



Presseinformation - Press Release

STILL transfers ARIBIC research findings into practice

Digital twins for the warehousing of the future

Hamburg, 24 April 2024 - Real-time 3D maps are the basis for the intralogistics of the future. The recently completed research project ARIBIC (Artificial Intelligence-Based Indoor Cartography) automatically collected and used data for the live digital twin of a warehouse. The results of this project are now being translated into marketable products by Hamburg-based intralogistics provider STILL. Visitors to this year's Hannover Messe can find out more about the project at two stands until 26 April - the Google Cloud stand (Hall 16, Stand A10) and the CampusOS stand (Hall 15, Stand H13).

Where in the warehouse is the pallet I am looking for? How many storage spaces are still available in my warehouse? These and similar questions arise every day in practice, especially when manual actions distort the data in the warehouse management system. True transparency in warehouses and production halls can only be achieved with digital maps that record and visualise the location of objects and areas using a digital twin - in real time. This solution is particularly interesting from an economic point of view if the necessary data is collected automatically and more or less "in passing". The ARIBIC research project, which has now been completed, investigated how such an automated status and data collection process could be implemented. Dennis Schüthe, project manager at STILL, knows the solution: "We collected the data required for the digital twin via a sensor setup in the industrial trucks that 'simulated' the sensors that will be integrated in the future. This data is then combined into a digital representation of the environment, transferred to the cloud and enriched with semantic information. There, the inventory can be compared with the warehouse management system and discrepancies automatically identified". This enriched map provides live information about the warehouse, as the industrial

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trucks are constantly moving and updating the map in real time. This creates a 'living' digital 3D twin, which reduces workload and significantly improves data quality.

Holistic optimisation of warehouse processes

For companies, the real-time representation of their warehouse is an important key to optimising their warehouse processes. "In addition to the transparent localisation of driverless and manual transport systems, the optimisation of routes and warehouse structures is a major added value of a digital twin. There are also possibilities for real-time stocktaking and automated material ordering thanks to a link with the enterprise resource planning system. Safety in the warehouse is also greatly enhanced by the ability to identify faulty infrastructure or blocked emergency exits in the 3D map," adds Dennis Schütte. With its findings and tangible results, the ARIBIC project has created a valuable basis for versatile digital applications in the field of intralogistics and warehouse optimisation. Matthias Merz, Senior Director Intralogistics Software Solutions: "Over the next two years, I expect the project results to be developed into specific applications and integrated into commercial products." As early as next year, STILL will start implementing the research results in practical products, starting with proof-of-concept installations in real environments.

The ARIBIC project

The ARIBIC project ran from March 2021 to the end of 2023 and involved not only the lead manager STILL, but also the Karlsruhe Institute of Technology (KIT), the University of Toronto with the STARS laboratory and the Canadian sensor manufacturer LeddarTech. The project was funded by the German Federal Ministry of Economics and Technology (BMWi) and the Industrial Research Assistance Programme of the Canadian National Research Council (NRC IRAP). Hamburg-based intralogistics

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provider STILL contributed its OPX iGo neo - an autonomous order picker already well equipped with sensors and camera technology.

About STILL

STILL is a leading provider of intralogistics solutions. Its portfolio includes forklift trucks, warehouse technology, connected systems and services. Among the key attributes of the company, which was founded in 1920 by Hans Still, are customer specific, best-fit solutions with an excellent service. It is STILL's aim to make intralogistics 'smart': to develop intelligent solutions that make warehouse operations smoother and more efficient, that better protect the health of the people who work there and at the same time meet the highest sustainability standards. To this end, STILL is pushing new solutions for e-mobility, automation, fleet and energy management, as well as circularity, i.e. the consistent conservation and recycling of resources. With corporate headquarters in Hamburg, STILL employs 9,000 people in 22 countries and is part of the publicly listed KION Group AG.

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