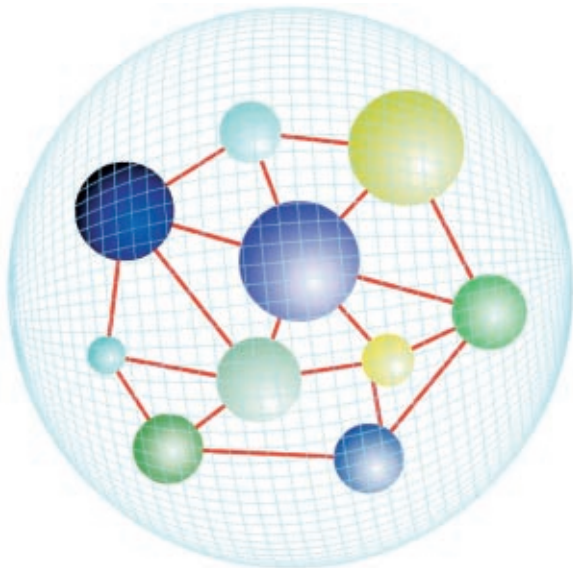


Bavarian research & innovation



ForLog – Bavarian Research Cooperation
Supra-adaptive Logistics Systems

EVERYTHING FLOWS: LOGISTICS FOR THE AUTOMOTIVE INDUSTRY



Car buyers can nowadays personalise their vehicles in a wide range of options. So there are no two identical models produced in a day. Moreover, the trend shows even stronger in the direction of customised products and services. The outcome is an increasing diversity of variants and models. As a result, complex challenges for the logistics have to be coped with. The Research Cooperation ForLog wants to overcome the new difficulties by introducing "Supra-adaptive Logistics Systems". Supra-adaptive in this context means that a logistics

system quickly and efficiently adapts itself to dynamic changes within the whole value chain by minimal costs.

Automotive producers are committed to quality for their customers and bound by the adherence to delivery days. This is valid for the component and module suppliers as well as for the logistics service provider. All parties are integrated in a global and complex system of interdependence. Increasing diversity and globalisation therefore demand the best possible, i.e. the optimally matching degree of flexibility

to fulfill those needs.

The aim of ForLog is to examine the complete logistics network of the automotive industry and to develop new concepts to handle the complex material and information flow with greater adaptability and versatility. The task encompasses planning and organisation of the logistics structures as well as of the material and information flow within the whole value chain. This also reflects the cost-value ratio of every measure and the qualification of the employees.

ForLog analyses and describes such a logistics system in cooperation with the automotive producers, who yield 35% of the Bavarian economy's export

volume. 15% of the jobholders in Bavaria are employed in the automotive industry. The automotive suppliers today produce nearly three-fourth of every car. Logistics service providers are responsible for the freight transport and take over an increasing number of new tasks formerly the automobile producers dealt with.

The results of the research projects are not only limited to the automotive industry. They are also meant to be valid for all other similar value adding networks with the same complexity, as for instance the aerospace industry.

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RESEARCH TOPICS

- **FlexLog:** Flexibility and adaptiveness
... identifies the optimal degree of flexibility as well as the conceptual design of network architectures as fundamentals of supra-adaptiveness.
- **SysLog:** Information system architectures of supra-adaptive logistic systems
... develops situational recommendations and information system architectures for implementing network wide adaptiveness.
- **PlanLog:** Modelling and planning of adaptive plant structures
... creates an adaptable planning concept based on configurable planning components for enabling all network members to change-driven low effort reactions.
- **TransLog:** Organisation of logistics service providers and structures of freight transporting networks
... develops the ideal portfolio and form of organization for logistics service providers to ensure flexibility.
- **NutzLog:** Allocation and balancing of advantages
... generates a network overarching model for the allocation of advantages which is aimed at supporting cooperative collaboration in terms of win-win situations.

Economic Applications:

Supply network overarching concepts, methods and tools support automotive manufacturers, suppliers and logistics service providers in their daily business dealing with changing challenges.

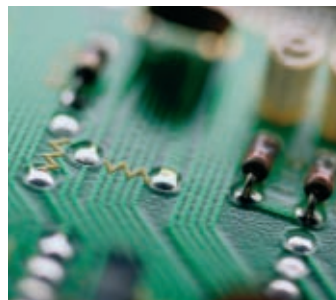
Integrative collaboration of all partners involved establishes the fundamentals for flexibility in networks.

The systematic acquisition, editing and providing of information allows reliable decisions.

Thus makes logistics one of the decisive factors of success for the automotive and other cyclical capital goods industries.



Photo: Andy Ridder / VISUM



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Industrial Partners:

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