

## TRANSFER PROJECT T6 – CRC 637

### AUTONOMOUSLY CONTROLLED DISTRIBUTION OF HIRE EQUIPMENT

The management of hire equipment within the event industry focusses on the dynamic distribution and control of event related orders in closed logistic systems. At this, heterogeneous loads of equipment, reaching from chairs up to complex stage machinery, circulate between central warehouses and one or more venues. Disposal and handling both underlie a large time pressure. Customer requirements, such as a strict adherence to schedules, a high degree of flexibility and an attractive price-performance ratio additionally increase the complexity and dynamics. Thefts, technical problems and the requirements of possible subsequent orders further complicate the order picking and often result in reduced and inefficient transport volumes. Methods of autonomous control are suitable to handle conflicting goals in a dynamic logistic environment.

Event management involves high customer requirements concerning the adherence to due dates, the flexibility, cost-effectiveness and technical reliability. This applies both for the distribution and control of events and the related logistic processes. The efficient execution of these processes often implies a conflict between the order- or event-oriented requirements and economic motives. At this, the optimal utilization of transport capacities reduces the mobility of equipment, such as stages, speakers, head-lights and so on and therefore complicates a dynamic replanning. These aspects further increase, when a close temporal sequence of events makes a back haul of the equipment to storage impossible.

This results in a decentralised of equipment for subsequent events directly at a venue. In combination with dynamic effects, such as damages or thefts, the consequences are multitude, often inefficient and underemployed transports with corresponding costs and time exposure. The transfer project aims to the design, implementation and proving of a system for the autonomous disposal of hire equipment in the field of event management. The application scenario is provided by the Joke Event AG, a full-service-agency from the branch of event marketing. With 60 employees and

an annual turnover of ca. 7 million €, the agency constitutes a typical SME (small or medium enterprise). The main business segment is the letting of event related equipment, reaching from chairs and cloak hangers over stage elements up to electronic devices. The related services comprise the provision, construction and dismantling of equipment at the venues, including the logistics.

Hereto, the Joke Event AG conducts a central storage at its company headquarters in Bremen and further branch offices for advertising campaigns in Frankfurt, Hamburg, Berlin, Stuttgart, Munich and Düsseldorf.

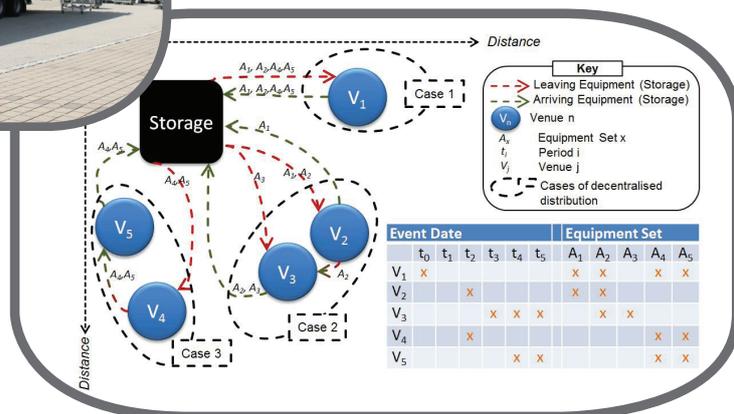
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Project Partner



**JOKE Event AG**



The Bremer Institut für Produktion und Logistik GmbH (BIBA) at the University of Bremen is divided into two departments, the department of „Intelligent Production and Logistics Systems“ (IPS) and the department of „ICT applications for production“ (IKAP). Based on distinct fundamental research, the BIBA focuses on application-oriented research and industrial contract research for national as well as international customers in the fields of logistics services, automobile, aviation and wind energy.

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