

## **Dialogue between science and industry**

The lecture series "Applied Logistics" was set up at the Faculty of Production Technology at the University of Bremen in the spring of 2004 with the aim of facilitating the process of transfer between industry and science - and in order to inform students about the fields in which they can make good use of the knowledge they have acquired during their degree course once they embark on their subsequent careers: the "Applied Logistics" course is designed to combine the teaching of the required theory, hands-on experience of logistics applications in the day-to-day operations of real-world companies and preparation and follow-up work by the students on their own initiative. It is offered as a compulsory elective subject in the main and Master's curriculum for the Business Engineering and Production Technology degree courses with three specific specialities:

- Applied Procurement Logistics
- Applied Production Logistics and
- Applied Contract Logistics.

In each core topic area, three of seven blocks during each semester focus on the summarising, repetition and case-specific in-depth, highly practice-oriented analysis of the required theoretical knowledge, much of which has already been covered in various logistics lectures at the University of Bremen. In addition, case studies from conferences and forums staged by Bundesvereinigung Logistik are incorporated and profiled in the lectures in order to promote a better understanding of the topics in question, and this process is rounded off by follow-up reviews of excursions to companies. The students can download all the lecture charts.

The four remaining blocks comprise excursions to companies who describe and explain the benchmarks or typical structures of their logistics processes. The companies are mainly based or operate plants in Bremen and Lower Saxony. During the excursions, specialists at the companies/institutions in question provide specific additional information, and the students have an opportunity to personally "experience" and visualise the practical relevance of the knowledge they have acquired, laying the foundation for a thorough understanding of logistics activities.

The students are given the task of preparing themselves for the excursion in advance as if they were being invited for a job interview. During the excursions, a top management employee generally holds an introductory presentation on the products/services and the market and competitive situation of the company as well as on the organisational structure and the value added chains - with particular emphasis on in-house and purchased logistics services. The presentation is followed by tours of the company, often in small groups and led by the employees responsible for the specific field of expertise. In order to avoid a situation in which different participants have different levels of information, three to five students are chosen in advance as "protocol-takers" for each excursion: their job is to document all the information in writing, to review their written records for consistency, to address any remaining questions during the final session, to compile this information in the form of a protocol and then to submit this protocol to the lecturer and the main contact in the company for approval. The protocols are then made available to all lecture participants via the Stud.IP course management system.

Applied Production Logistics is offered as a lecture every winter semester, while Procurement and Contract Logistics rotate every summer semester. The lecture times are grouped to form blocks of four hours, ideally on Monday afternoons. All lectures culminate in a final oral examination in line with the examination regulations of the University of Bremen.

The lectures cover the following topics:

### **Applied Production Logistics**

- Definition, structure and tasks of logistics and production logistics
- Production process: types of production and production systems, work organisation and order handling, KPI systems
- Material flow: warehouse, order picking, transport, layout planning, simulation
- Production planning and control: definition, tasks, strategies, techniques
- Specific description based on order handling in the field of automotive production: tasks and methods
- Logistics networks: definition, control
- Excursions: two OEMs (original equipment manufacturers), one in the field of series production and one in plant engineering/construction site production; two 1st tier suppliers (directly integrated system suppliers), one ideally in the "greenfield" sector (new plant on a greenfield site), the other "brownfield" (company that has grown organically and is based in an existing traditional industrial location) or two competitors (seen from the perspective of "who does what better?")

*The following companies act/have acted as partners for the excursions:*

- *Daimler AG, Bremen plant*
- *Johnson Controls and/or Lear Corporation, plants in Bremen*
- *ZF Lenksysteme NACAM, Mittelshuchting*
- *A+R Abeking+Rasmussen ship and yacht yard, Lemwerder*
- *Gildemeister AG, Gütersloh plant*
- *Tchibo Röstkaffeeproduktion, coffee roasting, Hamburg*

### **Applied Procurement Logistics**

- Definition, development, logistics tasks, categorisation of "procurement logistics"
- Strategic procurement logistics: general framework for producers and suppliers in industry, sourcing strategies, complexity management, procurement management, supplier and service provider management, e-procurement
- Tactical procurement logistics: requirements and inventories, types of procurement, procurement structures, delivery concepts in procurement, standard concepts in the automotive industry
- Operational procurement logistics: freight carriers, containers, receipt of incoming goods, conveying technology, warehouse technology
- Logistics networks: supply chain design, trends and strategies
- Specific description based on real-world examples from the capital goods, automotive and fast-moving consumer goods sectors

*The following companies act/have acted as partners for the excursions:*

- *BLG Logistics Group – central purchasing & automobile terminals in Bremerhaven*
- *BMW AG, Supplier Management, Leipzig plant; mb consulting, Poxau*
- *Car Box, Achim*
- *ArcelorMittal, Stahlwerke Bremen*
- *Melchers Handelsgesellschaft, Bremen*

- *Jacobs University, Bremen, central purchasing unit*
- *Tchibo Logistik, Bremen, and Tchibo Röstkaffeeproduktion, logistics and coffee roasting, Hamburg*
- *MGL Metro Logistics Group, Düsseldorf, Berlin Technical University, Institute for Technology & Management, Department of Logistics*
- *SAUER-Danfoss, Neumünster*

### **Applied Contract Logistics**

- Definition, structure and tasks of logistics and contrast logistics
- Contract logistics from the demand perspective: outsourcing of complex services - motives, benefits, risks, invitations to tender, success stories from the customer perspective
- Relationship management from the provider perspective: winning orders, pricing, contract content, risk management, project management, customer loyalty strategies
- Management of logistics services: definition, tasks, strategies and techniques
- Contract logistics in selected sectors: finished vehicles, procurement logistics for foreign automotive plants, assembly line supplies in the aviation industry and FMCG - fast-moving consumer goods - sector

*The following companies act/have acted as partners for the excursions:*

- *E.H. Autotec (meanwhile BLG Autotec), Bremerhaven: vehicle import and export*
- *BLG Logistikzentrum, Bremen: automotive production*
- *Stute Verkehrs-GmbH (K+N-Gruppe), Bremen: aviation industry*
- *Fiege net, Bremen: food logistics for stationary retailers*

If they plan accordingly and possess a sufficient basic knowledge, students in the Business Engineering and Production Technology disciplines can sign up for all three subjects. The number of lecture attendees is limited to a maximum of 30 due to restrictions in connection with the excursions. Attendance is therefore compulsory for the admitted participants, and any student who is absent from more than one excursion will not be admitted to the final examination.

All in all, around 350 students have attended the courses held to date. Successful participation was confirmed by passing of oral group examinations. The average grade for the semesters was between 1.8 and 2.3, with a mean of 2.1 for all lectures.

The feedback from students who attended the lecture series is extremely positive. In their evaluations at the end of each core topic, they above all emphasised the way in which the lectures enable them to understand and visualise the practical application of the theoretical knowledge they have acquired. What is seen as particularly positive is that the lectures provide insights and expertise that are of provable relevance for company logistics in the real world.

Prof. Dr.-Ing. Thomas Wimmer  
Chairman of the Executive Board  
Bundesvereinigung Logistik (BVL) e.V., Bremen  
Honorary Professor for "Applied Logistics"  
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*Founded in 1978, **Bundesvereinigung Logistik (BVL) e.V.** is a nonprofit, neutral and primarily honorary organisation. It serves as a platform for logistics managers from the top echelons of industry, commerce, the service sector and the world of science who are actively involved in the logistics field. It has set itself the goal of making the importance of logistics more transparent in the public arena and promoting the development of logistics on the conceptual front. At the latest count, BVL had around 9,500 members. BVL is a byword for holistic logistics concepts. Its strong regional network provides forums for a meeting of expert minds and the exchange of experience in many locations. BVL also serves as a platform on which companies and the world of science come together - at events like lectures held at various universities and colleges by specialists and management executives from among their ranks. Through the events it organises, its publications and its general activities geared towards providing information, BVL promotes interaction between specialists and generates stimuli for cross-sector, future-oriented logistics strategies to secure the competitiveness of companies both in Germany and abroad. It acts as a vibrant network within and beyond the German logistics community.*

**BIBA – Bremer Institut für Produktion und Logistik GmbH** is an engineering research institute. It was founded in July 1981 as one of the first affiliated institutes of the University of Bremen. Today it is one of the biggest research institutes in the state. Its research focus is logistics. In this field, BIBA has established itself with its two divisions "Intelligent Production and Logistics Systems (IPS)" headed by **Prof. Dr.-Ing. Bernd Scholz Reiter** and "ICT Applications for Production (IKAP)" under **Prof. Dr.-Ing. Klaus-Dieter Thoben**. The projects BIBA is involved in include three special research fields of the German Research Association (DFG); the institute was presented with an award by the German President on August 17, 2009, recognising its status as a "Location in the Land of Ideas".

**Prof. Dr.-Ing. Thomas Wimmer** was born in 1959 and grew up in Hamburg. After studying Mechanical Engineering at the University of Hannover, he embarked on his chosen career and studied part-time for a PhD at the Technical University of Berlin from 1985 till 1988. Wimmer began working in the field of industrial logistics in 1984, initially at BMW in Dingolfing, from 1989 at Sauer-Sundstrand in Neumünster and from 1993 at the Bremer Vulkan Shipyard. In 1997, he joined Proventus Management Consultants as a partner, subsequently moving to Bundesvereinigung Logistik (BVL) in Bremen as Managing Director in 1999, where he was then appointed Chairman of the Management Board in 2004.

Alongside his position at BVL, Wimmer has been a lecturer for applied procurement, production and contract logistics at the University of Bremen and has also been lecturing on contract logistics at Jacobs University in Bremen since 2004. On November 3, 2009 Wimmer was appointed an Honorary Professor at the University of Bremen.