

Innovations for Rail

SRSS 21.04.2020



Scientific Railway Signalling Symposium 2020
“Deviations from regular operations – does capacity, quality or passenger-management remain on the wrong track?”

Call for papers

Control and safety technology (German abbreviation “LST”) is of considerable importance for the capacity of railway infrastructure. This is not only shown when everything goes according to plan but especially when deviations from standard operations occur. The most frequent reason for delay is the train sequence (i.e. delays resulting from train movements that have already deviated from the plan). The goal must, therefore, be a robust railway operation that reacts flexibly to such deviations.

The event series "Innovations for Rail - Darmstädter Symposien zum Bahnverkehr" is dedicated to the question of how a capacity consumption increase can be achieved in 2020, while taking into account deviations from standard operations.

What can innovations in the field of LST, such as the European train control system (ETCS), Digital interlocking (German abbreviation “DSTWs”), Automatic train operation (ATO) or positioning, contribute to achieve this goal?

With the fourth Scientific Railway Signalling Symposium (SRSS) of the TU Darmstadt to be held on April **21th of 2020** we would like to offer a platform to explore this topic in detail. In addition to the main topic, the SRSS 2020 will again offer the opportunity to present further exciting developments in the field of "digital LST".

We invite you to submit an abstract on the topics listed below. The abstract can not only be based on the respective key points but can also take up another current topic from the spectrum of content of the symposium.

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www.verkehr.tu-darmstadt.de/srss

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Management of deviations by the digital LST

- Which digital approaches can contribute to increasing capacity in the event of deviations from standard operations?
- How can elements of digital LST reduce (subsequent) delays?
- How (can) ATO contribute to capacity increase in case of deviation from standard operation?
- What can ETCS contribute to increasing capacity in case of deviation from standard operation?
- (How) can manual fallback levels be reduced through technical support?

Functional and safety requirements for innovative technology

- Requirements for innovation in LST from the user's point of view (e.g. dispatcher)
- Requirements for innovation in LST from the point of view of technology (e.g. expert)
- Efficient approval processes for the LST

Current innovation in the field of digital LST

- What's new in the area of
 - ETCS
 - DSTW
 - ATO
 - safe locating / train integrity
- How have digital planning methods supported current and completed ETCS projects?

CyberSecurity and Interfaces

e.g.

- Requirements from IT security to functional safety
- Weaknesses of the functional safety architecture
- Interface formats
- Collection, storage and distribution of reliable train and infrastructure data
- Security proof for short-term security updates

Contributions are basically possible in the following two variants:

- Variant A: Academic Paper;
- Variant B: Business Paper.

For both variants, an abstract of maximum of two pages (700 words) is to be submitted, emphasizing the innovative ability of the Academic Papers (variant A) and the practical relevance / innovation of the Business Papers (variant B). The abstract should also briefly explain the goal, the problem, the method and the results. A possible first publication should not have taken place more than two years ago.

The abstracts will be evaluated according to the following criteria:

- compatibility with the subject areas,
- scientific innovation and practical relevance and
- clarity of description.

Please send your abstract to pejic@verkehr.tu-darmstadt.de by **06.01.2020**.

The acceptance of the submitted abstracts will be announced by **13.01.2020**. The authors of accepted abstracts of Academic Papers (variant A) will be asked to submit a draft of a full scientific paper of a maximum of 20 pages, while the authors of Business Papers (variant B) will be asked to submit a full professional paper with a maximum of 10 pages. The deadline for the Full Paper is **21.02.2020**. Academic Papers (variant A) and Business Papers (variant B) go through the review process. Academic Papers (variant A) will be published in the conference proceedings as scientific papers. Business Papers (variant B) will be published in the conference proceedings with a special marking as Business Paper. In both cases, a presentation at the SRSS is planned.

The submitted Academic Papers (Variant A) will be reviewed according to the following scientific criteria:

- innovative scientific findings,
- consistence,
- relevance,
- scientific derivations and
- form and expression in German or English.

The submitted Business Papers (variant B) will be reviewed according to the following scientific criteria:

- originality,
- consistence,
- relevance and
- form and expression in German or English.

You will receive information about the acceptance and feedback from the review process until **14.03.2020**.

We expect that accepted papers will be presented in a 20-minute presentation plus discussion at the SRSS. Papers can be submitted and presented in German and English.

After the event, there will be a joint conference dinner with the participants of the Rail Technical Colloquium (German abbreviation "ETK"). Participation in the SRSS is free of costs. The costs for the evening event including dinner and drinks are approx. 45 Euro.

The Rail Technical Colloquium, which deals with the topic "Deviations from regular operations – does capacity, quality or passenger-management remain on the wrong track?" from the point of view of railway operational processes, will also take place on **22.04.2020** at the TU Darmstadt.

Miroslav Pejic (see contact details on the first page on the right) will be happy to answer any questions you may have.

We would be pleased to receive your abstract and welcome you to the Scientific Railway Signalling Symposium 2020.