goods, technology and media.

King James Group's team of 300 highly skilled creative and brand experts joins Accenture Interactive in South Africa, and brings best-in-class thinking, capabilities and innovation to organizations across the continent. The agency strengthens Accenture Interactive's focus in putting creativity at the center of experience-led transformation to drive relevance and growth for its clients.

## ***Atos completes the acquisition of AppCentrica to grow its Salesforce and Cloud application capabilities in Canada***

1 December 2021

Atos announced that it has completed the acquisition of AppCentrica, a Canadian-based technology and management consulting company specializing in Cloud Application and Salesforce services.

Established in 2010 and headquartered in Toronto, AppCentrica is a cloud services company offering business transformation consulting, Cloud Application modernization and development, as well as Salesforce and MuleSoft consulting. The company sells its services in North America to large enterprises and reputable partners, with a strong vertical focus in financial services and manufacturing industries. The acquisition will add a highly skilled team of approximately 90 Cloud Application and Salesforce services experts to Atos.

*"This is a new, exciting chapter for Atos in Canada. With AppCentrica becoming part of the Atos family, we are enhancing our expertise in Canada in strategic domains. Aligned with our mission statement, we will continue to accelerate our collaborations with our customers to provide them with secured, decarbonized digital solutions as part of their business transformation programs,"* said **Valerie Milone, Chief Country Officer, Atos in Canada.**

*"This is an exciting day for AppCentrica, our customers, and our staff. Joining the Atos team will accelerate our mutual growth in Canada, provide a platform to deliver AppCentrica's Enterprise Cloud Transformation services at scale, and create new and exciting opportunities for our employees,"* said **Ed Nemes, CEO and Co-founder of AppCentrica.**

## ***Capgemini announces the completion of the acquisition of VariQ***

1 December 2021

Capgemini announced, following the fulfillment of all regulatory requirements, the completion of the acquisition of VariQ. The provider of Software Development, Cybersecurity, and Cloud services for federal government departments and agencies across the United States, will be integrated into Capgemini Government Solutions LLC, Capgemini's independent operating division working with U.S. government agencies. This acquisition will strengthen the company's position in the Federal market and build momentum for continued growth.

*"Not only does the acquisition of VariQ augment our digital and agile capabilities but it also expands the set of industry-leading solutions that we are able to offer the US government agencies that we serve. It is a key part of our vision for growth in the Americas. I am delighted to welcome the VariQ team to the Capgemini Group,"* said Jim Bailey, CEO of Capgemini's Americas Strategic Business Unit and Group Executive Board Member.

VariQ's range of services are delivered through multiple contract vehicles, including the Alliant 2 best-in-class contract vehicle. Additionally, the company holds a digital transformation entity (Rivet Logic) which serves a set of commercial clients and will join Capgemini in the U.S. to further expand its digital capabilities.

*"The acquisition of VariQ marks an important moment for Capgemini Government Solutions,"* said Doug Lane, CEO, Capgemini Government Solutions LLC. *"The integration of its multi-disciplinary highly skilled team and expanded best in class contract vehicles will reinforce our ability to deliver on transformative digital initiatives for the agencies that we serve."*

*"Joining Capgemini, with its international scale and breadth of services, will enable us to better meet the needs of our client agencies, with access to Capgemini's extensive range of digital capabilities. It will also offer our people unrivalled career opportunities. We are really looking forward to our next chapter as part of the Group,"* said Ben Edson, Founder & CEO of VariQ.

Capgemini previously announced the signature of the stock purchase agreement (SPA) in September pending US applicable regulatory approvals at the time.

## ***Centric Software® Acquires Armonica Retail***

30 November 2021

Centric Software, the Product Lifecycle Management (PLM) market leader, is pleased to announce its acquisition of the innovative end-to-end retail planning solution provider, Armonica Retail.

Centric Software provides the most innovative enterprise solutions to plan, design, develop, source and sell products such as apparel, footwear, sporting goods, furniture, home décor, cosmetics, food & beverage and luxury to achieve strategic and operational digital transformation goals.

Armonica was founded in 2018 in Milan, Italy by two of the world's leading retail planning solution experts, Simone Pozzi and Riccardo Proni. For over twenty years, Pozzi and Proni have worked with many global fashion retail leaders all over the world.

Armonica Planning is an innovative cloud-native solution embedded with omnichannel retail planning best-practices. It is easy-to-use and configure while also being flexible and fast to implement. An end-to-end solution, Armonica Planning covers merchandise financial planning, range planning, assortment planning and buying, store allocation and replenishment, forecasting and vendor replenishment as well as wholesale planning and forecasting.

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Armonica Planning complements the family of Centric products including Centric PLM and the Centric Visual Innovation Platform (VIP), Centric's suite of digital boards.

Enabling companies to orchestrate an integrated process from planning to development to delivery to omni-channel sales, Armonica and Centric will deliver digital transformation that provides users enormous potential value via the ability to plan, visualize and execute business based on real-time plan vs actual feedback throughout the entire product lifecycle.

Visual and analytical decision-making, both pre- and in-season, brings unprecedented agility needed to maximize omni-channel business performance, product sell-through and speed to market.

"The combination of Armonica and Centric together will allow unprecedented product, store and channel orchestration for even the most complex product lifecycles," explains Riccardo Proni, CTO of Armonica. "A high degree of configurability and flexibility are needed to satisfy today's omni-channel consumer. Armonica and Centric were both created to surpass the limitations of past systems."

"We enter a new phase as part of Centric Software, the PLM market leader, and now we can help our customers implement an unprecedented level of speed, from design to consumer," says Simone Pozzi, CEO of Armonica. "We are delighted that Centric recognizes Armonica's unique value proposition and we look forward to working together to drive the industry toward greater customer-focus, efficiency and profitability."

"We are thrilled to welcome Armonica into the Centric family," says Chris Groves, President and CEO of Centric Software. "Armonica's cutting-edge retail planning solution, coupled with Centric PLM and backed by deep retail expertise, will be an invaluable asset to fashion, luxury, outdoor and other consumer goods companies, offering them unparalleled visibility and decision-making abilities across multiple levels of planning and execution."

## ***IBM Acquires Hybrid Cloud Consulting Business in Australia***

30 November 2021

IBM announced the acquisition of SXiQ, an Australian digital transformation services company specializing in cloud applications, cloud platforms and cloud cybersecurity. Today's news further advances IBM's hybrid cloud and AI strategy by helping enterprises modernize and transform complex mission-critical applications on multiple clouds and platforms.

Organizations are increasingly turning to multiple cloud providers and platforms to best meet a broad range of business needs. A recent global IBM study found that hybrid cloud is the dominant IT architecture with only three percent of C-level executives using a single private or public cloud in 2021.

SXiQ works with leading Australian enterprises, as well as the Australian operations of global Fortune 2000 companies, to successfully migrate and modernize their cloud infrastructure and applications across multiple industries including financial services, consumer products, energy, healthcare, and the public sector. The company also works with clients to monitor and optimize their spend on cloud resources, helping enterprises unlock greater value from their cloud investment to realize cost savings of 20 percent or more.

SXiQ will enhance IBM Consulting's capabilities in Australia and New Zealand to modernize applications and technology infrastructure in the cloud. This is the 20<sup>th</sup> acquisition – and tenth consulting acquisition - since Arvind Krishna became IBM's CEO, adding to the significant investments the company is making in its hybrid cloud and AI strategy. The announcement of the SXiQ acquisition follows recent acquisitions by IBM of leading cloud consulting firms – Nordcloud, Taos, and BoxBoat –

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earlier this year, which significantly expanded IBM's multicloud transformation, management expertise and capabilities in Europe and North America.

SXiQ will join IBM Consulting's fast-growing Hybrid Cloud Services business, helping IBM capitalize on a rapidly growing cloud professional services market which will surpass \$200 billion globally by 2024.<sup>1</sup> SXiQ's team of technology consultants brings expertise transforming and migrating enterprise workloads on cloud platforms including Amazon Web Services and Microsoft Azure.

"Our digital transformation experience and track record of client delivery on leading cloud platforms will send a strong signal affirming our and IBM's commitment to clients' successful journey to cloud," said John Hanna, Managing Director, SXiQ. "Our clients can now take advantage of IBM's broad capabilities around ERP systems, Data & Analytics, Machine Learning & AI, deep platform partnerships and global delivery capabilities, allowing us to broaden the transformational capabilities we can bring to our customers, ensuring they can take their own digital transformation further and deeper."

Financial details were not disclosed.

## ***OpenText Strengthens Security & Protection Cloud with Network Detection & Response***

24 November 2021

OpenText™ announced the addition of next-generation Network Detection & Response (NDR) technology to the OpenText™ Security and Protection Cloud through the acquisition of Bricata.

Maryland-based Bricata provides NDR security technologies that analyze network traffic for vulnerabilities and threats – reducing the number of false-positive security alerts, while responding to actual threats in real-time to keep enterprise networks operational and in a trusted state. The addition of the Bricata team also provides deep engineering talent to help build future products in the growing NDR market.

"As organizations benefit from digitization and the move to the Cloud, they also face new risks and challenges from cyberattacks", said Mark J. Barrenechea, OpenText CEO & CTO. "The addition of the deep-visibility Network Detection & Response solutions provides increased protection for our customers, allowing them to focus on productivity."

### **Protecting Expanded Perimeters**

OpenText can now collect and analyze data from all sources across cloud, network, endpoints, email, and webserver. Trends such as remote working, Shadow IT, and Cloud adoption require new technologies to help secure the ever-expanding enterprise perimeters. With the combination of Bricata's NDR technology and OpenText's Endpoint Detection & Response, Digital Forensics, and Incident Response, security teams have 360-degree visibility across network and endpoint to detect threats, conduct root cause analysis across their network, and bring systems back to a trusted state.

### **Additional Capabilities**

Using smart sensors, Bricata's NDR eliminates blind spots and delivers complete network visibility in support of comprehensive internal investigations. This level of inspection allows users to intelligently capture and analyze network data to support any type of internal investigations such as HR-driven investigations or fraud. The Smart Sensor also automatically examines files transmitted within the network for malicious attributes.

The Bricata purchase price and current revenues are not material to OpenText financials and are not disclosed.

## ***PROS Acquires Digital Offer Marketing Pioneer EveryMundo***

30 November 2021

PROS<sup>®</sup>, a provider of SaaS solutions optimizing shopping and selling experiences, announced the acquisition of EveryMundo, LLC (“EveryMundo”), a privately held company based in Miami, Florida. Under the terms of the transaction, PROS will pay \$80 million in cash at closing, subject to certain customary adjustments, and deliver approximately \$10 million in stock in the future, subject to certain conditions.

EveryMundo is a digital offer marketing pioneer that enables brands to broaden their digital reach and deepen customer engagement, pulling them in to direct selling motions to create superior brand experiences and foster loyalty over time.

“We are thrilled to welcome the EveryMundo team to the PROS family,” said PROS President and Chief Executive Officer Andres Reiner. “Brands have no choice but to be present everywhere their customer and prospects find themselves but winning in today and tomorrow’s market will require brands to earn more direct engagement and deliver the experiences their customers value most. With EveryMundo, our collective portfolio gives brands much greater control over direct and indirect channels they participate in to consistently deliver superior brand experiences that exceed customers’ expectations every time, regardless of channel.”

All brands, regardless of industry, are pushing digital agendas that prioritize customer engagement, affinity and loyalty. They want to differentiate their offers, cultivate direct customer relationships, and eliminate intermediaries – whether it is a marketplace, aggregator site, Global Distribution System, or other agent – along with the additional costs they represent.

Since its founding in 2006, EveryMundo has been relentlessly focused on helping brands like American Airlines, Tennis Australia, Greyhound and Japan Airlines Vacations maximize their reach and engagement to foster a direct relationship with customers in any channel in the most flexible and profitable way possible. For example, with airlines, this means being able to quickly and effortlessly publish offers on direct and indirect channels that can bring customers back to owned channels, avoiding the increasing fees charged per offer by Global Distribution Systems that limit reach and erode margin.

“Our company and technology were founded on this vision and dream to impact the market in truly innovative ways,” said EveryMundo Co-Founder and Chief Executive Officer, Anton Diego. “As part of the PROS family, our teams look forward to continuing this mission.”

“Today is a monumental day for our team and a next step in our quest to disrupt industry paradigms hindering market growth and opportunity for airlines and B2B organizations,” said EveryMundo Co-Founder and President, Seth Cassel. “The cultural fit with PROS is what makes this combination so unique and compelling and why we will further transform the brand experiences all businesses deliver.”

Baird and Cassel Salpeter & Co., LLC served as financial advisors to EveryMundo in the transaction.

## ***Sandvik to acquire leading mine planning software company Deswik and launch new Digital Mining Technologies division***

2 December 2021

Sandvik has signed an agreement to acquire Australian-based Deswik, the leading and fastest growing major provider of mine planning software. Deswik will be part of a newly formed division Digital Mining Technologies within business area Sandvik Mining and Rock Solutions.

By acquiring Deswik, Sandvik gains a top-tier supplier of integrated software platforms that support

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digitalization throughout mine planning stages, with more than 10,000 current licenses. Deswik has a high quality customer base, and its strong profitable growth and low customer churn will further enhance Sandvik's presence within software and digitalization, and help accelerate growth.

"I am very pleased that we continue to execute on our shift to growth strategy, and continue to broaden our offering with digital solutions that increase productivity in the customer's value chain. Mine planning and operations management is a key growth opportunity, and this complementary acquisition and our new Digital Mining Technologies Division will strengthen our digital offering and enable us to provide customers a more comprehensive suite of technologies," says Stefan Widing, President and CEO of Sandvik.

Deswik will fill a value chain gap in Sandvik Mining and Rock Solutions' offering, increasing upstream mining coverage and enabling opportunities for end-to-end optimization solutions, including, for example, incorporating electrification at the mine planning stage. Its core software suite includes computer-aided 3D mine design, scheduling, operations planning, mining data management and geological mapping. Deswik also offers a range of consultancy services, including mine planning, scoping, software implementation and training support.

"Deswik's second to none software suite combined with Sandvik's digital and automation offering creates a clear world leader in digital solutions for the mining industry. Combining Deswik's skills in mine planning and scheduling with our equipment and automation expertise will open new opportunities for optimizing our customers' mining value chain" says Henrik Ager, President of Sandvik Mining and Rock Solutions.

Deswik will form one of three cornerstones in the newly-created division Digital Mining Technologies, established to accelerate the execution of Sandvik Mining and Rock Solutions' strategic priority to lead the industry development of underground sustainability and productivity solutions in electrification, automation, digitalization and end-to-end optimization. The new division also includes Sandvik Mining and Rock Solutions automation solutions and the Newtrax telemetry and collision avoidance solutions.

Privately-owned Deswik, established in 2008 and headquartered in Brisbane, has approximately 300 employees and operates 14 offices in 10 countries. The company has demonstrated strong and profitable growth over the past decade in the large and growing mining software market.

Deswik's revenue per October 2021, on a rolling twelve month basis, totaled AUD 79 million, of which the share of recurring revenue was approximately 45 percent, and with an EBITA margin of approximately 30 percent. Impact on earnings per share (excluding non-cash amortization effects from business combinations) will be accretive. The parties have agreed not to disclose the purchase price.

The transaction is expected to close during Q1 2022, subject to relevant regulatory approvals.

Sandvik estimates that transaction costs of approximately SEK 50 million in total will impact Sandvik Mining and Rock Solutions in the fourth quarter.

## Conference call

There will be a conference call related to the intended acquisition on December 2, 2021 at 1:30-2:30 PM CET for analysts, investors and financial media. The conference call will also be available live in 'listen-only' mode on Sandvik's website. Please see [home.sandvik](http://home.sandvik) for the dial-in details and presentation material available at about 1:00 PM CET.

## ***Sandvik to acquire software provider ICAM***

25 November 2021

Sandvik has signed an agreement to acquire Canada-based ICAM Technologies Corporation, a provider of innovative solutions that translate CAM data into optimized coding for guiding CNC machining operations. With a global reach, ICAM sells to some of the world's most renowned companies in the aerospace and defense, general engineering and automotive industries. The company will be reported in Sandvik Coromant, a division within Sandvik Manufacturing and Machining Solutions.

“I am very pleased that we can welcome ICAM to Sandvik. We continue to add software companies that enable us to broaden our offering and provide even more productive solutions within the component manufacturing process. Through this acquisition we are strengthening our offer in verification and optimization as well as our value proposition to customers across their value chain,” says Stefan Widing President and CEO of Sandvik.

ICAM's software combines post-processing, machine simulation, and tool-path optimization into solutions that save programming and part machining time, streamlining customer workflows as the user can go from their CAM system to verified and optimized coding (G-code) in just one step. ICAM's offering is complimentary with the verification and optimization technology of CGTech, a global leader in software for numerical control (NC/CNC) simulation, verification and optimization, also owned by Sandvik.

“This acquisition of ICAM supports our overall business strategy and is in line with our strategic focus to further develop our offer in verification and optimization. Our strong position within CNC machine simulation, combined with ICAM's post-processing capabilities will enable us to deliver a complete workflow for new NC program deployment, from post-processing to highly optimized NC programs running on the machine. We look forward to welcoming ICAM to the Group,” says Nadine Crauwels, President of Sandvik Machining Solutions.

ICAM was founded in 1971 in Montreal, Canada and currently has 27 employees. In 2020, the company had revenues of approximately SEK 30 million and an EBITA margin of approximately 25%. The transaction is expected to close during the fourth quarter of 2021 and is subject to customary closing conditions.

## **Company News**

### ***Aspen Technology Achieves AWS Energy Competency Status***

30 November 2021

Aspen Technology, Inc., a global leader in asset optimization software, announced that it has achieved Amazon Web Services, Inc. (AWS) Energy Competency status. This designation recognizes that AspenTech has demonstrated deep expertise helping customers leverage AWS cloud technology to transform complex systems and accelerate the transition to a sustainable energy future. AspenTech also holds the AWS IoT Competency, having demonstrated success in providing specialized edge-to-cloud IoT solutions.

“Market volatility, Industry 4.0 and meeting sustainability goals have accelerated the need for digital transformation in the industrial sector,” said Bill Scudder, Senior Vice President and General Manager, AIoT Solutions at AspenTech. “Our AWS Energy and IoT Competencies allow us to work closely with AWS to help our customers meet these demands with digital and cloud technologies.”

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Achieving the AWS Energy Competency differentiates AspenTech as an AWS Partner with deep expertise and technical proficiency within the energy industry, including proven customer success developing solutions across the value chain. To receive the designation, AWS Partners underwent a rigorous technical validation process, including a customer reference audit. The AWS Energy Competency Program provides energy customers with the ability to easily select highly specialized AWS Partners to help accelerate their digital transformation.

The Aspen AIoT Hub™, which is the basis for the AWS IoT Competency, is the cloud-ready environment for AspenTech's Industrial AI solutions, allowing organizations to unlock hidden value from their industrial data. The Aspen AIoT Hub combined with AWS cloud technology provides customers with flexibility and scalability benefits to achieve greater automation, improve resource efficiencies and drive overall operational excellence that supports a carbon neutral future.

“With 2,400 customers worldwide and 40 years of experience in supporting the energy industry, we look forward to continuing our work as an AWS Partner by helping companies gain a competitive edge from their industrial data in the cloud, while accelerating the energy transition for a more sustainable future,” concluded Scudder.

## ***Atos and OVHcloud strengthen their partnership by leveraging Atos OneCloud Sovereign Shield***

25 November 2021

**Atos expands its recently announced Atos OneCloud Sovereign Shield initiative by extending its existing partnership with OVHcloud, with new combined offerings and joint research and development. The two European cloud leaders will provide a market-leading sovereign cloud solution for large French organizations.**

Both companies have an ambitious plan for the coming months and years, which builds on their previous commitment to create a trusted cloud solution for French organizations. This combination maximizes Atos' global strategic initiative Atos OneCloud and its recently announced Atos OneCloud Sovereign Shield, which supports the digital and data sovereignty needs of governments and industries worldwide, and combines them together with OVHcloud's innovative public cloud solution based on sovereign European infrastructure.

### **Market-leading sovereign cloud solutions**

OVHcloud and Atos will set-up a Public Cloud solution to be rolled out in Atos' datacenters in France to offer a best-in-class 100% European cloud platform, leveraging OVHcloud Datacenter as-a-Service to enable IaaS and PaaS capabilities, combined with Atos bare metal, cybersecurity, and decarbonization solutions.

Atos customers will get access to hybrid cloud configurations through combining OVHcloud Public Cloud with the Atos Digital Hybrid Cloud solution for Private Cloud. The joined offering will allow customers to benefit from public cloud capabilities, fully sovereign cloud management services, complete regulatory compliance, and world-class cybersecurity protection.

A joint initiative has been launched to investigate how OVHcloud customers in France will also benefit from the Atos' datacenters' footprint, to offer its customers cloud solutions close to their activities. With more than 20 years of experience building datacenter facilities, manufacturing servers, and operating an extensive catalog of IaaS and PaaS services, OVHcloud offers various Datacenter as-a-Service solutions. Companies that must respond to strategic, economic, technological, or operational sovereignty issues, whether local or European, can control their technology by leveraging Datacenter-as-a-Service on and

# CIMdata PLM Industry Summary

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off premise, allowing them to define how to operate and deploy their cloud.

Augmented by Atos OneCloud Sovereign Shield solutions and OVHcloud's **SecNumCloud** qualification, this partnership creates a unique trusted cloud service. This approach is completely unique on the market as it combines both Atos and OVHcloud products and services, addressing public sector and defense requirements for true sovereign solutions while creating new levers for clients, to accelerate their transformation to the cloud.

## **Atos' Quantum computing simulator collaboration and shared Decarbonization ambitions**

In addition, Atos and OVHcloud are collaborating on new joint R&D initiatives for future evolutions of their platforms:

- Atos and OVHcloud aim to enrich the OVHcloud BareMetal solutions catalog by setting up proof of concepts integrating Atos BullSequana S servers, optimized for SAP and critical workloads.
- The Atos Quantum computing simulation technology, with its Quantum Learning Machine, will be tested by OVHcloud as-a-Service in the OVHcloud Datacenter. The aim is to offer researchers and students an access to quantum computing.

OVHcloud will contribute to Atos' commitment to deliver Decarbonization Level Agreements by providing carbon emission reporting for sustainable cloud computing, including the joint Atos and OVHcloud solutions.

In the same logic, OVHcloud customers will be able to directly access the Atos MyC02Compass carbon data platform to accelerate their net-zero ambitions. Atos MyC02Compass provides carbon data management and reporting across a wide range of digital technologies and all scopes of customers' carbon footprint.

*"We are delighted to expand our partnership with OVHcloud to provide a sovereign cloud offering for our French customers. Working with OVHcloud, we will reinforce the uniqueness of Atos OneCloud Sovereign Shield portfolio by creating a 100% European cloud solution for French organizations. This is a great step in that we are now, finally, able to offer SecNumCloud qualified OVHcloud solutions to our customers,"* said **Pierre Barnabé, Interim co-CEO and Head of Big Data and Security, Atos.**

*"We are happy to work with Atos and to bring together our sovereign solutions to provide our customers with more and more secure alternatives for their business. Atos' best-in-class datacenters, cybersecurity and critical systems products will enable us to enrich our portfolio. Both companies are strengthening their collaboration and it brings additional value to our customers."* said **Michel Paulin, CEO, OVHcloud.**

Atos and OVHcloud are both founding and current Board members of GAIA-X, the European Association for the future cloud-edge infrastructure in Europe.

## ***AVEVA Announces 4th Process Simulation Competition Targeting Chemical Engineering Students in North America and Europe***

30 November 2021

AVEVA, a global leader in industrial software, driving digital transformation and sustainability, has announced its annual Process Simulation Competition for students in North America and Europe, open to residents in the United States, Canada, UK and EU countries. The competition will provide an opportunity for students to participate in an internship at AVEVA or receive a \$3,000 cash prize.

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The AVEVA Process Simulation Competition, now in its 4<sup>th</sup> year, is designed to provide chemical engineering students with a unique opportunity to develop their process simulation skills. Students are invited to solve real-world engineering problems utilizing AVEVA Process Simulation, an innovative integrated platform covering the complete engineering lifecycle of design, simulation and training, and developed to enable the next generation of engineers. It is easy-to-learn software so students with no prior experience are encouraged to enter.

This year's competition addresses one of the big challenges of transitioning to sustainable energy – storage. Currently, most research focuses on grid storage solutions that incorporate large batteries, hydroelectric storage, fuel cells, or chemical storage methods. This year's AVEVA Process Simulation Competition will ask students to explore the process design choices that must be analyzed to store energy in the form of methanol.

Mihaela Hahne, Global Program Manager, Academic at AVEVA, said: “Building on the success of previous year, the 2022 academic competition is designed to encourage aspiring engineers to use their classroom skills to solve real-life engineering problems. Today's students will be in the prime of their careers in 2050 – helping to steer the challenges of a changing climate. It is our goal as a company to inspire chemical engineers to shape a sustainable future.”

The 2022 competition will be split into three parts, with deadlines spread across different dates – February 1<sup>st</sup>, March 1<sup>st</sup> and April 1<sup>st</sup>. This provides students the opportunity to enter the competition multiple times, while also supporting their academic coursework, enabling eager participants to tackle a new and different project on three occasions.

As a result, contestants can gain a wide range of skills, knowledge and practical experience with AVEVA's Process Simulation by working on a unique project for each phase. Entrants will be judged on several criteria including the quality, completeness and precision of their project entry, as well as their process engineering and simulation abilities.

Participants can access more information and enter the competition online on the AVEVA Process Simulation Competition 2022 webpage.

## ***City of Paris, supported by Autodesk, launches design competition to reimagine surrounding area of Notre-Dame de Paris***

2 December 2021

In parallel with the reconstruction of Notre-Dame de Paris cathedral, the City of Paris has launched an international design competition to reimagine the area surrounding the cathedral. The reimagination of the area will provide Parisians and tourists the opportunity to further appreciate the rich history and heritage of Notre-Dame de Paris and its surroundings.

To help accomplish this, Autodesk will provide technological expertise throughout the competition. We will also use our Building Information Modelling (BIM) solutions to create a 3D model of the existing area surrounding the Notre-Dame cathedral so competing teams can better understand the constraints of the site. The four competing teams will use the model to build their final design proposals.

“Thanks to this partnership with Autodesk, we are able to visualize the candidates' design proposals in 3D and improve the way the teams reimagine the future of this exceptional site. Parisians, and all those around the world who appreciate the Notre-Dame cathedral setting, will be able to immerse themselves in the transformation of this area,” said Emmanuel Grégoire, first deputy mayor of Paris.

### **Notre-Dame de Paris: Revival of an exceptional site**

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The four finalists—selected from a total of 39 entrants—must take the following spaces into account:

- The forecourt and its underground spaces, including the archaeological crypt and parking on two levels
- From the Jean XXIII and Île-de-France squares (located behind the cathedral) to the tip of the Ile de la Cité
- The banks of the Seine River
- Adjacent streets: Rue du Cloître-Notre-Dame, Rue de la Cité, and Quai de l'Archevêché

## **Digital technologies at the heart of French heritage**

Autodesk has deep roots in France and supports some of the most iconic projects in Paris and across the country. Following in the footsteps of a similar competition launched to reimagine the Eiffel Tower forecourt in 2018, the City of Paris continues its digital transformation journey and is now positioned as one of the first 'cities of the future,' putting digital technologies at the heart of its urban modernization.

Throughout the competition, all teams and the City will embrace open standards like openBIM and IFC (Industry Foundation Class), and will collaborate using Autodesk Docs, the cloud-based common data environment (CDE) for document management and communication. Autodesk will provide the 3D digital model of the existing area surrounding the Notre-Dame cathedral and our software will be used to generate virtual tours for each of the projects that will be shared with the judging panel. It will also be used to create the final interactive model and virtual tour of the winning project.

“Autodesk is proud to continue our collaboration with the City of Paris and serve as a technology partner for the redevelopment of the area surrounding the Notre-Dame cathedral. By using cutting-edge 3D design, BIM, and engineering technologies, the city is positioned as the city of the future, preserving its historical legacy in digital form and unlocking the imagination and creativity of the design teams for the enjoyment of future generations,” said Nicolas Mangon, vice president of AEC Industry Strategy at Autodesk.

Participants in the competition are made up of multidisciplinary teams led by architects, urban planners, and landscape architects and accompanied by specialists in heritage and historical monuments, environment, programming of public spaces, and technical design offices. The four teams are:

- Landscape designer, Michel Desvignes, with architecture practices, Grafton Architects (Pritzker and Equerre d'Argent Prizes winners) and h2o and town planner, Urban Eco
- Architectural firm, Aymeric Antoine and Pierre Dufour, with landscape designer, Ateliers jours and town planner, Auxili
- Urban planner, Jacqueline Osty and associates, with the architect Bernard Desmoulin and the Orma Architettura practice
- Landscape designer, Bureau Bas Smets, with the GRAU and Neufville-Gayet architecture practices

The construction is expected to start in 2024 and will be completed in 2028.

## ***DXC Technology and Micro Focus Announce a Strategic Initiative to Accelerate Mainframe Modernization***

24 November 2021

DXC Technology one of the world's largest IT services providers has announced a strategic initiative with Micro Focus, a leading enterprise software provider, to provide mainframe modernization and migration strategies to modernize mainframe estates.

As one of the world's largest providers of mainframe services, DXC supports leading Fortune 500 companies around the globe with over 9,000 experts across infrastructure, applications, and cloud technology. Together with the power of Micro Focus' Application Modernization and Connectivity Solutions, this will assist customers on their migration to the right technology solution for their organization.

“Our customers are looking for more value from their mission-critical applications and systems, to reach new markets, reduce costs and eliminate future risk,” stated Vinod Bagal, Executive Vice President, DXC Global Delivery, “Through our Cloud Right™ approach, we will address this demand for mainframe transformation with the right investments, at the right time, on the right platforms. Together, DXC and Micro Focus are committed to delivering new technology, process, and automation to accelerate mainframe modernization and unlock further value in customers' estates.”

“With Micro Focus' more than 40 years of experience in modernizing business-critical applications running on the mainframe or distributed environments, this strategic partnership pairs DXC's mainframe services with the thousands of successful projects behind Micro Focus' Professional Services and solutions,” said Nick Wilson, President of Sales Micro Focus. “We continue to expand our partnership with DXC, clearly establishing an unrivalled path to success and joint commitment to supporting customers on their modernization journeys. Whether that is cloud, DevOps-driven, or service-oriented, Micro Focus helps customers map their journey against a balance of cost, risk, and speed.”

## ***EON Reality and KMITL Inaugurate Brand New Interactive Digital Center in Thailand***

30 November 2021

EON Reality, the global leader in Augmented and Virtual Reality-based knowledge and skills transfer for industry and education, announces the inauguration of a new Interactive Digital Center in Thailand alongside its partner, King Mongkut's Institute of Technology Ladkrabang (KMITL). The Center will serve as the city's new home for educating and training the next generation of XR developers as well as a technological hub for advanced XR solutions for interested parties throughout the area.

For the KMITL inauguration, EON Reality Founder and Chairman Dan Lejerskar traveled to the campus in the Lat Krabang District of Bangkok to welcome the latest addition to the global network and knowledge metaverse. The inauguration also made one of Thailand's top research and educational institutions into one of its leaders in the XR industry as well.

EON Reality is proud to expand the knowledge metaverse to Thailand through the new IDC, connecting the local users with the company's existing global network of over 70 countries. With the official inauguration of the IDC, students, faculty, entrepreneurs, and employers in Thailand will now have access to cutting-edge XR solutions — such as EON-XR, EON Merged XR, and EON Spatial Meetings — and be able to both learn from and contribute to the worldwide knowledge metaverse going forward.

“We are very excited about our next steps here in Thailand, as I believe this is a transformative moment

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for everyone involved,” said Dan Lejerskar, EON Reality’s Founder and Chairman. “Adding Thailand to our global network will strengthen the knowledge metaverse as a whole, while also providing limitless possibilities for local students, businesses, and others interested in the future of technology. I’m very happy that we’ve been able to accomplish so much already, and I look forward to watching it develop in the future.”

In addition to the speeches and inauguration ceremony, attendees from both parties were joined by important government officials, media, and other valuable participants for the grand opening.

## ***ESI Group unveils its new leadership team***

29 November 2021

**ESI Group announces the completion of its new leadership team from seasoned professionals from the current organization and the appointment of Ajit Gokhale as Executive Vice-president Engineering.**

*With the release of our “OneESI 2024 – Focus to Grow” plan two months ago, we are engaged in a profound transformation. To lead our Group and this transformational effort, I can count on the full support of my new Leadership Team which is composed of nine impressive, complementary and highly experienced individuals. I’m also proud to welcome in our team Ajit Gokhale who will play a key role in our organization and more specifically in our software engineering strategy and execution. Together, we are entirely committed to bring our company to the next level and to transform it as one of the key leading software partners for industry.*

***Cristel de Rouvray***

Chief Executive Officer of ESI Group

## **Creation of a new leadership team**

The Group unveils a new Leadership Team, now composed of:

- **Cristel de Rouvray:** Chief Executing Officer

and, in alphabetical order:

- **Yannick Charron:** Vice-president Human Resources
- **Ajit Gokhale:** Executive Vice-president Engineering
- **Francis Griffiths:** Executive Vice-president Sales
- **Dominique Lefebvre:** Senior Vice-president Product Development Planning
- **Emmanuel Leroy:** Executive Vice-president Product, Innovation & Industry Solutions
- **Corinne Romefort-Régnier:** Senior Vice-president General Secretary & Governance
- **Mike Salari:** Corporate Chief Operating Officer Revenue Generation
- **Olfa Zorgati:** Executive Vice-president, CFO & Operations

## **Nomination of Ajit Gokhale as EVP Engineering**

Ajit Gokhale, 54 years old, brings over 30 years of high-tech Research & Development and business experience to ESI. He has extensive knowledge with customers in automotive, consumer electronics, semiconductor, and energy industries as well as the academic segment, that use technical and scientific software. Ajit Gokhale will lead the Software Engineering organization at ESI to transform its software into complete chained solutions, as defined and prioritized by the Industry Solutions team, to serve key industry and customer segments. Ajit reports to Cristel de Rouvray, Chief Executive Officer of ESI Group.

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Ajit Gokhale has spent a significant amount of his career within NI (NATI: NASDAQ) in the US, Europe and Asia. He has held leadership roles such as vice president of data acquisition, vice president of sales and marketing of Asia-Pacific, managing director of the United Kingdom, France, and China, and section manager for data acquisition research and development. For the past two years, Ajit held a senior role at Bloomy.

Ajit Gokhale holds a bachelor's degree in electrical engineering and computer science from the Massachusetts Institute of Technology.

## ***HCL Technologies Expands its Presence in Sri Lanka with the Opening of a New Facility at 'The Offices' in Cinnamon Life***

25 November 2021

HCL Technologies (HCL), a leading global technology company, opened its new facility at the state-of-the-art Cinnamon Life complex. HCL continues to expand and grow in Sri Lanka and this new facility will be its largest in the country, accommodating 4,000 employees.

HCL entered Sri Lanka in 2020 with the aim to make it a global technology and IT services delivery hub for some of the largest corporations in the world. In continuation with its commitment to build first class capabilities and create local employment, HCL intends to occupy 80% of Cinnamon Life, a project by John Keels, with plans of taking up 10 floors now and 10 floors at a later stage. The architectural design and world class interiors of HCL's new development center has been delivered by Tikri Bibile Associates (TBA), supported by WIDAC Commercial Interiors Pvt Ltd and Leema Associates. From this new development HCL will provide IT services to global clients in the areas of digital applications and system integration services, product development and support, and infrastructure management services including digital workplace solutions.

The Honorable Finance Minister of Sri Lanka, Basil Rajapaksa and His Excellency Gopal Baglay, Indian High Commissioner to Sri Lanka, inaugurated the office in the presence of Prateek Aggarwal, Chief Financial Officer, HCL Technologies, Srimathi Shivashankar, Corporate Vice President, HCL Technologies, and Krishnan Balendra, Chairman, John Keels.

“As a nation, we are thankful for the opportunities HCL continues to offer our youth and make them global IT professionals,” said Basil Rajapaksa, Honorable Finance Minister of Sri Lanka. “The company's commitment and growth drive in Sri Lanka are also reflective of the long-term business resilience of Colombo's ascent as a commercial hub in South Asia. I take this opportunity to congratulate the management of HCL Technologies and extend my very best wishes.”

“We are delighted to welcome HCL as the anchor commercial tenant for 'The Offices' at Cinnamon Life, and to provide a platform for their growth in Sri Lanka,” said Krishnan Balendra, Chairman, John Keels. “HCL will most certainly add tremendous value to the Cinnamon Life development and community. The team at HCL will experience the full benefit of working in our landmark integrated development with the conveniences of the hotel, mall, residential and convention facilities just a few steps away.”

“Since the time HCL entered into Sri Lanka, it has been on a growth path,” said His Excellency Gopal Baglay, High Commissioner of India to Sri Lanka. “It is extremely heartening to see how HCL is not only building a talent pool in the country but also working to create thousands of jobs for Sri Lankan youth and bringing global opportunities to Sri Lanka.”

“Sri Lanka is one of HCL's key global delivery hubs and we are very excited to continue expanding our operations in the country with the opening of our new office here,” said Prateek Aggarwal, Chief

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Financial Officer, HCL Technologies.

In Sri Lanka, HCL Technologies recently surpassed a milestone of recruiting more than 1,000 local employees, including recent graduates and seasoned industry professionals.

“With Cinnamon Life’s strategic location at the heart of Colombo, this iconic signature structure reflects of HCL as a next-generation global technology company that constantly reimagines business for a digital age,” said Srimathi Shivashankar, Corporate Vice President, HCL Technologies.

## ***Infor Named 2021 AWS Industry Solution ISV Partner of the Year***

30 November 2021

Infor, the industry cloud company, announced that Amazon Web Services (AWS) has awarded Infor the AWS Industry Solution Independent Software Vendor (ISV) Partner of the Year award.

Announced at the annual AWS re:Invent conference in Las Vegas, Nevada, the award recognizes Infor’s performance and commitment to helping customers drive innovation on AWS.

Kevin Samuelson, Infor CEO, said, “We are thrilled to be named as the 2021 AWS Industry Solution ISV Partner of the Year. We believe our distinct competitive advantage centers around our ability to provide deep, industry-specific solutions to our customers, which can help them continuously innovate and grow their businesses. Our work with AWS is critical to our ability to deliver scalable, secure multi-tenant cloud solutions that are designed to help our customers achieve successful business outcomes and sustained operational advantage.”

“The AWS Industry Solution ISV Partner of the Year award is an opportunity for us to recognize the work of select AWS Partners around the globe who deliver strong results across industries and help our customers transform their businesses,” said Flemming Kongsberg, director, Global ISV Partner Management, AWS. “We are excited to award Infor with this award, as they continue to lean into the AWS Partner Network and drive deep partner innovation. Infor drives industry-level focus areas and migrations for long-standing AWS customers, allowing them to focus on modernizing business models to drive customer success. We congratulate them on this well-deserved recognition.”

The 2021 AWS Industry Solution ISV Partner of the Year award acknowledges Infor’s work with AWS to deliver strong results and to help customers — in industries such as manufacturing, distribution, healthcare, food and beverage, automotive, aerospace and defense, and high tech — leverage cloud technologies to transform their businesses.

Infor’s innovative cloud technologies, which are designed to work seamlessly with AWS, can give organizations the power and responsiveness to stay ahead in competitive business environments.

Infor’s cloud solutions deliver industry-specific capabilities without extensive customizations or integrations. These solutions combine Infor’s cloud platform, built on infrastructure services from AWS, and Infor Operating Service (OS) — enabling cloud applications to work collaboratively with each other and with legacy software.

## ***Infosys Collaborates with FarEye to Enable Digital Transformation of Supply Chains***

26 November 2021

Infosys has announced its collaboration with FarEye, an intelligent delivery management platform to help enterprises gain real-time visibility into their shipments and optimize their mid and last-mile delivery orchestration. The association will enable enterprises to deliver superior consumer experience by providing real-time visibility and enhanced user engagement. Infosys will leverage FarEye’s platform

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to optimize end-to-end deliveries and provide recommendations driven by aggregation of insights.

Infosys digital supply chain and logistics solutions, a part of Infosys Cobalt, have been implemented in multiple engagements across warehouse management, transportation management, order management, and global trade management. These solutions along with FarEye's low-code intelligent platform will enable shippers & 3PLs/carriers to do faster, more reliable, customer-centric deliveries at scale, while providing the flexibility of varied delivery models and a seamless brand experience.

Backed by Infosys' Center of Excellence (CoE), accredited FarEye solution specialists at Infosys with expertise in industry-specific end-to-end delivery solutions will help customers get a wide range of benefits such as:

- A single solution for companies covering the first, mid, and last mile for moving goods across domestic, international, and hyperlocal regions thereby, lowering cost and increasing revenue
- Up to 2X increase in customer satisfaction rate
- Reduction in delivery times by up to 27 percent

## ***LTI and IBM Inaugurate Innovation and Experience Center in Bengaluru to Help Clients Accelerate Digital Transformation***

25 November 2021

Larsen & Toubro Infotech Ltd., a global technology consulting and digital solutions company has opened an Innovation & Experience Centre at LTI Whitefield campus in Bengaluru (India) focusing on IBM technologies. The Center will assist enterprises in modernizing their operations and accelerating digital transformation journeys.

This Innovation and Experience Center will showcase LTI solutions that have been co-created using IBM technologies such as IBM Cloud and Cloud Paks. The Centre will also serve as a forum for customers to engage with LTI and IBM technical resources for in-depth technology briefings, solution demos, software, tool access and solution workshops.

Sudhir Chaturvedi, President-Sales and Executive Board Member, LTI, said: "The rapid technological advances make it necessary for customers to experience solutions before adopting them. Our new center in Bengaluru fulfils this need for the joint customers of IBM and LTI. This center will offer combined benefits of LTI's rich domain proficiency and IBM's deep technical expertise, and thereby assist clients in their transformation journey."

Through this center, IBM and LTI will collaborate and invest in creating joint solutions and develop industry viewpoints around digital transformation, hybrid cloud, data & AI, and security services. In addition, both LTI and IBM teams, will work with customers to address their requirements around driving digital transformation and managing multiple clouds.

Evaristus Mainsah, GM, Hybrid Cloud and Edge Ecosystem, IBM, said, "This center is an outcome of our growing alliance with LTI to help clients predict, automate, secure, and modernize their business operations. We are confident our clients will benefit from the ease of access to industry-specific assets and customized joint solutions with IBM's open hybrid cloud approach that will help to accelerate their transformation journeys."

Distinct features of the center include an IBM Playground for associates to explore and experiment with prototypes, History Zone that highlights LTI-IBM alliance journey, joint customer success stories, Innovation Zone for brainstorming on innovative ideas and planning future offerings, and Discussion Zone with feedback mechanism to ensure continuous improvement.

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LTI has strong capabilities in IBM's Digital Business Automation portfolio. LTI's Automation consultants are helping clients in driving productivity improvements with industry specific pre-built IBM frameworks. Earlier this year, LTI and IBM had announced expansion of their global alliance.

## ***MathWorks and edX Announce New MATLAB Course Offering***

30 November 2021

MathWorks, the leading developer of mathematical computing software for engineers and scientists, in partnership with edX, the leading online learning platform, today announced the availability of *MATLAB Essentials*, an introductory course on the widely used programming environment, through edX.

*MATLAB Essentials* was created as an introductory course for students and professionals who need to learn MATLAB® to advance their education or careers. Millions of engineers and scientists worldwide use MATLAB to build advanced applications in machine learning, deep learning, signal processing, communications, image processing, and control systems.

Students of the course will master the essentials of MATLAB to perform data visualization, data analysis, programming, and app design interactively with minimum time writing code. The course takes approximately four weeks and, upon completion, learners will be able to process, analyze, and visualize data collected nearly everywhere in today's digital world. Additionally, the course will give participants the skills needed to prepare for the MathWorks Certified MATLAB Associate exam. Certification verifies valuable transferable skills to help accelerate academic and professional growth.

"Growth in the high technology industry due to Industry 4.0 continues to accelerate, and that means even greater demand for workers with foundational programming skills like MATLAB," said Anant Agarwal, edX Founder and MIT Professor. "Partnering with MathWorks to bring this essential course to our community of 40 million learners means more people will have access to this career-relevant knowledge, giving them a leg up in the competitive job market."

"MathWorks is committed to accelerating engineering and scientific education, and opening access to MATLAB for learners everywhere," said Craig Santos, Director of Training Services for MathWorks. "edX is renowned for its high caliber curriculum and user-friendly platform, and this course provides a strong foundation for those looking to develop MATLAB skills. We look forward to offering additional learning content through edX in the future."

## ***PINNACLE SERIES BY EAGLE POINT SOFTWARE PARTNERS WITH KETIV***

1 December 2021

Eagle Point Software's Pinnacle Series has announced a partnership with KETIV, a U.S.-based firm that delivers end-to-end solutions to American manufacturing companies.

"We are very excited to partner with KETIV and expand our reach in the manufacturing space," shared John Biver, President and CEO of Eagle Point Software. "KETIV is a well-known leader and provider of complete solutions for design and manufacturing companies, and now Pinnacle Series will help further support KETIV's clients looking to seamlessly integrate people, processes, and technology. We have found an outstanding partner to help ensure Pinnacle Series supports a wide range of American manufacturing companies."

Pinnacle Series by Eagle Point Software is an AEC & manufacturing e-learning solution that features a comprehensive library of videos, documents, and other manufacturing development resources that enable long-term employee training, on-demand problem-solving, and digital transformation.

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“Pinnacle Series is becoming critical to our customers’ growth strategies. It furthers our commitment to enabling faster adoption of solutions and tools by customers, and allowing them to evolve at scale,” shared Peter Biber, Director of Customer Success at KETIV.

## ***PROLIM is a Mendix Partner***

23 November 2021

We are excited to announce our partnership with Mendix! A global leader with expertise in innovative technologies **PROLIM** is your preferred partner on your Digital Transformation journey.

**Mendix** is a low code platform for software development. The platform is designed to accelerate enterprise application development and deployment. It provides tools to build, test, deploy, and iterate applications. The Mendix application platform is based on visual, model-driven software development. The platform offers both no code (business domain experts) and low code (professional technical developers)

Ashwini Patil, Vice President, said, “We have the most robust solutions and low code technology in the world enabling organizations to improve the way that they design, manufacture, sell, operate, and service their products.

PROLIM has built Mendix solutions such as CPQ for Doors & Windows, Asset Management, and Energy Resource Management. PROLIM’s CPQ Solution – Configure Price & Quote for Doors & Windows allows Sales Representatives to generate accurate quotes and complete proposals within minutes on their handheld devices.

## ***Revalize Announces Growth Team Leaders***

2 December 2021

Revalize, the worldwide leader in sector-specific revenue operations software for manufacturers, their distributors and their specifiers, today announced the appointment of its growth team leaders.

These leaders will support the company in its accelerated growth, following the announcement of 8 acquisitions across the US and Europe over the past five months.

“As we continue to grow as a company, we are building teams with tremendous experience in their respective fields,” said Jim Contardi, CEO of Revalize. “The growth team’s diverse experience will continue to shape our products and capabilities to the benefit of our team and global customer base.”

The growth team’s leadership includes:

**Bryan Klann, Chief Revenue Officer:** Klann comes to Revalize from MeridianLink, bringing 26 years of experience and proven sales leadership in the technology field. As Chief Revenue Officer, he is responsible for the key go-to-market functions of marketing, sales, customer experience and revenue operations.

**Neil Dholakia, Senior Vice President of Product and Strategy:** Dholakia defines the product and platform vision in his role as Senior Vice President of Product and Strategy. Drawing from his 25 years of experience, he owns and prioritizes the global product roadmap, and is a key voice in communicating the overall product and business strategy, both internally and externally.

**Ruben Mier, Senior Vice President of Marketing:** Mier has a diverse background in the technology field, bringing over a decade of experience. Prior to taking his role with Revalize, he served as the Vice President of Marketing for Seismic. As the Senior Vice President of Marketing with Revalize, he drives the holistic marketing function across the Revalize brand portfolio.

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**Batch Batchelder, Vice President of Customer Experience:** Batchelder brings nearly 24 years of experience in the technology field to his position. As Vice President of Customer Experience, he leads a team dedicated to world-class customer support and customer success programs. Batchelder holds a Business Relationship Management Professional (BRMP®) certification and previously served on the board of the JAX Chamber IT Council (2015-2018) and the 2017 Board of Governors. He currently serves as a board member for Jacksonville Westside Young Life and is a mentor for the Juvenile Justice Ministry at the Duval Regional Juvenile Detention Center.

**Tim Bridges, Vice President of Acquisition Integration:** Bridges has worked in the tech sector for over 20 years across a number of industries and functions. Most recently, he led corporate development for DTN a cloud technology provider of weather, agriculture and energy data solutions. As Vice President of Acquisition Integrations, Bridges oversees the integration of new acquisitions into the Revalize platform to drive inorganic growth and provide the seamless delivery of value to customers.

**Alex Nagyivan, Vice President of Revenue Operations:** Nagyivan comes to Revalize from ADP, where he held leadership roles in sales operations. His 11 years in technology have prepared him for his role as Vice President of Revenue Operations, where he is building out the revenue operations function to maximize the organization's revenue potential while streamlining tools and technology to generate insights to leverage across the organization.

**Keith Tice, Vice President of Corporate Development:** Tice leads the Revalize Mergers & Acquisitions activity in his role as Vice President of Corporate Development. With close to a decade in the technology field, he previously served as Vice President of Corporate Development for Accruent, where he contributed to many business development initiatives.

## ***Sage recognizes winners of the Sage Intacct 2021 Partner Awards***

2 December 2021

Sage, the leader in accounting, financial, HR and payroll technology for small and mid-sized businesses, recently announced the 2021 Sage Intacct Partner Awards in the U.S. Eight partners took home the top honors this year across six different categories.

These awards are given annually to the company's top performing channel partners in the U.S. and recognize value added resellers (VARs) and accounting firms for their success in helping clients adapt to change and leverage Sage Intacct cloud financial software.

“Sage has built robust channel programs designed to knock down barriers and foster a network of business partners that deliver comprehensive, high-quality services, support, and software to help companies get maximum value from Sage products,” said Nancy Teixeira, VP of North America Partner Strategy and Sales at Sage. “This year's winners of the Sage Intacct Partner Awards have excelled during these unprecedented times and put a true focus on meeting the needs of customers and ensuring they are getting the most from Sage Intacct. They are excellent examples of what great partnerships can be and we thank them for their continued presence in Sage's trusted network”.

Here is a look at this year's award winners:

### **Sage Intacct Partner of the Year – Baker Tilly U.S. LLP**

A leading advisory, tax, and assurance firm and provider of digital transformation solutions and services, Baker Tilly U.S. LLP (Baker Tilly) has a global customer presence across a wide-ranging set of industries. In 2021, Baker Tilly announced the acquisition of AcctTwo Shared Services, LLC (AcctTwo) and this year's award distinguishes AcctTwo's achievement for the eighth consecutive year. Baker Tilly is recognized for excellent consulting, development, and technical services practices

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supporting the Sage Intacct development platform and business ecosystem.

## **Sage Intacct VAR Partner of the Year – Armanino**

Armanino LLP, one of the top 25 largest accounting and business consulting firms in the U.S., is Sage Intacct's VAR Partner of the Year for 2021. A recipient for the eighth time, Armanino is dedicated to helping its clients by providing best-in-class cloud financial solutions, implementation, and integration consulting services. Armanino delivers an integrated set of audit, tax, business management, consulting, and technology solutions to growing companies in the U.S. and globally.

## **SIAP Partner of the Year – Consero Global**

Consero Global is a leader in the cutting-edge Finance-as-a-Service (FaaS) model, providing a superior alternative to building and maintaining an in-house finance function for B2B and Investment Management clients. Offering the perfect blend of technology and people that scale, Consero delivers the services necessary to support a company's daily operations, accelerate growth, and prepare for the future. This is the fifth consecutive year that Consero has earned the SIAP Partner of the Year award. With a focus on larger engagements, the firm expanded their client base exponentially resulting in significant year over year growth.

## **Sage Intacct Growth Partners of the Year (CMRR) – Alta Vista Technology and CliftonLarsonAllen**

With hundreds of successful implementations across North America, Alta Vista Technology is the fastest growing and largest independent Sage Intacct reseller. They have earned several accolades, being named one of the fastest growing private companies by Inc. Magazine and top 100 VAR by Accounting Today. Users also love Alta Vista, ranking them the number 1 Sage Intacct VAR on the trusted customer review platform G2.

CliftonLarsonAllen, one of the top 10 accounting firms in the country, has been named to the Sage Intacct President's Club for 10 years running. A partner since 2001, the firm's growth this year was fueled by a focus on quality as they expanded their team with high-performing consultants and further cultivated a culture of commitment to exceptional support during each step of the customer journey.

## **Sage Intacct Growth Partners of the Year (Deals) – Dean Dorton Allen Ford and LBMC Technology Solutions**

Dean Dorton Allen Ford, PLLC has been a Sage Intacct Premier Partner since 2013 and generated over 85% growth in YoY sales. Dean Dorton Allen Ford provides an integrated suite of audit, tax, business management, consulting, and technology solutions to companies nationally and internationally and helps their clients strategize, adapt, and change in every stage of business from startup to growth.

LBMC Technology Solutions was founded as a traditional accounting firm in 1984 and has become the largest professional services solutions provider in Tennessee. LBMC is a Sage Intacct Premier Partner that generated over 90% growth in YoY sales. LBMC is a top 40 firm in the country, an industry leader in accounting, finance, human resources, technology risk and information security, and wealth advisory services for both businesses and individuals.

## **Sage Intacct Rookie Partner of the Year – Kernutt Stokes**

Kernutt Stokes is a first year Sage Intacct partner headquartered in Eugene, Ore. Their significant achievement in adding new Sage Intacct customers was a standout among their peers. What makes Kernutt Stokes different is an ongoing commitment to exceed expectations of their clients. With over thirty years of experience, Kernutt Stokes takes care to customize a solution tailored to their customer's needs.

## ***Siemens Expands Partnership with AWS to Facilitate Cloud-Based Digital Transformation***

30 November 2021

Siemens Digital Industries Software and Amazon Web Services, Inc. (AWS) announced an expansion of their collaboration, which combines Siemens' deep industry expertise with cloud services from AWS to help industrial companies accelerate digital transformation in the cloud. Together, AWS and Siemens plan to drive adoption of Siemens' Xcelerator as a Service and make Siemens' Xcelerator portfolio of integrated software, services, and application development platform more accessible, scalable, and flexible. Xcelerator as a Service acts as a catalyst for fast and predictable digital transformation—including by gaining new manufacturing insights, automating processes, and deploying connected services—and offers customizable solutions for any starting point on the digital journey.

“Siemens and AWS are coming together to help companies speed engineering efforts, optimize factory operations, and enhance customer experiences from chip to edge to cloud,” said Tony Hemmelgarn, President and Chief Executive Officer at Siemens Digital Industries Software. “We’re excited to combine our proven cloud and industrial experience in this expanded partnership and simplify the journey for our mutual customers to become digital enterprises.”

The strategic collaboration agreement between AWS and Siemens will see the companies cooperate to support customers; expand cloud capabilities in Siemens' Xcelerator as a Service portfolio; explore opportunities for innovation; and develop and take to market new solutions. One area of collaboration is digital twin technology, where Siemens and AWS will accelerate adoption and democratize new digital twin solutions using AWS IoT TwinMaker, a newly launched AWS service that makes it faster and easier to create digital twins that incorporate multiple data sources. Siemens' Xcelerator portfolio is already integrated with over 60 AWS services, and with the addition of AWS IoT TwinMaker, customers can apply AWS IoT TwinMaker to develop increasingly powerful digital twin solutions that are compatible with Siemens' design, simulation and manufacturing software.

“Working together, Siemens and AWS will make it easier for industrial customers to use Siemens' comprehensive digital twin technology and AWS's cloud services to deliver new manufacturing insights, automation, and connected services,” said Bill Vass, Vice President of Engineering at AWS. “Together, we'll bring new cloud-based digital transformation solutions to market that will help companies of any size address industrial complexity and turn it into competitive advantage”.

## ***Siemens reconfirms commitment to Shipbuilding 4.0 with CESENA opening***

23 November 2021

Siemens has inaugurated the Center of Excellence of the Naval Sector (CESENA) in Ferrol, Spain, where state-of-the-art facilities are equipped with the latest technologies to improve all phases of the ship design and construction process with the aim of transforming the entire value chain of the shipbuilding industry and boosting its competitiveness.

CESENA joins the network of global Centers of Excellence that Siemens has already established in other shipbuilding communities, including the USA, Germany, India, Australia, China and the United Kingdom. Among other educational and innovation activities, the CESENA will host the Marine Digital Twin training program, which will certify new naval industry professionals around all technologies related to the Digital Twin including naval architecture, structural design, electrical design, mechanical design, simulation, PLM management and Industrial IoT.

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The Spanish Association of Naval Architects (AINE) has already awarded Siemens and CESENA project an award as the "Best Company or Institution related to activities in the Maritime Sector". This recognition highlights the capacity of the technology company to lead the modernization of the naval sector in Spain.

The creation of CESENA continues Siemens' commitment begun in November 2019, when Siemens and Navantia signed an agreement to advance in the digital transformation towards 'Shipyard 4.0', an agreement that has allowed the integral implementation of the Digital Twin in the new F-110 Frigates program and meet the requirements of the Spanish Navy.

In today's race towards sustainable shipping, shipyards need to innovate faster and deliver greener ships that meet stringent safety and environmental standards. As complexity in ship design and construction increases, reaching unprecedented levels, risks and inefficiencies in the current design and manufacturing process need to be minimized. As a result, software is essential to optimize the process, reduce costs and increase productivity without compromising quality.

At CESENA, progress will be made towards the digital transformation of Spanish shipyards through the use of programs and technologies within Siemens' Xcelerator portfolio, including Siemens' NX software, Teamcenter® portfolio, OpCenter™ software, Simcenter™ software and Tecnomatix® portfolio.

"CESENA will work on the development of future solutions for the Spanish naval sector and will encourage the collaboration between the different agents of the industry: shipyards, universities, research centers, associations, shipowners and public organizations" said Miguel Ángel López, President of Siemens Spain.

## ***Synopsys Announces Planned Retirement of CFO Trac Pham***

1 December 2021

Synopsys, Inc. announced that Trac Pham, chief financial officer, intends to retire in 2022. To ensure an orderly transition, Pham will remain in his current role until a successor is in place. Synopsys will initiate a comprehensive search to identify a replacement.

"Trac has made excellent contributions throughout his 15 years at Synopsys, most recently as CFO since 2014," said Aart de Geus, chairman and co-CEO. "As CFO, he was instrumental in driving our company's transformation – accelerating margin and EPS growth while ensuring sufficient investments to best serve our customers and accelerate revenue growth. While we will miss his insights, leadership and teamplay, I congratulate him on a successful career and wish him well in the next phase of his life."

"It has been a privilege to serve as Synopsys' CFO and to work with Aart, Chi-Foon, and our team to support the enduring success of Synopsys," said Trac Pham. "I have a deep affection for our company and team, and this experience has been an important part of my life. Knowing that Synopsys is strongly positioned and poised for more success gives me the comfort and flexibility to prioritize my desire to spend more time with my family. I am looking forward to the next phase of life and will work with our leadership team to ensure a smooth transition."

## ***Tampere University in Finland Establishes Trimble Technology Lab for the Faculty of the Built Environment***

30 November 2021

Building on a commitment to cultivate a highly-trained workforce that will drive the innovative solutions of tomorrow, Trimble and Finland's Tampere University have established a state-of-the-art Technology Lab in Tampere's Faculty of the Built Environment, serving both the departments of Architecture and Civil Engineering.

The Trimble Technology Lab will provide students enrolled in Tampere University's Faculty of the Built Environment hands-on experience with Trimble solutions. Applications of these solutions range from conceptual 3D modeling and design, 3D infrastructure modeling, planning and construction, structural analysis, design and optimization, BIM based scheduling and planning, design management and general use of BIM solutions throughout a building or infrastructure project lifecycle. Partnering with Trimble allows Tampere University to more fully integrate across its curricula the technological tools that are rapidly transforming how the built environment is designed, constructed and managed.

"The state-of-the-art Trimble Technology Lab at Tampere University will be the first of its kind in Finland," said Allyson McDuffie, director of Education & Outreach at Trimble. "This engagement is at the nexus of technology and education in the built environment. By increasing our already strong engagement through establishing a Trimble Technology Lab on campus, we're able to increase access to transformative technologies, ensuring that students are equipped to shape the future sustainable world."

"Partnering with Trimble will significantly strengthen our civil engineering and architecture studies by establishing a Trimble Technology Lab," said Antti Lönnqvist, dean of the Faculty of Built Environment at Tampere University. "Digitalization and the changes it brings are a great opportunity and challenge for the built environment sector. Related research and university education are very important operational areas for us. We want to equip our students with the best possible capabilities regarding modern technology solutions. This includes, in particular, solutions for building construction and the infrastructure with a focus on building and spatial surveying, architectural design, structural design, road and railway engineering, transport systems, geotechnical design and construction project management. In research, we want to be at the forefront, especially with regard to the comprehensive utilization of modern technology solutions in the built environment."

The lab will include a broad range of Trimble's technology including mechanical total stations and advanced software solutions including RealWorks® scanning software, Trimble Business Center Infrastructure Construction edition, Quadri, Novapoint, Quantum, Tilos, Tekla® Structures, Tekla Structural Designer, Tekla Tedds, Trimble Connect® collaboration platform and the company's popular 3D modeling software, SketchUp Pro and SketchUp studio bundle.

Trimble's broad Connected Construction portfolio enables all professionals along the project lifecycle to accelerate project processes—improving productivity, quality, transparency, safety and sustainability, while reducing waste.

## ***Uptake Joins Oren Marketplace to Support Digital Transformation of Mining Industry***

30 November 2021

Uptake, the leader in industrial intelligence software-as-a-service, announced that it has joined Oren, a global B2B digital mining services marketplace developed by Shell and IBM to help mining companies access and implement digital solutions. Uptake Fusion, which moves, stores, and curates operational

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technology (OT) data in an organization's Microsoft Azure environment for advanced applications, and Uptake Compass, the maintenance strategy engine, are both listed on the marketplace. Data management, IT, maintenance, and reliability teams in mining operations now have streamlined access to data integration and AI-powered insights that increase the availability and reliability of their fixed and mobile assets.

“The last two years have shown that mining operations must start leveraging their data and digital tools to drive long-term resilience and growth. Improvements in productivity, reliability, and maintenance planning are imperative as organizations look to secure their future,” shared Kayne Grau, CEO, Uptake. “We are excited to partner with Shell and IBM on Oren, and to make initiatives in operational excellence more accessible through the greater availability of vetted, trusted tools.”

Among those solutions is Uptake Fusion, which accelerates digital mine operations through the cost-effective and secure movement of OT data from on-premise systems to an organization's Azure cloud. Its open format and integrations with Microsoft Power BI, PowerApps, and Azure Time Series Insights enable internal and third-party data consumers to use their preferred tools to derive data insights. Uptake Fusion also expedites the deployment of applications such as intelligent events, process optimization, forecasting, and AI/ML predictive analytics, including through Uptake's portfolio of asset performance management (APM) and advanced industrial analytics.

Uptake Compass, for example, uses computerized maintenance management system (CMMS) and OT data to uncover real-time insights through risk-based maintenance prioritization, value-based preventative maintenance (PM) strategies, and survivability analysis. These features ultimately enable maintenance and reliability teams to achieve greater reliability at a lower total cost of ownership. Teams with limited or no high-fidelity data can still use Compass to create expert-curated PM strategies and best practices for critical assets.

“The Oren Marketplace is the go-to source for mining companies to effectively find digital tools like Uptake's that will help them transform operational reliability and efficiency in remote locations. Uptake is a trusted AI solutions provider that strengthens Oren's mission to jumpstart the digital transformation of the mining industry,” said Grischa Sauerberg, VP of Mining, Sectors & Decarbonisation at Shell. “Having a single collaborative marketplace platform that allows miners to access a wide range of solutions will help remove the barriers to digital transformation.

Shell and IBM established the Oren Marketplace in July 2020 after identifying that the challenges of digital transformation had been exacerbated by the COVID-19 pandemic and could be alleviated through broadened access to digital solutions. Since then, Oren has equipped mining companies from around the world with the solutions they need to support critical initiatives in safety, sustainability, mine planning, and operational efficiency.

## Event News

### ***Inspirage and Oracle to Co-Sponsor Global Energy Conference in Norway***

26 November 2021

Inspirage, a leading global consulting firm specializing in transformational digital and consulting services that enable integrated enterprises, announced that it will co-sponsor the Energy:Connected'21 Conference with Oracle in Fornebu, Norway from 8-9 December 2021.

Powered by Energy Valley, a Norwegian center of expertise for energy technology, the annual conference will unite professionals from around the world to discuss how investments in renewable

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energy and business optimization can prepare the world for a more sustainable future. This year's conference features over fifteen speaking sessions, including keynote presentations by global leaders in the energy space. Energy: Connected '21 follows the prestigious 2021 United Nations Climate Change Conference, also known as COP26, held in Glasgow this Fall. Kevin Creel, Co-founder and President, Inspirage, and Cormac Watters, Executive Vice President of Applications, Oracle, will deliver the high-level keynote, "From Volume to Value."

"Companies adopting renewable energy systems are relying on a distinct set of supply chain management tools compared to traditional oil and gas-supported businesses. As a result, embracing change and innovation is absolutely necessary. Inspirage's domain expertise and industry experience in end-to-end digital transformations position us as a crucial resource for companies during this major metamorphosis." said Creel.

At Energy:Connected '21, Inspirage will deliver a master class, "Transform your Supply Chain Management for Renewable Energies." The class will highlight how Inspirage's Enterprise Control Tower (ECT) can help companies embrace sustainable business practices. The ECT solution enables users to assemble an integrated view of their business and predictive cross-functional outcomes by supplying the required technology, data framework, and insight-driven analytical content to diagnose, identify, and optimize performance across the supply chain. Whether your needs are simple or complex, the ECT provides the ability to scale based on maturity and expected goals through a modular control tower approach.

"Programs to accelerate renewable energies and support the fast-growing demand for green electricity have been implemented in all European countries, largely supported by governments and the European Union. Inspirage's key value is to help companies successfully kickstart their programs, effectively manage their new supply chains, and quickly meet their sustainability objectives" said Denis Senpere, Vice President, Inspirage, Europe.

Inspirage continues to invest in solution development, accelerators, and cloud innovations and recently achieved Service Expertise in a broad set of Oracle Cloud SCM (Supply Change Management) applications in Europe.

## ***Meet the Keynote Speakers of AltiumLive 2022 CONNECT***

1 December 2021

Welcome back to the beautiful city of San Diego for the 5th annual AltiumLive 2022 CONNECT conference! This year, AltiumLive will be held in person at the San Diego Convention Center January 26-28, 2022. The event will feature an amazing roundup of electronics industry leaders, providing opportunities for printed circuit board (PCB) designers to learn, connect, and get inspired throughout the three-day conference. Also, for the first time ever, AltiumLive is co-locating with IPC APEX EXPO, allowing attendees to fully immerse themselves in all aspects of the printed circuit board design to realization (manufacturing) process.

AltiumLive proudly unveils a fantastic lineup of speakers that will highlight attendee experience and enrich the conference with valued insight, professional development courses, and educational information for PCB design professionals of every level:

- **Chris Church**, Co-founder and Chief Product Officer at MacroFab. With over 20 years in technology development and leadership, he has led companies in the SaaS, Robotics, and Manufacturing spaces. Church has been at the forefront of transforming domestic and international hardware manufacturing during the COVID crisis.

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- **Ashley Quinlan** oversees the Global Distribution Channel and Digital Marketing for Samtec, a leading interconnect manufacturer known for superior service and cutting-edge technology. Her vision for the evolution of the customer journey has propelled Samtec as a leader in the digital space with unprecedented growth and is responsible for Samtec's place as the first manufacturer to market in many emerging platforms in the electronic components industry.
- **Dave Doherty**, President and COO of Digi-Key Electronics. Doherty has over 35 years of experience in the semiconductor suppliers and distribution industry.
- **Todd H. Hubing**, Former IBM engineer and current Professor Emeritus of Electrical and Computer Engineering at Professor Emeritus of Electrical and Computer Engineering at Clemson University and President of LearnEMC.
- **Jackie Mattox**, Founder, President, and Chief Executive Officer for Women in Electronics. Mattox has been dedicated to expanding opportunities for women leaders at all stages of their career in the electronics industry.
- **Dr. Eric Bogatin**, Dean of the Teledyne LeCroy Signal Integrity Academy and leading industry expert on signal integrity.
- **Leigh Gawne**, Chief Technology Officer at Altium. Gawne has been at the forefront of the Altium 365 cloud platform development and APIs as the leader of Nexar engineering.
- **Dan Schoenfelder**, Head of Octopart and responsible for revenue operations for the Nexar Business Unit. Schoenfelder has over 20 years experience in electronic components, digital leadership, distribution, and manufacturing.
- **Robert Feranec**, Founder of FEDEVEL Academy. Feranec has designed motherboards based on Intel, AMD, and VIA processors. Feranec's instructional videos enjoy a huge following on his YouTube channel.

“Our vision for AltiumLive has always been to bring the PCB design, supply chain, and manufacturing communities together to meet the grand challenges that our industry faces,” said Ted Pawela, Chief Ecosystem Officer and Head of Altium's Nexar business unit. “We're excited to feature a lineup of speakers with a variety of experiences and expertise that represents every stage of the electronics design to realization process. And now, with AltiumLive being co-located with the IPC APEX EXPO, we've taken another big step in connecting the practitioners in each of these domains to improve the electronics product development process.”

The three-day event will also include exclusive courses, Q&A sessions, interactive electronics education, and networking, daily happy hours, immersive tours of manufacturing facilities, and more. But move fast! Early bird pricing ends December 17, 2021.

## Financial News

### ***Accenture to Host Conference Call Thursday, Dec. 16, to Discuss First-Quarter Fiscal Year 2022 Results***

30 November 2021

Accenture will host a conference call at 8:00 a.m. EST on Thursday, Dec. 16, to discuss its first-quarter fiscal year 2022 financial results. A news release containing these results will be issued before the call. To participate, please dial +1 (877) 692-8955 [+1 (234) 720-6979 outside the United States, Puerto Rico

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and Canada] and enter access code 6450548 approximately 15 minutes before the scheduled start of the call. The conference call will also be accessible live on the Investor Relations section of the Accenture Web site at [www.accenture.com](http://www.accenture.com).

A replay of the conference call will be available online at [www.accenture.com](http://www.accenture.com) beginning at 11:00 a.m. EST on Thursday, Dec 16, 2021. The replay will also be available via telephone by dialing +1 (866) 207-1041 [+1 (402) 970-0847 outside the United States, Puerto Rico and Canada] and entering access code 5745754 from 11:00 a.m. EST Thursday, Dec. 16 through Wednesday, Mar. 16, 2022.

## ***Tecsys Reports Financial Results for the Second Quarter of Fiscal 2022***

1 December 2021

Tecsys Inc., an industry-leading supply chain management SaaS company, announced its results for the second quarter of fiscal year 2022, ended October 31, 2021. All dollar amounts are expressed in Canadian currency and are prepared in accordance with International Financial Reporting Standards (IFRS).

### **Second Quarter Highlights:**

- SaaS revenue increased by 28% to \$6.6 million in Q2 2022, up from \$5.1 million in Q2 2021.
- Annual Recurring Revenue (ARR<sup>i</sup>) at October 31, 2021 was up 12% to \$56.9 million compared to \$50.9 million at October 31, 2020.
- During Q2 2022, SaaS subscription bookings<sup>i</sup> (measured on an ARR<sup>i</sup> basis) were \$4.0 million, up 50% compared to \$2.7 million in the second quarter of fiscal 2021.
- Professional services revenue was up 11% to \$13.1 million in Q2 2022 compared to \$11.8 million in Q2 2021.
- Total revenue was a record \$34.3 million, 12% higher than \$30.7 million reported for Q2 2021.
- Gross margin was 45% compared to 52% in the prior year quarter, negatively impacted by a weaker US dollar, investment in our key growth initiatives and revenue mix. Total gross profit decreased to \$15.5 million, down 3% from \$16.0 million in Q2 2021.
- Operating expenses increased to \$13.9 million, higher by \$1.3 million or 11% compared to \$12.6 million in Q2 fiscal 2021 with continuing investment in sales and marketing as well as research and development.
- Profit from operations in Q2 2022 was \$1.6 million, down from \$3.5 million in Q2 2021.
- Net profit was \$0.7 million or \$0.05 per share on a fully diluted basis in Q2 2022 compared to a net profit of \$2.1 million or \$0.14 per share on a fully diluted basis for the same period in fiscal 2021.
- Adjusted EBITDA<sup>ii</sup> was \$3.2 million in Q2 2022, down 34% compared to \$4.8 million reported in Q2 2021.

“We continue our momentum into yet another quarter of record revenue and solid sequential and year-over-year growth. We are supporting that performance with excellent strides in building out our sales team, strengthening our delivery capacity, investing in our platform, and developing our pipeline,” said Peter Brereton, president and CEO of Tecsys, Inc. “Our three target verticals are all performing or outperforming expectations, with notable wins in healthcare with three new major hospital networks, and an expanding customer base in global retail and our distribution market. We are confident that we are favorably positioned as the heightened focus on supply chains turns into greater investment in

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supply chain agility and the specialized technologies that underpin it.”

Mark Bentler, chief financial officer of Tecsyst Inc., added, “We are pleased with another quarter of solid revenue growth in spite of significant foreign currency headwinds. On a constant currency basis, our second quarter fiscal 2022 revenue grew by about 18% compared to the same period last year, with SaaS revenue once again being a key driver. Currency fluctuations knocked about \$2 million off of revenue and \$1.5 million off of adjusted EBITDA compared to the same quarter last year. Considering the general trajectory of our SaaS revenue, within a few quarters we are likely to see SaaS revenue overtaking maintenance and support as our leading source of recurring revenue.”

## **Year-to-date performance for first half of fiscal 2022:**

- SaaS revenue increased by 36% to \$12.2 million in the first half of fiscal 2022, up from \$9.0 million the same period of fiscal 2021.
- SaaS subscription bookings<sup>i</sup> (measured on an ARR<sup>i</sup> basis) were \$5.1 million for both the first half of fiscal 2022 and 2021.
- Professional services revenue was up 14% to \$26.2 million in the first half of fiscal 2022 compared to \$23.0 million in the same period of fiscal 2021.
- Total revenue was a record \$67.5 million, 15% higher than \$58.8 million reported for the same period of fiscal 2021.
- Gross margin was 44% compared to 50% in the same period of fiscal 2021, negatively impacted by a weaker US dollar, investment in our key growth initiatives and revenue mix.
- Total gross profit increased to \$29.9 million, up 2% from \$29.5 million in the same period fiscal 2021.
- Operating expenses increased to \$27.2 million, higher by \$3.2 million or 13% compared to \$24.0 million in the same period of fiscal 2021 with continuing investment in sales and marketing as well as research and development.
- Profit from operations in the first half of fiscal 2022 was \$2.7 million, down from \$5.4 million in the same period of fiscal 2021.
- Net profit was \$1.0 million or \$0.06 per share on a fully diluted basis in the first half of fiscal 2022 compared to a net profit of \$3.3 million or \$0.23 per share on a fully diluted basis for the same period in fiscal 2021.
- Adjusted EBITDA<sup>ii</sup> was \$5.7 million in the first half of fiscal 2022, down 32% compared to \$8.3 million reported in the same period in fiscal 2021.

On December 1, 2021, the Company’s Board of Directors declared a quarterly dividend of \$0.07 per share to be paid on January 7, 2022 to shareholders of record on December 16, 2021.

## **Implementation Investments**

### ***Ansys Empowers SPEC Innovations to Shoot for the Moon in NASA Challenge***

1 December 2021

A leader in systems engineering, SPEC Innovations is applying Ansys simulation solutions to develop a digital twin of a lunar rover to better enable Moon excavation in response to NASA’s Break the Ice Lunar Challenge.

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With Ansys' best-in-class tools, SPEC Innovations devised a cloud native, cost-effective solution to the innovation challenge, which aims to inspire new technologies to help establish a consistent human presence on the Moon by 2030. To operate on the Moon, robotic systems must withstand brutal environments in dark, shadowed regions of the lunar south pole, while canvassing its surface for water.

By integrating its cloud-based web application Innoslate with Ansys SpaceClaim 3D modeling software and AGI Systems Tool Kit (STK) analysis platform, SPEC Innovations reached primary goals through digital engineering; these goals include excavating icy regolith and increasing water mining, while minimizing equipment and power consumption. Further, by leveraging Ansys, SPEC Innovations was able to validate mission processes during design analysis and substantially reduce time and cost.

“Ansys SpaceClaim allowed SPEC Innovations to cut cost and time by 1,000%,” said Steven H. Dam, Ph.D., ESEP, president and chief operating officer at SPEC Innovations. “It enabled a rapid modification of the commercial-off-the-shelf (COTS) rover to enable the addition of key components, including a robot arm, collection bin, and fenders, using an inexpensive 3D printer. Such development would have been cost prohibitive if developed by other methods.”

Innoslate offers cloud computing, artificial intelligence (AI) technology, and functionalities including project management to complete the digital thread experience within a single model-based systems engineering (MBSE) tool.

“Digital engineering and digital twins are the next phase of innovation in our world,” said Prith Banerjee, chief technology officer at Ansys. “And by leveraging things like AI, machine learning (ML), and cloud computing, simulation is at the forefront of space exploration with more potential than ever to impact product innovation—from Earth to the Moon and beyond.”

NASA's Break the Ice Lunar Challenge program conducted its first phase, which focused on system architecture innovation, from November 2020 through August 2021. Its second phase, once initiated, will focus on designing and validating systems.

## ***Apave, ESI Group and Onet Technologies – A unique alliance for an outstanding EPR project at the Jaitapur site in India***

1 December 2021

**Apave, ESI Group and Onet Technologies have formalized, at the WNE (World Nuclear Exhibition) 2021, their collaboration, through the MINS (Make in India Nuclear supply chain Support) alliance, to build a common value proposition in order to respond to the project to create six EPR reactors on the Jaitapur site in western India.**

Philippe Maillard, CEO of APAVE Group, Emmanuel Leroy, EVP Product, Innovation & Industry Solutions of ESI Group and Alain Gauvin, CEO of ONET Technologies, signed today at WNE 2021, with the participation of Xavier Ursat, Group Senior Executive Vice President, New Nuclear Projects and Engineering, a joint declaration of intent structuring the MINS alliance, thus combining their skills on the outstanding Indian EPR market at the Jaitapur site.

### **A unique Indian project**

In April 2021, EDF submitted a binding technical and commercial offer to NCPIL (Nuclear Power Corporation of India Limited - India's state-owned nuclear power company) for the construction of six EPR (pressurized water reactor) reactors in India, at the Jaitapur site in the state of Maharashtra, whose capital is Bombay, the country's economic and commercial center. With an installed capacity of 9.6 GW, this plant would be the most powerful in the world. It would produce up to 75 TWh per year and cover

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the annual consumption of 70 million Indian households, while avoiding the emission of about 80 million tons of CO2 per year.

### **A unique French alliance based on complementary expertise**

Based on more than forty years of experience in the nuclear sector, APAVE, ESI Group and ONET Technologies have combined their skills and know-how: in nuclear engineering for ONET Technologies, in compliance with regulatory and non-regulatory safety and security requirements for APAVE, and in virtual prototyping capabilities for ESI Group, in order to put them at the service of the project.

This combination enables the MINS alliance to offer a complete range of services ("one-stop shop" approach) to Indian manufacturers, constructors, and assemblers, from assistance in the design of systems and equipment to commissioning, including support in manufacturing methods and monitoring, numerical simulations to support component sizing, and quality and regulatory controls.

*We are delighted that such experienced partners as Apave, ESI Group and Onet Technologies have joined forces to meet the many challenges of this extraordinary project in India. Their complementary nature and unique know-how, combined with their proximity to the field, will prove to be a major asset for our Group in the success of this major project, both in terms of its nature - the construction of the most powerful power plant in the world - and its duration - more than 15 years.*

**Xavier Ursat**

Group Executive Director in charge of EDF's Engineering and New Nuclear Projects Division

### ***Atos and Siemens to support Morocco in the smart management of its power grid***

1 December 2021

**Atos**, Siemens and Morocco's National Office of Electricity and Drinking Water (Office National de l'Électricité et de l'Eau potable, ONEE) are pleased to announce their collaboration on a large project for the smart management of the local power grid ("smart grid"). Atos and Siemens are working on deploying a **smart energy metering platform** that will allow ONEE to efficiently process the data collected by more than 100,000 smart meters that will be installed across the country, thus optimizing energy consumption and management of the national grid while meeting Morocco's growing energy needs.

ONEE, which has been **supporting Morocco's energy transition** since 2012, needed a scalable grid operating system as the deployment of smart meters is changing the operational and business models of public utilities.

The project is part of the country's Energy Efficiency program and encompasses the implementation of Siemens' EnergyIP® meter data management platform, which enables the automated use of the collected data, raises awareness about energy consumption among end users and generates a more secure revenue stream. Atos experts will be responsible for **IT infrastructure and security tasks** and will ensure the consistency of all technical solutions. They will also oversee the contract management and local services and will support the change management process.

This sophisticated new energy management system has the necessary functionality to meet the needs of an ever-changing grid and supports the national digital transformation agenda. For Atos and Siemens, this is the biggest joint smart grid project in Africa. This project reflects the strategies of both partners who are committed to supporting their clients' environmental and decarbonization approaches.

*"We are pleased to support ONEE in its great digital transformation efforts, in collaboration with our*

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*strategic partner Siemens. With more than 40 years of experience in the energy sector and an unwavering commitment to the decarbonization of our clients' activities, Atos is ready to fully leverage the expertise of its NetZero Transformation Competence center to support the Moroccan energy grid transition for the benefit of the country's citizens. We are proud to make the power grid ever smarter, and to help Morocco optimize its energy consumption,"* said **Giuseppe di Franco, Head of Resources & Services at Atos.**

*"Our EnergyIP solution, which we are implementing together with our strategic partner Atos, will help ONEE fully leverage the electricity consumption data and optimize the overall management of the grid. Our technology will support the digital transformation of ONEE and will serve as a foundation for future technological evolutions. We are proud to be a part of this change to bring more intelligence to the power grid in Morocco and support the country on its way to a more sustainable, low-carbon energy future,"* added **Sabine Erlinghagen, CEO Digital Grid at Siemens Smart Infrastructure.**

## ***Glory Apparel is in the Home Stretch to Digital Transformation***

1 December 2021

Glory Apparel, a knitwear company selected Centric Software®'s Product Lifecycle Management (PLM) solution, Centric SMB for emerging enterprises. Centric Software provides the most innovative enterprise solutions to plan, design, develop, source, and sell products such as apparel, footwear, sporting goods, furniture, home décor, personal care, food & beverage and luxury to achieve strategic and operational digital transformation goals.

Established in 1980 and headquartered in New York City, Glory Apparel produces knitwear and distributes it via a network of omni channel retailers. The company has offices around the globe including New York, Japan, Taiwan and Hong Kong, with factories in mainland China. They produce both private label and branded products, with an output of five million garments annually.

Claire Deng, Accountant/Financial Analyst and subject matter expert on PLM at Glory Apparel describes how the company used email, spreadsheets, pdfs and other documents for product development. "We spend too much time on internal communication and we want to make our work more efficient. So we wanted a system where we can organize all our documents and communicate with the whole team in a very effective way."

Glory Apparel considered several PLM systems but in the end, after a compelling demo, chose Centric SMB due to its user-friendliness and functionality. Says Deng, "Centric meets all of our needs. We trust that Centric can help us to improve our efficiency, collaboration across all our locations and communication."

Centric PLM touches many functional areas in the business: productions operations, product development and accounting. It provides transparency to those who need it. They are looking to gain visibility to their tech packs. Regarding the accounting area, Deng says, "I can get the whole picture of the entire process. That helps me with our accounts payable and accounts receivable process. I can track shipments so I know when to start processing payments."

Chris Groves, president, and CEO of Centric Software says, "Glory Apparel's longevity in the business is a testament to their business savvy. We are excited to be partnering with this global company in setting the foundation for digital transformation. Centric PLM enables them to achieve their goals of keeping their prices competitive and delivering high quality product on time."

## ***Infosys and Proximus Extend Collaboration on IT Application Transformation and Development***

1 December 2021

Infosys, a global leader in next-generation digital services and consulting, announced the extension of its strategic collaboration with Proximus, Belgium's leading digital services and communications solutions provider, to digitally transform, develop, and maintain their IT applications with leading AI and automation solutions. Through this engagement, Infosys will support Proximus' key digital initiatives, IT transformation programs and provide structural cost reduction, in a sustainable manner.

As part of this engagement, Infosys will oversee the development, maintenance, and operations of Proximus' IT applications in a managed service model. Infosys will also leverage its extensive partner ecosystem to accelerate the implementation of the strategic transformation programs for Proximus while ensuring optimal cost savings.

**Antonietta Mastroianni, Chief Digital & IT Officer, Proximus, and recent recipient of CXO of the year at the 5G Telco Awards, 2021**, said, "As we continue on this journey to elevate our digital initiatives, we were looking for a partner that could understand and provide strength to our digital vision. IT services companies play an imperative role during these times of transformation. Infosys continues to be our strategic partner to drive efficiency in our IT landscape and support us in our Digital transformation journey. Having shared a bond with Infosys for over 24 years, its knowledge of the existing landscape and skilled resources will help ensure the success of our initiative. We are happy to extend this collaboration with Infosys and are looking forward to a successful journey together."

**Anand Swaminathan, Executive Vice President - Communications, Media and Technology, Infosys**, said, "Proximus – Infosys' collaboration success for more than 2 decades reflects the strong alignment in values, and the commitment to support each other during critical Industry and Business shifts. We are excited about the opportunity to support Proximus in its Digital transformation, and towards their #Inspire2022 goals."

## ***Infosys Collaborates with One of Europe's Greenest Data Centers to Accelerate Daimler's Transition to Sustainable Mobility***

30 November 2021

Infosys, a global leader in next-generation digital services and consulting, announced that it will transfer Daimler's High Performance Computing (HPC) workloads used to design vehicles and automated driving technologies to one of Europe's greenest data centers, Lefdal Mine Datacenter in Norway. The shift to Green Data Center as a Service is an important milestone in supporting Daimler deliver on its sustainability mission "Ambition 2039" to become CO2 neutral by 2039.

Data centers currently account for around 1% of total global energy use and service demand is expected to increase 60% by 2022. As next generation technologies continue to develop, engineering and other high-performance workloads that run complex algorithms such as those required for simulating sensors and journeys for autonomous vehicles will be increasingly critical to automakers' competitiveness in the mobility industry. Yet, these workloads are extremely energy consuming and contribute considerably to the carbon footprint of enterprises worldwide.

Building on its strategic partnership with Daimler to drive hybrid cloud-powered innovation and transform IT infrastructure, Infosys offered a solution to facilitate Daimler shift HPC's to green infrastructure using Infosys' Data Center as a Service (DCaaS) offering in the Nordics region. Through

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the initiative, Infosys will manage the IT infrastructure in its entirety and Lefdal Mine Datacenter will provide the facility, a world leading sustainable and energy efficient data center.

Norway is becoming a “superpower” for green data centers given that 100% of the power production in the region is renewable, and transmission loss reduced to a minimum. Lefdal Mine Datacenter offers one of Europe’s greenest data center solutions, supplying capacity that is both air-cooled and water-cooled.

The data center is situated in a mine next to a deep, cold fjord with a stable and low temperature for effective cooling. Compared to air cooled data centers, Lefdal Mine Datacenter is not affected by warm days, and doesn’t require evaporative systems for cooling, with water usage effectiveness also rated zero. This system leads to a PUE ranging from 1.10 to 1.15 depending on UPS configuration and scale of capacity. The data center offers a world leading location for HPC environments.

The Green Data Center is the latest addition to Infosys Cobalt Hybrid Cloud portfolio, a blueprint consisting of a combination of Regional Private Data Centers covering all major continents, Edge Data Centers and Hyperscalers. For Daimler, partnering with Infosys to reimagine its data center operations in Lefdal Mine Datacenter will have a significant impact in delivering on its sustainability goals, and demonstrates the huge opportunity for other organizations to benefit from the industry-leading offering.

**Jan Brecht, Chief Information Officer, Daimler and Mercedes-Benz**, said: “A large proportion of our IT energy consumption comes from our data centers which require significant power for computing and cooling. That's why we're transforming our data centers with the support of our partner Infosys, bringing particularly the high-performance computing into one energy efficient solution at Lefdal Mine Datacenter. Not only will we benefit from natural cooling thanks to the cold weather, our operations will also be run on 100% green energy. This initiative marks another important milestone on our journey to becoming Co2 neutral”.

**Salil Parekh, Chief Executive Officer, Infosys**, said: “Infosys is a strategic partner to organizations navigating decarbonization and we are well positioned to deliver sustainable green transformation leveraging expertise gained from decade long efforts in environment stewardship. We pioneer projects around the world across every industry to facilitate climate change actions, developing solutions and services to help clients in their low-carbon transition. In delivering this transformation for Daimler we’ve shown how Green Infrastructure as a Service can radically reduce organizations’ impact on the environment and the vast potential for other organizations running high compute enterprise workloads to benefit from this industry-leading sustainability offering.”

**Jørn Skaane, Chief Executive Officer, Lefdal Mine Datacenter AS**, said: “We have built and operate a leading sustainable, secure and cost-effective data center – The Norwegian Solution. With short travelled renewable power and cooling from the nearby fjord, sustainability is in the core of our mission and values. Our ambition is to be the greenest data center in the world, with the ability to offer tailor-made and scalable data center solutions. We are inspired to have been chosen to host Daimler HPC workloads and will contribute for Daimler to become CO2 neutral.”

**Jan Christian Vestre, Minister of Trade and Industry in the Norwegian Government**, said: “I wish to congratulate the parties on reaching this important milestone. Lefdal Mine Datacenter, based on the reuse of industrial infrastructure and locally produced energy, is an excellent example of how Norwegian data centers and industrial knowhow can help industries of the future achieve their goals of decarbonization.”

## ***LTI Enables Large Scale Digital Transformation for PIH Group of Companies***

24 November 2021

Larsen & Toubro Infotech, a global technology consulting and digital solutions company has partnered with Qatar-based global conglomerate, Power International Holding (PIH) Group of Companies to enable large scale Digital Transformation leveraging an extensive array of SAP® solutions for an intelligent enterprise. The solution framework implementation further strengthens and accelerates PIH's vision to attain a digital-first, data-driven business approach.

As part of PIH's Digital Transformation journey with LTI, 63 companies of the group spread across four business domains underwent transformation of more than 250 processes. This digital transformation leverages SAP S/4HANA®, SAP SuccessFactors® solutions, and SAP's industry cloud solutions and extensions built on SAP Business Technology Platform (SAP BTP) leveraging several IP-based solutions from LTI designed for engineering & construction industry. It includes planning synchronizer, project pay chain, resource deployment tool, project management cockpit for performance forecasting, engineering cashflow and supplier portal. This initiative has enabled PIH Group of companies to have a smooth flow of data to enable more accurate and timely decision making across varied business landscape and has also enabled them to have business playbooks for new acquisitions, mergers or de-mergers.

Sudhir Chaturvedi, President & Executive Board Member, LTI, said: "The digital acceleration caused by the pandemic has brought the benefits of embracing disruptive technologies to the fore. Digitizing the core can enhance process efficiency, customer satisfaction and reduce costs that together help in achieving business excellence. LTI's rich heritage of experience in the Engineering & Construction industry and our robust partnership with SAP as a global strategic service partner makes us the ideal partner of PIH for this ambitious engagement."

Jasim Abdul Rahman, Group Chief Information Officer, PIH, said: "At PIH we have resolved to evolve, diversify and grow by adopting a digital-first approach. Toward this objective, we wanted a solution that not only encapsulates existing businesses under a single digital framework but also provides the flexibility to equip our foray into newer industries in future. LTI's proven expertise in enabling disruptive digital transformation systems is globally acclaimed and together with SAP, our partnership has enabled PIH's transformative journey."

Alaa Jaber, Managing Director for SAP Qatar and Fast Growth Markets commented: "The current times emphasize the importance of agility, flexibility and scalability for Qatar's businesses to continue marching towards growth. PIH's digital transformation with LTI stands out as an ideal testimony to showcase a proactive approach in embracing technology to help large businesses scale up with pace."

PIH is a Qatar based conglomerate with a 60,000+ employees operating out of several countries across six sectors – General Contracting (UCC Holding), Real Estate Development, Industry and Services, General Services, Agriculture & Food industries (Baladna) and Hospitality and Entertainment.

## ***Mark Fairwhale Boosts In-House Innovation with Centric PLM***

29 November 2021

Mark Fairwhale, China's top fashion menswear brand, has selected Centric Software's Product Lifecycle Management (PLM) solution. Centric Software provides the most innovative enterprise solutions to plan, design, develop, source and sell products such as apparel, footwear, sporting goods, furniture, home décor, cosmetics, food & beverage and luxury to achieve strategic and operational digital transformation goals.

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Headed by internationally renowned designer Mark Cheung, Mark Fairwhale is an original Chinese fashion brand founded in 2001. Brands under Mark Fairwhale include DEBRAND, RESHAKE, CAMEL ACTIVE and 5th SPACE. Mark Fairwhale owns more than 2500 brick-and-mortar boutiques, online flagship stores and online-to-offline new retail stores.

Mark Fairwhale is a pioneer in the digitalization of apparel companies in China and is embracing digital transformation in the post-pandemic economy, with a strategic goal of fully realizing the potential of in-house innovation. To achieve this, Mark Fairwhale selected Centric Fashion PLM.

“Our goal is to achieve 100% fully controllable independent R&D from product planning, original design, configuration of materials, and pattern customization to prototype production,” says Mr. Yang, CEO of Mark Fairwhale. “We need to advance the digitalization process on a larger scale, reshape Mark Fairwhale’s management infrastructure engineering, and upgrade the foundation of R&D and brand management. In exceptional times such as these, it is very meaningful to adopt effective solutions like Centric PLM.”

With Centric PLM in place, Mark Fairwhale expects to improve forecasting, be more responsive while better anticipating change, enhance product control with independent R&D so as to capture information in a timely manner and make sourcing more agile.

“I hope we can truly become a cutting-edge company with our digital business philosophy, and I look forward to the implementation of the PLM project,” concludes Mr. Yang.

“We would like to welcome Mark Fairwhale on board,” says Chris Groves, President and CEO of Centric Software. “Working together, we intend to implement a digital transformation project that will revolutionize R&D and innovation at Mark Fairwhale, ultimately driving growth and reinforcing their position as a fashion leader in China.”

## ***NAAREA Chooses the 3DEXPERIENCE Platform to Develop the Virtual Twin of Its Extra Small Modular Reactor***

2 December 2021

Dassault Systèmes announced that the newly created France-based company NAAREA will use Dassault Systèmes’ 3DEXPERIENCE platform on the cloud to virtually design its solution, the XSMR extra small sustainable modular nuclear reactor. The XSMR is an ultra-compact clean energy source that uses fuel from existing reserves of industrial waste without consuming natural resources. The announcement was made today at the World Nuclear Exhibition in Paris.

NAAREA will use the 3DEXPERIENCE platform to create a virtual twin of the XSMR. In this unified virtual environment, NAAREA can collaborate to design the reactor’s system, simulate its operation, and validate it with end-to-end traceability and design quality. As the platform is based on the cloud, NAAREA could access the virtual twin from anywhere at any time, and increase the number of users as needed.

“Energy production plays an integral role in global efforts to achieve the United Nations’ Sustainable Development Goals. We aim to support these goals by developing large-scale nano power plants that produce abundant, carbon-free, decentralized, non-intermittent energy with great autonomy and at a lower cost than renewable energies all while complementing and supporting them,” said Jean-Luc Alexandre, co-founder and CEO , NAAREA.

“As the world shifts away from the use of fossil fuels, we are helping companies in the energy sector contribute to sustainability goals set by the global community,” said Philippe Besse, Managing Director

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EUROWEST, Dassault Systèmes. “New innovators like NAAREA can rely on virtual twin experiences with our 3DEXPERIENCE platform to design, simulate and manufacture breakthrough industrial solutions.”

Once it develops the XSMR, NAAREA will target applications in areas such as transportation, agriculture, and smart buildings.

## ***SACO & MEDSCAN Optimize Warehouse Management with Infor and SNS***

29 November 2021

Infor, the industry cloud company, announced that SACO, a retail and wholesale leader in the Kingdom of Saudi Arabia (KSA) region, has deployed Infor WMS (warehouse management system) with Infor ION, and third-party application, Loftware Labelling. The Infor WMS solution, which is fully integrated with SACO’s SAP ERP platform using Infor ION, is set to optimise order processing and picking, enhance put-away, and expedite the loading and validation processes. The project was managed by Infor partner SNS, a leading provider of supply chain consultancy and software implementation.

Infor WMS will support SACO’s warehouse operations, which are managed by its logistics services provider MEDSCAN, following a merger in 2016. MEDSCAN’s innovative and integrated logistics solutions encompass the best professionals, processes and systems to move products more efficiently, and will capitalise on the Infor WMS portal, in particular to streamline financials and billing for the retail and wholesale giant.

With eight warehouses, high order volumes and SKUs in excess of 40,000, SACO needed a solution to optimise performance across its warehouse management. As well as enhancing its picking processes, the company needed to facilitate seamless integration with its ERP platform to ensure a real-time view of operations at any given time and expedite decision-making.

“We needed a robust and scalable warehouse management solution with the in-depth functionality to support large volumes or orders and a wide product range across our eight warehouses,” comments Ibrahim Mahmoud, SACO Group CIO. “The advanced functionality in Infor WMS ensures consistency across our operations, supporting bills of materials, picking, put-aways and loading processes using unique codes and integrating seamlessly with our ERP platform, to drive efficiency across our business. In addition, the deployed enterprise integration platform and Infor WMS facilitates collaboration and visibility to ensure consistency and performance both within and beyond our operations.

“As per regular feedback of the SACO operations team — starting from assignment picking based on the distribution of users per warehouse to enhanced loading with added validation to ensure correct pallets are assigned and loaded to the correct truck — the level of granularity and process refinement we are now able to achieve is hugely valuable. We’re looking forward to embracing a new period of growth underpinned by world-class capabilities and expertise at our helm.”

“Our merger with SACO five years ago represented a huge milestone for MEDSCAN, and we see the deployment of Infor WMS as the next big development in driving value for our customers,” comments Hussain Al Abdullah, MEDSCAN general manager. “The WMS deployment including the flexible integration capabilities will allow MEDSCAN to get new customers on board quickly and smoothly. Infor WMS is particularly impressive in providing dashboards and KPI insights in an intuitive and user-friendly format.”

“The scale of this deployment was huge, with additional challenges brought about by the integration requirements and need to manage the project remotely because of the pandemic,” comments Mohammed Obaidah, SNS director of services. “Having successfully delivered the solution on time and to budget,

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we're delighted to be supporting one of KSA's leading retail and wholesale companies in their quest to deliver best practice and drive performance."

## ***SIBUR implemented a digital model for production scheduling from DELMIA Quintiq***

26 November 2021

SIBUR, Russia's largest integrated petrochemical company, has successfully implemented a digital model for production scheduling and end product distribution using DELMIA Quintiq software from Dassault Systèmes. DELMIA Quintiq is a world leader in Supply Chain Planning and Optimization (SCP&O).

The application has replaced disparate planning tools and practices and allowed to manage the supply chains more effectively. The new planning model was developed for five plants, including ZapSibNeftekhim, which has tripled SIBUR's production capacity of base polymers. In total, the company's five plants produce more than 200 types of polymer products, which are distributed across 40 warehouses and shipped to 180+ points of sale around the world.

Since the initial project with the base polymers business unit, SIBUR has also rolled out the solution in the plastics and synthetic rubber divisions. The planning system has thus additionally covered five more plants, with their respective distributed networks and production specifics.

Modernization of sales chains began at SIBUR in 2018. The company needed an integrated solution with flexible configuration capabilities, a user-friendly interface, and a high-end ability to generate production and distribution plans that optimize SIBUR's business goals.

The main advantage of DELMIA Quintiq is that it uses an advanced KPI-driven algorithm allowing the development of an optimal plan for production, shipments, and product sales, considering the specificity of petrochemical technologies. In addition, the solution provides an opportunity to shape a stock replenishment plan based on customers' needs. Finally, DELMIA Quintiq enables the intelligent planning of operations to minimize machine downtime and maximize productivity.

Such an ambitious Business Transformation project has required careful change management and an iterative improvement approach, to help all relevant stakeholders gradually adapt to the new solution, and engineer and put in place more modern internal processes enabled by the new solution, including the collection, verification, and maintenance of the critical data that the system needs to make accurate calculations. Starting from a Minimal Viable Product (MVP) that already enabled SIBUR to achieve planned inventory reductions and move to a new rolling scheduling process, the solution was progressively enriched and further deployed, to finally reach full production operation at the beginning of 2021.

"Previously, we had many disparate plans, each of which existed in their own system or Excel files. With DELMIA Quintiq, we had a fully integrated solution that has brought order and scenario analysis capability. We were the first in the petrochemical industry to use this application and we can recommend this solution to other companies in this field. We plan to further develop this product and use it for supply chain planning and other operations," said Ljana Barahoeva, SCP Systems Development Manager at SIBUR.

"Dassault Systèmes is proud to assist SIBUR in its pursuit of a leadership position in the international market. The petrochemical industry in Russia has doubled its volume in the last three years, and SIBUR wants to improve its competitiveness, for which we are ready to offer our expertise and technology," said Alexey Ryzhov, Managing Director Russia & CIS at Dassault Systèmes. – As SIBUR's plans become more and more ambitious, DELMIA Quintiq is ready to support them every step of the way

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with a powerful integrated planning solution designed to meet the changing needs of the growing business."

## ***Siemens Partners with Hyundai Motor Company and Kia Corporation for Digital Mobility Transformation***

29 November 2021

Siemens and Hyundai Motor Company and Kia Corporation (Hyundai and Kia) announced a new technology partnership to accelerate their digital transformation and a new future of mobility. Hyundai and Kia has selected Siemens as the preferred bidder and strategic partner to provide next generation engineering and product data management through NX™ software and the Teamcenter® portfolio from Siemens' Xcelerator portfolio of integrated software, services and development platform. Hyundai and Kia has evaluated and assessed various alternatives including incumbent solutions and selected Siemens' software, embracing the world's most comprehensive digital twin. Hyundai and Kia will cooperate with Siemens as its key trusted partner, to drive the future of mobility.

"Selecting NX software and the Teamcenter portfolio from Siemens' Xcelerator portfolio for our core design and data management platforms will introduce a new working environment for our teams that will pave the way for a leap forward in future car development." said Albert Bierman, Head of R&D Division, Hyundai Motor Company. "This is the beginning of a huge transformation and an important point of change for Hyundai Motor Company and with Siemens as our trusted partner we will work together to achieve our goals through mutual cooperation and teamwork."

Hyundai and Kia and Siemens will collaborate to establish design methods and develop custom solutions that consider the lifecycle of all automobiles and associated processes and activities, such as production, purchasing and partners research and development. In addition to providing software, Siemens will provide professional and specialized training to help Hyundai and Kia ensure efficient use/operation of Siemens' software across its network of suppliers.

"Like so many of our customers, Hyundai and Kia is undergoing major transformations in its business and Siemens is honored to have been selected as a strategic partner to provide support and state of the art technologies that will help revolutionize how it develops its next generation products," said Tony Hemmelgarn, President and Chief Executive Officer, Siemens Digital Industries Software. "The Xcelerator portfolio is delivering the tools and technologies for digital transformation that the future demands and our customers need today, so we look forward to collaborating with Hyundai and Kia on next generation Engineering and Product Data Management Systems that will speed digital transformation as we explore the future of mobility, together."

## ***Swiss Re Partners with TCS to Develop a Resilient and Futuristic Digital Workplace***

23 November 2021

Tata Consultancy Services (TCS), a leading global IT services, consulting and business solutions organization, has expanded its 18-year long strategic partnership with Swiss Re, one of the world's leading providers of reinsurance, insurance, and other forms of insurance-based risk transfer, to help the latter build a more social and open digital workspace leveraging the cloud, to drive greater collaboration and innovation.

As part of this initiative, TCS will help Swiss Re to further develop its future-ready, cloud-based digital workplace using Microsoft technologies and manage the underlying operations. Adopting agile ways of working, Swiss Re and TCS will work collaboratively to deliver a persona-based, insights-driven user

experience for over 18,000 end-users.

TCS will help Swiss Re enhance operational excellence through state-of-the-art, lean processes across the end-to-end workplace support function by bringing automation and implementing DevOps best practices. TCS will create self-heal and self-help operations to automate standard processes, and enable out-of-the box endpoints with a seamless corporate experience.

A key focus area for this partnership will be to accelerate the innovation pipeline within the organization, specifically in the areas of immersive experiences and artificial intelligence with the support of edge technologies in the market, which will help Swiss Re to boost its Hybrid Collaboration strategy.

*“Accelerating Swiss Re’s journey to become a leading tech and data-led risk knowledge company, we work closely with our partners to co-create new and innovative solutions by leveraging technology and data to drive value for our clients,”* said **Youngran Kim, Group Chief Technology Officer, Swiss Re**. *“We partnered with TCS to leverage their insurance domain experience, strategic partnership with Microsoft, proven track record in successfully executing similar large transformation programs including with Swiss Re. Together with TCS and Microsoft, we want to empower our employees with a seamless and secure Digital Workplace experience.”*

*“The key to building an innovative, future-ready organization is a vibrant digital workplace that fosters creativity and collaboration, while keeping data and interactions secure. TCS is thrilled to expand its long-standing partnership with Swiss Re to build a new digital workplace using Microsoft technologies, and help them accelerate their innovation and growth,”* said **Siva Ganesan, Global Head, Microsoft Business Unit, TCS**.

## ***Three Spanish Hospitals use privacy-preserving Artificial Intelligence to help the speed and accuracy of COVID-19 screening***

24 November 2021

A collaboration among radiologists from three Spanish hospitals with a high volume of patients – Hospital 12 de Octubre and Hospital Ramón y Cajal, in Madrid, and Hospital Sant Pau in Barcelona – plus technology partner experts in Artificial Intelligence (AI) and IT, is rapidly progressing the use of cutting-edge technologies in healthcare, while maintaining patient data privacy by applying federated learning with hardware-enhanced security. This collaboration aggregates the clinical experience of each hospital to develop automated medical diagnosis models, to facilitate and improve patient care.

Although the definitive diagnosis of COVID-19 is made by microbiological tests – such as PCR or antigen tests -, the main symptomatic alteration in patients is respiratory. Therefore, the chest X-Ray has become the default initial screening test for all patients with suspected symptoms, and its availability and immediacy make it crucial.

During the pandemic, radiologists have analyzed a large number of chest X-rays, combining their previous experience with the learning derived from the findings of the X-rays of thousands of patients. However, the need to analyze a huge number of images with subtle findings requires time, training, and experience, making Artificial Intelligence a highly suitable tool for this purpose.

### **Federated Learning**

The Federated Learning platform developed by Capgemini for the research study, based on sharing AI models trained with image data, allows the creation of a global diagnostic model that significantly improves local versions, especially benefiting healthcare facilities with less experience. The accuracy in

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the diagnosis of COVID-19, obtained in this research study is 89% for the global model, while the previous best of the local versions reached only 71% accuracy. And all this in addition to rigorously preserving patient data privacy.

The clinical protocol was developed as part of a collaboration between Capgemini and the Multisystemic Diseases Group of the Ramón y Cajal Institute for Health Research (IRYCIS). They have also had the support of various technology partners such as Cisco, Intel, Vodafone Spain and Microsoft with clinical cases from the hospitals mentioned above. Gilead Sciences Spain, a pharmaceutical company expert in virology and a pioneer in developing an effective treatment for COVID-19, has supported this project from the beginning, providing its knowledge and experience to contribute to the success.

Computation is also essential. Cisco and Intel provided the computing infrastructure to perform the experiments. Each hospital has a local computing node – fueled by third-generation Intel Xeon Scalable processors with Intel Software Guard Extensions (SGX). Furthermore, each has built-in AI accelerators and Cisco UCS servers – which contains the model that learns from radiological images.

According to Dr. José Carmelo Albillos, Head of Radiology Department at Hospital 12 de Octubre, *“AI allows us to analyze large numbers of images almost automatically and with high precision, which makes it easier to prioritize their review and reporting. For this reason, it reduces the workload while speeding up diagnosis.”*

Dr. Javier Blázquez, Head of Radiology Department at Hospital Ramón y Cajal, highlights: *“Federated learning allows us to improve our diagnostic reliability without disrupting data privacy, since the experience of a hospital is shared among several others, the results improve a lot with respect to those obtained separately.”*

Dr. Beatriz Gomez-Anson, Clinical Head and Principal Investigator at Sant Pau Hospital, points out that *“this project shows the added value of AI tools to be implemented by medical specialists in radiology”*.

*“At Capgemini we are very proud to be driving this project forward by contributing our knowledge to improve diagnostic methods without the need to share private data. Furthermore, thanks to the application of the latest areas of research in Artificial Intelligence, we can ensure patient privacy and data security,”* highlights Daniel Iglesias, Managing Director of Capgemini Engineering in Spain.

The project has been financed with contributions from Intel and the Cisco’s Country Digital Acceleration (CDA) program for Spain, called Digitaliza.

## ***Trimaran SVR-Lazartigue, Developed with Dassault Systèmes’ 3DEXPERIENCE Platform, Places Second in Its First Offshore Race, the 2021 Transat Jacques Vabre***

1 December 2021

Dassault Systèmes announced that its 3DEXPERIENCE platform was used to develop the high-performance boat “Trimaran SVR-Lazartigue,” which finished second in the 15th edition of the Transat Jacques Vabre sailing competition. On November 7, 2021 – just three months after its initial launch into water – the Trimaran SVR-Lazartigue left the starting line of the Transat Jacques Vabre in Normandy for its first offshore race, arriving in Martinique on November 23 after completing a 7,500-mile journey across the Atlantic.

Designed and assembled by MerConcept, which contracted the whole project, the Trimaran SVR-Lazartigue belongs to the new generation of “flying boats” in which aerodynamics is as important as hydrodynamics. The development of new technologies in all areas of design makes the Trimaran SVR-

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Lazartigue a unique and revolutionary boat.

In particular, MerConcept was able to benefit from the power of Dassault Systèmes' 3DEXPERIENCE platform, distributed by Dassault Systèmes' business partner CT Mer Forte. Using the platform's "Winning Bid for Sea" industry solution experience on the cloud, MerConcept created a virtual twin of the boat and performed high-fidelity simulations that enabled it to optimize the boat's aerodynamics and significantly improve its performance. MerConcept used the "Sea Boat Builder" industry solution experience to carry out the design of the boat's systems.

"The efficiency of the 3DEXPERIENCE platform enabled us to significantly optimize our performance during the study and design phases," said Antoine Gautier, Trimaran SVR-Lazartigue Director, MerConcept.

"With each new sailing race, we are able to witness new technical feats that enable boats of different classes to go faster, with unprecedented strength and resilience," said François-Xavier Dumez, Vice President, Marine & Offshore Industry, Dassault Systèmes. "Our 3DEXPERIENCE platform and the virtual world make these sophisticated technological advances possible. We warmly congratulate the Trimaran SVR-Lazartigue team and MerConcept on an impressive performance in their first offshore race."

"As a business partner of Dassault Systèmes, and the close partner of François Gabart and the MerConcept teams for many years, the CT engineering group and CT Mer Forte join Dassault Systèmes in congratulating François and Tom Laperche for the excellent finish in this Transat Jacques Vabre 2021," said Denis Juhel, Director, CT Mer Forte.

## Product News

### ***Aras Extends Leadership with Most Agile Release Cadence in the Industry***

30 November 2021

Aras, which provides the most powerful low-code platform with applications to design, build, and operate complex products, announced it is accelerating its agile release schedule. This shift builds on Aras' unmatched speed and value of upgrades by enabling subscribers to rapidly deploy and realize the benefits of new capabilities.

Starting with Aras Innovator 14, new platform features, plus any updates to applications, connectors, or platform components, will be released together every five weeks. This agile schedule empowers global enterprises to increase their business resiliency by quickly adapting to new digital priorities, unforeseen circumstances, and changing business conditions, all while maintaining the flexibility to validate and adopt new capabilities on their own timeline.

"Our new release schedule is all about providing greater flexibility and agility for our subscribers," said John Sperling, Senior Vice President of Product Management. "A rapid cadence of feature releases is both a market differentiator and a testament to the agility of our platform and business model. We're enabling our subscribers to adopt new functionality faster, with less effort and risk to business operations."

Aras is also introducing platform components, which bolster Aras' agile release schedule by enabling subscribers to selectively update portions of their ecosystem at an even faster pace. Current platform components include Enterprise Search and 3D Visualization.

"Our platform components can be installed and upgraded independently of the rest of the platform,

providing our subscribers with greater flexibility to keep pace with fast-changing technology,” said Sperling.

An organization’s ability to continually adapt is critical to staying current with evolving digital processes. Aras’ low-code platform and open architecture, combined with the company’s agile release schedule, empower organizations to quickly adapt to new processes, increase business resiliency and meet the demands of the most complex scenarios.

## ***AVEVA’s New Vision AI Assistant Dynamically Transforms Existing Image Feeds Into Actionable Industrial Insights***

29 November 2021

AVEVA, a global leader in industrial software, driving digital transformation and sustainability, launched Vision AI Assistant 2021™ – an image classification-based analytics tool. The artificial intelligence (AI) solution, which can be integrated into AVEVA™ System Platform and Operations Management Interface and AVEVA™ Insight, enables customers to use video and images from existing general-purpose cameras and convert them into user-friendly information and timely alerts.

Designed for low latency industrial environments, Vision AI Assistant leverages deep learning to train and deploy 24x7 artificial intelligence models to enhance situational awareness to help operators focus on the task at hand without continuously monitoring live camera feeds.

Vision AI Assistant enables organizations to improve operations, quality, and maintenance capabilities across industrial enterprises by using cameras to determine visual anomalies, assess quality, and vigorously monitor production, optimizing efficiencies and improving sustainability in the process.

Product applications include:

- Standard digital cameras can be used with Vision AI Assistant to ensure quality control, such as by analyzing the quality of water treatment fluids, by gauging if a hopper is full or empty, or by identifying defective products on a production line.
- Vision AI Assistant can also scan thermal or infrared camera feeds so operations teams can uncover visual inconsistencies. For example, by locating compressed air or fluid leaks, it can reduce failure and efficiency loss, and by spotting hot-spots in a data center, it can prevent overheating of critical equipment.
- The AI solution assists maintenance efforts through continuous monitoring of plants and machinery and diagnosis of equipment issues weeks, or months before failure.

Kenneth Labhart, Innovation Leader – Global Supply Chain North America, Schneider Electric said: “AVEVA’s Vision AI is monitoring and analyzing the 1.5 km main drive chain for our Lexington, Kentucky, smart factory which manufactures electric breaker panels. If that chain goes down, our entire factory comes to a halt, which typically happens a few times per year. Vision AI has already provided early detection of issues with parts of this chain on two occasions, giving us the ability to take proactive action. By doing this, we avoid revenue-impacting, unplanned downtime. We’re looking forward to expanding our usage of this AI system.”

Jim Chappell, Global Head of AI and Advanced Analytics at AVEVA said: “This breakthrough technology represents a game changer that transforms factory operations through the power of AI. The Vision AI Assistant enables enhanced process optimization, thereby reducing time, wastage, and costs. Cameras can also be used in areas that are not suitable for humans for security or safety concerns, freeing up workers to focus on high-value tasks instead of continuously monitoring live camera feeds.”

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Vision AI Assistant is offered as an exclusive extension for AVEVA System Platform purchases through the AVEVA Flex subscription initiative. The flexible payment and usage program spans any mix of cloud, hybrid, and on-premises solutions across AVEVA's portfolio – enabling simple license purchasing, usage and management.

## ***BIM & CAD data from SCHELL fittings powered by CADENAS ensure fast & error-free object planning***

24 November 2021

### **New BIM & CAD service offers simple, flexible, convenient service for planners & architects through intelligent product data**

Revit, AutoCAD, IFC, ALLPLAN, ARCHICAD, SketchUp files and much more - from now on SCHELL GmbH & Co. KG provides digital data of its products in more than 150 CAD & BIM formats in cooperation with CADENAS. With the new BIM/CAD service, architects and planners can easily and dynamically integrate SCHELL fittings into their digital object planning.

The BIM/CAD service is based on the eCATALOGsolutions technology for digital product catalogs by CADENAS. Thanks to direct integration, it is conveniently accessible 24/7 via the German SCHELL website. Users can find the BIM & CAD data of their favorite fittings both under the "Service" tab and on the corresponding product detail page for the individual product, such as the XERIS E-T electronic washbasin fitting.

### **Desired data formats for flexible work**

"With our new service, the number of available data formats that SCHELL can offer its customers has multiplied," says Christian Albus, project manager at SCHELL GmbH. The digital product data can thus be used in a variety of ways: From classic exchange formats, such as DWG, DXF or STEP files, to other CAD/BIM formats of popular planning and architecture software, such as Autodesk Revit, AutoCAD or Allplan, to objects for architectural visualization in 3D Studio MAX, for example. This allows architects and planners to select exactly those formats that can be perfectly integrated into their own working environment. The data is then made available for download and SCHELL products can be used smoothly in personal planning - with the desired level of detail.

### **Numerous additional functions enable, among other things, in-depth spatial and collision planning**

The level of detail (LOD) can be selected from low to high. This enables fast work for dimensioning and collision planning, but also in-depth spatial planning with design illustrations. Even before downloading the corresponding data, SCHELL products can be displayed in the viewer and the illustration can be adjusted. Whether 2D or 3D, with measurement grid or in section - the setting options are manifold. Even the shading can be modified and the dimensioning can be displayed in different views. Depending on the product, important variables can also be easily changed to fit individual planning. For example, with the SCHELL WC module MONTUS, the height adjustment, the screw spacing or even the depth can be adjusted so that it fits exactly into the designed sanitary room.

### **Connection points for convenient and error-free planning**

"The connection points stored in the data are also particularly helpful for architects and planners. If the CAD or BIM software used can process these, users are informed if the fitting is placed incorrectly," says Ilija Zivadinovic, Head of Contract Business at SCHELL GmbH. "For example, objects that can only be installed standing on the floor can also be integrated into the planning only standing on the floor. In this way, missing connections do not become a problem in the first place."

## **Free access and future expansion of SCHELL product data**

To download SCHELL's BIM & CAD data, all that is required is a free registration on the SCHELL website, on the 3D CAD download portal [www.partcommunity.com](http://www.partcommunity.com) or within the technical search engine [3DfindIT.com](http://3DfindIT.com) powered by CADENAS. "The integration of our product data is a continuous process for us. So it's worth checking in regularly when starting a new design. Because in the future, many more SCHELL product data will be available via the BIM/CAD service," says Christian Albus.

## ***Bridgit Introduces Certification Tracking***

30 November 2021

Bridgit, the leader in construction workforce intelligence technology, announced Certification Tracking as the next new feature in its workforce management solution. As part of Bridgit Bench, Certification Tracking will allow general contractors to ensure that certifications across their workforce are up-to-date, leading to proactive risk management.

With Certification Tracking in Bridgit Bench, general contractors can create a master list of certifications and set warning date ranges. They can then add a certification to a person's profile and set the expiration date for their certification. As a certification approaches expiration, they'll be notified that it's time for renewal. The platform also allows proof of certifications to be attached directly to a person's profile, so contractors can keep all relevant information in one central location.

Bridgit is workforce intelligence for the construction industry. Bridgit's mission is to help the construction industry maximize profits by taking a people-first approach. The company transforms workforce data into actionable insights to inform strategic and tactical business decisions.

"Having uncertified team members or expired certifications on a job site can put a contractor's projects, and more importantly, their people, at risk," said Mallorie Brodie, CEO and Co-Founder at Bridgit.

"Certification Tracking in Bridgit Bench will help contractors manage their team's professional growth and proactively address uncertified workers to maintain a safe and productive job site."

Certification Tracking in Bridgit Bench has officially rolled out.

## ***FRILO optimises its BIM Connector® with the latest software update***

25 November 2021

Since 18 November, structural engineers have had access to the latest version of the FRILO software for structural analysis. Within this update, the provider of innovative solutions for structural analysis and structural design is launching a completely new solution for pile foundations in addition to numerous helpful functional enhancements in existing programmes. With the connection of the FRILO building model to the BIM Connector®, the company has also decisively advanced its commitment to integral building planning.

The new programme Pfahl+ for pile foundation

With the new FRILO programme Pfahl+, the internal and external bearing capacity for reinforced concrete piles with rectangular and circular cross-sections can be verified. By linking the two proven FRILO programmes Soil Settlement SBR+ and Earth Pressure Calculation EDB+, both the ground settlements in the pile environment and the acting lateral pressure on the piles can be taken into consideration. By comparing the pile settlements and the soil settlements along the pile shell surface, an action from negative skin friction up to the neutral point can be optionally applied. The axial pile resistances due to skin friction and peak pressure can optionally be derived by evaluating static pile test

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loads or on the basis of empirical values according to the EA pile separately according to the two limit states SLS and ULS. The design of the reinforced concrete cross-sections is based on a non-linear calculation taking into account the additional loads according to theory II. The design of the reinforced concrete cross-sections is based on a non-linear calculation taking into account the additional loads according to second-order theory and the actual pile stiffnesses due to a freely selectable reinforcement.

FRILO BIM-Connector® convinces with improved practicability

In the course of Release 2022-1, the calculation model of the FRILO BIM Connector® was enriched with some practical editing functions. For example, the geometry of the model can be cleaned up by simply removing small recesses and openings as well as short beams, columns, walls and slabs that are not relevant for the structural analysis. In order to be able to ensure the correct transmission of loads, component axes can be pushed over each other. In addition, components can now be connected automatically by extending or shortening them in their system axis until they form an intersection line or point. The useful disassembly of walls into individual components is also possible since the software update. Those who want to check whether the building has been modelled in the correct axis after the clean-up can use the new function "Check model". This automated check can be applied not only to the complete building, but also to individual components in vertical and horizontal direction. The BIM Connector has gained additional appeal because FRILO has managed the direct connection of the FRILO building model. Cleaned models prepared for structural analysis can now be transferred loss-free and time-efficiently to the building model for the determination of the vertical and horizontal load transfer of the complete structure. Further transfer options to FRILO calculation programmes are then available for the actual component design.

Generation of wind and snow loads in the programme Framework RSX

In the course of the software update, the possibility was implemented in Framework RSX to automatically generate wind and snow loads for standard buildings that comply with the standard. In doing so, the programme automatically recognises the building contour of standard buildings. The panels (the areas between the bars) to which the generated load is applied for the selected wind direction are also created from the building contour and labelled appropriately without the user's intervention. The generation of the member loads from the area loads is carried out for the selected wind direction using the finite element method. The finite element method is then used to generate line loads on the load-bearing members from the area loads.

General innovations

The Document Designer FDD has been extended by the possibility of copying items within the programme using the convenient drag & drop function or to drag items from the FRILO Control Center directly into the FDD using the mouse. In the GEO building model, the view in X and Y direction as well as the load case-specific view of the moment curve are available as new display options for horizontal loads across all floors for the walls or columns that are recognised as being on top of each other. Furthermore, the determined H-loads on the individual wall columns and supports can be displayed in elevation. In addition, the stress curves of the wall columns standing on top of each other can be displayed. The programme HTB+ for the calculation of timber beams made of cross laminated timber now carries out the vibration verification. In the solution Reinforced Concrete Column B5+, high-strength steel in the steel grade SAS 670 from Annahütte is available as an additional option for the non-linear calculation (general method).

## ***Fusion 360 - November 2021 Product Update – What’s New***

29 November 2021

On November 29, 2021 Autodesk’s Keqing Song posted to the Fusion 360 blog describing the newest updates to Autodesk Fusion 360. The updates include usability features, updates to EDA, updates to drawing and documentation, updates to manufacturing, and new features now available in testing. To learn more about these improvements please read the full post.

<https://www.autodesk.com/products/fusion-360/blog/november-2021-product-update-whats-new/>

## ***IFS Promises Simplicity, Affordability, And Speed To Value With Enterprise-Wide Workflow Management With Latest IFS Assyst Release***

30 November 2021

IFS, the global cloud enterprise software company, announced the launch of IFS *assyst* 11.4. This latest update is set to deliver the ability for companies to adopt and deploy workflow technology more broadly within their business. A single pricing model, as well as a simplified deployment model, will ensure business value is delivered within weeks of adoption.

IFS *assyst* 11.4 will also deliver a considerable set of new capabilities to help organizations standardize, improve, and automate service management workflows simply and effectively. In this first release since IFS acquired Axios Systems in June 2021, the vendor marks a key milestone in its mission to deliver innovation and customer value to all its customers regardless of size.

As the digital imperative accelerates and becomes the backbone of business transformation, companies need to deliver rich customer and employee experiences. By extending the benefits of IT Service Management (ITSM) to the wider enterprise thus evolving into Enterprise Service Management, IFS *assyst* 11.4 focuses on secure and automated self-service, putting the employee experience at the heart of any digital transformation strategy from IT, HR, and finance, to facilities and beyond.

“Digitizing processes and building effectiveness through workflows is a fundamental pillar of any company’s digital transformation journey. Achieving this across the entire enterprise has until now been complex and expensive, and therefore limited to the IT function,” said Martin Schirmer, President, IFS *assyst*. “With *assyst* 11.4, we have tackled some fundamental roadblocks from pricing, to contracting, and deployment - all of which will make it simpler and faster for an organization to scale up in the roll out of the technology.”

With this release, *assyst* has extended the omnichannel experience, advancing its chatbot and providing a mobile app for self-service. This means that employees can get access to the help they need wherever they are working, allowing them to focus on more complex or pressing priorities.

Key capabilities of IFS *assyst* 11.4 include:

- Over 100 predefined service workflows for improved time to value
- Low code approach to defining & maintaining service workflows
- A consumer-standard user-interface, intuitive, and easy to navigate
- Simple cost-effective pricing for easy enterprise-wide deployment
- Integration with collaboration platforms like Microsoft Teams

“The release of IFS *assyst* 11.4 is the result of an incredible amount of hard work and investment from the IFS team over a short space of time,” continued Schirmer. “IFS is customer obsessed and with this release we are staying true to our north star, bringing enhanced service capabilities to companies

anytime, anywhere.”

IFS *assyst* 11.4 is available immediately globally for customers to purchase.

## ***Stratasys Advances Personalized Healthcare With New Innovations in Software for 3D Printed Anatomic Models***

29 November 2021

Stratasys Ltd., a leader in polymer 3D printing solutions, continues to enhance anatomic modeling solutions for healthcare providers through the introduction of a new software module, Digital Anatomy™ Creator, for Stratasys Digital Anatomy™ 3D Printers. The new software allows users to easily manipulate material formations and customize the internal structures of their prints to achieve patient-specific anatomic models that are a direct replication of a patient’s pathologic and biologic anatomy.

Digital Anatomy Creator gives users the ability manipulate materials and customize the internal structures of their prints to create an anatomic model that is a direct replication of a patient's pathologic and biologic anatomy. (Photo: Business Wire)

Stratasys Digital Anatomy printers can produce medical models across a spectrum of applications, from diagnosis to patient education. With the Digital Anatomy Creator users have access to additional options and controls to calibrate their printers’ materials to meet their specific anatomic model needs, allowing them to explore, customize and create ultra-realistic models that behave and respond like the real thing. Further, Digital Anatomy Creator allows users to create, replicate and share designs across a community for patient-specific anatomies.

Today, healthcare providers are under increasing pressure to provide a more personalized level of care and ensure better outcomes of surgical procedures, all while lowering costs and reducing time spent in the operating suite. By incorporating 3D printed anatomic models into their practice, providers can now deliver patient- and pathology-specific anatomic models printed with materials that can mimic human tissue, enabling healthcare providers to use the anatomic models for diagnostic purposes, to develop hyper-personalized treatment plans, and to better prepare for surgical procedures.

“The Digital Anatomy Creator is the missing link between the patient, the printer and the final printed 3D anatomic model,” said Seth Friedman, PhD, Manager of Innovation, Imaging and Simulation Modeling for Seattle Children’s Hospital. “This new software has allowed us to personalize our anatomic models to a mind-blowing level – we can now provide a level of care that is truly personalized to each of our patients, which is really important when working with children and their caregivers.”

In addition to the introduction of the Digital Anatomy Creator, Stratasys continues to advance personalized healthcare by collaborating with Synopsys® Simpleware™ ScanIP Medical and Materialise Mimics inPrint to certify its Digital Anatomy and J5 MediJet™ printers to be included in FDA 510(k) cleared medical modeling workflows. These certifications give Stratasys’ customers access to workflows for diagnostic anatomic modeling and further enhances access to point-of-care 3D printing

“We continue our journey towards accessible, accurate, and realistic 3D medical modeling by deepening our structural pathology flexibility with the introduction of the Digital Anatomy Creator module and by validating our digital workflow with 3rd party segmentation software with FDA 510(k) clearance,” said Osnat Philipp, Vice President, Healthcare for Stratasys. “Our solutions allow providers to deliver best-in-class healthcare that leads to better outcomes and establishes a new level of care.”

Attendees at the RSNA conference at McCormick Place in Chicago Nov. 28 – Dec. 2 can see Stratasys

Digital Anatomy solutions in the 3D Printing and Mixed Reality Showcase located in the North Hall Level 3 – booth 8302.

## ***Synopsys Expands Use of AI to Optimize Samsung's Latest Mobile Designs***

29 November 2021

Synopsys, Inc. announced that its AI-based design system has been used by Samsung to successfully complete a state-of-the-art, high-performance design at an advanced process technology, the most recent of several products designed using Synopsys artificial intelligence (AI).

"For decades, autonomous chip design existed only in science fiction," said Aart de Geus, chairman and co-CEO, Synopsys. "This pivotal moment in semiconductor history will breathe new life into Moore's law. We congratulate Samsung on this remarkable achievement, and we look forward to catalyzing its next 1000x."

The AI-designed product will be manufactured on Samsung's advanced manufacturing process. To achieve the high-performance and low-power market requirements in a timely manner, Samsung used Synopsys' award-winning autonomous AI system, DSO.ai™ (Design Space Optimization AI), driving the Synopsys Fusion Compiler™ RTL-to-GDSII solution. DSO.ai uses reinforcement learning, an AI technology similar to that used in self-driving vehicles, to achieve better performance, power and area (PPA). Applied at every stage of design implementation, DSO.ai pushed operating frequency over 100 MHz beyond target and considerably reduced overall power consumption – all while saving Samsung weeks of manual design effort. An early development partner of Synopsys' autonomous design technology, Samsung began deploying DSO.ai to multiple projects in the fall of 2020.

"This is a remarkable milestone for our program to successfully introduce AI into the chip design process in collaboration with Synopsys," said Thomas Cho, EVP of Infrastructure & Design Technology Center, System LSI Business, Samsung Electronics. "Not only have we demonstrated that AI can help us achieve PPA targets for even the most demanding process technologies, but through our partnership we have established an ultra-high-productivity design system that is consistently delivering impressive results."

DSO.ai introduces a novel approach to searching vast problem spaces of chip design for optimal solutions, enabled by the latest advancements in AI and machine-learning. Traditional design space exploration has been a very labor-intensive effort, typically requiring months of experimentation, guided by past experiences and institutional knowledge. In today's hypercompetitive markets, a better design solution means faster software performance, extended hours of battery life and a more personalized user experience.

"This breakthrough marks the beginning of a journey where AI applications and reinforcement learning will help architects with physical design and even logic design," said Karl Freund, principal analyst at Cambrian AI Research. "The possibilities are endless and very promising, with substantial reduction in applied resources, faster time to market and better power, performance and cost."

Using AI technology, DSO.ai can *autonomously* search design spaces for better solutions, massively scaling the exploration of choices in chip design workflows, while automating a high volume of less consequential decisions. DSO.ai unleashes architectural innovation with AI-grade productivity, opening a new growth trajectory for the semiconductor industry and paving a path to 1000x more powerful silicon applications.

## ***TCS Launches Assessment and Migration Factory for AWS Mainframe Modernization***

30 November 2021

Tata Consultancy Services (TCS) announced the launch of the TCS Assessment and Migration Factory, a set of tools, accelerators, and services that enable customers to shift their mainframe workloads to the new AWS Mainframe Modernization platform.

TCS worked closely with AWS in the development of AWS Mainframe Modernization, a unique platform that helps organizations modernize and migrate their on-premises mainframe workloads to a managed runtime environment on AWS.

TCS' new Assessment and Migration Factory for AWS Mainframe Modernization uses the company's deep domain expertise in mainframe workloads migration, domain-specific reference architecture, and best practices for legacy modernization to provide customers a faster, surer, and more cost-effective transformation path.

Complementing the native toolsets of AWS Mainframe Modernization are TCS' proprietary services and tools, including:

- TCS Cloud Counsel: A discovery, cloud assessment and recommendation offering to help customers select the right cloud model and determine the migration roadmap.
- Cloud Mason: Helps define, design, and deploy an enterprise-scale cloud foundation for deploying modern digital applications using IaaS, containers, PaaS and serverless architecture on a public cloud, which can be integrated with a private cloud or on-premises data centers.
- TCS MasterCraft™ TransformPlus: An intelligent automation product that automates business logic extraction and significantly accelerates end-to-end application modernization and supports a wide range of legacy and modern programming languages.
- Modernization Propeller: Assesses enterprise maturity for modernizations, application for microservices fitment, reference architecture formulation, domain level decomposition, build and cost determination.
- Cloud Exponence: A comprehensive platform that applies a Machine First™ approach, optimizing machine-human collaboration to deliver smart managed services in hybrid cloud environments.

Working with TCS, customers across the globe will be able to seamlessly leverage these solutions on AWS and gain from better speed to market, agility, and digital transformation of their mainframe workloads.

**Krishna Mohan, Global Head, AWS Business Unit, TCS,** said: *“TCS has been helping leading global enterprises modernize legacy applications to be more digital, agile and lean. Our relationship with AWS on AWS Mainframe Modernization focuses on creating repeatable processes that can accelerate IT modernization, reduce risks, and enable transition to cloud. Our Assessment and Migration Factory for AWS Mainframe Modernization leverages our industry-specific contextual knowledge and rich experience in mainframe modernization to help our customers accelerate their journey to the cloud with certainty.”*

TCS' AWS Business Unit is a full-stack, multidisciplinary group that offers enterprise customers end-to-end services and solutions around cloud migration, application and data modernization, managed services, and industry-specific innovation leveraging AWS. TCS holds several AWS qualifications, including AWS Premier Consulting Partner, AWS Managed Service Provider, AWS Public Sector

Partner, AWS Solution Provider Program, and AWS Well Architected. The unit represents a significant investment by TCS and builds on the deep expertise and execution experience of its large pool of AWS certified professionals to create more value for shared customers.

## ***What's new in MindSphere – Pricing and packaging***

23 November 2021

Michael Boland of Siemens published a blog post outlining the new pricing and package structure released for MindSphere. You are add on additional software and services as well. Please read the full blog post for details. <https://blogs.sw.siemens.com/mindsphere/whats-new-in-mindsphere-pricing-and-packaging/>

## ***What's new in Opcenter Execution Electronics 8.7***

1 December 2021

Alessandro Ceresto posted to the Simens Opcenter blog to announce the newest updates to Opcenter Execution Electronics. These updates improve scheduling processes by recognizing machine downtime leading to higher production throughput. To read the details please visit the Siemens Opcenter Blog. <https://blogs.sw.siemens.com/opcenter/whats-new-in-opcenter-execution-electronics-8-7/>

## ***What's new in Opcenter Execution Medical Device and Diagnostics 8.7***

2 December 2021

Siemens Opcenter Execution Medical Device and Diagnostics was updated as explained by Alessandro Ceresto on December 2, 2021. New features, such as RESTful API, high-performance engine, integration with Xcelerator Share, and in-line SPC enhancements were added. To learn more please read the full post. <https://blogs.sw.siemens.com/opcenter/whats-new-in-opcenter-execution-medical-device-and-diagnostics-8-7/>

## ***Zuken announces the Release 2021 R2 of its model-based systems engineering platform Vitech GENESYS***

1 December 2021

Zuken announces the release of GENESYS 2021 R2, the most recent version of its flagship systems engineering software developed by Vitech, a Zuken Company. Designed to provide a robust platform for managing the complexities of today's intelligent and connected systems, GENESYS improves the quality of systems engineering in organizations with its model-based systems engineering (MBSE) approach.

Release 2021 R2 extends and improves the foundations for connectivity to other digital engineering systems, which allows GENESYS to integrate diverse engineering data into a continuous digital thread through the addition of a REST application programming interface. Communication between interdisciplinary teams has been improved through the addition of reusable queries that can extract specific aspects of engineering data customized for the requirements of individual process stakeholders. To meet the requirements of the growing GENESYS user base in the European aerospace community, GENESYS now also supports a French language user interface.

### **REST API**

With release 2021 R2, GENESYS adds a REST API, a rich, web-based application programming

# CIMdata PLM Industry Summary

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interface that complements the existing GENESYS Open API to provide partners and customers with significant capabilities and options for implementing broad digital engineering solutions. The new API provides a critical integration point to deliver on a joint strategy of connected digital ecosystems, enabling digital threads across heterogeneous environments.

“Open ecosystems allowing organizations to connect best-of-breed tools are critical to a successful digital transformation,” stated David Long Vitech President and CEO of Zuken Vitech, “we believe the rich connectivity in GENESYS and the power of our systems approach will bring tremendous value to our partners and customers seeking to realize this vision.”

## **Reusable Queries**

Another new capability is a simple-to-use but powerful viewpoint capability. With this feature, users can extract specific aspects of engineering data based on reusable queries. This helps to present relevant engineering data in a meaningful way to its intended recipients, whether they are part of the engineering teams or other stakeholders.

In addition to these improvements connecting both systems and users, there are numerous improvements to performance and overall usability. Diagnostic checks have been optimized to run more efficiently and now provide easier to understand error messages. A significant performance improvement has been realized in the Excel connector, where bulk operations now run ten to fifteen times faster.