

Policy Brief

Satellite Applications for the Alps

Search and Rescue edition

18 December 2017

This document presents the policy recommendations from Eurisy's "Satellite Applications for the Alps: Search and Rescue edition" project. The project is based on the experiences from two Eurisy conferences in the Alpine region in 2016 and 2017, as well as a series of open ended interviews with stakeholders relevant to alpine safety. It began based on the interest expressed at the first conference in Berchtesgaden, Germany on 27 October, 2016. During the event, search and rescue organisations from Italy (CNSAS) and Austrian regions Tyrol (Leitstelle) and Styria (Bergrettung) discussed their needs together with technology experts.

Since then, Eurisy has contacted 18 different search and rescue organisations and civil protection agencies working at the regional levels in 6 different Alpine countries, including Austria, France, Germany, Italy, Slovenia and Switzerland. This was done to understand if the conclusions in Berchtesgaden applied to the Alps in general. Based on the expressed interest from the interviews, Eurisy hosted a second conference focused explicitly on search and rescue and civil protection. Here, representatives from more than 10 different Alpine regions joined the event in Brixen South Tyrol on the 11th of October to discuss the results together with other stakeholders from both the private and public sector.

Why use satellite applications?

Based on the expressed interest of the rescue organisations, as well as the recommendations made by the experts, the project looked at three main areas where satellites provide unique value:

I. Satellite navigation and communication for advanced emergency call services

Satellite communication enables emergency calls to be made from regions that would otherwise not have mobile coverage. Satellite navigation systems enable persons in distress to share their position with the emergency response centre or rescuers, allowing help to arrive sooner.

II. Satellite navigation and communication for team coordination and collaboration

Satellite navigation systems allow rescuers and emergency response units share their location with each other and with the coordination centre or other collaborators. Satellite communication is often necessary for teams to coordinate and communicate when doing search in remote and mountainous regions without mobile networks.

III. Earth observation for risk mapping and emergency response to natural disasters

Earth observation satellites can help keep maps up to date, monitor snow and avalanche dangers, provide rescuers and civil protection agencies with images following a natural disaster, and also help provide unique information about the terrain and its changes.

Reported needs and challenges from the rescue organisations

To this day, rescue services have individually tested such systems. While some technological limitations do exist, the main barriers to successful uptake and use have related mostly to the implementation.

Challenges

- For emergency call location sharing, hikers and skiers need to download a unique smart phone app to report their location. The apps are often different not only by country but also by region.
- Different emergency call centres, even within the same country, often use different and incompatible software. As a result, emergency response organisations often don't share their data between themselves even on local and regional levels.
- Since most rescuers work as volunteers, new technologies must be very easy to use and thus they require an ad hoc training. This can be a significant barrier to uptake.
- Lack of experts in-house at local and regional levels to procure the right technology
- Few new services can be sustained after initial project funding ends

Eurisy recommendations

Based on the feedback from search and rescue organisations and civil protection agencies interviewed during the project period, and discussions during the two Eurisy events, our recommendations are the following.

Make location sharing when calling the emergency number a European standard

Knowing the location of a person in distress can be the difference between an hour long rescue mission and a four day-long search mission for the mountain rescue. To better enable this, the emergency number 112 should be standard across all EU regions. When calling 112, the location of the device should automatically be shared with the emergency response centre similar to how the Advanced Mobile Location Service by Android works. Different emergency response units should then be able to receive this information directly from the emergency response centre calling them into action, where their coordination software can integrate and display the data directly. Eurisy would support the initiative of organisations like the European Emergency Number Alliance (EENA) to make the Ecall or AML service a European standard.

Establishing common data standards to allow for team coordination systems to exchange information

Having a common standard for data can help different organisations exchange intelligence more efficiently. This would help during cross-regional search activities and also at a local and regional level. It would allow different organisations to exchange intelligence such as the GPS coordinates of helicopters, search dogs, mountain rescue teams or persons calling the emergency number. It may also apply to remote sensing data and geo-information from satellites or drones. This would also mean that different organisations can still have their own unique applications be tailored to their unique needs while at the same time exchange crucial information with other emergency response units provided that the data standards are the same. Common protocols and standards for training and use of services can also be coordinated on an Alpine level when the standards are similar and expertise is comparable. This would also make it easy to involve space experts to accompany the process of both training and implementation.