

# MCI and Disaster Preparedness Program of the AUSL di Bologna

The GECAV training and  
education center



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MCI & Disaster Preparedness Program

# The GECAV center

## Mission:

Medical Emergency Response of Railways and Highways Long Tunnels (70 + 60 km) accidents

- Boring phase
- Activity phase

## Organization:

Part of the 118 system



# The GECAV center

## Vision:

- Training of specialized teams
- MCI management

## Tools:

- Simulations
- Drills
- Planning



# Training needs survey

## What the System needs:

- Training of specialized teams
- Awareness of MCI management concepts
- Planning capabilities

## What the Operators need:

- Simulations
- Drills

# GECAV Training Policy

- Training of specialized teams
  - Specific abilities courses
- Awareness of MCI management concepts
  - Joint training courses (by means of Emergo Train System<sup>®</sup>)
- Planning capabilities
  - According to AIMC (Italian Disaster Medicine Society) program

In addition to usual Medical Emergency training (BLS-ALS-ATLS, ecc.)



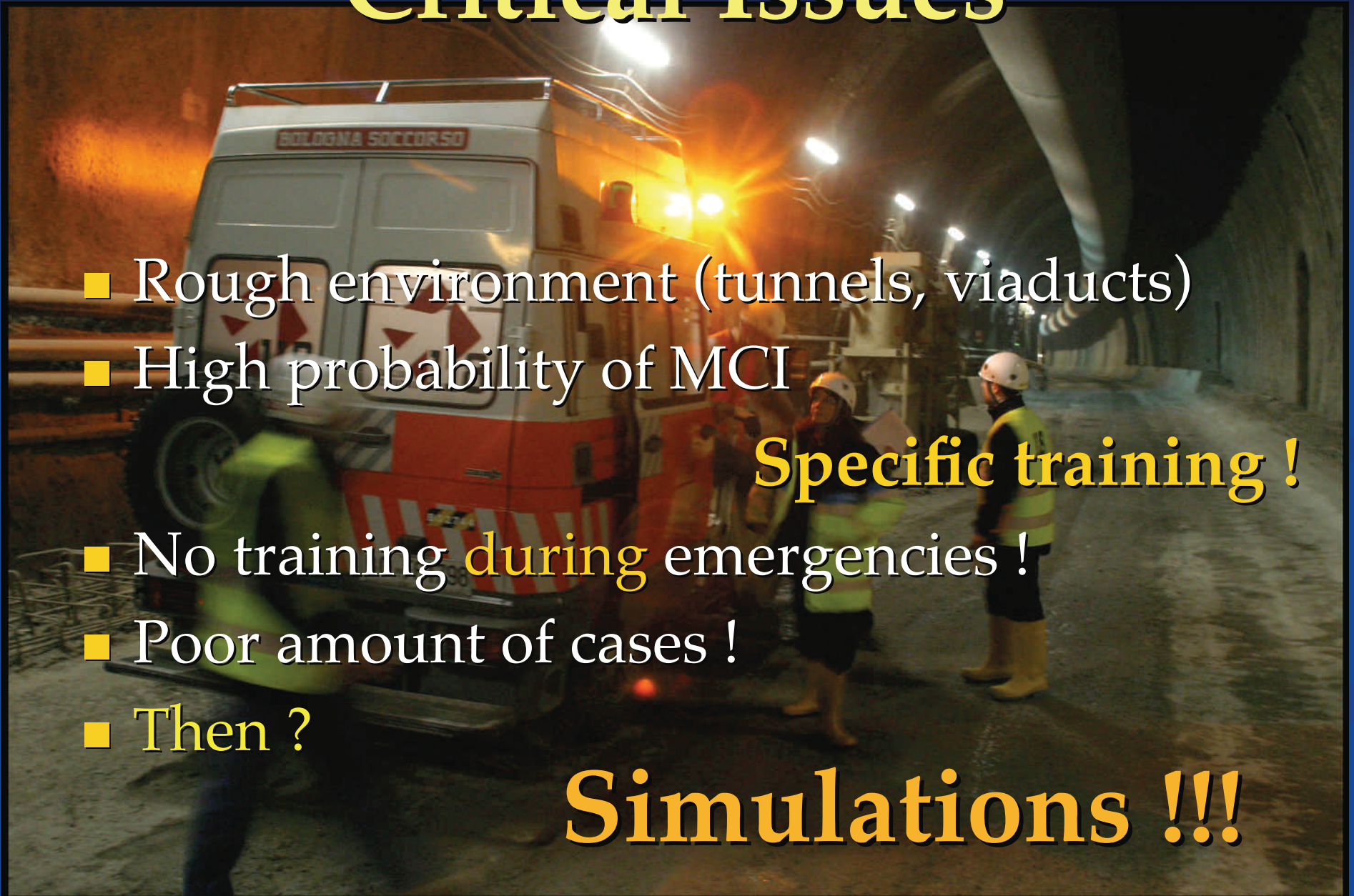
# Critical Issues

- Rough environment (tunnels, viaducts)
- High probability of MCI

**Specific training !**

- No training during emergencies !
- Poor amount of cases !
- Then ?

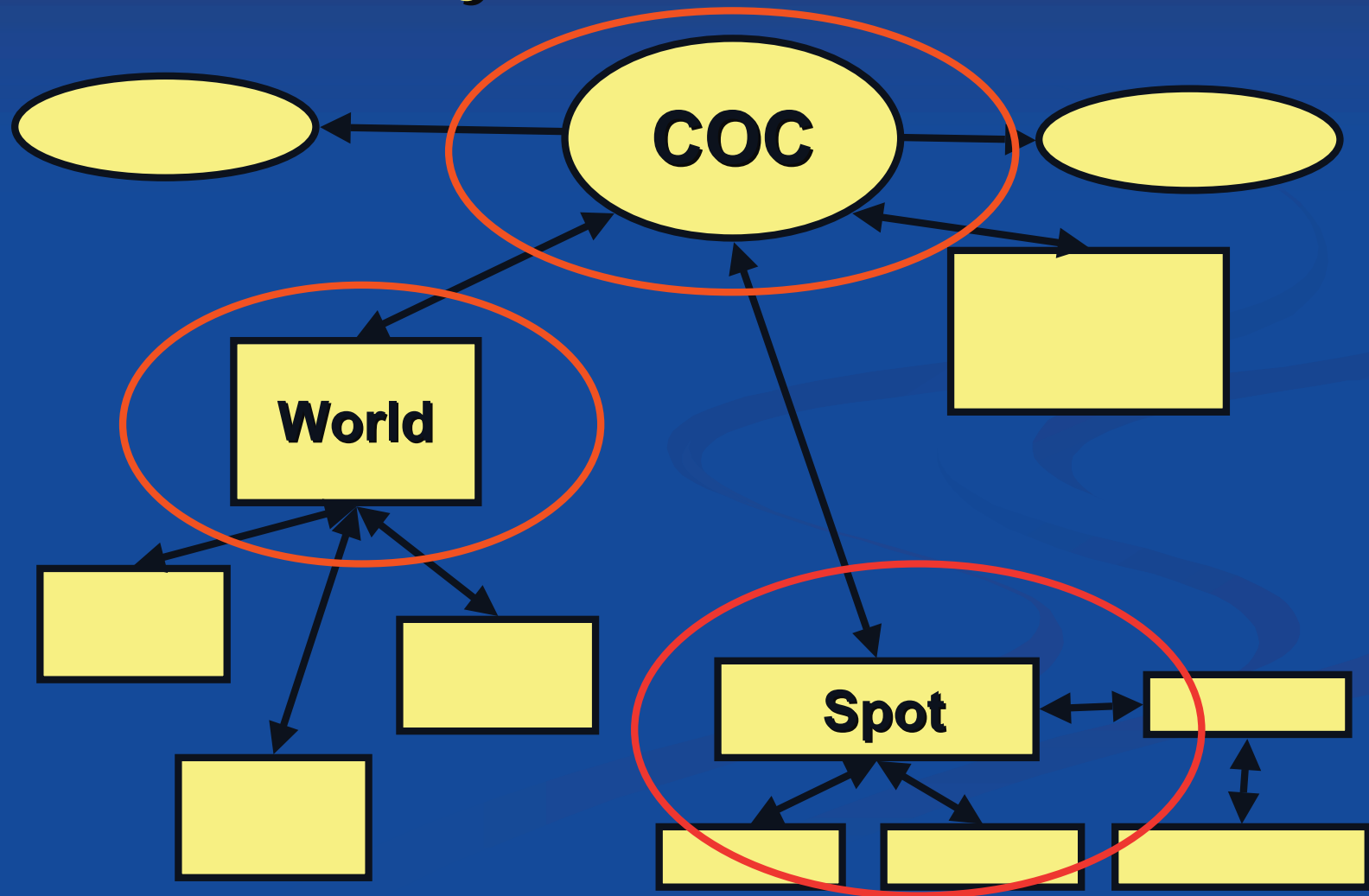
**Simulations !!!**



# Which Kind of Simulation ?

- What we want to reproduce ?
  - A complex system
- How we want to analyze our drill ?
  - Splitting the whole system in subsystems
  - Performing subsystem simulations/ drills

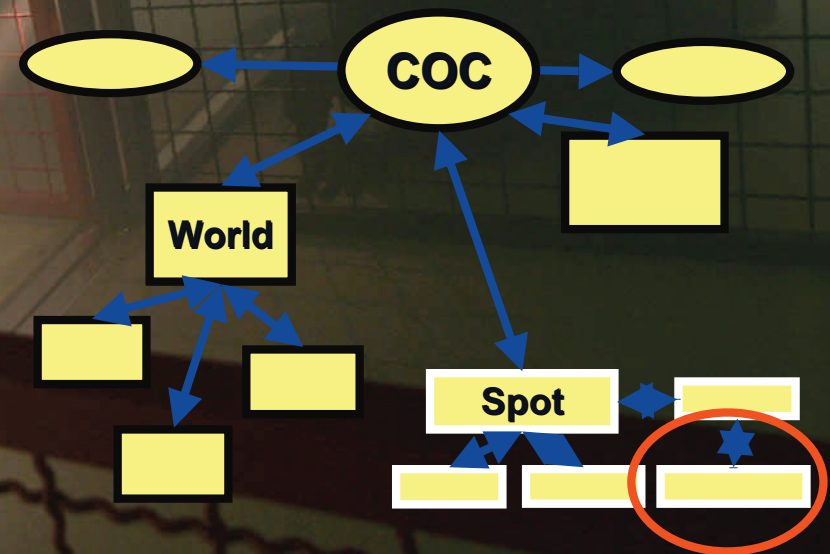
# MCI/Disaster as a Complex System





# ACAR\* Course

Focused on a  
specific  
performance



\* = Ambienti con Carenza di Aria Respirabile (Low Oxygen Environment)

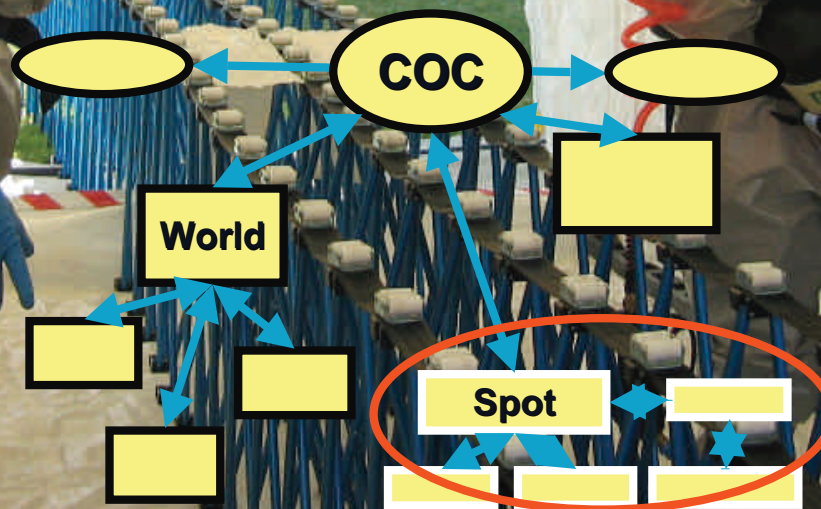


# UNIDEC Simulations

Focused on a subsystem

The image shows two individuals in full-body hazmat suits and respirators inside a white tent. A diagram is overlaid on the image, showing a hierarchical structure. At the top is a yellow oval labeled 'COC'. Below it are two yellow ovals, one on the left and one on the right, connected to 'COC' by blue arrows. Below the left oval is a yellow rectangle labeled 'World'. Below 'World' are four yellow rectangles, two on the left and two on the right, connected to 'World' by blue arrows. Below the right 'World' rectangle is a yellow rectangle labeled 'Spot'. Below 'Spot' are four yellow rectangles, two on the left and two on the right, connected to 'Spot' by blue arrows. The 'Spot' rectangle and its four sub-rectangles are enclosed in a red circle, and a blue star is placed on the rightmost sub-rectangle.

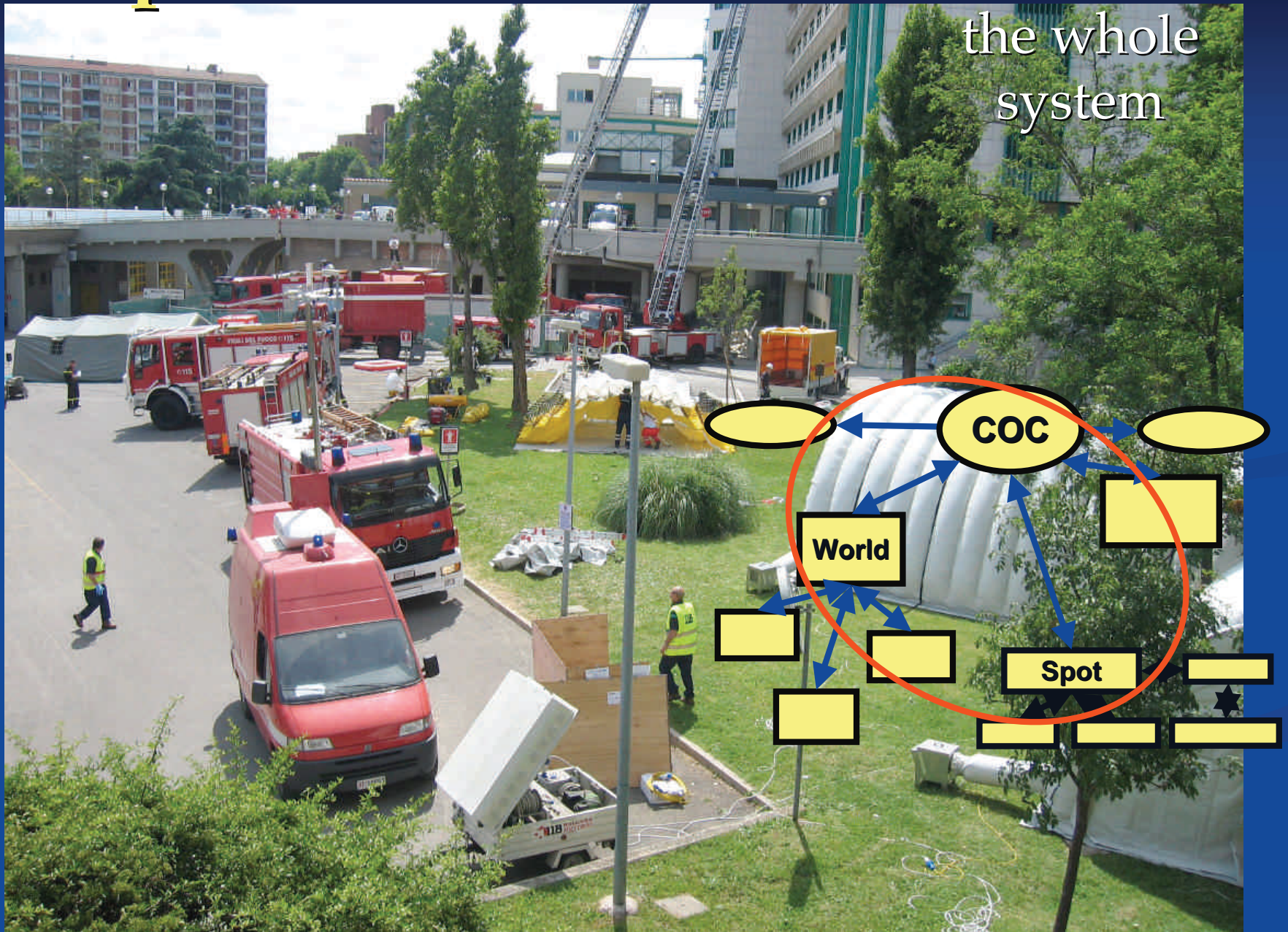
Focused on a subsystem

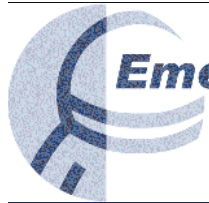




# Hospital Fire Drill

Focused on  
the whole  
system





**Emergo Train System**

# Emergo Train System<sup>®</sup>

An educational tool for  
Disaster Medicine teaching  
and training

<http://www.emergotrain.com>





# Emergo Train System®

is an educational tool for teaching and training in disaster medicine

- owned by:
- developed and quality controlled by:
- Administered by:



**KMC**

Centre for Teaching and  
Research in Disaster  
Medicine and  
Traumatology



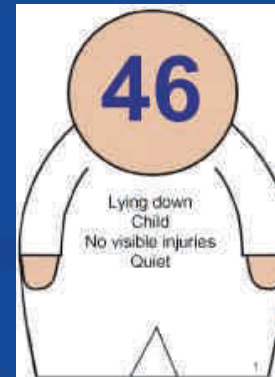
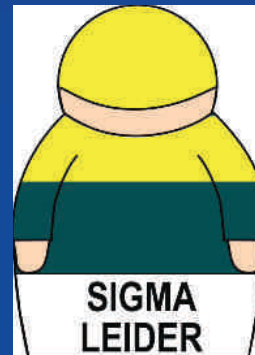
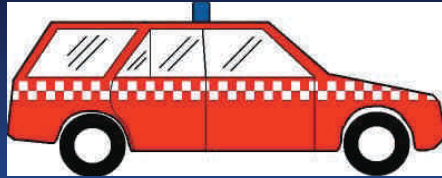


Since February 2008,  
AUSL di Bologna is  
the owner of the  
Italian Regional ETS  
License





An Emergo Train exercise is a **simulation** focused on the medical chain in dealing with accidents, major incidents and disasters



**Based on a number of  
magnetic symbols....**



**... living their lives on  
several whiteboards**



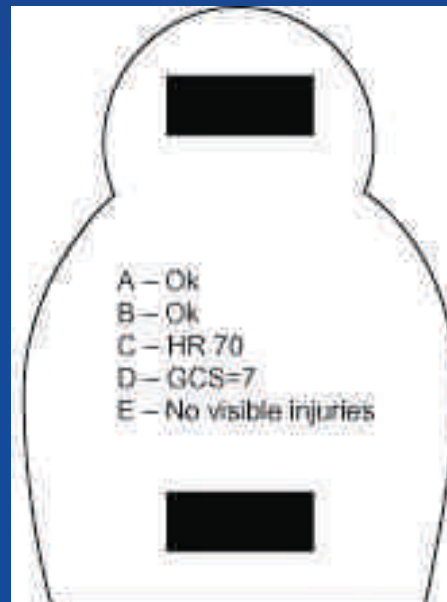
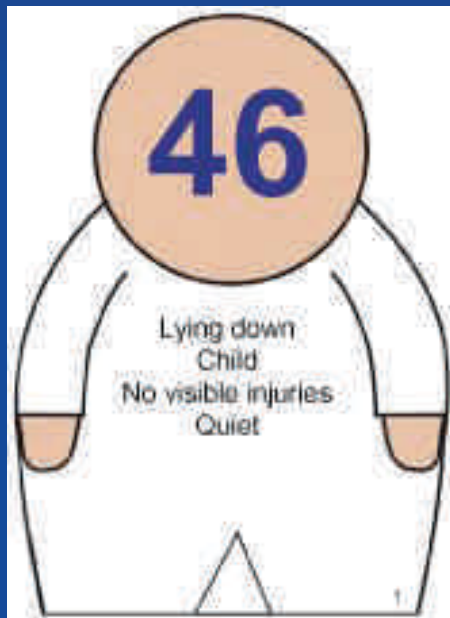
# ... and a Data Base of 300 Patients ...

Front side

Back side

Front side

Back side



46	
SURGERY	
Drainage for ICP	
Time:	2/00
ICU	
Postop Observation	
Time:	6 days

...each one with a clinical  
management card according to  
the ATLS®



# Exercise set up

Whiteboard N°1  
Map of overall resources

Whiteboard N°2  
Scenario

Whiteboard N°3  
A.M.P.

Whiteboard N°4  
Dispatch

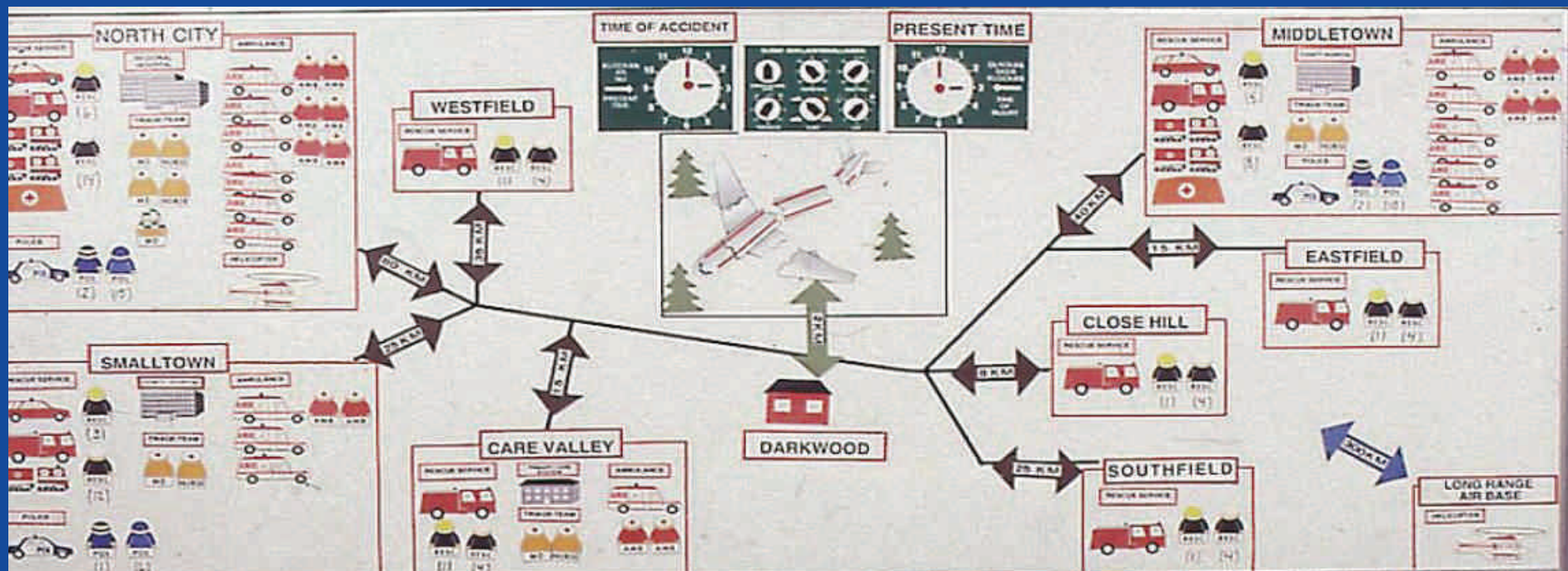
Whiteboard N°5  
Evacuation

Whiteboard N°6-7-ecc.  
Hospital/s

# Whiteboard N°1

## Map of Available Resources

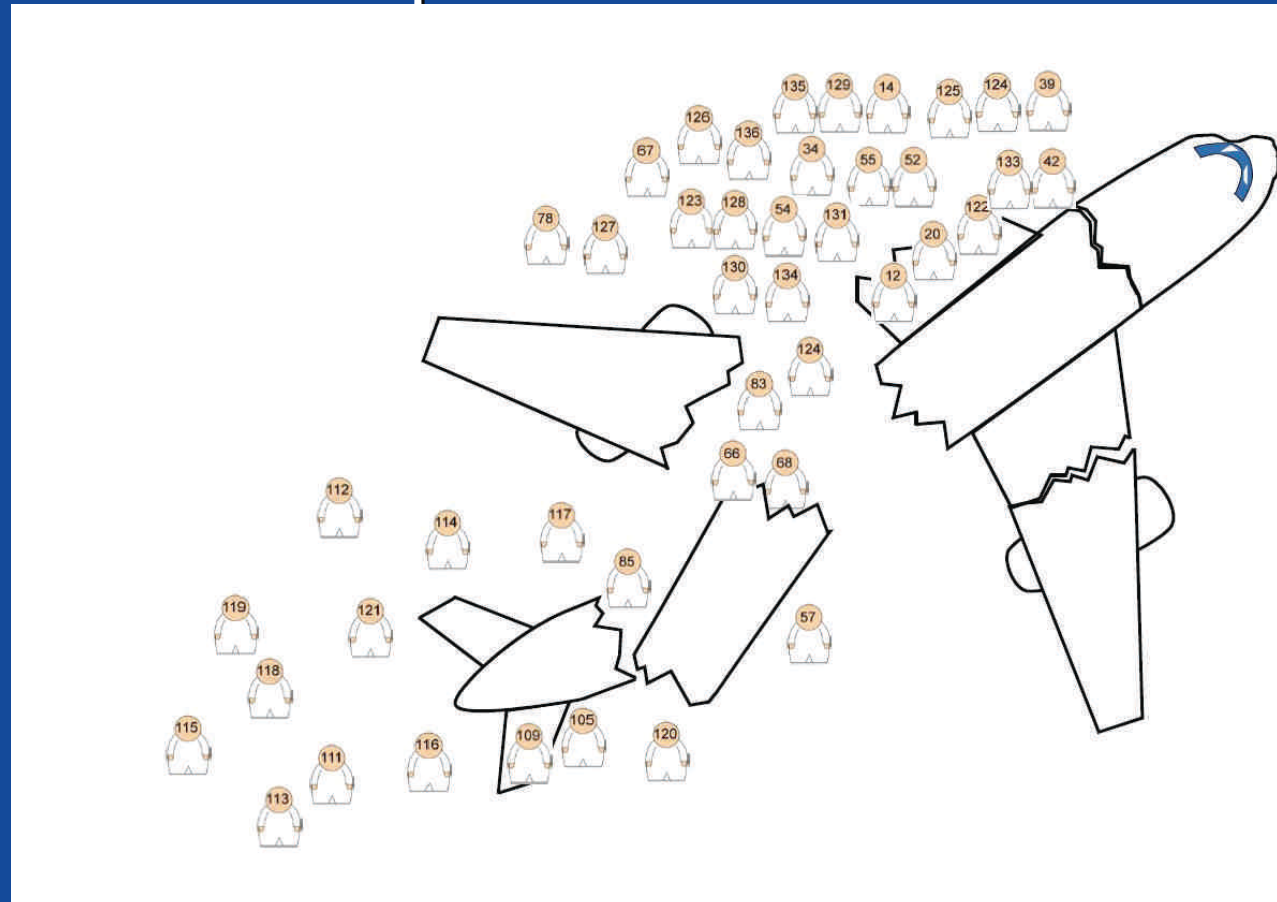
- Overview of the involved area and a map of the overall available resources.



# Whiteboard N°2

## The Accident Site Close-up

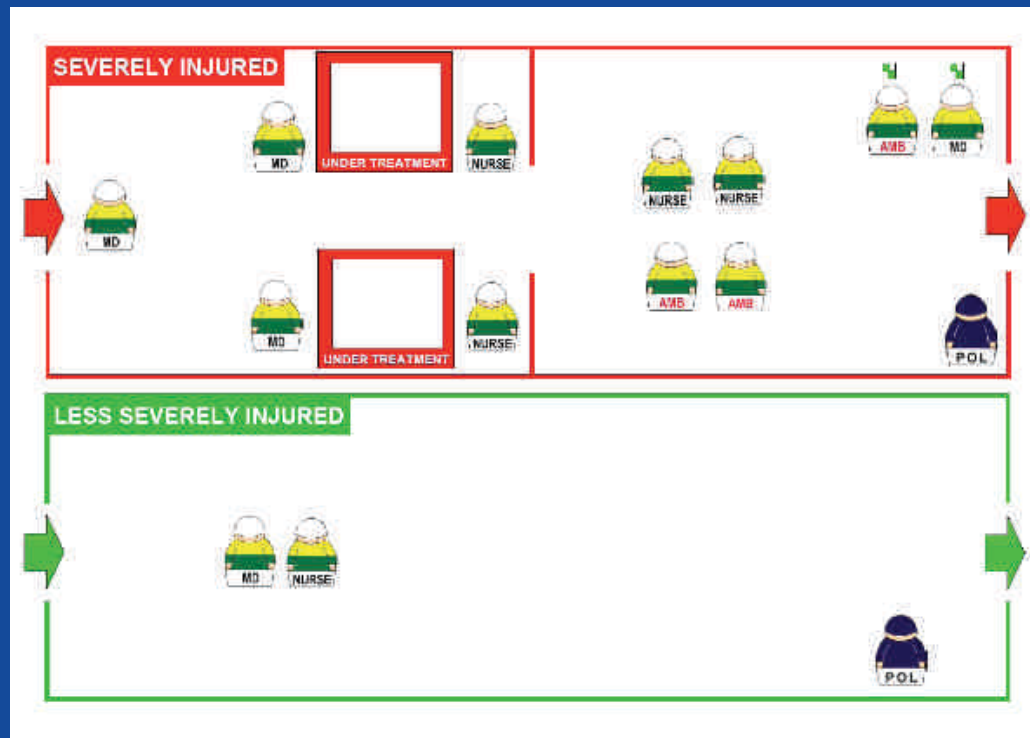
- Usually shown only when the first team arrives on the spot.



# Whiteboard N°3

## P.M.A. (or other definition)

- Allows to focus the simulation on the pre-hospital patient clinical management





















- Allows to keep the resource availability realistic



# Whiteboard N°5

## Evacuation

- Allows to manage the flow of patients to the hospital(s) according to realistic time

RESOURCES FOR TRANSPORTATION						
AMB/HCP	ARRIVAL	PATIENT	DEPARTURE	DESTINATION	ARRIVE DESTINATION	BACK ON SCENE
	15.15	—	—	—	—	—
	15.22		16.00	Smalltown	16.25	16.50
	15.22		16.05	Smalltown	16.27	16.52
	15.22		16.05	Middletown	16.45	17.25
	15.40					
	15.40					
	15.40					
	16.00	  	16.05	North City	16.35	17.10
	16.10	  	16.15	North City	16.40	17.15

# Witheboard N°6 (7-8, ecc.) Hospital(s)

- Detail of the involved hospital(s)

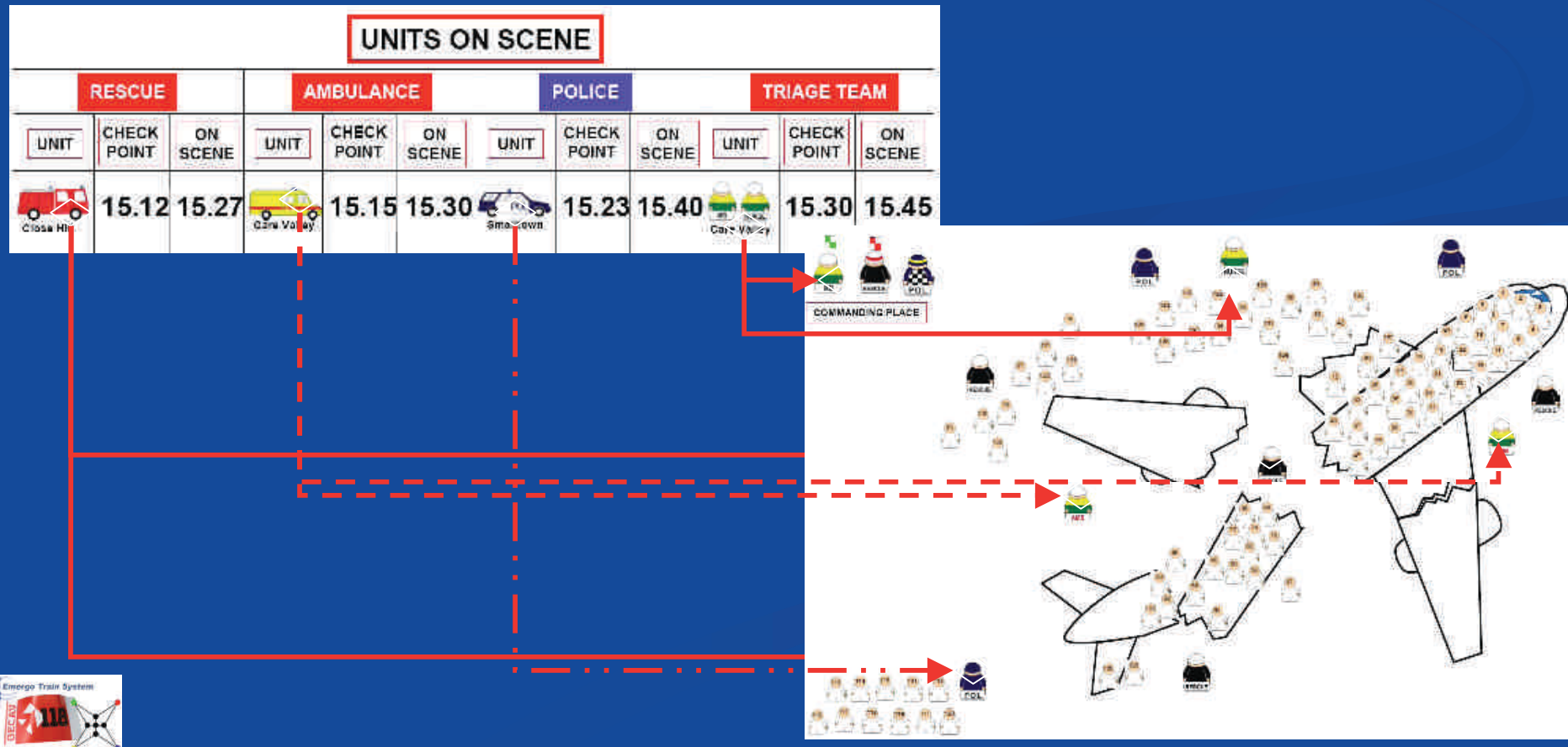
The Witheboard is organized into several functional areas:

- Emergency Department:** Includes sections for 'ARRIVING PATIENTS' (separated into 'SEVERELY INJURED' and 'LIGHT INJURED'), 'PATIENT ON X-RAY', and 'AVAILABLE STAFF' (listing MD, NURSE, and DOCTORS).
- SMALLTOWN:** A central section for patient tracking.
- SURGERY:** Divided into 'OP THEATRE' (with sub-sections for OP TEAM, SURGEONS, and PATIENT) and 'INPATIENT'.
- INTENSIVE CARE:** Includes 'VENTILATOR' and 'BEDS OTHER' sections, each with a numbered list (1-8) for resource allocation.

Icons representing different roles (MD, NURSE, DOCTORS, PATIENT, etc.) are used throughout the board to indicate the status and location of personnel and patients.

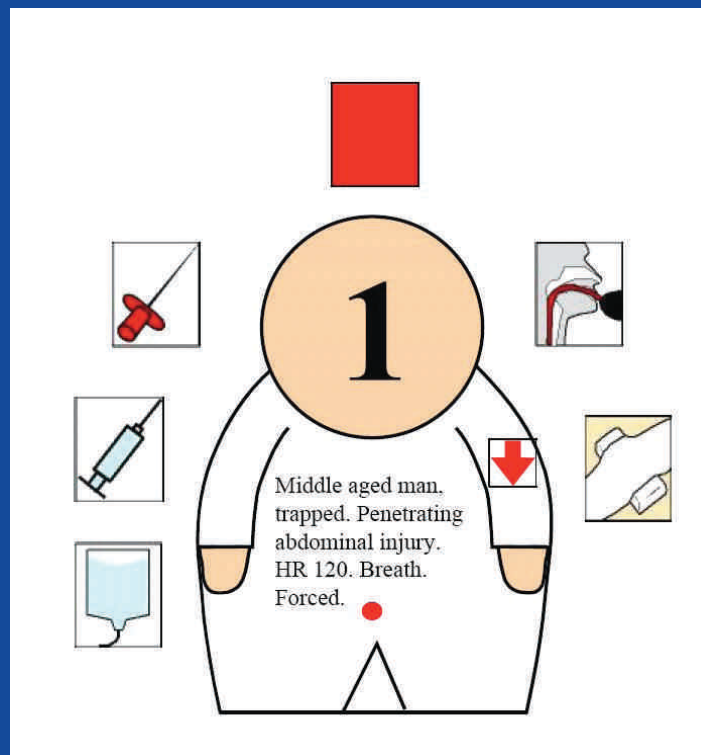
# Simulation in real time






- On-scene personnel and resources availability is ruled by the actual dispatching time.



# Simulation in real time

- Even simulated, the patient treatment is performed according to the actual time needed in order to perform it.



	MINUTES
	4
	+2
	+2
	+10
	+4
<b>Examination and preliminary diagnosis</b>	<b>+5</b>
<b>TOTALLY 27</b>	

# ETS strength points

- Allows a broad vision of an MCI scenario
  - Decision making processes involving all the Emergency Agencies
- Resources and scenarios can be adjusted to the local/regional situation
- The interaction between participants 'builds' the exercise

which is the most important difference compared to computer simulation!



# Emergo Train System<sup>®</sup> in Emilia-Romagna

- MCI & Disaster Preparedness Program of AUSL di Bologna



# Emergo Train System<sup>®</sup> in Emilia-Romagna

- MCI & Disaster Preparedness Program of AUSL di Bologna
- Regional Authority training plan for the safety of workplaces



# Emergo Train System<sup>®</sup> in Emilia-Romagna



- Training tool included in the Regional Guidelines for Emergency Plans

# Conclusions

- MCI/Disaster response is a complex system
- MCI and Disaster Training requires an integrated approach
- Training should focus on integrated system processes
- First responders ask for (and appreciate):
  - Broad spectrum training
  - Practical and interactive training techniques