

## **SBB Research Fund: Research Topics 2021**

*Deadline for the submission of expressions of interest: 18.10.2021*

*Important note: A fundamental revision of the research topics is planned for the end of 2021 /beginning of 2022. Therefore, only limited funds can be allocated on the basis of the existing list.*

### **1) Railway production**

- Potentials and how to use them for the increase of productivity (optimize use of resources, e.g. staff, assets, train station)?
- How to increase the use of railway network (especially train stations as bottle necks)?
- How can we ensure good human-technology interaction with increasing digitalization and automation in railway operations? How can we prevent the ironies of automation by using techniques of design thinking and work design?
- How should co-workers/employees be managed based on the expected trends and changes in society in order to achieve the punctuality, quality and safety goals?
- How should the scarcest resource in a transport hub (space/train path ("trasse")) be allocated? How can it be optimally used during different times (night/day)?
- How to make timetables more robust (more reserves, dynamic management)?
- How to reduce "trasse" capacity losses due to construction works? (e.g. incentives such as rent for construction site etc.)

### **2) Customer information**

- What type of information and what content do customers expect from SBB?
- Where do customers get relevant information?
- What role do the different channels (e.g. social media) play?
- Which actor of the mobility system do customers perceive as the "face"/single point of contact to them (is it the focal company or another actor)? What do they expect from the "face" to the customer?

- How can SBB regain customer confidence in collective transport after crises (COVID-19, terror attacks etc.)?
- How to win new customers for public transport? Focus should lie on persons who actually rarely use public transport and thereby on entry barriers.
- What is the influence/role of the high convenience of "easy-ride" Ticket Apps on the acceptance of public transport travel passes?

### 3) Sustainability

- Railway 2050: How will mobility develop? What role will electric mobility play? Will it come to disruptive changes?
- What can be the SBB's contribution to the Federal Energy Strategy 2050? E.g.: How could a significant shift towards more public transport be achieved?
- Which existing circular business models (CBMs) from other resource-intense industries can be applied to the challenges at SBB?
- Which alternative design options/implementation strategies exist for a selected Circular Business Models? Under which condition does one implementation strategy produce better performance implications than another one?

### 4) Future Mobility

- What is the impact of increased home office on the demand for transport, the need / demand for office space, but also on other aspects such as corporate culture or collective performance?
- How does the automation of the various modes of transport and other areas of life influence the choice of transport in the future?
- What will be the development of leisure traffic related to new life patterns, leisure activities and post-COVID travel behaviour and what shifts in modal split can be expected?
- How can SBB accommodate the new demand for leisure traffic (timetable, special sports equipments)?
- What is the future of international transport as a substitute or supplement to air transport? Do we need new bundle offers? How should / can the railway work together with the airlines?

*For some research topics existing SBB data might be used. For a first impression on available data please check following documents:*

- *Facts and figures including time series you find [here](#).*
- *Available raw datasets are categorized by SBB as follow:*
  - *[Open data](#) is available for download [here](#).*

- *Restricted data can be obtained for specific projects under consideration of certain restrictions.*
- *Closed data is not available for research.*
- *An overview on raw datasets is available [here](#).*

*For further information please contact [stephan.osterwald@sbb.ch](mailto:stephan.osterwald@sbb.ch)*