



DIGITAL INDUSTRIES SOFTWARE

Five things to know about digital transformation and transitioning operations to the cloud

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Executive summary

As the cloud matures, businesses of all sizes are quickly realizing the numerous economic and performance benefits of cloud-based technology. It seems as if overnight the cloud has become an essential business investment. Current research supports this trend. In a recent independent survey, 97 percent of the 2,221 respondents cited cloud migration and adoption as a top or emerging priority for their organization. Among the primary reasons why: connectivity of data and applications, speed and ease of remote access for remote workers, reduction in costs and the modernization of legacy IT systems.

The newly expanded collaboration between the global leader in industrial software, Siemens Digital Industries Software, and the leading cloud service provider, Amazon Web Services (AWS), addresses those very drivers. The Siemens and AWS partnership enables industrial organizations of all sizes, digital transformation maturities, and geographies to move their mission-critical operations to the cloud and advance their digital transformation.

The Siemens and AWS strategic partnership removes the barriers to a digitalized work environment, helping the industrial world

address challenges, such as software accessibility, data security, scalability and time to value, as well as the many cultural challenges that shape today's workplace. Moving to the cloud enables customers to embark on an entirely new way of doing business – one where obstacles are eliminated, innovations are realized and industrial organizations are free to create without limits.

Digitalization and automation via the cloud are game-changers. This eBook explores five of the most meaningful ways a cloud-based digital transformation can benefit organizations today.

* Source: Siemens and AWS Benchmark Collaboration Study, conducted by Channel Media & Market Research, March–April 2022 and 2023.



The changing landscape in manufacturing

The world of manufacturing is at an inflection point. Manufacturers – facing pressure from global competitors and complex regulatory requirements along with ever-evolving consumer demands – must transition to a digital enterprise in order to achieve a competitive advantage. They need modern, agile and connected tools to deliver complex products faster, more efficiently and at lower prices.

Key factors impacting manufacturers:

- More complex and integrated products
- Innovation
- IT/OT convergence
- Sustainability
- Cybersecurity
- Supply chain challenges
- Traditional processes that can't keep up

Given these factors and the rapid pace of change throughout the industry, it's critical that manufacturers become digital enterprises to assure viability and future growth. Digitalization is a complex process, but with the right support, it can be accomplished in concert with a focus on an organization's mission-centric objectives. Together, Siemens and AWS offer a proven way forward, with tested software and cloud-based technologies for a manageable and less disruptive digital transformation.

As a product manufacturer, Siemens has equipped numerous plants and factories with the latest automation and digitalization solutions. As a result, Siemens is able to share valuable insight and know-how with our customers.

Siemens Xcelerator as a Service powered by AWS

Siemens Xcelerator is our easy, flexible and open digital business platform that helps customers innovate faster and ultimately become digital enterprises. Siemens Xcelerator comprises three components: a curated, modular **portfolio** of industrial IoT-enabled hardware, software and digital services from Siemens, AWS and other qualified partners giving customers access to the latest innovations; an ever-growing open **ecosystem** of solution vendors, technology partners and developers adhering to a common set of design principles where offerings work seamlessly and at scale; and an evolving **marketplace** where members of the ecosystem can explore, evaluate and exchange digital offerings in a simple and seamless manner.

Siemens Xcelerator as a Service on AWS Cloud, delivers the power of Siemens Xcelerator in a more accessible, scalable and flexible format. It contains software and services to help customers transition to the cloud at a comfortable, non-disruptive pace that's right for them. Siemens Xcelerator as a Service also provides access to our comprehensive digital twin, the most robust digital twin offering in the industry today and builds on the many advantages Siemens Xcelerator has to offer, allowing multidisciplinary collaboration anywhere at any time.



Invest in your future with Siemens Xcelerator as a Service

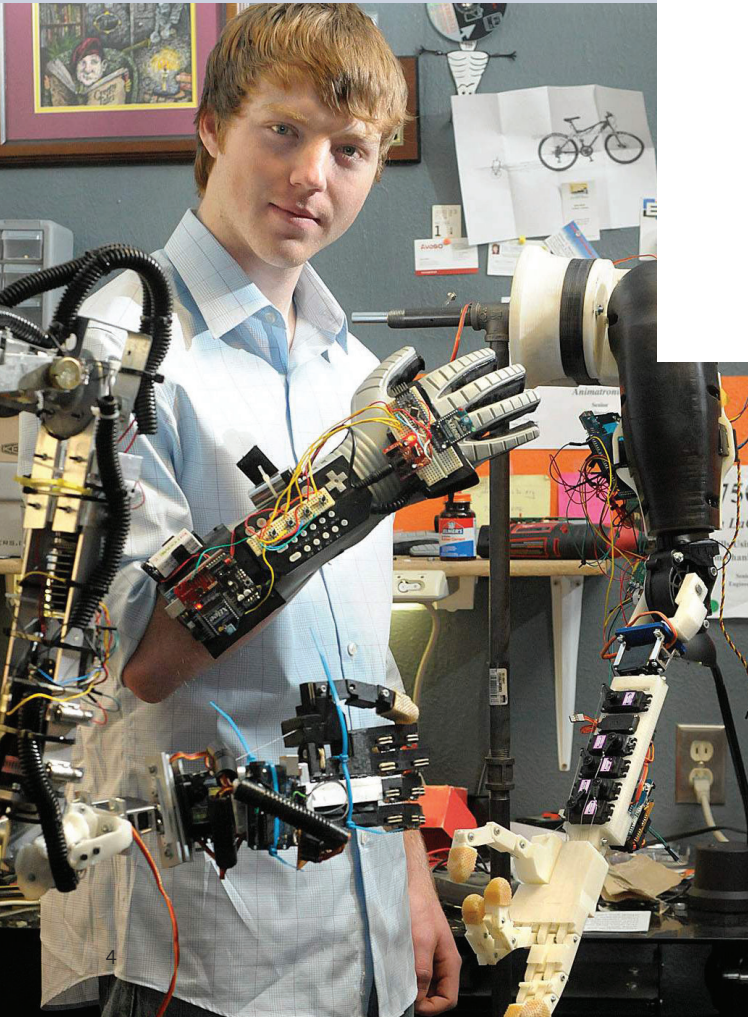
For years, Software as a Service (SaaS) has been revolutionizing the software delivery system, moving entire IT infrastructures away from on-premises solutions to cloud-enabled software applications. With the advent of the digital transformation, the demand for SaaS has only increased among companies and organizations of all sizes throughout the globe.

Those who move to the SaaS model discover the many advantages, which include the following:

- SaaS deployments do not require organizations to continuously purchase expensive new hardware
- SaaS deployments reduce the need for managed hardware and IT operations
- SaaS deployments contain up-to-date cybersecurity protocols for peace-of-mind

- SaaS offers a low entry price and little risk for companies just starting out
- SaaS deployments allow for unprecedented scalability and collaboration across regions and organizations
- SaaS provides limitless capacity and compute power which can be assigned to a specific project – it can also grow or shrink based on company needs
- SaaS deployments offer easy deployment options and continuous enhancements

The SaaS solution from Siemens and AWS is Siemens Xcelerator as a Service. In addition to addressing the advantages listed above, it brings an easy and open digital business platform to all customers and serves not only as a gateway to cloud-enabled services, but a means to a more manageable digital transformation.



SIEMENS AND AWS CASE STUDY

Unlimited Tomorrow

Easton LaChappelle, the founder of Unlimited Tomorrow, wanted to change the lives of young amputees by giving them access to adaptable, customized and affordable prosthetics – prosthetic limbs that would grow as the user aged. To achieve this goal, Unlimited Tomorrow leveraged a unique blend of powerful software, 3D printing hardware and digital connectivity across engineering domains. As a result, the company was able to produce a world-changing innovation called “TrueLimb,” a line of fully functional prosthetics for young patients around the globe. Unlimited Tomorrow is an example of how Siemens and AWS free companies from their IT and OT challenges, so teams can focus on mission-critical innovation.

Breaking down the barriers to SaaS adoption

Conversations around digital transformation and SaaS have traditionally centered around functional challenges. The Siemens and AWS partnership not only addresses these functional challenges, but breaks down many of the common barriers organizations face today. By working together and offering a set of proven and tested cloud-based technologies, the Siemens and AWS partnership reduces risk and makes migration to the cloud more predictable, allowing organizations to stay true their mission-critical goals.

Further, the transition to SaaS allows organizations to focus on the changing cultural dynamics commonly associated with SaaS adaption, which include:

- Leadership transition to a cloud-first mindset
- Encouragement of innovation experimentation with new data and services readily available
- Upskilled engineering teams that understand the new capabilities, deployment models and tools related to cloud infrastructure

Addressing security issues

Cloud solutions are now more secure than on-premises solutions. The Siemens and AWS partnership, through extensive research and software certification, offers best-in-class security that's independently verified by third-party security testing. As the recognized #1 industrial software company and #1 cloud services provider, we are able to offer our customers tried, tested and proven cloud-based solutions.

SIEMENS AND AWS CASE STUDY

Heraeus Noblelight

Heraeus Noblelight, a German-based company specializing in ultraviolet to infrared wavelength technologies for industrial, scientific and medical applications, designed and manufactured a UV-C air purifier to be used in hospitals, public transportation and schools. The objective of this purifier was to harness light and remove airborne viruses from the air. By leveraging Simcenter HPC Cloud on AWS services – and optimizing remote working and supplier collaboration – the team was able to rapidly deploy CFD simulation to quickly identify the best design, confirm device performance and save on multiple prototypes. Heraeus Noblelight delivered a purifier that killed 99.9% of coronavirus in the air in just six months.



Future outlook

In a 2022 Siemens survey of 2,221 business leaders*, the most important criteria cited among respondents in what they want from cloud providers in the next two to three years:

- Better data security (74%)
- Proven and constant technical innovation (68%)
- Increased speed of digital transformation (65%)

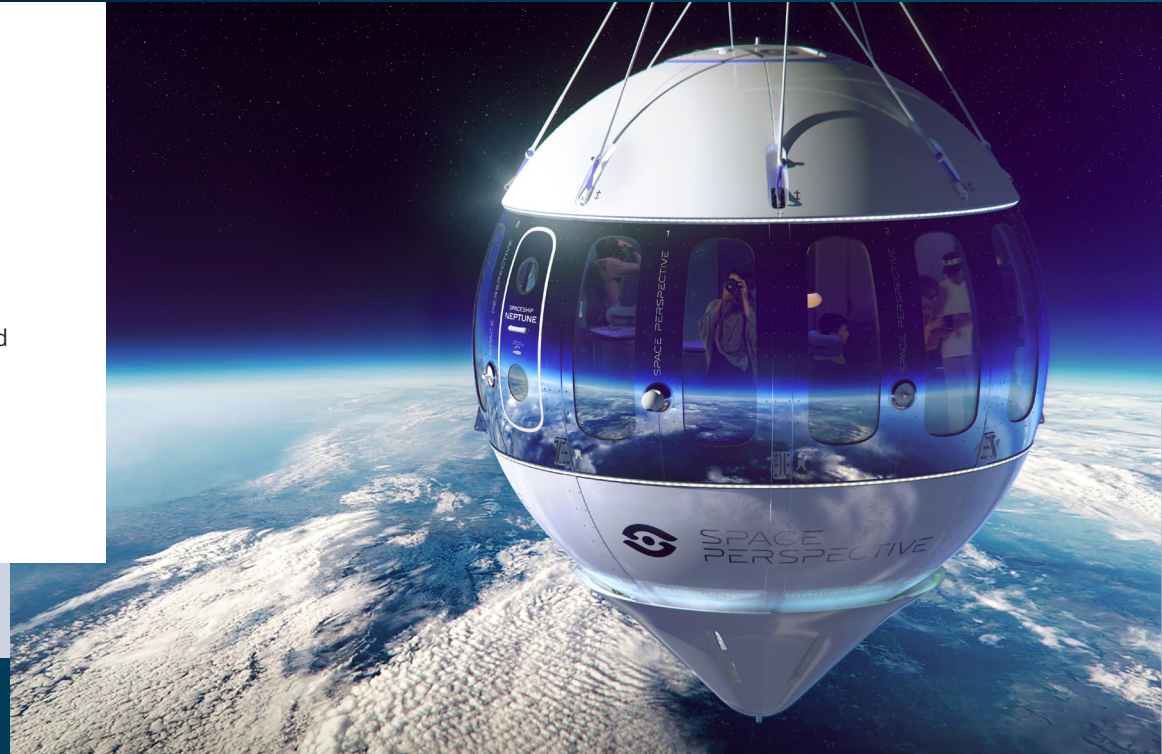
* Source: Siemens and AWS Benchmark Collaboration Study, conducted by Channel Media & Market Research, March–April 2022

With Siemens and AWS, you're free to create without limits

Hundreds of organizations around the globe – from start-ups to global enterprises – are jumpstarting their digital transformation in the cloud with Siemens and AWS.

Organizations are quickly discovering, as their digital enterprise becomes a reality, employees within the organization are exploring “what if” scenarios and testing the limits of their imaginations. This type of creative freedom and ability to explore can have profound impact on engineering teams, regardless of size or industry. Teams now have the time, the tools and the confidence to innovate and stay competitive.

With Siemens and AWS they are free to create without limits.



SIEMENS AND AWS CASE STUDY

Space Perspective

Space tourism start-up, Space Perspective, worked with Siemens and AWS to revolutionize the simulation processes, with the goal of building an innovative and luxurious space capsule that will take people to the edge of space. The Siemens and AWS partnership allowed Space Perspective to reduce analysis time for structural, thermal and other analyses that impact capsule design from 168 hours down to 8–12 hours. Space Perspective was able to run Siemens' Simcenter STAR-CCM+ at 100 Gbps on Amazon Elastic Compute Cloud (Amazon EC2) which provided secure and resizable compute capacity for virtually any workload.

Specifically, Amazon EC2 C5n instances delivered cost-effective, high-performance compute power at a low, price-per-compute ratio for advanced compute-intensive workloads. Before working with Siemens and AWS, Space Perspective was facing prohibitively lengthy (and costly) analysis times and needed a comprehensive suite of tools that could handle the enormous processing requirements of its computational fluid dynamics (CFD) modeling.

Siemens and AWS delivered – and tourists are now due to take flight with Space Perspective later this year.

The #1 in industrial software and the #1 in cloud ready to stand behind you

With Siemens and AWS, customers are able to do the following:

- Deploy a pre-validated, edge-to-cloud solution quickly and reliably
- Leverage an industrial-grade solution that puts the agile in agile development
- Migrate fast, without all the guesswork
- Scale on demand, with little to no unplanned downtime
- Secure data with independently verified and certified services
- Give global teams remote access, eliminating silos and enhancing collaboration
- Thrive with long-term support from a customer-obsessed team
- Customize easily, with low- and no-code app development



“We’re excited to combine our proven cloud and industrial experience in this expanded partnership and simplify the journey for our mutual customers to become digital enterprises.”

*Tony Hemmelgarn
President and CEO
Siemens Digital Industries Software*

Siemens Digital Industries Software helps organizations of all sizes digitally transform using software, hardware and services from the Siemens Xcelerator business platform. Siemens' software and the comprehensive digital twin enable companies to optimize their design, engineering and manufacturing processes to turn today's ideas into the sustainable products of the future. From chips to entire systems, from product to process, across all industries, [Siemens Digital Industries Software](#) – Accelerating transformation.

Americas: 1 800 498 5351

EMEA: 00 800 70002222

Asia-Pacific: 001 800 03061910

For additional numbers, click [here](#).

About Siemens

For more information on how a cloud-based digital transformation can benefit your organization, visit: siemens.com/aws-partnership

Or follow Siemens on [LinkedIn](#) and [X](#) (formerly Twitter)