

Media Information  
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## **BMW Group scaling artificial intelligence for data privacy in production – with innovative anonymisation algorithms**

- AI innovation and data privacy go hand in hand
- BMW Group publishes AI anonymisation algorithms
- No-code AI: Users with no programming skills can create AI applications, including data privacy, in a short time

**Munich.** The BMW Group is publishing an anonymisation solution based on artificial intelligence (AI) that can anonymise objects in photos and videos. Building on the BMW labelling tool Lite, these algorithms ([github.com/BMW-InnovationLab](https://github.com/BMW-InnovationLab)) enable targeted protection of relevant information: The user-friendly software tool uses AI to block out or blur objects or people. The granularity and degree of anonymisation can be intuitively adjusted.

“AI applications supports us with quality assurance, such as inspection of parts and components, as well as development of our autonomous, smart logistics robots. The AI anonymisation algorithms now published also ensure optimal data privacy and information protection,” explains Markus Grüneisl, head of Production System, Digitalisation at the BMW Group. “Making the anonymisation solution intuitive to operate was an important aspect of development for us, to ensure it can easily be used for a wide range of applications.”

The BMW Group uses artificial intelligence for object detection in production, since it offers a particularly high level of robustness – even under highly variable boundary conditions. AI-based image processing contributes in this way to maintaining premium quality. The recently released anonymisation solution also relies on artificial intelligence. AI automatically classifies image areas according to their features, so any areas that need to be made unrecognisable can be blocked out – for example, when processing photos from production. Different modes of anonymisation can be selected: Respective areas in photos or videos can be blurred, blacked out or pixelated.

The main technology used is the BMW labelling tool Lite, which allows users to label photos and train the AI with just one click. Each label serves as a digital tag that describes the information contained in the photo.

With no-code AI, production staff can create their own artificial intelligence solutions to support them in their individual processes. The new modular anonymisation algorithms allow photos to be processed automatically. In the BMW production system, for instance, areas containing people are deliberately made unrecognisable. Thanks to this AI-based anonymisation solution, there are no limitations on the use of image processing systems.

The published algorithms are freely available to software developers around the world – so they can use the algorithms and view, modify and further develop the source code. The BMW Group will also benefit from these further developments. A special feature of this now freely available software package is its simple and uncomplicated application based on the plug-and-play principle. The user does not require any programming skills, specific hardware or additional software.

The BMW Group published selected AI algorithms used in the production system for the first time in 2019. “The tremendous amount of feedback we received on the algorithms we published overwhelmed us. Our BMW AI community is very happy with the appreciation we are receiving worldwide. We are seeing many further developments based on our source code and no-code AI approach. We will continue following this approach and sharing our no-code AI algorithms so artificial intelligence can be made accessible to a wide range of users,” explains Kai Demtröder, head of Data Transformation and Artificial Intelligence.

The BMW Group uses a variety of applications from the field of artificial intelligence (AI) in production and logistics. AI technology reduces the strain on employees, by relieving them of particularly monotonous or tiring control tasks.

AI applications are used in the BMW Group production system to recognise and classify objects in images. For example, this ensures all vehicles are built in the customised configuration as ordered and that all components are in flawless condition. Another area of application for the anonymisation algorithms is the development of autonomous smart logistics robots – STR. The anonymisation algorithms simplify development significantly by using real images to train the robots directly. To make

AI accessible to a wide range of users, programmers from the TechOffice in Munich are developing so-called no-code AI, so every user can train an AI model without having to programme a single line of software code. Numerous applications have already been realised in the BMW production system with the help of this AI self-service option.

Further information can be found at: <https://github.com/BMW-InnovationLab>

### **Competence centre for the entire company: "Project AI"**

"Project AI" was launched in 2018 to ensure AI technologies are applied in an ethical and efficient manner. It serves as the BMW Group competence centre for data analytics and machine learning, and ensures knowledge and technology are shared swiftly across the entire company. Project AI therefore plays a key role in the growing digital transformation of the BMW Group and supports efficient development and scaling of intelligent data and AI technologies.

Among other things, a portfolio platform was developed that creates transparency in the company-wide application of technologies that make data-driven decisions. This so-called D<sup>3</sup> portfolio (Data-Driven Decisions) currently comprises around 500 applications – more than 70 of which have already been made available for regular operation.

If you have any questions, please contact:

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**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 2020, the BMW Group sold over 2.3 million passenger vehicles and more than 169,000 motorcycles worldwide. The profit before tax in the financial year 2020 was € 5.222 billion on revenues amounting to € 98.990 billion. As of 31 December 2020, the BMW Group had a workforce of 120,726 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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