

Trustworthy AI: New VDE application rule creates first comprehensive framework worldwide

- **What is AI allowed to do, and who will make important decisions in the future - these are central questions in the current discussion about AI development**
- **The VDE Application Rule VDE-AR-E 2842-61 provides answers as the first normative framework for the complete life cycle of cognitive systems.**
- **As a basis, it facilitates the development of norms and standards within the framework of the European AI Act and advances the global AI world**

(Frankfurt a. M., 18.09.2023) Artificial intelligence has long since arrived in everyday life - with semi-autonomous driving, voice assistance systems or ChatGPT. It is clear that such disruptive developments create progress and uncertainty in equal measure, which is why a regulatory framework is all the more important. To date, there are more than 200 [standards](#) internationally that set a framework for working with AI based on individual fields of application. But more is needed to ensure the commercial success and safety of new systems. DKE Managing Director Michael Teigeler: "With almost 600 pages, a very comprehensive standard has been created here that can ensure the trustworthy and secure use of artificial intelligence in the future. This is also the basis for further standardization within the framework of the European AI Act. Companies thus have a basis for developing AI securely and launching products on the market."

Not in a vacuum: What lies behind VDE AR-E 2842-61

The special feature of specifications for AI is that functions cannot simply be tested according to predefined processes. The system itself must guarantee safety and inherently fulfill functional safety requirements. Because of this high complexity, representatives from industry, business, research and consumer protection have joined forces in the DKE working group "Autonomous Systems" to develop the new VDE standard.

Dr. Henrik J. Putzer, co-chair of the working group and CEO of cogitron GmbH, says: "We have divided the application rule into six sections that are thematically distinct from each other in order to map the complete life cycle of an AI system. It ranges from the definition of terms for dealing with AI systems to specifications for qualification and approval of the systems for the market phase." Even the naming shows that the application rule does not move in a vacuum - the number 61 at the end refers to IEC standard 61508, which is considered the central basis for the functional safety of E/E systems in the automotive sector and is an essential starting point for AR-E 2842-61.

The journey begins: Making AI work for society responsibly

Parts 3 to 5 of the new VDE Application Rule focus on the design phase, in which it is particularly important to meet requirements in the area of trustworthiness. These include requirements for system security, cyber security, usability, and ethical issues. In addition, there are specifications at the component level - i.e. hardware, software and AI blueprints for the application of an AI methodology - as well as measures for market monitoring. Prof. Dr. Ing. Ralph Welge, co-chair of the DKE working group and CEO of Glass Sphere Software UG, states, "With the part now published, we have completed the application rule. Now we call on all stakeholders to use it and make AI work for society in a responsible way. There are gaps on verification methods, that's where research is needed. Industry needs to test the application so we can improve it, and standardization is called upon to contribute approaches and methods on a European or global level." In the view of the computer science expert, this not only creates the basis for the safe use of cognitive systems, but also strengthens Germany's role in the competition for technology leadership in the AI field.

Part 1 (Terms and basic concepts), Part 2 (Management), Parts 3-5 (Core processes) and Part 6 (After release of the solution) of the new application rule VDE-AR-E 2842-61 can now be purchased in full from [VDE Verlag](#).

About DKE:

The DKE German Commission for Electrical, Electronic & Information Technologies (DKE) is the national platform for about 9000 experts from industry, science and public administration to elaborate standards and safety specifications for electrical engineering, electronics and information technology. Standards support global trade and, among other things, the safety, interoperability and functionality of products and systems. As a competence centre for electrotechnical standardization, the DKE represents the interests of German industry in European (CENELEC, ETSI) and international standardization organizations (IEC). In addition, the DKE provides comprehensive services in the field of standardization and VDE specifications.

For more information, visit www.dke.de

About VDE:

VDE, one of the largest technology organizations in Europe, has been regarded as a synonym for innovation and technological progress for more than 130 years. VDE is the only organization in the world that combines science, standardization, testing, certification, and application consulting under one umbrella. The VDE mark has been synonymous with the highest safety standards and consumer protection for more than 100 years.

Our passion is the advancement of technology, the next generation of engineers and technologists, and lifelong learning and career development “on the job”. Within the VDE network more than 2,000 employees at over 60 locations worldwide, more than 100,000 honorary experts, and around 1,500 companies are dedicated to ensuring a future worth living: networked, digital, electrical. Shaping the e-dialistic future.

The VDE (VDE Association for Electrical, Electronic & Information Technologies) is headquartered in Frankfurt am Main. For more information, visit www.vde.com

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