# Manufactured in the Metaverse: Mercedes-Benz Assembles Next-Gen Factories With NVIDIA Omniverse

Premium automaker implements digital-first approach to production.

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Building state-of-the-art factories requires a state-of-the art planning system.

Mercedes-Benz announced at CES that it is taking the next step in digitizing its production process, using the NVIDIA Omniverse platform to design and plan manufacturing and assembly facilities.

By tapping into NVIDIA AI and metaverse technologies, the automaker can create feedback loops to reduce waste, decrease energy consumption and continuously enhance quality.

Mercedes-Benz has been working with NVIDIA to develop software-defined vehicles. Its upcoming fleets will be built on NVIDIA DRIVE Orin centralized compute, with intelligent driving capabilities tested and validated in the NVIDIA DRIVE Sim platform, built on Omniverse.

The automaker's latest announcement infuses AI and metaverse technologies even further into the Mercedes-Benz development process with smarter, more efficient manufacturing.

Vehicle production is a colossal undertaking that requires thousands of parts and workers moving in harmony. Any supply chain or production issues can lead to costly delays.

On top of that, when automakers roll out a new model, they must reconfigure the layout of production plants to account for the new vehicle design. This process can take significant portions of the factory offline, pausing manufacturing for existing vehicles.

Mercedes-Benz plans to start production of its new dedicated platform for electric vehicles at its plant in Rastatt, Germany. The site currently manufactures the automaker's A- and B-Class as well as the compact SUV GLA and the all-electric Mercedes-Benz EQA.

Experts from NVIDIA and Mercedes-Benz operations are setting up a "digital first" – planning process for the plant that won't disrupt the current production of compact car models at the site. This blueprint will be rolled out to other parts of the global Mercedes-Benz production network for more agile vehicle manufacturing.

NVIDIA Omniverse is an open 3D development platform enabling enterprises and institutions across all industries to build and operate digital twins for industrial and scientific use cases. It's based on Universal Scene Description (USD) , allowing enterprises and developers to construct custom 3D pipelines to break down data silos and interact with a single-source-of-truth view of their aggregated simulations.

With Omniverse, Mercedes-Benz planners can access the digital twin of the factory, reviewing and optimizing the plant as needed. Every change can be quickly evaluated and validated in the virtual world, then implemented in the real world to ensure maximum efficiency and ergonomics for factory workers.

Additionally, Mercedes-Benz can synchronize plant locations anywhere in the world by connecting Omniverse with its in-house MO360 Data Platform.

This capability streamlines operations across the global production network and enables over-the-air software updates to manufacturing equipment.

By planning production on NVIDIA Omniverse, Mercedes-Benz is implementing a manufacturing system as intelligent as its vehicles.

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