

Wyssen Reference Project

Avalanche Towers Secure Access

Roads to Kühtai



Safety through **innovation**

WYSSSEN switzerland **avalanche control**



Avalanche Towers Secure Important Access Roads to Kühtai

Project:	Securing Access Roads to Kühtai
Place:	Kühtai, Stubai Alps, Tyrol
Country:	Austria
Year:	Installation in 2013 and 2018
Customer:	Bergbahnen Kühtai
Protected Object:	Access roads
Installed systems:	- 3 Wyssen Avalanche Towers LS12-5 - WAC.3®

Initial Situation

Kühtai is a popular ski resort in the Stubai Alps near Innsbruck. Located on the Kühtai Saddle at a height of 2,000 meters above sea level and surrounded by the Neder Valley in the west and Sellrain Valley in the east, the access roads on both sides are endangered by avalanches due to their high alpine location. Kühtai is visited by many tourists throughout the year due to the wide range of activities offered by the resort. In 2018, the largest "ski resort evaluation platform" in the world "skiresort.de" named it "the best ski area in the world with ski slopes up to 60 km." Safe road access is therefore essential. After the catastrophic winter of 1999, Kühtai initiated developing concepts for consistent avalanche control to make sure that the ski resort remained accessible at all times. The aim was to implement efficient measures to prevent such extreme situations from reoccurring.



Our solution

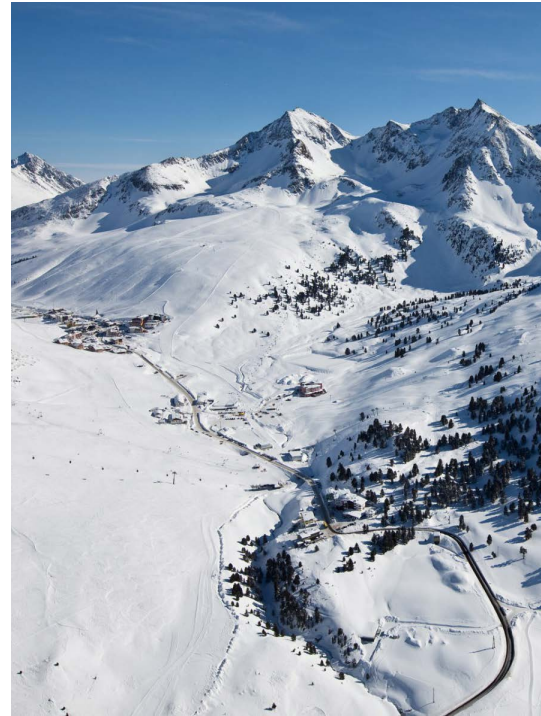
The first important milestone was achieved in 2013 when two Wyssen avalanche towers LS12-5 were installed to secure the western access road. Right before the extreme conditions in January 2019, another dangerous, avalanche-prone slope alongside the eastern access road was secured with a new avalanche tower during the fall of 2018. During the course of the new construction, all existing systems were converted to the new WAC.3® control and user interface.

First major test passed successfully

The 2018/19 season was the second winter in a row with extreme snowfall in January resulting with high avalanche risk in the Alps. In the 2017/18 season, the highest avalanche warning level 5, was issued in Austria for the first time since the avalanche winter of 1999 and this season's winter was no less severe than its predecessor. Persistent precipitation in record-breaking levels caused extreme avalanche risk in many places and a large number of roads were closed for days in some cases. The installation of the avalanche towers in Kühtai made it possible to trigger avalanches preventively and keep the affected road sections open during the periods with heavy snowfall in January 2019. Furthermore, the new WAC.3® user interface made the work of the authorized explosives experts much easier. They are now able to obtain an overview of all systems much more quickly and, if necessary, activate multiple avalanche towers simultaneously. As a result, the required closing times could be reduced even more.

Datum	Zeit	Region	Sprengmast	Benutzer	Zünddauer	Stärke	Probleme	Klassifizierung
15. Mar. 2019	~ 19:47	Kühtai	Geiereck 1	Willi Mareiler	41.6s	110%		
(2)	~ 17:40	Kühtai	Zwölf 1	Willi Mareiler	40.9s	104%		
12. Mar. 2019	~ 07:39	Kühtai	Geiereck 1	Willi Mareiler	42.5s	114%		
12. Feb. 2019	~ 07:27	Kühtai	Zwölf 1	Willi Mareiler	39.1s	106%		
(2)	~ 06:43	Kühtai	Geiereck 1	Willi Mareiler	40.6s	120%		
04. Feb. 2019	~ 08:15	Kühtai	Geiereck 1	Markus Dablander	42.5s	112%		
15. Jan. 2019	~ 07:33	Kühtai	Lackental 1	Willi Mareiler	41.0s	124%		
14. Jan. 2019	~ 18:43	Kühtai	Geiereck 1	Markus Dablander	42.4s	112%		
(2)	~ 14:49	Kühtai	Zwölf 1	Willi Mareiler	41.1s	108%		
10. Jan. 2019	~ 08:53	Kühtai	Lackental 1	Willi Mareiler	40.4s	124%		
(2)	~ 08:40	Kühtai	Zwölf 1	Willi Mareiler	41.4s	110%		
(3)	~ 07:08	Kühtai	Geiereck 1	Willi Mareiler	42.4s	110%		
06. Jan. 2019	~ 17:48	Kühtai	Zwölf 1	Willi Mareiler	40.8s	106%		
(2)	~ 07:25	Kühtai	Geiereck 1	Willi Mareiler	41.9s	116%		
(3)	~ 07:16	Kühtai	Lackental 1	Willi Mareiler	41.3s	124%		
05. Jan. 2019	~ 16:56	Kühtai	Zwölf 1	Willi Mareiler	40.8s	116%		
03. Jan. 2019	~ 07:14	Kühtai	Geiereck 1	Willi Mareiler	40.6s	116%		
24. Dec. 2018	~ 11:00	Kühtai	Geiereck 1	Willi Mareiler	40.9s	114%		
11. Dec. 2018	~ 09:19	Kühtai	Geiereck 1	Willi Mareiler	41.9s	118%		

A meaningful evaluation of the explosions in Kühtai during the record winter of 2019



Thanks to

The Bergbahnen Kühtai

Safety through innovation

WYSSSEN switzerland avalanche control



A project of:

Wyssen Austria GmbH

Archenweg 52
6020 Innsbruck

Austria

Tel.: +43 512 2193 4600

austria@wyssen.com

www.wyssenavalanche.com

Paul Dobesberger

Tel.: +43 512 2193 4600

paul@wyssen.com



Safety through **innovation**

WYSSSEN switzerland **avalanche control**