Press release

Optimised spare parts logistics with KoLibRi

Focus on the efficiency of delivery processes

12.05.2020: „Collaborative delivery system with mobile "rendezvous traffic" for time-critical deliveries“. KoLibRi is the name of a project led by the Fraunhofer Institute for Material Flow and Logistics (IML). A Kern 24/7 Smart Terminal is an essential component of this project, which involves the demand-oriented and contact-free delivery and transfer of spare parts.

Shortages of urgently needed spare parts for production equipment can cause high downtime costs in a very short time. Reliability, punctuality and speed are the key characteristics of good spare parts logistics. Often, however, several customer orders are in the delivery vehicle at once, some of which are less urgent than others. Even more important is optimizing the interaction between technician, supplier and recipient, resulting in these positive outcomes: efficient delivery, greater flexibility, transport bundling and reduction of machine downtime. In summary, it is a matter of reducing interfaces and improving communication processes.

This is exactly where the research project KoLibRi comes in, aimed at the development of application software for mobile devices that dynamically plans and communicates the delivery location and time of spare parts between technicians, suppliers and recipients. A new type of optimization procedure for communication channels and

processes is to be set up, which will analyze the logistical processes, develop new route scheduling logics and improve the interfaces between the various stakeholders. The results are transferred into a mobile application (app) and tested under real-life conditions. The KoLibRi-App enables cross-company dynamic tour comparison and optimization with real-time data. In addition, the communication processes between companies will be standardized and paperless delivery at transfer points will be simplified. The transfer of goods is contact-free via a 24/7 Smart Terminal, which is digitally integrated into the processes via intelligent software.

KoLibRi enables flexibility in the delivery of time-critical consignments. This in turn increases delivery efficiency, reduces expensive downtime and reduces traffic in urban areas.

The following partners are involved in the KoLibRi project: *The Fraunhofer IML* takes over the project management as consortium leader of KoLibRi. The key task is developing the optimization procedure and the route planning algorithms for the mobile rendezvous system.

The practice partner *Night Star Express Logistik* provides tour data, processes and information flows from the field of night logistics. In addition, the requirements from the operational business with time-critical shipments are incorporated into the design of the mobile rendezvous system.

The *TOP Mehrwert-Logistik & Co. KG* contributes knowledge and resources from its field service technicians and its logistics network, with a focus on the supply of spare parts to the project. The data from technicians and couriers is then used to identify transfer points and to include time requirements in the optimization.

VCE Verkehrslogistik GmbH is responsible for the design of the information flow and determines the data requirements of the participants. The focus of the research project

is programming an application software prototype for mobile devices and the implementation at the practice partners.

Funding/Project sponsors

The project is funded by the German Federal Ministry of Education and Research (BMBF) and supervised by the Karlsruhe Institute of Technology as project management agency.

GEFÖRDERT VOM

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