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AI needs good data, AI users need expertise:
KITQAR research project maps current requirements

- **Since the beginning of February, Article 4 of the European AI Act has required companies to provide employees with the necessary skills in dealing with AI**
- **The KITQAR research project led by the VDE provides a learning journey including an online course that is already being used intensively**
- **KITQAR has also developed a comprehensive model that developers and users can use to improve and evaluate the quality of AI training data**

(Frankfurt a. M., 18.02.2025) The market for artificial intelligence (AI) is on the move worldwide, with new breakthroughs in terms of applicability, efficiency and energy consumption being announced on what feels like a daily basis. This makes it all the more important that research projects such as KITQAR help to define a framework for the development and evaluation of trustworthy and safe AI solutions, as required by the AI Act at European level. With the end of the project phase in December 2024, the project consortium has published several tools that address different levels.

Andreas Hauschke, project manager and expert for trustworthy artificial intelligence at VDE, summarizes: "The quality of the training data is the key to the quality of the AI. That's why the initial focus was on the question of how training data can be evaluated and improved on an interdisciplinary basis. In the end, however, we also focused on the user. The fact that our training courses are already being used intensively shows how high the demand is."

Making good AI practicable and assessable

As a first step, KITQAR has developed a glossary that shows that the quality of the training data for an AI can only be assessed and optimized using various dimensions. Dimensions such as comprehensibility, reliability, relevance or timeliness can be relevant, depending on what the AI

application is intended to achieve later on. "Someone developing an AI can use our system to work out what is a priority for their product and what is not," says Hauschke.

In the second step, the consortium members identified AI publications on the various dimensions and analyzed what information is available on data quality (DQ). From this, they selected 126 requirements and linked them to the dimensions in the so-called DQ Navigator. When a dimension is selected, the Navigator provides the associated requirements and their source. "This tool can be used by developers to implement good AI - but also by users who want to assess the trustworthiness of an AI." The European standards on data quality and secure AI have not yet been published, but the glossary and navigator were developed with these in mind and can therefore be a building block for meeting the upcoming standards.

Making users of AI fit

A second major component of KITQAR is supporting users in dealing with artificial intelligence - an aspect that contributes to Article 4 of the AI Act AI Literacy. More and more companies are using AI and have had to provide employees with a basic understanding of it since the beginning of February. KITQAR has developed a learning journey that starts before the glossary and navigator. Hauschke explains: "Our online presentation with an application example is the first element in which we provide a foundation. There is also an Open HPI online course, which almost 5,000 people had already used to delve deeper into the topic before AI Literacy came into force." Anyone who is also interested in information on the topic of data quality can use the glossary and navigator to delve deeper into the subject.

"It will be a learning process that never ends - for AI as well as for manufacturers and users. But if we use our expertise in Europe, we can show how safe and trustworthy AI works. And that is a concept that may be more sustainable in the long term than some of the current hype."

KITQAR

The KITQAR research project (AI test and training data quality in the digital working society), funded by the Digital Working Society think tank of the Federal Ministry of Labor and Social Affairs, ran from December 2021 to December 2024. Under the consortium leadership of the VDE, the interdisciplinary project consortium included the University of Cologne, the International Center for Ethics in the Sciences and Humanities (IZEW) at the University of Tübingen and the Hasso Plattner Institute (HPI).

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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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