

Wyssen Reference Project

Three mountain passes in southern Norway mitigated with remote avalanche control



Photo credit: Statens vegvesen

Safety through **innovation**

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switzerland  **avalanche
control**



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Three mountain passes in southern Norway mitigated with remote avalanche control

Project:	Remote avalanche control on mountain passes in southern Norway
Place:	RV13 Vikafjellet, E134 Haukeli and Rv15 Strynefjellet
Country:	Norway
Year:	2020 -2025
Customer:	Norwegian Public Road Administration (NPRA)
Protected Object:	Road
Installed Systems:	<ul style="list-style-type: none"> - 29x Wyssen Avalanche Towers LS12-5 - Weather Stations on Avalanche Towers - Camera with still images on Avalanche Towers - WAC.3® Cockpit



Initial Situation

E134 Haukeli

The E134 over Haukelifjell is an important national road between Eastern and Western Norway, but it is also prone to avalanches. On average, around 1,300 cars pass through the avalanche-prone sections every day, and the detour time is as long as five hours if the road is closed due to avalanches or avalanche danger.

Rv13 Vikafjellet

Rv13 over Vikafjellet is an important regional road connecting different parts of Western Norway. Large sections of the road run through high mountain terrain and are very susceptible to weather and avalanches. On average, 550 cars travel the pass each day, and the detour time is four hours if the road is closed due to avalanches or avalanche danger. In recent years, there have been several incidents involving vehicles caught in avalanches on this stretch of road.



Photo credit: Statens vegvesen



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The reliability of this road will be particularly important in the coming years when a tunnel upgrade project for the Lærdal Tunnel will result in long night closures on the alternative route from 2026 to 2028.

Rv. 15 Strynefjellet

Route 15, which crosses Strynefjellet, is prone to avalanches, both at Napefonna down in Hjelledalen and at the top of Grasdalen. The short stretch between the tunnels in Grasdalen is the most avalanche-prone section of the road. According to the Norwegian Public Roads Administration, around 50 avalanches have been documented on the road through Grasdalen since 1973. Route 15 over Strynefjellet is an important corridor between Eastern and Western Norway, and is one of the few road sections in Norway where site specific avalanche warnings are prioritized during the winter, with the aim of closing the road when there is an increased risk of avalanches. The site specific avalanche warning system has been beneficial for the safety of contractors and road users, but it has not been able to prevent the road from being closed at times during the winter.

Solution

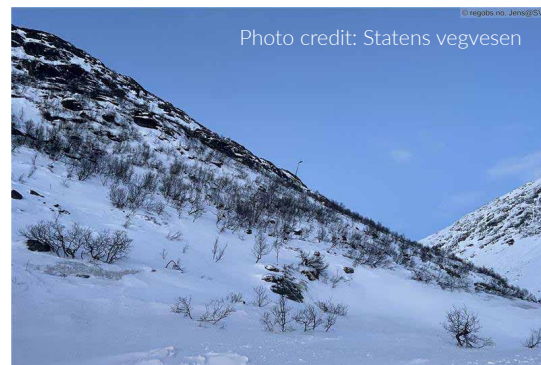
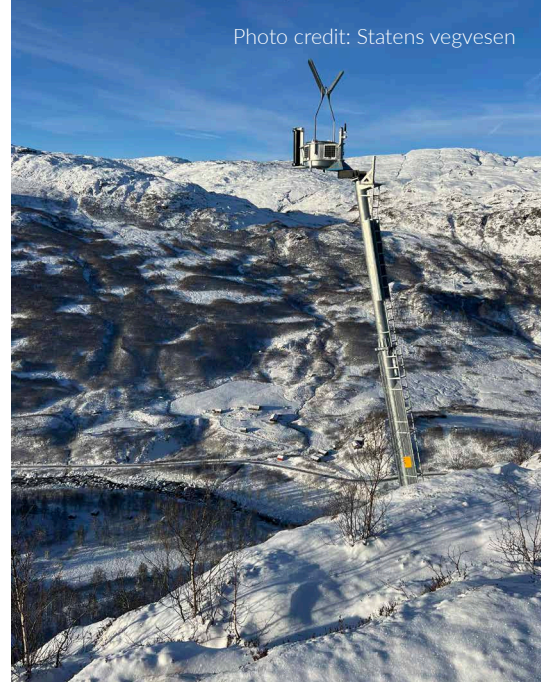
The work to secure these important mountain passes in southern Norway began in the fall of 2020, when Wyssen established the first two avalanche towers in the Pepparstein avalanche area on the E134 Haukeli. In 2022, another tower was established in the same area.

In 2024, Wyssen Norway entered into a framework agreement with the Norwegian Public Roads Administration for the delivery, establishment, and operation of avalanche control systems. From autumn 2024 to autumn 2025, we have worked with skilled subcontractors to establish a total of 26 new avalanche towers for the Norwegian Public Roads Administration on these three mountain passes in southern Norway:

- ✓ 6x Avalanche Towers on Ev 134 Haukeli (9 in total)
- ✓ 14x Avalanche Towers on Rv 13 Vikafjellet
- ✓ 6x Avalanche Towers on Rv 15 at Strynefjellet

The Norwegian Public Roads Administration had done a thorough job of planning, ensuring that the towers are strategically placed to trigger avalanches in avalanche paths that threaten the road. This formed the basis for the detailed design work we carried out as part of the contract. The contract also includes all service and maintenance of the systems for up to 20 years if all options are exercised.

With these systems in place, the Norwegian Public Roads Administration's internal group of avalanche forecasters and operating personnel will be able to carry out preventive avalanche control on a regular basis throughout the winter season. This will lead to increased safety, accessibility, and predictability for all road users. For snowplow crews in particular, this will mean a significantly safer working environment.





A Project of:

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