TÜV Rheinland Certifies Safe Development of AI-Based Vehicle Systems

ISO/PAS 8800 complements existing functional safety standards with AI-specific requirements / First certification demonstrates practical applicability in the automotive industry

Cologne, Germany, August 27, 2026. TÜV Rheinland has completed its first certification in accordance with ISO/PAS 8800, demonstrating that the standard can be applied in practice to the safe development of AI-based vehicle systems. The certification covers the management processes of the product development and research center of the Chinese state-owned automotive group Dongfeng Motor Corporation.

The international standard ISO/PAS 8800 complements existing automotive safety standards with requirements specifically for artificial intelligence. It provides a structured framework for analyzing and safeguarding safety-relevant AI systems throughout the automotive development and safety lifecycle.

ISO/PAS 8800 closes an important gap in automotive safety: For AI systems, assessing the software alone is not sufficient. Datasets, models, training processes, and operational behavior can also be safety-relevant. In this way, the standard complements established standards such as ISO 26262 (Functional Safety), which do not fully address the specific requirements of AI.

Greater Safety in the Development of AI-Based Vehicle Functions

For manufacturers and other stakeholders in the automotive industry, this primarily means greater safety in the development, validation, and safeguarding of AI-based vehicle functions. Risks arising, for example, from unsuitable training data, unexpected behavior in new situations, or changes during real-world operation can therefore be identified earlier and managed more effectively. A structured body of evidence in accordance with ISO/PAS 8800 may also be relevant for vehicle type approval and product liability.

TÜV Rheinland offers independent audits for management systems relating to the functional safety of AI systems in the automotive sector. Audits in accordance with ISO/PAS 8800 can be combined with other audits relevant to the industry, such as ISO 26262 (Functional Safety) and ISO 21448 (SOTIF). This provides companies with a coordinated offering of management system audits, process assessments,

and conformity assessments. In addition, TÜV Rheinland also offers product certifications and training for developers in the field of safety-relevant systems.

Comprehensive Safety Evidence at the Core

For AI software, comprehensive safety evidence is central. This evidence must be supported by documentation and results from datasets, models, testing, and operational monitoring. “With ISO/PAS 8800, safety-relevant AI-based vehicle systems can, for the first time, be assessed for functional safety within a structured and traceable framework. This creates greater clarity for manufacturers and strengthens the systematic safeguarding of safety-relevant vehicle functions,” says Stefan Goi, Area Business Field Manager – Functional Safety Automotive at TÜV Rheinland.

About TÜV Rheinland

TÜV Rheinland is a leading provider of testing and inspection services worldwide. For over 150 years, the company has helped make the world a safer place. Today, more than 29,000 employees test, inspect and certify products, plants and processes, while also providing training for people in a wide range of professions. Operating from 500 locations in more than 50 countries, TÜV Rheinland helps safeguard key areas of business and everyday life. Headquartered in Cologne and generating annual revenue of close to €3 billion, the company plays a key role in quality assurance worldwide. TÜV Rheinland has been a member of the UN Global Compact since 2006, demonstrating its commitment to anti-corruption and sustainability. Website: www.tuv.com

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