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CIMdata News

CIMdata Announces a Successful 2024 PLM Market & Industry Forum Series

25 April 2024

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces the successful completion of its 2024 PLM Market & Industry Forum series of events. For 2024 the Forums were held as in-person events in North America, EMEA, India, China, and Japan.

CIMdata's PLM Market & Industry Forums are the world's premier event for software and service providers focused on the PLM market and its development and growth. Industry leaders and experts gathered to hear CIMdata's perspective on the state and trends of the PLM market, as well as a detailed discussion of CIMdata's research and viewpoints on the 2023 PLM market results.

CIMdata shared its extensive analysis and forecasts regarding market growth across PLM domains, industries, regions, and the performance (revenue and market share analysis) of leading PLM software and service providers. The theme for 2024 was "Digital Twins: Enhancing Lifecycle Performance."

In addition to a review of the state of the industry, trends, and market numbers, the program included presentations on:

- Digital Twins: Enhancing Lifecycle Performance
- Digital Twins: The Industrial Perspective
- Digital Twins: The PLM Economy Perspective
- Analytics and Artificial Intelligence/Machine Learning
- News from the Field

During the event, CIMdata announced Aras, Autodesk, Dassault Systèmes, IBM, Oracle, PTC, SAP, and Siemens Digital Industries Software as CIMdata PLM Mindshare Leaders for 2024.

Commenting on the PLM market, Christine Longwell, CIMdata's Director of Research, stated, "The PLM market, as estimated by CIMdata, grew by 8.6% in the calendar year 2023, below our forecast. The results were solid, with growth in all PLM segments. The Architecture, Engineering, and Construction (AEC) segment had strong growth overall (13.6%). The EDA segment was close behind at 12.4%, and Simulation and Analysis (S&A) had another strong year at 9%.

She added, "Some economic headwinds will impact the market in 2024. However, the growth drivers for the PLM Economy, Industry 4.0, smart connected products, IoT, and digital transformation remain strong. Finally, PLM on the cloud continues solid adoption."

The PLM Market & Industry Forums provide the PLM Economy with the first look at CIMdata's PLM market estimates. CIMdata releases the complete analysis in its PLM Market Analysis Report Series. For more information, please see www.CIMdata.com.

CIMdata, Inc. Elevates Key Personnel to Drive Strategic Growth

26 April 2024

CIMdata, Inc., the leading global PLM strategic management consulting and research firm, announces the promotion of several key individuals within its ranks. These promotions mark significant milestones in their professional journeys and reaffirm CIMdata's commitment to excellence and growth.

Cheryl Peck has been promoted to Chief Marketing Officer (CMO). Since joining CIMdata in May 2011 through the acquisition of Collaborative Product Development Associates (CPDA), Cheryl has played an integral role in CIMdata's evolution, dating back to her tenure with CPDA and its predecessor, D.H. Brown Associates, since 1997. Her appointment as CMO recognizes her invaluable contributions and strategic leadership.

Tom Gill becomes a Principal Consultant, reflecting the depth of his expertise and his unwavering commitment to delivering an extensive range of CIMdata's consulting services. With a rich history of delivering exceptional results and a wealth of experience, Tom's promotion reflects his expanded responsibilities and steadfast commitment to excellence.

April Snider, who joined CIMdata in 2012, has been promoted to Senior Market Research Analyst. This promotion reflects her expanding responsibilities, continued growth, and contributions to CIMdata's industry-leading research practice.

Janie Gurley's promotion to the Data Governance & Success Practice Director position exemplifies her influence and contributions within CIMdata. Janie's dedication and proven track record position her as a driving force at CIMdata, earning her this well-deserved recognition.

Reflecting on these promotions, Peter Bilello, CIMdata's President & CEO, stated, "I am delighted to announce these well-deserved promotions, which honor the extensive expertise and outstanding track records of each individual within their respective domains. These promotions embody CIMdata's commitment to nurturing talent and advancing our vision as the premier global PLM strategic management consulting and research firm."

Please join us in congratulating Cheryl, Tom, April, and Janie on their well-earned promotions.

Delivering Value-Added Service For Business Advantage

22 April 2023

CIMdata's Ken Amann published an article on Engineering.com titled "Delivering Value-Added Service for Business Advantage". Ken says, "SLM encompasses a holistic process of service from request to delivery to maximize value over the life of an asset including defining and coordinating the service resources, service offering, process, and execution. It also aligns service parts management, technical communication, asset performance management, field service

management, product design and development, and product support operations as part of comprehensive SLM.”

Read the full article about Service Lifecycle Management here:

<https://www.engineering.com/story/delivering-value-added-service-for-business-advantage>

Enterprise ALM Accelerates the Pace of Innovation – a CIMdata Commentary

25 April 2024

Key Takeaways

- Modern virtual engineering ecosystems keep regulations and safety standards visible ensuring compliance throughout the complete lifecycle. Concurrent, end to end requirements traceability ensures regulatory compliance and speeds development and upgrades.
- PTC’s Application Lifecycle Management (ALM) solutions enable end users to capture system requirements to drive design, analysis, and verification of multi-disciplinary system models.
- PTC’s enterprise ALM solution portfolio (codebeamer, pure::variants, Modeler, and RV&S) powers Model Based Systems Engineering (MBSE), Requirements Management (RM), Product Line Engineering (PLE), Variant Management (VM), Test Management (TM), and more.
- VW and BMW have recently selected PTC for their broad ALM capabilities.

Introduction

CIMdata’s definition of Product Lifecycle Management (PLM) emphasizes the complete lifecycle of a product and all its related data and processes, from idea inception to requirements definition, to planning and development, with supply chains, and then mass production and in-service performance and product upgrades. The embedded software within a product and any server-based software that complements it are managed in Application Lifecycle Management solutions. A comprehensive PLM environment contains ALM capabilities that support the complete product and all its features—many of which are enabled by both software and hardware. Integrated ALM has improved PLM environments by bolstering traceability across design elements, test results, and regulatory requirements.

Products have more internal software as well as being integrated with IT enterprise software which communicates (even controlling operational aspects) with products as they are used. Developing and enabling systems with embedded software requires the capabilities shown in Figure 1. While many of these capabilities are managed well in PLM, others benefit from a functional and logical view rather than a structured BoM view, which is where requirements management solutions from ALM providers have developed leading edge solutions.



Figure 1—ALM Capabilities that Should Be in a PLM Platform
 (Courtesy of PTC)

There are competitive benefits of having techniques and processes that allow exploration of candidate features that can be implemented in alternative ways. This enables conducting performance and behavioral assessments without expensive, slow to construct electro-mechanical prototypes. Virtual engineering’s promise is that systems algorithmic development has fewer and fewer prototype learning cycles as virtual builds and performance assessments become more trusted. This accelerates product development while improving safety and sustainability compliance. Software developers rely on ALM solutions to manage their virtual engineering ecosystem. As software is co-developed with electrical and mechanical product elements, both ALM and Product Data Management (PDM) are integral to the best PLM platforms.

ALM Technology Differentiation

Competitive and product complexity pressures require faster decisions made well. Systems engineering driven with proven models, aka MBSE, is a skill today’s engineers must embrace, regardless of their domain of expertise. 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. Modern PLM ecosystems, like PTC’s Windchill, need to include ALM capabilities across a product’s lifecycle.

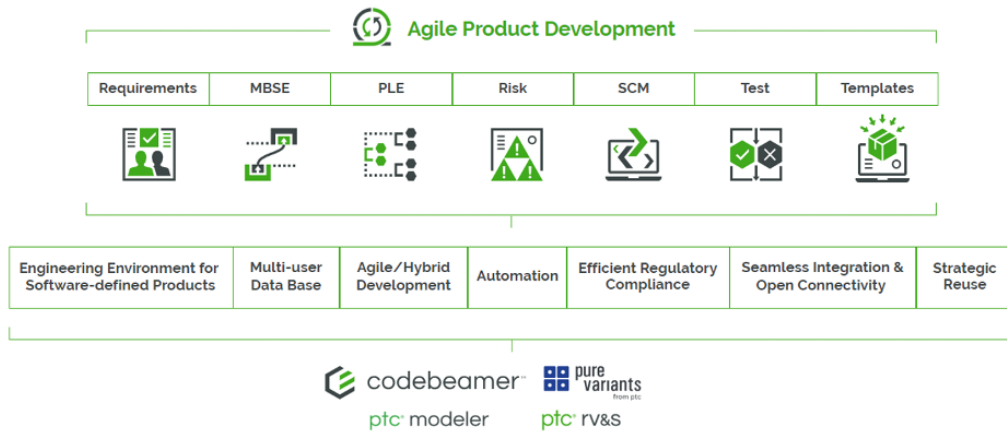


Figure 2—ALM Technology Differentiation
 (Courtesy of PTC)

Agile development practices can apply to any engineering discipline, not just software. The techniques to manage feature requests and a backlog of work with wish-to-haves and mandatory requirements is typical of all product and component development. Strategy and efficiency come into play as engineers plan a product line and reuse components across products. Figure 2 shows agile development capabilities, from requirements to MBSE to PLE to Risk Management to source code management (software’s PDM) to test management and templates. At the bottom of the image are tools that PTC has incorporated as they expand their ALM capabilities within their comprehensive PLM offerings to the marketplace.

PTC’s ALM Solution Suite

PTC has several ALM components, some developed and some acquired. Figure 3 lists them including a subtitle describing their purpose.



*Figure 3—PTC ALM Solution Suite
 (Courtesy of PTC)*

Software developers like the ability of codebeamer to handle requirements and workflow with project management. Companies making large, complex products that include software need variant management for product planning (i.e., PLE) and test management (i.e., what tests to run as the feature set grows, enabling automated testing cycles). To meet these customer desires, PTC acquired MKS Integrity (in 2011), Atego (in 2013), Intland (in 2022), and pure-systems (in 2023).

During this journey, Integrity Modeler became Windchill Modeler and is now branded PTC Modeler, the first SysML 2.0 solution for systems engineers. Appropriately, PTC has organized PTC Modeler within the ALM domain where systems trade-offs are studied, and an expansion of software-controlled products happens in product development and upgrade operations.

PTC Invests in ALM Expansion and Integration

PTC continues to invest in ALM capabilities by addressing key innovation themes as described to CIMdata by Mr. Christoph Brauchle, PTC’s ALM SVP. They include: a modern, integrated, connected ALM suite delivering risk and test management; software engineering support with key source code management and pervasive systems like GitHub; end to end traceability; strong agile development at scale, across all disciplines; enterprise-wide collaborative solutions; sharing and managing best practice templates; and variability management enabling strategic

reuse. These innovations address the industry challenges their clients are facing today, including application scalability. An expansion of the systems and software engineering ecosystems is yielding significant organic growth, summarized in PTC’s business overview shared with CIMdata. ALM capabilities and the adoption of agile practices across engineering disciplines is a contributing growth factor. Integration of ALM capabilities into PLM is necessary and PTC is delivering. As they acquired companies like Inland and MKS they got OSLC capabilities that are now being used within Windchill. These are the synergies that CIMdata expects when acquisitions are made by a PLM provider. PTC’s progress towards ALM and PLM integrations includes multi-discipline use cases, a strong partner ecosystem, and a continuing commitment to openness across the PTC digital thread. Figure 4 shows the breadth and variety of solution integrations PTC provides, building on the technologies acquired with codebeamer and pure::variants.

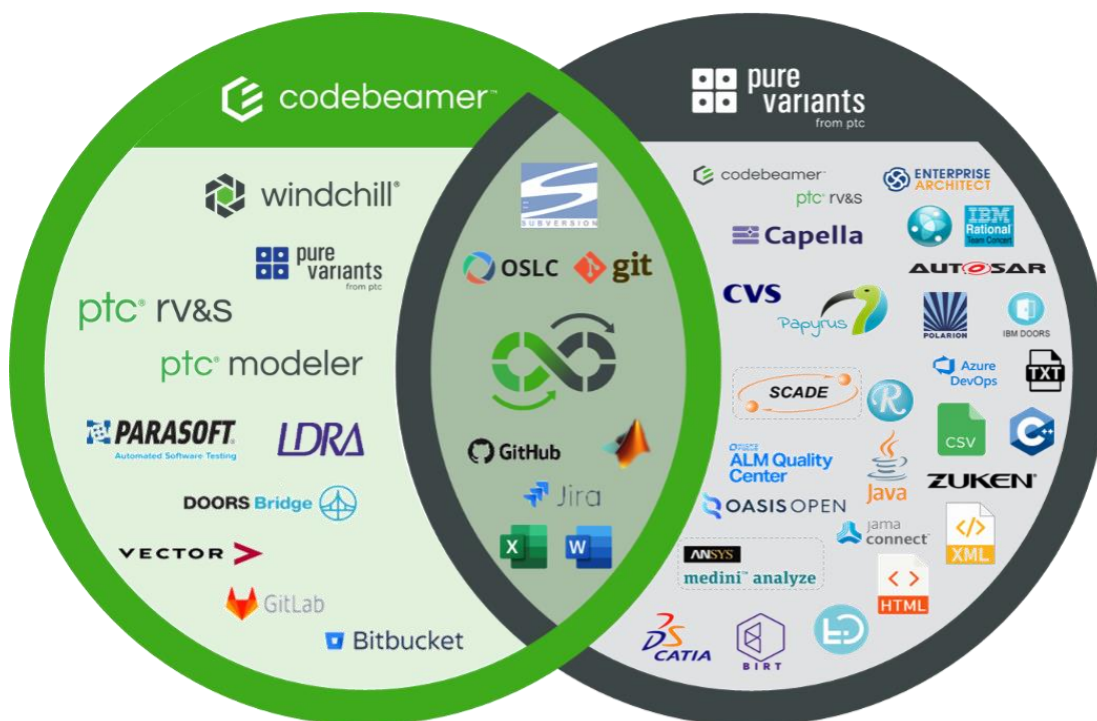


Figure 4—PTC ALM Acquisitions Bring Integrations Beyond Software and Architecture (Courtesy of PTC)

At LiveWorks in May of 2023, PTC presented windchill+ and codebeamer cloud and SaaS roadmaps. PTC is enabling the digital thread across the enterprise and their products from inception (systems engineering) until end of useful life (upgrades and service). Using pure::variant to manage PLM platform configurations integrated with codebeamer as the ALM collaborative solution and their MBSE solution named PTC Modeler, PTC has the comprehensive engineering digital thread as OSLC is used to enable Windchill data exchanges. At the PLM Road Map & PDT 2023, held in Paris in late 2023, Mr. Hedley Apperly, PTC’s ALM Product Leader, provided additional insights into the Windchill and codebeamer integration road map including for the first time the goals for pure::variants integration.

Conclusion

As more and more product features are enabled by software elements, ALM capabilities like those provided by PTC solutions will be integral within the best PLM environments. In fact, ALM capabilities are one of the factors customers should be considering as they expand their PLM usage.

By combining the requirements and work management solution from codebeamer with a variants management solution, pure::variants, PTC has added the necessary ALM capabilities to their PLM ecosystem to help their clients enable complex product development and improve their pace of innovation.

Evidence of industry acceptance of PTC's strategy for ALM within PLM comes from Volkswagen. They recently chose the PTC family of solutions for their systems and software organizations, as they compete in the growing software-defined vehicle market. By acquiring one of the fastest growing ALM ecosystems and integrating into their PLM platform, PTC continues to grow their business.

CIMdata recommends that companies include PTC in their evaluation and selection of ALM capabilities. PTC's are well integrated in the PLM ecosystem to address their multi-domain product and agile development needs.

Acquisitions

Hexagon acquires Xwatch to strengthen its construction safety portfolio

23 April 2024

Hexagon, the global leader in digital reality solutions, combining sensor, software and autonomous technologies, announced the acquisition of Xwatch Safety Solutions. Xwatch provides machine control hardware and software technologies designed to enhance safety protocols on construction sites. This includes height control, slew control, and rated capacity indication (RCI) for heavy machinery, allowing operators to limit an excavator's height and set side boundaries to define a working zone, significantly increasing safety around a machine.

Xwatch has previously partnered with Hexagon's Geosystem division to develop the 3D Avoidance Zone system, an integral part of the digital construction product suite.

"Safety is an increasing focus for our construction customers," said Paolo Guglielmini, President and CEO, Hexagon. "Technologies like Xwatch's solutions are already mandatory in public contracts within the UK, and we see this trend extending further in future. The team at Xwatch have developed an impressive array of OEM agnostic solutions which address a real customer need and fit seamlessly into our digital construction product portfolio. I am excited to have them join us at Hexagon."

In 2023, Xwatch generated revenues of around 4 MEUR, with operating margins slightly below the Geosystem's division average. Xwatch has 17 employees, mainly within the UK, and will be fully consolidated in April.

HOMAG Group acquires remaining shares in System TM

19 April 2024

The HOMAG Group acquired the remaining 20 percent of the shares in System TM at the beginning of April 2024. HOMAG had already acquired 80 percent of the Danish engineering and manufacturing company in 2020. System TM offers machines and services for solid wood processing. The resulting elements can be used in timber house construction, among other things.

"With our solutions for timber construction, we have built up a second business segment in recent years in addition to systems for furniture production," explains Dr. Daniel Schmitt, CEO of HOMAG Group AG. We continue to see great growth potential in this area - particularly in timber house construction - and are continuously strengthening our activities. The complete takeover of our successful subsidiary System TM is a logical step in this direction."

As already planned at the time of the purchase in 2020, HOMAG Group AG has acquired the missing 20 percent from the management of System TM, which continues to manage the company. CEO Jan J. Samuelsen emphasizes: "We described HOMAG as the ideal partner in the 2020 takeover. This is still true, as the products for timber construction complement each other very well, making us one of the world's leading system suppliers of production technology for the solid wood sector."

Infosys to Acquire Leading Engineering R&D services provider, in-tech

18 April 2024

Infosys, a global leader in next-generation digital services and consulting, announced a definitive agreement to acquire in-tech, a leading Engineering R&D services provider focused on German automotive industry. This strategic investment further strengthens Infosys' Engineering R&D capabilities and reaffirms its continued commitment to global clients to navigate their digital engineering journey.

Headquartered in Germany, in-tech, is one of the fastest growing Engineering R&D services providers that shapes digitization in the automotive, rail transport and smart industry sectors. in-tech develops solutions in e-mobility, connected and autonomous driving, electric vehicles (EV's), off-road vehicles and railroad. in-tech offerings include system design, methodical consulting, advanced electronics platform development and validation of automotive specific software and hardware systems, infotainment, and experience validation.

in-tech brings to Infosys, marquee German original equipment manufacturers (OEMs) deep client relationships, and an extensive industry expertise with a multidisciplinary team of 2200 people across locations in Germany, Austria, China, UK, and nearshore locations in Czech Republic, Romania, Spain, and India.

Dinesh Rao, EVP & Co-Delivery Head, Infosys, said, "Infosys continues to strengthen its Engineering R&D leadership with decades of experience in digital engineering. Together with in-tech, Infosys Topaz, an AI-first set of services, solutions and platforms, and recently acquired InSemi' semiconductor's expertise, we have successfully created deeper capabilities for the

next phase of automotive innovation in the arena of software defined vehicles. We are excited to welcome in-tech and its leadership team into the Infosys family.”

Jasmeet Singh, EVP and Global Head of Manufacturing, Infosys, said, “The automotive industry today is going through a pivotal change, with connected, autonomous, and electric vehicles, and most importantly software-defined vehicles. Electronics and software will drive value for next generation vehicles. Infosys’ leadership with comprehensive offerings serving global auto OEMs, tier-one, and e-mobility start-ups, coupled with in-tech’ engineering prowess presents a differentiated value to our clients bringing high quality innovative products to market faster.”

Tobias Wagner, in-tech CEO, said, “Over the past 22 years, we have created an impressive company history, characterized by organic growth, strategic acquisitions and high profitability. This strategic partnership with Infosys represents a decisive turning point for us: It opens up unprecedented growth opportunities, and also adds tremendous value to our offering for our clients. Together we now cover the entire end-to-end process, a step that is crucial to fully meet our customers’ needs. With access to more talent and expertise, we gain incredible strength and scale in our delivery capability, enabling us to successfully implement even more ambitious projects.”

in-tech Founder and Board Member, Christian Wagner, added, “When choosing Infosys, it was important to us that not only the business goals but also the corporate cultures harmonize. I am thrilled that Infosys and in-tech are not only on the same wavelength in terms of innovation and technology, but that we also share the same values - be it our passion for sustainability or our desire to create a work environment where everyone feels valued. This cultural fit amplifies my belief that we will achieve extraordinary success together.”

The acquisition is expected to close during the first half of fiscal 2025, subject to customary closing conditions and regulatory approvals.

ITC Infotech to acquire specialised Cloud services company Blazeclan Technologies Private Limited, to augment its Multi-Cloud capabilities and accelerate Customers’ Digital Transformation Journey

18 April 2024

ITC Infotech, a leading global technology services and solutions provider, announced the signing of a definitive agreement to acquire 100% shareholding of Blazeclan Technologies Private Limited (Blazeclan) – a born-in-the-cloud consulting company providing Cloud services on AWS, Azure and GCP. The acquisition reiterates ITC Infotech’s commitment to help clients steer their digital transformation journey and deliver business outcomes built on the foundation of strong Cloud capabilities.

Headquartered in Pune, India, Blazeclan is an AWS Premier Partner, Snowflake Elite Partner and a leader in providing Cloud transformation solutions to customers globally with strong expertise in Cloud Migration, Digital Services, Digital Cloud Consulting and Data Analytics & Insights. Leveraging its powerful platforms, frameworks and accelerators, Blazeclan helps drive on-demand and sustainable cloud adoption for its clients. Blazeclan’s broad suite of services and

disruptive building blocks help speed up digital transformation by modernizing the infrastructure with native cloud services and migration accelerators. Blazeclan has been recognized as a Niche Player in the 2023 Gartner® Magic Quadrant for Public Cloud IT Transformation Services.

This acquisition will augment ITC Infotech's capabilities to service its customers in a multi-cloud and hybrid cloud environment with a focus on the Partner eco-system to accelerate future growth. ITC Infotech proposes to leverage the platforms and accelerators built by Blazeclan and the strong certified architect pool to strengthen its cloud offerings. This move is aligned with the Company's strategy of pursuing value accretive investments focused on sharpening capability-led solutions while strengthening partnerships which form critical pillars of growth for ITC Infotech. With this agreement, ITC Infotech intends to further deepen its global presence through Cloud Competency Centres in Australia, Singapore, Malaysia, and India.

Sudip Singh, Managing Director and Chief Executive Officer of ITC Infotech said, "In an evolving ecosystem, enterprises today need to leverage their Cloud investments to stay ahead of the curve and deliver higher value to their customers. With the proposed acquisition of Blazeclan, we believe that we will be strongly positioned to step up our clients' digital transformation journey. This acquisition will not only strengthen our capabilities significantly but will enable us to make scalable progress in the cloud space, while providing access to key opportunities to unlock larger business value for our customers."

Varoon Rajani, Founder & Chief Executive Officer of Blazeclan said, "I am thrilled to announce the next chapter for Blazeclan as we join the ITC Infotech family. Our shared commitment to people-centric values, customer obsession, and global excellence align seamlessly. With ITC Infotech's rich technical expertise, we are poised to elevate our capabilities and better serve our customers. Blazeclan's expertise in cloud and modernization combined with ITC Infotech's strengths creates a winning formula. This partnership promises excitement and growth for both organizations, our valued partners, customers and dedicated employees. Together, we are embarking on a journey of innovation, growth, and mature enterprise solutions."

This acquisition is expected to close in 6 to 8 weeks, subject to customary closing conditions.

Matterport, the Global Leader in 3D Digital Twins, to be Acquired by CoStar Group

22 April 2024

Matterport, Inc., the spatial data company leading the digital transformation of the built world, announced that it has entered into a definitive agreement with CoStar Group, Inc., a leading provider of online real estate marketplaces, information and analytics in the property markets, pursuant to which CoStar Group will acquire all outstanding shares of Matterport in a cash and stock transaction valued at \$5.50 per share, representing an equity value of approximately \$2.1 billion and an enterprise value of approximately \$1.6 billion based on the closing price for CoStar Group common stock on April 19, 2024. Under the terms and subject to the conditions of the agreement, which has been unanimously approved by Matterport's Board of Directors, Matterport stockholders will receive \$2.75 in cash and \$2.75 in shares of CoStar Group common stock for each share of Matterport common stock.

Founded in 2011, Matterport pioneered the development of the first 3D capture solution to deliver dimensionally accurate, photorealistic virtual tours or “digital twins” for any type of property. Matterport’s proprietary and patented technology enables anyone to digitize a property using a variety of camera technologies including cameras found on most smartphones. Matterport also produces a line of innovative 3D capture devices, including the company’s flagship LiDAR-based Pro3 camera which is capable of high-precision indoor and outdoor capture. At the center of the solution is Cortex, a powerful artificial intelligence software engine that automatically generates the 3D digital twin and virtual tour while providing property insights like detailed property dimensions, room layouts, and more.

Matterport's 3D technology is utilized in nearly every sector of real estate, spanning residential, commercial, hospitality, retail, and industrial spaces, among others. Over the years, Matterport has curated what is considered the largest and most precise collection of spatial property data worldwide, with over 12 million spaces captured in 177 countries, and representing more than 38 billion square feet of digital property under management. Contributing to this growth, Matterport has established a global network of several thousand photographers, capture services technicians, and service partners producing hundreds of thousands of new 3D digital twins for properties each month.

CoStar Group operates some of the most effective and widely recognized real estate information solutions and online property marketplaces in the world including Apartments.com, LoopNet, CoStar, and Homes.com, all of which feature Matterport’s 3D virtual tours. CoStar Group was one of the first adopters of Matterport’s technology, and currently has almost 300,000 Matterport digital twins available in the CoStar information product and online property marketplaces. Advertisers on CoStar Group marketplaces clearly recognize the value of Matterport virtual tours. In March 2024, there were over 7.4 million views of Matterport 3D Tours on Apartments.com, with consumers spending 20% more time viewing an apartment listing when Matterports were available. CoStar Group intends to utilize Matterport in a similar fashion on Homes.com to further enhance the most comprehensive agent, seller and buyer friendly residential portal on the market.

“CoStar Group and Matterport have nearly identical mission statements of digitizing the world’s real estate. I look forward to welcoming Matterport to the CoStar Group family and believe that we will be stronger together, in pursuit of our common mission,” said Andy Florance, Founder and CEO of CoStar Group. “The world has changed and today a Matterport is the new open house or property tour. People now select their next home, apartment, office, store, hotel, or warehouse on their mobile device often without ever visiting the property. There is no better way to remotely experience space than via Matterport. CoStar Group intends to support and invest in research and development opportunities to further develop Matterport’s spatial technology, including the application of AI and machine learning to extract information from the 3D spatial data library as well as using generative artificial intelligence to imagine and reimagine physical spaces.”

RJ Pittman, Chair and CEO of Matterport said, “We are thrilled to join forces with CoStar Group, a long-standing customer and partner with a shared vision for transforming global real estate

through technology and digitization. This transaction is another significant milestone that acknowledges the groundbreaking work Matterport has accomplished in 3D digital twin technology and AI-driven property intelligence. With CoStar Group's expansive reach and scale in property research and analytics and our joint commitment to innovation, we believe that this powerful combination will transform how properties are marketed, sold, and managed worldwide. Importantly, it offers Matterport's stockholders the opportunity to participate in the value creation and future growth prospects of our combined efforts."

The transaction, which is expected to be completed during the year, is subject to the approval of Matterport stockholders and the satisfaction of customary closing conditions, including applicable regulatory approvals. Directors, Officers and certain other stockholders of Matterport, representing approximately 15% of Matterport's fully diluted shares, have entered into voting agreements to support the transaction. The transaction is subject to a 10% symmetrical collar based on a CoStar Group share price of \$86.02 as the midpoint.

Qatalyst Partners is serving as financial advisor and Foley & Lardner LLP is serving as legal advisor to Matterport.

Sandvik to acquire majority stake in China-based Suzhou Ahno

23 April 2024

Sandvik has signed an agreement to acquire a majority stake in the leading China-based company Suzhou Ahno Precision Cutting Tool Technology Co., Ltd. (Ahno) from the current majority owner, Ningbo Baosi Energy Equipment Co., Ltd and related parties. The company will be reported within the business area segment Sandvik Machining Solutions.

Ahno has a leading position in precision cutting tools in the fast-growing local premium segment, with a broad product-and service offering and extensive sales, distribution and production footprint in China. The main customer industries are general engineering and automotive, in which a significant part is towards electric vehicles, and with medical being a growing segment for the company. With this acquisition Sandvik Machining Solutions further strengthens its leading position within round tools.

"This acquisition will strengthen our position in the strategically important Chinese market. Ahno's competitive assortment and closeness to customers is a great platform to drive further growth of our tooling business in China. Much of the offering is focused on fast growing segments, like electric vehicles, which makes Ahno a perfect fit with our strategy," says Stefan Widing, President and CEO of Sandvik.

Ahno will form the basis of a new China-based division within Sandvik Machining Solutions. The new division will be established following the closing of the transaction. Sandvik's international tooling brands will continue to be operated in China as they are today. Ahno's strong market position, combined with Sandvik's leading competence and international brands presence will enable an attractive growth platform in China for China going forward.

"This acquisition is in line with our strategic ambition to grow in China and build a leading position in the local premium segment. In addition, Ahno enhances our local production

capabilities, making it a great addition to Sandvik,” says Nadine Crauwels, President Sandvik Machining Solutions.

Following the transaction, Sandvik will own a 72.4% stake in Ahno. This builds on a previous ownership stake of 12.4%. The company was founded in 2002, has approximately 1,200 employees and is headquartered in Suzhou, China. In 2023, the company generated revenues of approximately CNY 812 million (1.2 BSEK), mainly from China. The impact on Sandvik’s EBITA margin will be limited. The impact on Sandvik’s earnings per share (excluding non-cash amortization effects from business combinations) will be positive. The enterprise value for the acquired stake is CNY 1,456 million (189 MEUR) corresponding to a multiple of 10.9 x EV/EBITDA 2024. The transaction is expected to close during the third quarter of 2024 and is subject to customary closing conditions.

Company News

Artificial intelligence: Schaeffler and Siemens intensify collaboration

22 April 2024

The Motion Technology Company Schaeffler and the technology company Siemens have signed a memorandum of understanding (MoU) at the Hannover Messe. Both companies will advance the use of artificial intelligence in the industrial sector and therefore make a significant joint contribution to shaping the digital production of the future. At the Hannover Messe, Schaeffler and Siemens are once again showing the successful collaboration with the “Siemens Industrial Copilot”, an industrial automation solution using AI. It is connected to a production machine from Schaeffler Special Machinery at the Hannover Messe. The AI assistant makes the work significantly more efficient for the employees on the shop floor because complex automation codes for the machine can also be generated with natural spoken words.

“Digitalization is one of Schaeffler’s key topics,” says Klaus Rosenfeld, CEO of Schaeffler AG. “The use of AI-based solutions is a decisive factor for making production processes more innovative, agile, and efficient. With Siemens, Schaeffler has a strong industrial partner at its side to accelerate the development and implementation of generative AI solutions in a targeted manner and to generate added value for its customers.”

“Siemens and Schaeffler are pioneers on the path to highly-automated and digital factories. With the ‘Siemens Industrial Copilot’, we are bringing the capabilities of generative AI to the Schaeffler shop floor,” says Cedrik Neike, Member of the Managing Board of Siemens AG and CEO Digital Industries. “Together, we are showing how artificial intelligence is revolutionizing production— from the generation of machine code to AI-based maintenance. And that is just the beginning.”

Siemens Industrial Copilot: Increased agility and efficiency in production
Schaeffler is already using a large number of AI solutions in various applications. The “Siemens Industrial Copilot” is operating in pilot mode on a robot cell from Schaeffler Special Machinery, the Schaeffler Group’s special machine construction unit. This project was jointly developed by

Schaeffler and Siemens. The AI solution assumes tasks such as creating complex programming codes for manufacturing processes, thus reducing the outlay for machine operators. The “Siemens Industrial Copilot” also has access to relevant documentation, guidelines, and manuals to help employees identify potential causes of errors. The AI-based assistant offers further potential with regard to machine correspondence or validations.

Andreas Schick, Chief Operating Officer of Schaeffler AG, says: “We are now at the start of a decade of efficiency at Schaeffler. The ‘Siemens Industrial Copilot’ proves that artificial intelligence can already be used in production today. With the Copilot, we are providing our experts on the shop floor with an innovative digital tool, which simplifies their work and significantly increases their efficiency. We are taking production to a new, digital level in collaboration with Siemens.”

Autodesk and the Nemetschek Group Agree to Advance Open, Interoperable Workflows for Design and Make Industries

24 April 2024

Autodesk, Inc. announced an interoperability agreement with the Nemetschek Group to improve open collaboration and efficiencies for the architecture, engineering, construction and operations (AECO) and media and entertainment (M&E) industries. The agreement will enhance existing interoperability between the two companies’ industry cloud and desktop products and improve the fluent exchange of information across solutions.

Whether constructing buildings or highways or producing media assets, working with cloud-connected tools powers automation and unlocks valuable insights for better decisions at every stage of a project. But too often, people, processes, and data are siloed due to software and file incompatibility, resulting in inefficient workflows.

“Autodesk is firmly committed to building open, integrated, cloud-powered solutions for our customers that unlock data and connect project teams,” said Amy Bunszel, Executive Vice President, Architecture, Engineering and Construction Solutions at Autodesk. “Extending Autodesk’s cloud and desktop solutions with Nemetschek interoperability is a huge step towards optimizing our customers’ workflows and helping them generate better project outcomes.”

Optimizing workflows across Autodesk and Nemetschek will allow data to flow more easily from one cloud platform or desktop application to another so details get to the right people at the right time. The interoperability is powered by Autodesk Platform Services (APS), a set of open Application Programming Interfaces (APIs) and web services, that enables Nemetschek’s dTwin, Bluebeam Cloud, BIMcloud, and BIMplus to connect to Autodesk’s industry clouds—Forma, Fusion, and Flow—and design solutions. This will enable customers and partners to connect their data and capabilities across the respective solutions so users can focus on optimizing their projects with automation, AI and insight.

This interoperability agreement demonstrates an ongoing commitment to integration and open industry standards, such as openBIM by buildingSMART, which extends the benefits of Building

Information Modeling (BIM) by improving the accessibility, usability, management and sustainability of digital data in the built asset industry. By creating a silo-free ecosystem to collaborate, teams can work from the same digital model on end-to-end workflows.

“Supporting openBIM, interoperability, and open industry standards is deeply rooted in the Nemetschek Group’s DNA,” said Marc Nézet, Chief Strategy Officer of the Nemetschek Group. “Our interoperability agreement with Autodesk is a historic move to give customers the ability to work in any project environment and with any software ecosystem, ultimately resulting in a better built world.”

Under the terms of the agreement, Autodesk and the Nemetschek Group will provide mutual access to their APIs and industry clouds, thereby giving developer access to Autodesk solutions including AutoCAD, Revit, 3ds Max and Maya, as well as Autodesk Forma and Autodesk Construction Cloud, similarly to Nemetschek solutions including Allplan, Archicad, Bluebeam, Maxon One, Vectorworks as well as Nemetschek’s relevant cloud platforms. This will enable the two companies to improve upon existing data exchanges and open new data-centric workflows that span disciplines and industries.

Bechtle bolsters its additive manufacturing business

24 April 2024

With the founding of Bechtle Additive Manufacturing Deutschland GmbH in May 2024, a new company will begin to market industrial 3D printing solutions. The company is a spin-off from Bechtle PLM Deutschland—a business that has already enjoyed many years of success in this business segment. Among its many achievements, Bechtle holds the title of being HP’s largest global sales partner for 3D printing. The new company will employ more than 20 specialists at the Neckarsulm headquarters and branches in Hamm and Langenau and expects strong long-term growth in the 3D printing segment.

The newly founded Bechtle Group subsidiary will bundle this successful business with industrial 3D printing solutions, accessories and printing materials as well as services and consulting in the field of additive manufacturing. “Bechtle Additive Manufacturing Deutschland will combine our many years of expertise in 3D printing solutions with a highly agile team led by Managing Director, Patrick Schnizler. Operating under the Bechtle umbrella, this will enable us to considerably boost our visibility on the market and we are looking forward to expanding our reach in this incredibly dynamic field,” says Uwe Burk, Executive Vice President, PLM | Engineering & Manufacturing, Bechtle AG.

Globally leading tech partners

With a keen focus on its core competencies, the company will leverage the flexible opportunities for growth to expand its portfolio of solutions for manufacturing companies and service providers and customers will be able to view and try out a whole host of technological solutions in the innovation centres and showrooms in Hamm and Langenau. Bechtle Additive Manufacturing Deutschland will partner globally renowned technology manufacturers HP, Markforged, 3D Systems, Sintratec and DyeMansion.

Configit Welcomes Kenneth Hune Petersen as New Chief Commercial Officer

18 April 2024

Configit, the global leader in Configuration Lifecycle Management (CLM), announced it has appointed Kenneth Hune Petersen as Chief Commercial Officer. In this role, he'll help drive the company's global partner and sales initiatives and expand the sales team across all regions.

Petersen brings to Configit a wealth of experience in international business and leadership, **having helped transform organizations into industry leaders and steer them through complex markets.** Prior to joining Configit, he was Chief Commercial Officer at Sonion, Chief Sales and Marketing Officer at Milestone Systems and Vice-President of Sales for North America at SimCorp. In all companies, he has played a pivotal role in growing their revenue.

Petersen's experience in the North American market will be instrumental as Configit continues to expand its market presence in the U.S. and Canada. Adding Petersen to the team marks an important step in Configit's efforts to help more customers harness the power of CLM to manage ever-increasing product complexity and accelerate their digital transformation.

Johan Salenstedt, CEO, Configit, said: "As product complexity continues to increase, our customers need sophisticated solutions to navigate this challenge. We are dedicated to meeting these needs and Kenneth's leadership will enhance our ability to do so. With his extensive experience and strategic foresight, we have no doubt he will bring Configit to new heights of global success."

Kenneth Hune Petersen, Chief Commercial Officer, Configit: "Configit's innovative product offering and its position within the CLM market offers boundless opportunities for growth. Looking ahead, I aim to expand Configit's geographical and industry reach, ensuring sustained growth and success with both existing and new partners and customers."

EON and TextileGenesis join forces to offer an unrivaled level of traceability

23 April 2024

A Lectra Group company, TextileGenesis, the pioneering platform for the fashion and textile industries to ensure material traceability, today announced a transformative partnership with EON, the leader in product digitization, enabling retail brands to turn products into traceable, valuable assets through the creation of Digital IDs. This collaboration will enable brands to create comprehensive Digital Product Passports (DPP) that connect the entire material and product life cycle, and leverage this intelligence to optimize supply chains, provide more transparent information to customers, meet legislative demands and scale circular business models.

The new TextileGenesis and EON collaboration will address key issues for fashion brands

The fashion industry is currently undergoing a major evolution, moving in just a few years from no legal framework to a surge of sustainability regulations worldwide, requiring it to be able to trace all stages of its value chain.

Digital Product Passports (DPPs) are now the top priority for fashion brands and at the heart of sweeping global legislative agenda. In the EU, for example, the European Commission is about to adopt a Regulation on Ecodesign for Sustainable Products, which will set information requirements on sustainability aspects for products sold in the EU provided through a Digital Product Passport. DPPs will require all brands selling products in Europe to provide information on the traceability and life cycle of their products through a Digital Product Passport. DPPs aim to help consumers to identify and choose more sustainable products and accelerate downstream business models such as repair, resale and recycling.

The collaboration between TextileGenesis and EON will support the implementation of DPPs while unlocking new business capabilities for brands:

- With a DPP, products become interactive and can deliver reliable and transparent product supply chain data to customers throughout the product life cycle via an embedded data carrier (QR Code, NFC chip, etc.). This enables brands to increase customer engagement and trust and meet expectations for transparency.
- The ability to collect robust data on products and materials and share with circular businesses to scale models such as resale, repair and recycling.
- New intelligence into the end-to-end product lifecycle to optimize supply chains and gain new competitive advantages.
- An efficient way to manage compliance with existing and future regulations (e.g. AGEC, ESPR, etc).

Thanks to the integration of TextileGenesis and EON platforms, data silos will be removed and fashion brands will benefit from an unparalleled level of traceability

TextileGenesis and EON are two technological pioneers in fashion traceability. TextileGenesis has created an innovative, totally reliable and secure technology that offers complete traceability of sustainable and conventional textiles, guaranteeing their authenticity and provenance at every stage of the supply chain, from fiber to retail. EON's pioneering software platform enables global brands to create and manage a unique digital identity for every physical product in the form of a digital twin. This digital twin turns their products into traceable, interactive and intelligent assets that power diverse business objectives including on-product customer engagement, authentication, seamless resale, and more.

The EON and TextileGenesis collaboration solves key technology barriers for brands to meet these new compliance requirements by removing data silos between upstream and downstream traceability. Brands will be able to link material traceability data from TextileGenesis to a digital twin in the EON platform through a direct integration between the two platforms. This critical link will ensure the end-to-end traceability of every unique item, enable customers to access trusted product information, and ensure downstream partners have the information they need to scale circular services. Brands benefit from traceable, compliant products that unlock new value across their lifespans.

"Our collaboration with EON enables us to offer an unrivalled level of precision and completeness in textile traceability, from fiber to finished product, and in tracking all stages of production, distribution, sale, resale and recycling of fashion items. The integration, via APIs, of our two platforms enables brands to associate a Digital Product Passport (DPP) with each of their products, bringing together certified supply chain data upstream (TextileGenesis) and information collected downstream (EON) of the garment purchase," - Amit Gautam, founder and CEO of TextileGenesis.

"Our collaboration with TextileGenesis signifies a huge leap forward in product and material traceability, enabling brands to for the first time connect the full end-to-end life cycle of each unique item. This new intelligence delivers unparalleled competitive advantages: brands will be able to scale new business models, deliver richer customer experiences and accelerate sustainability efforts," - Natasha Franck, founder and CEO of EON.

Hexagon partners with Microsoft to redefine manufacturing with cloud technology

23 April 2024

Hexagon's Manufacturing Intelligence division announces its strategic partnership with Microsoft, which aims to redefine how engineers collaborate and enable the discrete manufacturing industry to innovate faster, with more confidence, and with new solutions that combine data from virtual engineering processes with real-world measurement of manufactured products. The collaboration will offer solutions that use modern cloud infrastructure to connect manufacturing and engineering systems – including Microsoft 365 – in Hexagon's Nexus digital reality platform for manufacturers, and help employees increase their productivity through cloud-accelerated simulation and AI.

The partnership aims to transform collaboration across the manufacturing value chain and apply digital twins to accelerate product innovation.

Transforming how manufacturers collaborate

Hexagon and Microsoft have partnered closely on the development and scaling of the open-source Fluid Framework and Azure Fluid Relay service to support the real-time sharing of data across a wide range of manufacturing industry processes and systems, allowing data created in one system to be immediately available to any other person or machine operating in another. Under the new partnership, the Microsoft 365 ecosystem will plug into this data layer, enabling customers to connect their day-to-day office documents and processes with manufacturing tools. This gives teams the freedom to innovate with the tools they already use; for example, tooling cost data from a Microsoft Excel worksheet could be easily shared with a CAM programmer, so simplifying work practices and decision-making between roles.

Microsoft Teams calls can become interactive working sessions, with CAD, simulations or metrology point clouds seamlessly visualised from the source data to allow on-the-spot collaboration and fast, iterative teamwork across disparate engineering and manufacturing functions. Hexagon has already demonstrated this capability in its **3D Whiteboard Nexus tool, which is also now available as a native app in Teams.**

Accelerating innovation through AI and high-performance computing

Hexagon is working with Microsoft to integrate generative AI models into its manufacturing software, helping users to make better use of their capabilities and analysing existing datasets to learn and suggest the best practices for achieving desired outputs. These AI experiences include contextual advisors, offering expert users productivity-boosting automation while also helping new users to upskill faster and achieve good results with less supervision – a valuable tool as the industry faces a growing skills shortage in many essential roles.

The partnership will apply Hexagon’s manufacturing, engineering and data science domain expertise and Microsoft Azure’s elastic computing and high-performance computing (HPC) infrastructure to accelerate engineering simulations by up to three orders of magnitude, making it possible to streamline design & engineering workflows to deliver innovative products to market at greater speed. Hexagon’s machine learning technology optimizes heavy-load simulations, allowing them to run much more efficiently. Azure customers will be able to use their existing contracts to access this machine learning-accelerated compute service through Nexus – allowing teams to use the IT they already have in place.

Combining Hexagon’s measurement and reality capture technology and Nexus open-access platform with Microsoft’s cloud ecosystem creates the foundation for agile and collaborative engineering applications and industrial metaverse use cases. A digital twin utilising Azure compute for simulations can now draw Hexagon’s real-world, real-time data capture and present information to users without complex systems integration. By implementing these technologies, manufacturers can create new workflows across the product lifecycle that shorten time to market, improve factory-floor efficiencies, identify manufacturing problems in real-time and improve quality.

Stephen Graham, EVP and General Manager Nexus at Hexagon said: “At Hexagon, we’re on a mission to empower the workforce by presenting them with the best available information as soon as possible and helping them to close the gap between their optimal-performance virtual designs and the physical products that they manufacture. We have achieved a huge amount with Microsoft in a few short months by collaborating closely and applying their best cloud technologies to unlock new ways of collaborating and sharing data.

Our strategic partnership takes this to the next level, driving a shared vision and go-to-market to help our customers connect their Hexagon tools and products with third-party engineering systems and Microsoft 365. This allows for completely new workflows to be built, increasing the visibility of data, enabling sustainable innovation and increasing productivity from design & engineering to end-of-life management.”

Aleš Holeček, Corporate Vice President Office Product Group, at Microsoft said: “Microsoft’s collaboration with Hexagon is driven by a shared belief that the future of work and productivity is grounded in collaboration. Similar to how Microsoft applied the Fluid Framework to our own Microsoft 365 applications, Hexagon has extended that same open-source data fabric to manufacturing problems, enabling real-time collaboration between the many engineering disciplines it takes to make a great product, through its Nexus platform running on Microsoft Azure. It’s something that will push the boundaries for workplace collaboration for both of our

platforms as we connect productivity with the engineering and operational technologies ‘makers’ need to be productive today.”

Industry Leader Joins Aspen Technology As Strategic Advisor For Power And Utilities

17 April 2024

Aspen Technology, Inc., a global leader in industrial software, announced that Mark Browning, a longtime power and utilities industry executive, has joined the company as a strategic advisor. Browning has spent the last two decades in executive positions at Exelon, the largest US utility company, serving more than 10 million customers. Most recently, Browning was Chief Information Officer with overall responsibility for IT across Exelon’s family of transmission and distribution utility companies.

Decarbonization, electrification and increasing climate and cyber threats are introducing new levels of grid complexity and unpredictability, bringing the power and utilities industry to a critical juncture. Customers around the world are working to improve resiliency of their grids, accelerate their transition to renewables and enhance operational excellence and safety.

“Utilities around the world are turning to AspenTech today for advanced digital solutions to support the rapid expansion of renewables, modernize their grids and ensure the resiliency of their operations,” said Antonio Pietri, president and CEO of AspenTech. “With a distinguished career in power and utilities, Mark brings deep strategy and operations experience to enhance the value-based outcomes that AspenTech delivers to customers in this industry. As a thought leader, we look forward to his guidance as we support the industry in achieving the Utility of the Future.”

“I’m delighted to join the AspenTech team at this important inflection point for the power and utilities industry,” said Browning. “The energy transition and electrification create significant operational challenges impacting all stakeholders across electricity generation, transmission and distribution. AspenTech has established itself as a strategic partner to power and utilities and I’m eager to play a role in supporting the Company’s continued innovation, value creation and talent strategy.”

Later this month in Houston, more than 1,200 individuals from asset-intensive companies will attend OPTIMIZE 24, AspenTech’s global customer event. Browning will join Pietri and other industry leaders in a plenary session exploring how organizations are making strategic choices to succeed in the new energy system. With approximately 500 power & utilities customers anticipated to attend the event, OPTIMIZE 24 will include dedicated industry sessions and a Digital Grid Management track for this specific audience.

Kubotek Kosmos Partners with Revware for Portable CMM Support

18 April 2024

Kubotek Kosmos, a leader in engineering and manufacturing geometric software technology, is proud to announce a partnership with Revware Inc of Raleigh, NC, manufacturer of MicroScribe® portable coordinate measuring machine (CMM) devices. The two companies have worked together to optimize support for use of MicroScribe products as 3D input devices into

the latest KeyCreator CAD software from Kubotek Kosmos. Coordinates from the MicroScribe arm can be fed into any KeyCreator command using the universal Conversation Bar Key-in option.

“KeyCreator and a MicroScribe Portable CMM are a perfect pair for reverse engineering of desktop-sized objects. The flexible construction plane features and Z-lock mode in KeyCreator allow for fluid 3D input.” said John Wright McCullough, General Manager Marketing for Kubotek Kosmos.

“The direct modeling approach, hybrid surface/solid capabilities, and traditional CAD data structures of KeyCreator are ideal for when work starts with model data from an outside source. These same advantages apply to starting from a physical object using a MicroScribe,” continued McCullough.

CADpad Grid Interface Option

An enhancement included in the KeyCreator 2024 Service Pack 1 released this week allows Revware’s MicroScribe Utility Software (MUS) to call solid primitives commands in KeyCreator with consistent parameters. With this new KeyCreator capability, the MicroScribe stylus can function as an interactive 3D solid sketcher of shapes like blocks, cylinders, and spheres. Used in combination with the Revware CADpad Grid interface option, the user can execute these and other drawing commands directly from the MicroScribe arm without needing to move a hand back to the mouse to drive cursor selections in KeyCreator menus and dialog boxes.

Mews Partners opens an office in Lyon

18 April 2024

Mews Partners is setting up in the Auvergne-Rhône-Alpes region with the opening of an office in the heart of Lyon, in order to expand its activities throughout the region.

Mews Partners has been providing its expertise for over 20 years to the region’s major industrial players, including Soitec, MND, bioMérieux, Bobst and EDF’s technical teams in Lyon. This expansion underlines the firm’s determination to maintain and develop its activities in the Auvergne-Rhône-Alpes region, as well as in Switzerland, by bringing its broad range of expertise to local industries.

Auvergne-Rhône Alpes is France’s most dynamic industrial region, with 73 new plants to be set up or extended by 2023. The aim of opening the Lyon office is to respond more effectively to the specific innovation and operational challenges of the region’s industrial sector. It will cover the full range of the firm’s services, from R&D to the supply chain, including manufacturing, PLM and environmental performance, particularly in the region’s key sectors: automotive, consumer goods & agri-food, construction & infrastructure, chemicals, healthcare, electronics, etc.

“We’ve been operating in the Auvergne-Rhône-Alpes region, France’s 2nd largest industrial region, for 20 years, and we’re now looking to establish a local presence for our customers, to provide them with the best possible support in their transformation projects. This opening will result in a significant strengthening of our local teams with the arrival before the summer of a

new Partner, specialising in innovation and R&D, who will be responsible for developing our offers with the support of our teams in France and Germany” Charles Turri, Partner at Mews Partners in charge of the Lyon office.

Mews Partners already has a team of 5 employees at its Lyon office and is aiming to have around 20 consultants on site within the next two to three years.

Nano Dimension Refreshes Corporate Governance by Appointing Major General (Ret.) Eitan Ben-Eliahu to the Company’s Board of Directors

16 April 2024

Nano Dimension Ltd. (“Nano Dimension” or the “Company”), a leading supplier of Additively Manufactured Electronics (“AME”) and multi-dimensional polymer, metal & ceramic Additive Manufacturing (“AM”) 3D printing solutions, announced that Major General (Ret.) Eitan Ben-Eliahu is joining its Board of Directors (the “Board”).

Major General (Ret.) Ben-Eliahu was born and raised in Jerusalem, Israel. He is currently the President of International Flight Academy (IFA), a board member of Gadfin Ltd. and RoutePerfect Ltd., and Chairman of the College Academic Center of Law & Business (ACLB). He is also a speaker and hosts an educational program for policy and national defense at The Open University of Tel Aviv, while similarly serving as a television Expert Commenter on the same topic.

During his long business career until his current appointments, Major General (Ret.) Ben-Eliahu served in several leadership positions with LA East-West Ventures Capital Fund, Sentry Technology Group, Cannbit Pharmaceutical Ltd., and Aeronautics Ltd. (“Aeronautics”). In his time at Aeronautics, he served as Executive Chairman and Aeronautics conducted an initial public offering on the Tel Aviv Stock Exchange for over one billion Israeli shekels.

Major General (Ret.) Ben-Eliahu served in the Israeli Air Force (“IAF”) for 38 years. He was an F-4 Phantom fighter pilot and Squadron Commander, including during the 1973 Yom Kippur War, and the first F-15 Squadron Commander of the IAF. He later was a Commander of the Procurement Department of the IAF, Northern Base Commander, Deputy Commander of the IAF, and was subsequently appointed in 1996 as **Commander in Chief of the Israeli Air Force**, a position he held until retiring from active service in 2000. During his exceptional career, he led air combat operations in four major wars, as well as in other special cross-border operations, collectively logging hundreds of sorties behind enemy lines and many “kills” of enemy combat aircrafts.

Major General (Ret.) Ben-Eliahu is a graduate of the **Advanced Management Program (AMP)** at **Harvard University**. He holds a **BA in Economics and Business Administration** from Bar-Ilan University, and he completed his studies of **Strategy and International Relations** at Tel Aviv University.

Simon Fried, a co-founder of Nano Dimension, will step down from his position as a director after over 10 years with the Company. He will continue to serve as a special advisor.

Dr. Yoav Nissan-Cohen, Chairman, and Yoav Stern, CEO and member of the Board, of Nano Dimension issued a joint statement: “We are honored to add Major General (Ret.) Eitan Ben-Eliahu to our Board. His extensive experience combining 25 years of business leadership, including as chairman and board member of public technology companies and venture capital firms will enhance the quality of our leadership. We also expect that Major General Ben-Eliahu’s experience in the defense industries, which is our largest customer segment along with aerospace, will contribute to Nano Dimension’s go-to-market plans.”

Major General (Ret.) Ben-Eliahu added: “I am motivated and excited to join the Nano Dimension team. After spending time with this leadership group, I was highly impressed with the innovation capabilities stemming from the people, products, and technology that are all part of the Company. With regard to the people specifically, I feel we share business goals, and, no less important, ethics. Furthermore, I am excited by the mutual vision and degree of enthusiasm in developing Nano Dimension by creating value for industry leading customers and generating return on investment for sophisticated shareholders.”

Yoav Stern further commented: “Simon stepping down is an emotional moment for Nano Dimension. I wish to acknowledge his extensive contribution to the Company since 2015. Firstly, as a co-founder and executive, and later a director. Since I have joined the Company in 2020, Simon has been a contributor to Nano itself but also to the very development of the 3D printing for electronics industry. His experience as one of the original pioneers will make his future involvement as our advisor even more appreciated.”

Qualtrics Appoints Gurdeep Singh Pall as President, AI Strategy

17 April 2024

Qualtrics, the leader and creator of the experience management (XM) category, announced the appointment of Gurdeep Singh Pall as its first-ever President, AI Strategy. Pall will guide the company’s AI initiatives as Qualtrics develops powerful, generative, causal and predictive AI innovations powered by the world’s largest database of human sentiment. Qualtrics AI seamlessly integrates billions of data points across the customer and employee journey to drive action that personalizes experiences, at scale.

Companies have troves of experience data: chat logs, social media feeds, feedback surveys, call center recordings. But they often struggle to leverage this data to drive tangible business outcomes. AI is accelerating their ability to take action. Pall will work alongside the company’s technology and product teams to drive a transformative vision and roadmap for Qualtrics’ use of AI in experience management. He will be based in Seattle and be a member of the senior leadership team.

Pall brings more than 30 years of experience at Microsoft, where, as a technology leader and executive, he helped build and promote key products including Windows, Teams, Skype and Bing. Most recently, Pall was responsible for creating new products and solutions with emergent AI technologies. As part of the Technology and Research leadership team that spearheaded, among other things, Microsoft’s OpenAI partnership, he had a ringside

perspective into the pace of AI developments and AI's potential to change the way humans experience the world.

Pall was a technology leader at Microsoft through three transformative eras of technology – the personal computing and internet revolution, the advent of virtual communications platforms such as Microsoft Teams, and, most recently, new applications of emergent AI.

In today's landscape, every organization is looking to AI to help them analyze vast amounts of data and connect information in unprecedented ways. Qualtrics AI creates a competitive advantage for companies in every industry by connecting human experiences across organizations to drive actions that protect revenue, drive growth, and create scale. Qualtrics' fully-enabled AI platform allows companies to identify risk and resolve customer issues immediately and drives understanding of employee needs to keep them engaged and productive, preventing unwanted attrition. In 2023, Qualtrics announced a commitment to invest \$500 million in AI innovation through 2027.

"AI is the most transformative technology that the world has ever seen, and we are betting big on it, as a company, by hiring Gurdeep to set and accelerate a visionary agenda to make business more human," said Qualtrics CEO Zig Serafin. "This exciting new addition to our leadership team sets us up to be out front, with our customers, leading into the new era of AI-powered experience management."

"Qualtrics occupies a very unique corner of the world as we shift from the age of software into the age of AI," Pall said. "Experience is one of the most important aspects of our world today, and my new role is an exciting opportunity to help Qualtrics bring AI to bear on every industry around the globe, to create enormous impact for customers, employees and organizations."

TCS and AWS Sign Strategic Agreement to Accelerate Cloud Transformations, Offer Access to GenAI Solutions to Customers

24 April 2024

Tata Consultancy Services (TCS), a global leader in IT services, consulting, and business solutions, has entered into a strategic partnership with Amazon Web Services (AWS) to accelerate its customers' cloud transformation journey at scale. This new strategic transformation agreement with AWS will enable TCS to facilitate full-stack digital transformation of its customers by leveraging data and generative artificial intelligence (AI) solutions on AWS.

Through this multi-year tie-up, TCS will provide its customers with tools to create modern architectures, deliver business value using state-of-the-art cloud-native capabilities and drive modernization at scale. These include a clear cloud modernization roadmap, access to modernization platforms and tools, exclusive investment models and technology betas, and proof-of-concept (POC) projects. The customers selected for this program are globally distributed across all verticals, particularly within banking and financial services, life sciences, healthcare, travel, transportation, hospitality, manufacturing, automotive, and communications and telecom.

Matt Garman, Senior Vice President of Sales, Marketing, and Global Services, AWS, said, *“At AWS, we are excited to expand our strategic partnership with TCS, a globally recognized leader in IT services. Together with AWS's comprehensive suite of generative AI and modernization services, along with TCS' domain expertise and global delivery capabilities, our customers will benefit from accelerating their enterprise transformation. By upskilling 25,000 TCS professionals, we are committed to addressing the evolving needs of our customers through innovative solutions to accelerate their modernization journey.”*

While cloud modernization can lend organizations next-gen capabilities, they are comprehensive and require converting, rewriting, or porting legacy systems to modern technology platforms. The initiative by TCS and AWS is focused on removing these barriers and realizing faster time-to-value. It offers customers a unique opportunity to leverage AWS's cutting-edge technologies and TCS' contextual knowledge and ability to build branded intellectual property (IP) on AWS. TCS is uniquely positioned to lead large-scale continuous modernization with a deep understanding of customers' domains. This includes significant investment in industry platforms. As part of this collaboration, AWS will support TCS in upskilling and certifying 25,000 members of its workforce on AWS, creating a modernization champion team with modernization specialists.

Krishna Mohan, Deputy Head, AI.Cloud Unit, TCS, said, *“We are excited about the unique value proposition that our clients will have access to, through this agreement between TCS and AWS to take advantage of TCS' contextual knowledge.. It offers an opportunity to drive significant value by accessing innovative technologies such as generative AI and modernization at scale for our clients globally. This agreement also represents the continuing progress of our strong collaboration with AWS, including being awarded the AWS Global System Integrator (GSI) Partner of the Year - Global at AWS re:Invent 2023, and we look forward to deepening our strategic ties with the hyperscaler to bring further innovation to our clients.”*

This initiative reinforces the strategic ties between TCS and AWS. TCS is an AWS Premier Consulting Partner with more than a decade-old strategic partnership with the hyper scaler. TCS and AWS offer a comprehensive suite of services, including cloud migration, application modernization, data analytics, and AI-powered solutions.

Susheel Vasudevan, Business Group Head, BFSI – Americas, TCS, said, *“In Financial Services, many of the customers have embarked on the Cloud journey a few years back and established a strong Cloud foundation, and now looking to take the core systems to the cloud to drive the business value. This agreement with AWS, focused on modernization and tailor-made value propositions with the combined power of TCS and AWS, will accelerate this core modernization journey on the cloud and deliver tangible business benefits.”*

TCS received multiple recognitions in the 2023 AWS Partner Awards including - the Global System Integrator (GSI) Partner of the Year – Global, GSI Partner of the Year – France, as well as a Finalist in four other significant categories for its role in helping customers drive innovation. TCS is an AWS Premier Tier Service Partner and holds several AWS specializations and validated qualifications including membership in the AWS Premier Tier Service Partner Program, AWS Managed Service Provider, AWS Public Sector Partner Program, AWS Solution Provider

Program, AWS Well-Architected Partner Program, and over 38 AWS Competencies and Service Validations.

Event News

COMSOL Conference 2024 to Visit Florence

22 April 2024

The COMSOL Conference 2024 tour will make a stop in Florence, Italy, on October 22–24. The COMSOL Conference provides a space for engineers, scientists, and researchers to showcase their modeling and simulation work, exchange ideas, and learn new modeling techniques.

Program highlights of the 2024 event:

- Keynote talks by industry leaders
- Interactive poster and slideshow presentations by engineers and researchers from different fields
- Minicourses that cover using the COMSOL Multiphysics® software and its add-on products
- Demo stations where attendees can receive 1-on-1 guidance from COMSOL applications engineers
- Awards ceremony

The COMSOL Multiphysics® modeling and simulation software is used in industry, government, and academia for creating physics-based models and standalone simulation apps to support R&D and innovation efforts. At the conference, attendees gather to discuss the software's wide range of uses and learn modeling best practices from each other and COMSOL staff.

"We are looking forward to meeting colleagues from industry and academia in one of the most beautiful cities in the world," said Giuseppe Petrone, CEO of BE CAE & Test. "We are proud to support the conference as a platinum sponsor because it presents a special opportunity to share with other COMSOL users our passion for multiphysics modeling and simulation apps."

Fostering knowledge exchange between COMSOL engineers, keynote speakers, poster and slideshow presenters, and attendees is a top priority of the conference. "The intention of the COMSOL Conference has always been to provide simulation users with the opportunity to share their experiences, connect, and gain a deeper understanding of simulation," said Paolo Caronna, program chair of the COMSOL Conference 2024 Florence. "The conference is being held at the Teatro del Maggio Musicale Fiorentino, so we are also hoping to offer an environment where art and music will blend with technological innovation and inspire new ideas."

The Teatro del Maggio Musicale Fiorentino is well known across Italy for hosting international musical and cultural events. At the conference, attendees will gather in different areas of the

theater for the various sessions and can attend keynote talks held in one of the performance halls.

Showcase Your Work

For those interested in showcasing their simulation work through a poster or slideshow presentation at the conference, the program committee is accepting abstracts through July 12, 2024. To learn more about the presentation options and deadlines and submit an abstract, visit the Showcase Your Work page on the conference website.

All accepted submissions will be considered for the COMSOL Conference Best Paper and Best Poster awards. After the live event, accepted works are published in the online collection on the COMSOL website.

[To learn more about the COMSOL Conference 2024 Florence and register, visit the conference website](#)

The COMSOL Conference 2024 is also making stops in Shanghai, China; Taiwan; Tokyo, Japan; and Seoul, South Korea. Florence is the second stop of the tour: The COMSOL Conference 2024 will first be held in the U.S. in Boston, Massachusetts, on October 2–4.

Hannover Messe: CONTACT Software presents new AAS applications

19 April 2024

CONTACT Software is driving the practical use of the Asset Administration Shell with its Elements platform. In Hannover, the company and its partners will showcase several new AAS applications for the digital twin.

As a cross-enterprise standard for the digital twin, the Asset Administration Shell (AAS) offers significant potential for machinery and plant manufacturers, their component suppliers, and customers. CONTACT Software is actively involved in the Industrial Digital Twin Association (IDTA) and other projects to advance it. The company will present new AAS use cases for Industry 4.0 at Hannover Messe 2024 from April 22 to 26.

CONTACT already demonstrated in 2023 how companies can use its platform Elements for IoT to import and export initial AAS submodels. Since then, the software provider has implemented further IDTA specifications. Now, structured information relating to an asset's installation, a classified description of its technical properties, the product's carbon footprint, handover documents, and context-specific operating data can also be exchanged securely and reliably via the AAS.

With Mitsubishi Electric, CONTACT will highlight the practical benefits of its latest AAS extensions at booth H24 in hall 17.

Easy navigation with a new widget

A new widget for the Elements for IoT dashboards provides an overview of all "active" and "inactive" AAS submodels of an asset and simplifies information exchange between companies. It enables users to directly access the AAS Type 2 REST endpoint of the AAS or its submodels.

They have the option of up- or downloading the respective submodel to update it or activate a non-existent one.

Creating and updating assets

CONTACT has also expanded the creation and modification of assets with an AAS REST endpoint. Using the Digital Nameplate and its serial number, the desired AAS information is provided through the Universal Classification of the Elements platform. If an asset with the serial number already exists, the user is asked whether it should be updated. The new function is handy in maintenance when obsolete or defective components need to be replaced in machine tools.

Export of time series data

The "Time Series Data to AAS" function automatically fills the corresponding submodel with an asset's metadata and time series data. CONTACT Elements for IoT offers two options for providing the measured values: direct REST access to the selected time series range and a derived JSON file stored in the digital twin. In the production context, for example, this allows the provision of the data for quality assurance tasks for end-of-line tests.

As an IDTA team, CONTACT, FESTO, and msg have also developed a demonstrator that accelerates the quotation preparation. Based on the Elements platform it provides plant manufacturers with a digital product catalog from FESTO in a machine-readable format as AAS. An AI-supported msg chatbot, which uses a large language model, assists in finding the optimal components. Upon entering technical properties, the virtual assistant outputs a suitable selection so that customers can quickly find the right product from a wide range of variants.

At Hannover Messe, this AAS use case will be presented at the IDTA booth (hall 9, F27) and the FESTO booth (hall 7, D31). CONTACT will also show it – in addition to its own AAS applications and as part of its "Fast Forward Digital Transformation" theme. With various practical examples from development, production, and service, the software provider demonstrates how the seamless interaction of PLM, IoT, and MES leads to increased efficiency, speed, and sustainability in the industry.

UM24: new speakers announced

23 April 2024

We're excited to unveil the lineup of speakers for the upcoming [ESTECO International Users' Meeting 2024](#), which takes place in **Trieste on June 4, 5, and 6**.

This year's agenda is going to be rich with **industry leaders**, experts, and innovators from around the world, and we're happy to welcome these speakers to share their insights, expertise, and experience on ESTECO software solutions with our community. From plenary sessions on our software held by our customers to interactive panel discussions related to the industries we support, our program features a diverse range of topics covering the latest trends, challenges, and solutions in **engineering optimization** and **simulation**.

We have lots of companies from all over the world with speakers who are going to explain how our solutions helped boost their projects. Among these are BMW, Daiwa House, Fincantieri, Ford, Hyundai, Iveco, Mazda, Pipistrel, and Volvo.

Want to learn more about our speakers and their presentations? Explore the full list of our speakers and detailed abstracts on our [website](#).

Don't miss this exclusive opportunity to connect with leading experts, gain valuable insights, and take your knowledge to the next level at the ESTECO International Users' Meeting 2024. [Register now](#) to secure your spot and come to Trieste to meet them at our event. Stay tuned for more updates and other speakers announcements as we're counting down the days to this exciting event. See you there!

Financial News

Addnode Group - Interim report 1 January — 31 March 2024

25 April 2024

GROWTH, EARNINGS IMPROVEMENT AND STRONG CASH FLOW

»We started 2024 with 22 percent growth. A stronger market in the USA, the acquisition of Team D3 and cost efficiency measures contributed to a 15 percent increase in earnings per share. We will continue to pursue daily improvements, while also investing in new digital solutions and acquisitions. «

Johan Andersson

President and CEO

Summary of the first quarter, January–March 2024

- Net sales increased by 22 percent to SEK 2,409 m (1,972), of which 1 percent was organic. Currency-adjusted organic growth was 0 percent.
- Gross profit increased to SEK 1,101 m (941), and the gross margin was 45.7 percent (47.7).
- EBITA rose to SEK 253 m (202), and the EBITA margin was 10.5 percent (10.2).
- Operating profit increased to SEK 187 m (149), and the operating margin was 7.8 percent (7.6).
- Net profit for the period rose to SEK 120 m (104).
- Earnings per share increased to SEK 0.90 (0.78).
- Cash flow from operating activities increased to SEK 381 m (269).
- Merger of sister companies Sokigo and S-GROUP Solutions.
- Acquisition of Efficture by the newly established company Icebound.
- Acquisition of Jetas Quality Systems.
- Acquisition of Optimec.

Events after the end of the reporting period

- Jonas Gejer, VP of Business Development, steps down from his position.

AECOM announces planned dates for second quarter fiscal 2024 earnings results and conference call

22 April 2024

AECOM, the world's trusted infrastructure consulting firm, announced that it intends to issue its second quarter fiscal 2024 earnings results after the U.S. market closes on May 6, 2024. The Company will also host a conference call and webcast with analysts and investors on May 7, 2024, at 8 a.m. Eastern Time / 7 a.m. Central Time, during which management will present the Company's financial results and outlook, strategic accomplishments, and market and business trends.

The webcast and a replay will be available online at <https://investors.aecom.com>. The press release and presentation slides will be available on the Company's website the day of the call and will contain additional financial information.

The conference call can be accessed directly by dialing 800-599-5188 (U.S.) or an international number at 646-307-1591 and entering passcode 7295287.

Ansys to Release First Quarter 2024 Earnings on May 1, 2024

18 April 2024

Ansys announced that the Company expects to release its first quarter earnings on Wednesday, May 1, 2024, after the market closes. As previously announced, in light of the pending transaction with Synopsys, Inc. (Synopsys), Ansys has suspended quarterly earnings conference calls and no longer provides quarterly or annual guidance.

Additional information: Synopsys to acquire Ansys

On January 15, 2024, the Company entered into a definitive agreement with Synopsys under which Synopsys will acquire Ansys. Under the terms of the agreement, Ansys shareholders will receive \$197.00 in cash and 0.3450 shares of Synopsys common stock for each Ansys share, representing an enterprise value of \$35.0 billion based on the closing price of Synopsys common stock on December 21, 2023. The transaction is anticipated to close in the first half of 2025, subject to approval by Ansys shareholders, the receipt of required regulatory approvals and other customary closing conditions. Bringing together Synopsys' pioneering semiconductor electronic design automation with Ansys' broad simulation and analysis portfolio will create a leader in silicon to systems design solutions.

Atos reports first quarter 2024 performance

25 April 2024

Atos, a global leader in digital transformation, high-performance computing and information technology infrastructure, announces its performance for the first quarter of 2024.

Atos' Chief Executive Officer, Paul Saleh declared: *"Tech Foundations and Digital are executing on their transformation plans. Business was nonetheless impacted by softer market conditions in key regions such as the Americas and Central Europe as well as delays in contract award."*

During this quarter, our BDS business expanded its leadership in high-performance computing, with a new contract award in Denmark to accelerate research and innovation in various fields such as healthcare, life sciences, and the green transition, as well as with add-on work for existing HPC customers.

On April 9, we outlined the key parameters of a refinancing framework to address our overall debt levels and upcoming debt maturities. We will update in the coming days those parameters to take into account the adjustment of our 2024-2027 business plan. We have therefore extended the deadline for submissions of refinancing proposals by existing stakeholders and third-party investors to May 3. We will review those proposals with our financial creditors and agree on an appropriate path forward. Our goal remains to agree on a refinancing solution by this coming July.

I would like to take this opportunity to recognize our 94,000 employees for their commitment to giving our customers the highest quality of service delivery. I would like to also thank our customers and partners for their continued support.”

Revenue by Businesses

<i>In € million</i>	Q1 2024 Revenue	Q1 2023 Revenue	Q1 2023 Revenue*	Organic variation*
Eviden	1 164	1 317	1 212	-3.9%
Tech Foundations	1 314	1 473	1 334	-1.5%
Total	2 479	2 790	2 546	-2.6%

*: at constant scope and average exchange rates

Group revenue was €2,479 million in Q1 2024, down -2.6% organically compared with Q1 2023.

Eviden revenue was €1,164 million, down -3.9% organically.

- **Digital** activities decreased mid-single digit. While revenue grew in continental Europe with public sector and utility customers, the business was impacted by the general market slowdown in Americas and by contract scope reductions in the United Kingdom.
- **Big Data & Security (BDS)** revenue decreased low single digit organically. Revenue in Advanced Computing was up slightly, with stronger activity in the public sector in France and in Asia. Revenue in Digital Security declined, impacted by a ramp up delay in a large project in Europe.

Tech Foundations was €1,314 million, down -1.5% organically.

- **Core revenue** (excluding BPO and value-added resale (“VAR”)) decreased by -3.6%. Stronger contributions related to the Paris Olympic & Paralympic games and the UEFA contract were offset by slowdown in public sector spending in Central Europe as well as by contract scope and volume reductions in Americas.
- **Non-core revenue** grew high-single digit, reflecting a strong demand for hardware and software products from European customers and a moderate growth in BPO activities in the United Kingdom.

Overall, revenue of the Group was impacted by delays in award of new contracts and add-on work, as clients await the final resolution of the Group’s refinancing plan.

Revenue by Regional Business Unit

<i>In € million</i>	Q1 2024 Revenue	Q1 2023 Revenue	Q1 2023 Revenue*	Organic variation*
Americas	547	642	591	-7.5%
Northern Europe & APAC	754	788	778	-3.2%
Central Europe	533	633	554	-3.8%
Southern Europe	565	661	561	+0.7%
Others & Global Structures	81	66	62	+29.9%
Total	2 479	2 790	2 546	-2.6%

*: At constant scope and average exchange rates

Americas revenue decreased by -7.5% on an organic basis, reflecting the current general slowdown in market conditions. Digital services were down reflecting contract completions and volume decline in Healthcare and Insurance. The delivery of a supercomputer project in South America in Q1 2023 also provided a higher prior year comparison basis for BDS. Revenue in

Tech Foundations was down due to a contract completion and scope reductions with select customers.

Northern Europe & Asia-Pacific revenue decreased by **-3.2%** on an organic basis. Eviden revenue declined high-single digit, reflecting a lower demand from Public Sector, Healthcare and Insurance customers. Revenue in Tech Foundations was slightly up with the contribution from Asia and increased BPO activity in the UK offsetting volume decline in the healthcare sector.

Central Europe revenue was down **-3.8%** on an organic basis. Eviden revenue slightly declined, as growth in Digital activities in Germany and Austria offset lower activities in BDS. Tech Foundations revenue declined high-single digit, reflecting delays in public sector spending.

Southern Europe revenue was up **+0.7%** organically. Eviden revenue grew mid-single digit, reflecting strong activity in High-Performance Computing. Digital activities grew as well, benefitting from the ramp-up of large contracts in Spain and with a major European utility company in France. Tech Foundations revenue declined low single-digit following contract completions with Banking and Public Sector customers.

Revenue in Others and global structures, which encompass Middle East, Africa, Major Events as well as the Group's global delivery centers and global structures, strongly grew by 30% organically, reflecting strong performance in Major Events with the ramp up of activities related to the Paris Olympic & Paralympic games and the UEFA contract.

Commercial activity

Order entry for the Group was **€1,586 million**. Eviden order entry was €966 million and Tech Foundations order entry was €620 million.

Book-to-bill ratio for the Group was **64%** in Q1 2024, down from 73% in Q1 2023, reflecting delays in contract awards as clients await the final resolution of the Group's refinancing plan.

Book-to-bill ratio at **Eviden** was **83%**, improving by +4 points compared with the first quarter of 2023. The increase reflects large orders received by BDS, in particular an AI system that will perform medical and scientific research in Denmark and contracts to extend the computing capacity of existing HPCs: the *Santos Dumont* in Brazil and the *Jean Zay* in France. Main order intake also included an SAP implementation and maintenance contract for the European Union and an application maintenance contract with a public sector customer in Central Europe.

At **Tech Foundations**, Q1 book-to-bill was **47%**, down from 68% in Q1 2023. Despite the signature of several large contact renewals, notably in Hybrid Cloud & Infrastructure with a Transportation customer and in Digital Workplace with a client in the financial sector in Americas, signature of new outsourcing contracts was delayed due to the current low demand for new services from public sector customers in Central Europe and the impact of customers delaying decisions on major IT projects, as they await the final resolution on our refinancing plan.

At the end of March 2024, the **full backlog** was €17.3 billion representing 1.7 years of revenue. The **full qualified pipeline** amounted to €6.0 billion at the end of March 2024.

Operating margin

Group operating margin in the first quarter of 2024 was €48 million representing 1.9% of revenue, compared with 3.3% in prior year.

Eviden operating margin was €22 million or 1.9%, down -330 basis points organically. Eviden's profitability decreased, impacted by revenue decrease, lower utilization of billable resources and investment in Advanced Computing.

Tech Foundations operating margin was €26 million or 2.0%, up +50 basis points organically, reflecting the continued execution of its transformation program.

Based on current market conditions and business performance for the first quarter of the year, Atos will adjust its 2024-2027 business plan and communicate any revisions in the coming days.

Q1 2024 cash and net financial debt

As of March 31, 2024, cash & cash equivalents and short-term financial assets was €1.0 billion, down €1.4 billion compared with December 31, 2023 primarily reflecting €1.3 billion lower working capital actions compared with the end of fiscal 2023.

As of March 31, 2024, net debt was €3.9 billion compared with €2.2 billion at the end of last year, reflecting primarily the reduction of the working capital actions.

Conference call

Atos' Management invites you to an international conference call on the Group revenue for the first quarter of 2024, on **Thursday, April 25, 2024 at 08:00 am (CET – Paris)**.

You can join the **webcast** of the conference:

- via the following link: <https://edge.media-server.com/mmc/p/ady4y3pm>
- by telephone with the dial-in, 10 minutes prior the starting time. Please note that if you want to join the webcast by telephone, **you must register in advance of the conference** using the following link:

<https://register.vevent.com/register/BI633fab59d4cc4520b165781369018611>

Upon registration, you will be provided with Participant Dial In Numbers, a Direct Event Passcode and a unique Registrant ID.

During the 10 minutes prior to the beginning of the call, you will need to use the conference access information provided in the email received upon registration.

After the conference, a replay of the webcast will be available on atos.net, in the Investors section.

Cadence Reports First Quarter 2024 Financial Results

22 April 2024

Cadence Design Systems, Inc. announced results for the first quarter of 2024.

First Quarter 2024 Financial Results

- Revenue of \$1.009 billion, compared to revenue of \$1.022 billion in Q1 2023
- GAAP operating margin of 25%, compared to 32% in Q1 2023
- Non-GAAP operating margin of 38%, compared to 42% in Q1 2023
- GAAP diluted net income per share of \$0.91, compared to \$0.89 in Q1 2023
- Non-GAAP diluted net income per share of \$1.17, compared to \$1.29 in Q1 2023
- Quarter-end backlog was \$6.0 billion and current remaining performance obligations ("cRPO"), contract revenue expected to be recognized as revenue in the next 12 months, was \$3.1 billion.

"Q1 was a strong start to the year for Cadence as we delivered solid Q1 results," said Anirudh Devgan, president and chief executive officer. "I'm pleased with our record Q1 backlog that reflects our broad-based strength and product leadership. We're thrilled with the momentum of our Cadence.AI portfolio which is providing customers with the most comprehensive and impactful chip-to-systems design capabilities and are excited about the launch of our innovative third generation Dynamic Duo hardware platforms that further expands our leadership."

"Our strong Q1 results reflect our continued technology leadership supporting our customers and partners, and solid execution from the Cadence team," said John Wall, senior vice president and chief financial officer. "I am pleased that we delivered record Q1 bookings and achieved record Q1 backlog of approximately \$6.0 billion."

CFO Commentary

Commentary on the first quarter of 2024 financial results by John Wall, senior vice president and chief financial officer, is available at www.cadence.com/cadence/investor_relations.

Business Outlook

For fiscal year 2024, the company expects:

- Revenue in the range of \$4.56 billion to \$4.62 billion
- GAAP operating margin in the range of 31% to 32%
- Non-GAAP operating margin in the range of 42% to 43%
- GAAP diluted net income per share in the range of \$4.04 to \$4.14

- Non-GAAP diluted net income per share in the range of \$5.88 to \$5.98

For the second quarter of 2024, the company expects:

- Revenue in the range of \$1.03 billion to \$1.05 billion
- GAAP operating margin in the range of 26.5% to 27.5%
- Non-GAAP operating margin in the range of 38.5% to 39.5%
- GAAP diluted net income per share in the range of \$0.73 to \$0.77
- Non-GAAP diluted net income per share in the range of \$1.20 to \$1.24

Cadence's outlook does not include the impact of its pending acquisition of BETA CAE, the company's expectations for which are largely unchanged from announcement.

The company utilizes a long-term projected non-GAAP tax rate, which reflects currently available information, as well as other factors and assumptions. The non-GAAP tax rate is subject to change for a variety of reasons, including the rapidly evolving global tax environment, significant changes in the company's geographic earnings mix, or other changes to the company's strategy or business operations. The company expects to use the current normalized non-GAAP tax rate through fiscal 2025 but will re-evaluate this rate periodically for significant items that may materially affect its projections.

Reconciliations of the financial highlights and business outlook from GAAP operating margin, GAAP net income and GAAP diluted net income per share to non-GAAP operating margin, non-GAAP net income and non-GAAP diluted net income per share, respectively, are included in this press release.

Business Highlights

- Built upon AI-enhanced core design engines, the company's generative AI solutions boosted by foundational LLM co-pilots, are delivering unparalleled productivity, quality of results and time to market benefits for customers. Last week, at CadenceLIVE Silicon Valley, several top tier customers shared their remarkable successes with Cadence.AI products
- Launched the company's third generation hardware accelerated verification platforms - the Palladium Z3 emulation and Protium X3 prototyping platforms delivering more than 2x the capacity and 1.5x higher performance than the previous generation
- Introduced the Cadence Reality Digital Twin Platform that virtualizes the entire data center and uses AI, high-performance computing and physics-based simulation to significantly improve data center energy efficiency by up to 30%
- Announced a collaboration with Arm to develop a chiplet-based reference design and software development platform to accelerate software-defined vehicle innovation

Audio Webcast Scheduled

Anirudh Devgan, president and chief executive officer, and John Wall, senior vice president and chief financial officer, will host the first quarter 2024 financial results audio webcast today, April 22, 2024, at 2 p.m. (Pacific) / 5 p.m. (Eastern). Attendees are asked to register at the website at least 10 minutes prior to the scheduled webcast. An archive of the webcast will be available starting April 22, 2024 at 5 p.m. (Pacific) and ending June 14, 2024 at 5 p.m. (Pacific). Webcast access is available at www.cadence.com/cadence/investor_relations.

Dassault Systèmes Reports Solid First Quarter Results And Reaffirms Full-Year Objectives

25 April 2024

Dassault Systèmes announced IFRS unaudited estimated financial results for the first quarter ended March 31, 2024. The Group's Board of Directors approved these estimated results on April 24, 2024. This press release also includes financial information on a non-IFRS basis and reconciliations with IFRS figures in the Appendix.

Summary Highlights

(unaudited, IFRS & non-IFRS unless otherwise noted, all revenue growth rates in constant currencies)

- 1Q24: Software revenue increased 7%, aligned with objectives, and services revenue grew 2%, resulting in total revenue up 6%;
- 1Q24: Combining the revenue growth from upfront licenses and subscription, the aggregate grew by 9%;
- 1Q24: 3DEXPERIENCE¹ software revenue was up 29%, reflecting the continued momentum in the adoption of the platform in Transportation & Mobility and Aerospace & Defense;
- 1Q24: IFRS operating margin of 21.6% and non-IFRS operating margin at 31.1%, up 50 basis points in constant currencies, above objectives, thanks to disciplined cost management;
- 1Q24: IFRS diluted EPS increased 11% as reported to €0.21 and non-IFRS diluted EPS up strong 12% in constant currencies to €0.30;
- 1Q24: Achieving net cash balance of €1.1 billion; cash flow from operations of €0.7 billion (IFRS);
- FY2024: Confirming non-IFRS objectives of diluted EPS reaching €1.29-€1.31, up 10% to 12% in constant currencies, and total revenue growth of 8%-10%.

DXC Technology to Report Fourth Quarter 2024 Results on Thursday, May 16, 2024

23 April 2024

DXC Technology announced that it will release financial results for the fourth quarter of fiscal year 2024 on Thursday, May 16, 2024, at approximately 4:15 p.m. Eastern Daylight Time (EDT).

DXC Technology senior management will host a conference call and webcast on the same day at 5:00 p.m. EDT. The dial-in number for domestic callers is 888-330-2455. Callers who reside outside of the United States should dial +1-240-789-2717. The passcode for all participants is 4164760#. The webcast audio and any presentation slides will be available through a link posted on DXC Technology's [Investor Relations website](#).

A replay of the conference call will be available until 11:59 PM EDT on May 23, 2024, at 800-770-2030 for domestic callers and at +1-647-362-9199 for international callers. The replay passcode is 4164760. A transcript of the conference call will be posted on DXC Technology's [Investor Relations website](#).

FARO to Announce Financial Results for the First Quarter 2024 on May 1, 2024

25 April 2024

FARO®, the global leader in 3D digital measurement, imaging and realization solutions, announced that after market close on Wednesday, May 1, 2024, it will release its financial results for the first quarter ended March 31, 2024. In conjunction with the release, Peter Lau, President and Chief Executive Officer, and Matthew Horwath, Chief Financial Officer, will host a conference call on Thursday, May 2, 2024 at 8:00 am. ET.

Interested parties can access the conference call by dialing 888-632-3384 (U.S.) or +1 785-424-1794 (International) and using the passcode FARO. **To avoid a delay in connecting to the call, please dial in 10 minutes prior to the start time.** A live webcast will be available in the Investor Relations section of FARO's website at: <https://www.faro.com/about-faro/investor-relations/events>

A replay of the webcast will be available in the Investor Relations section of the company's website approximately two hours after the conclusion of the call and remain available for approximately 30 calendar days.

Hexagon Interim Report 1 January - 31 March 2024

26 April 2024

First quarter 2024

- 3 per cent organic revenue growth (using fixed exchange rates and a comparable group structure)
- Net sales increased by 1 per cent to 1,299.9 MEUR (1,286.6)
- Net sales including the reduction of acquired deferred revenue amounted to 1,299.9 MEUR (1,285.1)
- Adjusted gross margin of 66.5 per cent (66.5)
- Adjusted operating earnings (EBIT1) increased by 1 per cent to 376.5 MEUR (371.2)
- Adjusted operating margin amounted to 29.0 per cent (28.9)
- Earnings per share, excluding adjustments, amounted to 10.1 Euro cent (10.4)
- Earnings per share, including adjustments, amounted to 8.9 Euro cent (9.1)
- Operating cash flow before non-recurring items increased to 219.4 MEUR (141.5)

- Cash conversion amounted to 88 per cent (66)
- Recurring revenue increased by 6 per cent to 520.3 MEUR (491.5)

IFS announces best Q1 results in company history with 26% increase in ARR YoY and 20% increase in Cloud revenue YoY

25 April 2024

IFS, the global cloud enterprise software company, announced its financial results for the first quarter ending March 31, 2024. The results reflect the best start to the year in company history – an early victory for new CEO Mark Moffat, who was appointed on January 9th, 2024.

Summary of Q1 results:

- Annual Recurring Revenue (ARR) up 26% YoY
- Cloud Revenue up 20% YoY
- Software Revenue growth up 19% YoY

A steadfast customer focus positions IFS as the demonstrable leader in all of the segments it serves. A position reinforced thanks to recent industry analyst reports recognizing IFS as the #1 vendor in terms of market share for Enterprise Asset Management (EAM) and Service Management.

IFS CEO Mark Moffat commented: “In my first 100 days as CEO, I have met with over 100 customers around the world, and they consistently tell me that our customer-centric approach is a key differentiator, especially in a world where we see our competitors peddling their own agenda over that of their customers’.

“Our Q1 results are the continuation of our relentless focus on what makes us successful: listening to and delivering value to our customers. It’s also what enables us to outperform the market quarter after quarter. Our customer focus is not only ingrained in our culture, but it also extends across our partner ecosystem and the work they deliver alongside us.”

Moffat added: “Industrial AI is a huge opportunity for our customers, and we are uniquely positioned to help them harness its potential. We have been developing industry-specific AI solutions that integrate seamlessly with our existing products and leverage the data we have to deliver game-changing outcomes.”

Moffat concluded: “IFS has an edge because we have been having these conversations with our customers for years, and that has informed how we shape our technology and services. The results of the first quarter show that we are on the right track, and that our vision resonates.”

Key factors supporting IFS’s expansion:

- A sharp uptake in demand for IFS.ai thanks to compelling Industrial AI use cases that are fast and easy to implement, and in turn able to rapidly deliver value. As more of these use cases roll out with every release of IFS Cloud, IFS is providing further capabilities for customers to innovate and differentiate within their respective fields.
- Welcoming a significant number of new customers who are moving from legacy vendors including SAP and IBM Maximo to IFS because of: IFS’s relentless pursuit of customer success;

the single composable platform and common data model; consistent enhancements in industry functionality; and flexible deployment options that put customers in control. In the last quarter alone, Modulaire Group, NGE, Evergy and the US's largest utility company, Exelon, have selected IFS as the modern, next generation alternative.

- Significant expansion of IFS within existing customers, who are similarly implementing IFS to replace outdated technology that exists in other areas of their business. With so many industrial companies looking to technology, and specifically IFS, to transform and grow, IFS is uniquely positioned to help customers improve supply chains, operate more efficiently and ultimately deliver amazing Moments of Service that stand out. For example, many manufacturers are expanding their use of IFS with IFS's Connected Worker solution from Poka to better manage, enable and improve the productivity of their factory workers.

IFS Chief Financial Officer, Matthias Heiden, added, "Market conditions in 2024 are still volatile which puts our performance trajectory into context. 26 percent ARR increase year-on-year combined with strong subscriptions renewals is setting us up for continued steady growth in 2024." Heiden continued: "This means we are able to prioritize investment in people and in technology bringing even more innovation into our bi-annual releases." Heiden concluded: "We have worked hard to get to this point, and we are seeing financial benefits deep into our business with all the metrics continuing to accelerate in the right direction."

Investments in key markets such as the US, Europe, and Japan are slated to continue through 2024, bolstering regional performance by driving increased demand for IFS.ai. In Q1 the company also launched a significant brand campaign across the US, including out-of-home advertising at the largest airports in North America, becoming the Big Ten Conference's Official Technology Partner, and a Patron of MIT's Center for Information Systems Research.

IFS is also pleased to today publish the 2023 IFS Sustainability Report, which details the company's strategy, approach and achievements delivering on its own sustainability targets as well as supporting customers to achieve their ESG goals. The report, alongside an ESG Fact Sheet, is available here: <https://www.ifs.com/assets/all-products/ifs-sustainability-report-2023>

Financial Highlights for Q1 FY2024:

- Q1 FY2024 software revenue was EUR 217m, an increase of 19 percent versus Q1 2023.
- Q1 FY2024 recurring revenue was EUR 209m, an increase of 21 percent versus Q1 2023.
- Q1 FY2024 net revenue was EUR 269m, an increase of 16 percent versus Q1 2023.

For more information about IFS's historical financial performance, please visit: <https://www.ifs.com/about/financial-information/>.

Informatica Provides Business and Financial Updates

22 April 2024

Informatica, (the "Company"), an enterprise cloud data management leader, provided the following business and financial updates.

The Company announced today it is updating its first quarter 2024, ended March 31, 2024, financial outlook. The Company expects GAAP Total Revenues, Subscription ARR, Cloud

Subscription ARR and Non-GAAP Operating Income to be all within the upper half of the guidance ranges previously provided by the Company in its February 14, 2024, earnings press release. In addition, the Company expects to report Adjusted Unlevered Free Cash Flow (after-tax) that significantly exceeds 100% of Non-GAAP Operating Income. The Company also reaffirmed its full-year 2024 financial outlook. First quarter 2024 financial results will be released on May 1, 2024, after market close, as previously announced.

“Our business fundamentals continue to be very strong and we look forward to discussing our first quarter financial results and outlook on May 1,” said Amit Walia, CEO of Informatica.

In addition, on April 12, 2024, The Wall Street Journal published a story that the Company was in advanced talks to be acquired, according to sources familiar with the matter. Although Informatica’s policy is not to comment on market rumors or media speculation, the Company announced that it is not currently engaged in any discussions to be acquired.

The Company also announced that Jitesh Ghai, Executive Vice President and Chief Product Officer, is resigning to pursue an executive opportunity at another company. “On behalf of the Informatica team, I thank Jitesh for his many contributions,” continued Mr. Walia. “We wish Jitesh all the best in this exciting next step of his career.”

L&T Technology Services Unveils Strategic Reorganization

25 April 2024

L&T Technology Services, a leading global digital engineering and R&D services provider announced that it will be streamlining and simplifying its organizational structure into 3 main segments to drive future growth, scalability and technology innovation. The company will consolidate its existing five segments into three: Mobility, Sustainability, and Hi-Tech, as part of the company's **‘Go Deeper to Scale’** strategy to meet evolving customer demands.

The newly defined segments are designed to align with LTTS' core sectors addressing unique differences within each domain, allowing each segment to build world class solutions, assets and become best-in-class in their respective areas. As a result, this is expected to drive deeper focus, customized services & solutions and enhanced client intimacy.

The **Mobility** segment will encompass Automotive, Commercial Vehicles and Aerospace verticals. **Sustainability** will cover Industrial Machinery & Building Technology, Electric & Power, FMCG and Oil & Gas. The **Hi-Tech** segment will include MedTech, Semiconductors, Consumer Electronics, Hyperscalers and NexGen Comm verticals.

Leveraging commonalities of engineering and technology skills, LTTS will consolidate and strengthen its technology areas into 3 overarching horizontals – **AI & Software Defined Everything (SDx), Embedded Systems, and Digital Manufacturing Solutions**. This strategic realignment will allow LTTS to better leverage its digital assets, labs, and expertise, offering multi-domain cutting-edge solutions to a global clientele, helping improve its innovation quotient.

As part of this strategic realignment, LTTS is integrating sales and delivery into a single cohesive structure to enhance agility and faster decision making, drive domain-specific synergies, scale operations and deals, and deliver greater value to both customers and employees.

*"Over the past decade LTTS has established itself as the largest pure-play engineering services provider based in India," said **Amit Chadha, CEO & Managing Director, L&T Technology Services (LTTS)**. "As technology cycles shorten, and clients continue to look for specific solutions and domain expertise, we believe it is time to go deeper to scale. By consolidating into 3 unifying segments and 3 horizontals, we will enhance our ability to address the evolving needs of our customers across diverse industries and geographies. It will also enable LTTS to become the strategic partner across the Customer's Life Cycle Journey, from the point of inception to guiding them through every stage of transformation".*

LTIMindtree Closes FY24 with a Strong Order Inflow of \$5.6 Bn; up 15.7% YoY

24 April 2024

LTIMindtree, a global technology consulting and digital solutions company, announced its consolidated results for the fourth quarter and full year ended March 31, 2024, as approved by its Board of directors.

"We closed FY24 amidst a tough macro environment and delivered a resilient performance with full-year revenue growth of 4.4% in USD terms and an EBIT margin of 15.7%. Our order inflow for the full year at USD 5.6 billion registered a 15.7% growth over FY23. This growth reflects the positive outcomes of our positioning as an organization with scale, expanded capabilities, and larger partnerships. As the market dynamics evolve, we are excited to be part of innovations, partnerships, and initiatives that our clients will embark on in FY 25."

– Debashis Chatterjee, Chief Executive Officer and Managing Director

Key financial highlights:

Quarter ended March 31, 2024

In USD:

- Revenue at \$1,069.4 million (-1.3% Q-o-Q / +1.1% Y-o-Y)
- Net profit at \$132.4 million (-5.8% Q-o-Q / -2.4% Y-o-Y)

In INR:

- Revenue at ₹88,929 million (-1.4% Q-o-Q / +2.3% Y-o-Y)
- Net profit at ₹11,007 million (-5.9% Q-o-Q / -1.2% Y-o-Y)

Year ended March 31, 2024

In USD:

- Revenue at \$4,287.3 million (growth of 4.4% Y-o-Y)
- Net profit at \$553.4 million (growth of 1.4% Y-o-Y)

In INR:

- Revenue at ₹3,55,170 million (growth of 7.0% Y-o-Y)
- Net profit at ₹45,846 million (growth of 4.0% Y-o-Y)

Other highlights:

Clients:

- 738 active clients as of March 31, 2024
- \$5 million+ clients increased by 7 on a Y-o-Y basis, total 153
- \$10 million+ clients increased by 10 on a Y-o-Y basis, total 91
- \$20 million+ clients increased by 2 on a Y-o-Y basis, total 40

People:

- 81,650 professionals as of March 31, 2024
- Trailing 12 months attrition was 14.4%

Deal Wins

- As part of a multi-year engagement, a leading financial services firm specializing in loans and mortgages has selected LTIMindtree as their primary engineering partner to meet their regulatory timelines and enable seamless operations of their application landscape through a 'Remediation-as-a-Service' and 'Operations-as-a-Service' engagement.
- A multinational financial services corporation has awarded LTIMindtree a multi-year contract as an exclusive assurance partner for their transformation journey by implementing a centralized Quality Engineering organization.
- A global leader in insurance brokerage services and risk management solutions has chosen LTIMindtree as their primary partner to establish a new technology platform as they create a new operating model in their digital transformation journey.
- A leading energy company in the Middle East has awarded LTIMindtree an end-to-end infrastructure-managed services contract for five years.
- A leading producer of frozen products in Sweden has awarded LTIMindtree with a full-scope infrastructure contract for Cloud Transformation. This is a new logo for LTIMindtree.

Partnerships

LTIM has achieved Amazon Connect service delivery designation, allowing businesses to provide improved customer service at a lower cost through the cloud-based contact center service.

LTIM joined the IBM Quantum Network, to explore quantum computing innovation for the benefit of its global clientele across multiple industries. This solidifies LTIM's position in the global quantum ecosystem being the first Indian GSI to join the IBM Quantum Network.

LTIM has been awarded the Fivetrans Global and EMEA Innovation Partner of the Year 2024, showcasing our dedication to innovation and customer-centricity.

LTIM was awarded “Global Breakthrough Partner of the Year” by Tricentis. This award highlights our strong partnership and dedication to delivering innovative solutions to clients using Tricentis technology.

Received Temenos Learning Community Award accrediting LTIM’s commitment towards constant upskilling in Banking Digital transformation.

Announcements

The Board of Directors have recommended a final dividend of ₹45 per equity share of par value ₹1 each for the financial year ended March 31, 2024.

Materialise Reports First Quarter 2024 Results

25 April 2024

Materialise NV, a leading provider of additive manufacturing and medical software and sophisticated 3D printing services, announced its financial results for the first quarter ended March 31, 2024.

Highlights — first quarter 2024

- Total revenue decreased by 3.4% to 63,637 kEUR compared to 65,886 kEUR for the first quarter of 2023.
- Gross profit as a percentage of revenue increased to 56.5% for the first quarter of 2024 from 55.9% for the 2023 period.
- Adjusted EBIT decreased to 2,656 kEUR for the first quarter of 2024 from 4,998 kEUR for the 2023 period, while Adjusted EBITDA decreased to 8,094 kEUR for the first quarter of 2024 from 10,310 kEUR for the 2023 period.
- Net profit for the first quarter of 2024 was 3,585 kEUR, or 0.06 EUR per diluted share, compared to 3,715 kEUR, or 0.06 EUR per diluted share, for the 2023 period.

CEO Brigitte de Vet-Veithen commented, “In line with expectations, our consolidated revenue decreased by 3% compared to the same period of 2023, an exceptionally strong quarter which showed 24% growth. In the first quarter of 2024, our Materialise Medical segment continued to lead the way with 8% revenue growth, while revenue declined in our Manufacturing and Software segments amidst less favorable market conditions. While continued investments in sustainable growth and the ongoing conversion to a recurring revenue business model impacted our operational profitability, we delivered a positive net result and an improved net cash position.”

First quarter 2024 results

Total revenue for the first quarter of 2024 decreased 3.4% to 63,637 kEUR from 65,886 kEUR for the first quarter of 2023. Adjusted EBIT decreased to 2,656 kEUR for the first quarter of

2024 from 4,998 kEUR for the 2023 period. The Adjusted EBIT margin (Adjusted EBIT divided by total revenue) for the first quarter of 2024 was 4.2%, compared to 7.6% for the first quarter of 2023. Adjusted EBITDA decreased to 8,094 kEUR for the first quarter of 2024 from 10,310 kEUR for the 2023 period.

Revenue from our Materialise Medical segment increased 7.7% to 26,183 kEUR for the first quarter of 2024 compared to 24,317 kEUR for the same period in 2023. Segment Adjusted EBITDA increased to 7,921 kEUR for the first quarter of 2024 compared to 7,348 kEUR while the segment Adjusted EBITDA margin remained stable at 30.3% compared to 30.2% for the first quarter of 2023.

Revenue from our Materialise Software segment decreased by 8.0% to 10,438 kEUR for the first quarter of 2024 from 11,350 kEUR for the same quarter last year. Segment Adjusted EBITDA decreased to 1,090 kEUR from 2,427 kEUR while the segment Adjusted EBITDA margin was 10.4% compared to 21.4% for the prior-year period.

Revenue from our Materialise Manufacturing segment decreased by 10.6% to 27,016 kEUR for the first quarter of 2024 from 30,219 kEUR for the first quarter of 2023. Segment Adjusted EBITDA decreased to 1,529 kEUR from 3,189 kEUR while the segment Adjusted EBITDA margin was 5.7% compared to 10.6% for the first quarter of 2023.

Gross profit decreased to 35,935 kEUR compared to 36,837 kEUR for the same period last year, while gross profit as a percentage of revenue increased to 56.5% compared to 55.9% for the first quarter of 2023.

Research and development (“R&D”), sales and marketing (“S&M”) and general and administrative (“G&A”) expenses increased, in the aggregate, 5.5% to 34,138 kEUR for the first quarter of 2024 from 32,358 kEUR for the first quarter of 2023.

Net other operating income increased to 789 kEUR from 519 kEUR for the first quarter of 2023.

Operating result amounted to 2,585 kEUR compared to 4,998 kEUR for the first quarter of 2023.

Net financial result increased to 1,510 kEUR compared to (566) kEUR for the first quarter of 2023.

The first quarter of 2024 contained income tax expenses of (510) kEUR, compared to (718) kEUR in the first quarter of 2023.

As a result of the above, net profit for the first quarter of 2024 was 3,585 kEUR, compared to 3,715 kEUR for the same period in 2023. Total comprehensive income for the first quarter of 2024, which includes exchange differences on translation of foreign operations, was 3,312 kEUR compared to 4,490 kEUR for the 2023 period.

At March 31, 2024, we had cash and cash equivalents of 128,899 kEUR compared to 127,573 kEUR at December 31, 2023. Gross debt amounted to 59,686 kEUR, compared to 64,398 kEUR at December 31, 2023. As a result, our net cash position (gross debt less cash and cash equivalents) increased by 6,038 kEUR to 69,213 kEUR.

Cash flow from operating activities for the first quarter of 2024 decreased to 9,970 kEUR from 11,044 kEUR for the same period in 2023. Total cash out from capital expenditures for the first quarter of 2024 amounted to 2,830 kEUR.

Net shareholders' equity at March 31, 2024 was 239,977 kEUR compared to 236,594 kEUR at December 31, 2023.

2024 guidance

Mrs. de Vet-Veithen concluded, "The fundamentals of our three business segments are strong and we remain confident that we are well positioned to deliver on our growth objectives. We continue to expect to report consolidated revenue for the full fiscal year 2024 within the 265,000 to 275,000 kEUR range we communicated in our year-end 2023 earnings announcement in February 2024. We are also maintaining our Adjusted EBIT guidance of 11,000 kEUR to 14,000 kEUR for fiscal year 2024."

Conference call and webcast

Materialise will hold a conference call and simultaneous webcast to discuss its financial results for the first quarter of 2024 on Thursday, April 25, 2024, at 8:30 a.m. ET/2:30 p.m. CET. Company participants on the call will include Brigitte de Vet-Veithen, Chief Executive Officer and Koen Berges, Chief Financial Officer. A question-and-answer session will follow management's remarks.

To access the call by phone, please click the link below at least 15 minutes prior to the scheduled start time and you will be provided with dial-in details. Participants can choose to dial in or receive a call to connect to Materialise's conference call.

- <https://register.vevent.com/register/Blb413a8f0638448a2b9b49116612e00d9>

The conference call will also be broadcast live over the Internet with an accompanying slide presentation, which can be accessed on the company's website at <http://investors.materialise.com>. A webcast of the conference call will be archived on the company's website for one year.

Rockwell Automation to Report Second Quarter Fiscal 2024 Results

23 April 2024

Rockwell Automation, Inc. is scheduled to report its second quarter fiscal 2024 results on Tuesday, May 7, before the market opens. The release will be posted on the Rockwell Investor Relations website at www.rockwellautomation.com/en-us/investors.html.

A conference call to discuss the quarterly results will be held at 7:30 a.m. CDT on May 7. This call will be audio webcast and accessible on the Rockwell Automation Investor Relations website. Presentation materials will also be available on the website prior to the call.

Interested parties can access the conference call by dialing the following numbers: +1 (888) 330-2022 in the U.S. and Canada; +1 (646) 960-0690 for other countries. Use the following passcode: 5499533. Please dial in 10 minutes prior to the start of the call.

Both the presentation materials and a replay of the call will be available on the Investor Relations section of the Rockwell website through June 7.

Sandvik - Interim report first quarter 2024

22 April 2024

First quarter 2024

- Order intake SEK 31,981 million (34,363)
- Order intake, at fixed exchange rates, declined by 5%
- Revenues SEK 29,002 million (30,968)
- Revenue growth, at fixed exchange rates declined by 5%
- Adjusted EBITA SEK 5,281 million (6,119)
- Adjusted EBITA margin 18.2% (19.8)
- Adjusted EBIT SEK 4,824 million (5,638)
- Adjusted EBIT margin 16.6% (18.2)
- Adjusted profit before tax SEK 4,317 million (5,109)
- Profit for the period SEK 1,247 million (3,816)
- Adjusted profit for the period 3,281 million (3,855)
- Earnings per share, diluted SEK 0.99 (3.04)
- Adjusted earnings per share, diluted SEK 2.61 (3.07)
- Free operating cash flow SEK 3,770 million (3,710)

Additional information may be obtained from Sandvik Investor Relations, phone +46 70 782 63 74 (Louise Tjeder).

A webcast and conference call will be held on April 22, 2024, at 1:00 PM CEST. Information is available at home.sandvik/investors

Synopsys Announces Earnings Release Date For Second Quarter Fiscal Year 2024

23 April 2024

Synopsys, Inc. announced it will report results for the second quarter fiscal year 2024 on Wednesday, May 22, 2024, after the market close. The company will host a conference call at 2:00 p.m. Pacific Time / 5:00 p.m. Eastern Time to review its financial results and business outlook.

Financial and other statistical information to be discussed on this conference call will be available on the corporate website at www.investor.synopsys.com immediately before the call. A live webcast will also be available on this site. Participants should access the live webcast at least 10 minutes prior to the start of the call. A webcast replay will be available beginning May

22, 2024, at approximately 5:00 p.m. PT. The replay will be available until Synopsys announces its third quarter fiscal year 2024 results in August 2024.

Trimble First Quarter 2024 Earnings Call and Webcast

22 April 2024

Trimble will hold a conference call on Friday, May 3, 2024 at 8 a.m. ET to review its first quarter 2024 results. The call will be broadcast live on the web at <http://investor.trimble.com>. Investors without internet access may dial into the call at (888) 660-6347(U.S.) or (929) 201-6594 (international). The conference ID is 1043223.

Xometry to Announce First Quarter 2024 Financial Results on May 9, 2024

23 April 2024

Xometry, Inc., the global AI-powered tech marketplace connecting enterprise buyers with suppliers of manufacturing services, announced it will report its first quarter 2024 financial results before the market opens on May 9, 2024.

Xometry will host its conference call and webcast to discuss the results at 8:30 a.m. Eastern Time (5:30 a.m. Pacific Time). In addition to its press release announcing its first quarter 2024 financial results, Xometry will release an earnings presentation, which will be available on its investor website at investors.xometry.com.

Xometry, Inc. First Quarter 2024 Earnings Presentation and Conference Call

- Thursday, May 9, 2024
- 8:30 a.m. Eastern / 5:30 a.m. Pacific
- Please dial (888) 596-4144 (US/CAN) or (646) 968-2525 (International) to listen to the call
- To register please use the following Conference ID 2007915
- You may also visit the Xometry Investor Relations Homepage at investors.xometry.com to listen to a live webcast of the call

The earnings webcast presentation will be archived within the [Investor Relations section](#) of Xometry's website.

Implementation Investments

Asia Pacific and Japan's leading organisations choose Qualtrics to drive growth and boost productivity

24 April 2024

Qualtrics, the leader and creator of the experience management (XM) category, announced hundreds of leading organisations across Asia Pacific and Japan have selected Qualtrics® in

recent months to improve the experiences they deliver for customers and employees to help drive and accelerate revenue growth, cost savings, and productivity.

The businesses and governments choosing Qualtrics – including Jollibee Foods Corporation, StarHub, and VietinBank – represent a range of industries, countries and use-cases, demonstrating strong demand and proven value for experience management technologies in the region.

Local and global investments bring greater AI capabilities to Asia Pacific and Japan

Alongside a four-year commitment to invest US\$500m in AI innovation globally and the recent appointment of Gurdeep Singh Pall as President, AI Strategy, in late-2023 Qualtrics launched its suite of AI-powered conversational analytics and natural language processing (NLP) technologies through the AWS Asia Pacific (Sydney) Region. The expanded offerings from Qualtrics allow businesses and governments across Australia and New Zealand to build a richer understanding of their customer and employee experience by capturing every piece of structured and unstructured customer and employee feedback shared with them – including call centre conversations, chat, social media posts, reviews, and surveys – while complying with local data sovereignty requirements.

Qualtrics will host its annual X4[®] Sydney Summit in July 2024, bringing together 1,500 experience management leaders to learn how the region's biggest and best known brands – including DoorDash and AustralianSuper – are driving business value with Qualtrics.

“As Qualtrics nears a decade of business in Asia Pacific and Japan, the importance and demand for experience management in the region has never been higher. Right now, every leader is focused on driving growth, cost savings, and lifting productivity – and with our AI-powered experience management technology backed by significant local and global investments, trusted partners, and expert team, we have the capabilities, support, and vision they need to deliver value now and into the future,” said Brigid Archibald, Managing Director for Qualtrics in Asia Pacific and Japan.

Leading organizations choose Qualtrics to deliver great customer and employee experiences
Jollibee Foods Corporation (JFC) – one of the largest and fastest growing restaurant companies in the world, with brands including Jollibee, Smashburger, and The Coffee Bean and Tea Leaf – partnered with Qualtrics to accelerate its international growth, tailor and elevate its digital offerings, and fulfill its vision of becoming one of the top five restaurant companies in the world. JFC is standardising its global customer experience programs, which cover 17 brands across North America, Europe, the Middle East, and Asia, with Qualtrics to capture and bring together customer feedback from in-store and online, with insights quickly made available for customer-facing teams to act on to drive loyalty, satisfaction, and brand awareness.

StarHub, a leading provider of telecommunications, entertainment, and digital services in Singapore, selected Qualtrics to increase market share and accelerate growth by helping the company to decisively identify and bring to market new and optimised products, services, and experiences aligned to the evolving and diverse digital needs and behaviours of consumers in Singapore. The multi-year agreement is a key initiative in StarHub's strategic transformation programme (DARE+), which targets a combined \$500 million in cost savings and revenue

growth by FY2026 through an expanded digital product and entertainment offering, and a superior, simplified experience across all customer engagements.

Department of Regional NSW selected Qualtrics to help identify the needs, expectations, and opportunities for local businesses, communities, and customers. The state government department is using Qualtrics for all community and customer feedback programs, providing fast, secure, and efficient access to valuable insights.

Vietnam's **VietinBank** selected Qualtrics to continually deliver a superior customer experience helping the organisation achieve the goal of becoming one of the top 20 regional banks in Asia-Pacific by 2030, and the top modern, effective bank in Vietnam. Using Qualtrics to continually capture and analyze customer feedback, VietinBank will be able to timely identify and respond to evolving customer needs to deliver products, services and support that drive customer satisfaction and loyalty.

Australian Label KYHA Studios Selects CGS's BlueCherry Enterprise Platform to Support Current and Future Growth

22 April 2024

CGS, a global provider of software and business applications, enterprise learning, and outsourcing services, announced that **KYHA Studios**, an Australia-based modern, made-to-size, and ready-to-wear wedding and event wear label has selected CGS's award-winning, industry-leading BlueCherry® Enterprise Platform to drive efficiencies and support global growth plans.

"To enhance visibility, streamline communications and provide insights into how to better allocate resources, we need a platform that works across all departments and provides a single source of truth," said Claire Murphy, CEO for KYHA Studios. "Thanks to their expertise in the fashion and retail industries, we are confident that the CGS team will become a long-term partner in success to support future growth."

Designed in Melbourne, Australia, KYHA Studios collections are available online and in over 70 retailers globally, including its flagship boutiques in Melbourne, Sydney, and New York. By consolidating into one ERP solution, KYHA Studios will have better integration between systems, standardization across all business units, and more modern capabilities. Balancing customer demand with supply becomes more challenging as the company takes on more retail locations and broadens its inventory selection. KYHA opted to automate these processes, expanding its growth and improving order accuracy.

"We are delighted to welcome KYHA Studios to the CGS community and support their growth journey," said Paul Magel, President, Business Applications and Technology Outsourcing Division, CGS. "KYHA Studios' reputation for modern bridal couture and exceptional service is well-known in both New York City and Australia, and we're honored to have been selected as their trusted technology partner. With the BlueCherry ERP suite, KYHA Studios will have the tools to streamline operations, optimize inventory, and deliver unforgettable experiences to customers worldwide."

The signing of KYHA Studios underscores CGS' commitment to empowering organizations with best-in-class technology solutions tailored to their unique needs and challenges. As CGS continues to expand its global footprint, the company remains dedicated to driving innovation, fostering partnerships, and delivering measurable value to clients across diverse industries.

Auxilio Mutuo Hospital Selects Oracle Health's EHR to Improve Patient Experience

22 April 2024

Auxilio Mutuo Hospital, an academic, private non-profit hospital in San Juan, Puerto Rico, has selected Oracle Health's electronic health record (EHR) to provide clinicians and staff with a comprehensive, simplified view of a patient's health information. The new system is designed to help Auxilio Mutuo create a better patient experience by increasing coordination across care teams and improving communications between clinicians and patients. Auxilio Mutuo is also adding Oracle Health's RevElate Patient Accounting to help automate its entire billing process and bring together a more convenient, transparent view of clinical and financial information.

"With the ever-changing healthcare environment, we need a vendor that matches Auxilio Mutuo's clinical experience and offers a robust electronic health records system," said Jorge L. Matta-Serrano, executive director, Auxilio Mutuo. "Oracle is the right partner to help us transform the way we deliver care and increase revenue in the future."

Oracle Health's first customer in Puerto Rico, Auxilio Mutuo was one of the first health systems on the island to successfully implement an EHR more than a decade ago, but they needed to upgrade the system to address some of the region's biggest challenges. In recent years, Puerto Rico has lived under threat of natural disasters. For example, Hurricane Fiona made landfall in September 2022—just five years after Hurricane Maria devastated the island—causing a widespread loss of access to clean water and power.

As the health system continues to rebuild and expand, its new Oracle Health EHR will provide a stable and secure system to help Auxilio Mutuo's care teams make more informed decisions when it matters most. The EHR can also reduce administrative tasks to help drive efficiency while helping improve patient care and experiences.

"Auxilio Mutuo provides a textbook example of how strategic technology deployments and innovation can enhance the clinician and patient experience with the goal to ultimately help improve health and financial outcomes," said Seema Verma, executive vice president and general manager, Oracle Health and Oracle Life Sciences. "Oracle Health's modern, open, and connected technology helps hospitals and health systems like Auxilio Mutuo overcome some of their most complex challenges, supports their caregivers in spending more time with patients, and aids in reducing administrative tasks."

FENIX OUTDOOR INC. Strategically Embraces Digitalization with Centric PLM

23 April 2024

Centric Software® is pleased to announce that FENIX OUTDOOR (FENIX OUTDOOR INC.) has selected Centric PLM™ to drive their digital transformation. Centric Software provides the most innovative enterprise solutions to plan, design, develop, source, buy, make, price, allocate, sell

and replenish products such as fashion, outdoor, luxury, multi-category retail, grocery, food & beverage, cosmetics & personal care and consumer electronics to achieve strategic and operational digital transformation goals.

Headquartered in Yangzhou, China, FENIX OUTDOOR INC. is the seventh joint venture subsidiary of the Swedish multinational group Fenix Outdoor AB Publ. Founded in 1960, Fenix Outdoor AB Publ created the Swedish high-end outdoor clothing and equipment brand Fjällräven (Arctic Fox) and then successively acquired German outdoor shoes brand HANWAG, Swedish stove lighting brand Primus, and American outdoor equipment brand Brunton, comprising four world-famous high-end outdoor brands.

FENIX Outdoor has an influential outdoor brand matrix, but has encountered challenges in long-term development due to their more traditional R&D model and the global economic downturn. FENIX Outdoor decided to invest in a PLM solution to underpin digital transformation, aiming to improve R&D efficiency and innovation.

Ms. Li Jing, R&D Director of Outdoor Products at FENIX OUTDOOR, says, “Digitalization is an inevitable and very important trend for the apparel industry, and we are preparing strategically by digitalizing early. We hope to futureproof our brand by steadily expanding and developing through the PLM project.”

Commenting on their decision to partner with Centric Software, she adds, “We are very impressed with Centric’s strength in the global consumer PLM space and the team’s professionalism. Because of their strong customer endorsements, FENIX OUTDOOR did not hesitate to choose Centric as a PLM partner.”

FENIX OUTDOOR’s PLM project will focus on the development of a digital sharing platform to create new styles and product iterations faster, standardize data, streamline business operations and visualize views and reports. The brand expects to improve accuracy, increase knowledge reuse, reduce repetitive tasks and enhance communication.

Ms. Li Jing says, “We intend to establish a strategic digital platform to maintain the brand’s Swedish design DNA that has developed over the past 50 or 60 years, and comprehensively enhance R&D and innovation capabilities to better adapt to the China market.”

“This is a particularly good time to do this project, and we are determined to jump into it,” she concludes. “We believe that Centric’s expertise can give us a competitive advantage.”

“We are honored that FENIX OUTDOOR has chosen to work with Centric Software to accelerate their R&D digitalization project,” says Fabrice Canonge, President of Centric Software. “FENIX OUTDOOR is a strong global brand and we look forward to working with them in the long-term to drive their future success.”

JOOLA Gives Centric Software Top Score

24 April 2024

Centric Software® is pleased to announce that the sports brand JOOLA has selected their Product Lifecycle Management (PLM) solution, Centric PLM™. Centric Software provides the

most innovative enterprise solutions to plan, design, develop, source, buy, make, price, allocate, sell and replenish products such as fashion, outdoor, luxury, multi-category retail, grocery, food & beverage, cosmetics & personal care and consumer electronics to achieve strategic and operational digital transformation goals.

Founded in 1952 in Germany, JOOLA is a globally recognized indoor and outdoor table tennis equipment brand that has sponsored 3 Olympic Games. JOOLA designs and manufactures both hardline goods such as tables, rackets and balls, as well as softline products such as apparel, footwear and accessories. Since 2022, JOOLA has embraced the fast-growing sport of pickleball and expanded into a range of products for pickleball players.

Now headquartered in the US, JOOLA is working hard to grow the brand internationally and wanted a PLM solution to better organize product development data and free up resources.

“We launched the pickleball business in 2022, and we’ve seen tremendous growth since then,” says Richard Lee, CEO of JOOLA. “We’re launching new products left and right, so we definitely need more data organization to make sure we are tracking everything properly.”

Austin Kim, Product Manager at JOOLA, adds, “There’s a lot of cross-team collaboration, especially for design, so that transfer of information and data management can get tricky. User errors happen, and it’s hard to keep everything updated.”

JOOLA conducted extensive PLM research and due diligence, ultimately selecting Centric PLM based on its industry reputation, market leadership and usability. JOOLA will implement Centric PLM for its global operations.

“Our teams are already pretty well-versed in Centric,” says Sunny Le, Director, Softline Products at JOOLA. “We’re excited to start using it, as we’re going to be living in it every day. Along with streamlining processes and organizing data, it’s also going to be beneficial from a labor standpoint as we’ll be able to use resources more efficiently. It will make it really easy for us to work more collaboratively.”

“The Centric team answers any questions we have and provides solutions around best practices,” concludes Kim. “We have had a wonderful time working with them.”

“We are delighted that JOOLA has placed their trust in Centric to build a digital foundation for growth,” says Fabrice Canonge, President of Centric Software. “We look forward to working closely with JOOLA to drive more efficient product development, expansion and innovation.”

Siemens and Mercedes-Benz Transform Future of Sustainable Factory Planning with Digital Energy Twin

23 April 2024

Siemens and Mercedes-Benz have collaboratively developed a Digital Energy Twin to facilitate the future of sustainable factory planning in the automotive industry.

Designed to support the ambition to run all fully owned production sites of the automaker worldwide on 100 percent renewable energies by 2039, the innovative Digital Energy Twin

enhances, simplifies and speeds the early phase factory energy planning process for both brownfield and greenfield sites, reducing planning time significantly.

The collaboration combines the decarbonization and energy twin domain know-how of Siemens with the deep automotive knowledge of our renowned partner, to create a scalable tool for the automotive environment. Siemens will provide training and support, maintain and continuously develop the Digital Energy Twin, as it is positioned for broad implementation across the Mercedes-Benz global production network.

Based on behavioral models of buildings, technical equipment and energy generation, the Digital Energy Twin which was designed and tested in Mercedes-Benz plant Sindelfingen, Germany, at the 'Factory 56', connects inputs such as weather data, load profile simulation, building asset selection and dimensioning. Simulating a physical energy system, it verifies proposed planning scenarios for energy usage, providing recommendations on how to optimize desired outcomes including energy efficiency and associated cost savings, as well as emission reduction.

"By accurately modelling operational and energy usage scenarios, the Digital Energy Twin enables faster and more transparent decision making in the early planning phases," said Matthias Rebellius, Member of the Managing Board of Siemens AG and CEO of Smart Infrastructure. "This demonstrates how at Siemens we are combining the real and digital worlds to drive scalable, sustainable progress in industries, and represents an exciting first step towards an integrated process for optimized planning, building operation, and production."

The co-created Digital Energy Twin demonstrates the potential of Siemens Xcelerator, an open digital business platform which accelerates digital transformation, enabling customers and partners to jointly develop tailored products and solutions for various industries.

Siemens and Mercedes Benz established a strategic partnership in 2021 for sustainable automotive production, enabling cooperation on advancing the digitalization of sustainable production methods.

"The Digital Energy Twin is our answer to successfully visualize, analyze and sustainably optimize energy-efficient building processes. Through this innovative approach, we benefit from a better understanding of existing factory buildings and transform them into living smart buildings. Thanks to this transformative technology, we are maximizing their potential and setting forward-looking standards for energy-efficient and sustainable building use in Mercedes-Benz's global production network" said Arno van der Merwe, Vice President Production Planning Mercedes Benz Cars.

Digital energy twins are a key part of Siemens' portfolio for supporting industrial customers in achieving their sustainability and decarbonization goals. Siemens recently announced that it was working with another strong international partner for its global Net Zero Production roadmap, using a digital energy twin to simulate energy use and identify where energy savings could be made at 15 breweries worldwide. Siemens estimates that energy savings of between 15-20 percent are achievable at each site, with an average CO₂ reduction of 50 percent per site.

Vancouver International Airport (YVR) Selects Copperleaf Portfolio to Optimize Asset Investment Planning

23 April 2024

Copperleaf® Technologies Inc. (“Copperleaf” or the “Company”) announces the selection of its decision analytics solution by Vancouver International Airport (YVR). As Canada’s second largest airport and winner of the Skytrax award for Best Airport in North America in 2024, YVR connects 24.9 million passengers and more than 315,000 tonnes of cargo annually to destinations around the world. The airport terminal is B.C.’s largest building with infrastructure that extends to the airfield and surrounding commercial facilities.

To support its near- and long-term strategic objectives, YVR recognized an opportunity to improve its capital investment planning process. Through a more consistent and transparent capital evaluation, prioritization, and planning process, YVR will better understand where, when, and what to invest in to mitigate risk and achieve its strategic goals in the most cost-effective manner. A key component of YVR’s Strategic Plan is related to asset management—ensuring assets are in a state of good repair, improving the resilience of infrastructure, and maximizing the value of investments.

YVR selected **Copperleaf Portfolio™** to support this mandate and enable the organization to develop investment plans that optimize resources, mitigate risk, and meet strategic objectives and stakeholder expectations.

“We continually look to leverage new and innovative ways to strengthen our role as a diverse global hub while aligning YVR to the future growth and needs of British Columbia,” said Tamara Vrooman, President & CEO at YVR. “This includes creating investment plans for our airport infrastructure and land assets that reduce risk, while providing the highest value from our infrastructure renewal funding. I am confident our team will benefit from Copperleaf’s dynamic solution and look forward to our work together.”

The implementation of **Copperleaf Portfolio** will provide YVR with the ability to:

- capture and manage all candidate investments in a single, centralized system for greater efficiency and streamlined approvals
- identify, capture, and measure risk and how risk changes over time
- compare and communicate the value and strategic alignment of investments
- build robust, defensible plans that maximize return on invested capital

“We’re thrilled to partner with YVR, a world-class international hub airport which is such an important part of the economic growth story here in British Columbia,” said Paul Sakrzewski, CEO of Copperleaf. “Copperleaf is looking forward to working with YVR to clearly link their ambitious strategic outcomes with capital and resource allocation, and achieve an optimal balance between costs, risks, level of service, and sustainability. A huge thank you to Tamara and the YVR team for putting their trust in Copperleaf. We are proud to welcome them as our

first airport client in our growing global community and congratulate them on winning the Skytrax award for Best Airport in North America in 2024!”

Product News

3E AND TRACE SOFTWARE PARTNERSHIP: SIMPLIFIED WEATHER DATA INTEGRATION WITH ARCHELIOS™ PRO

26 April 2024

The archelios™ PRO photovoltaic application now incorporates an **API** to data provider 3E that enables the **automatic import of TMY data** (Typical Meteorological Year) when designing a photovoltaic project.

The use of quality meteorological data to assess the insolation of a photovoltaic project is as **essential** as the system definition (environment, modules, inverters, etc.). Irradiance data is in fact the first input in the chain of algorithms used to calculate the solar yield.

Previously, this data was based on monthly averages for previous years. TMY data is now widely used, as it enables the behaviour of a power plant to be simulated for a **‘typical’ year**, i.e. a year made up of **real data** rather than **averages**. This improves the accuracy of the energy yield assessment.

What is a TMY file?

TMY FILE

A TMY file is constructed from a series of data over a long period, generally more than 10 years, and is made up by selecting the most typical months in the data series.

For example, for the 2005-2020 time series, January will be taken from 2009, February from 2015, and so on.

The most typical months are selected based on statistical criteria such as the deviation from the monthly average and the distribution of data throughout the month. This selection process considers not only irradiation variables (global and diffuse horizontal irradiation) but also temperature, assigning specific weights to each factor.

Together with the software used and the justification of the simulation assumptions, the use of data from a **recognised supplier** is part of the ‘bankability’ criteria for a solar yield study.

Importing TMY data from 3E with archelios™ PRO: speed and accuracy

archelios™ PRO enables the import of meteorological data from several data providers renowned for the accuracy of their data. The latest version of the software now makes it possible to use those from the 3E service, which provides TMY weather files whose accuracy has been assessed by **independent studies**¹.

There are two options available to archelios™ PRO users:

- Import a 3E TMY file

- Use the API to query the 3E service directly

A time saver in conception

- Automatic data import from the 3E API or from a TMY file supplied by 3E
- No need to edit data after import

AVEVA Launches Enhanced Strategy with New Hybrid Cloud Manufacturing Execution System

23 April 2024

AVEVA, a global leader in industrial software, driving digital transformation and sustainability, has expanded CONNECT, its world-leading industrial intelligence platform with data and visualization services for hybrid Manufacturing Execution System (MES) solutions.

Last year, AVEVA was recognised as a Leader in the IDC MarketScape: Worldwide Process Manufacturing Execution Systems 2023 Vendor Assessment (doc #EUR150526323, April 2023). The company has taken this one step further in 2024 with the new hybrid cloud MES solution.

AVEVA's new hybrid MES solution enables manufacturing companies to manage production data in the cloud, to improve supply chain agility with enterprise-wide visibility into distributed plant operations. This enables companies to optimize their operational performance and sustainability with new insights and guidance provided by advanced analytics, artificial intelligence (AI) and data visualization.

With data siloed in each of their plants, companies lack the visibility and information flow they need to effectively drive operational efficiency, sustainability, and agility improvements across their manufacturing network. AVEVA enables enterprises to store, contextualize and enrich production execution data from all their plants in the cloud, unlocking new value using ML, AI and visualization that spans their value-chain and business ecosystem.

AVEVA's hybrid MES solution combines advanced model-driven MES capabilities at the edge with cloud-based data, analytics and visualization services available on the CONNECT industrial intelligence platform. The ability to collect and securely store data from AVEVA Manufacturing Execution System and process data sources, such as AVEVA PI System and AVEVA's Operations Control, in a single, secure location in the cloud, makes it easier to aggregate, contextualize and securely share operational data, eliminate organizational data silos, and foster greater collaboration. This unlocks new value from the combined data sets for optimal centerlining of production equipment, soft sensors and predictions that improve quality, throughput and energy use, as well as anomaly detection that gives early insight into production losses before they occur.

Rob McGreevy, chief product officer, AVEVA said: "Production events data management in the cloud is the next step in our vision for the connected industries of the future. It allows companies to create a living digital twin for the entire manufacturing value chain. By leveraging

new insights from more complex data relationships, companies are empowered to reduce waste, conserve energy, and improve overall efficiency and sustainability.

The constant pressure on costs, and increased volatility of demand and supply are putting unprecedented demands on manufacturing operations. To rise to today's challenges and remain competitive, manufacturers need to leverage the power of data to pursue agile supply chain operations, enabled by real-time visibility into a continuously optimized network of manufacturing plants."

AVEVA's hybrid MES solution provides ready-to-use cloud services, so companies can quickly start visualizing and analysing manufacturing execution data in hours. Operational data stored in the cloud can seamlessly link to AI and ML services and third-party visualisation, and analytics tools. With faster and easier access to data in a collaborative environment, operational teams and data scientists can unlock more insights from critical data and find new ways to advance operational excellence and sustainability.

Cadence and TSMC Collaborate on Wide-Ranging Innovations to Transform System and Semiconductor Design

24 April 2024

Cadence Design Systems, Inc. and TSMC have extended their longstanding collaboration by announcing a broad range of innovative technology advancements to accelerate design, including developments ranging from 3D-IC and advanced process nodes to design IP and photonics. This collaboration significantly advances system and semiconductor design for AI, automotive, aerospace, hyperscale and mobile applications and has resulted in the following recent technology achievements:

- Cadence collaborates with TSMC to infuse the Integrity™ 3D-IC platform with new features and functionality: The Cadence Integrity 3D-IC platform, the industry's comprehensive solution certified for all the latest TSMC 3DFabric™ offerings, now supports a hierarchical 3Dblox specification developed to integrate multiple chiplets into hierarchies for reuse and modular design. It also includes new features developed to ease chiplet assembly and design, and an automated alignment markers insertion flow to accelerate the design and assembly of stacked chiplets on different interposers and packages.
- Cadence's digital solutions are certified for TSMC N2 design flow, including Innovus™ Implementation System, Quantus™ Extraction Solution, Quantus Field Solver, Tempus™ Timing Signoff and ECO Solution, Pegasus™ Verification System, Liberate™ characterization, and the Voltus™ IC Power Integrity Solution. The Genus™ Synthesis Solution is also enabled for N2 technology. Cadence and TSMC are collaborating on AI-driven Cadence solutions to enable an AI-assisted design flow for productivity and optimization of PPA results.
- The Cadence Custom/Analog Design Flow is fully certified for TSMC's latest N2 Process Design Kit (PDK): Cadence custom tools optimized for TSMC N2 PDKs include

Virtuoso® Schematic Editor for design capturing and the Virtuoso ADE Suite for analysis, which are both part of Virtuoso Studio, and the integrated Spectre® Simulator. All have been enhanced for managing corner simulations, statistical analyses, design centering, and circuit optimization, which are now common with advanced nodes. Virtuoso Studio has also been augmented to support front-to-back process migration from schematic mapping to optimized design specifications to full-layout place-and-route automation. The Virtuoso Studio and Spectre Simulation platforms, including Spectre X, Spectre XPS and the Spectre RF Option, have achieved the latest TSMC N2 certifications.

- Cadence and TSMC have worked closely together to release a Virtuoso Studio N16 to N6 RF migration reference flow to substantially reduce turnaround time: Purposed-based instance mapping rapidly retargets schematics, while EMX® Planar 3D Solver provides inductor synthesis and EM extraction for nets and components during the design phase. The Virtuoso ADE Suite provides design optimization using Spectre Simulation's RF analysis capabilities, and Virtuoso Studio Layout tools accelerate the reuse and reimplementations of RF layouts while preserving design intent.
- Cadence announces the availability of a comprehensive portfolio of industry-leading IP cores for TSMC's N3 process, including:
 - Cadence's IP for UCle™ on TSMC N3 is available in both advanced and standard package options. Cadence also offers IP for UCle on multiple processes and configurations to enable a comprehensive solution for die-to-die (D2D) interconnect for its customers.
 - The Cadence memory interface IP portfolio (DDR5, LPDDR5 and GDDR6) is silicon-proven with best-in-class system margins and a PPA-optimized architecture that is ready to enable next-generation enterprise, high-performance computing and AI applications.
 - Cadence's IP for PCIe® 5.0/CXL2.0 and PCIe 6.0/CXL3.0 on TSMC N3 are designed to provide the highest link throughput and utilization while operating with low latency, providing customers with SoC design excellence.
- The Cadence EMX 3D Planar Solver has received certification for TSMC's N5 process technology: This certification enables joint customers to seamlessly integrate the EMX Solver into their advanced-node IC design flow, allowing for highly accurate EM analysis that can overcome the challenges of EM crosstalk and parasitics. Additionally, certification for N2 and N3 process technology is well underway.
- Cadence unveils a new silicon photonics flow to support TSMC's Compact Universal Photonic Engine (COUPE) technology: Cadence and TSMC collaborate to develop a design flow for the COUPE 3D photonics process that features the Cadence Integrity 3D-IC platform. The TSMC COUPE technology enables the heterogeneous integration of photonics ICs with electrical ICs while minimizing coupling losses. The developing design flow from Cadence will support TSMC's COUPE technology and includes the Cadence Spectre X Simulator, Virtuoso Studio, EMX 3D Planar Solver and Pegasus Verification

System, enabling joint customers to meet the most demanding system requirements and pave the way for high-performance computing applications.

“We have a distinguished track record collaborating with TSMC to deliver a broad set of innovations across EDA, packaging and IP to accelerate system and semiconductor design and enable customers to achieve aggressive time-to-market goals,” said Chin-Chi Teng, SVP and GM, R&D, Cadence. “These new certified design flows and standardized solutions allow customers to confidently design for TSMC advanced nodes and usher in improved design efficiency and technological advancements.”

“TSMC works closely with Cadence to accelerate customer innovation by providing high-quality design tools certified for use with our most advanced processes,” said Dan Kochpatcharin, Head of the Design Infrastructure Management Division at TSMC. “Through our longstanding collaboration, we’re able to deliver greater value for the most advanced SoC designs, benefiting from the significant power and performance boost afforded by our latest technology innovations.”

Enhanced lathe operations and more in the SprutCAM X and SprutCAM X Robot 17.0.14 update

22 April 2024

SprutCAM Tech is excited to announce the launch of Update 17.0.14 for SprutCAM X and SprutCAM X Robot featuring more than 100 changes.

This update enhances various functionalities:

Profile Mode for Lathe Operations Enhancement

In Job Assignment for lathe operations, users can now adjust the chamfer angle in Profile cycle based on the 3D model, an improvement from the previous limitation of only being able to change the chamfer size.

User Experience Enhancements:

- Updated pop-up hints for Lathe machining, Engraving, Pocketing, and Chamfer machining operations.
- Improved functioning of pinned Snapshots when clicking Clear All in Project Snapshots manager.
- Enhanced overall performance of SprutCAM X and SprutCAM X Robot.
- New feature, which allows users to save tutorials on post processor development as an archive file, enabling offline access.
- Added Machine setup template for Swiss-type machines.

Technical Improvements:

Significant improvements have been made in the recent update, addressing some challenges across the software. Notably, enhancements include fixing spline handling issues and refining the operation of vectors in 6D contour tasks. The update also resolves critical bugs such as the mishandling of network licenses and the visualization of 3D models in the tool library. The software now correctly updates fixtures during Rotate and Shift operations and eliminates previous issues with machine node saving in MachineMaker. Additionally, it resolves a recurrent error during the trajectory calculation for Cladding operations.

GRAITEC Introduces File Sync

18 April 2024

GRAITEC, a leading provider of software solutions for architecture, engineering, construction (AEC), and manufacturing (MFG), is proud to announce the launch of GRAITEC File Sync, an intuitive file synchronization application designed to streamline collaboration and ensure data integrity across common file storage systems.

As companies in the AEC and MFG sectors face unprecedented challenges in today's digital business environment, managing and syncing files across various platforms – both on-premises and in the cloud – have been ongoing issues. GRAITEC File Sync emerges as a powerful answer to address the complexities of modern file management, addressing the need for seamless file synchronization.

GRAITEC File Sync offers a comprehensive set of features tailored to the unique requirements of AEC and MFG professionals:

Cross-Platform Compatibility: Seamlessly sync files between common file storage systems, including popular cloud platforms such as Autodesk Construction Cloud, BIM 360, Procore, SharePoint, OneDrive, and on-premises servers.

Data Protection and Continuity: With automated backup capabilities, GRAITEC File Sync safeguards critical data, minimizing the risk of data loss and ensuring uninterrupted workflow continuity.

Enhanced Collaboration: GRAITEC File Sync facilitates seamless collaboration among team members by enabling real-time file synchronization across multiple devices and platforms, fostering productivity in project workflows.

Automation of Mundane Tasks: GRAITEC File Sync automates repetitive tasks, allowing users to focus on high-value activities while eliminating the inefficiencies associated with manual file management.

Gary Edwards, Senior Solution Sales Director at GRAITEC, commented, "We are pleased to introduce GRAITEC File Sync to the AEC and MFG industries. With its robust features and intuitive interface, our solution empowers organizations to overcome the challenges of file synchronization, enabling them to work smarter and more efficiently."

"GRAITEC File Sync reflects our dedication to innovative solutions that meet our customers' evolving needs," said Edouard Maurel, GRAITEC Vice President of Strategy. "It sets a new

standard for file synchronization in the AEC and MFG sectors, aligning perfectly with GRAITEC's strategy to add more value to our customers."

With the release of File Sync, GRAITEC Group reaffirms its commitment to delivering innovative solutions that drive progress in the construction and manufacturing sectors.

Hexagon revolutionises robotic quality inspection with highly flexible and scalable PRESTO System

22 April 2024

Hexagon's Manufacturing Intelligence division has announced the launch of PRESTO System – an innovative modular suite of automated robotic inspection cells revolutionising the landscape of 3D measurement for automotive and aerospace manufacturing. PRESTO System builds on the foundation of its turnkey PRESTO quality inspection cell to provide manufacturers a future-proof system that sets a new standard for scalable, versatile, and seamlessly integrated automated quality inspection.

PRESTO System empowers manufacturers to become more agile with automated robotic programming that enables a single quality control specialist to create, test and deploy robust robotic inspection in hours. The deployed cells are highly flexible and accessible to all levels of expertise – an operator can safely load and inspect one part then another simply by selecting the correct part to inspect from the control panel. At a time where skills shortages are impeding daily operations for many manufacturers, the integrated robotic system eliminates repetitive manual setup and calibration processes, enabling teams to work more effectively and focus on operational excellence and halving total inspection time compared other modern inspection technologies.

PRESTO System brings together industry-leading scanning technologies into one turnkey solution for faster, easier, and more accurate automated inspection:

- Hexagon's best-in-class Absolute Scanner AS1 combined with absolute positioning from the Laser Tracker AT960 to provide unparalleled measurement efficiency and results – even in dynamic ambient light conditions near production lines.
- Blue laser line technology – PRESTO is the first Hexagon turnkey inspection cell to utilise the most advanced and intuitive method for capturing a rich and complete digital representation of both the key features and surfaces.
- SHINE technology that ensures effortless measurement of reflective surfaces, eliminating the need for part preparation.
- Sophisticated robotic automation software that utilises a digital twin to simulate and programme complete inspection programmes offline, and to coordinate the real time execution of all processes for repeatable and uninterrupted operations.
- Full integration and coordination of all systems, from robotic actuation to metrology scanning, enabling near-line inspection at higher speeds, in total safety.

Leading manufacturers are seeking pervasive quality inspection, sampling more parts and more frequently across production and assembly. The unequivocal and valuable metrology data produced is fundamental to smart manufacturing. PRESTO System is agnostic so that manufacturers can easily integrate it with customer's existing metrology and quality assurance software, acquiring rich, high-quality datasets that empower manufacturers to optimise quality and inform continuous process improvement. Users can easily develop feedback loops that inform their operations, by identifying key trends, predicting more accurate Out-Of-Tolerance (OOT) results, or addressing the root cause of non-conformances in any major Quality Management System (QMS) on the market.

The modularity of the PRESTO System provides flexible deployment, enabling manufacturers to rapidly scale their quality inspection capacity in alignment with their business needs. Once the first cell is deployed, additional modules can be added with short lead times and rapid installation. This scalability not only enhances operational agility – the standardised single-vendor solution also helps businesses to optimise their investment strategies by facilitating upgrades and enhancements rather than replacement.

PRESTO's compliance with safety standards, like CE and UL, streamlines the replication process, allowing organisations to deploy the system rapidly and consistently across various regions. This ensures consistent performance and simplifies regulatory compliance for multinational corporations seeking to leverage robotic quality inspection capabilities on a global scale. Additionally, Hexagon's global presence with native-language support in every continent guarantees seamless deployment and ongoing success, regardless of location.

Nicolas Lachaud-Bandres, Global Director at Hexagon said: "As industry demands for robotic inspection solutions continue to rise within a continuously and rapidly evolving market, PRESTO System presents a new benchmark in terms of flexibility and scalability. Its modular design and intuitive interface enable manufacturers of all sizes to seamlessly integrate automated inspection into their workflows and adapt quickly to unexpected changes. By making advanced automation accessible, adaptable and cost-effective, PRESTO is a key stepping stone towards a future where manufacturers harness automation to its full potential, so their employees can enhance their productivity and the efficiency of manufacturing processes."

PRESTO System comprises three 'base' models: the existing near-square 4.5m PRESTO M that uses one fixed laser tracker and 3D laser scanner; the 10m x 5.5m PRESTO L, with a mobile tracker and mobile scanner; and the 10m x 7.5m PRESTO XL that employs two mobile trackers and two mobile scanners. Multiple options are offered to adjust inspection performance to user experience and component size, with larger models having increased capacity to inspect a wider range of parts. Experienced quality and metrology professionals can use their preferred metrology software from Hexagon (PC-DMIS, Inspire) or other vendors to work with programs and data. The metrology data produced by deployments of the PRESTO System can be easily analysed and shared with other desktop software and cloud applications through Hexagon's open digital reality platform, Nexus.

Introducing Energy Systems Optimization – A New Modelon Solution

26 April 2024

Modelon is thrilled to announce Energy Systems Optimization as a new solution. Energy Systems Optimization is designed to help system engineers in the energy sector make better decisions about their facilities' longevity and economic impact. The solution combines Modelon's flagship system simulation platform, Modelon Impact, with one-on-one guidance from its team of energy industry experts.

The Need for Energy Systems Optimization

Energy system engineers and researchers face heightened stakes in their decision-making processes. The increasing volatility in the supply and demand of energy sources introduces unpredictability in both market trends and technological advancements, complicating cost predictions. Engineering processes such as component sizing, operation of energy storage systems, and fuel source selection are essential to optimize as they can significantly impact the overall cost of running a facility. For these reasons, the case can be that engineers would enormously benefit from dynamic optimization functionalities coupled with system simulation technology.

The Solution

Modelon's Energy Systems Optimization solution comprises two major components: technology and expert guidance. The first component, technology, refers to Modelon's flagship system simulation platform, Modelon Impact. We have now equipped Modelon Impact with the Energy Systems Library, which includes system and component models for hydrogen, electricity, and thermal energy production facilities. Users can build models for system sizing and operations and perform techno-economic optimizations of energy systems over defined time horizons.

The second component of Energy Systems Optimization is expert guidance provided by Modelon. Modelon's industry experts have decades of experience collaborating with industrial firms on highly successful energy systems modeling and simulation projects. With a background in techno-economic system analysis, they possess a nuanced understanding of the intricate dynamics within the industry. Continuously informed of the latest technologies and regulatory frameworks pertinent to customers, these experts excel at navigating the evolving landscape. Their support extends to understanding the unique challenges faced by customers, guiding them through the modeling and simulation process within Modelon Impact, and swiftly addressing roadblocks in the engineering journey. By leveraging their expertise, customers can expedite their progress, ensuring that customers meet their objectives successfully.

The pressure to prepare our energy infrastructure for the future has never been greater. We've been working on this solution for the past couple of years. I feel confident that what we have today will help energy system engineers and planners make the right decisions now so that they're better off in a future with tighter economic and environmental constraints than we have currently

Moritz Hübel, Industry Director of Energy & Process, Modelon

How Honda Motor Company Collaborated With Modelon

Principal Engineer Koji Moriyama of Honda Motor Company and his team sought efficient technology amidst numerous options to transition production plants towards carbon neutrality. Leveraging system simulation and optimization, they selected Modelon and its system simulation platform, Modelon Impact, for the ability to represent the assembly plant accurately, consider carbon reduction options, and optimize for the lowest total cost of ownership. The solution incorporated various constraints like peak shaving and space for photovoltaics, enabling Honda to make informed decisions efficiently. Alongside Modelon, Honda successfully simulated scenarios, prioritized changes, and strategized for carbon reduction while optimizing costs, marking the project successful.

Get Started with Energy Systems Optimization

With Modelon Impact and Modelon's industry experts combined, Energy Systems Optimization offers an end-to-end solution that effectively enables customers to evaluate their plants' performance and cost in what-if scenarios to make informed decisions that directly impact the bottom line. As Modelon Impact returns optimization and simulation results, Modelon's experts prevent customers from veering off course in their analysis journey. This solution also aims to support engineers in the early design stages of their plants by enabling detailed technical system design, control design, and component analysis.

Keysight Introduces Next-Generation Radio Frequency Circuit Simulator for RFIC Chip Designers

18 April 2024

Keysight Technologies, Inc. introduces RFPro Circuit, a next-generation radio frequency (RF) simulation tool targeting the complex, multi-physics requirements of today's RF integrated circuit (RFIC) designers. Wireless, automotive, and satellite designers can now deliver robust designs that overcome performance challenges in dense 3D packaging, taking advantage of interoperability and automation to form complex workflows.

Keysight's W5600E RFPro Circuit features a new modular architecture that ensures a consistent, streamlined environment for multi-physics co-design across Cadence, Synopsys, and Keysight electronic design automation (EDA) platforms. Optional electromagnetic (EM) and electro-thermal simulators also plug into this new environment, enabling faster design and troubleshooting of wireless RFICs.

Typically, RFIC designers perform sequential, single-domain verifications using expert tools, but have a difficult time identifying and troubleshooting multi-domain design issues until the end of the design process. Designers are often required to become domain experts, shouldering the overhead of setup and database manipulations for each tool. With the new RFPro Circuit simulator, these tools are more tightly integrated into highly automated and efficient workflows.

In addition to EM and electro-thermal simulators, Keysight provides RF-aware analyses for stability, system-level modulation and waveforms, and simulator settings. For example, designers can optimize a sophisticated 5G-Advanced power amplifier for error vector

magnitude (EVM) while loaded with EM package parasitics. As 3D designs become denser and move into new millimeter wave frequencies, Keysight now offers a path to efficient design flows that are not only robust, but reliable enough to be used for training tomorrow's artificial intelligence and machine learning automation in leading-edge microwave applications.

RFPro Circuit features include:

- Standard DC, AC, S-parameter, Harmonic Balance Transient, and Envelope Transient simulation modes
- High accuracy modulation analysis; Winslow stability analysis; optimization; and faster one-time netlist parsing
- Compatibility with Keysight's extensive catalog of silicon and III-V compound semiconductor foundry process development kits (PDK). Advanced support for III-V processes, mixed hierarchies for 3D heterogeneous integration and packaging, and validation against system-level modulation.

Beyond RFPro Circuit's numerous technical improvements, Keysight offers a flexible licensing model that gives RFIC designers greater simulation freedom and instant access to the latest features, in order to adapt to changing workflows on a daily basis. RFPro Circuit is available for immediate download for the Cadence Virtuoso and Synopsys Custom Compiler environments. Availability for the Keysight ADS environment is expected in late 2024.

Joe Civello, Director of RF/uW Products, Keysight EDA, said, "Keysight has a long and successful history providing industry-leading circuit simulation for RFIC and module designers. On top of speed and robustness, we've built RFPro Circuit to be the EDA industry's most designer centric RFIC simulation tool, striving for flexibility, application orientation, and context awareness between multi-physics, high-performance compute, and integration into the major vendor workflows. Designers using RFPro Circuit can accelerate their engineering cycles and shift left more of their verification effort from physical into virtual prototyping where it's easier and less costly to fix problems."

Keysight, Synopsys, and Ansys Deliver Radio Frequency Design Migration Flow to TSMC's N6RF+ Process Node

24 April 2024

Keysight Technologies, Inc., Synopsys, Inc., and Ansys introduce a new integrated radio frequency (RF) design migration flow from TSMC's N16 process to its N6RF+ technology to address the power, performance, and area (PPA) requirements of today's most demanding wireless integrated circuit applications. The new migration workflow integrates millimeter wave (mmWave) and RF solutions from Keysight, Synopsys, and Ansys into an efficient design flow that streamlines re-design of passive devices and design components to TSMC's more advanced RF process.

This RF design migration initiative extends TSMC's Analog Design Migration (ADM) methodology with additional capabilities for RF circuit designers. Beyond the productivity gains offered by ADM, the Keysight, Synopsys, and Ansys migration workflow demonstrates

significant power reduction for a 2.4GHz low noise amplifier (LNA) design re-targeted to the N6RF+ process.

Key components of the design migration flow include:

- The Synopsys Custom Design Family, featuring Synopsys Custom Compiler™ layout environment with Synopsys ASO.ai™ for rapid analog and RF design migration and Synopsys PrimeSim™ circuit simulator
- Keysight RFPro for device parameterization, automated value fitting, and electromagnetic (EM) simulation
- Ansys RaptorH™ for on-silicon electromigration analysis and VeloceRF™ for passive component synthesis

RF circuit designers can adopt the migration flow to rapidly re-design their devices to the N6RF+ process specifications and accelerate time-to-market. Keysight RFPro enables parameterization of passive devices including inductors and automatically re-creates highly accurate simulation models with layout tuned to the new process. Designers view the re-created device layout in Synopsys Custom Compiler along with synthesized inductors from Ansys VeloceRF, and then perform interactive EM analysis in complex wireless chips.

Sanjay Bali, Vice President Strategy and Product Management EDA Group, Synopsys, said:

"The need to rapidly migrate designs from node to node is essential to address the industry's relentless drive towards enhanced quality-of-results on TSMC's leading process technologies. The new flow, leveraging Synopsys' Custom Compiler, ASO.ai and PrimeSim solutions, offers an integrated RF and analog design migration solution that enables efficient migration of designs from TSMC N16 technology platform to N6RF+. Combining the strengths of trusted and industry-leading RF and mmWave solutions from Keysight, Synopsys and Ansys provides mutual customers with an interoperable design flow to unlock massive productivity gains."

Niels Faché, Vice President and General Manager, Keysight EDA, said: "Meeting PPA requirements while adhering to new process design rules is one of the biggest challenges facing complex RF chip designs. RF circuit designers want to leverage and reuse their libraries of N16 device and component intellectual property to improve ROI. This new flow facilitates fast re-design in the latest TSMC N6RF+ technology for existing components originally built in N16. Keysight RFPro enables circuit designers to easily perform the device parameterization, new simulation model generation, and interactive EM analysis inside the Synopsys Custom Compiler layout environment. No time-consuming data handoffs or domain specialization are required, which increases overall engineering productivity for RF circuit designers."

John Lee, Vice President and General Manager of the Semiconductor, Electronics, and Optics Business Unit at Ansys, said:

"Electromagnetic simulation and modeling play a central role in developing predictively accurate solutions for RF, high-speed analog, HPC data transmission, 3DIC interconnect, and co-packaged optics. We take pride in our partnership with Keysight, Synopsys and TSMC, because it enables Ansys to nimbly address some of the most challenging problems in this rapidly evolving and dynamic market. By fostering open platforms that

integrate best-of-breed solutions, our joint customers will derive greater value and achieve enhanced product outcomes."

Dan Kochpatcharin, Head of the Design Infrastructure Management Division at TSMC, said: "We're delighted about our recent collaboration with Ansys, Keysight and Synopsys, which offers our mutual customers an efficient pathway to migrate their designs to our more advanced processes, ensuring that they meet the stringent PPA requirements. We're committed to continuing our collaboration with our Open Innovation Platform® (OIP) ecosystem partners to enable customers' next-generation designs with solutions benefiting from the significant power and performance boost of our leading-edge technologies."

Materialise Launches Mimics Enlight CMF for Improved 3D Surgical Planning and Patient Care

19 April 2024

Materialise, a global leader in medical 3D printing and planning solutions, has launched Mimics Enlight CMF, a 3D planning software that improves in-house planning for surgical applications through increased automation and enhanced accuracy capabilities.

Mimics Enlight CMF offers automated planning and design tools that increase speed, ease of use, and precision for many aspects of cranio-maxillofacial surgical preparation, including soft tissue simulation, bone intersection computations, impaction and osteotomy visualization, and anatomical model creation. This allows surgeons to focus on predicting final outcomes and making informed clinical decisions for orthognathic and reconstruction surgeries that range from routine to challenging cases.

"Our Mimics Enlight CMF software is an innovative yet intuitive technology solution that offers the automations, workflows, models, and applications needed to streamline 3D surgical preparation, regardless of the complexity of the case," said Katrien Plessers, Software Product Manager at Materialise. "This software offers robust and efficient planning capabilities, empowering surgeons and medical teams to deliver personalized outcomes to more patients."

The software also allows for real-time updates to align with evolving surgical needs and provides a central location for all members of medical teams to collaborate and communicate. Improved workflows, user-friendly surgical planning, and automated design frees up providers to focus more on patient care.

Mimics Enlight CMF uses Materialise's Mimics technology, which has been trusted by leading medical device manufacturers and hospitals globally for nearly 30 years. Materialise has been at the center of CMF planning for more than two decades, with 450 medical centers worldwide using its 3D software at the point of care to treat more than 10,000 patients per year.

Using 3D technology results in higher accuracy and better results, as well as fewer complications and readmissions. Virtual planning and printing at the point of care also result in faster lead times as medical providers don't have to wait for the delivery of personalized parts.

Mimics Enlight CMF is currently available in Europe and Japan.

New Software with Smart Features for Easier and Faster Engineering

24 April 2024

At the Hannover Messe in Germany, users will be able to get a first glimpse behind the scenes of the upcoming EPLAN Platform 2025. The software, which will be available starting this summer, offers numerous new features for even more ease of use and speed for electrical engineering – with a new macro preview, device-specific properties displays and an expanded Comments Navigator. Users can also expect clever connections for machine cabling as well as terminal strip planning with ClipX Engineer. Specialists in production and service can further expect reduced workloads with innovations for mechanical cable routing as well as QR codes and images on symbols on the schematics.

With the upcoming version of its platform, EPLAN is focussing on making the software even easier and more efficient to use. Faster data availability and more depth of data at key points in the schematics creation process make it possible – for instance in the properties overview, in device management and via QR codes or images directly on symbols in the schematics. Not just electrical engineers, but also control cabinet production specialists and maintenance and service technicians all benefit from the enhancements in the upcoming version.

Easy to use: macro preview in device management

The new EPLAN Platform 2025 supports users with the new macro preview in device management. In addition to the images already supplied in the current version, further device information including the 2D model, the digital twin based on the 3D control cabinet layout and schematics macro are all now available here. Electrical engineers can now see at a glance which data and macros are defined for a motor, as an example, without having to go through the properties. This thus simplifies device management considerably.

Defined individually: device-specific property display

Users are well aware of the challenge of components such as cables, conductors and terminals all having different properties – including outer diameters, bending radii, cross-sections or the numbers of pins. In EPLAN Version 2025, these device-specific properties are immediately available when a user clicks on the component. Not only does this apply to the properties overview, but will now also be available in device management and the Insert Center. The displayed information is also now fully configurable and can be individually defined for each component type.

Better collaboration: expanded Comments Navigator

The Comments Navigator will now be directly available in the ribbon menu in the upcoming version. This makes it easier for designers to collaborate and make comments or corrections in the schematics. Users of the collaboration element will also benefit from additional enhancements to the Comments Navigator, where users can create and manage their own comments on the EPLAN Platform, view the history and now also save status information. Cloud-based collaboration – including redlining and greenlining functionality – can also be easily implemented using the EPLAN eVIEW expansion.

Clever connections: taking machine cabling a step further

Prefabricated cables are often the method of choice for machine cabling. Challenges include the correct definition of such in the schematics, not to mention determining the right lengths for the cables. EPLAN has found an efficient solution to both of these problems in the upcoming version. Machine cabling has reached a new level with the expansions to EPLAN Electric P8 in combination with the new EPLAN Cable proD. The new innovative product EPLAN Cable proD, available this coming summer, serves as the interface between the 3D models from MCAD systems and the correct cabling information from EPLAN Electric P8. Cables can be precisely defined, routed and ordered in the correct lengths.

Perfect planning: straight to the finished terminal strip

Data exchange for control cabinet layouts from EPLAN will soon also be very easy in regards to terminal strips from Phoenix Contact. The new interface to ClipX Engineer enables users to export complete terminal strips from EPLAN Pro Panel to the Phoenix Contact application. ClipX Engineer automatically checks the terminal strips, adds missing or incorrect accessories and then returns the completed terminal strip back to EPLAN Pro Panel. This means that terminal strips, including all the necessary accessories can be easily and correctly planned right from the very start.

Simplifying workloads for production and service: linking QR codes/images with symbols

Users of the EPLAN Platform 2025 can link context-related images or QR codes with symbols and place them directly on the symbols for the first time. By linking the images, they adapt accordingly when changes are made. Furthermore, the QR codes offer much more depth of data: simply scanning them takes users directly to installation instructions or maintenance information. This makes the schematics easier to understand and enables technicians in production, commissioning and servicing to carry out their tasks more quickly.

Easier and faster: mechanical cable routing and feed-through

Dependencies between cables and components, such as current transformers, are automatically displayed in the new version of EPLAN Electric P8 – as part of the EPLAN Platform – and transferred to the connections or cabling lists. This means that time-consuming correction runs due to missing cables can be avoided in production. Mechanical cable feed-through is also available in EPLAN Pro Panel for control cabinet layouts. The software automatically recognises the dependencies between components and cables and routes the cable precisely through the component – without any manual intervention, meaning that no cable can be accidentally forgotten and the connection lists and conductor lists are complete.

[progeCAD 2025 First Look and Free Upgrades](#)

18 April 2024

CADDIT announces their testing of the upcoming progeCAD 2025 Professional software product. **We also announce that any order placed on or after 15 April 2025 will be entitled to have that order upgraded to a 2025 version after the release announcement on CADDIT.net.** progeCAD is an advanced general-purpose 2D and 3D CAD package with similar commands to

AutoCAD but with perpetual license and lower price. CADDIT has been supporting progeCAD users in the Australia/New Zealand region for almost twenty years.

Additional to existing features of both powerful 2D and 3D design, CAD file conversion and rendering, progeCAD 2025 will add new domain-specific functionality requested by many users.

A brand new AEC module replaces progeCAD EasyArch, supporting AutoCAD® AEC Compatible 3D architectural elements with a two-dimensional view in plan and takes advantage of a whole series of new Architecture style commands. progeCAD 2025 still offers an installation option for EasyArch if needed.

A free equivalent upgrade to progeCAD 2025 is now offered to all new and upgrade orders. For example, if a user **upgrades** five progeCAD NLM network licenses from 2022 to 2024 now, all five progeCAD 2024 Network Licenses will also be upgraded to progeCAD 2025 Network entitlement without additional charge after the official progeCAD 2025 release announcement is posted on CADDIT.net. Similar upgrades will be issued for progeCAD USB and stand-alone licenses. This free upgrade offer applies to all progeCAD 2024 new and upgrade orders placed with CADDIT after 15 April 2024.

We believe that the new and improved abilities in progeCAD 2025 will represent an incredible value leap for progeCAD user investment. Additionally, a new series of live training events are being planned in key locations across Australia in 2024 and 2025. If your business is interested in CAD training for multiple users please contact us.

We are pleased about what we are seeing in our progeCAD 2025 early release testing and will be following up with additional details soon. Please **contact our Parramatta office** for press kit information or general questions about this new progeCAD Upgrade offer.

SAP Unveils AI-Driven Supply-Chain Innovations to Transform Manufacturing

22 April 2024

SAP SE announced AI advancements in its supply chain solutions that will unleash a transformative wave of productivity, efficiency and precision in manufacturing. AI-driven insights from real-time data will help companies use their own data to make better decisions across supply chains, streamline product development and improve manufacturing efficiency.

“Businesses today are confronted with challenges ranging from supply chain disruptions and labor shortages to geopolitical uncertainties,” said Muhammad Alam, member of the Executive Board of SAP SE, SAP Product Engineering. “SAP recognizes the imperative for agility and intelligence, driving innovation with AI-powered solutions to streamline supply chain and manufacturing processes. Companies can enhance operational efficiency and improve supply chain resiliency while delighting customers with superior service, paving the way for sustained growth and market competitiveness.”

Accurate and relevant real-time information helps mitigate the impact that supply-chain disruptions have on suppliers, manufacturers and distributors worldwide. SMA Solar Technology AG and other customers have already witnessed the benefits of SAP’s solutions, including an approximately 15% increase in supply chain workforce productivity, a 10%

decrease in overall supply chain planning costs and a 10% reduction in inventory carrying costs and stock turnover rate.

“SMA Solar modernizes its manufacturing execution systems to support sustainable, risk-resilient manufacturing operations with the power of AI-enabled visual inspection in the SAP Digital Manufacturing solution,” said Heiko Kehm, SMA Solar head of IT Order to Cash.

Sixty-three percent of supply chain executives and 52% of operations executives have an AI strategy linked to business objectives, according to “The Importance of AI in Supply Chain and Operations,” a global 2024 IDC InfoBrief sponsored by SAP*. Fifty-one percent of the 2,000 survey respondents are embedding AI into supply chain planning business processes and key applications for real-time decision-making. Another 58% are using AI to increase operational efficiency and employee productivity.

Key improvements to SAP’s supply chain solutions to support customers’ AI-centric strategy include:

- **Optimizing decisions across the supply chain with AI-driven insights:** Companies can now leverage higher volumes of machine data and integrate AI-driven visual inspection by computer into their production processes, enabling a remarkable increase in quality through automation.
- **Streamlining product development:** Product developers can now use SAP’s AI copilot Joule to gather and enhance new product ideas quickly and effectively using natural language queries. Joule also helps tag product designs with business data, so they visually contextualize business-critical information.
- **Detecting equipment anomalies:** Using AI, asset operators can proactively address potential breakdowns based on sensor data collected from smart devices and edge gateways. This new capacity utilizes the cutting-edge Cumulocity IoT platform from Software AG, which is planned to be embedded in the SAP Asset Performance Management application in Q3.
- **Improving field response:** Customers can optimize driving routes and allocate job assignments efficiently with integrated real-time traffic data and machine-learning-trained models, which enable the right field service technicians to reach their destinations on time.

Siemens collaborates with TSMC on design tool certifications for the foundry’s newest processes and other enablement milestones

24 April 2024

At the TSMC 2024 North America Technology Symposium, Siemens Digital Industries Software announced that ongoing collaboration with longtime partner TSMC has successfully achieved multiple new product certifications and project milestones for TSMC’s newest and most advanced processes. For mutual customers, these certifications allow the development of innovative and highly differentiated end-products using best-in-class EDA software and industry-leading silicon process and advanced packaging technologies.

“Siemens is pleased to collaborate with TSMC to deliver EDA technologies that provide customers with an expanding number of design avenues, even as time, cost and design complexity pressures continue to rise,” said Mike Ellow, executive vice president, Electronic Design Automation, Siemens Digital Industries Software. “The combination of Siemens’ industry-leading IC design solutions and TSMC’s leading-edge process and advanced packaging technologies enable our many mutual customers to achieve truly remarkable and industry-disrupting innovations.”

Siemens’ Calibre® nmPlatform tool, the IC verification industry leader, is now certified for TSMC’s N2 process. Among the Siemens toolsets included in this platform and now N2 certified are Siemens’ Calibre® nmDRC software, Calibre® nmLVS software, Calibre® Pattern Matching software and Calibre® PERC™ software toolsets – all of which are in now place for the earliest adopters of TSMC’s innovative technology.

Siemens’ Analog FastSPICE platform for circuit verification of nanometer analog, RF, mixed-signal, memory, and custom digital circuits recently achieved TSMC certification for the foundry’s advanced N3P, N2 and N2P processes. Further, as part of the custom design reference flow (CDRF) for TSMC’s N2 processes, Siemens’ Analog FastSPICE platform now supports TSMC’s Reliability Aware Simulation technology, which addresses IC aging and real-time self-heating effects among other advanced reliability features. The CDRF for TSMC’s N2 technology also includes Siemens’ Solido™ Design Environment software for advanced variation-aware verification at high sigma.

From a 3D-IC perspective, Siemens and TSMC successfully collaborated to certify Siemens’ Calibre® 3DSTACK solution’s support for the foundry’s latest 3Dblox standard. This certification continues the partners’ ongoing collaboration on thermal analysis requirements for TSMC’s 3DFabric advanced packaging technologies.

Further, the companies have collaborated to unlock the full potential of Siemens’ Tessent™ software for 3D-IC design-for-test (DFT) implementations for the benefit of TSMC ecosystem customers and partners at advanced nodes. TSMC and Siemens are working together to develop new 3D-DFT methodologies, including Known Good Die (KGD) loopback testing and physical aware die-to-die fault testing and diagnosis, by leveraging the 3Dblox standard to address the special IC test and diagnosis challenges that arise at 2nm geometries and below.

“Siemens has been a long-time, strategic partner and continues to increase its value to the TSMC Open Innovation Platform® (OIP) ecosystem by offering more high quality solutions in support of our newest leading-edge technologies,” said Dan Kochpatcharin, head of the Design Infrastructure Management Division at TSMC. “We look forward to seeing even more innovations as we continue to further grow our strong and highly-valued partnership that helps to enable our customers’ leadership in HPC and AI by bringing to market even more differentiated semiconductor designs.”

Siemens Xcelerator: Scaling roll-out of generative AI with Siemens Industrial Copilot

22 April 2024

At Hannover Messe 2024, Siemens presents the first generative artificial intelligence (AI) product for engineering in an industrial environment. The Siemens Industrial Copilot, the generative AI-powered assistant, is now seamlessly connected to the Totally Integrated Automation (TIA) Portal. This will enable engineering teams to find the right help topic and to generate a basic visualization and code faster for programmable logic controllers (PLC). As a result, they will be able to significantly reduce their workload and offload repetitive tasks to the Siemens Industrial Copilot. In addition, the engineering of complex tasks will become less susceptible to errors. This in turn reduces development times and boosts quality and productivity over the long term. The Siemens Industrial Copilot for TIA Portal Engineering will be available for download from the Siemens Xcelerator marketplace starting in summer 2024.

From theory to scale: The first generative AI-powered product for industrial engineering

At Hannover Messe 2023, Siemens and Microsoft jointly unveiled their vision for a generative AI-powered assistant: The Siemens Industrial Copilot includes automation and process simulation information from Siemens' digital business platform Siemens Xcelerator. It is enriched with the large language models in Microsoft Azure OpenAI Service, for example to augment the creation and optimization of code in software for factory automation. At the Smart Production Solutions (SPS) trade show in the fall of 2023 and in collaboration with Schaeffler AG, Siemens presented a generative AI-enhanced production machine for the first time. Siemens is now moving from theory to scale with its first generative AI-powered product for engineering at Hannover Messe 2024.

The Siemens Industrial Copilot will enable industrial customers of all sizes to harness the power of industrial-grade generative AI to transform their operations. Industrial automation solution provider Grenzebach Group, a family-owned business and an early adopter of the Siemens Industrial Copilot, is testing how generative AI can augment industrial automation engineering and support engineers to reduce time, effort and probability of errors.

Dr. Steven Althaus, CEO Grenzebach Group, says: "Generative AI is a must have. At Grenzebach, we're committed to harnessing its power to stay ahead of the game. The Siemens Industrial Copilot will allow us to make the most of the rapidly increasing amount of data available in a factory. And it will take human-machine collaboration to the next level. With Siemens, we can address the skilled labor shortages, boost innovation, and significantly increase the productivity of our workforce."

Huge benefits for engineering: Introducing new features for the Siemens Industrial Copilot

Features of the new Siemens Industrial Copilot for TIA Portal Engineering include automated code generation in structured control language (SCL): The TIA Portal can take the code suggestion directly from the AI, eliminating the need to copy and paste. It's also possible for the Siemens Industrial Copilot to explain SCL code blocks or to guide and easily create an initial machine or plant visualization in WinCC Unified. In addition, engineering teams can search

Siemens manuals in natural language. Customers will have the option to access their private instance of Azure OpenAI Service which doesn't use customer data to retrain models.

"Siemens makes automation easy. The Siemens Industrial Copilot is bringing industrial generative AI to the shopfloor and will be an indispensable part of the engineering process in the future. With the easy and seamless connection to our TIA Portal, we're the first to offer a generative AI product for engineering to industrial companies worldwide," says Rainer Brehm, CEO Factory Automation at Siemens Digital Industries. "Industrial AI is an important lever for combining the real and the digital worlds – with the ultimate goal of addressing major challenges, such as the shortage of skilled workers or making industrial production more efficient and sustainable."

Siemens envisions a suite of generative AI-powered industrial copilots across the entire value chain that will transform the way companies design, plan, develop, engineer, and work. Together with early pilot customers and partners, Siemens is advancing generative AI-powered copilot solutions across multiple industries, from automotive, infrastructure, transportation, and healthcare to manufacturing and mechanical engineering. Siemens Industrial Copilot for Design, Planning, Engineering, Operations and for Services – supporting engineers, factory workers, everyone – will make human-machine interaction easy, fast and efficient.

STREAMLINE SOLUTIONS RELEASES ELEMENTS VERSION 4.2.0

19 April 2024

We are delighted to announce the release of **ELEMENTS 4.2.0**, an open-source CFD software suite for vehicle design applications distributed by Streamline Solutions LLC — a joint venture between ENGYS and Auto Research Center. This release introduces several new capabilities and enhancements aimed at streamlining CFD simulations and improving user experience. These enhancements also provide engineers with more accurate and realistic simulations, allowing them to make informed decisions during the automotive engineering design process.

What's New in ELEMENTS 4.2.0

ELEMENTS 4.2.0 introduces several new capabilities and improvements, including:

- **Advanced Automation:** enhanced Python Journaling system and Macro Library for seamless automation of simulation tasks.
- **Improved External Aerodynamics:** enhanced Aero Wizard with high-fidelity external aero template and refined configuration options.
- **New Geometry Tab:** simplifying geometry preparation and manipulation for a smoother workflow in vehicle design applications.
- **Improved Mesh Generation:** new Multi-Meshing interface, enabling the creation of multiple grids effortlessly in a single process.
- **Full GUI support for Non-Conformal Coupling (NCC) interfaces,** ensuring accurate and stable coupling for non-conformal interfaces.

- Enhanced Visualization: new post-processing tools tailored for turbomachinery cases, offering advanced visualization capabilities.

Synopsys Accelerates Next-Level Chip Innovation on TSMC Advanced Processes

24 April 2024

Synopsys, Inc. announced broad EDA and IP collaborations with TSMC for advanced node designs and have been deployed across a range of AI, high-performance computing, and mobile designs. Among the newest collaborations is a co-optimized Photonic IC flow, addressing the application of silicon photonics technology in the quest for better power, performance, and transistor density. Synopsys also noted the industry's confidence in its digital and analog design flows, production-ready for TSMC N3/N3P and N2 process technologies. The two companies are collaborating on next-generation AI-driven flows, including Synopsys DSO.ai™, for design productivity and optimization. In addition, Synopsys is developing a broad portfolio of Foundation and Interface IP on TSMC N2/N2P. In a related announcement today, Keysight, Synopsys, and Ansys introduced a new integrated radio frequency (RF) design migration flow from TSMC's N16 process to its N6RF+ technology.

"The advancements in Synopsys' production-ready EDA flows and photonics integration with our 3DIC Compiler, which supports the 3Dblox standard, combined with a broad IP portfolio enable Synopsys and TSMC to help designers achieve the next level of innovation for their chip designs on TSMC's advanced processes," said Sanjay Bali, vice president of strategy and product management for the EDA Group at Synopsys. "The deep trust we've built over decades of collaboration with TSMC has provided the industry with mission-critical EDA and IP solutions that deliver compelling quality-of-results and productivity gains with faster migration from node to node."

"Our close collaboration with Open Innovation Platform (OIP)® ecosystem partners like Synopsys has enabled customers to address the most challenging design requirements, all at the leading edge of innovation from angstrom-scale devices to complex multi-die systems across a range of high-performance computing designs," said Dan Kochpatcharin, head of Design Infrastructure Management Division at TSMC. "Together, TSMC and Synopsys will help engineering teams create the next generation of differentiated designs on TSMC's most advanced process nodes with faster time to results."

Certified Digital and Analog Flows on Advanced Nodes

Synopsys' production-ready digital and analog design flows for TSMC N3P and N2 process technologies have been deployed across a range of AI, high-performance computing, and mobile designs. The AI-driven analog design migration flow enables rapid migration from one process node to another. A new flow is available for TSMC N5 to N3E migration, adding to Synopsys' established flows for TSMC N4P to N3E and N3E to N2 processes.

In addition, interoperable process design kits (iPDKs) and Synopsys IC Validator™ physical verification runsets are available for design teams to efficiently transition designs to TSMC advanced process technologies. Synopsys IC Validator enables full-chip physical signoff to

handle the increasing complexity of physical verification rules. Synopsys IC Validator is now certified on TSMC N2 and N3P process technologies.

Faster Data Transmission for Multi-Die Designs with Photonic ICs

The high volume of data processing for AI training requires low-latency, power-efficient, and high-bandwidth interconnects, driving the adoption of optical transceivers and near-/co-packaged optics using silicon photonics technology. Synopsys and TSMC are developing end-to-end multi-die electronic and photonic flow solutions for TSMC's Compact Universal Photonic Engine (COUPE) technology to enhance system performance and function. This flow spans photonic IC design with Synopsys OptoCompiler™ and integration with electrical ICs utilizing Synopsys 3DIC Compiler and Ansys multiphysics analysis technologies.

Speed Time-to-Market with Broad IP Portfolio N2 and N2P

Synopsys is developing a broad portfolio of Foundation and Interface IP for the TSMC N2 and N2P process technologies to enable faster silicon success for complex AI, high-performance computing, and mobile SoCs. High-quality PHY IP on N2 and N2P, including UCle, HBM4/3e, 3DIO, PCIe 7.x/6.x, MIPI C/D-PHY and M-PHY, USB, DDR5 MR-DIMM, and LPDDR6/5x, allows designers to benefit from the PPA improvements of TSMC's most advanced process nodes. In addition, Synopsys provides a silicon-proven Foundation and Interface IP portfolio for TSMC N3P, including 224G Ethernet, UCle, MIPI C/D-PHY and M-PHY, USB/DisplayPort and eUSB2, LPDDR5x, DDR5, and PCIe 6.x, with DDR5 MR-DIMM in development. Synopsys IP for advanced TSMC processes has been adopted by dozens of leading companies to accelerate their development time.