

Wyssen Reference Projects

**Zermatt protects its access road, railway and the  
ski resort with Wyssen Towers**



**Safety** through **innovation**

**WYSSSEN** switzerland **avalanche  
control**



## Avalanche Protection in Zermatt

<b>Project:</b>	Avalanche Protection in Zermatt
<b>Place:</b>	Zermatt Valley, Zermatt town, Valais
<b>Country:</b>	Switzerland
<b>Year:</b>	Installation 2004
<b>Customer:</b>	Zermatt Bergbahnen AG
<b>Protected Object:</b>	Access Road & Railway between Stalden and Zermatt, Ski slopes
<b>Installed Systems:</b>	- Wyssen Avalanche Tower 12 shots - PETRA® People Tracking Radar



### Safety for up to 30,000 people travelling through the valley per day

Zermatt, as one of the most popular ski resorts in Switzerland, relies on Wyssen for avalanche hazard prevention. The way to Zermatt is plagued with more than 30 avalanche paths capable of hitting the road and railway. Therefore, avalanche control methods have to function extremely well in order to protect up to 30,000 people travelling in and out of the Zermatt valley. Avalanche Control here has been established by Bruno Jelk, well known for his spectacular rescue accomplishments around the Matterhorn as well as in the Himalaya region.

The Zermatt avalanche control team has access to a variety of automatic wind, snow and weather stations to evaluate the current situation of hazard level. In addition to a very experienced team, clear procedures help the ongoing forecasting and realization of the temporary measures, such as avalanche control, closures, evacuations etc., be completed in a very professional way.

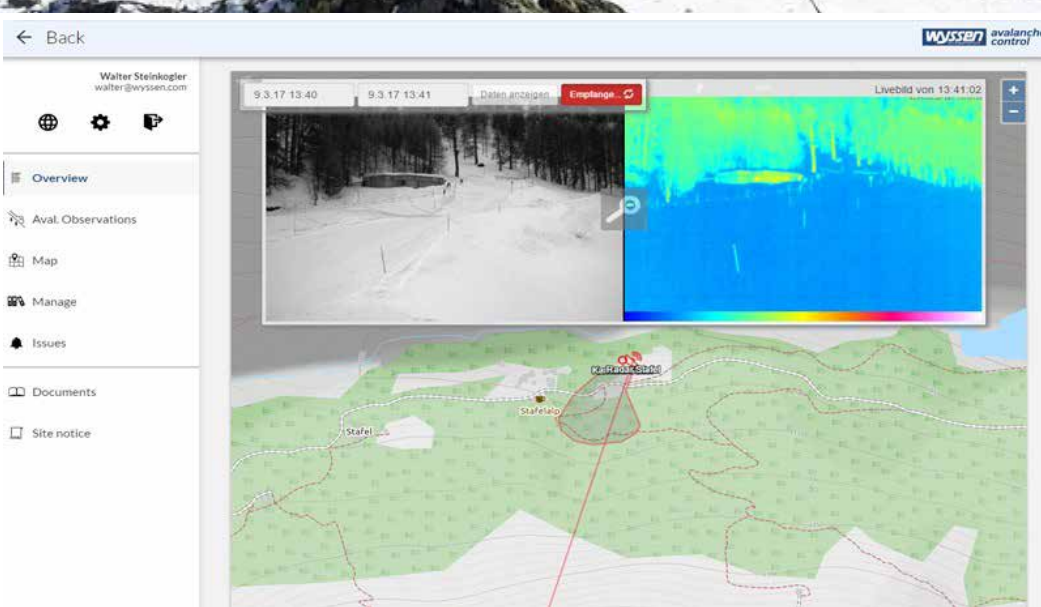
All data acquisition and evaluation, decisions taken and measures carried out are documented and stored. Documentation helps for evaluations in the future if the situation seems to be similar to one in the past and for any discrepancies that might arise.



## Proliferation of avalanche towers

Since 2004, the avalanche control team has had Wyssen Avalanche Towers in various avalanche starting zones in service for preventive remote controlled triggering. Since then damages to people and infrastructure were prevented successfully. This success is thanks to a very professional staff, the operations of the avalanche team, and to the high reliability and the enormous effectiveness of the Wyssen Avalanche Towers. The towers allow the release of even small amounts of snow from only 20 to 30 cm (8 to 12 in.).

Zermatt Bergbahnen AG also relies on high-quality avalanche towers from Wyssen. In 2018, almost 50 Wyssen systems are already in operation to protect guests on the ski slopes. Thanks to the upgrading of the systems in 2015, the newly developed third-generation controller with the web-based user interface, the detonations of the many systems can be carried out extremely quickly. This is a very important advantage, because during times of increased avalanche danger the avalanche service is very busy. It is therefore extremely important that the systems can be used reliably and quickly. The pressure on the avalanche service to open avalanche prone ski slopes is great. An avalanche team has to be able to rely 100% on its tools. The wind and weather demands on the facilities in Zermatt and the Mattertal are particularly high. The plants are located at altitudes well above 3000 m. above sea level (1.9 miles above sea level) in very exposed mountainous terrain.



## PETRA® makes sure that no one is in the danger zone before detonation

In the Fyrhelzer area of the Zermatt Bergbahnen there are around 10 towers to protect the road, ski run and the hiking trail from Stafel to Furi. This trail is very popular with hikers. A radar system was designed and installed in cooperation with Geopraevent AG to ensure that no persons are on the path during the blasting work. Thanks to PETRA®, those responsible can now ensure that their remote-controlled avalanche triggers are safe for people.



## A Project of:

### **Wyssen Avalanche Control AG**

3713 Reichenbach

Switzerland

Tel.: +41 33 676 76 76

[avalanche@wyssen.com](mailto:avalanche@wyssen.com)

[www.wyssenaavalanche.com](http://www.wyssenaavalanche.com)

### **Sam Wyssen**

Tel.: +41 33 676 76 70

[sam@wyssen.com](mailto:sam@wyssen.com)



**Safety** through **innovation**

**WYSSSEN** switzerland **avalanche control**