

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

- **Under a strategic partnership between Siemens and Mercedes-Benz AG, the companies have co-created a Digital Energy Twin to improve the integration of energy efficiency and sustainability measures in factory designs and upgrades**
- **The Digital Energy Twin reduces early phase planning time significantly**
- **Developed and tested in the Mercedes-Benz 'Factory 56' in Sindelfingen, Germany**
- **Showcases the value of Siemens' Xcelerator open ecosystem to create vertical and use-case specific products and solutions**

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

Designed to support the ambition to run all fully owned production sites of the automaker worldwide on 100 percent renewable energies by 2039, the innovative Digital Energy Twin enhances, simplifies and speeds the early phase factory energy planning process for both brownfield and greenfield sites, reducing planning time significantly.

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

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

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

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

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

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

Digital energy twins are a key part of Siemens' portfolio for supporting industrial customers in achieving their sustainability and decarbonization goals. Siemens recently announced that it was working with another strong international partner for its global Net Zero Production roadmap, using a digital energy twin to simulate energy use and identify where energy savings could be

made at 15 breweries worldwide. Siemens estimates that energy savings of between 15-20 percent are achievable at each site, with an average CO2 reduction of 50 percent per site.

This press release, as well as press pictures are available at <https://sie.ag/3ui3Tc>

For more information on Siemens Smart Infrastructure, please see [Siemens Smart Infrastructure](#)

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Siemens Smart Infrastructure (SI) is shaping the market for intelligent, adaptive infrastructure for today and the future. It addresses the pressing challenges of urbanization and climate change by connecting energy systems, buildings and industries. SI provides customers with a comprehensive end-to-end portfolio from a single source – with products, systems, solutions and services from the point of power generation all the way to consumption. With an increasingly digitalized ecosystem, it helps customers thrive and communities progress while contributing toward protecting the planet. Siemens Smart Infrastructure has its global headquarters in Zug, Switzerland. As of September 30, 2023, the business had around 75,000 employees worldwide.

Siemens AG (Berlin and Munich) is a leading technology company focused on industry, infrastructure, transport, and healthcare. From more resource-efficient factories, resilient supply chains, and smarter buildings and grids, to cleaner and more comfortable transportation as well as advanced healthcare, the company creates technology with purpose adding real value for customers. By combining the real and the digital worlds, Siemens empowers its customers to transform their industries and markets, helping them to transform the everyday for billions of people. Siemens also owns a majority stake in the publicly listed company Siemens Healthineers, a globally leading medical technology provider shaping the future of healthcare.

In fiscal 2023, which ended on September 30, 2023, the Siemens Group generated revenue of €77.8 billion and net income of €8.5 billion. As of September 30, 2023, the company employed around 320,000 people worldwide. Further information is available on the Internet at www.siemens.com.

Mercedes-Benz AG is part of the Mercedes-Benz Group AG with a total of around 166,000 employees worldwide and is responsible for the global business of Mercedes-Benz Cars and Mercedes-Benz Vans. Ola Källenius is Chairman of the Board of Management of Mercedes-Benz AG. The company focuses on the development, production and sales of passenger cars, vans and vehicle-related services. Furthermore, the company aspires to be the leader in the fields of electric mobility and vehicle software. The product portfolio comprises the Mercedes-Benz brand with Mercedes-AMG, Mercedes-Maybach and G-Class with their all-electric models as

well as products of the smart brand. The Mercedes me brand offers access to the digital services from Mercedes-Benz. Mercedes-Benz AG is one of the world's largest manufacturers of luxury passenger cars. In 2023 it sold around two million passenger cars and 447,800 vans. In its two business segments, Mercedes-Benz AG is continually expanding its worldwide production network with more than 30 production sites on four continents, while gearing itself to meet the requirements of electric mobility. At the same time, the company is constructing and extending its global battery production network on three continents. As sustainability is the guiding principle of the Mercedes-Benz strategy and for the company itself, this means creating lasting value for all stakeholders: for customers, employees, investors, business partners and society as a whole. The basis for this is the sustainable business strategy of the Mercedes-Benz Group. The company thus takes responsibility for the economic, ecological and social effects of its business activities and looks at the entire value chain.