



Project Partner 2



ÖBB-Infrastruktur AG, Strecken- und Bahnhofsmanagement, Naturgefahren Management

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main focus of institution and department

The Austrian Federal Railways, Strecken- und Bahnhofsmanagement, builds, maintains and operates railway infrastructure and warrants the high quality, availability and security of the Austrian railroad network.

short description of PP activities

We are the responsible WP-leader of workpackage 4:

The aim of WP 4 is to develop a SEES-CSA (Continuous Situation Awareness) prototype that will consist of components and modules for supporting users in planning tasks, situation assessment, decision making and communication/documentation. These modules can be used in a flexible combination and extended according to region specific needs.

We will build on the expertise of all project partners in the area of monitoring technology and on their experience with mobile devices and internet-based tools for the management of natural disasters.

short description of test area

Geography

Our test area (Arlberg region) is located in Western Austria between Bludenz in the west and Landeck in the east. The Arlberg (Arlberg Pass at 1793 m a.s.l.) forms the divide of the two main valleys in the research area: the Klostertal in Vorarlberg and the Stanzertal in Tyrol.

Railroad

The railroad through this narrow, 55 km long, stretch has already been built in the end of the 19th century and remains until today the most important traffic route connecting the Bundesländer Tirol and Vorarlberg.

The Arlberg railway-tunnel between St. Anton/Tyrol (1303 m a.s.l.) and Langen/Vorarlberg (1217 m a.s.l.) was built from 1879 to 1884 (single track); the second track was opened in 1885.



Natural Hazards

The Arlberg railway tracks between Landeck and Bludenz are exposed to most forms of natural hazards like avalanches, rock fall, debris flow or flooding over wide parts of the distance. Permanent and temporary mitigation measures for protection against damages by natural hazards have been installed by the Austrian Railway Services, the Austrian Avalanche and Torrent Control Service and other institutions responsible for the safety along the transportation corridor.

Transregional Importance

Due to the transregional importance of the Arlberg as a passage way but also for traffic from and to the important local tourism regions and for the local economy, the uninterrupted accessibility is paramount.

Several studies and recent hazard mapping have been carried out on the Arlberg which accounts for extensive data stock on:

natural hazards, historic records, simulations, laserscans, recent aerial photos, meteorological data from ÖBB-owned weather stations, data on forest inventory etc.

This makes the Arlberg a suitable test best for an integrated CSA tool for improved monitoring of natural hazards along railway infrastructure.

what does the partner bring into the project?

- Expertise in natural hazards management for infrastructure
- Hazard mapping for railroad infrastructure
- Construction and maintenance of protective barriers
- Protective forest management and soil bioengineering
- Installation and operation of information and warning systems
- Cooperation and innovation in research and development

benefits for the partner by participation in the project

Development of a CSA – challenges:

- How can we treat, manipulate, store and present different data from different sources in different resolution?
- How can we provide easy access to data and tailored information to different users groups?
- How can we keep our data up-to-date?

Development of a CSA – goals:

- Develop an integrated warning and information tool for all hazard categories
- Ensure high quality data and meet the high requirements on security, reliability and redundancy of the system
- Extend and adopt an already existing and widely used and accepted tool (INFRA.wetter)
- Make possible the (automated) intersection of data from different sources: real-time monitoring data (meteorological data, sensors), data from hazard maps, geographic data etc.



main contact



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The Natural hazards management of the Austrian Federal Railways is a highly specialist team dealing with the areas of protection against natural hazards and (protective) forest management

Structural measures:

- Construction, inspection and maintenance of protective barriers

Non-structural measures:

- Hazards mapping and hazards assessment
- Monitoring and early warning
- Education and training
- Innovation and research

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