PLM Weekly Summary

Editor: CIMdata News Team

16 October 2020

Contents

CIMdata News

Capital Expansion Addresses E/E Systems Complexity- A CIMdata Commentary

14 October 2020

Key takeaways:

- *Siemens Digital Industries Software's Capital expansion brings together design trade-offs of electrical systems and embedded software.*

- *With the use of Capital, Model-Based Systems Engineering now has streamlined access to wiring, embedded software, and electronic details.*

- *Viewing and annotating mechanical, electrical, electronic, and embedded software design in their native systems, including artifacts from the other disciplines, is no longer a manual exercise fraught with complex interdisciplinary configuration problems.*

- *Capital's use of Teamcenter Product Configurator is further evidence that Siemens Digital Industries Software is providing an ecosystem enabling a Comprehensive Digital Twin across the extended enterprise.*

Silos of information and data exist due to the existence of varied information technologies, numerous investment cycles, various organizational structures and responsibilities, differences in education, and wide-ranging knowledge and wisdom management practices.[1] To be successful, PLM platforms must enable better Systems Engineering (SE) across the complete product lifecycle. The right SE practice can help engineers see each disciplines' contextual point of view ultimately leading to better decision making. Today, Digital Twins, composed of design, test results, customer insights, and environmental conditions, are the cornerstone of a company's digitalization ecosystem.[2]

Supporting complex decisions during product development, manufacturing, and operations is a systems problem. The problem is to assure that the requirements are fulfilled and not violated throughout the life of a product. An important issue is how the system's defining constraints are maintained, adhered to, and managed as the product moves through its lifecycle—from concept through and including the end of its useful life. This requires the concept of a digital thread of the requirements and other product data tied to an ever-changing digital twin. To accomplish this, consistent product configuration across the disciplines is also required as shown in Figure 1.

---

[1] [Bridging Information Silos to Improve Decision Making, CIMdata Webinar presented 10 September 2020.](#)
[2] Research for this paper was partially funded by Siemens Digital Industries Software

Inability to collaborate

- Missed & misinterpreted requirements
- Document & transcription heavy process
- Poor data flow within & between flows
- Cumbersome change management
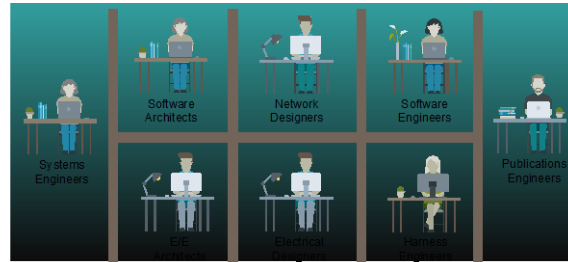
"Automotive industry is **wasting millions** in investment **due to operating in silos**"

Elevenci automotive consulting, March 2020
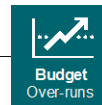
Figure 1—Supporting Collaboration Across Functional Domains
(Courtesy of Siemens)

At the *2020 Realize Live* event Siemens Digital Industries Software (Siemens) announced product features and progress on their SE framework where different disciplines can collaborate more effectively, providing a robust Model-Based Systems Engineering (MBSE) ecosystem. Collaboration improves as organizations embrace MBSE if that view is well integrated with discipline-specific views. Siemens' Capital solution delivers MBSE benefits for enterprises in all industries where traversing the silos between electrical, electronic, software, mechanical, and even systems engineering disciplines is more challenging as product and service complexities expand.

Siemens has a product configurator service, which was originally developed as Teamcenter service, that is now available to Capital users. This is exactly what the digital thread requires—consistent product configuration across the disciplines throughout a product's life.

Furthermore, there is a growing value that electrical and electronic systems and their associated embedded software are bringing to products, often after the original product is mass produced. For example, most consumers now expect to receive upgrades during a product's lifecycle. With the increased complexity of these integrated systems and their upgrades after sales, getting it right is getting harder—hence the need for new solutions to support and enable all engineering disciplines.

Systems Engineering as its own discipline has existed for decades. Computer-based SE (i.e., MBSE) improves product robustness as it allows engineers to see and potentially optimize more interactions amongst defined requirements and solutions before a product is produced, even across engineering disciplines.

Siemens has built a rather comprehensive set of applications across several disciplines ranging from mechanical to electrical to manufacturing to embedded software. Seeing these disciplines working together is no longer limited by tools and file sharing. The following describes a few examples of the synergies Siemens is creating.

Capital brings electrical and harness engineering, as well as embedded software development, into the systems design realm earlier. Improving systems designs for the operational lifecycle in addition to manufacturing. Considerations for feature partitioning are getting easier while understanding service and manufacturing constraints. Throughout the 2020 Realize Live Event, Siemens representatives and early adopters from GM and Northrop Grumman discussed their progress toward improving systems by considering harness layout, and sustainment and service needs earlier in their product design processes.
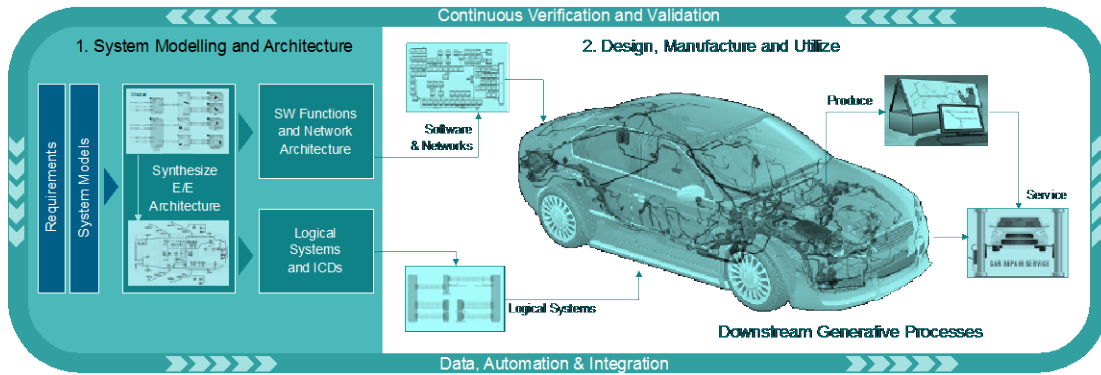
Figure 2—Systems Architecture Optimization
(Courtesy of Siemens)

Car harness design, which supports a broad family of products within a platform, is a challenge for mass production. It gets more complicated when making the Electrical/Electronic (E/E) system future proof to provide product upgrades while in the customer's possession. Aircraft are maintained over decades and the sustainment activities of operational fleets require service manuals and related practices derived from the E/E design and assembly. As shown in Figure 2, Capital is expanding into the early architecture and the post manufacturing domains with their new features that support this broader lifecycle.
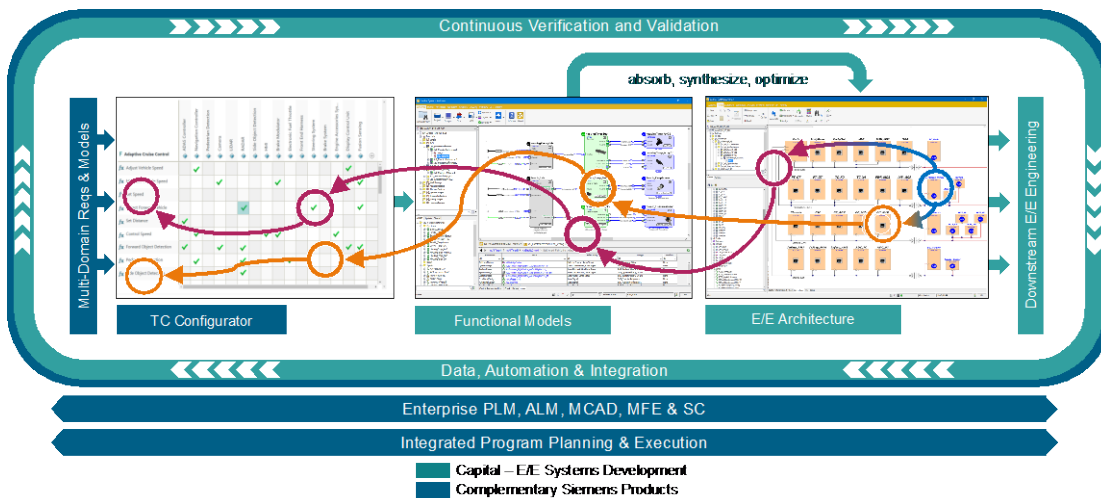
Figure 3—Teamcenter Product Configurator in the Capital Solution
(Courtesy of Siemens)

Forming the comprehensive digital twin of a product at any time requires a consistent and powerful configurator. One that creates a future usage context and one that drives design assemblies wherever they occur during product development and service. One Product Configurator service enables consistent configuration from product inception to end of life. Capital is now using Product Configurator and Workflow from Teamcenter as shown in Figure 3.

Capital's Software Designer (Figure 4) is another part of Siemens' Xcelerator portfolio of solutions addressing the needs of compliance and seamless integration.
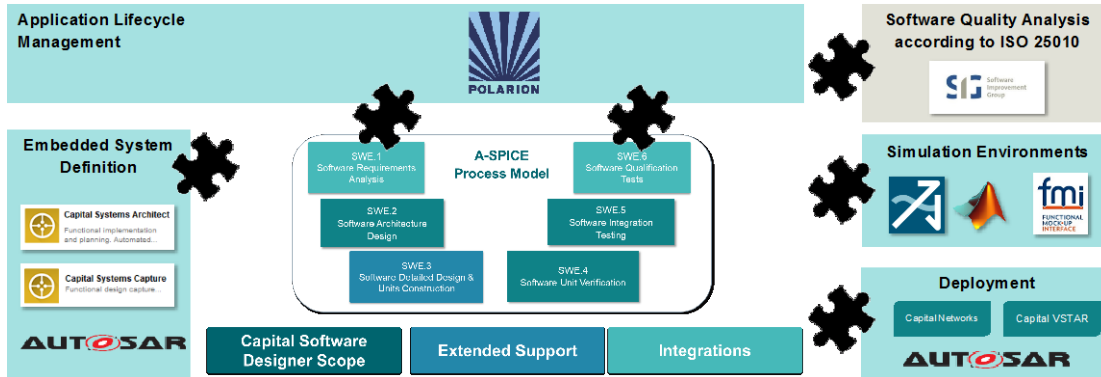
Figure 4—Capital Software Designer
(Courtesy of Siemens)

Finally, modern electrical and electronic applications in a PLM platform must start integrated and stay integrated. This means bridging the information silo's consistently and continuously as shown in Figure 5. Automatic and controlled exchanges are needed to manage complexities in product development and operations. Effectively using another discipline's data forms a Comprehensive Digital Twin.
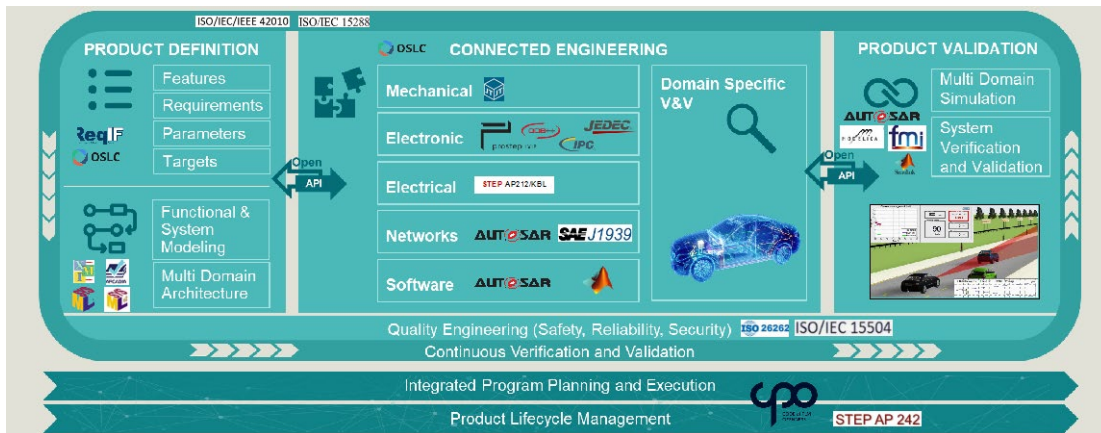
Figure 5—MBSE Integrating Across the Information Silos
(Courtesy of Siemens)

Using product requirements confidently in each discipline contributes to the same Comprehensive Digital Twin. This enables robust requirement traceability in each discipline's context. The same product requirement is referenced in different views with traceability in one place. This is a needed improvement over file based, manually updated, copies of requirements traceability matrices. Model Based Engineering including requirements traceability is becoming a reality.

Siemens' vision and strategy are advancements on the way to Model-Based Engineering. By supporting proven standards, an ability to easily integrate across the extended enterprise is realized—open ecosystems allowing external tools and data sources to be seamlessly integrated.

Over the last several years, Systems Engineering has improved with the power of computing, allowing faster exploration of solutions and safety margins of candidate designs. Computing speeds and simulation accuracies continue to advance. But with distributed computing came distributed data, which can be difficult to manage. Additionally, engineers need stable, readily accessible configurations as baselines to help manage their decisions. A common product configuration engine used across mechanical and electrical disciplines is a cornerstone of modern PLM platforms.

Siemens has developed and acquired many of the tools engineers need. Their intelligently integrated ecosystem is realizing a comprehensive product development environment, what a progressive PLM platform should enable.

Siemens' Capital, Polarion, MBSE, and Product Configurator integration is evidence of their holistic and end-to-end PLM ecosystem, branded as the Xcelerator portfolio of solutions.

Capital is the comprehensive Electrical/Electronic Systems development solution within Xcelerator. This solution portfolio includes direct support of Systems, Electrical, Networks, and Software development—all technologies core to today's complex products. Transparency across discipline silos improves product decisions during development, manufacturing, and operations. Expansion of Siemens' Capital solution brings new levels of integration for holistic engineering. Systems engineers are more empowered to help the software, mechanical, and electrical disciplines understand their operating context, which in turn improves the speed and accuracy of decisions. With this solution customers will see improved time to market as all engineers together make better decisions faster.

Siemens' Xcelerator portfolio, and especially Capital's comprehensive E/E capabilities, further differentiates Siemens in the PLM market. CIMdata recommends that companies should consider the Xcelerator portfolio of solutions, especially Capital, when evaluating and/or migrating current and future E/E solutions. As computers are pervasive in products today and tomorrow, a comprehensive, integrated, and multi-disciplinary product development environment is essential.

CIMdata & SMS_ThinkTankAnnounce Dates for SMS Basics Virtual-Live Courses
15 October 2020

CIMdata, Inc., the leading global PLM strategic management consulting and research firm and SMS_ThinkTank™, an industry-leading resource providing system modeling and simulation expertise, announce the dates for the next Systems Modeling & Simulation Basic Certificate Programs for Managers.

The classes' goal is to provide a superior educational experience for today's simulation and analysis professionals. Class delivery is through a series of education and training sessions designed to equip those involved in systems modeling and/or simulation with a strong understanding of systems modeling and simulation concepts and industry-leading best practices.

We will offer the following Systems Modeling & Simulation Basic Certificate Programs for Managers in the late fall:

- **North America (November 10 & 12)**—a virtual-live class delivered over two half days, available in the Americas time zones.

- **EMEA (November 24 & 25)**—a virtual-live class delivered over two half days, available to European time zones.

The Systems Modeling & Simulation Certificate Program leverages a common systems engineering and product data model that encompasses simulation, analysis, benefits, requirements, platform, program, project, systems definition, product structure, lifecycle, and configuration management capabilities.

According to CIMdata's President & CEO, Peter Bilello, "It has long been CIMdata's desire to expand our education and training offerings to the systems modeling and simulation community. Announcing these additional dates for 2020 is a testament to the demand for this kind of education." He went on to add, "The CIMdata Systems Modeling & Simulation Certificate Program, offered in partnership with SMS_ThinkTank, leverages CIMdata's assessment-based educational framework and has been designed to satisfy the systems modeling and simulation education requirements of small to large enterprises."

Frank Popielas, Managing Partner and Co-Founder of SMS_ThinkTank commented, "We are excited to offer additional classes in the late fall. The SMS Basic Certificate Programs for Managers as well as for Practitioners are of great interest to the systems modeling and simulation community—from industrial companies who are considering, evaluating, implementing, or enhancing their systems modeling and simulation capabilities as part of a digital transformation effort, to software and service providers in

the systems modeling and simulation domain."

For more information on the Systems Modeling & Simulation Basic Virtual-Live Certificate Program, visit https://www.cimdata.com/en/education/sms-certificate-program.

⬆️*Click here to return to Contents*

Enabling Digital Transformation of Naval Logistical Support – A CIMdata Commentary
15 October 2020

Key takeaways:

- *Supporting logistics of complex products is a massive undertaking that benefits from the data and process management provided by modern Product Lifecycle Management (PLM) capabilities.*
- *The U.S. Navy is embarking on a major modernization driven by digital transformation that will update and streamline its fleet readiness program, replacing its largely paper-based legacy.*
- *The U.S. Navy requires a secure cloud-enabled environment as the foundation of a commercial off-the-shelf (COTS) - Software as a Service (SaaS) strategy to achieve the global access required to support its widely distributed operations and logistics.*
- *The U.S. Navy has selected PTC's Windchill to be the platform for Model Based Product Support.*

Fleets of any type—ships, aircraft, trucks, and others—create certain logistical issues. They are constantly in use all over the world, operating in inclement weather and contested environments. They are continually repaired away from their base of operations, and the configuration of each vehicle in the fleet is different (see Figure 1), leading to difficulty in understanding what can be repaired or replaced. The more complex the fleet, the more stubborn those issues become and the more costly the resources required for support. The fleet needs to be maintained and upgraded on a regular basis and sometimes in emergency situations.[3]

The U.S. Navy seagoing fleet is large (300+ active and reserve ships and Expeditionary Forces), globally dispersed, and often operates in harsh, unforgiving environments. Ships that comprise the Navy fleet include the largest, most complex moving structures in the world—and no two are identical. Thousands of sailors are involved in their day-to-day operation and essentially rely on the ships for their life support—which adds another critical dimension to each ship's complexity. Keeping the fleet ready to serve in a diverse set of capacities is the role of the Warfighting Capability and Digital Readiness Services division within the Naval Sea Systems Command (NAVSEA03R). This organization plans for and directs the maintenance of all elements of the Navy fleet.

Currently, naval logistical planning and execution is based on a broad mix of documents and other information in a multitude of formats. This information is spread across many systems and information repositories, some of which are out of date and difficult to access and maintain. Much of the current data is paper-based. What electronic data exists is maintained in many formats and stored on different, often old, devices, all under the control of different parts of the logistics organization. A single index, data source, or digital thread of data that could be used to effectively support logistics does not exist, so gathering the information required to support a logistical exercise is a daunting, time-consuming task. The Navy recognizes that they need to improve this situation along a number of axes—lifecycle costs, operational availability, data accessibility, data integrity and security, data reuse vs. duplication, support for collaboration, support for new and streamlined work processes, maintaining an up-to-date repository of in-service configurations, system sustainability, and a multitude of other factors. As Mr. Paul Koester, Program Manager for Model Based Product Support, NAVSEA03R said "…it's a seismic shift in the way the Navy manages its product lines and represents a revolutionary change not only for how programs operate, but for the Navy workforce in general…for the chief goal is to provide the warfighter with the capability to model, predict, and optimize its investment in logistics resources based on the ability to rapidly

---

[3] Research for this commentary was partially supported by PTC.

Figure 1—Large Variety of Ship Types Maintained
(Image courtesy of U.S. Navy

understand changes in mission requirements, and being able to model and optimize logistics resources to meet those changing requirements."

At this time, the Navy logistics organization, along with other parts of the Department of Defense (DoD), has embarked on modernization efforts based on modern digital transformation strategies. The expectation is that digitally transforming how naval logistics is supported will provide better information (particularly content-rich 3D data which is difficult to leverage in the current environment) that will improve fleet readiness, streamline operations, reduce support and maintenance costs, decrease errors, and reduce IT costs. CIMdata's experience supporting digital transformations in many industries indicates that these are very achievable goals, given a good strategy and effective execution.

Embarking on a digital transformation is a journey. Digital transformation is a complex, time-consuming process requiring a vision, strategy, and roadmap to plan, select, and implement appropriate processes and technologies to fulfill the vision and achieve success. Effective, timely implementation of capabilities and processes that support the vision and strategy is also of paramount importance. Because of the breadth of impact across an extended enterprise, executive leadership is essential to achieving goals and success. In the Navy's case, this leadership is provided by Mr. Thomas Murphy, Deputy Director of NAVSEA03R The Navy has named their logistics digital transformation project Model Based Product Support (MBPS).

A conceptual fallacy that persists in many organizations is that digital transformations in general, and product lifecycle management (PLM) in particular, provide benefits only to product developers (e.g., design engineers). Experience working with organizations who have properly gone through a digital transformation shows otherwise. Often the largest benefits of a digital transformation come from its impacts on the people who are consuming the product's definition to enhance installation (commissioning), operation, maintenance, and repair. However, product design remains a critical component of a successful strategy since it provides the baseline of the digital thread necessary to support successful digital transformation.

The digital transformation being implemented to support Navy logistics requires that a digital thread of information about the ships being supported and a digital twin of each ship be available and updated in near real time. One major departure for the Navy is that this digital thread and twin, to maximize their usefulness

Digital Thread—a communication framework that connects data flows which can be used to produce an integrated, holistic view of an asset's data from physical and virtual systems (i.e., its digital twin) throughout its lifecycle across traditionally siloed functional perspectives.

Digital Twin—a physics-based description of a system resulting from the generation, management, and application of data, models, and information from authoritative sources across the system's lifecycle. The Digital Twin must be more than just a descriptive model or collection of related digital information (e.g., a SysML

across the spectrum of logistics and support activities, needs to be based on 3D models and other data. That is, the full ship definition is a necessary component that will enable MBPS to be successful. In the past, most of this data was available only as 2D drawings, which are less informative and more difficult to maintain throughout each ship's lifecycle.

The new digital data definitions will also facilitate and allow much more flexible and valuable collaboration with domains and organizations outside of design engineering, further expanding the use and effectiveness of logistics information. To support this model-based collaboration, the Navy needs a set of capabilities built on a technology platform which will enable all of the data sources (various PLM, CAD, analysis, database, and other data sources) to work together as a single environment—essentially removing the current stove-piped silos that exist today. See Figure 2 which illustrates this point. The current situation is based on decades-old technology and processes; highly diverse, distributed, and disconnected data sources; inconsistent and incompatible data formats; lack of up-to-date ship configurations; and poorly controlled and secured data environments and processes.
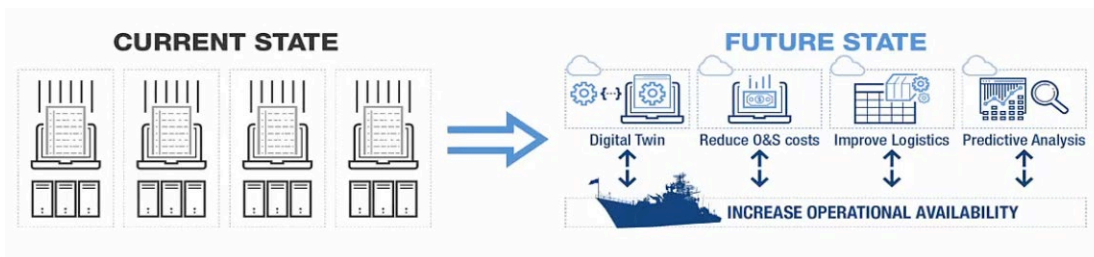
Figure 2—Naval Logistics Stove-Piped Legacy Moving to a Modern Digital Platform
(Image courtesy of NAVSEA)

What is proposed and being implemented is a future state that will be a secure consistent environment that is much more sustainable and upgradeable, can be leveraged by more participants (including shipboard personnel), and will have much higher operational availability—overall significantly improving fleet readiness. The solution is not only being built on a new software architecture, but is also being deployed in a secure cloud environment (DoD FedRAMP+ IL5) which will enable the Navy to keep pace with evolving and new technologies and deliver secure services over a broad scope of people, organization, geographies, and processes. The cloud implementation should also greatly simplify deployment, education, training, maintenance, sustainment, and administration of MBPS.

Implementing PLM as SaaS on the secure DoD cloud provides a prime example for other DoD organizations that are pursuing digital transformation strategies. This type of environment provides operational and growth flexibility, lowers costs of entry and operation, and supports new ways of working that can streamline operations. For example, Covid-19 has many people working from home who thought they would never work remotely. This has introduced added challenges and urgency to support secure, alternative, easily-accessible working environments which are provided by SaaS in ways that on-premises, computer-based solutions cannot deliver. This also applies to providing access to shipboard and other remote personnel, e.g., contractors and partners.

The MBPS platform will be based on PTC's modern, cloud-enabled PLM platform, Windchill. CIMdata defines PLM as "A strategic business approach that applies a consistent set of business solutions in support of the collaborative creation, management, dissemination, and use of product definition information across the extended enterprise, and spanning from product concept to end of life—integrating people, processes, business systems, and information." The issue is not just about data but how data is used to support all types of processes, including logistics.

PTC Windchill is a web-based, scalable PLM platform designed to support product lifecycles, global collaboration, and innovation. It provides a secure environment for PLM that enables enterprises to integrate business processes and product data with dispersed divisions, partners, and customers. It is built on a 100% Web-based architecture for scalability and cost-effective support while providing strong security protocols to ensure IP protection.

Windchill's cloud-based SaaS delivery supports rapid startup and deployment. Users and functional capabilities can be added on demand. The system is kept up to date by PTC managed services. Windchill is fully tailorable and cloud delivery makes it scalable for any implementation size.

Windchill incorporates full PLM capabilities for managing configurations, workflows, data and access control, and enabling implementation of a lifecycle digital thread (essential for enabling business digital transformation). Windchill functional capabilities include (but are not limited to):

- Product data management (PDM)
- BOM management and transformation including multiple BOM reconciliation
- Product variability management
- Change and configuration management
- Process workflow management

Windchill is designed to enable local and extended enterprise collaboration, which is important to the support of MBPS. Much of the collaboration within NAVSEA today requires manual effort, frequently using telephone calls and emails that are not traceable, and includes ad-hoc notifications that do not provide context. Windchill is designed to provide efficient, managed extended enterprise collaboration that is authorized and traceable.

Security is paramount in any DoD solution and implementation, and Windchill incorporates strong security protocols and standards. In support of DoD requirements, PTC is the only PLM software vendor to date that provides secure cloud-based PLM, Service Lifecycle Management (SLM), and Internet of Things (IoT) capabilities to the U.S. government.

Any major evolution or change in how information is created and used and how people access and work with that information can cause significant cultural change in addition to normal implementation and adoption of new technologies. New solutions must be deployed, either locally or via the cloud—in many cases with a hybrid combination of the two. Implementation of MPBS will impact multiple organizations, within and outside of the Navy. Careful planning and implementation will be required to achieve success.

MPBS will introduce new work and information flow processes across Navy logistics and their partners and suppliers. In many cases, these new processes will be significantly different from those currently in place. This is required to (1) take advantage of the new technologies and types of data that will be used, and (2) re-engineer the historical processes that have evolved over the last decades and no longer meet the Navy's needs with new, more streamlined and sustainable processes.

Users will be required to change the processes they follow and the tools they use. In the naval logistics case, the user community will be quite broad including personnel in NAVSEA, sailors deployed on ships at sea, numerous contractors including shipyards and repair facilities, and equipment and materials suppliers. They will all need to be educated about the new environment and how it will impact their work and their organizations. This will require a carefully designed and executed cultural change management plan. A major change in how a person works (as will happen with MPBS) normally causes resistance and concern in the user community. Fortunately for the MBPS user community, the Navy and its partners use ThingWorx Navigate to create role-based user experiences specific to the job function and personas of NAVSEA support and engineering personnel. This will greatly accelerate adoption of the new solution. Additionally, a cultural change management program will educate users as to the need for and impacts of the new environment and processes being implemented. The Navy recognizes this critical issue and plans to undertake necessary actions to implement cultural change.

Additionally, the users will need to be trained to use the new tools, solutions, information formats, and processes being implemented. However, it is important that they be trained at the right time—when the solution they will be using is in place and the data they will use has been cleaned and migrated into that solution.

Finally, full data cleansing and migration will be a key to success. Accurate, complete data must be transformed and loaded into the new solutions. Failure to do so will impact adoption and trust by the users. Without that trust,

users will not follow the new processes that will be put into place during the implementation. CIMdata experience shows data discovery and migration to be the most underestimated part of digital transformations.

The Navy currently has an outdated and cumbersome logistics situation with regards to supporting its fleet of ships. This negatively impacts operational readiness and capability. A modernization program will help resolve many problems and provide improved mission readiness while reducing cost and resources needed to perform the required logistical support.

MBPS is a large, ambitious program that will be a major step in achieving the Navy's digital transformation strategy. It will replace historical, obsolete, but critical systems that support naval logistics with a modern, commercial solution that will be more sustainable and more easily kept up to date than the current combined environment. MBPS should also provide a more stable, reliable and accessible source of information to support Navy logistics into the foreseeable future.

The use of PTC's COTS, secure cloud-based solution suite provides a strong basis upon which to build the new, modernized MBPS capabilities that will support naval logistics and be the basis for a digital platform that may be expanded to other areas.

Based on CIMdata's experience, the Navy logistics program and its secure cloud-based SaaS model should be considered as a model for other DoD organizations planning to undertake a digital transformation.

Click here to return to Contents

Acquisitions

Atos completes the acquisition of Paladion

12 October 2020

Atos announced that it has completed the acquisition of Paladion, a US-based global provider of Managed Security Services. As the number 1 in Europe and number 3 worldwide in cybersecurity services, Atos continues to build its cybersecurity potential, notably by welcoming more than 800 Paladion employees and cybersecurity experts.

Completing Atos' existing proficiency to anticipate, manage and respond to cyber threats, this acquisition will bring key Managed Detection & Response (MDR) capabilities – which customers need as they are adopting hybrid and multi-cloud transformation strategies for their businesses – to the Atos portfolio, with multiple MDR centers.

It will also expand global coverage for cybersecurity monitoring and response with 4 additional Security Operations Centers (SOC) in the US, the Middle East and India.

Finally, it will enable the creation of the next generation of Atos' Prescriptive SOC offering by integrating Paladion's state-of-the-art AIsaac artificial intelligence (AI) platform for cyber analytics and hybrid SecOps. This SaaS model for multi-vector threat detection and response is a patented technology with over 1000 use cases and 100 AI models.

Claudio Stahnke, Senior Research Analyst for Security Services at IDC said: "Atos' acquisition of Paladion will not only help expand Atos' security services offering but, by incorporating the AI capabilities that Paladion champions, key metrics such as the mean time to respond (MTTR) to attacks will also see substantial improvements. Packaging Paladion's MDR service into Atos' existing MSS offerings could be the game changer in the market."

"The acquisition of Paladion is part of our strategy to expand our cyber capabilities and technologies to help our customers meet the security challenges they face. Customers on both sides appreciate the capabilities the merger brings and we're confident that we are ideally positioned to accelerate our business." said Pierre Barnabé, Senior Executive Vice-President, Head of Big Data & Cybersecurity at Atos, commenting on the finalization of the deal.

"Paladion has been a pioneer in AI-driven managed detection and response services. Our cloud-native AI platform, AIsaac, brings multi-vector threat analytics, auto-containment and incident response orchestration to customers for hybrid cloud and datacenter environments. We are excited to join Atos to advance these capabilities through their R&D in AI, threat, and risk-based analytics." said Rajat Mohanty, CEO of Paladion.

Headquartered in Reston, VA, United States, Paladion was founded in 2000. The founders will continue to play an active role in the years to come.

With this acquisition, Atos strengthens its global cybersecurity services, as presented in its mid-term Ambition, with the overall goal of becoming the leader in secure and decarbonized digital, reaching more than €2bn revenue in digital security in the mid-term and completing its existing technologies.

Click here to return to Contents

Infosys Completes Acquisition of Kaleidoscope Innovation

13 October 2020

Infosys announced that it has completed the acquisition of Kaleidoscope Innovation, a full-spectrum product design, development and insights firm innovating across medical, consumer and industrial markets, bolstering capabilities in the design of smart products. This follows the announcement the company made on September 03, 2020.

This acquisition demonstrates Infosys' commitment to innovate for its clients, and make meaningful impact on human lives through a combination of cutting-edge technologies. This collaboration further aims to revolutionize patient care, treatment, diagnostics and consumer health, across the world.

With Kaleidoscope Innovation, Infosys will further strengthen its digital offerings and also its workforce, with a diverse talent pool with extensive knowledge of design and engineering. Kaleidoscope leverages a deep understanding of clinical environments, strong product development capabilities across domains, and a consultancy-style approach addressing human factors, product design, UI/UX design, research & insight, development and visualization. It serves a marquee and diversified customer base with state of the art, in-house labs, 3D design environments and customer experience centers.

Kaleidoscope Innovation designs microsurgical instruments, devices used in minimally invasive surgery, drug delivery devices for ophthalmic therapies and user-centric wearables. It also offers usability testing in support of regulatory submissions, including the delivery mechanism for aortic stents.

Click here to return to Contents

Tech Soft acquires Ceetron for CAE visualization

16 October 2020

Tech Soft 3D, the leading provider of engineering software development toolkits, today announces that it has acquired Ceetron AS, experts in developing 3D visualization technology for the computer-aided engineering (CAE) community. This acquisition is in line with the company's plans to fuel growth by investing in product development, scaling the company's global reach and increasing its product

offerings through acquisitions.

Tech Soft makes HOOPS and other CAD/CAM/CAE/PLMish toolkits, which the company says are used by over 500 applications –data exchange, visualization, AR/VR, publishing CAD or CAE data to PDF and more– that run on "hundreds of millions of computers worldwide".

Ceetron also makes toolkits, but theirs are used to visualize simulation results. According to Tech Soft, Ceetron's "desktop and server-side components … read and process cross-solver CAE data, and to create and render CAE visualization models. They also provide modern and mature technology for WebGL-based visualization used for remote sharing and post-processing of CAE models and results".

Tech Soft 3D CEO Ron Fritz said that "Ceetron has been fueling innovation in CAE for 20+ years and Tech Soft 3D is excited to expand its portfolio to better serve our partners in the CAE space". CTO Gavin Bridgeman adds that Ceetron's tools will be integrated with HOOPS: "This acquisition is about making the HOOPS platform more attractive to a broader set of users in the engineering software world by enabling them to do everything they need to do with their CAD data. As a component provider, there's some important things to do to support the innovation that's happening in this space."

Click here to return to Contents

Wipro to acquire Eximius Design

14 October 2020

Wipro Limited announced that it has signed a definitive agreement to acquire Eximius Design, a leading engineering services company with strong expertise in semiconductor, software and systems design.

Eximius provides end-to-end solutions and services for building smarter, smaller and faster connected products for various use cases of IoT, Industry 4.0, Edge Computing, Cloud, 5G and Artificial Intelligence. Their expertise spans across SOC, IP, ASIC, FPGA Hardware System and Software domains. Founded in August 2013 and headquartered in San Jose, California, USA, Eximius has design centers in the US, India and Malaysia. Their clientele includes some of the Fortune 100 corporations and new age companies across semiconductors, cloud and hyperscale infrastructure, consumer electronics and automotive segments.

Eximius' offerings and solutions will be consolidated as a part of Wipro's EngineeringNXT framework, providing customers with a platform to innovate and engineer the next generation of products and platforms at scale.

"Eximius enables Wipro to strengthen market leadership in VLSI and systems design services by expanding our market presence and strengthening our technical leadership in the semiconductor ecosystem, to help accelerate silicon innovation for our customers. We are pleased to welcome Eximius' employees and look forward to help our customers innovate at scale and deliver next generation connected products, faster," said Harmeet Chauhan, Senior Vice President, Industrial & Engineering Services, Wipro Limited.

"Our customers, employees and the entire semiconductor ecosystem will tremendously benefit from the synergies of Eximius and Wipro's combined portfolio of offerings," said Jay Avula, CEO, Eximius Design. "Clients will gain access to Wipro's global scale and offerings, along with Eximius' innovative solutions to accelerate the adoption of ASIC, FPGA, systems and software engineering initiatives. We are pleased to become a part of the Wipro family."

The acquisition is subject to customary closing conditions and regulatory approvals and is expected to

close in the quarter ending December 31, 2020.

⬆️*Click here to return to Contents*

Company News

Accenture- Change Powers Biggest Brand Move in a Decade

15 October 2020

In its biggest brand move in a decade, Accenture launched a sweeping brand campaign and new company purpose designed to inspire organizations to embrace change to create more value for the benefit of all.

The new brand campaign, "Let there be change," will triple the company's annual media spend to $90 million. Developed with acclaimed creative agency Droga5, part of Accenture Interactive, the campaign depicts change — both seismic and small — optimistically capturing its power and beauty and reflecting the depth and breadth of Accenture's expertise.

"Exponential changes in technology were transforming the way we work and live before COVID-19, and now its impact has raised change to a new level, requiring companies to reimagine everything and requiring economies and entire industries to rebuild," said Julie Sweet, chief executive officer, Accenture. "In this moment, to emerge stronger there is only one choice: embrace change and ensure that it benefits all — your customers, people, shareholders, partners and communities."

To create this shared success, the company is pioneering "360° Value"— helping clients transform and reinvent their businesses, reskill their employees, or become more sustainable. This builds on Accenture's successful rotation to "the New," with approximately 70 percent of its business now in digital, cloud and security, which is critical at a time when scale matters to help its clients transform their entire enterprises.

New Purpose and Brand
Accenture's purpose — to deliver on the promise of technology and human ingenuity — will guide the company's strategy, priorities, and the opportunities it creates for its more than 500,000 people. Accenture reflects the human ingenuity of Accenture's talented people and their commitment to using technology to deliver value for all its stakeholders.

Accenture's purpose and brand are grounded in its enduring formula for market leadership: embracing change and continually transforming its business to create value, powered by the talent and creativity of its people. Last year, Accenture invested nearly $900 million in training and development, $1.5 billion in acquisitions, and approximately $900 million in research and development. Accenture also recently announced the creation of Accenture Cloud First, a new multi-service group of 70,000 cloud professionals, with a $3 billion investment over three years.

"We are following the same advice we give our clients in this time of relentless change: act with great agility and boldness," said Amy Fuller, chief marketing and communications officer, Accenture. "Our new campaign captures our purpose and gives voice to a mission-critical issue: How can we help our

clients embrace change to better businesses, communities, and lives?"

The brand campaign launches simultaneously across all of Accenture's internal and external digital properties, through television and online advertising, including social media campaigns across the Americas, Europe and Asia. The new creative leverages the Accenture symbol — ">" — which has been part of the company's logo for more than 20 years, and will affect every touch point.

"From a creative perspective, this was a massively exciting brief and opportunity," said David Droga, founder and creative chairman, Droga5. "More than just creating a new purpose and campaign, we worked closely with leadership teams, people and clients around the world at every step to help shape the future of our company. This marks a bold evolution for all of us at Accenture."

Acquired by Accenture Interactive in 2019, Droga5 is a globally acclaimed creative agency that has become synonymous with high-caliber, influential and industry-defining work. Recently named agency of the decade by both Advertising Age and Adweek, Droga5 fulfills Accenture Interactive's ambition of building a new agency model that delivers seamless, rewarding brand experiences to clients and consumers at every touchpoint.

Accenture is currently ranked number 31 on Interbrand's ranking of the top 100 global brands, with a brand value of over $16.2 billion. That represents more than a 212% increase in value since 2002, when the company debuted at number 53 on the Interbrand ranking.

Click here to return to Contents

Capgemini reveals its purpose of Unleashing human energy through technology for an inclusive and sustainable future

13 October 2020

Capgemini reveals its purpose which was developed in collaboration with its many stakeholders, and with the Group's employees at the heart of the process. It now forms one of the fundamentals of the Group.

"Unleashing human energy through technology for an inclusive and sustainable future": for the Capgemini Group, technology promises progress

The Group believes that digital transformation should benefit all of humanity. Capgemini intends to be a benchmark in terms of its contribution to society, not just for its own activities but for those of its customers too, fighting exclusion and acting to promote diversity, ensuring equal opportunities and the preservation of natural resources. The very heart of the Group's purpose is to build an inclusive and sustainable future for all, enabled by technology, drawing on the energy of its talents and also the talents of its customers and partners.

Paul Hermelin, Chairman of the Board, and Aiman Ezzat, Chief Executive Officer of Capgemini, said: "Capgemini has a key role to play in ensuring that the future lives up to all its promises. We believe that all technologies can enable progress for everyone if, first and foremost, they are designed by and for humans. As a responsible company, the Group is realistic when it comes to the promises as well as the risks of technological innovation: our role is to make it useful, accessible and ethical. This purpose must act as a compass for each and every employee."

The Group's men and women at the heart of this ambition

The purpose embodies the Group's ambition to ensure the development of its talents while encouraging a spirit of entrepreneurship and creativity. With more than 600,000 employees or former employees over the past decade, the Group also intends to be recognized as a school of excellence, whose talents and skills now resonate well beyond the company. The Group is also convinced that true diversity of thought and approach brings new solutions, creates value, and generates support and enthusiasm on a universal scale.

A purpose co-constructed with all Capgemini's stakeholders

To define its purpose the Group consulted its many stakeholders, first and foremost its employees. Between December 2019 and May 2020, a questionnaire was sent to employees asking them to suggest formulations and choose the purpose. More than 50,000 responses and 35,000 comments were received and analyzed for the selection of the final version. Some 15 workshops were also organized with young employees in India, the USA, UK, Germany and France. In parallel, Capgemini also interviewed customers and partners, shareholders and NGOs.

ESI Group wins COVID-19 prize

14 October 2020

ESI Group was awarded the COVID-19 prize of the 2020 Simulation and Artificial Intelligence Award by "L'Usine Digitale" for its project aiming to prevent office and plant contamination. The ceremony took place during the 15th annual TERATEC Forum that gathers the best international experts in Simulation, HPC, Big Data and Artificial Intelligence; a flagship event that confirms the importance of these technologies for business competitiveness.

The world has been dealing with COVID-19 for several months now. While normalcy seems like a distant possibility, many people from various industries must go back to work, for the economic health of our society. All companies have been mandated to take great precautions and follow all safety measures needed to control and prevent the virus from spreading. ESI took initiative to validate the precautions using state-of-the-art computer modeling in order to contribute to the health of people at work.

ESI Group decided to study the circulation of the virus in the workplace and investigate different contamination scenarios. The goal: to rely on its historical background in materials physics and the talent of its engineers to help preventing the risk of contamination in workplace whether offices or assembly lines.

The spread of particles was simulated, but also pockets of stagnant air were traced out, especially when modeling bigger and/or poorly ventilated spaces. Based on the cough of a person, neighbor or entrant, the simulation considers the density of water vapor and the theoretical distribution of cough particles.

Three technologies were used:

Computational Fluid Dynamics to simulate the behavior of flow and cough particles

Virtual reality to visualize the scenario in 3D

HPC to speed up simulation rendering times

The results highlighted the importance of identifying dead zones (places with air pockets preventing air circulation) not only to adapt the air conditioning and ventilation within the premises but also to optimize seating arrangements. With these scenarios simulated by ESI's experts, questions raised by

industries can be answered paving the way for a safe return to offices and industrial facilities.

"The pandemic appears to be a long-term scenario, so the adoption of a new standard is inevitable, and we are convinced that these studies will greatly contribute to this. These simulations are already used by industrial players, particularly in Asia, and plenty of questions are finally being addressed, specifically in terms of space optimization, air-conditioning/ventilation and social distancing. This award recognizes the work, ideas and commitment of our teams to adapt our solutions to specific situations and be responsible citizens of a safe society."

Anshul Gupta

COO at ESI India Business Operations on behalf of teams spanning across India, UK and Germany who are leading this project.

Click here to return to Contents

Explaining The SAP Business Technology Platform

13 October 2020

What is SAP's Business Technology Platform? Why is it an important part of the company's intelligent enterprise strategy? Irfan Khan, president of Platform and Technologies at SAP, explains in simple terms.

"The Business Technology Platform is the underpinnings of the Intelligent Enterprise," Khan explained in a recent interview. "In order to become intelligent enterprises, customers need a fundamental business layer. That is what the Business Technology Platform is."

Khan describes the Business Technology Platform as comprising a collection of different assets. First and foremost, he says, is a substantial database component, which has SAP HANA at the center of it but it also includes embedded analytics along with the ability to incorporate horizontal business analytics.

Other components include robotic process automation (RPA), machine learning, and artificial intelligence (AI).

"The final piece is a very substantial integration capability delivered through SAP Cloud Platform, which is another very fundamental cornerstone of Business Technology Platform as well," he shared.

Business Technology Platform is the horizontal technology foundation for SAP's intelligence suite of applications, the basis for the industry cloud, and the platform for delivering the best customer experiences. According to Khan, it will enable customers to be able to realize even more value from their investments in SAP technology from their core business and contextual data.

In addition, Khan argues that the Business Technology Platform opens the SAP environment up to community developers and citizen developers.

"They can all now interact and take the value of SAP's core business processes," he said. "In actual fact, we're not only providing process excellence, we are providing data excellence as well now. That gives much more of a fluid way of looking at all the content, all of the data, all the information that may be available within inside of the enterprise and outside. So we could think of it as unlocking the hidden value in data which already exists."

As a result, Khan believes both customers and partners will be able to further "amplify the value" inherent in the very substantial SAP footprint across industries and geographies.

One of the key lessons Khan says SAP has learned over the years is that applications must be able to run in a variety of different environments. Today, for example, SAP software and services must be able to

run across different hyperscaler and infrastructure environments.

The second ingredient for success is to focus on making SAP technology "open to all developers out there," Khan explained.

Thirdly, he said, "every partner and every direct customer wants to have a robust, almost bulletproof environment to be able to build their innovations."

He says this is exactly what the Business Technology Platform delivers. "It's an ever-expanding set of services that we're adding and over time it will fulfill not just their current needs, but their future needs as well."

Khan described the Business Technology Platform as "a living, evolving platform," that will enable customers to access not just SAP data, but all sets of data, including externally generated Big Data, in a trusted manner.

"Our message is very simple," Khan said. "We will actually want to make it very open, make your data work for you, independent of where it lives and where it sits today – at the edge or in a traditional data center."

For that reason alone, he says, SAP will have a far stronger message than competitors to deliver to the market.

Click here to return to Contents

Fujitsu Commences Joint Research with World-Leading Institutions for Innovations in Quantum Computing

14 October 2020

Fujitsu Laboratories Ltd. announced the launch of three collaborative research projects with world-leading research institutions: one with RIKEN and the University of Tokyo, another with Osaka University, and the other with the Delft University of Technology, in the Netherlands (hereafter, TU Delft). To make practical quantum computing a reality, Fujitsu will conduct research on a number of the associated technology layers, from the device level to control systems, architecture and algorithms.

Through this collaborative research, Fujitsu aims to achieve comprehensive and efficient advances in quantum computing. By applying quantum computing to various fields currently facing problems that are extremely difficult to solve, Fujitsu aims to provide even greater value to customers and contribute to a sustainable society going forward.

Background and Issues

Unlike conventional computers, which perform calculations based on values of either 0 or 1 represented as bits, the smallest unit of information, quantum computers can perform many parallel calculations at high speed by using qubits that can simultaneously handle both 0 and 1 states. Nevertheless, even systems using superconducting chips, which are leading the way in quantum computing, remain limited to about 50-qubit systems, making it difficult for them to perform useful calculations.

In order to improve performance, various technological improvements are required at the hardware level; this includes such measures as augmenting the number of quantum bits, increasing the time that quantum bit information is held (coherent time), and improving control systems. In addition, experts anticipate technological innovations in the software field, including the development of algorithms that can make useful calculations even in a short coherent time.

Outline of the Joint Research

In order to make quantum computing more practical, Fujitsu will embark on new joint research initiatives with leading global research institutions, while strengthening medium- and long-term research efforts across all technological layers of quantum computing. By developing the technologies fostered through this collaborative research, Fujitsu aims to commercialize fault-tolerant quantum computing solutions in the future.

Research project with RIKEN and the University of Tokyo

Fujitsu will conduct research on superconducting quantum computers, which are currently regarded as the most promising type, with RIKEN and the University of Tokyo, both of which have strengths in superconducting qubit technology. Through a comprehensive undertaking of quantum computing systems covering quantum devices, and electronic control units and software, Fujitsu aims to bring about computer systems that can work in a complementarily fashion with conventional computers.

Research project with TU Delft

Fujitsu will conduct fundamental research and development of quantum computers using diamond-based spin qubits with TU Delft, which has strengths in such qubit technology. Such qubits are formed at defects, which can be created by introducing impurity atoms into diamond. A diamond NV center(1) is an example of the defects. This method, where the qubit state can be accessed by light, may be suitable for achieving a large-scale system. This is due to the fact that gate-operations between distant qubits avoid cross-talk noise from other qubits, and the size of refrigeration units for cooling qubits is expected to be small because the quantum states of diamond-based spin qubits can be stable at higher temperatures than most competing platforms. In addition to the development of devices and control systems, the possibility of novel error-correction codes using a new qubit coupling topology will also be explored. The research will be conducted at QuTech, a leading Quantum Technology institute and cooperation of TU Delft and TNO (the Netherlands organization for applied scientific research).

Research project with Osaka University

 Research and development of quantum algorithms will be conducted with the Graduate School of Engineering Science at Osaka University, which is strong in the theoretical field of quantum computing. In addition to algorithms for applications, Fujitsu will conduct research on error-correction technologies needed to achieve fault-tolerant quantum computing.

In addition to these R & D activities, Fujitsu also began collaborative research on quantum algorithms using error suppression technologies with Quantum Benchmark(2) in April 2020, with the aim of developing useful applications on small-scale quantum computers.

Future Plans

Fujitsu will work with these research institutions and others to promote research for achieving practical quantum computing over the medium to long term. The focus will be on solving societal problems by applying quantum computing to the fields of drug discovery, materials, and finance, as well as in various application fields with challenges that are difficult to solve with conventional computers.

⬆️*Click here to return to Contents*

MakerBot Releases New Report on Trends in 3D Printing and STEAM Education

16 October 2020

MakerBot a subsidiary of Stratasys Ltd. released its latest report, "Trends in 3D Printing and STEAM Education." Based on over 1,000 responses from education professionals around the world, the report illustrates the use of 3D printing in education and how it is applied across grade levels among respondents.

Key findings from the report reveal that 63% of respondents use 3D printing to better prepare their students for the workforce, but they want more than just a 3D printer in order to be successful—respondents want a full ecosystem of 3D printing resources in order to achieve their educational goals. 65% of respondents cited that online training programs would help them to implement the technology better, while 63% and 56% of respondents also cited lesson plans and educational webinars as useful 3D printing resources, respectively.

Nadav Goshen, CEO of MakerBot, noted, "We are at a pivotal moment in education. We have seen the use of 3D printing in education increase steadily over the past years due, in part, to the availability of more products and services geared toward teachers and students. Affordable and easy-to-use 3D printers, training and certification programs, integrated lesson plans, and online 3D printing resources have made the technology attractive to many educational institutions. In addition, working with 3D printers can help students develop practical and usable skills that can be used outside of the classroom."

Additional key findings from the Trends in 3D Printing and STEAM Education report include:

Authentic learning experiences are becoming a popular new teaching method. Design-based learning (57%), integrated learning (51%), and collaborative learning (49%) were identified as the top teaching methods among respondents. Only 42% of respondents stated that they still use traditional learning settings with students.

Teaching STEAM subjects requires resources that schools may not have. Budget constraints (56%), insufficient equipment (45%), and lack of technical training (39%) were cited as the top challenges to teaching STEAM subjects.

3D printing is widely used to develop practical skills that can be used beyond the classroom. Respondents cited developing problem-solving skills (63%), skill sets for future careers (63%), and creative thinking skills (63%) as their top reasons for 3D printing adoption.

Educators want more than just a 3D printer. They want a full 3D printing ecosystem. 82% of respondents cited 3D printing resources (i.e., lesson plans, training programs, etc.) as important factors

when choosing a 3D printer.

Costs, reliability, and ease-of-use play important roles in decision-making. 95% of respondents rated reliability as an important benefit, while 90% said ease-of-use was important and 89% said costs were important.

"The importance of 3D printing in education cannot be overstated. The report revealed the shift from traditional learning environments to more interactive and engaging approaches. By teaching visualization, design and creation via 3D printing, 3D printing opens up opportunities for students and brings ideas to life," added Goshen.

MakerBot surveyed over 1,000 education professionals who are in its global network, from August 21-26, 2020. Respondents were based in North America (60%), Asia (15%), Europe (14%), South America (8%), Oceania (2%), and Africa (2%). They teach a range of disciplines, including 3D printing, art & design, mathematics, engineering, language studies, history, and more.

For the full report, visit https://pages.makerbot.com/edu3DPrintingTrendReport.html.

Click here to return to Contents

Razorleaf Corporation Announces Strategic Partnership with Ansys

16 October 2020

Razorleaf Corporation announced a strategic service partnership with Ansys for the Minerva platform powered by Aras, a centralized simulation knowledge management application. This platform secures critical simulation data and provides process and decision support to simulation teams across geographies and functional silos. Ansys Minerva incorporates advanced technologies for improving workflows and enhancing simulation process and data management (SPDM).

Razorleaf will provide consulting, integration, and implementation services to address the complexities of PLM interoperability and data management, enabling customers to connect simulation capabilities throughout the engineering product lifecycle. Razorleaf will help Ansys Minerva users improve traceability and streamline collaboration across global teams.

Ansys Minerva leverages the Aras platform technologies such as configuration management, PDM/PLM interoperability, and API integration. With over a decade of experience successfully deploying and supporting Aras' clients, Razorleaf is at the forefront of helping organizations understand, implement, and effectively utilize the platform to improve productivity and maximize business value.

"Razorleaf is excited to partner with Ansys to better serve our customers during these challenging times," said Eric Doubell, CEO of the company. "With digital transformation initiatives accelerating due to COVID-19, organizations need to connect simulation to engineering processes across the digital enterprise. We are committed to ensuring Ansys client success by utilizing best practices that improve process workflows, traceability, and availability of simulation across the product lifecycle."

Click here to return to Contents

Synopsys and SiMa.ai Collaborate to Bring Machine Learning Inference at Scale to the Embedded Edge

15 October 2020

Synopsys, Inc. announced its collaboration with SiMa.ai to bring its machine learning inference at scale to the embedded edge. Through this engagement, SiMa.ai has adopted key products from

Synopsys DesignWare® IP, Verification Continuum® Platform, and Fusion Design Platform™ for the development of their MLSoC™, a purpose-built machine-learning platform targeted at specialized computer vision applications, such as autonomous driving, surveillance, and robotics.

SiMa.ai selected Synopsys due to its expertise in functional safety, complete set of proven solutions and models, and silicon-proven IP portfolio that will help SiMa.ai deliver high-performance computing at the lowest power. With Synopsys' automotive-grade solutions, SiMa.ai can accelerate their SoC-level ISO 26262 functional safety assessments and qualification while achieving their target ASILs.

"Working closely with top-tier customers, we have developed a software-centric architecture that delivers high-performance machine learning at the lowest power. Our purpose-built, highly integrated MLSoC supports legacy compute along with industry-leading machine learning to deliver more than 30x better compute-power efficiency, compared to industry alternatives," said Krishna Rangasayee, founder and CEO, at SiMa.ai. "We are delighted to collaborate with Synopsys towards our common goal to bring high-performance machine learning to the embedded edge. Leveraging Synopsys' industry-leading portfolio of IP, verification, and design platforms enables us to reduce development risk and accelerate the design and verification process."

"We are pleased to support SiMa.ai as it brings MLSoC chip to market," said Manoj Gandhi, general manager of the Verification Group at Synopsys. "Our collaboration aims to address SiMa.ai's mission to enable customers to build low-power, high-performance machine learning solutions at the embedded edge across a diverse set of industries."

Since SiMa.ai's inception it has strategically collaborated with Synopsys to support all aspects of their MLSoC architecture design and verification.

The Synopsys Fusion Design Platform solutions enable optimized implementation, including:

Design Compiler® synthesis solution

PrimeTime® for timing signoff

PrimePower for power signoff

Formality® equivalence-checking solution

The industry-leading hardware and software verification solutions from the Verification Continuum platform enable scalable SoC verification, including:

Virtualizer™ virtual prototyping for earlier and faster software development

VCS® simulation with the smallest memory footprint

ZeBu® Server for system verification, benchmarking, and power analysis

Synopsys' high-quality DesignWare IP enables rapid development of SiMa.ai's MLSoC, including:

DesignWare ARC® Embedded Vision Processor IP

DesignWare MIPI, DDR, and PCI Express IP solutions

DesignWare Foundation IP

DesignWare Security IP

⬆️*Click here to return to Contents*

Vertex Software Announced as a Digital Twin IoT Collaborator with AWS

15 October 2020

Vertex Software announced the availability of the Vertex Digital Twin solution in the Amazon Web Services (AWS) IoT Solution Repository, a way to find ready-built solutions for industrial, consumer, and commercial use cases. Vertex Software is recognized as a 3D visualization expert for the digital twin to support Industrial IoT (IIoT) use cases in automotive, healthcare, manufacturing, and connected industry. AWS recommends selected solutions to support IIoT projects, reduce risks, and accelerate time to value for a variety of organizations. Vertex provides a digital twin solution that aligns 3D data and delivers rich, interactive visuals to improve processes throughout an organization.

"I am thrilled to continue collaborating with the AWS IoT organization," says Dan Murray, Vertex CEO & Founder. "The combination of their forward-thinking strategy with IoT providers is set to completely disrupt the industry and bridge the gap that companies have been looking to fill for years. We are honored to continue working together to give enterprise customers rich IoT solutions."

"As we look to the future, we're excited to provide a revolutionary experience for our enterprise customers," says Vertex VP of Partnerships, Andy Klopstad. "By collaborating with AWS, we are able to provide unique and enhanced security, flexibility, and scalability with 3D visualization in the IIoT space."

Vertex's visualization platform liberates 3D data from engineering to downstream teams throughout the extended enterprise. For example, Vertex brings 3D visuals to the shop floor through connected touchscreen and mobile devices, powering sequenced work instructions and field service applications, and visual reporting tools to improve digital twin collaboration. Users can visualize real-time IoT and ERP data to accelerate time to value on the IoT journey.

If you are ready to get started building your own IoT solution, visit the AWS IoT website to learn more about how to get started with Vertex services for your digital twin use cases.

Click here to return to Contents

Events

Lantek at the EuroBLECH digital Innovation Summit

15 October 2020

Lantek will be attending the EuroBLECH Digital Innovation Summit for professionals from the sheet metal working sector and hosted online from 27 to 30 October 2020.

Lantek is pleased to announce its participation in the EuroBLECH Digital Innovation Summit, a four-day online trading, networking and webinar event with a broad programme for Sheet metal professionals including virtual product presentations and expert webinars.

Lantek will introduce its new products and developments aimed at increasing productivity and helping companies move towards a smart digital factory during the online exhibition and will contribute as a speaker at the event.

During its speaking session on Wednesday 28th October at 10.30h Jose Antonio Lorenzo, Data Area Manager of Lantek will deliver a presentation entitled "Data, the other raw material in sheet metal manufacture. Challenges and opportunities."

Click here to return to Contents

Rockwell Automation Opens Registration for the 29th Automation Fair At Home – A New, Primarily Virtual Experience

14 October 2020

Rockwell Automation, Inc. along with its PartnerNetwork, announced registration is now open for Automation Fair At Home, the company's 29th signature annual showcase experience. Bringing together customers, partners and distributors, this year's event will primarily be held virtually with limited onsite sessions at the company's Milwaukee headquarters if conditions permit. Taking place Nov. 16-20, the event will bring together makers, builders and innovators from around the globe to discover how the latest innovations in industrial automation can make their businesses more intelligent, connected and productive.

Automation Fair At Home happening Nov. 16-20 will bring together makers, builders & innovators from around the globe to discover the latest innovations in industrial automation.

"Our customers look forward to Automation Fair every year to explore what's next in their digital transformation journey, and no one is better positioned to help them bring together the value of information technology and industrial operational technology than Rockwell Automation and its partners," said Tina Dear, vice president of marketing, Rockwell Automation. "We've blazed new trails and explored new technologies to make this year's Automation Fair At Home experience a dynamic, interactive, world-class virtual event."

The remote sessions and experiences will feature thought-leadership keynote presentations, innovative product and solution demos, technical training, industry forums and the opportunity to interact with executives and technology experts. If conditions permit, there will be physical elements: small, in-person group experiences and curated tours at company headquarters in Milwaukee of its Digital Engineering Hall, Digital Thread Experience, and Products & Technology Showcase.

"We want to provide our customers with options to attend based on what works best for them, with the confidence that we are implementing the recommended protocols and ensuring safety is paramount," Dear said.

New Technologies and Solutions

The virtual trade show will showcase interactive exhibits featuring the newest products, solutions and services. Attendees can experience the latest innovations first-hand and talk to experts.

Training and Development

Interactive, hands-on labs will focus on the newest hardware and software technologies to help professionals increase their skills and expertise.

Industry Forums

Moderated panel discussions will offer industry leaders discussing how they are defining, transforming and innovating what's next on their digital transformation journeys. Featured industries include: Automotive and Tire, Chemical, Food and Beverage, Life Sciences, OEM, Oil and Gas, Power and Energy, Metals, Mining and Water and Wastewater.

DX Strategists

The DX Strategists track presentations will bring together an elite community of digital pioneers to showcase the power and value of Rockwell Automation's IT/OT expertise. Presentations will include interactive discussions with industry leaders on how to drive measurable business outcomes and use emerging technologies in new business models.

Process Solutions User Group

The Process Solutions User Group track will showcase how Rockwell Automation is putting user input to work in its latest releases of the PlantPAx® DCS, Batch and supporting process solutions. It includes opportunities to ask the experts, as well as hands-on labs, customer sessions and technical sessions.

Bold Conversations

Bold Conversations on Inclusion & Diversity will feature thought-leader discussions on ways to create a culture that can maximize employee potential and the business bottom line through community outreach, supplier diversity and a focus on talent.

Registration for Automation Fair At Home is now open at: www.automationfair.com.

Click here to return to Contents

Financial News

Infosys Results for the Second Quarter ended September 30, 2020

16 October 2020

Q2 revenues grew sequentially by 4.0% in constant currency

Q2 revenues grew year-on-year by 3.2% in USD; grew by 2.2% in constant currency

Q2 Digital revenues at $1,568 million (47.3% of total revenues), year-on-year growth of 25.4% in constant currency

Q2 operating margin at 25.4%, increase of 370 basis points year-on-year

Q2 free cash flow at $674 million; year-on-year growth of 69.8%

Q2 net profit at $653 million, year-on-year growth of 14.7%

Q2 voluntary attrition for IT services declined to 7.8% from 18.3% in Q2 20

H1 revenues grew by 1.9% in constant currency

H1 operating margin at 24.1%

Declared interim dividend of `12 per share

FY 21 revenue growth guidance revised upward to 2%-3% in constant currency

FY 21 operating margin guidance revised upward to 23%-24%

Click here to return to Contents

WIPRO Results for the Quarter ended September 30, 2020

13 October 2020

Wipro Limited announced financial results under International Financial Reporting Standards (IFRS) for the quarter ended September 30, 2020.

Results for the Quarter ended September 30, 2020:

Gross Revenue was ₹151.1 billion ($2.1 billion1), an increase of 1.4% QoQ and a decrease of 0.1% YoY

IT Services Segment Revenue was at $1,992.4 million, an increase of 3.7% QoQ ¬ Non-GAAP2 constant currency IT Services Segment Revenue increased by 2.0% QoQ

IT Services Operating Margin3 for the quarter was at 19.2%, an expansion of 0.2% QoQ and 1.1%YoY

Net Income for the quarter was ₹24.7 billion ($335.3 million1), a decrease of 3.4% YoY

 Earnings Per Share for the quarter was at ₹4.33 ($0.061), an increase of 0.7% YoY

Operating Cash Flow was at ₹44.1 billion ($600.1 million1), which is 179.0% of Net Income

Implementation Investments

Ansys Startup Program Gains Global Momentum with Triple-Digit Growth

13 October 2020

From 3D printing rockets to building electric motorcycles to reinventing how produce is grown, more than 1000 startup companies from around the world are employing Ansys simulation solutions to design next-generation products and processes. Launched in 2016, the rapidly expanding Ansys Startup Program has doubled in size over the last two years, supporting startups from 44 countries across a range of industries including aerospace and defense, high tech, energy, automotive and many more.

Faced with limited funding and revenue, many startups must rely on building and testing physical prototypes to verify product performance, which often requires considerable financial and human resources. The physical prototyping process is also notoriously time-consuming, which increases barriers for winning the race to market against potential competitors. To overcome these challenges, entrepreneurs are using Ansys engineering simulation solutions to design and validate product performance with a minimum investment of time and cost.

The Ansys Startup Program equips the startup ecosystem with access to Ansys' broad portfolio of simulation solutions, bundled and affordably priced to help early-stage entrepreneurs grow their businesses quickly while stretching their funding further. This enables engineers to validate product performance and reliability within virtual environments — significantly reducing physical prototype tests.

The Onward Project, a recent addition to the Ansys Startup Program, leverages Ansys® Discovery™ to optimize the design of AdvenChair, a first-of-its-kind, all-terrain, human-powered wheelchair that blends an adjustable sit-ski seat with mountain bike technology to help riders traverse challenging wilderness trails.

"We created the AdvenChair so that people with mobility issues can continue enjoying the great outdoors, beyond where the pavement ends," said Geoff Babb, AdvenChairman of The Onward Project. "Upfront simulation is a necessity for us to make that vision a reality. We're implementing Ansys Discovery into our design process to reduce weight, maintain structural integrity and ultimately cut costs, resulting in a better, more budget-friendly product."

Firefly Aerospace joined the Ansys Startup Program in 2017, using a combination of Ansys solutions to design launch vehicles capable of taking small payloads to space. The company became a commercial Ansys customer in 2019 and still relies heavily on Ansys for everything from fluid dynamics to heat transfer to metallic propulsion hardware.

"At Firefly, our work is quite literally rocket science," said Tom Markusic, CEO of Firefly Aerospace. "It takes an enormous amount of simulation and modeling to design components that withstand the tremendous liftoff, flight and space environments. Leveraging the suite of Ansys tools allows us to ensure a design works with limited test iterations, providing up to $5 million in cost savings in engine cooling design, $10 million in increasing engine thrust and up to $500,000 in mass optimizations."

"Ansys views simulation as a superpower and, in many cases, startups are the true superheroes," said Prith Banerjee, chief technology officer at Ansys. "The Ansys Startup Program champions the next era of startup companies, equipping them with cutting-edge, cost-effective simulation solutions to pioneer new products that push the envelope of what's possible and quickly scale their businesses."

Gerber Technology Empowers AFM Distribution to Expand Workwear Business

15 October 2020

AFM Distribution, a successful, Albanian workwear company, is leveraging Gerber Technology's integrated solution to reduce costs, labor and material waste so they can expand their business. As a company who prides themselves on quality manufacturing, their ability to meet deadlines and their commitment to treating people as an asset, AFM knew the only choice to help them was Gerber Technology. Since implementing Gerber's solutions, AFM has improved their profitability by approximately 25% which has enabled them to invest in more staff training and specialization.

"Many people believe that technology is going to replace their employees, but as we've seen with AFM, that's not the case at all," said Richard Jessup of Gerber Technology. "By correctly leveraging technology, AFM was actually able to improve the livelihood of their employees by adding to their skillset and giving them opportunities to grow. We are proud to help AFM not only streamline their production but also empower them to create jobs."

Over the last several years, AFM Distribution has experienced tremendous growth and is looking to enter the competitive export market. In order for AFM to successfully expand their company and ensure they are offering the best quality and price for each of the 60,000 garments they develop per month, they needed a solution that was able to increase efficiency, reduce time to market and cut costs.

AFM's manufacturing site in Vora is equipped with the GERBERspreader™ XLs50, the Gerber Paragon® HX, and Gerber's industry-leading software
solutions: AccuMark®, AccuNest™ and AccuPlan™. Since AFM uses expensive fabrics and materials, it's critical they maximize material usage and cut with absolute precision. With the powerful combination of AccuPlan and AccuNest, AFM is able to digitally send Cut Plan solutions, which include multiple markers, fabrics, colors and corresponding spreads and ply count, to quickly produce and track down the cutting efficiency of thousands of garments. Since implementing Gerber's powerful design and production tools, AFM has been able to deliver as many as 1,800 parts per shift, assuring quality from the first layer of fabric to the last while saving money and improving material utilization.

"The GERBERcutter® provides maximum precision, especially when cutting notches and holes," said Ardiana Karakashi, AFM's finance director. "This is particularly critical as the company manufactures workwear which can have as many as 200 notches. By leveraging Gerber, the cutting quality is assured from the first layer of fabric to the last. Moreover, we can rely on the first-rate technical support provided by Gerber Italia."

High speed laser cutting machine uses novel CNC techniques to accelerate Throughput

15 October 2020

CNC specialist NUM is helping Grupo Plasma Automation – one of Latin America's top fabrication equipment manufacturers – to develop an innovative high speed laser cutting machine that uses real-time adaptive height control to accelerate throughput.

Grupo Plasma Automation comprises eight companies that specialize in the design and manufacture of fabrication automation. The group produces a broad range of plasma, laser and water jet cutting machines. Founded in 1991, GPA has grown steadily over the years and has built up a large and prestigious customer base; it has more than 700 cutting systems installed at companies in Mexico alone, and nowadays serves both the domestic and international markets.

GPA's latest CNC laser cutting machine is designed to provide sheet metal fabricators with an ultra-flexible precision cutting solution. Branded SPEED CUT, the machine is capable of cutting a wide variety of metals with different densities, including galvanized iron, aluminum, brass, stainless and carbon steel. It has a work area of 1.5 x 3 meters and a maximum cutting speed of 120 meters per minute, with 40 microns positioning accuracy. The system delivers extremely smooth operation even at high speeds.

To help maximize performance and reliability, GPA's new cutting machine is based entirely on industry-leading laser and control technology. The laser source is a 2 kW IPG Photonics' solid state ytterbium fiber system, with a wavelength of 1.07 micrometers, while the cutting head is a Precitec LightCutter 2.0 unit. This particular cutting head is renowned for its dynamic performance – it features automated motor-driven adjustment of the axial focus position, can handle acceleration rates as high as 3 g, and covers a large focus position range of 23 mm.

All cutting head positioning functions on the machine are controlled by a NUM Flexium+ 8 CNC system. According to Omar Sandoval, Owner and CEO of GPA, "We chose to partner with NUM mainly because of its open architecture CNC platform and NUM's willingness to actively participate in joint development projects such as this."

All four machine axes are driven by NUM high torque BPX servomotors controlled by NUMDrive X digital servo drives; the Y1 and Y2 gantry axes are equipped with powerful 9.8 Nm motors, while the X and Z axes have smaller 2.7 Nm and 1.4 Nm motors, respectively. NUM's Flexium Tool commissioning software allows the Y1/Y2 axes to be tuned while the synchronization is active, which provides a very powerful means of maximizing performance and precision.

The Z axis controls the vertical height of the laser cutting head above the sheet of metal that is being cut. By capitalizing on the unique 'Dynamic Operator' (DO) function in NUM's Flexium software – which enables event-driven machine cycles to be integrated into the real-time CNC kernel – the user of the speed cut machine benefits from an automated dynamic height control system that accommodates extremely fast cutting speeds. The system interprets data from the machine's cutting head height sensor and uses it to very quickly adjust proportional-integral-derivative (PID) loop parameters in the Z axis servo. The height sensor is also employed to facilitate an automatic sheet detection routine: this determines the workpiece's dimensions, zero, and angular offset, further simplifying the machine's operation.

Steven Schilling, Managing Director of NUM Corporation in Naperville, Illinois, points out, "We are delighted to be collaborating with GPA in the development of this new machine. In addition to the real-time adaptive height control and sheet detection systems, the customized version of NUMcut software that we are providing features a user library of material cutting conditions. It is preloaded by GPA with

the optimal laser power levels, cutting speeds, etc., as a function of material type and thickness. The provision of this library will further add to the machine's productivity and cutting accuracy."

s.Oliver Deploys Centric PLM with Rapid Speed and Agility

13 October 2020

One of the leading German fashion companies, s.Oliver Group has implemented Centric Software's Product Lifecycle Management (PLM), taking 700 users live on the system in just four months. Centric Software provides the most innovative enterprise solutions to fashion, retail, footwear, outdoor, luxury, home décor and consumer goods companies to achieve strategic and operational digital transformation goals.

s.Oliver Group was established in 1969. In just a few decades, it grew into one of Europe's leading fashion companies, celebrating its 50th anniversary in 2019. The company employs around 6,100 people internationally. Besides the brand s.Oliver, the company's portfolio also includes comma, Q/S designed by and Liebeskind Berlin.

The Technology Manager responsible for the Process Domain Product, Purchasing & Sourcing at s.Oliver, Silke Albuquerque-Fuchs, explains that the time was right to implement a completely new PLM system and transition from their legacy My Collection solution, put into place almost a decade ago. s.Oliver needed to implement a new generation of PLM but very, very quickly.

"Through a series of virtual workshops, we set different tasks for the different vendors and after the final evaluation and calculation, Centric PLM emerged as the ideal partner for us — not only because Centric always won when it came to scores, but because the users were truly impressed by how intuitive, comfortable and more modern the system is. We were confident it would allow us to share and access information faster, with a user interface that is a lot easier to navigate."

One of the most important requirements for s.Oliver was finding a PLM solution that could not only support its digitalization plans to reduce lead times by almost half, but to have a system that would accelerate the speed at which designers can create new styles by leveraging 3D technology to eliminate samples and eradicate time-wasting intermediary activities.

"Centric PLM will enable us to achieve all our future plans, especially when it comes to 3D, as Centric 3D Connect seamlessly integrates our existing technology with its innovative system."

Centric started the global analysis workshops in mid-April 2020 and the whole system – including every division, module, interface, agency and 700 users including sourcing offices – went live in August. Due to the Covid-19 pandemic, all meetings and activities took place virtually.

"Our management team is amazed at how fast everything went," says Rieke Schneider, Manager Sourcing Operations – Product, Purchase & Merchandise at s.Oliver. "We receive support calls with Centric regularly, and users have adapted to the system incredibly quickly – it seemed they were already used to working with the system by day 2! This project is definitely going to be a model we will follow for future projects."

s.Oliver expects to gain many benefits on the creative side, including increased creative output and visualization, as well as decreased costs and enhanced product quality.

"We now have fewer design cancellations, as changes can be made quickly in the simulation, and the whole product development process has become easier, faster, more accurate and cheaper. 3D visualization means only one sample is required throughout the whole development phase, as patterns

can be tested virtually before manufacturing, and this means shipping times and costs are reduced."

"We are thrilled to be working with s.Oliver to help them reach their digital transformation goals such as reducing time to market and fully leveraging their creative talent," comments Chris Groves, President and CEO of Centric Software. "We are looking forward to continuing this exciting partnership and to innovate together."

Click here to return to Contents

Shell Deepwater Selects Bentley iTwin Platform for Project Delivery

16 October 2020

Bentley Systems, Incorporated announced that Shell's Deepwater business has selected Bentley's digital twin approach to streamline its capital projects process and accelerate time to first oil.

With a plan to deliver several subsea tie-back projects over the next 10 years, Shell Deepwater Projects has recognized a significant opportunity to accelerate capital project delivery and cut project delivery time by implementing an integrated digital project & engineering environment. The solution spans project conception in the early phase design through to handover.

"Shell Deepwater Projects is developing an integrated Workflow and Data Platform from system selection to asset handover to streamline our capital projects processes and accelerate time to first oil," said GT Ju, General Manager Gulf of Mexico Deepwater Projects. "The platform is being developed in partnership with Bentley leveraging Bentley's iTwin open, scalable Azure cloud-based platform which provides interoperability across owner and supply chain systems. We believe that an end-to-end platform that gives us visibility and transparency to Project and Engineering data across our portfolio will be a key driver to delivering competitive projects."

Commenting on the project, Nicholas Cumins, Chief Product Officer – Bentley Systems, said "Think Big – Prove Small – Scale Fast – sums up the overall approach Shell and Bentley share in this initiative. Bentley's iTwin platform is ideally suited to providing aligned, secure and visual access to project data across the supply chain and capital projects ecosystem. Shell's selection of Bentley's iTwin platform validates our open approach to digital twins and underscores the ability of the platform to scale to the largest, most complex capital projects and dynamic engineering use cases."

Bentley Acceleration Fund Investment
In addition, Bentley announced that it is providing investment funds to FutureOn, a Norwegian software company supporting deepwater subsea projects, to accelerate going digital within the oil and gas industry. The investment sets the stage for FutureOn and Bentley to deliver the next-generation digital twin technology required for oil and gas ecosystems to manage and analyze data, integrate with existing systems, provide analytics visibility, and rapidly explore ideas collaboratively.

FutureOn builds on more than 20 years of visual engineering experience specifically in the oil and gas subsea domain. The company will combine its award-winning field design application (FieldAP) and its API-centric collaboration platform (FieldTwin) with Bentley's digital twin platform (iTwin) to advance user organizations like Shell Deepwater. Both FutureOn and Bentley platforms use open web standards to facilitate complex integration and customization, and the combined offerings are already being implemented in exploration and production workflows for the creation and curation of subsea digital twins.

"The Bentley Acceleration Fund investment is a significant milestone for FutureOn and will help drive the growth of our business by advancing the FutureOn technology as well as extending our reach," said

FutureOn CEO Paal Roppen. "Today, digitalization is more important than ever for the oil and gas industry as challenging market conditions persist. Innovative and disruptive digital twin technologies such as those we develop alongside Bentley will help farsighted organizations like Shell Deepwater to improve project and asset performance."

⬆️*Click here to return to Contents*

Synopsys IC Compiler II Delivers First-Pass Silicon Success for Graphcore Multi-Billion Gate AI Processor

12 October 2020

Synopsys, Inc. announced that Graphcore achieved first-pass silicon success using the industry-leading IC Compiler™ II place-and-route solution, part of the Synopsys Fusion Platform, for designing its second-generation Colossus MK2 GC200 Intelligence Processing Unit (IPU), featuring 59.4 billion transistors, on an industry-leading 7nm advanced process technology. Graphcore leveraged Synopsys IC Compiler II ultra-high capacity architecture and innovative technologies for AI-hardware design resulting in an accelerated implementation of their massive AI processor. Synopsys' RTL-to-GDS flow with state-of-the-art power optimization capabilities along with embedded golden signoff technologies like PrimeTime® delay calculator, provided Graphcore design teams superior out-of-the-box PPA metrics, and the fastest design closure.

"Synopsys's digital full-flow solution with its best-in-class RTL-to-GDS tools, including Design Compiler® and IC Compiler II, offers the most comprehensive single-vendor platform, critical to the on-schedule tape out of our latest Colossus IPU," said Phil Horsfield, vice president of Silicon at Graphcore. "Our long-standing relationship with Synopsys has enabled us to leverage state-of-the-art technologies from IC Compiler II and exceed the performance/power targets of this advanced AI processor. We are confident that continued collaboration with Synopsys on IC Compiler II and Fusion Compiler™ will enable us to push the boundaries of machine intelligence compute."

The second-generation Colossus GC200 IPU from Graphcore is a sophisticated chip, integrating 1,472 independent processor cores and more than 900 megabytes of on-chip memory to deliver superior parallel processing power for data-center scale AI applications. Synopsys' IC Compiler II, with its AI-design focused capabilities, includes top-level interconnect planning, logic restructuring, congestion-driven mux optimization and full-flow concurrent clock and data optimization delivers best-in-class PPA for the highly repetitive, MAC-based topologies typical in complex AI accelerator chips. Further, its native, high-capacity data model with adaptive abstraction and distributed implementation can efficiently handle multi-billion instance designs with quick turn-around-time. With a unique, golden signoff engine backbone, IC Compiler II delivers highest correlation and hyper-convergent design, to further accelerate design turnaround time.

"The design complexity boundaries of AI compute are continuing to be pushed to its limits, such as with Graphcore's introduction of its latest Colossus IPU," said Neeraj Kaul, vice president of Engineering, Design Group at Synopsys. "Its success in leveraging the latest, AI-optimized technologies in IC Compiler II to simultaneously meet the multiple aggressive design targets for their most complex chip reinforces our leadership position as the place-and-route tool of choice for next-generation, AI designs."

⬆️*Click here to return to Contents*

Takeda Accelerates Digital Transformation with Accenture and AWS

13 October 2020

Takeda Pharmaceutical Company Limited, Accenture and Amazon Web Services (AWS) have entered into a five-year strategic agreement to accelerate Takeda's digital transformation.

Not only will patients benefit from Takeda's ability to respond with greater speed, agility, and insights across the value chain, but customers, employees, and partners will also benefit. This long-term collaboration will fuel Takeda's cloud-driven business transformation by modernizing platforms, accelerating data services, establishing an internal engine for innovation, and equipping Takeda's employees with new skills and ways of working.

"By combining the power of three organizations, Takeda is making a bold move to be at the intersection of human health, technology and business growth," said Christophe Weber, Takeda president and chief executive officer. "My vision is that, in less than ten years, every Takeda employee will be empowered by an artificial intelligence assistant to help make better decisions, enabling us to deliver transformative therapies and better experiences to patients, physicians and payers faster than previously possible. Together, Accenture and AWS will propel Takeda further than we could alone to make this vision a reality."

Taking a cloud-first technology approach will create a more scalable, reliable and secure architecture and eliminate unnecessary integration activities. By moving 80% of applications to the cloud, Takeda will remove non-differentiating technology, reduce its internal data center footprint, and decrease capital expenditures.

"By leveraging the most comprehensive set of cloud services in the industry, innovators like Takeda can cut costs, time to insight and discovery, and improve patient experiences," said Andy Jassy, chief executive officer of AWS. "The breadth and depth of AWS services enable Takeda to quickly and efficiently discover, develop, and manufacture therapeutics securely and compliantly. We're excited to continue our work with Takeda as they innovate to deliver accessible and promising new therapies to save lives."

Accelerating the delivery of data services and capabilities will help Takeda increase connectivity and collaboration with the life sciences ecosystem and external partners. For example, the collaboration has already helped Takeda harness the cloud to launch, in less than five days, a secure data sharing and clinical trial acceleration platform for the COVID R&D Alliance. Without the cloud, launching the platform would have taken up to three months.

In addition, the Plasma-Derived Therapies Business Unit, which develops critical, life-saving and life-sustaining therapies for patients with rare and complex diseases, is creating state-of-the-art, digitally-connected donation centers and modernizing the donor experience, optimizing the plasma collection process. Takeda's plans to increase its plasma collection and manufacturing capacity by at least 65% by 2024 are geared toward expanding access to essential medicines and accelerating new treatments for patients.

"Takeda's bold move to become a cloud first company, 80% in the cloud, is a powerful example of how transformation benefits all – from accelerating therapies for patients, to empowering employees with new ways of working, creating new jobs, and upskilling people for the digital world, to the sustainability benefits of moving to the public cloud. We are proud to partner with Takeda and AWS to make this vision a reality at speed and scale," said Julie Sweet, chief executive officer, Accenture.

Over the next three years, Takeda anticipates creating hundreds of new jobs in specialized roles in emerging data and digital fields, accessing new talent pools, and upskilling thousands of employees to propel its data and digital capabilities.

Product News

Autodesk Expands BuildingConnected into EMEA and APAC to Give Global Construction Teams Access to Best-in-Class Bid Management Solution

15 October 2020

Autodesk, Inc. announced the international expansion of BuildingConnected, a construction management solution that centralizes and streamlines the bidding process, and encompasses the Autodesk Construction Cloud builders network, a crowdsourced network of construction professionals. Owners and general contractors use BuildingConnected to discover trade partners and identify the right subcontractor for the job, and to solicit and compare bids – also referred to as tenders – from one central location. With its international expansion, the BuildingConnected solution is now available in the United Kingdom, Ireland, Australia and New Zealand.

"There are more than one million construction professionals on the BuildingConnected network in North America alone, with over 2,000 general contractors and owners actively bidding out projects – totaling $56 billion in project values each month," said Jim Lynch, vice president and general manager of Autodesk Construction Solutions. "BuildingConnected effectively replaces an antiquated approach that has relied on Rolodexes and spreadsheets, and ensures the right teams are in place for every kind of construction project, whether a commercial building, data center, medical facility or infrastructure project. As BuildingConnected further expands internationally, we want to empower construction firms around the world with the resources they need to increase productivity and decrease project risk."

For estimating teams, BuildingConnected helps save time and increases collaboration in managing the bidding process with automated workflows that facilitate securing the best team for a construction project. Estimators and bid coordinators can use the solution's network of subcontractors and bid management capabilities to find, qualify and invite subcontractors to bid on a job, and then use its advanced bid comparison features to view all bid packages from one place with access to the real-time status of bids and project costs.

BuildingConnected empowers preconstruction teams to:

Quickly solicit bids with customizable templates and accurately compare those bids in a side-by-side "apples-to-apples" fashion

Track against internal budgets with real-time cost updates

Easily collaborate with other estimators on the team, and follow communications and bid versions

Export bids and summary sheets for transparent collaboration with owners

Gain valuable insight into historical bid data and reports to optimize for future projects

Save time and reduce risk through the tendering process in the United Kingdom and Ireland

Inviting, submitting and reviewing tenders has historically been a tedious and time-consuming process, with building companies in the United Kingdom and Ireland commonly using a piecemeal combination of software such as email, cloud-hosted files, in-house technology and in many cases, paper. Using disconnected systems during tendering often results in inefficiencies and data loss that leads to costly mistakes, with general contractors and subcontractors losing time chasing or adding information after

proposals are submitted.

"Mitigating risk during the preconstruction phase, which is when costly rework is most avoidable, is massively important to any company's gross margin," said Mike Pettinella, director of EMEA sales of Autodesk Construction Solutions. "Keeping data loss to a minimum while planning construction projects is one of the most critical aspects of mitigating risk. By bringing the entire tendering process under one roof, teams can keep both communication and data fluid, transparent and consistent across stakeholders. BuildingConnected will have a big impact for construction companies in the U.K. and Ireland on both sides of the tendering process."

To learn more about the survey of construction firms in the United Kingdom and Ireland, please visit here.

Standardize and centralize communication during the tendering process in Australia and New Zealand

According to research soon to be released by Autodesk, both general contractors and specialty contractors in Australia and New Zealand call out centralized communication as a top quality that determines repeat business with a subcontractor. By standardizing and bringing all tender-related communication to one central location, BuildingConnected empowers teams to be transparent and collaborate more effectively.

"Information siloes and communication breakdowns have unfortunately become an accepted part of the tendering process" said Mark Swann, Construction Manager at Serneke Australia, a construction and development company focused on multi-residential and community buildings. "BuildingConnected gives us back a tremendous amount of time from chasing emails and updating addendums to tenders. We can now immediately track and follow up with subcontractors, all from one location where we have access to the most up-to-date information for seamless and efficient tender management."

Join our webinars to learn more about preconstruction and BuildingConnected

For construction professionals in the UK and Ireland, join us on October 15, 2020 to learn more about connected construction and tackling procurement challenges in preconstruction. We'll explore recently conducted research to examine how clients, main contractors and subcontractors approach procurement today. You can register to attend the event here.

For construction professionals in Australia and New Zealand, join us on November 4, 2020, as we host a panel of building procurement experts who will share their experiences tackling the challenges of procurement and discuss findings from our recent research on how owners, head contractors and subcontractors approach procurement today. You can register to attend the event here.

BuildingConnected is now available for customers in Australia, New Zealand, United Kingdom and Ireland. For more details and key features, visit the Autodesk Construction Cloud blog

Click here to return to Contents

Cadence Clarity 3D Transient Solver Delivers Up to 10X Faster System-Level EMI Simulation
15 October 2020

Cadence Design Systems, Inc. expanded its system analysis product line with the introduction of the Cadence® Clarity™ 3D Transient Solver, a system-level simulation solution that solves electromagnetic interference (EMI) system design issues up to 10X faster than legacy 3D field solvers and offers unbounded capacity. Built on Cadence's massively parallel matrix solver technology, the Clarity 3D Transient Solver handles workload levels that previously required time-consuming and expensive anechoic test chambers to test prototypes for electromagnetic compatibility (EMC) compliance. The new

solver is capable of simulating large designs that until now have been impractical or unable to be solved, reducing respins and accelerating time to market. This makes it ideal for many complex applications in the hyperscale computing, automotive, mobile, and aerospace and defense markets. For more information, please visit www.cadence.com/go/claritytransient.

"As a premier engineering service provider, Ultimate Technologies focuses on quick, efficient and first-time-right designs," said Satoshi Utsumi, CEO of Ultimate Technologies, Inc. "The Clarity 3D Transient Solver from Cadence allows us to simulate with test-measurement accuracy so we can predict what will be measured during EMI testing, thereby ensuring our customers pass EMI compliance checking on the first pass while dramatically reducing the number of prototype designs. This allows us to shave up to three months off automotive ECU design cycles, reducing design cycle time by as much as 30 percent. With Clarity 3D technology, we can quickly iterate and improve design quality while meeting customer schedule demands."

The Clarity 3D Transient Solver is capable of quickly and accurately performing large-scale simulations when designing critical interconnects for PCBs, IC packages, and system on IC (SoIC) designs within a mechanical enclosure. It relies on proven, proprietary Cadence distributed multiprocessing technology that spreads computing resources over hundreds or even thousands of cores in cloud-based compute environments. This unbounded capacity lets designers move beyond the module level to simulate entire systems at speeds up to 10X faster than legacy field solver technology while maintaining verifiable accuracy. This results in less time spent testing prototypes against EMI emissions and immunity standards such as those set by Comité International Spécial des Perturbations Radioélectriques (CISPR). The Clarity 3D Transient Solver also offers unparalleled integration with Cadence Virtuoso® Layout, Allegro® PCB Designer and SiP Layout.

"Many customers advise it is very time consuming and expensive to find problem areas in anechoic test chambers, and often those problems are challenging to isolate, identify and fix," said Ben Gu, vice president of multi-physics system analysis in the Custom IC & PCB Group at Cadence. "Now they can rely on the power of computational software simulation to identify and fix problems earlier in the design cycle. The Clarity 3D Transient Solver demonstrates that Cadence continues to deliver industry-leading solutions that significantly speed electronic system design."

The Clarity 3D Transient Solver supports Cadence's Intelligent System Design™ strategy, enabling system innovation. It is expected to be available in the first quarter of 2021.

Click here to return to Contents

HCL Launches 1PLMCLOUD To Help Accelerate Digital Transformation

12 October 2020

HCL Technologies (HCL) launched the 1PLMCloud solution that helps manufacturing companies transform their computer-aided design (CAD) and product lifecycle management (PLM) infrastructure into an on-demand, scalable and agile environment to drive the business innovation needed for the new normal.

Traditionally, manufacturing organizations have been cautious with cloud migration of CAD and PLM applications due to concerns over performance, data security, reliability and compliance. However, this has changed with product engineering teams getting severely disrupted during the global pandemic and remote working becoming an accepted practice.

To assist companies around the world, HCL has combined its decades of engineering system experience and strong partnerships with software, graphics technology and cloud infrastructure providers to create 1PLMCloud, which helps manufacturing enterprises navigate their CAD and PLM cloud journey.

The solution's service catalog provides the right mix of services to help enterprises plan the best cloud strategy for their business. By facilitating the setup of right-sized infrastructure, the solution helps meet an enterprise's current needs and provides on-demand agility and scalability to meet varying business demands. By simplifying the application landscape, the solution helps in lowering the total cost of ownership of IT infrastructure management and support of CAD and PLM applications.

One of the main collaborations in 1PLMCloud, which strengthens the solution capabilities and helps realize its potential is the partnership between HCL, Amazon Web Services (AWS) and NVIDIA. 1PLMCloud leverages Amazon AppStream 2.0 on the Graphics G4 instance, which includes the NVIDIA T4 Tensor Core GPU and Quadro technology, enabling fast, secure and high-performance CAD and PLM applications on the cloud and providing a seamless experience to the engineering community.

Click here to return to Contents

Nemetschek Group Paves the Way for Continuous Model Workflows in the Construction Lifecycle
16 October 2020

In conjunction with the release of Allplan 2021, the Nemetschek Group is reinforcing its solution portfolio for increased collaboration in the construction lifecycle. With SCIA AutoConverter, in a limited version part of Allplan 2021, structural engineers can fully participate in the BIM process. The solution refines the traditional structural to analysis model-based workflow. In combination with the Bimplus platform from Allplan, engineers and modelers can work together in an open and integrated BIM workflow and develop analytical models from any source with a high degree of accuracy.

"This is another great result from the increasing collaboration between our brands. Again, several Nemetschek Group brands - led by Allplan and SCIA - have joined forces to improve collaboration and efficiency across the construction lifecycle", says Viktor Várkonyi, Chief Division Officer, Planning & Design Division and member of the Executive Board of the Nemetschek Group. "The innovation is a true game-changer for structural engineers".

Until now, structural engineers were hindered by having to create or recreate analysis models from scratch. This process often took up 30 percent of the project time. "This solution saves a lot of time and effort for my work as an engineer. I don´t have to spend any time rebuilding models", comments Hannah Freireich, Will Rudd Davidson Ltd, Scotland.

The analysis model is automatically generated from the geometric model, regardless of the software used, by leveraging the Open BIM approach of the Nemetschek Group. Throughout the automated process, the engineer retains control over how the analysis model is created – a crucial feature for most engineers. All participants always have the latest information available. Any changes made to the geometric model are automatically updated in the analysis model without losing any analysis data, and vice versa.

"Collaboration between all disciplines, including architects, modelers, structural engineers and others, is crucial for a safe and sustainable design. With our new solution, we are providing a highly innovative way to improve the engineering workflow and to make BIM a workable reality for all, including structural engineers", says Hilde Sevens, CEO of SCIA.

With this innovation, engineers are given the ability to integrate Allplan models quickly and efficiently in their structural analysis tool of choice - including sister brands SCIA, Frilo and Risa - and further structural analysis tools by leveraging Open BIM. "The automatic conversion of the structural model to the analysis model saves a vast amount of time and reduces the risk of errors in re-modelling - a great benefit for our customers", adds Detlef Schneider, CEO of Allplan. "Therefore, it was a given for us to include it into our new release of Allplan 2021".

SCIA AutoConverter was released in June 2020 and SCIA AutoConverter Light has now been included as part of the Allplan 2021 release for customers on maintenance.

Oracle Introduces Exadata Cloud Service X8M

16 October 2020

Oracle announced the new generation of Oracle Exadata Cloud Service, now based on the Exadata X8M platform, available this month on Oracle Cloud Infrastructure. Customers can accelerate their most challenging transaction processing and data analytics projects with Exadata X8M in 26 global cloud regions and Dedicated Region Cloud@Customer. With architectural identicality across cloud and on-premises, Oracle Exadata Cloud Service X8M makes it easy for customers to move even the largest and most demanding databases and workloads seamlessly to the cloud with no changes to applications. Breakthrough performance, scale and elasticity enable Exadata Cloud Service X8M to run applications needing multiple workloads and data types in a single converged Oracle Database. In contrast, AWS users need to perform complex and costly integration of multiple different database services. Start here.

"As an increasing number of organizations shift their important workloads to the cloud, they have found that many cloud databases have performance, availability and scaling limitations," said Juan Loaiza, executive vice president, mission-critical database technologies, Oracle. "With today's announcement, Oracle enables customers to run any business-critical database workload—including the largest and most compute and memory-intensive workloads—with dramatically faster performance, higher scalability and elasticity, and lower costs than any other cloud provider. The new generation of Oracle's Exadata Cloud Service is based on the proven Exadata platform that is already in use by 86 percent of the Fortune Global 100 to run their most demanding workloads."

Cloud-Automated Extreme Performance and Availability

Oracle Exadata X8M, the new platform for Exadata Cloud Service, features Remote Direct Memory Access (RDMA) from databases to Intel® Optane™ Persistent Memory in smart storage servers, completely bypassing the OS, IO, and network software stacks. This enables 2.5 times higher transaction processing IOs, and 10 times better IO latency than the previous industry-leading Exadata Cloud Service release. Database IOs are 50 times faster than Amazon AWS Relational Database Service (RDS) using all-flash storage. RDMA runs over a new, ultra-fast, 100Gbs RDMA over Converged Ethernet (RoCE) network fabric for the highest analytics throughput.

Exadata Cloud Service X8M also features a new generation of Oracle Real Application Clusters (RAC) that delivers greatly enhanced application transparent database scale-out and high availability for all types of database workloads. In addition, fully-active Oracle Data Guard database replicas offload SQL reads and writes while providing cloud-automated disaster protection within and across regions.

Breakthrough Scale

With Exadata Cloud Service X8M, no database or workload is too large. Oracle Databases deployed on

Exadata Cloud Service X8M can scale up to 4,600 CPU Cores, 44 TB DRAM, 96 TB persistent memory, 1.6 PB flash, and 25 PB of database capacity. Exadata Cloud Service X8M supports relational databases that are 20X bigger than possible to run on AWS today with RDS or Aurora—and bests both AWS RDS and Aurora by 25 times in CPU scaling.

Breakthrough Elasticity

Exadata Cloud Service X8M is fully elastic. Customers can start small with a minimum-sized HA configuration with as few as four CPU cores enabled, and expand by adding compute or storage as needed with no downtime. In contrast, AWS lacks true online elasticity as AWS RDS offers no scale-out capabilities; Aurora DB instance scaling "will have an availability impact" according to Amazon; and AWS Redshift offers no read-write elastic scaling. None of these AWS database services offer true online patching and maintenance like Exadata Cloud Service X8M.

Breakthrough Low Cost

The breakthrough performance of Exadata Cloud Service X8M enables customers to support more users, deploy more databases, execute more transactions, and accelerate analytics on less hardware and in less time, saving costs. In addition, customers pay only for what they need. Organizations can scale Database and Storage independently online as needed, and reduce costs with by-the-second pay-per-use.

What Customers are Saying

Burns and McDonnell is a leading US$4B design and construction firm, currently ranked #1 in the power industry. "We chose Exadata Cloud Service so that we could easily and immediately scale up to meet demand spikes without having to buy and deploy additional infrastructure in our data center," said Joe Kor, PMP, department manager, IT Enterprise Applications, Burns and McDonnell. "With Exadata Cloud Service we've been able to reduce costs by 35 percent and seamlessly move databases from on-premises to the cloud with Exadata's architectural identicality. Of course, we can always use more performance to support real-time analytics and deliver superior customer experiences, so we look forward to using Exadata Cloud Service with X8M's orders of magnitude improvements in latency, IOPS, and throughput."

Manappuram Finance Limited is a $2B financial services company based in India. "Manappuram is helping customers transform their dreams into reality. We rely on modern technologies to help us serve customers better, quicker and more efficiently. As we embark on our next growth phase we wanted a secure modern cloud platform," said B.N. Raveendrababu, executive director, Manappuram. "Taking into account all our business objectives, we choose Oracle's Gen 2 Cloud along with Exadata Cloud Service for their enterprise grade features, such as superior security and high performance capabilities. We anticipate 30 to 40 percent in cost savings over the next 5 years and performance improvements in the range of 2 - 3x times than what is available currently."

SAP CEO Launches New Customer Data Platform at SAP Customer Experience LIVE
14 October 2020

Christian Klein, CEO of SAP SE launched the SAP Customer Data Platform during his keynote at the virtual SAP Customer Experience LIVE conference.

The new platform will enable organizations to create individual but anonymized 360-degree customer profiles using data from multiple sources within and outside of a company, including online sources and

social channels.

Klein's announcement, made on the first day of the online event, underscores SAP's commitment to the growing market for customer experience (CX) software and its role in building the Intelligent Enterprise.

"You cannot think about CX separately; it needs to be considered as an integral part of an intelligent enterprise," Klein said. "That's why CX is one key element of SAP's holistic strategy.

"We are continuously evolving our CX portfolio while keeping our focus areas at heart – SAP Commerce Cloud, SAP Marketing Cloud, SAP Sales Cloud, SAP Services Cloud, and our brand-new SAP Customer Data Platform," he added. "Our investments in those areas — most recently the planned acquisition of Emarsys — demonstrate our commitment to the CX market."

Addressing his virtual audience, the SAP CEO noted that meaningful customer experiences have three key characteristics: "They are hyper personalized, they are seamless, and they are delivered across all channels your customers opt for."

"How can brands stand out, how can you build customer relationships for life?" Klein asked. "By delivering the right information at the right time. And that is only possible with highly personalized experiences. At the center of those experiences is one key ingredient: data. That is why I am so excited to launch our new SAP Customer Data Platform."

Customer experience has become an increasingly important differentiator for brands, especially during the current coronavirus pandemic. As Klein said the keynote, "COVID-19 has challenged all companies to accelerate their business transformation and forced them to reinvent the experience for their customers."

As a result many companies are turning to customer data platforms to help deliver personalized experiences for a variety of marketing uses and to help improve customer loyalty. However, a unified customer experience is impossible without unified customer data and most data originates in separate systems that were not designed to share with anything else.

In addition, while a customer data platform may unify customer data, a narrow marketing focus has often limited their true potential. SAP's new customer data platform aims to tap the full power of the platforms by adding context to commerce, sales, and service experiences, as well as providing a more effective tool for marketing.

SAP Customer Data Platform is designed to tackle four key opportunities to increase brand reach and effectiveness while respecting data-privacy:

Connecting every data source in an organization together with external data to create unified customer profiles

Enabling a transparent, trustworthy data-privacy strategy

Providing organizations with a complete understanding of customer preferences and behavior

Combining back-office and front-office data to build highly personalized profiles of customers

SAP Customer Data Platform is built on the foundation of SAP Customer Data Cloud, which in turn is based on Gigya (acquired by SAP in 2017) technology. SAP Customer Identity and Access Management and SAP Enterprise Consent and Preference Management are then woven in for a secure and compliant digital profile.