

Why and how to lobby for natural hazard protection



NORWEGIAN NATURAL HAZARDS GROUP

Secretary of NNHG, Marius Chrømer, May 29th 2024
Revelstoke, British Columbia



About us - The Norwegian Natural Hazards Group - NNHG

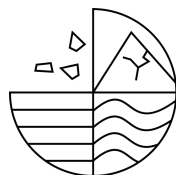
We lobby for preventing the dangers from natural hazards to ensure safer travel on national and county roads throughout Norway

Mandate:

- Put the issue of avalanche and rockfall protection on the political agenda
- Overall engaged in natural hazards and road safety
- Lobby for increased funding for protective measures

NNHG Board members:

- Politicians from the 8 most avalanche-prone regions (counties) in Norway:
 - Vestland, Rogaland, Møre og Romsdal, Trøndelag, Nordland, Troms, Finnmark, and Innlandet



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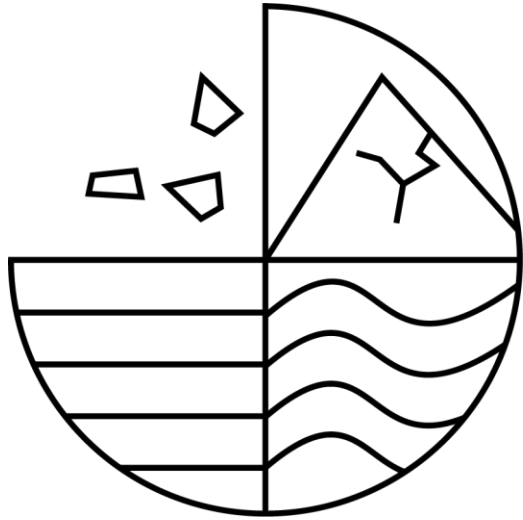
The member regions
of the Norwegian
Natural Hazards Group



Norway and the regions



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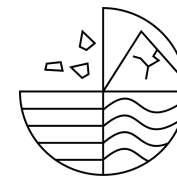


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Challenges

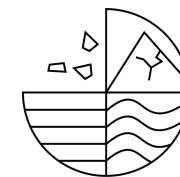
- Norway is characterized by hundreds of fjords along its coastline and mountain ranges with peaks above 2000 m above sea level
- The steep fjord slopes are prone to natural hazards, particularly avalanches during winter
- Many communities are located at the sea-side and heavily depend on roads along the shore for transport of people, goods and services
- We experience loss of life, damage, loss of business competitiveness and expose ourselves to an unnecessary threat to our civil society

Landslide and quick clay (Jølstra & Tana)



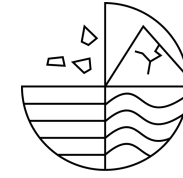
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Rockfall (Myrland & Årdal)



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Avalanche (wet snow) Pollfjellet - Troms



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Why lobby for protective measures?

- Avalanches take lives, injure people, create fear and insecurity
- A safe road should not be an "extra service," but a prioritized task
- Freight and seafood transports to the market are especially vulnerable
- Closing roads due to the risk of avalanches is not a permanent solution
- Many places lack detour options, and avalanche protection is the only measure to ensure accessibility



How do we lobby?

- Show the importance of Climate adaptation

- Our preparedness depends on the roads being passable, safe, and open. Natural hazards threaten our transportation lines and vital arteries for society
- Climate change will lead to more problems with avalanches and other natural hazards. Avalanche protection is climate adaptation in practice
- This is too important not to be given higher priority
- The Norwegian Directorate for Civil Protection and Emergency Preparedness (DSB) has calculated that 1 krone spent on prevention (i.e. avalanche protection) saves 7 – 14 kroner in repair costs



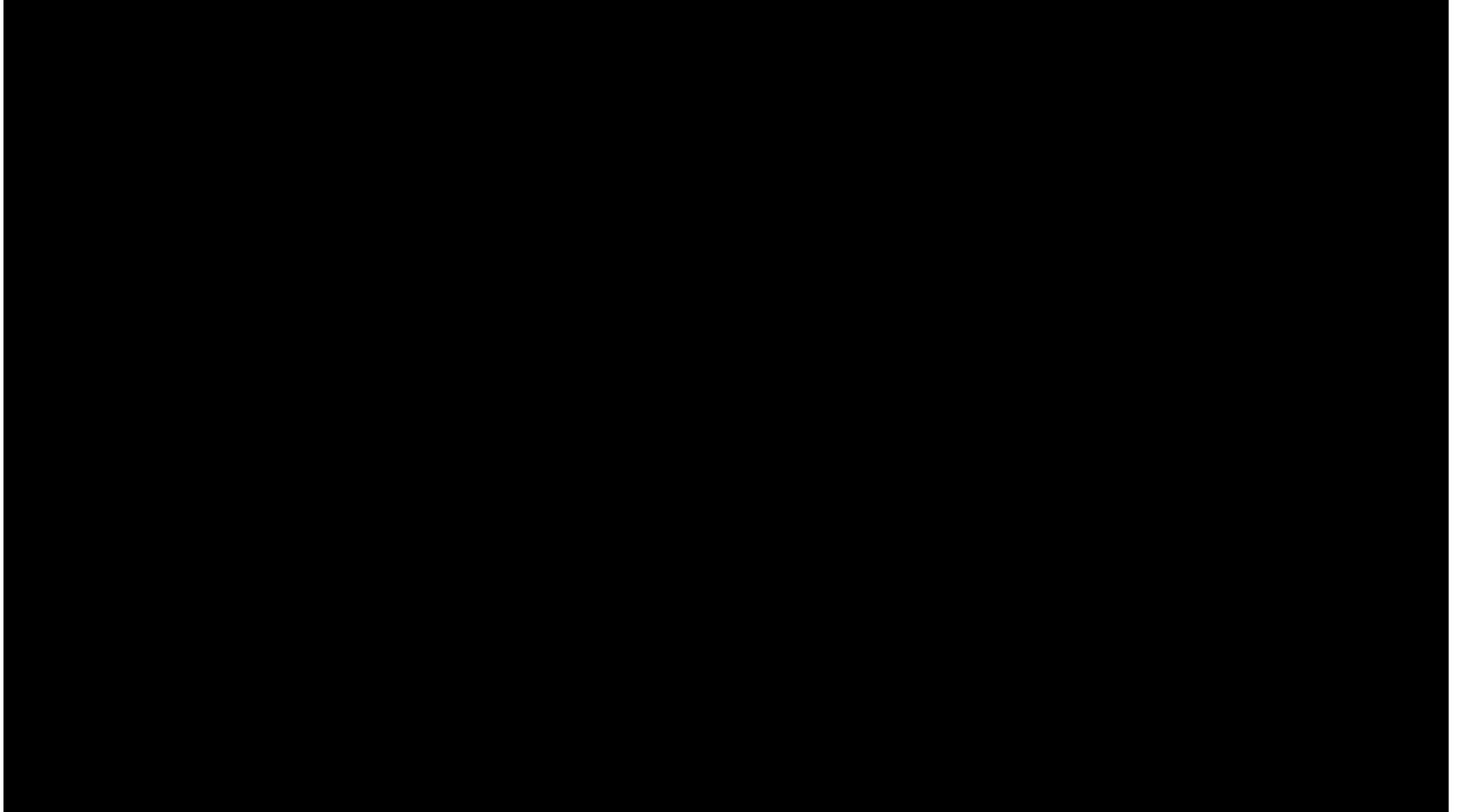
How do we lobby?

-Show what it means to be living with fear and uncertainty

- We have thousands of dangerous stretches of roads that threatens to take lives in an instant
- Many live in fear of sending their children to daycare and school along avalanche-prone roads. In fear of commuting past avalanche areas
- Businesses experience unpredictable deliveries and significant losses due to roads being closed for long periods because of avalanches or the risk of avalanches
- We are dependent upon safe and accessible roads in Norway. We cannot afford to lose anyone

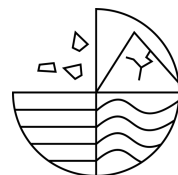


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Economic reality bites! The need for us to Switch Strategy

- The financing needed to secure the 500 most dangerous stretches of national and county roads in Norway cost almost 15 billion Canadian dollars.
- A new economic reality and financial situation makes it unrealistic to expect the government to pay for tunnels and avalanche shelters everywhere – and require many decades of funding with today's level
 - For one of our regions, this means a 100 year impossible wait
- We needed to step up our game
- Make ourselves heard and seen
- From big highway projects to getting the most out of the money through stronger focus on technology and innovation



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Solutions – Focus on Technology and Innovation for prevention and prediction

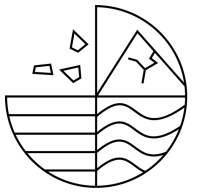
- Road authorities and politician can not afford “tunnel vision” anymore!
- We believe it pays off to invest in prevention and prediction through use of new tech and innovation – **when and where possible**
- Alternative ways to secure against avalanches include monitoring, alerting, closing, blasting, clearing, assessing avalanche risk, and re-opening the road

Pros

- Acceptable risk level, safer roads, and increased accessibility
- Low investment costs and more climate-friendly
- In reality: the year-round road operation constitute the roads’ security
- Provides the opportunity to secure more avalanche points faster at a significantly lower cost



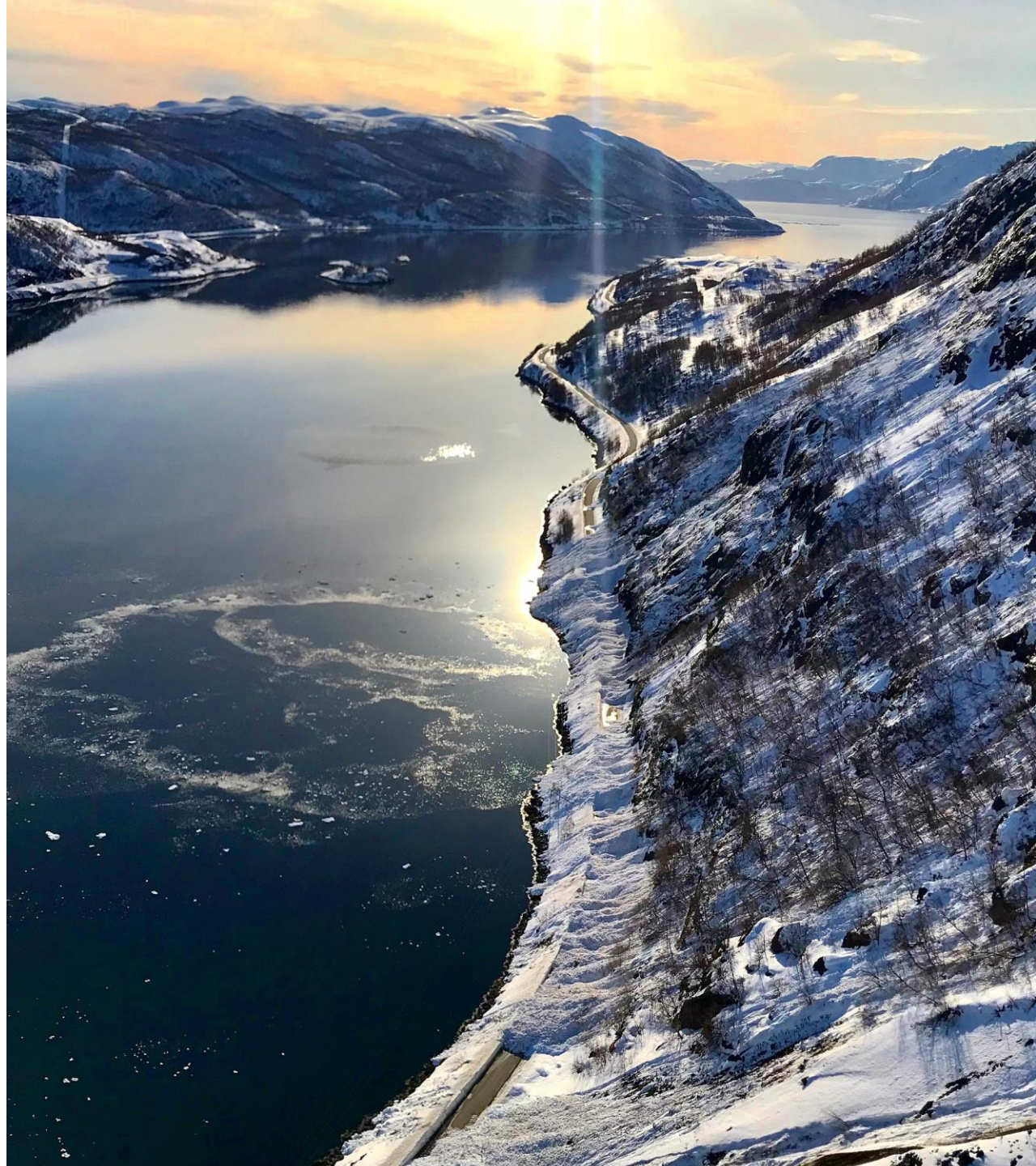
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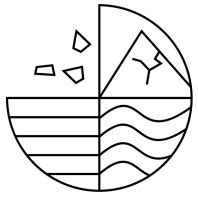


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Detection & warning of avalanches on road

- Distributed Acoustic Sensing – fiber as a sensor can detect avalanches and if vehicles are trapped underneath the snow
- This system, capable of detecting avalanches impacting roads and locating vehicles, will enhance safety
- Innovation partnership with Norconsult, NORSAR, Alcatel Submarine Networks and Troms county



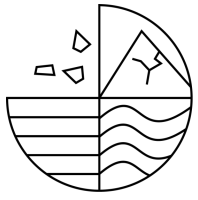


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Avalanche protection - Radar

- The avalanche radar offers a cost-effective and reliable solution for continuous monitoring of the slope and enables automatic detection of avalanches
- Real-time detection allows to immediately close road sections at risk, e.g. with traffic lights or barriers





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Remote avalanche control systems

- Remote avalanche control systems (RACS), as the name implies, enable avalanches to be explosively triggered remotely, thus avoiding the need to put highway avalanche control personnel in harm's way
- Controlled closure and clean-up – Open road!

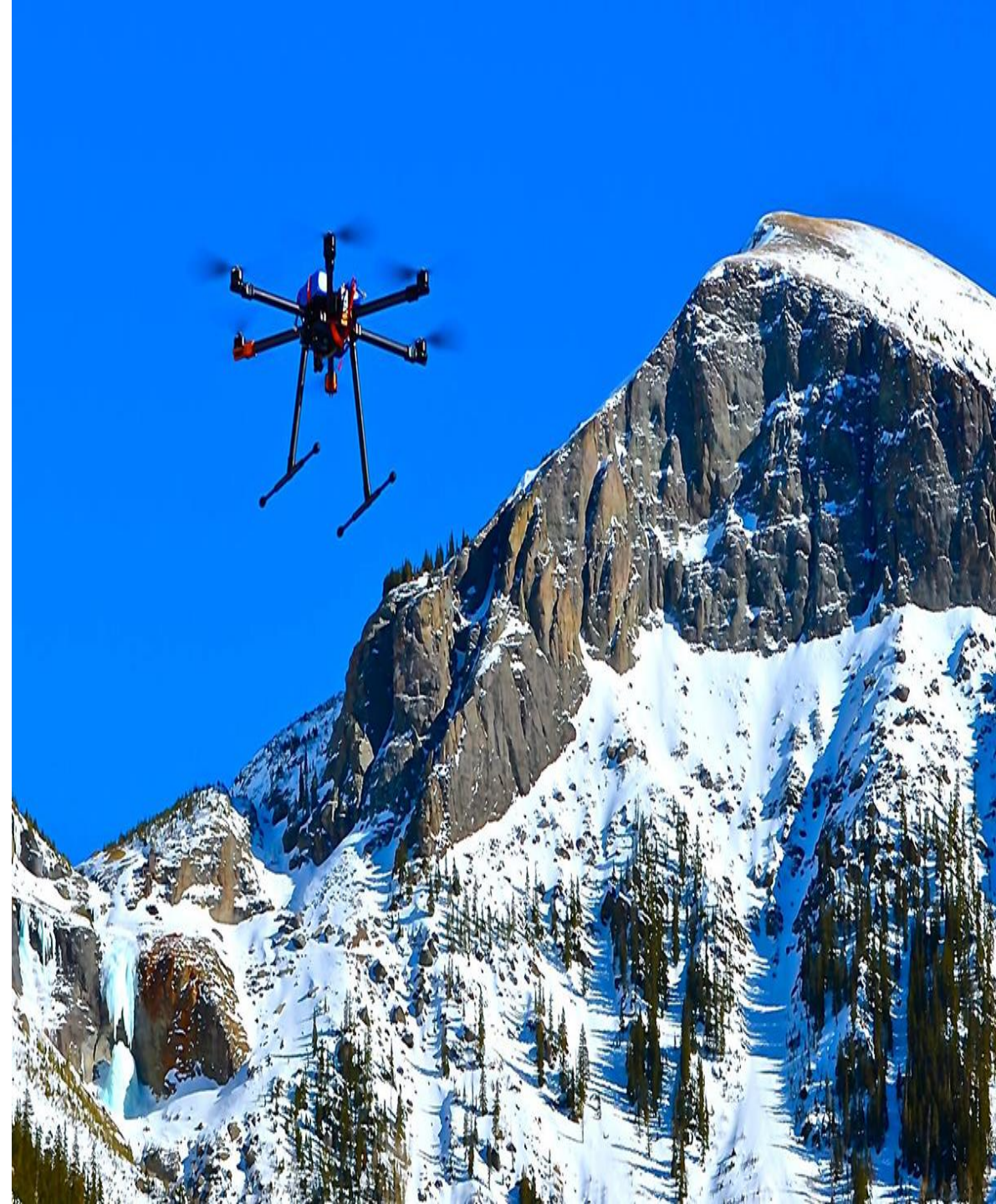




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Drones

- Drones can help design protection measures and increase predictability
- Drones can be programmed to carry out repeated registrations of hazardous areas. With the help of AI, data from such automated inspection rounds can provide early warnings of avalanche risks and indicate where resources should be allocated (Geosfair)
- Drones are also used in order to carry explosives and work as “cheap RACS”



Keys to influence & reaching results in Norway

- Bipartisan long term effort pays off!
- Concentrate on «The Cause» not on single/big highway projects
- Join forces between regional and national level
- Focus on the fear of having to live with constant danger
- Focus on Businesses and loss of predicability, on-time deliveries and safety due to road closures
- Benchmarking and learn from science, road owners, entrepreneurs
 - and best practises from other countries!!
- Sharing information and cooperation with all good forces!



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So, what's next?

1. Lobbying the Norwegian government on how to save money through the National Transport Plan.
2. Artificial intelligence?
 - As a decision-making tool? Most likely!
 - More fact-finding and monitoring
3. Cooperation:
 - ISSW 2024 – Tromsø

<https://www.issw2024.com/info/>



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Jan Perle



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Thank you!

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