

Press Release

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AI-Diagram Import

AUCOTEC makes legacy diagrams usable for data-oriented engineering with AI Diagram Import

AI-supported solution extracts technical information from legacy documentation and transfers it into structured engineering data for Engineering Base

AUCOTEC AG presents AI Diagram Import (AIDI), an AI-supported solution that systematically extracts information from existing technical diagrams and prepares it for further use in Engineering Base. The focus is particularly on migrations, modernizations and brownfield projects, where valuable engineering knowledge often exists only as PDFs, scans, images or non-intelligent diagrams. AIDI helps companies reduce manual migration effort, make engineering data available faster and reuse existing plant knowledge for downstream processes.

„Our goal is to take the AI-supported analysis of existing technical documentation to the next level. The key is not only to recognize the engineering information it contains, but to extract it in its technical context and make it available for further use in Engineering Base. In this way, AIDI bridges the gap between document-based legacy information and data-oriented engineering.“

~Dr. Pouria Bigvand – Vice President Global Products & Technology, AUCOTEC

Valuable knowledge – trapped in documents

Many companies have extensive existing technical documentation that has grown over many years or even decades. The information it contains is readable by humans, but often does not exist in a form that can be directly searched, evaluated or reused in downstream engineering processes. Especially in brownfield and modernization projects, this creates significant manual effort for migration, re-entry and selective redrawing.

AIDI addresses this gap: existing technical information is not only digitized, but also interpreted in its engineering context with AI support and transferred into a structured data basis for Engineering Base.

More than document recognition: engineering context for Engineering Base

AIDI uses AI-supported methods to identify relevant objects in technical diagrams and assign them to the Engineering Base object model. This transforms graphically represented information into an alphanumeric engineering data model that can be reused for downstream processes.

The original graphical representation remains available as a visual basis. Navigable hotspots link recognized content with the corresponding alphanumeric information in Engineering Base. In this way, AIDI combines the familiar document view with a structured, data-oriented way of working.

Faster access to usable engineering data

The value is greatest where large quantities of comparable existing diagrams meet a high level of manual transfer effort. AIDI can help reduce recurring conversion work, make engineering data available earlier and use existing information more systematically for modifications, extensions and further digitalization steps.

This allows engineering resources to be deployed more purposefully: instead of recording information entirely from scratch, specialists can focus more strongly on validation, technical assessment and value-adding engineering tasks. At the same time, a scalable foundation is created for data-oriented migration and modernization processes in Engineering Base.

AI-supported – technically validated

AIDI is designed as an AI-supported approach in which the human-in-the-loop remains an essential component. Technical experts accompany the process, particularly when training the AI and technically interpreting the results. The information contained in technical diagrams, which has so far primarily been interpretable by humans, is made understandable and usable for digital processing. In this way, AIDI combines AI methods with engineering know-how and creates the foundation for structured, quality-assured engineering data.

AIDI is particularly suitable for larger and, where possible, consistent document repositories in brownfield, migration and modernization scenarios. Its current scope of application includes Single Line Diagrams, Circuit Diagrams and P&IDs.

AI with concrete added value for engineering

With AIDI, AUCOTEC is pursuing a practice-oriented approach to the use of artificial intelligence in engineering. The focus is not on AI technology itself, but on its concrete contribution to existing engineering challenges. AIDI extracts information that was previously only usable digitally to a limited extent, creating a link between established legacy documentation and data-oriented engineering processes.

This enables companies to transfer existing plant knowledge into the digital future without having to start from scratch. At the same time, the technical expertise of engineers remains a central component of the process: AI supports extraction and structuring, while technical assessment remains with humans.

Images* and Captions:



AI-Diagram Import (Bild: AUCOTEC)



Pouria Bigvand – Vice President Global Products & Technology bei der AUCOTEC AG. (Bild:AUCOTEC)

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Aucotec AG develops engineering software for the entire life cycle of machinery, plants, and mobile systems—backed by more than 40 years of experience. Its solutions range from flow diagrams and control and electrical engineering for large-scale plants to modular vehicle electrical systems for the automotive industry. AUCOTEC software is used worldwide. In addition to its headquarters near Hanover, the AUCOTEC Group operates six other locations in Germany as well as subsidiaries in China, India, Malaysia, South Korea, the Netherlands, France, Italy, Austria, Poland, Sweden, Norway, and the United States. A global partner network also ensures local support worldwide.

If published, please send us a complimentary copy. Thank you.

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