

Media Information  
23 March 2022

## **BMW Group publishes SORDI, the largest open-source dataset by far for super-efficient AI applications in production**

+++ SORDI (Synthetic Object Recognition Dataset for Industries) accelerates artificial intelligence in production +++ AI dataset contains more than 800,000 photorealistic images in 80 categories of production resource +++ Synthesising training data takes the efficiency of AI in production to a new level +++ Further strengthening of no-code AI: Superfast generation of robust AI models. +++

**Munich.** The BMW Group is publishing the world's largest data set to streamline and significantly accelerate the training of artificial intelligence in production. The synthesised AI dataset – known as SORDI (Synthetic Object Recognition Dataset for Industries) – consists of more than 800,000 photorealistic images. These are divided into 80 categories of production resources, from pallets and pallet cages to forklifts, and include objects of particular relevance to the core technologies of automotive engineering and logistics.

By publishing SORDI, the BMW Group together with its partners Microsoft, NVIDIA and idealworks is making available the world's largest reference dataset for artificial intelligence in the field of manufacturing. The visual data is of particularly high quality, and the integrated digital labels enable basic image processing tasks to be carried out, such as classification, object detection or segmentation for relevant areas of production in general.

“The BMW Group has been using artificial intelligence since 2019. AI has already been utilised in various quality assurance applications in production at the plants.

SORDI, the new, synthetic dataset makes AI models much faster to train and AI

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considerably more cost-efficient in production," says Michele Melchiorre, Senior Vice President of BMW Group Production System, Planning, Tool and Plant Engineering.

To create the synthesised AI training data non-manually, the simulated environment for robotics, the digital twin of the production system and the AI training environment were all fused within the NVIDIA Omniverse. The rendering pipeline from the BMW Tech Office in Munich allows any number of photos, including labels, to be synthesised in sufficient photorealistic HD quality for them to be used in the creation of highly robust AI models. SORDI can be utilised by IT professionals to develop and tailor AI solutions for manufacturing, and by production employees to maintain mature AI systems for validation purposes ready for the start of production.

Freely available to software developers, the publication of the innovative dataset represents the next targeted step in the BMW Group's systematic expansion of activities to democratise artificial intelligence (<https://github.com/bmw-innovationlab>). The publications of no-code AI and SORDI complement each other: on the one hand, the BMW Labelling Tool Lite and published AI training tools explicitly allow users to use AI intuitively, even if they lack sound IT expertise. On the other, SORDI's synthesis significantly accelerates and simplifies the training of AI models for production applications.

If you have any questions, please contact:

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**The BMW Group production network**

The BMW Group has long seen itself as the benchmark in production technology and operative excellence in vehicle manufacturing. The strategic vision of its global production network – BMW iFACTORY. LEAN. GREEN. DIGITAL. – sets out the company's responses to the challenges of the transformation to e-mobility and pursues a global approach.

LEAN stands for efficiency, precision, absolute flexibility and outstanding integrational capabilities. GREEN represents the use of cutting-edge technologies to realise production with minimal resources and cut CO2 emissions per car in production by 80% compared with 2019. With DIGITAL the focus is on data science, artificial intelligence, planning and development. Together, these things make the BMW Group Production Network a key contributor to the profitability of the company.

**The BMW Group**

With its four brands BMW, MINI, Rolls-Royce and BMW Motorrad, the BMW Group is the world's leading premium manufacturer of automobiles and motorcycles and also provides premium financial and mobility services. The BMW Group production network comprises 31 production and assembly facilities in 15 countries; the company has a global sales network in more than 140 countries.

In 2021, the BMW Group sold over 2.5 million passenger vehicles and more than 194,000 motorcycles worldwide. The profit before tax in the financial year 2021 was € 16.1 billion on revenues amounting to € 111.2 billion. As of 31 December 2021, the BMW Group had a workforce of 118,909 employees.

The success of the BMW Group has always been based on long-term thinking and responsible action. The company set the course for the future at an early stage and consistently makes sustainability and efficient resource management central to its strategic direction, from the supply chain through production to the end of the use phase of all products.

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