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This case study is a transcript from our latest podcast titled ‘Business Success in the Virtual World’, which you can access on Apple, Spotify and other podcast services or via ISM’s website: ismguide.com/podcasts

Siemens & BMW Updates to our 2023 Podcast Episodes

Tim and I recorded the Siemens podcast in April 2023, where we focused on the emerging industrial metaverse. We recorded the BMW podcast in June 2023, where we focused on BMW’s pioneering role in using XR technologies both inside the company and with its customers (these two podcasts, along with the 26 additional podcasts we have recorded, can be accessed from ISM’s website: ismguide.com). In today’s podcast, given the rapid change in technology prompted by the AI, Tim and I want to share with our listeners important updates to both Siemens and BMW’s immersive efforts.

Siemens Update

My partner, Tim Bjarin, and I both enjoyed moderating panels at CES 2024 and we are delighted to have been invited back to moderate panels at CES 2025. One of the keynote speakers at CES 2024 was Dr. Roland Busch, President and Chief Executive Officer of Siemens AG, who made a very forward-thinking observation: “within the next few years, every physical object will have a digital twin,” and the good news is the digital world is on track for delivering this vision. Dr. Busch shares his vision for how AI and the industrial metaverse will redefine reality, and transform the way we live, work, move or make ... and transform the every day, for everyone. He noted the “industrial metaverse is a virtual world, almost impossible to distinguish from the real world. An immersive space where people and AI can collaborate in real time to solve real-world problems. In other words, it’s a place where you combine the real and the digital worlds ... A place for industrial innovations.”

Cedric Neike, Siemens’ CEO for Digital Industries that oversees the industrial metaverse program, complemented Dr. Bush on stage by noting: “I know that for most of you, when you hear ‘metaverse,’ you think it’s where you go to escape the real world. For us at Siemens, the metaverse, actually the industrial metaverse, is where you go to make the real world better. It’s fundamentally empowering any one of you to turn your dreams into a world changing innovation. Because when we talk about the industrial metaverse, when we talk about combining the real and the digital world and making those combined worlds accessible to everyone, it’s not just about the technology, but it’s actually about changing lives ... It’s actually about changing the world.”

Siemens is Revolutionizing Industries with the Industrial Metaverse and AI Collaborations

The Siemens keynote reintroduced the concept of the ‘industrial metaverse’ as a fusion of the real and digital worlds. This immersive virtual space allows real-time collaboration between people and AI to solve real-world problems. The industrial metaverse promises to accelerate innovation, sustainability, and access to technology, reshaping how we live, work, and create.

A key component of Siemens’ vision is ‘digital twin’ technology. Siemens has been developing high-fidelity virtual representations of physical entities, from airplanes and power grids to human hearts and urban planning.

These digital twins are not just visual replicas but physics-based models that react like their real-world counterparts.

He also suggested that software-defined automation and AI is the new industrial language. He emphasized the revolution in factory automation with the introduction of virtual PLCs (Programmable Logic Controllers). This shift allows for easier programming and control of factory operations, making technology more accessible and adaptable. Coupled with AI and data analytics, Siemens is transforming how industries operate, making processes more efficient and environmentally friendly.

Collaboration is at the core of Siemens industrial metaverse strategy. This includes Siemens' partnership with NVIDIA Omniverse's immersive engine, its partnership with AWS to provide the power of cloud computing and AI with Siemens' simulation tools, its [partnership with Sony](#) aimed at introducing a new immersive engineering solution that combines Sony's head-mounted display with [Siemens' Xcelerator software](#), and its collaboration with IBM, where Siemens aims to leverage IBM's AI and hybrid cloud solutions to accelerate the deployment of digital twin technology across various industries.

Given all this activity, has Siemens been able to sustain its industrial metaverse leadership during 2023 and 2024?

The short answer to this question is an astounding 'yes'. While the industrial metaverse may seem to have receded from the mainstream technology discourse over the past 12 months, having been drowned out by the tidal wave of coverage of AI and GenAI, Siemens has continued to deepen its industrial metaverse partnerships with NVIDIA, Sony, AWS, IBM, and others. These collaborations aim to sustain Siemens' dominant role in the industrial metaverse by creating an industrial metaverse platform that transcends the basic digital twin concept.

Here are a few examples of recent developments in successful Siemens industrial metaverse applications:

- In the manufacturing sector, Siemens has created a strategic partnership [Mercedes-Benz](#). They have jointly developed a digital energy twin to enhance the integration of energy efficiency and sustainability measures in factory designs and upgrades. In Mercedes' Factory 56 in Sindelfingen, Germany, this twin significantly reduces early phase planning time.
- Also in the automotive industry, leading manufacturers including BMW are leveraging Siemens' digital twin technology to evaluate vehicle designs and improve safety features, as well as reducing time and cost in research and development cycles.
- In the healthcare sector, Siemens Digital Twin is transforming patient care by creating detailed digital representations of the human body, thereby helping to deliver truly personalized medicine.
- In the energy sector, leading energy providers are leveraging Siemens' digital twin technology to optimize power plant operations and resource management.

To conclude the Siemens update, 2024 may turn out to be another year dominated by news about GenAI, but it does not diminish the significance of Siemens' commitment to the industrial metaverse. In fact, AI and GenAI technologies enhance the industrial metaverse by providing users with generative design capabilities and machine operation and programming via natural language, and by introducing new ways for humans to leverage data coming from operational technology systems. Any company that underestimates the power of the industrial metaverse does so at its own peril.

BMW Update

As you may remember from our June 2023 BMW podcast, BMW was an early user of AR/VR technology that goes back to 2014, when BMW tested the original Google Glass for quality control of pre-series vehicles in one of its U.S. plants. The luxury automaker has since embraced AR/VR in product development, production, training, marketing, and more. This includes:

- Using VR for workstation planning
- Leveraging AR to provide training for engine assembly and other processes, inspect parts, and even assist drivers.
- Creating an AR app to place and customize a virtual BMW i4 or iX in a customer's driveway
- Putting VR headsets on customers allowing them to test drive a physical BMW M2 through a futuristic virtual city.
- Creating a Mixed Reality virtual platform for developing real-time immersive driving experiences that merge the real and virtual worlds.
- Collaborating with Meta to jointly explore how augmented and virtual reality technology can work inside a fast-moving vehicle.
- Building the world's first virtual factory on Nvidia's Omniverse platform; this virtual factory is a perfect digital twin of BMW's future 400-hectare plant in Debrecen, Hungary, which reportedly will produce around 150,000 vehicles every year when it opens in 2025.
- Developing their latest concept car called the i Vision Dee, which debuted at the 2023 Consumer Electronics Show in Las Vegas to rave reviews. I spent time at the BMW CES booth and was blown away. While we cannot port you back to the 2023 CES show, the next best thing is for you to spend 9 minutes watching the [i Vision DEE YouTube video](#); you too will be blown away!

The i Vision Dee car was inspired by the Metaverse. "Dee," which stands for Digital Emotional Experience, features a voice interface and digital windscreen displays, a Mixed Reality slider that controls the car's instrument display, and sensors to select a variety of features ranging from analog, communications, augmented-reality projection, and even entry into a virtual world. Externally, Dee contains 'phygital' elements – a fusion of digital and physical. In combination with natural language, the car's technology allows it to both talk to humans and express emotions with facial expressions through its front headlights and grill. The full exterior surface of the car is made up of e-ink segments and can display up to 32 colors. This enables the side windows of the car to project avatar versions of the driver, extending the interior virtual world to the car's facade. For me, the i Vision DEE embodies BMW is at the forefront of the digital revolution.

So, has BMW been able to sustain its digital leadership in 2023 and 2024?

In 2024, BMW envisions groundbreaking advancements in VR and AR technologies that promise to revolutionize the automotive industry. These technologies are set to enhance the driving experience, offering features like immersive virtual test drives and AR-powered navigation systems that provide real-time data overlays on windshield displays. BMW is committed to integrating these innovations into their vehicle design processes, allowing for more efficient prototyping and customization options. And here is a great piece of news: BMW expects to produce and deliver the i Vision Dee during 2025.

The company also plans to expand its use of VR/AR in customer engagement, providing interactive showrooms and personalized experiences. As BMW continues to invest in these technologies, the fusion of digital and physical realms is expected to redefine luxury and connectivity in the automobile sector. Simply said, BMW remains at the forefront of the digital revolution.

This ends my update on Siemens and BMW. Back to you Tim.

My Metaverse business partner, Tim Bjarin, and I are keen to assist manufacturing companies like Siemens and BMW at each step of the way to ensure their successful entry into XR/Metaverse and Spatial Computing. To read about additional manufacturing company XR/Metaverse case studies, I strongly encourage you to visit ISM's award-winning [XR/Metaverse Resource Center](http://www.ismguid.com/metaverse-resource-center) – www.ismguid.com/metaverse-resource-center – where in addition to gaining access to more than 350 Metaverse case studies, more than 350 Metaverse articles, and more than 150 Metaverse videos, you can download ISM's new '[8 Steps to Do Business Successfully in the Metaverse](#)' White Paper, download ISM's New '[VR Training Guide for the Enterprise](#),' learn about and sign-up for ISM's complimentary 2-hour [XR/Metaverse Executive Bootcamp](#), and more.

Barton Goldenberg (bgoldenberg@ismguide.com) is president of [ISM, Inc.](#) For 40 years, ISM has helped global companies successfully apply leading-edge technologies to sales, marketing, and customer service. We offer 4 services: AI, XR/Metaverse, CRM, and Digital Communities to help sales, marketing, customer service, and field service executives move their performance to the next level. His [thought leadership](#) including creator of the '[Business Success in a Virtual World](#)' podcast, creator of the award winning [XR/Metaverse Resource Center](#), and author of three business books including [The Definitive Guide to Social CRM](#). He is also in high demand as a keynote speaker (www.bartongoldenberg.com).