

Wyssen Reference Project

# Site specific avalanche forecasting in Tromsø municipality



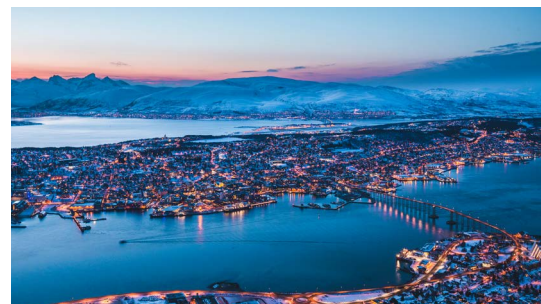
**Safety** through **innovation**

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



## Site specific avalanche forecasting in Tromsø municipality

Project:	Site specific avalanche forecasting in Tromsø municipality
Place:	Tromsø Municipality
Country:	Norway
Year:	2023 – 2024
Customer:	Tromsø Municipality
Protected Object:	Residents
Installed Systems:	- WAC.3® Cockpit and Assessment
Provided Services:	- Avalanche forecasting - Field trips and observations - Documentation and evaluation



### Initial Situation

After the heavy snow winter of 1997, when two lives were lost in a home and a total of several hundred people were evacuated, a low-cost site specific avalanche forecasting operation was created for selected avalanche-prone areas in Tromsø.

After an evaluation of the operation in 2022 it was decided that a more comprehensive and modern forecasting operation was needed.

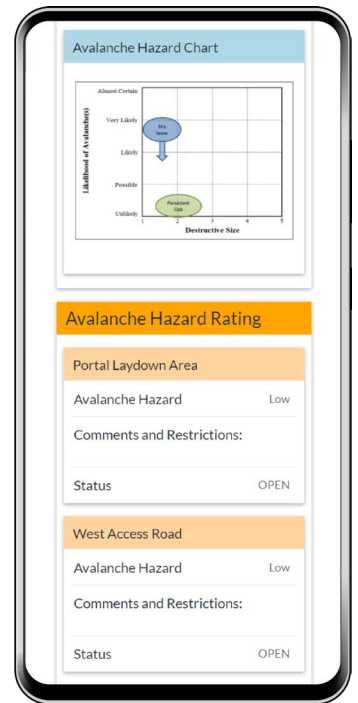
After a tender process the Wyssen Norway was engaged to deliver site-specific avalanche forecasting for Tromsø municipality for the 2023/2024 winter season.

## Our Solution

Our forecasting operations are to the international standard for risk management – ISO 31 000 and the Technical Aspects of Avalanche Risk Management (CAA,2016). This has provided a solid foundation for our team of dedicated experts, who conduct field observations and carry out essential daily forecasting work, always striving to exceed customer expectations and set new standards for quality.

Every forecast throughout the entire winter has been developed and communicated using the assessment tool in the digital platform WAC.3®. WAC.3® is a unique tool for assessing and communicating and managing avalanche risk, providing customers with full insight into the process up to the final forecast. We believe that openness and close cooperation between the supplier and client are crucial for achieving a shared understanding of the situation in such projects, which ultimately provides better security and no unnecessary evacuations for the affected residents.

The municipality has been very satisfied with the product, and we believe that our cooperation has led to greater development and learning for both parties.



## Avalanche Situation - January 2024

On 8<sup>th</sup> of January 2024, 30-40 cm of snow had fallen in the previous days, and 30-50 mm of precipitation was still expected for the next 24 hours. It was considered likely that there would be a lot of avalanche activity in the forecasting areas, but that above freezing temperatures at lower elevations will decrease the runout length so that avalanches would not threaten settlements. However, if the temperatures were lower than expected, the situation could be completely different with long avalanche runouts with a potential to reach settlements. There was no instrumentation in the areas in question, making it difficult to monitor the temperature and amount of precipitation.

In order to avoid the residents having to evacuate due to the uncertainty in the weather forecast, one of our avalanche forecasters chose to go out on skis in non-avalanche terrain to monitor the weather in real time while the storm was raging. It wasn't very pleasant to be out in the mountains on this day, but the fact that many residents had to leave their houses and travel by car in darkness and perilous road conditions was not desirable either.

Our forecaster therefore chose to go up 500 meters of elevation in rain and heavy wind to verify that the snow cover was sufficiently wet. In this way, he could confidently establish that any avalanches would stop at a safe distance from settlements, and that residents could sleep safely through the night in their homes.





## A Project of:

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