



Österreichischer Bergrettungsdienst – Bundesverband
Austrian Mountain Rescue - Federal Service

Austrian Mountain Rescue Federal Service

Search and Rescue Strategies: Experience and Outlook



**ICAR Convention
Borovets Bulgaria**

Technical Rescue Commission
Presentation
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Content:

- History
- General Information
- Actual Search Strategies
- Outlook

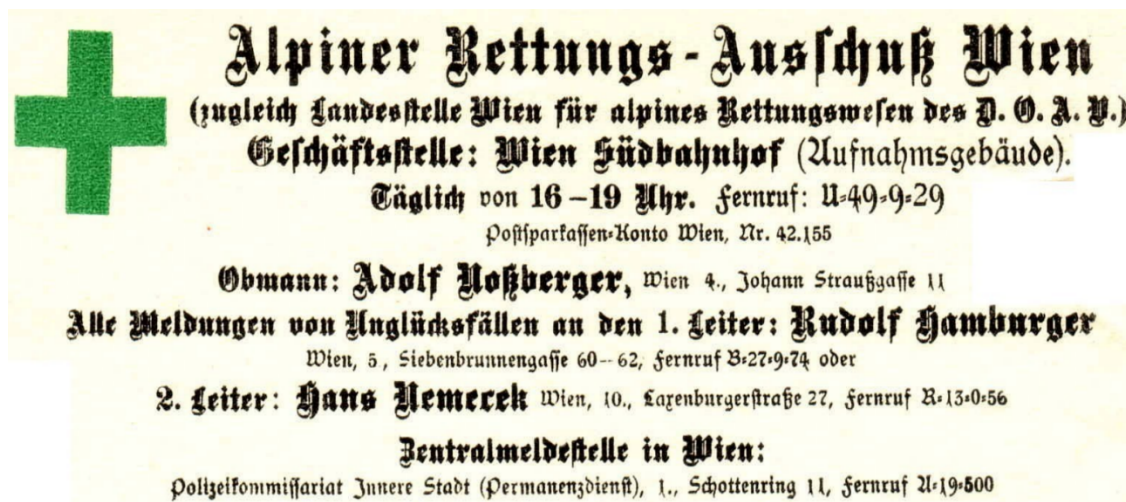


History:

Trigger for organized alpine rescue

08.03.1896 Avalanche Accident @ Reisthalersteig Rax

11.05.1896 Alpiner Rettungs Ausschuß Wien“ (ARAW)



Letterhead from 1933



12.&13.10.1946

Österreichischer Bergrettungsdienst

Use of Green Cross + Edelweiss



General Information:

The Austrian Mountain Rescue Service is the only organization in Austria able to deal with emergency rescue operations in alpine areas in small and large scale.

Operated by 99,9% volunteers.

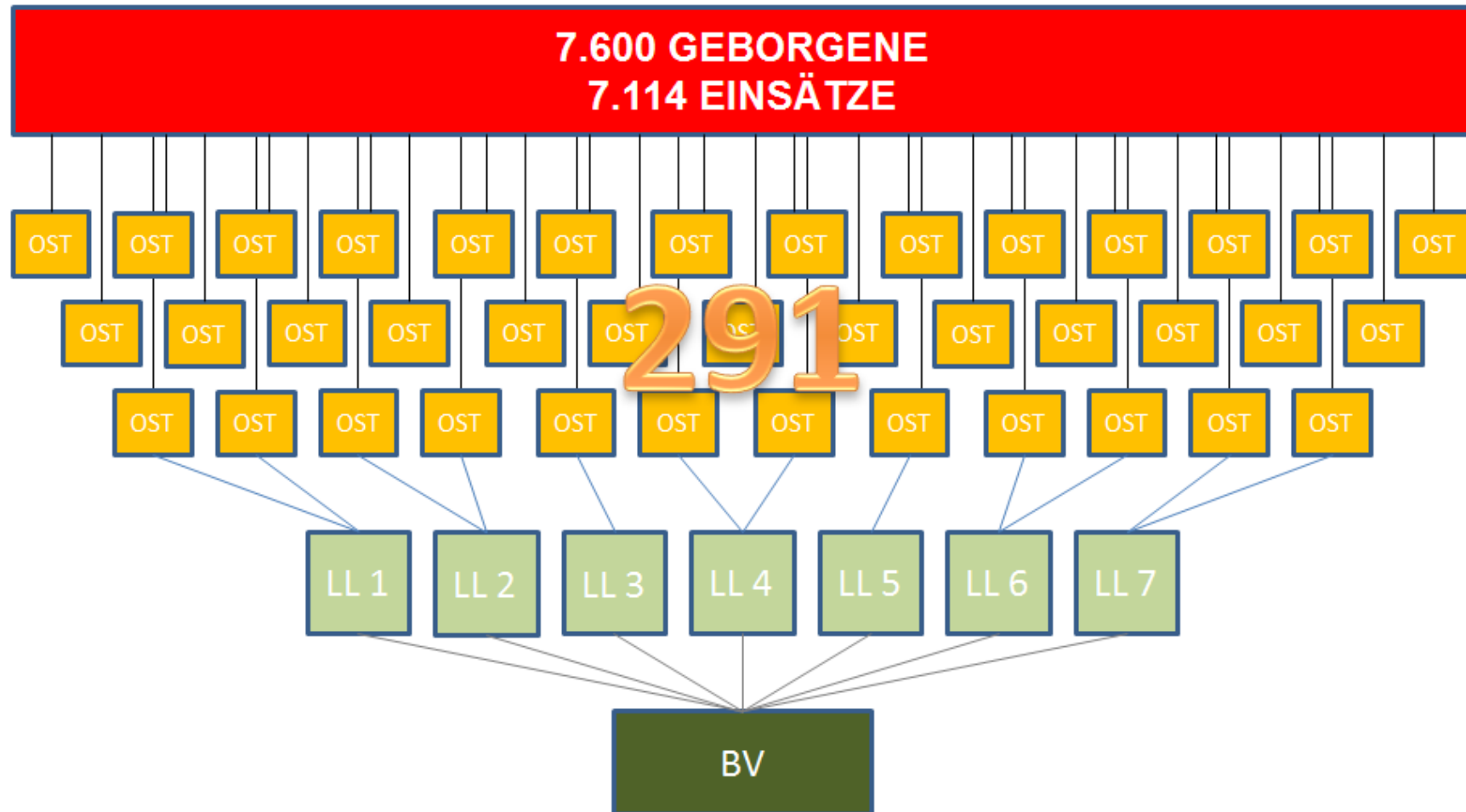
Available: 365/7/24

Special Groups within the organization are available for

- Canyoning
- SAR Dogs for Avalanches
- Cable Car Evacuations
- ...



Organization - Structure:





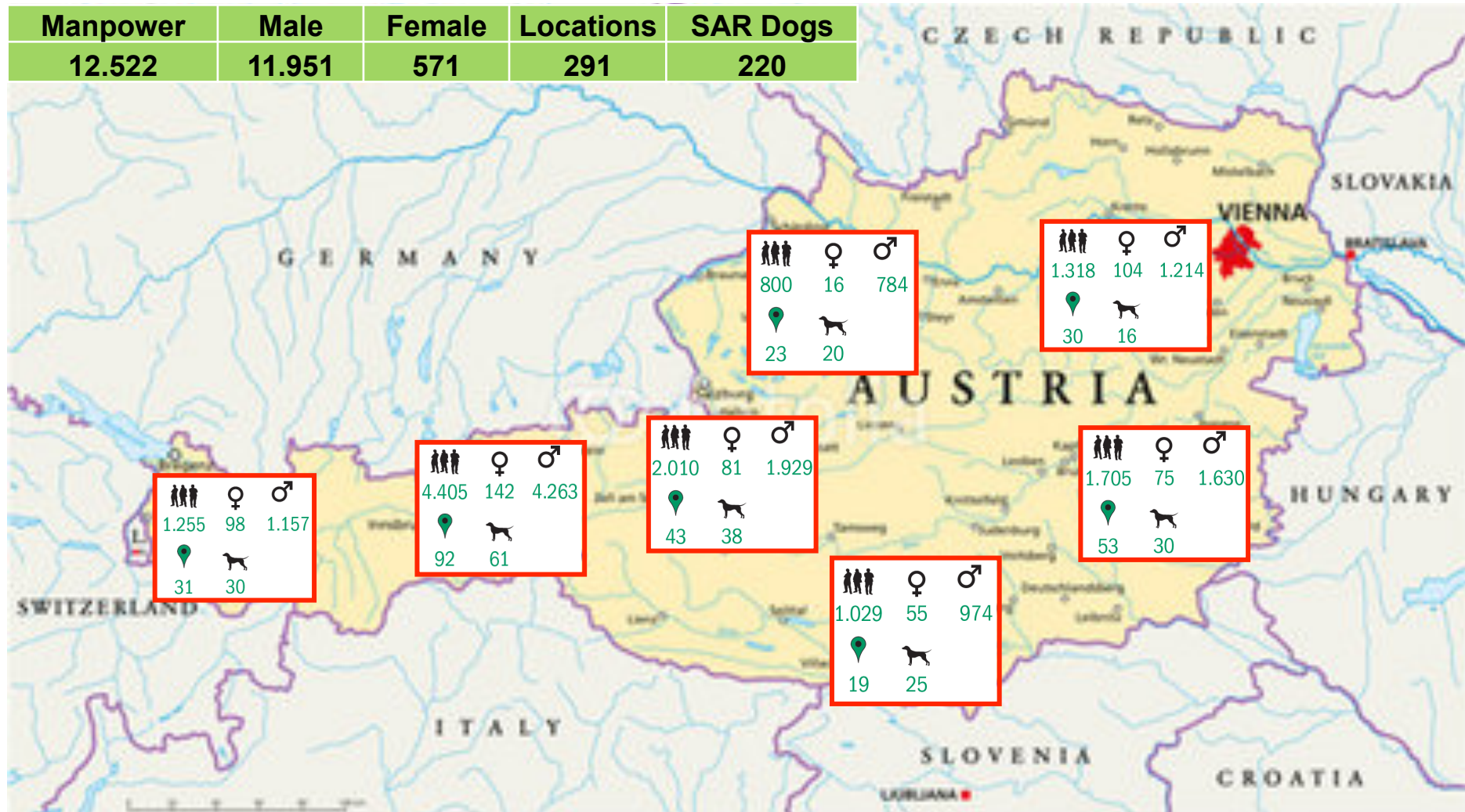
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Overview: Manpower & Locations

(Data Collection 2015)





Funding of the Organization

3 Lines of funding's

- Donations, Supporter Programme
- Billing of call outs
- Government contribution



Number of Call Outs Terrain Related

7.615 Overall Emergency Call Outs in 2015

- 3.539 at Ski-Slopes
- 3.437 at relative easy Terrain
- 229 at Rock Climbing or Via Ferratas
- 376 at Ski off slopes
- 34 at ice climbing or glacier Terrain





Number of retrieved/recovered Persons

7.791 Overall Number of Persons

- 5.836 Insured Persons
- 1.011 Uninsured Persons
- 184 Death
- 760 Various





Emergency Phone Numbers

140 Alpine Emergency Phone Number

144 Non Alpine Emergency Phone Number

112 International Emergency Phone Number

ÖBRD Landesorganisation	Leitstelle
Kärnten	Landesalarm- und warnzentrale Rettungsleitstelle (RK)
Niederösterreich/W.	Notruf Niederösterreich
Oberösterreich	Rettungsleitzentrale Linz
Salzburg	Landesleitstelle (RK)
Steiermark	Landeswarnzentrale
Tirol	Leitstelle Tirol
Vorarlberg	Rettungs- und Feuerwehrleitstelle Feldkirch



Actual Search Strategies (Missing Individual's)

Basics:

- Complex Scenarios
- Strategic Planning
- Resource Intense
- Interfaces with other organizations
- Time Pressure
- Relatives, Friends,.. involved



Actual Search Strategies

Search Itself:

- Situation Assessment & Intelligence realisation
 - Last seen, conditions, target,..
 - Personal: Announcer, Relatives, Huts, Car Parks, ...
 - Technical: Cell Phone Detection, IMSI Catcher, Apps
- Planning
 - Search Areas Mapping
 - Planning of Resources
 - needed
 - Time and Weather Impacts

Leads to ->





Actual Search Strategies

- Decision and realisation
 - Alerting additional resources
 - Execution of search plan
- Continues reassessment
 - Feedback from troops
 - New intelligence
 - “Step outside the box”

Leads to -> success in most of the cases

Mobile Phone Location via Provider

Allowed only in emergency situations. (TKG § 98, 2003)

Accuracy depends very much on the number of masts and cells the phone can lock in.

Can often be used for „exclusion“ method only. I.e. Mobile Phone searched for is locked in at a different region.



Pictures: www.handyorting.info





Forward Looking Infra Red - FLIR Helicopter



Some Austrian Police Helicopters are equipped for night flights, including:

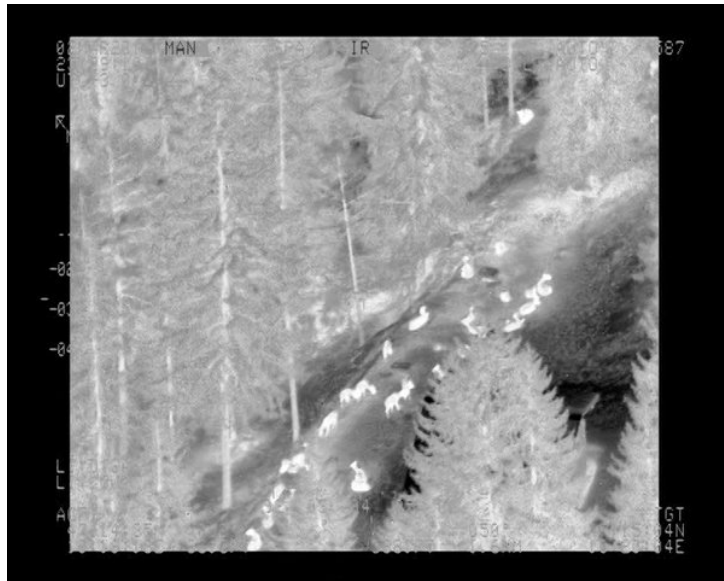
1. Infrared Camera (FLIR)

For location of persons by the use of surface temperature difference detection.

2. Video Camera: Including high resolution and wide zoom ranges.



FLIR HS



3. Search Lamp sx 16
"Night Sun": Output 1600 Watt, turnable

4. Downlink-System
allows to transfer live videos to the central command base





Also happend:

- **Call Out via GEOS International Emergency Response Coordination Center (IERCC)**
 - Mountaineer (40) from Europe in troubles at a mountain in Salzburg. (shoulder injurie)
 - Austrian Police HC and ÖBRD rescued the man
- Chain of alarm notification:
 - GEOS International Emergency Response Coordination Center (IERCC) alarmiert via GPS mit Textfunktion Gerät. [Örtlichkeit: USA, Texas, Montgomery]
 - BMI Einsatz- und Krisen-Koordinationscenter (EKC) [Örtlichkeit: Wien, Herrengasse]
 - t.b.c



- Landes Polizei Direktion (LPD) Salzburg [Örtlichkeit: Salzburg, Alpenstraße]
- Polizeiinspektion (PI) Tamsweg [Örtlichkeit: Tamsweg, Gartengasse]
- ÖBRD OST Muhr Bergrettungsmitglied



<http://www.inreachdelorme.com/product-info/inreach-explorer.php>



Outlook

- More technical gadgets and tools are around
 - Mobile Phones (inkl. GPS and various Apps)
 - GPS Transmitter's (phone technology)
 - Satellite Transmitters
 - IMSI Catchers
 - FLIR Helicopters
 - Night Vision Goggles
 - Database (Police, Hospitals, Ambulance Service,...)



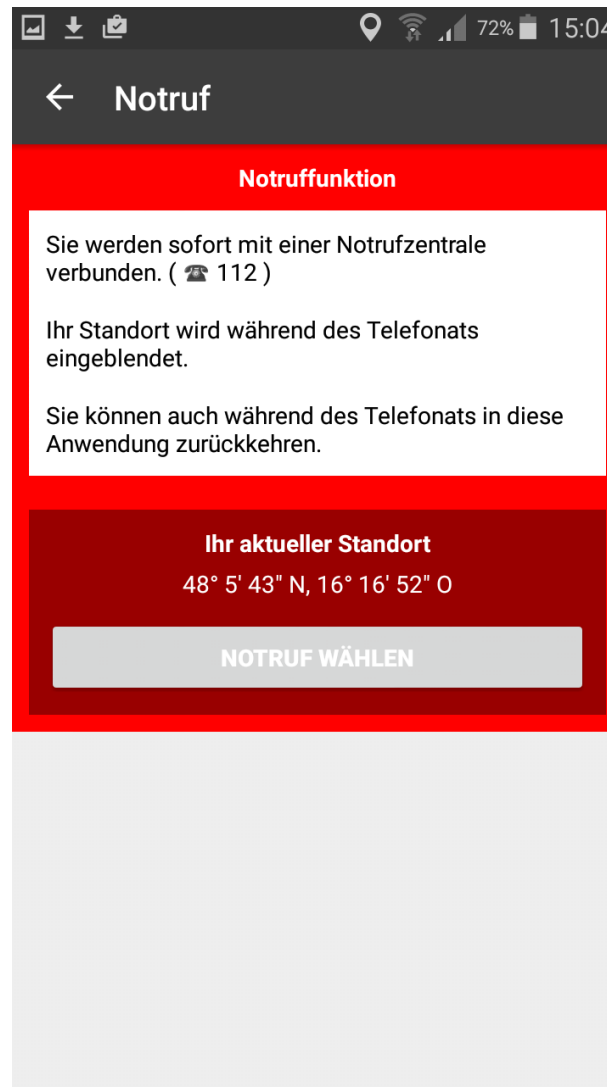
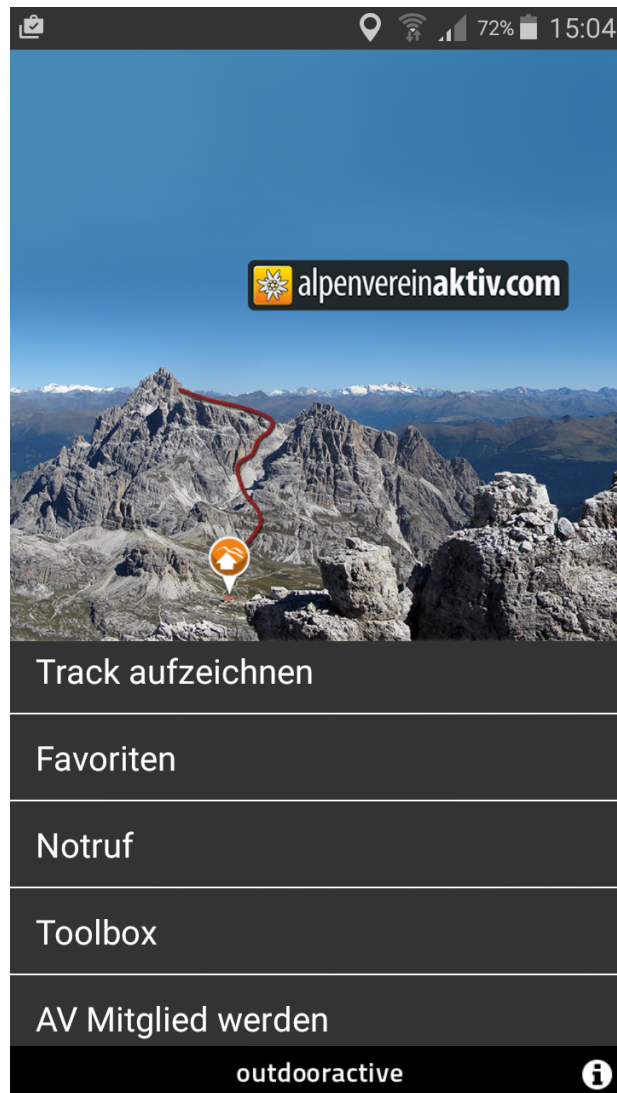
Apps

A selection of some available Apps
(List is not exclusive)

- Alpenverein
- Ortovox
- Mammut
- Bergrettung Tirol / Leitstelle Tirol
- RFL Vorarlberg
-

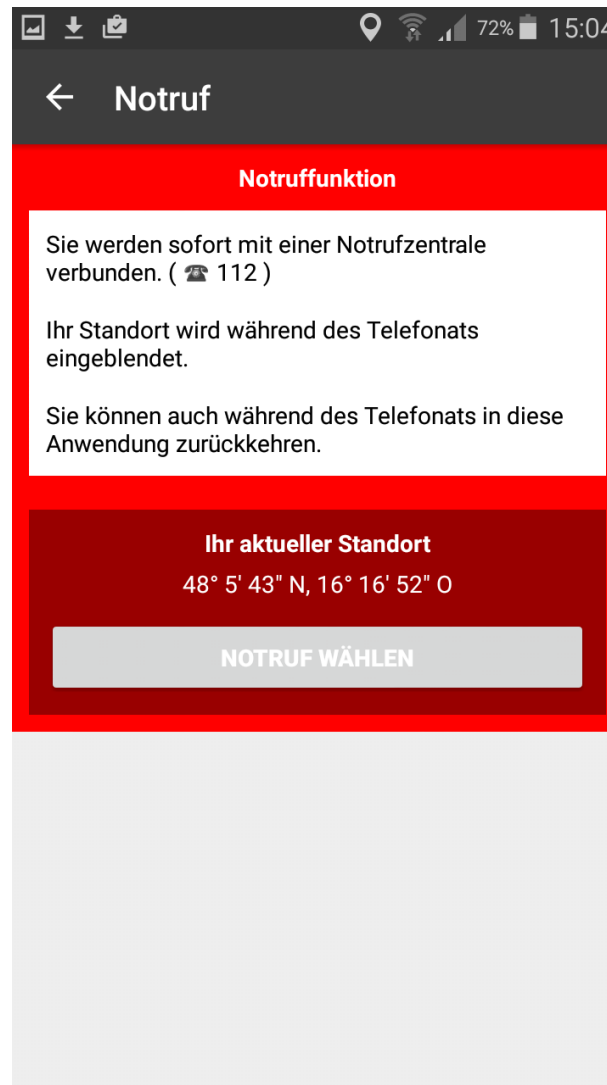
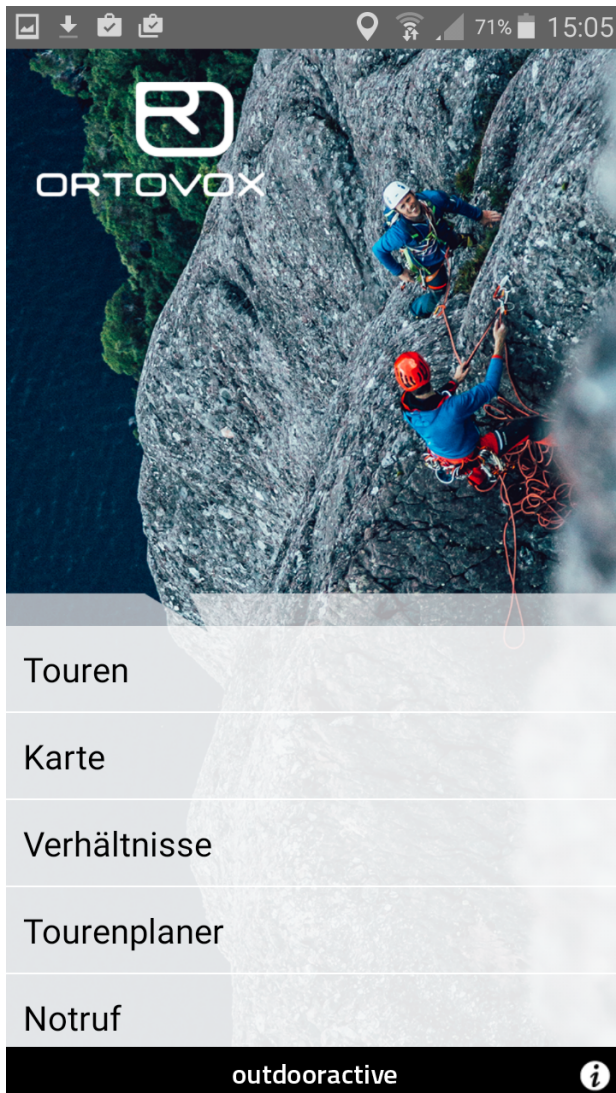


Apps Various - Example: Alpenverein



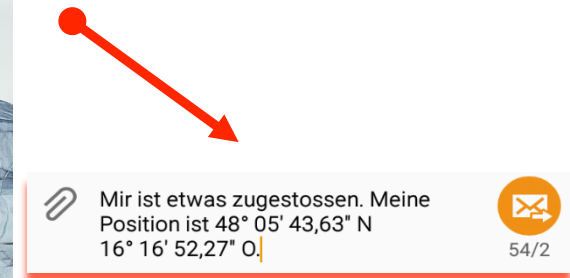
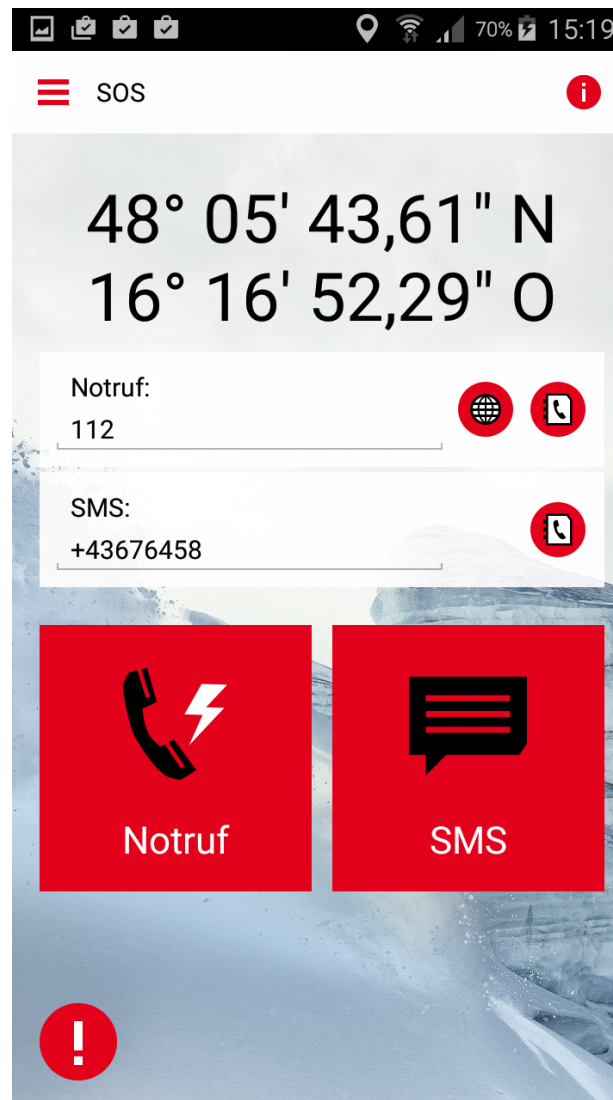
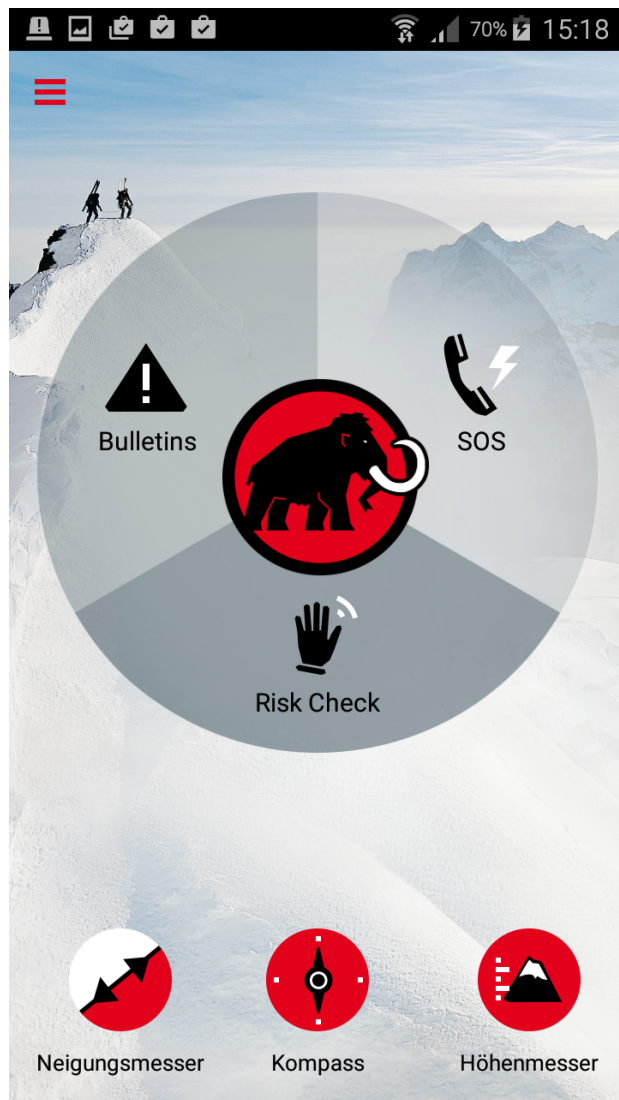


Apps Various - Example: Ortovox





Apps Various - Example: Mammut



Picture: Screenshot Mammut App



Apps Various - Example: BR Tirol

Bergrettung Tirol
operated by Leitstelle Tirol GmbH

Name*

Handynr.*

Email

Adresse*

PLZ/Ort*

(* Pflichtfelder)
App-Version 1.2.1

OK

Bergrettung Tirol
operated by Leitstelle Tirol GmbH

☐ Lawinenunfall!

☐ Liege in Gletscherspalte!

☒ **Schwer verletzt!**

☐ Verletzt!

☐ Verirrt!

☐ Fehllarm, brauche keine

SMS Senden

Bergrettung Tirol
operated by Leitstelle Tirol GmbH

GPS Internet

NOTFALL

Daten Test

Breitengrad	47° 15'42.7435"
Längengrad	11° 24'19.3960"
Höhe	709.0 m
Abweichung	30.0 m



Apps Various - Example: RFL Vrlbg.

Project:

SMS can be sent to the victim.

An included link to an “empty webpage” needs to be opened. Internal Mobile Phone Datas are then transferred to the command center.

(Operated by the command center)



Modern Technologies do depend on environment and users competence

- No phone coverage – no emergency call!
- No competence in using apps and devices – no emergency call
- Training, equipment, physical conditions and intelligence are key factors to avoid emergency situations. Keyword: Public Awareness
- The technology update and upgrade speed is amazing and makes it challenging to follow and focus on the right elements.



Thank you for listening!

Questions / Discussion?