

INSARAG INTERNATIONAL WORKSHOP

LARGE SCALE USAR OPERATION

MORANDI BRIDGE AND OTHER CASE STUDIES



23rd October 2019 - Palermo, Italy

LARGE SCALE USAR OPERATION MORANDI BRIDGE AND OTHER CASE STUDIES

**THE COORDINATION OF SEVERAL ACTORS
INVOLVED IN LARGE EMERGENCY AND
LEAD AGENCY IN CHARGE**

Marcella Battaglia
Como Fire Chief

ITALIAN CIVIL PROTECTION

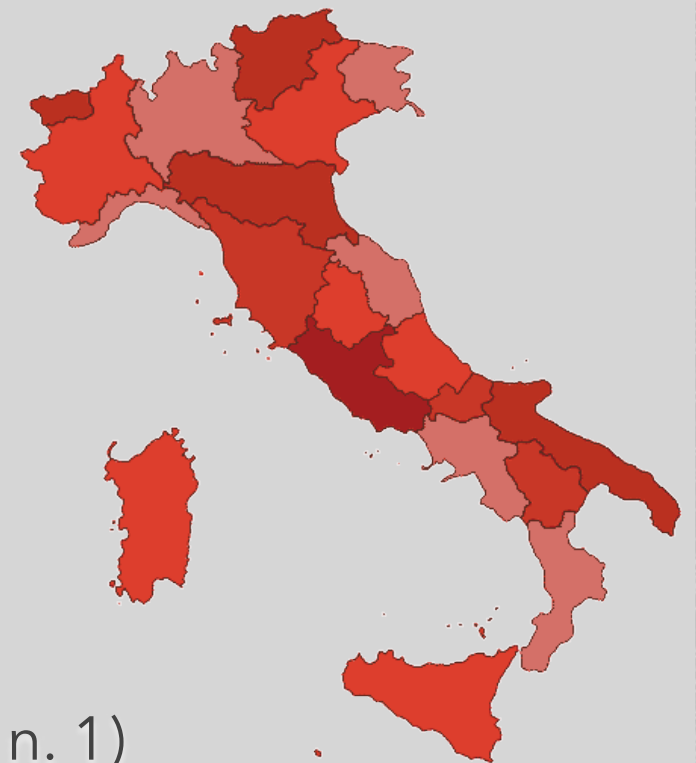
a **multi agency** system (*)

- *the complexity of the national risk scenario*
- *the coordination of different skills, of all the Statal forces and the other available resources*

The **components** of the CP Service:

Statal Administrations

*Local Administrations: Regions,
Aut. Provinces
Municipalities*



(*) The current law is a Code (Legislative Decree 2018/1/2 n. 1)

ITALIAN CIVIL PROTECTION

the operational structures of the National Service:

the Italian National Fire Service (CNVVF)

a fundamental component of civil protection



ITALIAN CIVIL PROTECTION

the other **operational structures** of the National Service:

- the Army
- (statal and local) Police Forces
- the scientific communities (CNR, INGV, ENEA, ...)
- the National Health Service
- the *volunteers* (CRI, CNSAS, ...)



Croce Rossa Italiana

ITALIAN CIVIL PROTECTION

CNVVF

ensures:

urgent technical rescue
S&R operations

assumes:

the direction and responsibility
in the immediacy of the events

through the

technical-operational
coordination

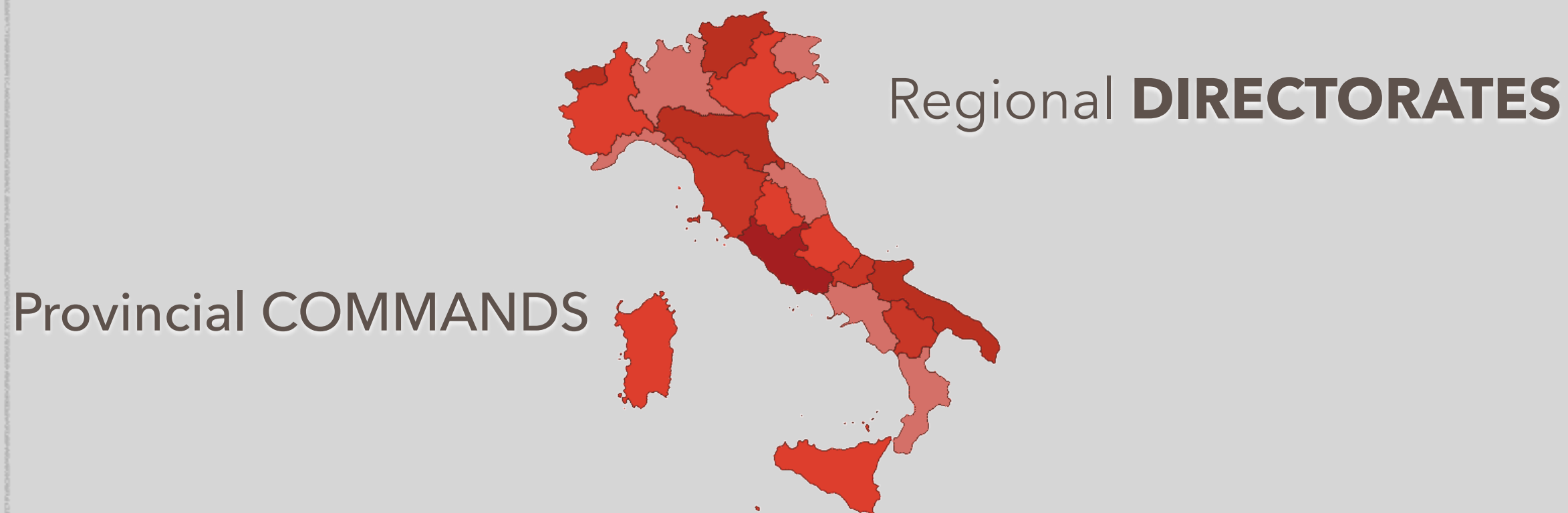
AND

in connection with the other
components and structures



CNVVF ORGANIZATION

Ministry of the Interior
Fire Department of public rescue and civil defense



CNVVF ORGANIZATION

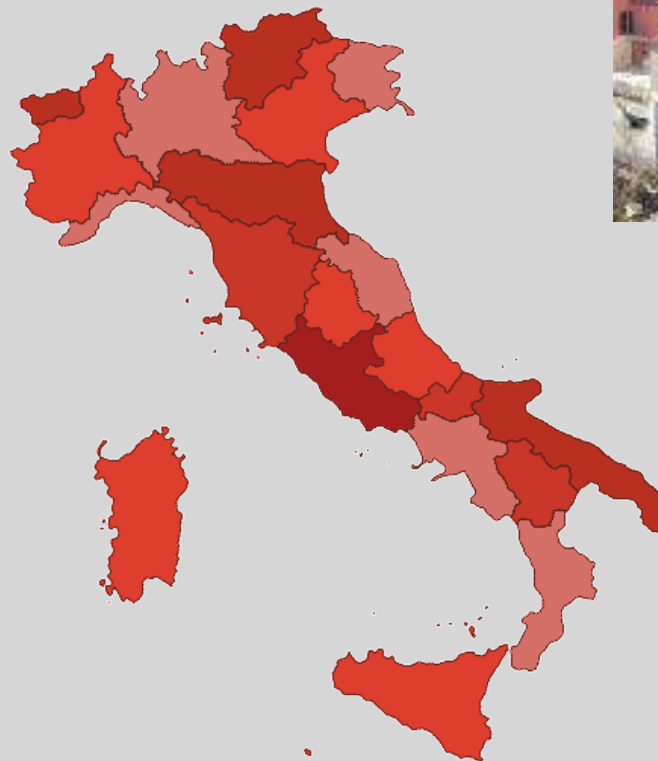
Operational needs in contrast

SPREAD ON THE TERRITORY

SPECIALIZATION

NUMEROUS AND SIMPLE EVENTS

RARE AND COMPLEX EVENTS



Different levels of skills for different scenarios

CNVVF ORGANIZATION

The solution

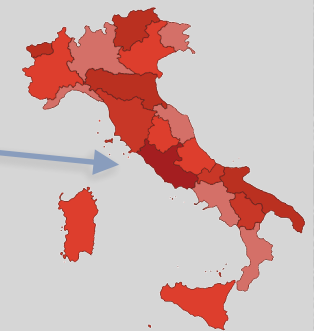


CNVVF ORGANIZATION

Fire Department: the National Operative Center (CON)



ROME



The CNVVF's response to large emergencies

The Italian Fire Department

adopts a specific organizational model, divided into
Regional Mobile Convoy (CMR),
composed by **different teams (SO) according to the scenario**

Mobile convoy system	Teams	People
Earthquake response	144	1296
Flood response	72	648
Forest fire response	72	648

*9 firefighters for each SO
(team = Operational Section)*

Specific vehicles for scenario

*CMR are located in the Regions
and can be moved from one Region to
another as needed*



Italy USAR system	Teams	People
USAR Light	72	18
USAR Medium	8	36
USAR Heavy	1	86

Morandi bridge: the other ICS actors

VF Incident Commander

Fire
brigades

CP components
Region, Prefecture,
Municipality

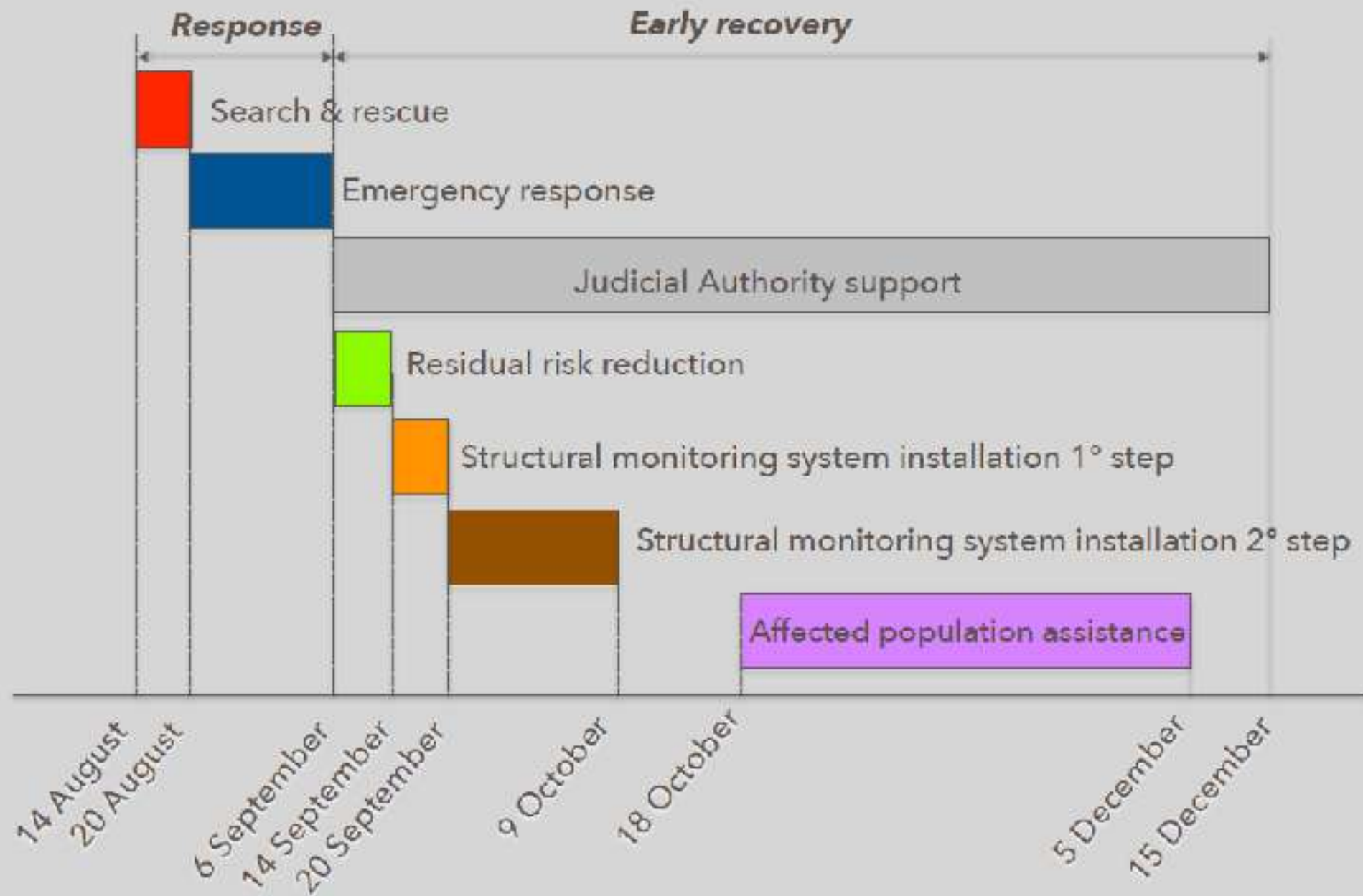
Health Service
118 - CRI

Armed Forces
POLICE
CARABINIERI



The Collapse of Morandi bridge

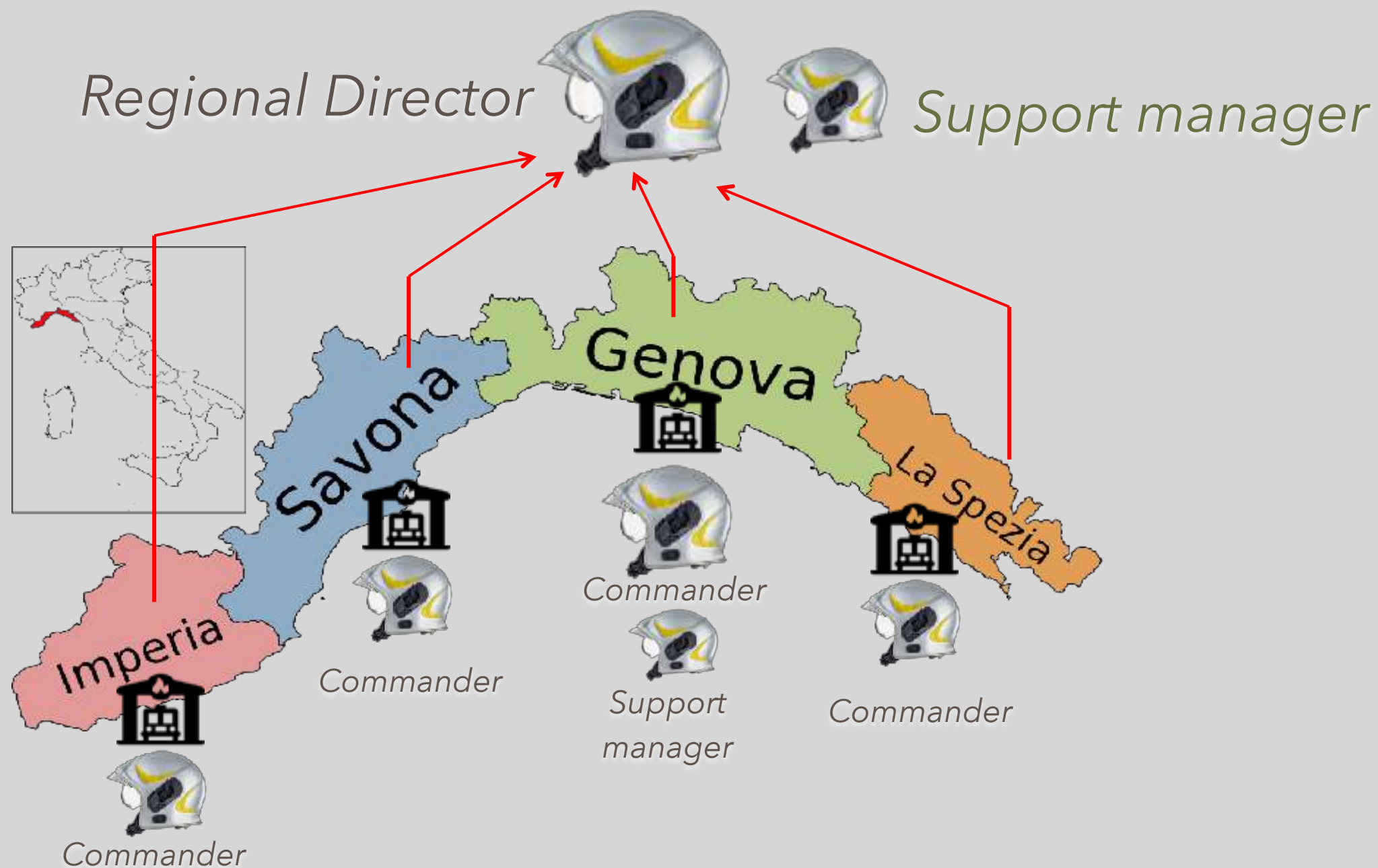
TIME LINE



THE REGION OF LIGURIA

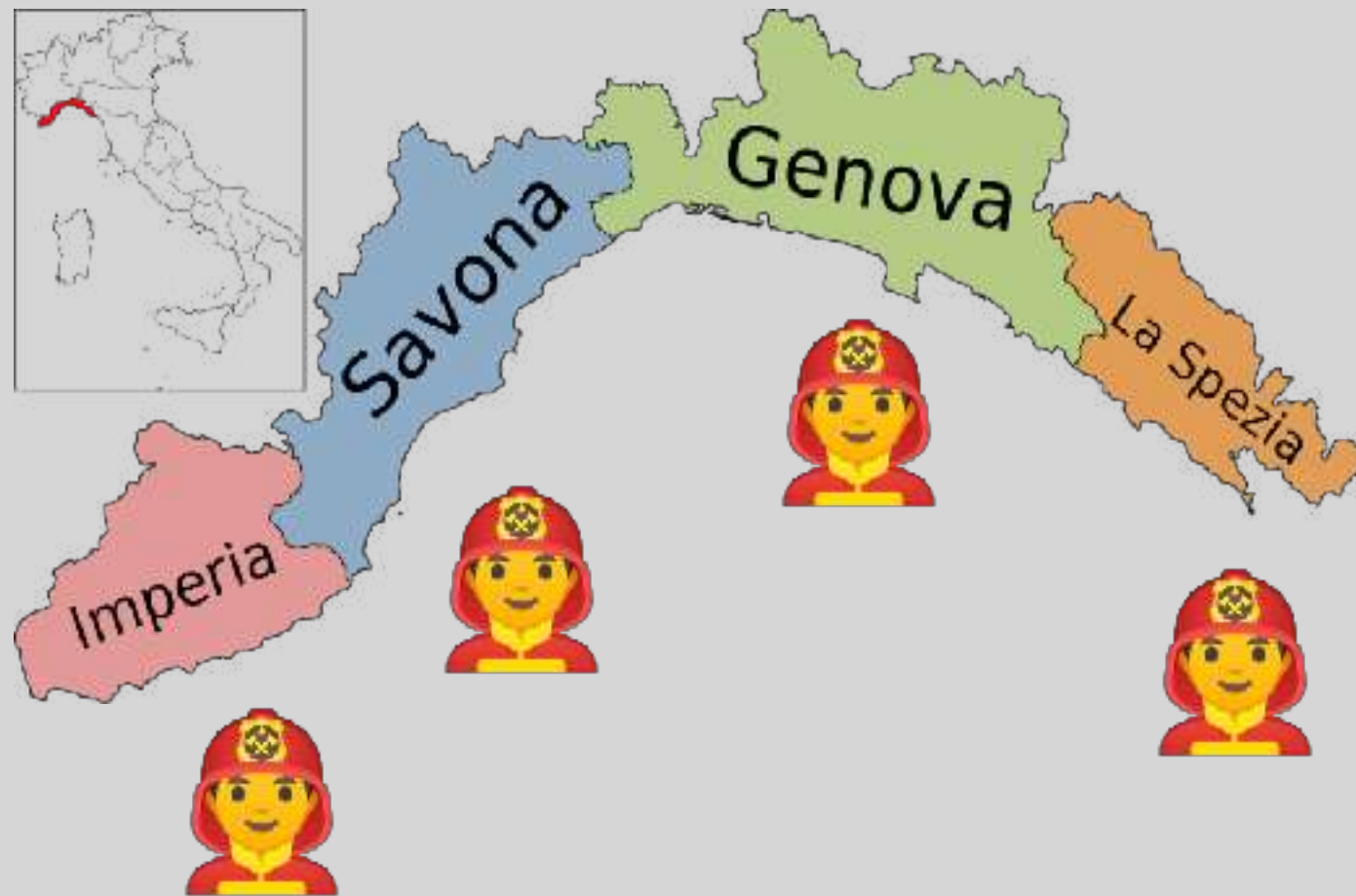


THE REGION OF LIGURIA



Since the day before: 13 August

ALERT for hydrogeological risk



Genova, Flood - 2016



28 units more as additional teams
from Imperia to La spezia

The first image



The information flow

SOR - Regional Operational Center of VF Directorate



The Incident Commander



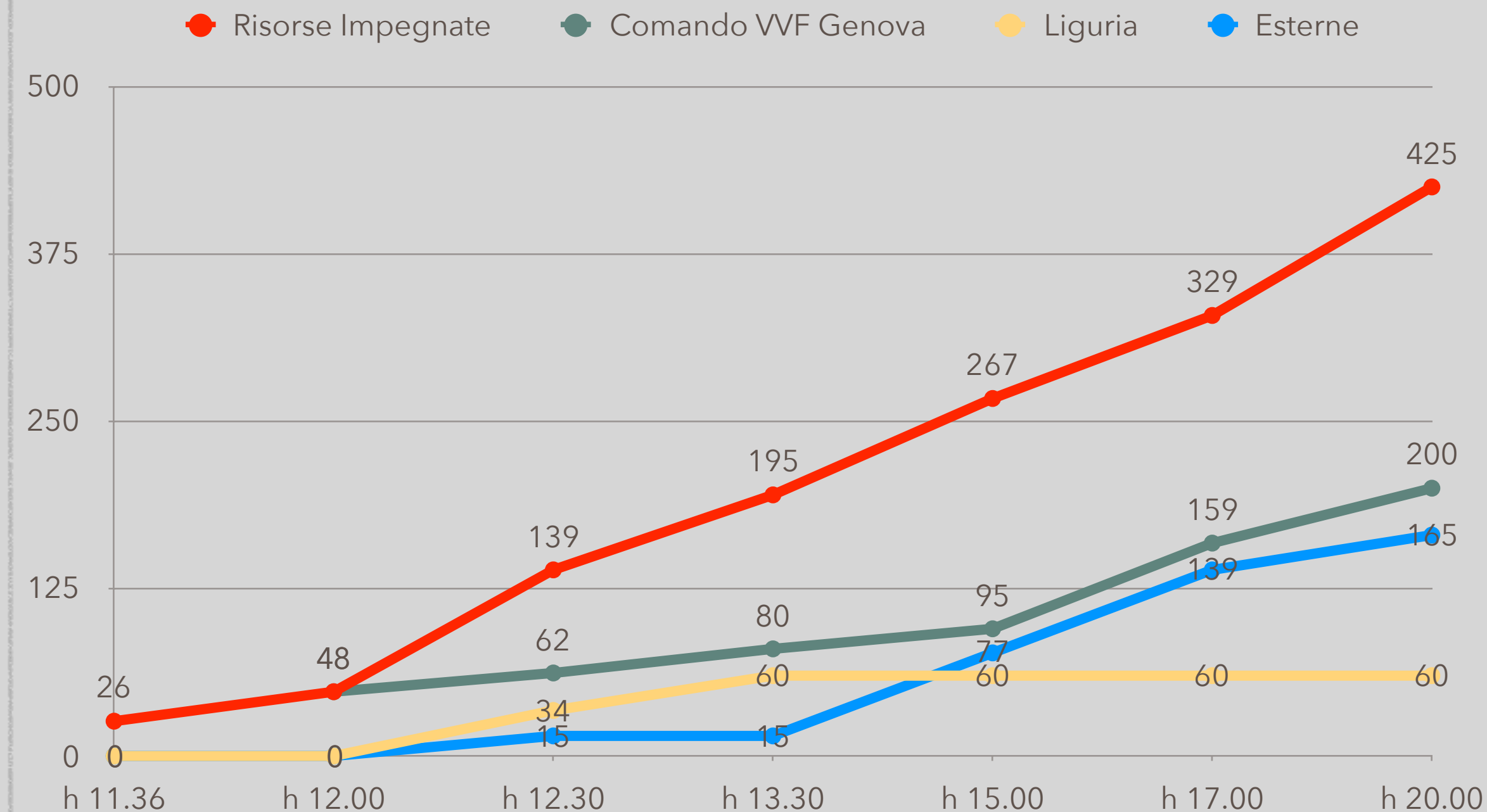
The information flow and national mobilitation

CON - National Operational Center of VF Department

What was needed for: types, kinds, numbers of resources, ...
SOR asked and CON sendend



TIME LINE - AUGUST 14TH



Morandi bridge: the other VF actors



SAF (rope rescue)



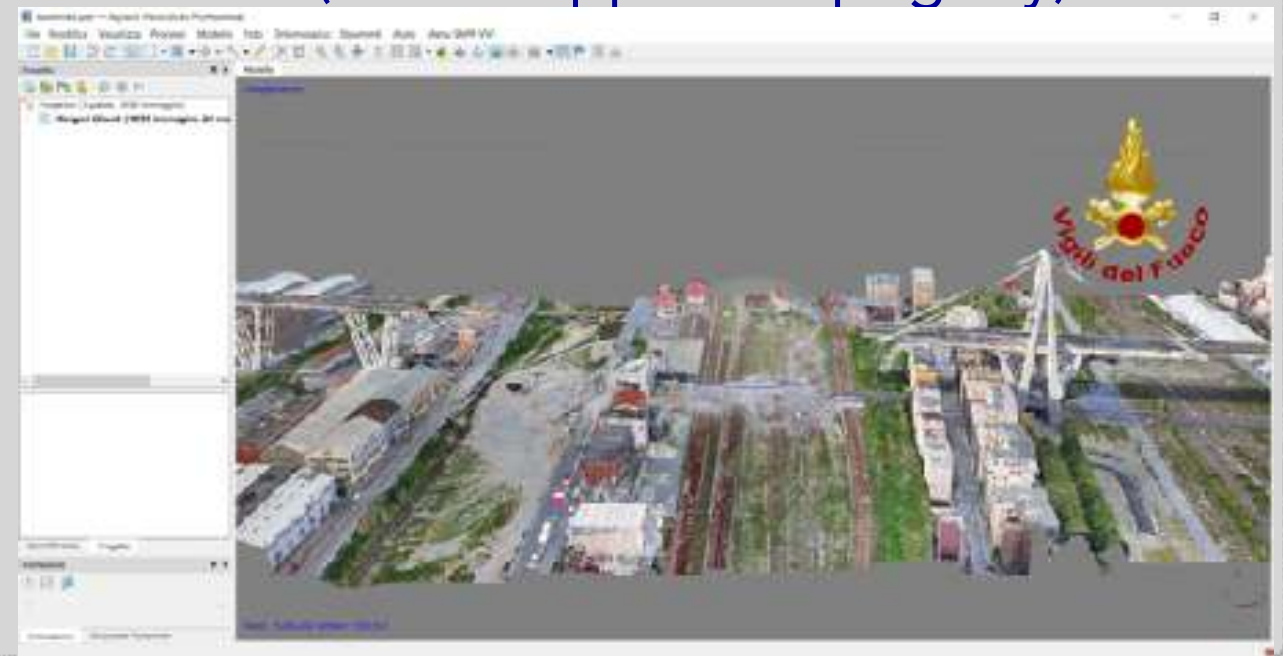
SAPR (drones)



GOS (earth movement machines)



TAS (rescue applied topography)



Morandi bridge by numbers: the incoming forces

14 August from h 12.00 to h. 17.00

EXTRA REGIONAL FORCES

REGION	N.	TYPE	VEHICLES	RESCUERS
PIEDMONT	1	Helicopter AB 412	1	5
EMILIA R.	1	Helicopter AB 412	1	5
PIEDMONT	1	CBNR TEAM	2	4
	1	USAR M TEAM	2	36
	2	S.O. earthquake	8	18
	1	mobile crane (AG)	1	2
LOMBARDY	1	mobile crane (AG)	1	2
	1	USAR M TEAM	2	36



EXTRA REGIONAL FORCES 13 DOG UNITS

REGION	N.	TYPE	VEHICLES	RESCUERS
PIEDMONT	4	Dog units	4	8
EMILIA R.	6	Dog units	3	6
TUSCANY	3	Dog units	2	6

Morandi bridge by numbers: the incoming forces

14 August at 20.00

shifts h24

REGIONAL FORCES

	VEHICLES	RESCUERS
GENOA	15	200
SAVONA	10	34
IMPERIA	7	21
LA SPEZIA	3	5
Σ	35	260



(*) Piedmont, Lombardy, Emilia R., Tuscany, Veneto, Lazio, Umbria, Marche, Campania, Molise

EXTRA REGIONAL FORCES FROM (*)

N.	TYPE	VEHICLES	RESCUERS
2	COMUNICATION	2	4
2	USAR M TEAM	4	72
2	S.O. earthquake	8	18
4	mobile crane (AG)	4	8
4	excavators	8	8
2	Ladder trucks (AS)	2	4
1	Drone units	2	4
7	Light units	7	14
33	Dog units	27	33
	Σ	64	165

Morandi bridge by numbers: the incoming forces

14 August at 20.00

regional and extra regional forces	RESCUERS	VEHICLES
14 August h. 20.00	N. 425	N. 99



Morandi bridge: the other VF actors



@CoEm CDV

Comunicazione in Emergenza

Finance Section Chief

Morandi bridge by numbers: the 4th section of ICS

PERIOD 14.8.18 - 6.9.18			
CNVVF			
costs of [euro]	EXTRA REGIONAL	REGIONAL	Σ [euro]
extra work hours	245.769	573.795	819.564
fuels	8.541	25.520	34.061
equipment & vehicle repair	7.811	43.254	51.064
Σ [euro]	262.121	642.568	904.689
PERIOD 14.8.18 - 6.9.18			
OTHER ICS ACTORS			
costs of [euro]	[euro]		Σ [euro]
extra work hours	108.981		
fuels	47.226		206.097
equipment & vehicle repair	49.891		
Σ [euro]			1.110.786

Morandi bridge: the day of pain

20 August - the obsequies



Conclusion



The State are the
firefighters who have dug
into the rubble
with Habsburg efficiency
and Mediterranean heart

Thank you for your attention

marcella.battaglia@vigilfuoco.it – Commander of Fire Brigade of Como