



RTDM 2018

International Symposium on Rail Transport Demand Management

Welcome



RTDM 2018 – Welcome and Introduction

Manfred Boltze

Technische Universität Darmstadt | Transport Planning and Traffic Engineering
DB Rail Lab | AG Connected Mobility

RTDM 2018 | Darmstadt, Germany | 24/25 October 2018

Cooperation of DB and TU Darmstadt

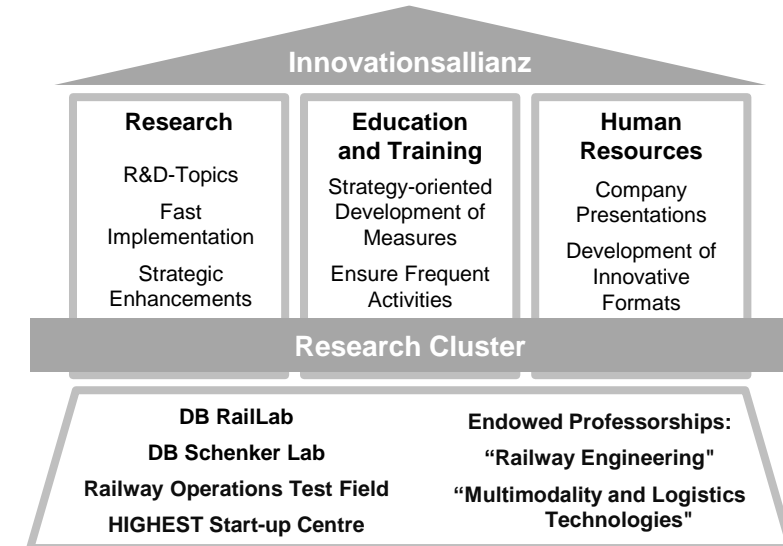
Since 2009, DB AG and TU Darmstadt are jointly working on innovations in the areas of transport networks, mobility, and logistics.

Main Goals of DB RailLab

- Interdisciplinary research
- Mutual support in education and training
- Generating human resources

Current Working Groups in the DB RailLab

- **AG Signalling** – Control and safety technology
- **AG Connected Mobility** – multimodal and networked mobility concepts
- **AG Cyber Security** – Data security for critical infrastructures
- **AG Operation** – R&D in production, e.g. evaluation of incident strategies



The working group **Connected Mobility** investigates the applicability of new technologies and algorithms for innovations in the design of intermodal mobility services.

Research topics

- Multimodal and digitally networked mobility concepts.
- Nationwide frame architecture for mobility services.
- Passenger guidance and improvements of traveller information.
- New methods to forecast travel demand and train occupancy.
- Development of strategies for cases of incidents.
- Methods and procedures for data analysis.
- Demand Management for Rail Passenger Transport

Contact

Thomas G. Köhler, DB AG, Head of group-wide IT programs

Prof. Dr.-Ing. Manfred Boltze, TU Darmstadt, Transport Planning and Traffic Engineering



Traffic management influences the supply of traffic and transport systems as well as the demand for travel and transport through a bundle of measures with the aim to optimise the positive and negative impacts of traffic and transport.

Avoid traffic

Shift traffic

- departure time
- mode
- destination

Control traffic

**Demand
Management**

**Supply
Management**



Dynamic traffic management reacts on specific situations, such as incidents, unexpected demand, heavy weather conditions and so on.

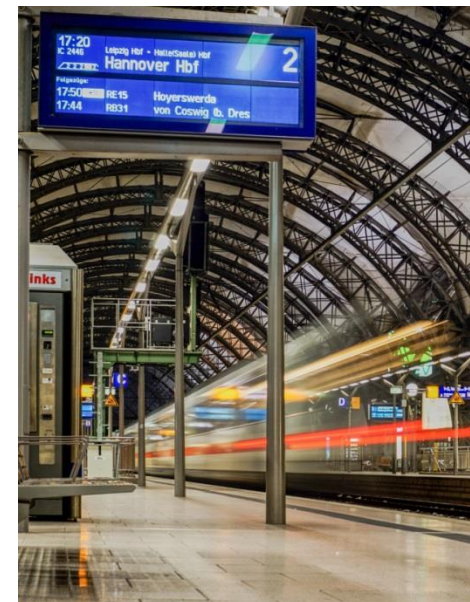
Why do we need Dynamic Demand Management (DDM)?

Smaller and larger incidents, as well as unexpected peaks in demand, cannot altogether be avoided in the complex rail transport system.

However, also in such cases of incidents, delays in passengers' itineraries should be minimised, customer satisfaction should be maintained, and operation should remain efficient.

Supply-oriented measures (e.g. in train operation) alone cannot always resolve such situations. Overcrowded connections and/or unreasonable individual delay may occur.

Therefore, there is also a need to guide passengers (control of passenger flows) and to implement **demand-oriented measures**.



Which types of measures can be used for DDM?

- Measures of tailored **passenger information** delivered through different channels: information on alternative connections, on expected train occupancy, on reduced connection time, ...
- Measures influencing the **attractiveness of connections**: additional services (lounge access, serving coffee, ...), seat reservations, first class upgrades, and others
- **Pricing measures**: refunds, vouchers, ...
- **Regulatory measures**: access restrictions for platforms, evacuations, ... (only applicable in serious cases)

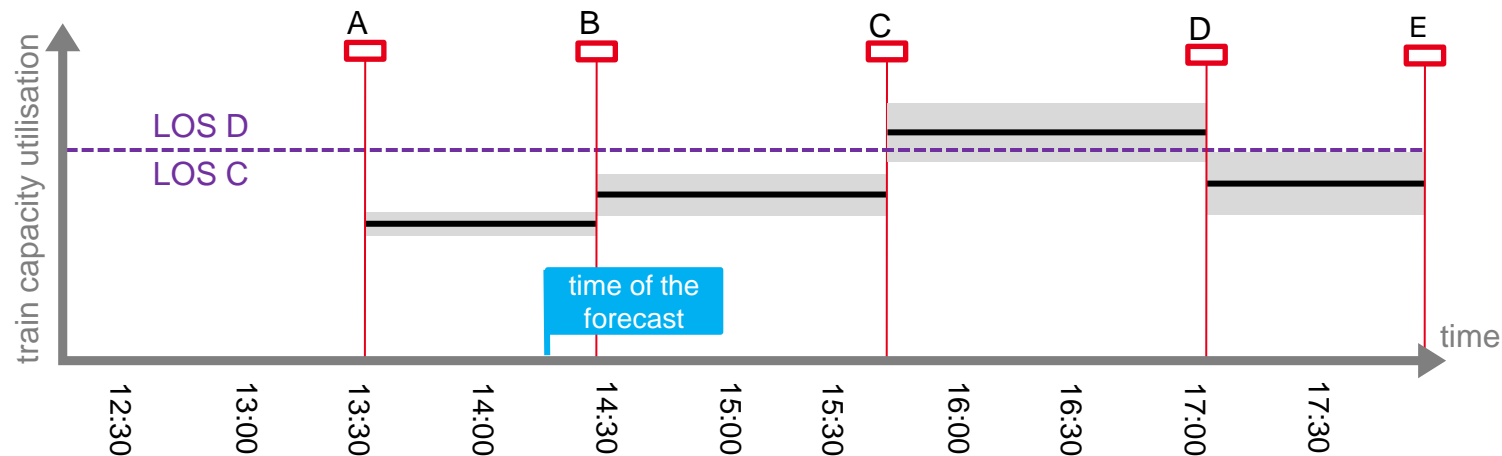
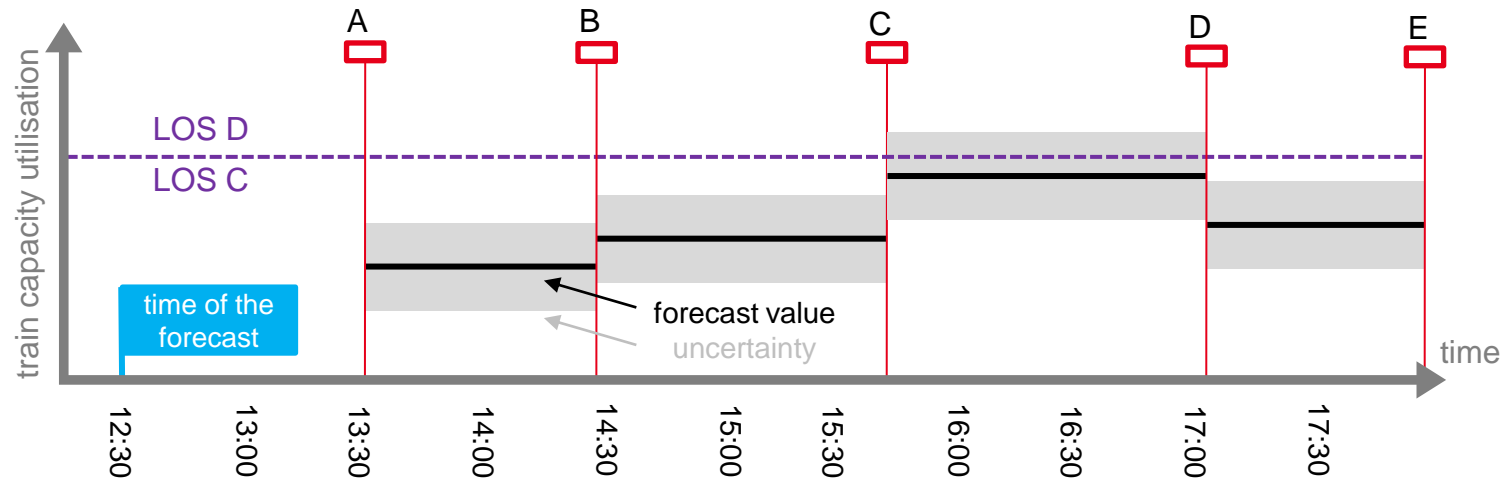
New technologies are enabling better data capture and forecasts (e.g. on train occupancy) and better opportunities for passengers to receive such information.

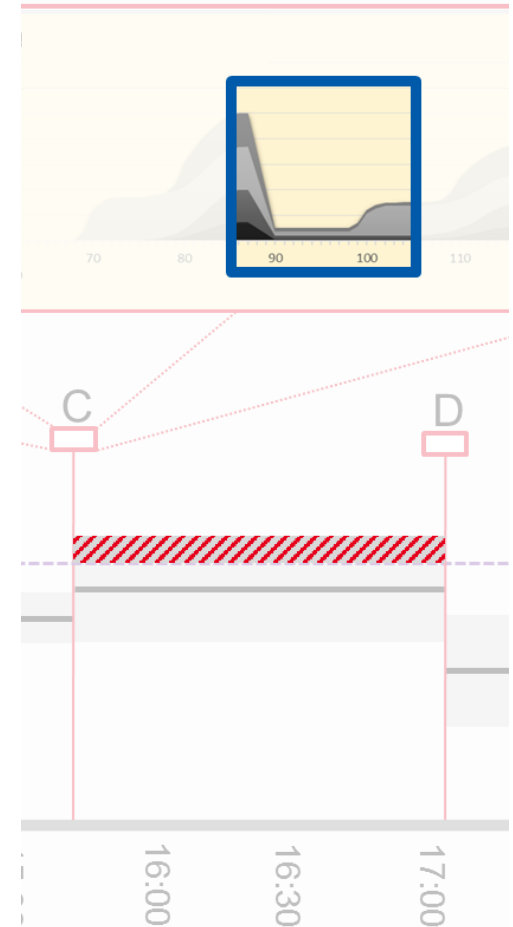
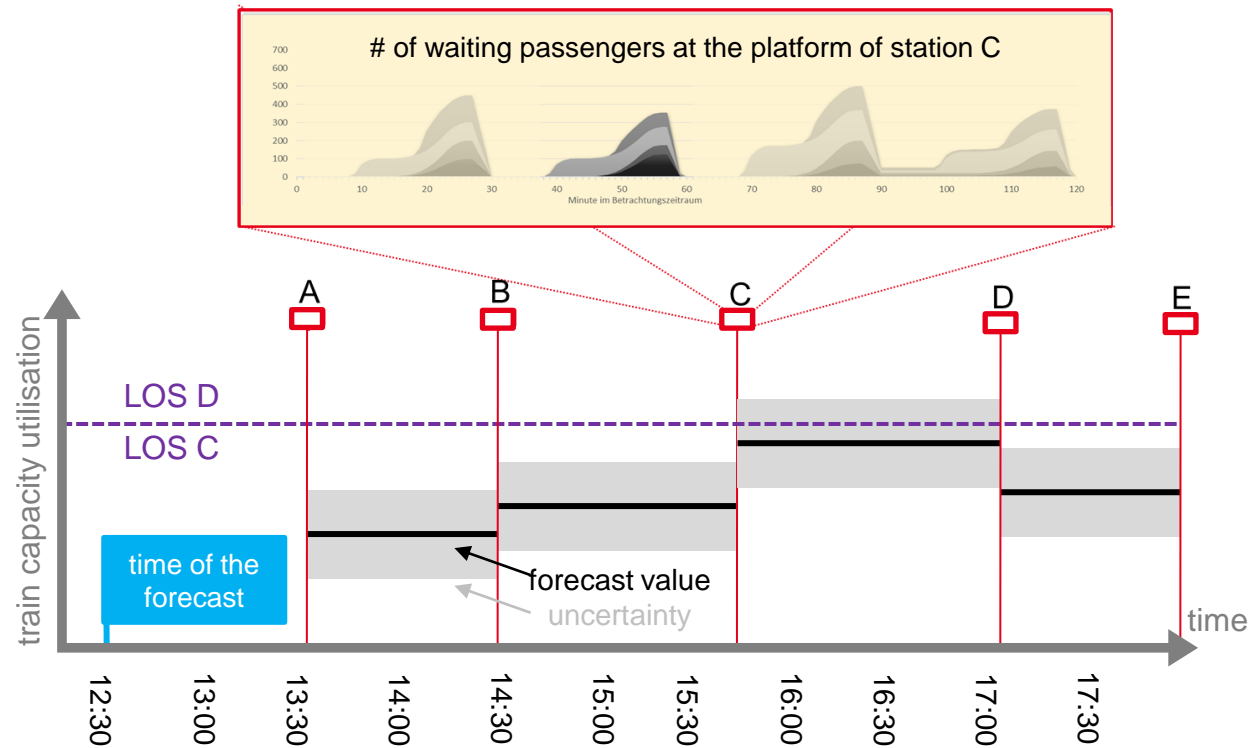


Foto: DB/Axel Hartmann

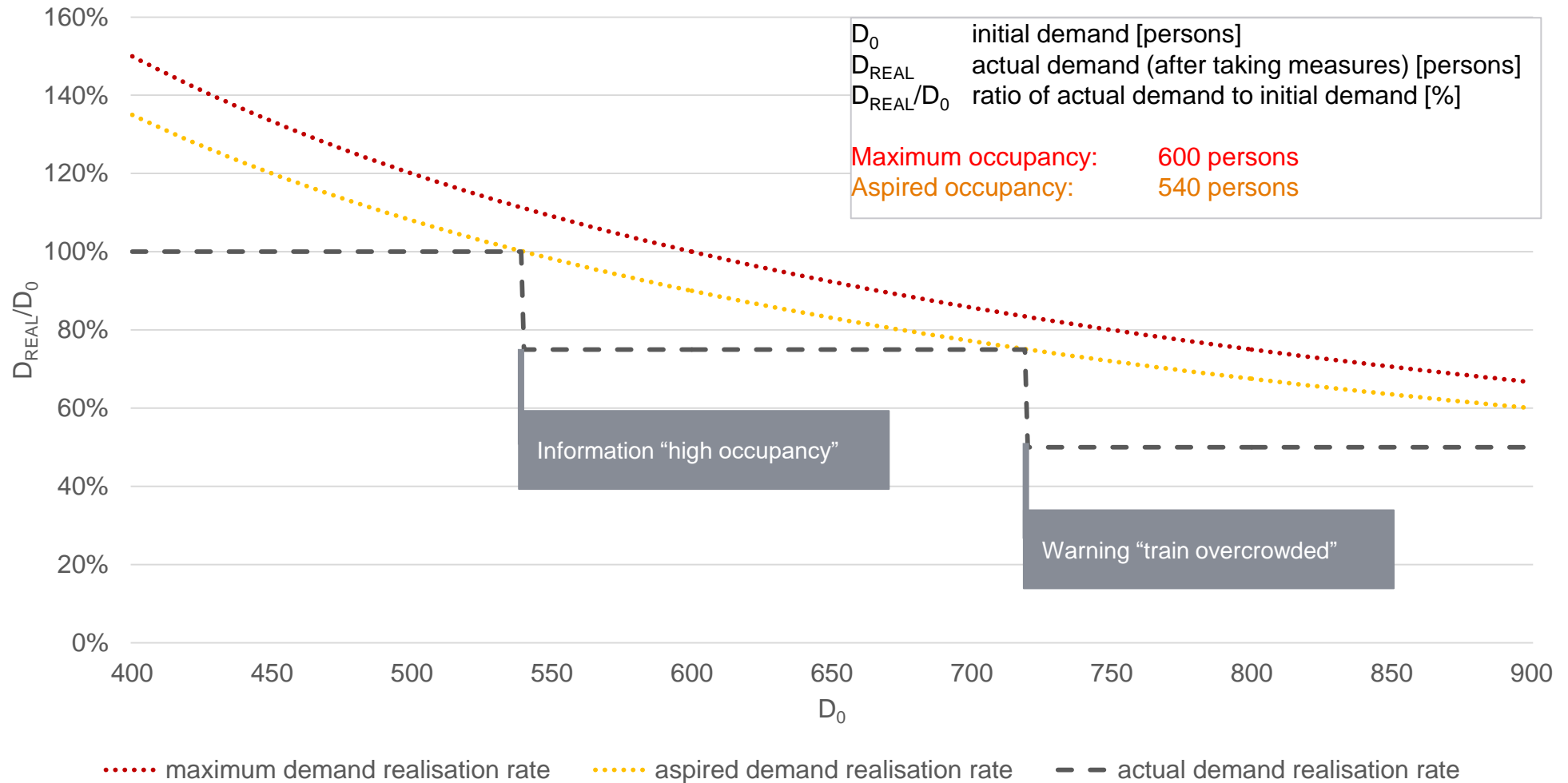


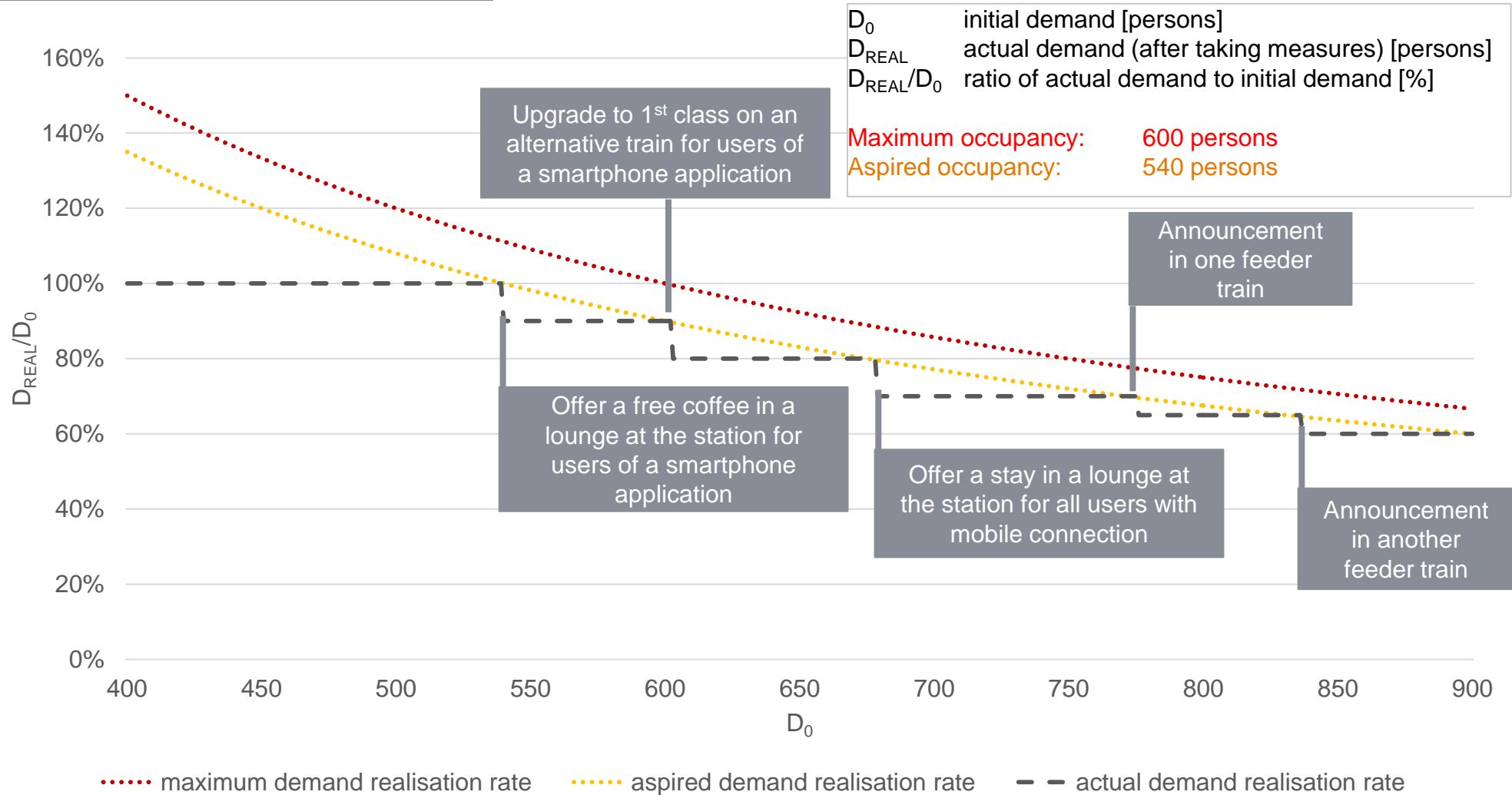
Expected Passenger Overload in a Train Run

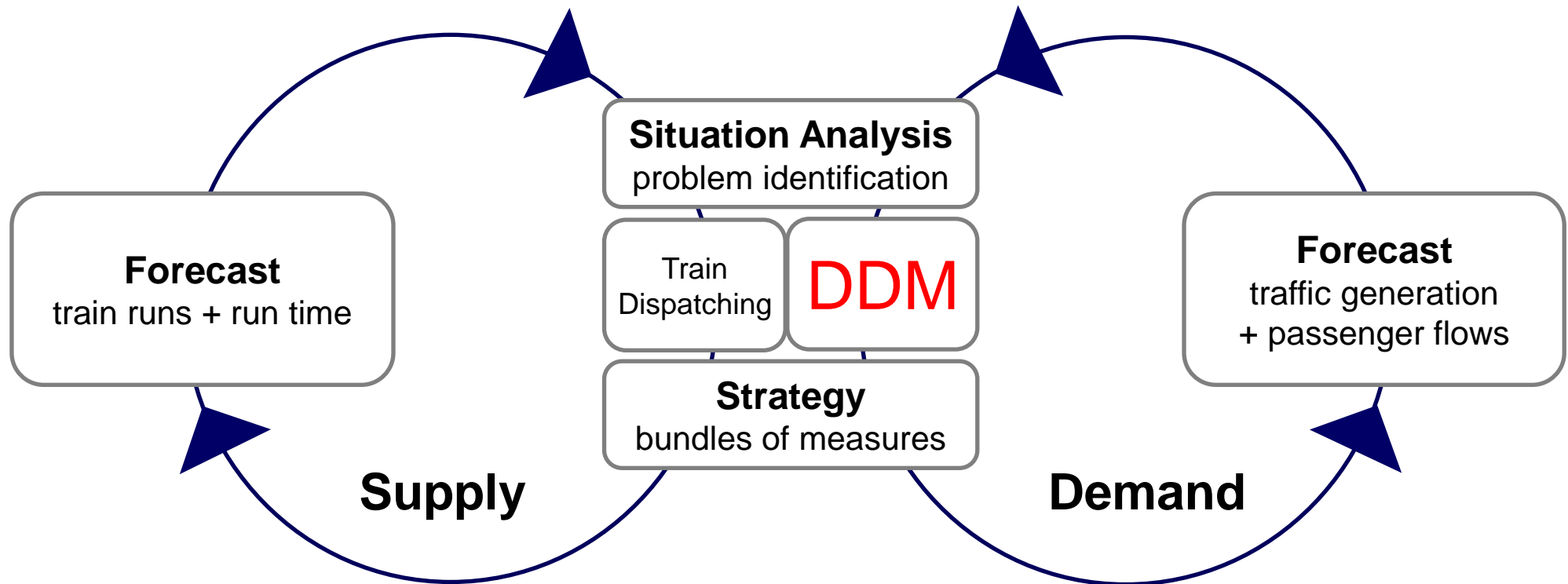




Demand management has to be used in a differentiated way and remaining uncertainties have to be reduced.







DDM: Dynamic Demand Management

Challenges for Research and Development – The Program of RTDM 2018

Session 1: Transport Service Planning and Dispatching

- How can we make transport service planning and dispatching more demand-oriented?
- How can we optimize dispatching and passenger-oriented train disposition?
- How to identify infrastructure bottlenecks and to plan networks under demand fluctuations?

Session 2: Demand Estimation

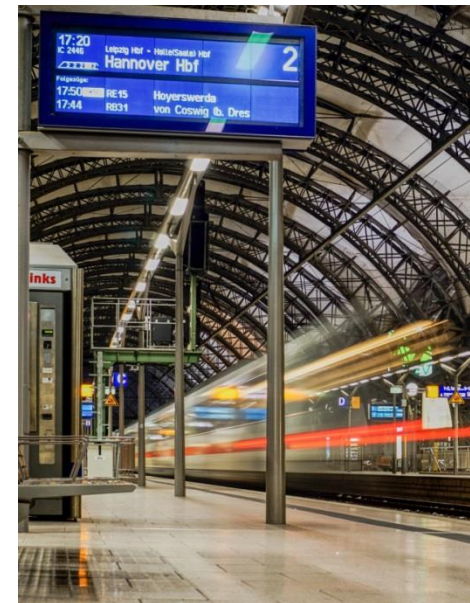
- How can we estimate the demand?
- How can we monitor public transport journeys and analyse the ridership in rail networks?
- How can we determine and predict passenger train occupancy in real-time?

Sessions 3, 4, 5: Demand Control

- Which measures can be used to influence demand? How do passengers react on them?
- How do technologies and infrastructure design influence demand?
- How could better passenger information and better feeder services influence demand?
- How will a “Shift to Rail” become reality?

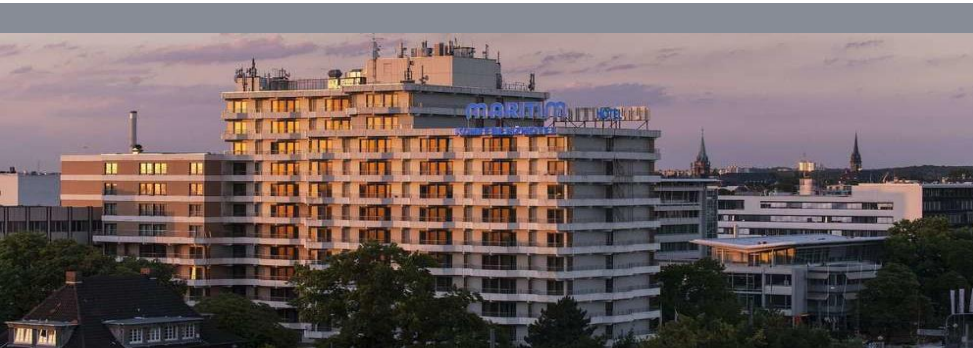
Session 6: Reliability and Incident Management

- How could we prepare for specific incidents and situations?
- How can we design disruption programs in railway transport in a customer-oriented way?
- How can we value the passenger risk of missed transfers?



Conclusions and Outlook

The Program



| Time | Wednesday 24th Oct. | Thursday 25th Oct. | Time |
|-------|---|---|-------|
| 09:00 | | | 09:00 |
| 09:15 | | | 09:15 |
| 09:30 | | Welcome | 09:30 |
| 09:45 | | Invited Lecture 3 - Ralf Borndörfer | 09:45 |
| 10:00 | Check-In and Welcome Coffee | | 10:00 |
| 10:15 | | Session 3: Demand Control I | 10:15 |
| 10:30 | | | 10:30 |
| 10:45 | | | 10:45 |
| 11:00 | Symposium Opening | Coffee Break | 11:00 |
| 11:15 | | | 11:15 |
| 11:30 | Invited Lecture 1 – Christa Koenen | Session 4: Demand Control II | 11:30 |
| 11:45 | | | 11:45 |
| 12:00 | Invited Lecture 2 - Bhargab Maitra | | 12:00 |
| 12:15 | | 12:15 | |
| 12:30 | Lunch-Break | Lunch Break | 12:30 |
| 12:45 | | | 12:45 |
| 13:00 | | | 13:00 |
| 13:15 | | | 13:15 |
| 13:30 | Session 1: Transport Service Planning and Dispatching | Session 5: Measures for Demand Control | 13:30 |
| 13:45 | | | 13:45 |
| 14:00 | | | 14:00 |
| 14:15 | | Coffee Break | 14:15 |
| 14:30 | | | 14:30 |
| 14:45 | | | 14:45 |
| 15:00 | Session 6: Reliability and Incident Management | 15:00 | |
| 15:15 | | 15:15 | |
| 15:30 | | 15:30 | |
| 15:45 | Session 2: Demand Estimation | 15:45 | |
| 16:00 | | Comprehensive Discussion & Research Needs | 16:00 |
| 16:15 | | Closing of the Symposium | 16:15 |
| 16:30 | | | 16:30 |
| 16:45 | | 16:45 | |
| 17:00 | Small Snacks | | 17:00 |
| 17:15 | | | 17:15 |
| 17:30 | | | 17:30 |
| 17:45 | Technical Tour EBD | | 17:45 |
| 18:00 | | | 18:00 |
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| 20:00 | Conference Dinner | | 20:00 |
| 20:15 | | | 20:15 |
| 20:30 | | | 20:30 |
| 20:45 | | | 20:45 |
| 21:00 | | | 21:00 |



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Thank you !



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Innovations for Rail
Darmstädter Symposien zum Bahnverkehr

