

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

|                           |  |
|---------------------------|--|
| <b>Project:</b>           | Securing access roads to Kühtai                |
| <b>Place:</b>             | Kühtai, Stubai alps, Tyrol                     |
| <b>Country:</b>           | Austria  |
| <b>Year:</b>              | Installation in 2013 and 2018                  |
| <b>Customer:</b>          | Bergbahnen Kühtai                              |
| <b>Protected Object:</b>  | Access roads                                   |
| <b>Installed systems:</b> | - 3 Wyssen Avalanche Towers LS12-5<br>- WAC.3® |

### Initial situation

Kühtai is a popular winter sports 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 potentially 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 test portal 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 worked on developing concepts for consistent avalanche control to make sure that the winter sports resort remained accessible at all times. The aim was to implement efficient measures to prevent such extreme situations from occurring again.



## Our solution

The first important milestone was set in 2013 when two Wyssen avalanche towers LS12-5 were installed to secure the western access road. Just in time 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. In the course of the new construction, all existing systems were additionally 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 with the resulting high risk of avalanches 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 an extreme risk of avalanches 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 | ~ 16:47     | Kühtai | Gelereck 1  | WBI Marsiler     | 41.6s     | 110%   |          |                 |
|               | (2) ~ 17:40 | Kühtai | Zwölz 1     | WBI Marsiler     | 40.9s     | 104%   |          |                 |
| 12. Mar. 2019 | ~ 07:39     | Kühtai | Gelereck 1  | WBI Marsiler     | 42.5s     | 114%   |          |                 |
| 12. Feb. 2019 | ~ 07:27     | Kühtai | Zwölz 1     | WBI Marsiler     | 39.1s     | 106%   |          |                 |
|               | (2) ~ 08:43 | Kühtai | Gelereck 1  | WBI Marsiler     | 40.6s     | 120%   |          |                 |
| 04. Feb. 2019 | ~ 08:13     | Kühtai | Gelereck 1  | Markus Dallander | 42.5s     | 112%   |          |                 |
| 15. Jan. 2019 | ~ 07:33     | Kühtai | Lackental 1 | WBI Marsiler     | 41.0s     | 124%   |          |                 |
| 14. Jan. 2019 | ~ 18:43     | Kühtai | Gelereck 1  | Markus Dallander | 42.4s     | 112%   |          |                 |
|               | (2) ~ 18:49 | Kühtai | Zwölz 1     | WBI Marsiler     | 41.1s     | 108%   |          |                 |
| 10. Jan. 2019 | ~ 08:53     | Kühtai | Lackental 1 | WBI Marsiler     | 40.4s     | 124%   |          |                 |
|               | (2) ~ 08:40 | Kühtai | Zwölz 1     | WBI Marsiler     | 41.4s     | 110%   |          |                 |
|               | (3) ~ 07:06 | Kühtai | Gelereck 1  | WBI Marsiler     | 42.4s     | 110%   |          |                 |
| 06. Jan. 2019 | ~ 17:48     | Kühtai | Zwölz 1     | WBI Marsiler     | 40.8s     | 106%   |          |                 |
|               | (2) ~ 07:28 | Kühtai | Gelereck 1  | WBI Marsiler     | 41.9s     | 116%   |          |                 |
|               | (3) ~ 07:16 | Kühtai | Lackental 1 | WBI Marsiler     | 41.3s     | 124%   |          |                 |
| 05. Jan. 2019 | ~ 18:56     | Kühtai | Zwölz 1     | WBI Marsiler     | 40.8s     | 116%   |          |                 |
| 03. Jan. 2019 | ~ 07:14     | Kühtai | Gelereck 1  | WBI Marsiler     | 40.6s     | 116%   |          |                 |
| 24. Dec. 2018 | ~ 11:00     | Kühtai | Gelereck 1  | WBI Marsiler     | 40.9s     | 114%   |          |                 |
| 11. Dec. 2018 | ~ 09:19     | Kühtai | Gelereck 1  | WBI Marsiler     | 41.9s     | 118%   |          |                 |

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



Thanks to

The Bergbahnen Kühtai

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