



Guardia di Finanza

Soccorso Alpino (Mountain Rescue)

Servizio Aereo (Aircraft Division)



***The Montreux Congress – Air Rescue
Cell phone Tracking Systems***

Montreux (CH)

October 12th to 15th 2022





Topics

1. *Introduction – Guardia di Finanza and S.A.G.F. as ICAR Member*
2. *Where we are and what we do*
3. *Cellular Phones Tracking Systems – Flight Nesie – The new era of mountain s.a.r.*
4. *Case study*
5. *Question time*





Introduction

*The **Guardia di Finanza** is a military Police Force reporting directly to the Minister of Economy and Finance. G. di F. as Police and Armed Force, is an integral part of the «National System of Civil Protection». The Guardia di Finanza also ensures its support to public security in the mountain areas, through its component of Alpine Rescue, which is divided into many Stations, located throughout the Country, engaged in search, rescue, and protection of human life activities. The personnel working in this field is trained with supporting dog units in Alpine School in Predazzo (Trent), by using cutting-edge techniques that provide for the possibility of working on snow, ice, cliffs and in case of emergency. The Alpine school is the **oldest Alpine Military School in the world.***



*Repubblica Italiana
Guardia di Finanza
Finanziere Alpino
1974*





Where we are – Mountain Rescue

Bases of S.A.G.F.

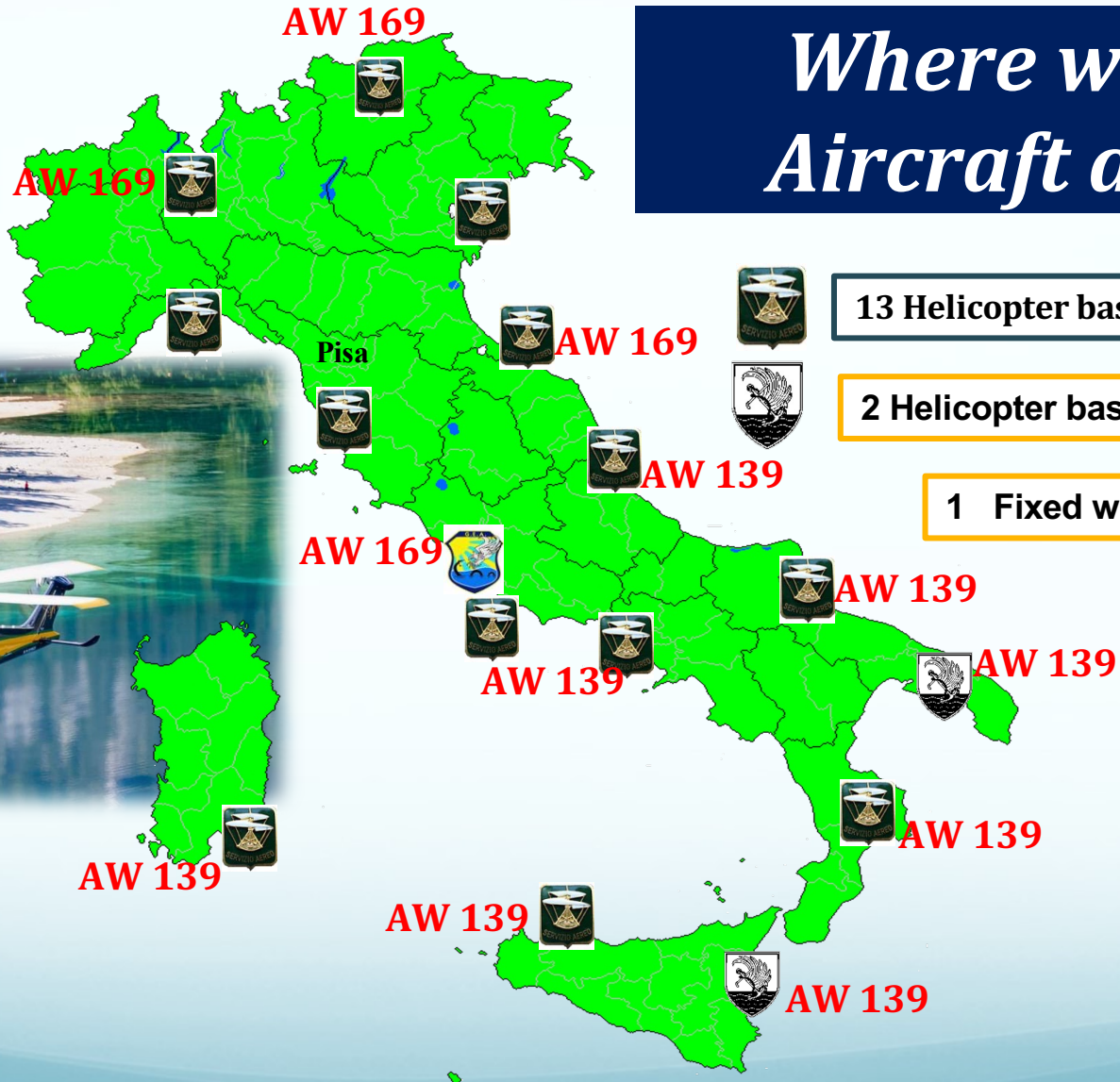


- 21 Bases S.A.G.F. in the alpes
- 5 Bases S.A.G.F. in the middle Italy
- 3 Bases S.A.G.F. in south
- 1 training centre S.A.G.F. at «Scuola Alpina»





Where we are – Aircraft division



13 Helicopter bases

2 Helicopter bases long-range patrolling

1 Fixed wings base





What we do – S.A.G.F.

S.A.G.F. (Rescue Mountain division) is the only Italian police who have skills of search and rescue operation in mountain. We cooperate with the others Italian and international rescuers. S.A.G.F. are tough to prosecute in case of law violation in mountain.



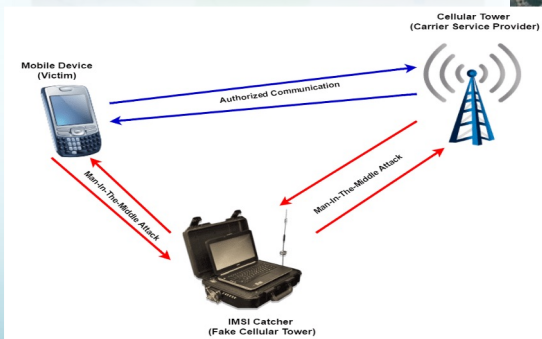
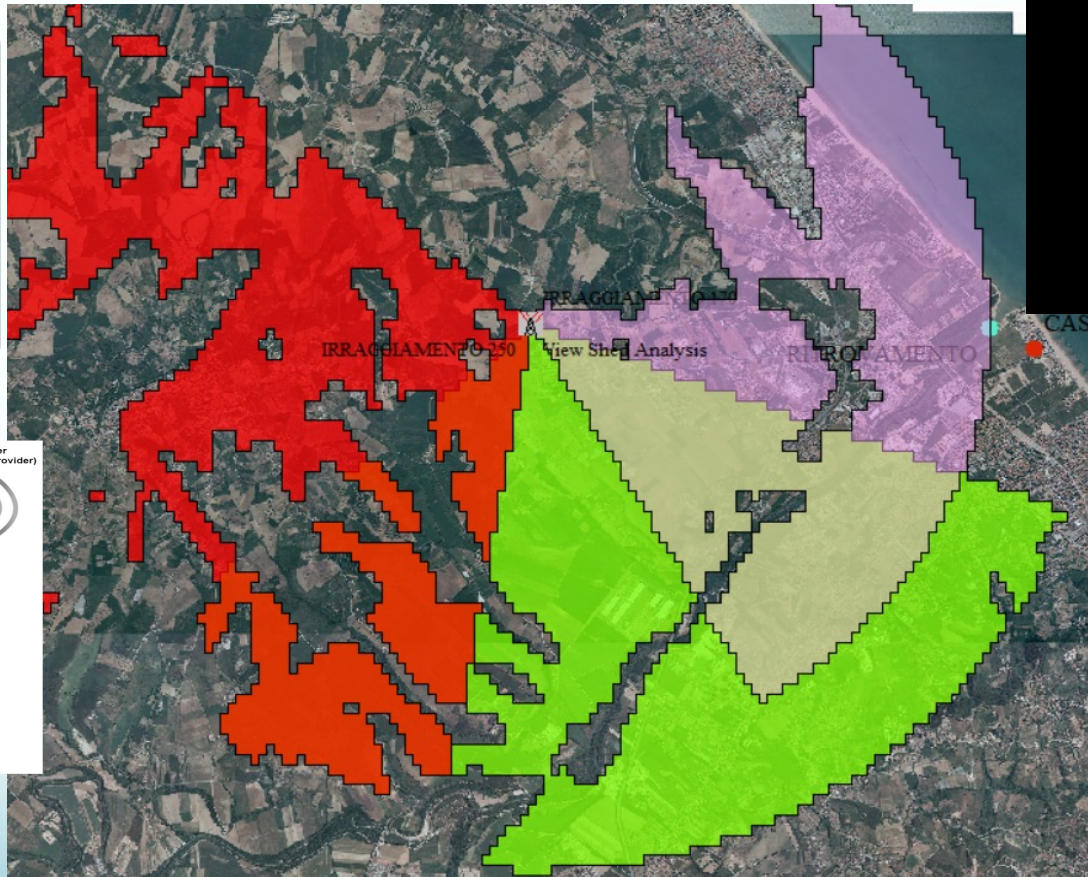
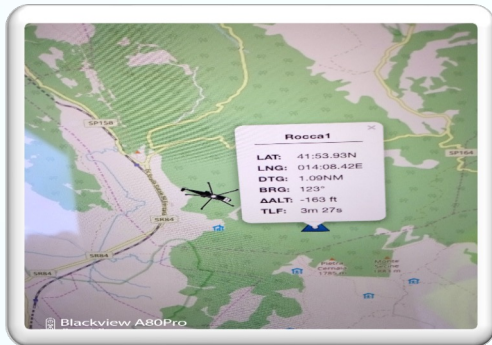


First aid and scramble alert





New technologies – FLIGHT NESIE



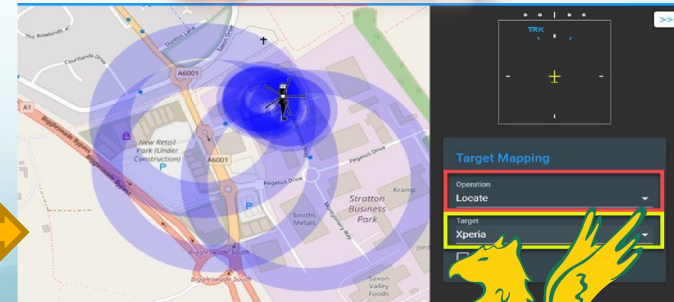


New technologies – FLIGHT NESIE

FLIGHT NESIE

NETWORK EMULATION, SIMULATION AND INTEGRATION EQUIPMENT
IMSI/IMEI CATCHER SYSTEM (ORIGINATED FOR INTELLIGENCE, FUGITIVE SEARCH, AND LAW ENFORCEMENT TASKS), REMODELED FOR USE IN MISSING PERSON SEARCHES.

THE SYSTEM REPLACED A BTS WITH «FAKE» SIGNAL

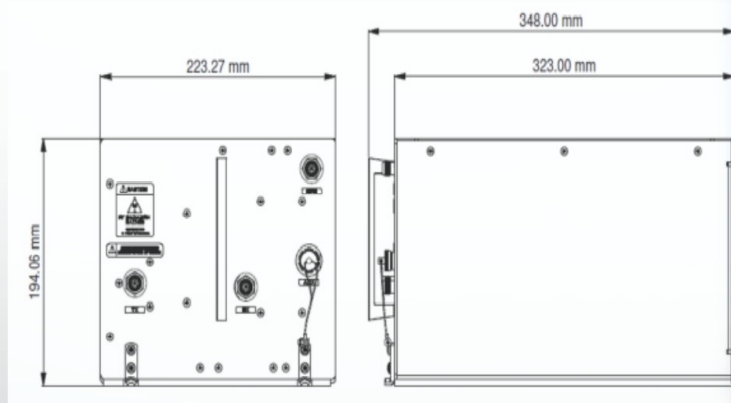




New technologies – FLIGHT NESIE



- **Weight: 17 kg**
- **Assembly: Hardware and management software by ethernet cable**
- **Position: Cabin - Behind left pilot side**
- **Trasmission power: 20 Watt**





New technologies – FLIGHT NESIE



WHAT WE CAN FIND..

..ALL DEVICES WITH AN IMSI/IMEI

- Mobile phone
- Smartphone
- Tablet
- Modem
- Wi-fi router
- Car



Turned ON

Positioning

S Steve 1- Samsung S6 MAKE PHONE RING

Network: EE
 Band: 900
 ARFCN: 97
 Path Loss: 71dB
 Commanded Power: 29dBm
 Mobile Tx Power: 29dBm

GPS Distance: 0m
 GPS Location: 50°23.4196'N 3°31.4460'W
 GPS Altitude: 78m

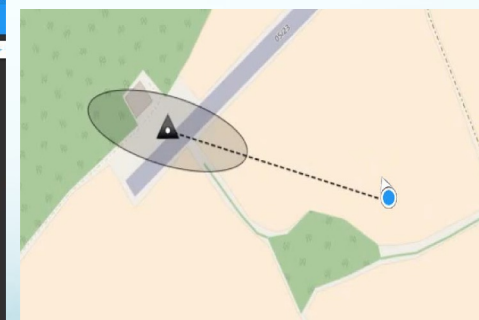
NETWORKS ACTIONS MAPPING ANALYSIS TARGETS [LIMITS] 09:53

Target Mapping

Operation: Locate

Target: Xperia

Heatmap





New technologies – FLIGHT NESIE

C.R.M. – TEAMWORK
WICH SCENARIO...??...





Before flight.....

TARGET (Flight Nesie)

STAZIONE SAGF	GRUPPO TAS	MILITARE	
LOCALITA' OPERAZIONI	PREDAZZO	QUOTA	1500 M

INFO DISPERSO			
NOME	ALEX	COGNOME	GINZERLE
UTENZA TELEFONICA		NAZIONALITA' OPERATORE	IT
RAGGIUNGIBILE	SI <input type="checkbox"/> NO <input type="checkbox"/> SALTUARIAMENTE <input type="checkbox"/>		
OPERATORE DI RETE	TIM <input type="checkbox"/> VODAFONE <input type="checkbox"/> WIND 3 <input type="checkbox"/> ILIAD <input type="checkbox"/>		
CODICE IMSI			
CODICE IMEI	MODELLO TELEFONO		

PUA					
DAT A	COORDINATE	o	i	"	N
ORA	COORDINATE	o	i	"	E

ULTIMO CONTATTO BTS VOCE					
2G 3G 4G	COORDINATE	o	i	"	N
A	COORDINATE	o	i	"	E
ORA	COORDINATE	o	i	"	E

ULTIMO CONTATTO BTS DATI					
2G 3G 4G	COORDINATE	o	i	"	N
A	COORDINATE	o	i	"	E
ORA	COORDINATE	o	i	"	E

Italy (222)
Mobile Country Code
 TIM (22201)
 VODAFONE (22210)
 WIND 3 (22288)
 ILIAD (22250)
 2 ITALIA (22299)
 LINKEM (22238)
 TISCALI (22247)

International Mobile Country Code
https://it.wikipedia.org/wiki/Mobile_Country_Code

TARGET (Flight Nesie)

STAZIONE SAGF	GRUPPO TAS	MILITARE	
LOCALITA' OPERAZIONI	PREDAZZO	QUOTA	

INFO DISPERSO			
NOME	ALEX	COGNOME	
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RAGGIUNGIBILE	SI <input type="checkbox"/> NO <input type="checkbox"/> SALTUARIAMENTE <input type="checkbox"/>		
OPERATORE DI RETE	TIM <input type="checkbox"/> VODAFONE <input type="checkbox"/> WIND <input type="checkbox"/>		
CODICE IMSI			
CODICE IMEI	MODELLO TELEFONO		

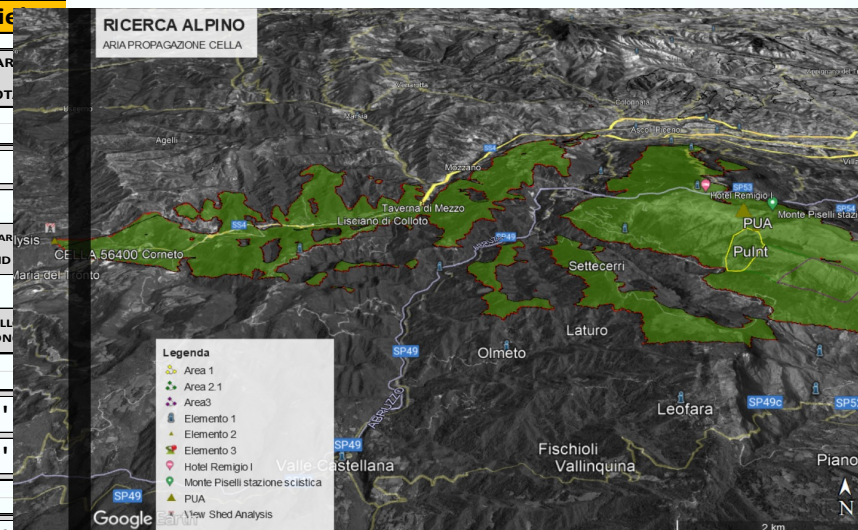
PUA					
DAT A	COORDINATE	o	i	"	
ORA	COORDINATE	o	i	"	

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A	COORDINATE	o	i	"	
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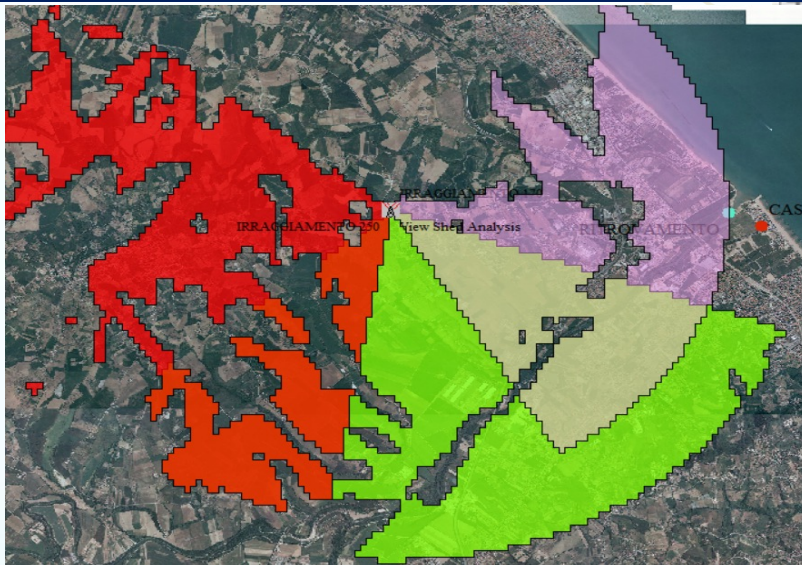


Retrieval of information
Primary area
Search pattern





Before flight.....



Global Mapper v21.0 (64-bit) [+OTF] [+LIDAR] - REGISTRATO (ricerca masera.gmw*)

File Modifica Visualizza Strumenti Analisi Livello Ricerche GPS Aiuto

Colore Lidar da RGB/Quote

Gestione Livelli (15 Livelli, 1 Selezionato)

- Progetto Corrente <ricerca masera.gmw*>
- ASTER GDEM v2 Worldwide Elevation
- World Imagery
- copertura senza distanze presunte pos
- copertura chiesa masera pca [73 Feat]
- copertura positioning tim utente [6 Fe
- posizione [1 Features]
- villa [1 Features]
- villadossola [78 Features]
- beura [1 Features]
- beura + TA [9 Features]
- trontano + TA [8 Features]
- tragitto [1 Features]
- borgata tagliaroli [1 Features]
- borgata tagliaroli [7 Features]
- chiamata in entrata 3G [1 Features]

4,000 m
3,500 m
3,000 m
2,500 m
2,000 m
1,500 m
1,000 m
500 m
0 m
-321 m

0.5 km 1.5 km 2.5 km 3.5 km

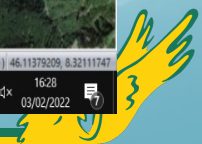
Height = 488.131 m, RGB(036,056,047) (World Imagery)

1:35270 MERCAT | WGS84 | 926302.560, 5767794.547, 488.082 m | 46.11378209, 8.32111747

Scrivi qui per eseguire la ricerca

16:28
03/02/2022

Last positioning
Spread signal

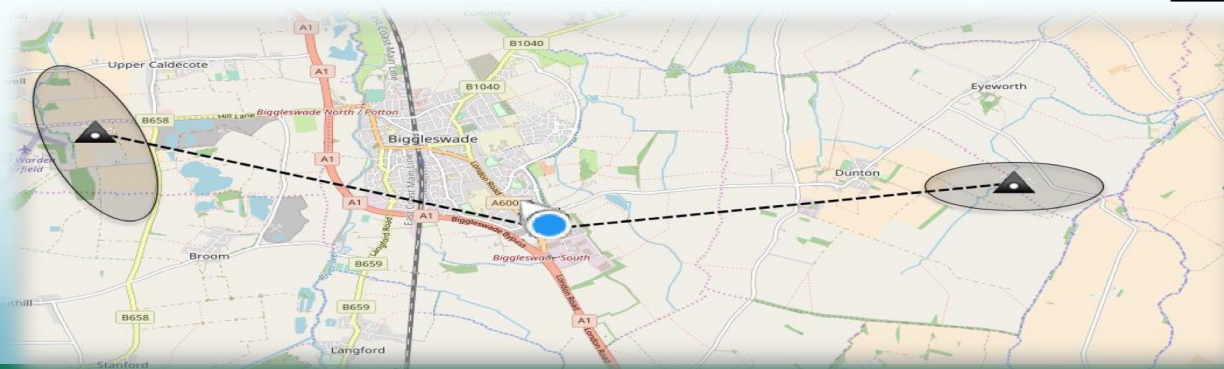
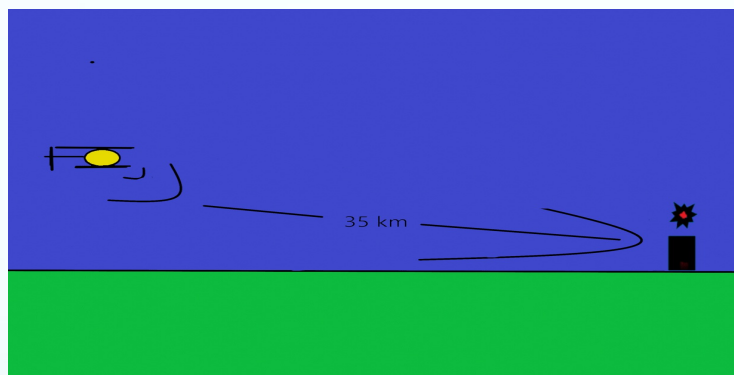




New technologies – FLIGHT NESIE

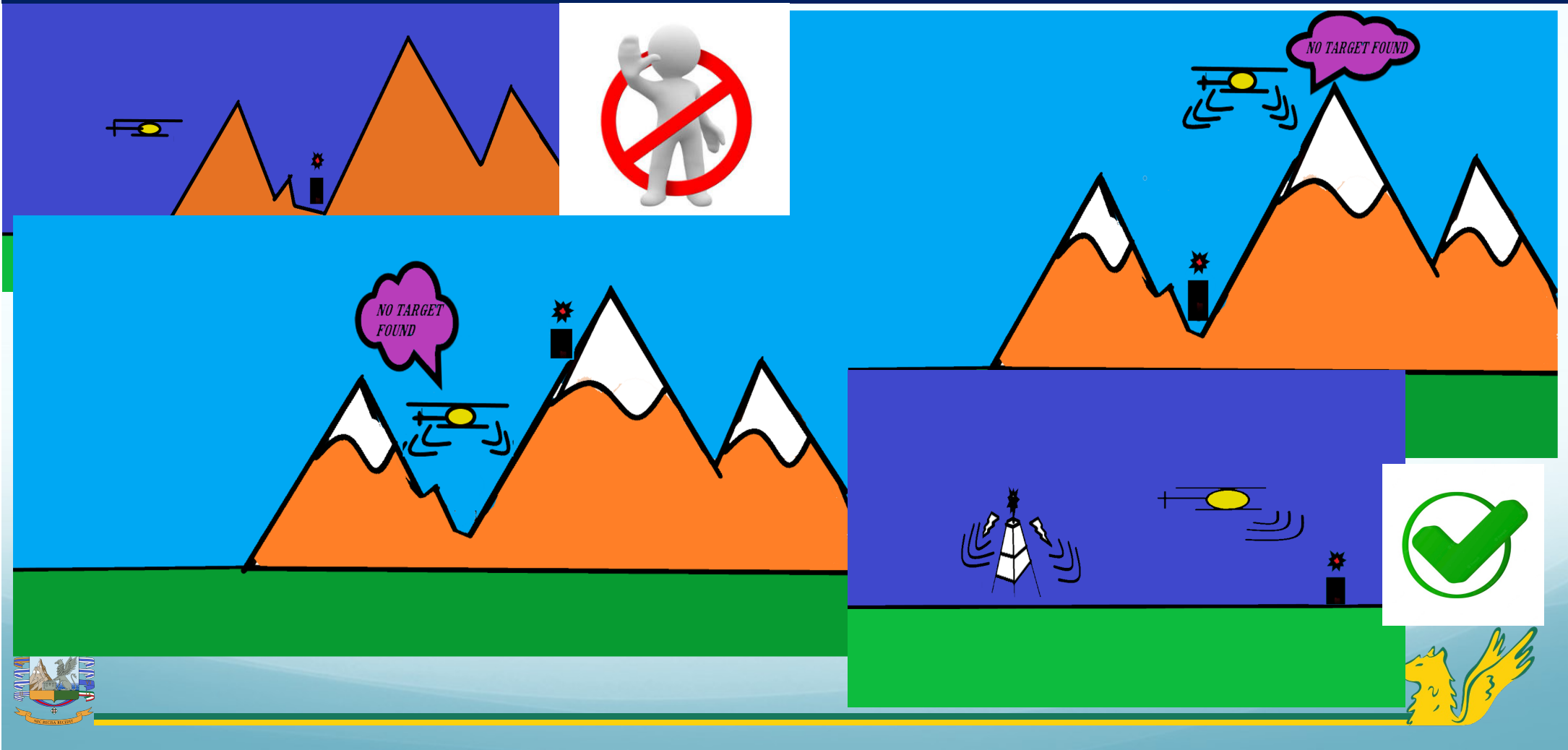


C.R.M. – TEAMWORK
WORK FAST – WORK SAFE



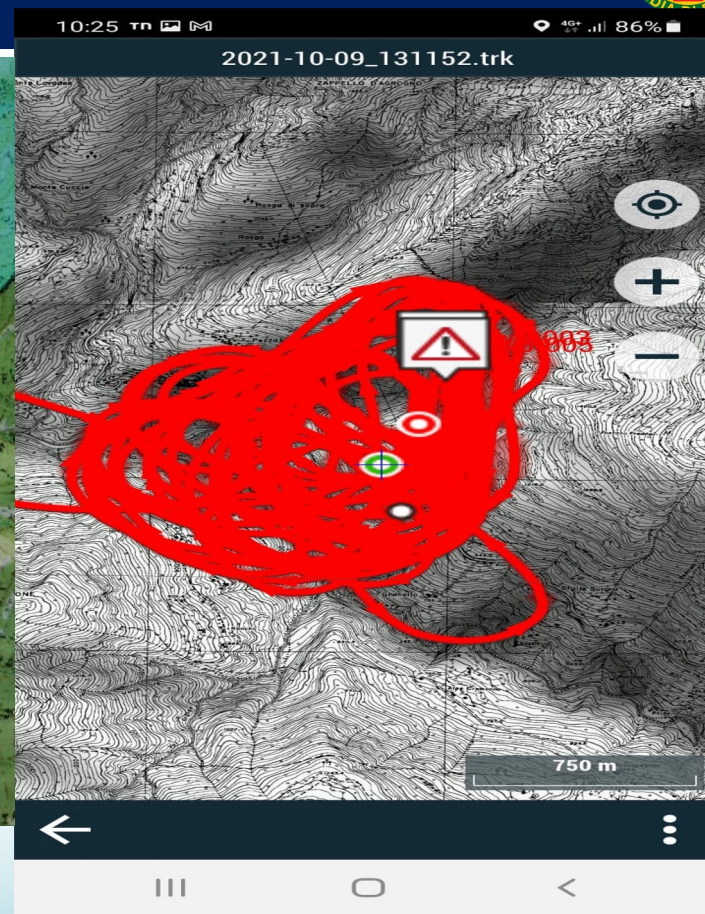
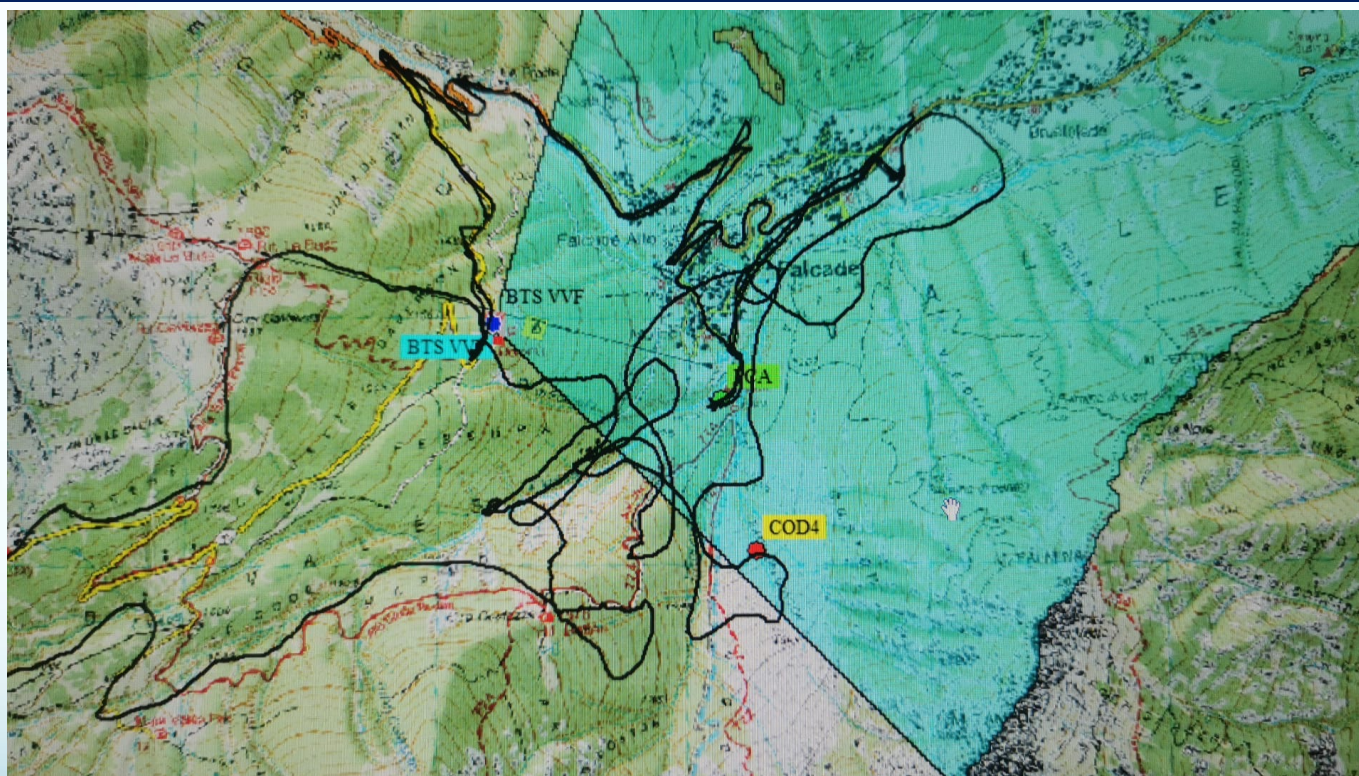


During the flight



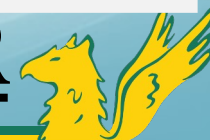


Case study



NO ANSWER

ANSWER





Case study

*What happen
on board*

