

Climate change, digitization and new opportunities – a boost for Combined Transport?



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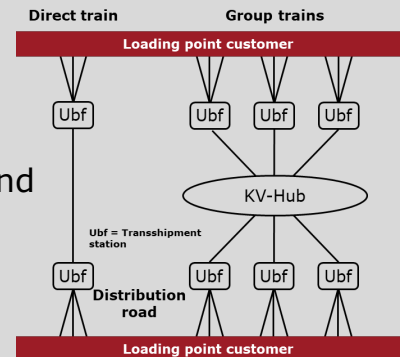
Business Seminar Winter Semester 2021/2022



Combined Transport – Making use of efficient combination of transport modes

Complexity of Combined Transport

- In contrast to road freight transport, combined transport requires the organization of a complex, multi-link transport chain
- In the pre- and on-carriage, route planning, pick-up and delivery problems, and synchronization with the main run must be considered
- In the main run, hub location, service network design and multi commodity flow problems are the focus of attention



Benefits of Combined Transport

- Leveraging the respective strengths of different modes of transport, such as the safety of rail and the flexibility of road transport.
- Economic benefits such as reduced road congestion, reduction of greenhouse gases, cost advantages due to mass transport, optimization of working time, high transport safety
- Legal advantages such as low toll costs, exemption from vehicle tax, exemptions from driving bans, 44-ton rule



Climate change, digitization and new opportunities – a boost for combined transport?

Seminar focus

Ecologically efficient transport

The transport sector has a significant impact on CO₂-emissions. Combined Transport, especially long main runs on rail, can reduce this impact.

- Encourage use of rail transport
- Reduce use of road transport
- Increase efficiency of overall Combined Transport

Digitization & Technology

The transport sector lacks behind in digitization. Especially rail transport, which Combined transport is depend on, could be improved. Processes in the sector could and should be further automated.

- Efficient terminal operations
- Inter-actor communications
- Tracking
- Intelligent planning systems
- Equipment and transshipment developments

New Opportunities

The improved trans-eurasian rail connection to and from China offers new opportunities for Combined Transport. Cross-border traffic can also be prone for rail transport in an efficient transport chain.

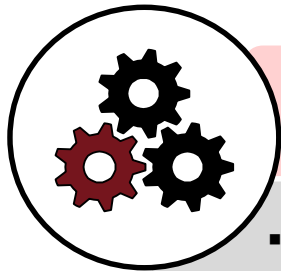
- Challenges in cross-border transport
- Market potentials of new opportunities
- Regulatory view on Combined Transport

This seminar focuses on the literature-based analysis of issues in combined transport



Objective

- Research of the state of research on combined transport
- Compilation of an overview regarding current fields of application and research projects
- Identification of application potentials



Methodical approach

- Conducting a systematic literature research on various topics
- Practical research / market analysis on current applications of these technologies
- Use of simulation software if interested/required

Important Dates

26.10.2021

09:00 – 10:30

Online

Kickoff - Meeting

Presentation and assignment of topics

19.11.2021

9:00 – 12:00

Online

Interim presentation/question session

Discussion of the work status

22.12.2021

Until 23:59 (via E-Mail)

Submission of the term papers

20.01.2022

08:30 – 17:00

Online

Final presentation I

Group presentation, Q&A session and discussion

21.01.2022

08:30 – 17:00

Online

Final presentation II

Group presentation, Q&A session and discussion

Grading of the seminar

Group performance

- Term papers (30-40 pages)
- Presentation materials

60 % of the grade

Individual performance

- Final presentation (20 minutes per group)
- Moderation of the following discussion (20 minutes)
- Participation in the discussions

10 % of the grade

Mandatory events

- Only one group member is allowed to be absent from each session
- In case of non-participation an excuse is necessary
- Each seminar participant should present content at least at one of the appointments

30 % of the grade

Organizational Information



Organizational information

Participants

Master students

Groupe size

3 Students

Supervision

Prof. Dr. Ralf Elbert
Chair of Management and Logistics

Contact persons

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