

# 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.)



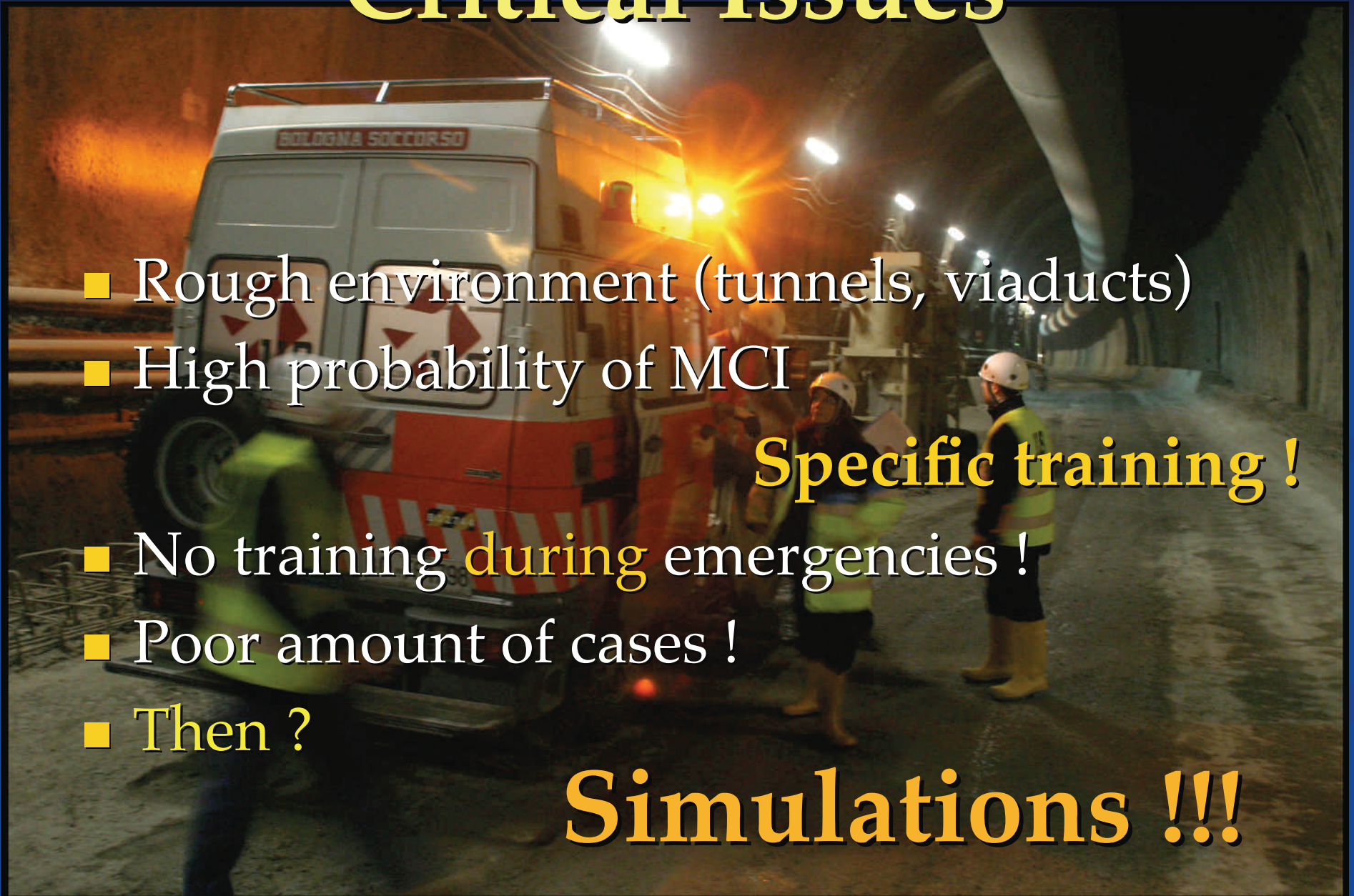
# Critical Issues

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

**Specific training !**

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

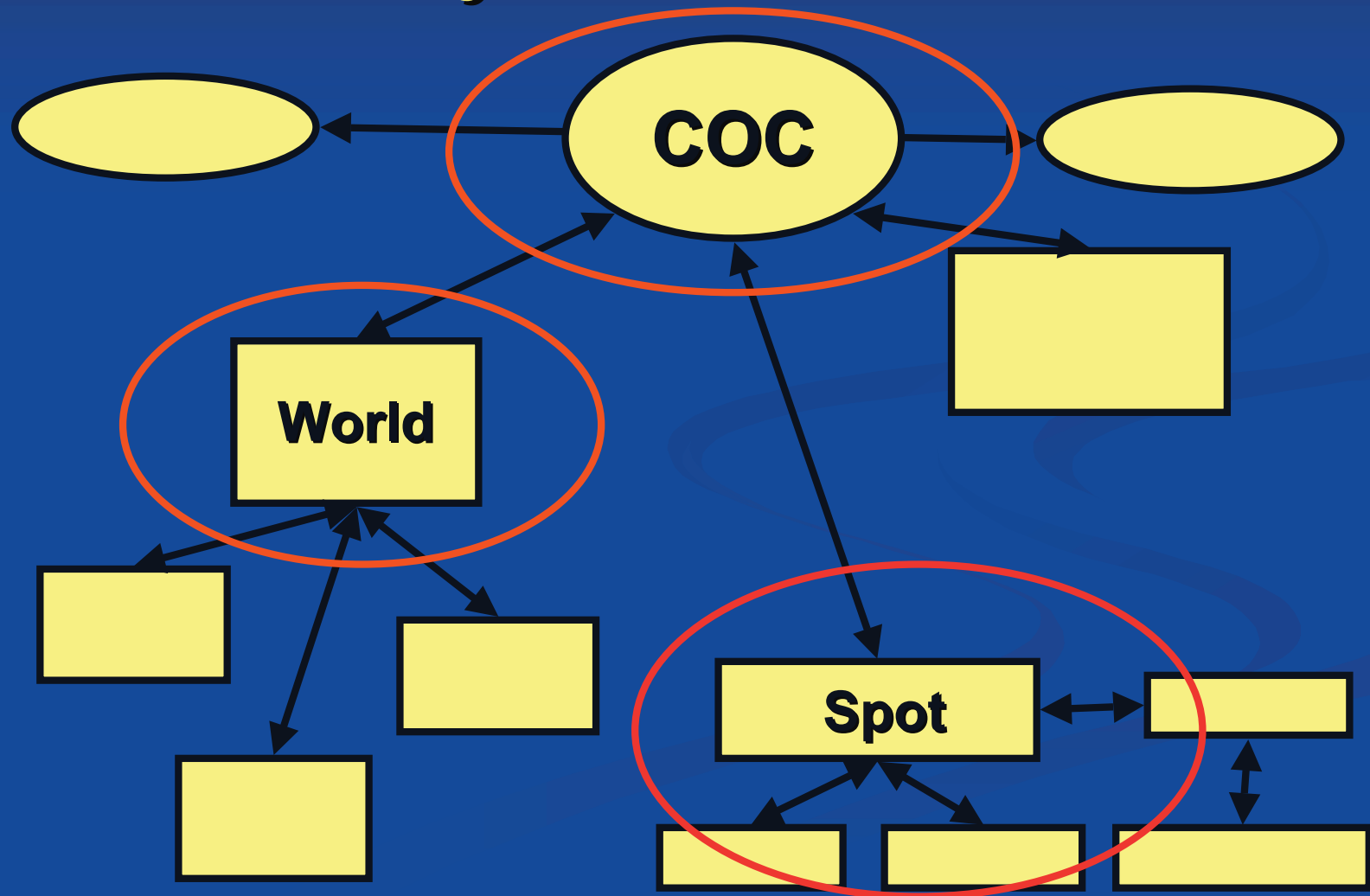
**Simulations !!!**



# 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

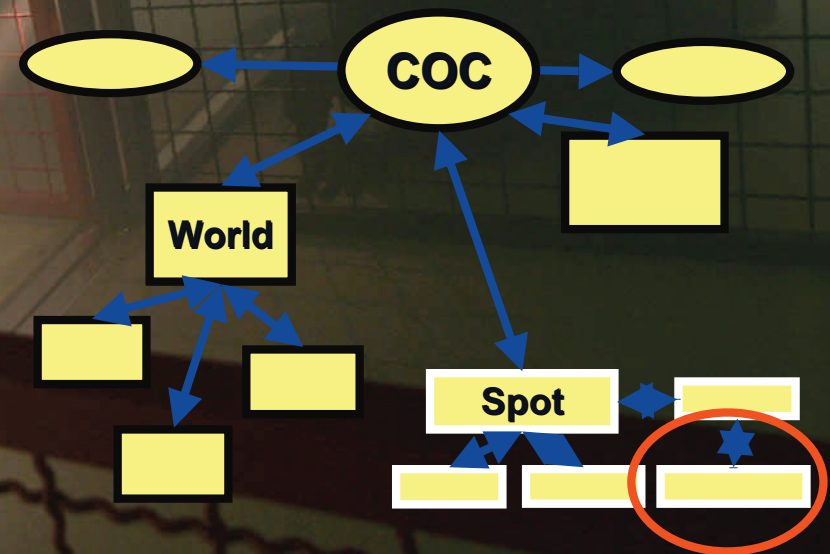
# MCI/Disaster as a Complex System





# ACAR\* Course

Focused on a  
specific  
performance

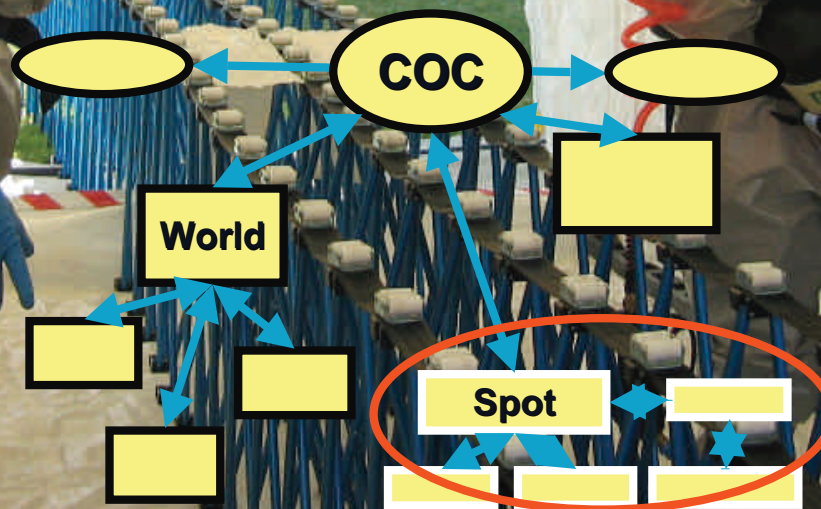


\* = Ambienti con Carenza di Aria Respirabile (Low Oxygen Environment)



# UNIDEC Simulations

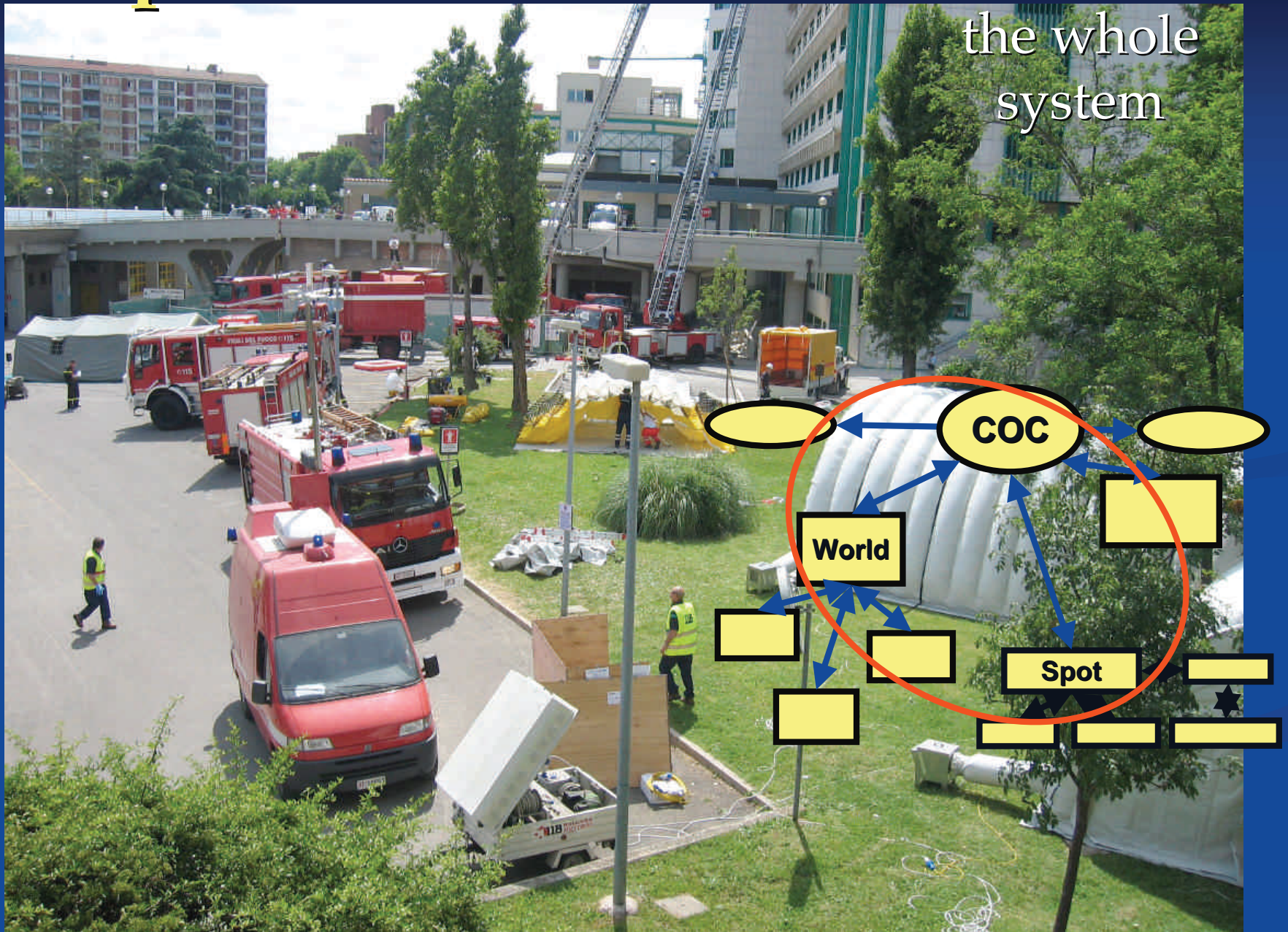
Focused on a  
subsystem

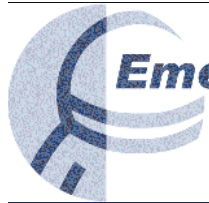




# Hospital Fire Drill

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



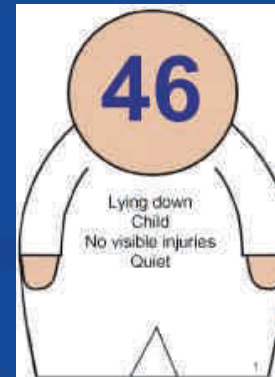
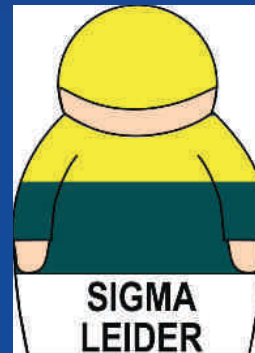
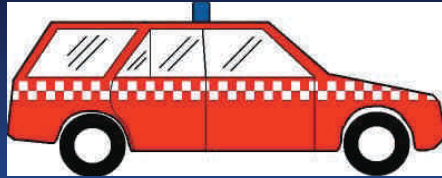


Since February 2008,  
AUSL di Bologna is  
the owner of the  
Italian Regional ETS  
License





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**



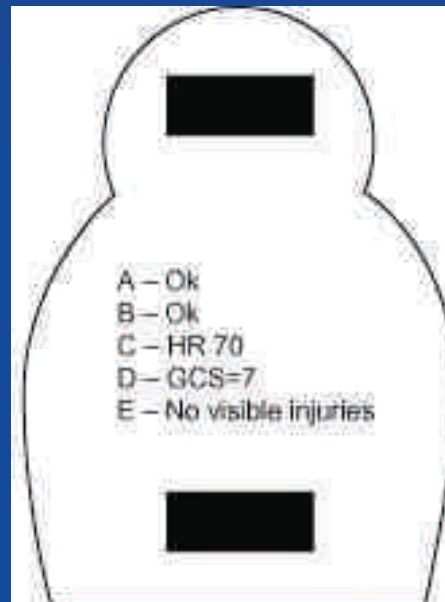
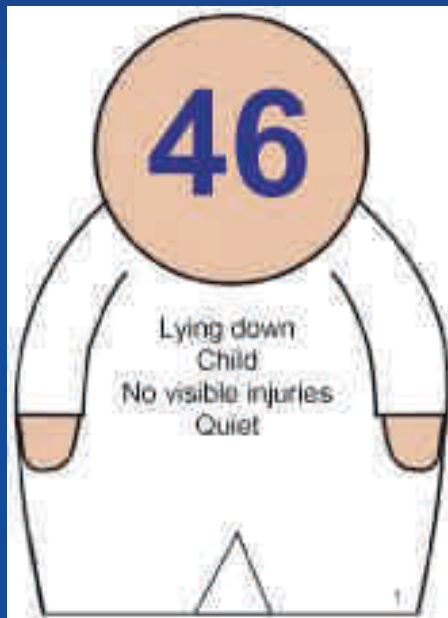
# ... and a Data Base of 300 Patients ...

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

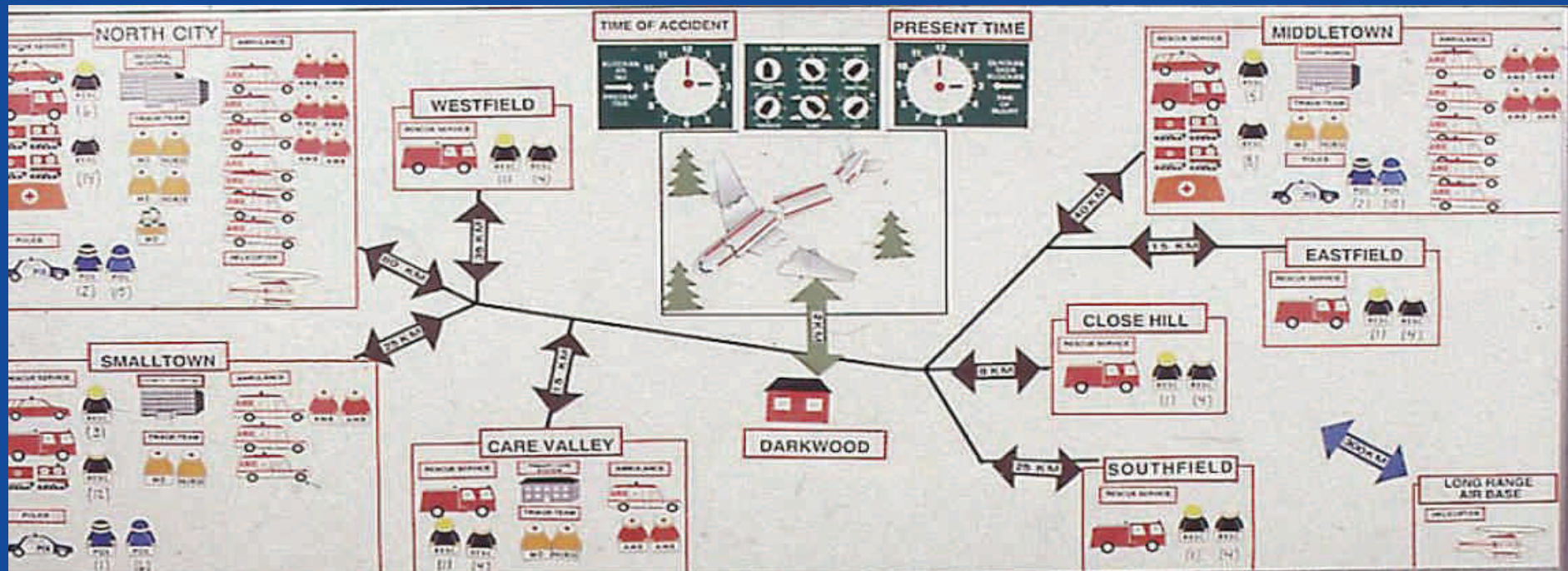
Whiteboard N°5  
Evacuation

Whiteboard N°6-7-ecc.  
Hospital/s

# Whiteboard N°1

## Map of Available Resources

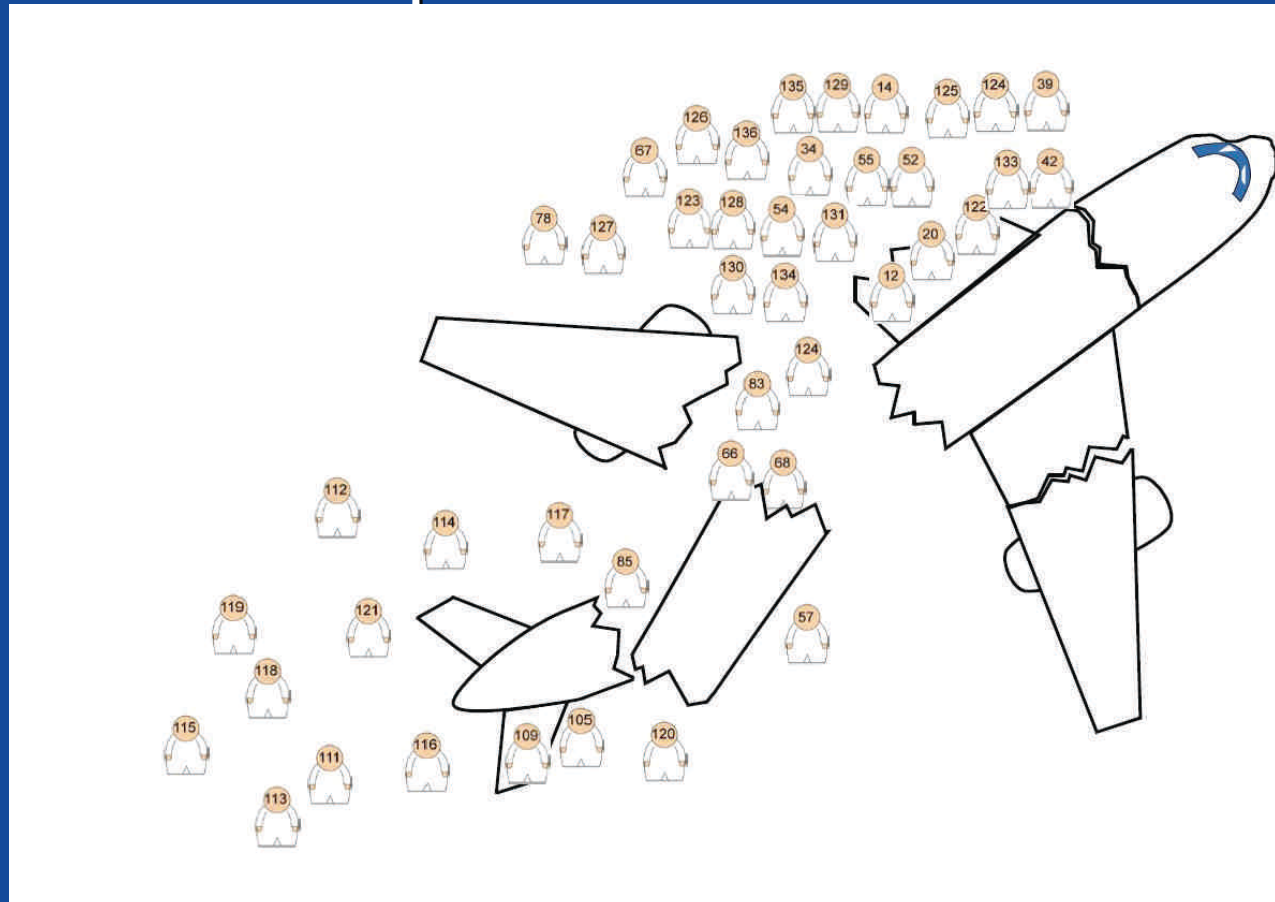
- Overview of the involved area and a map of the overall available resources.



# Whiteboard N°2

## The Accident Site Close-up

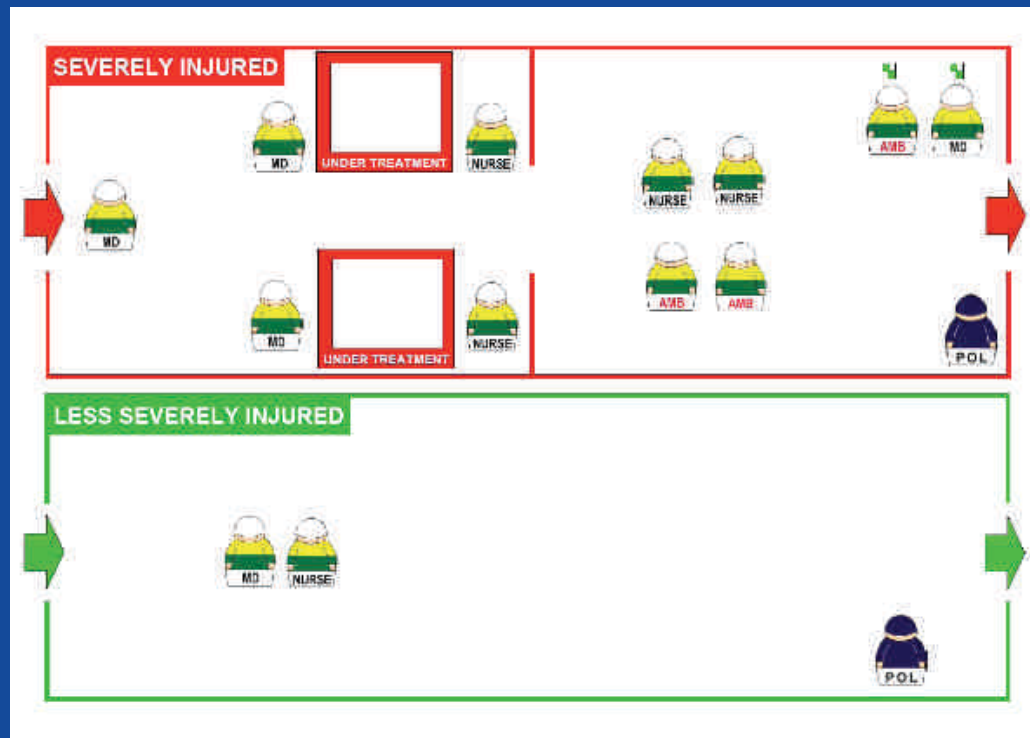
- Usually shown only when the first team arrives on the spot.



# 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)

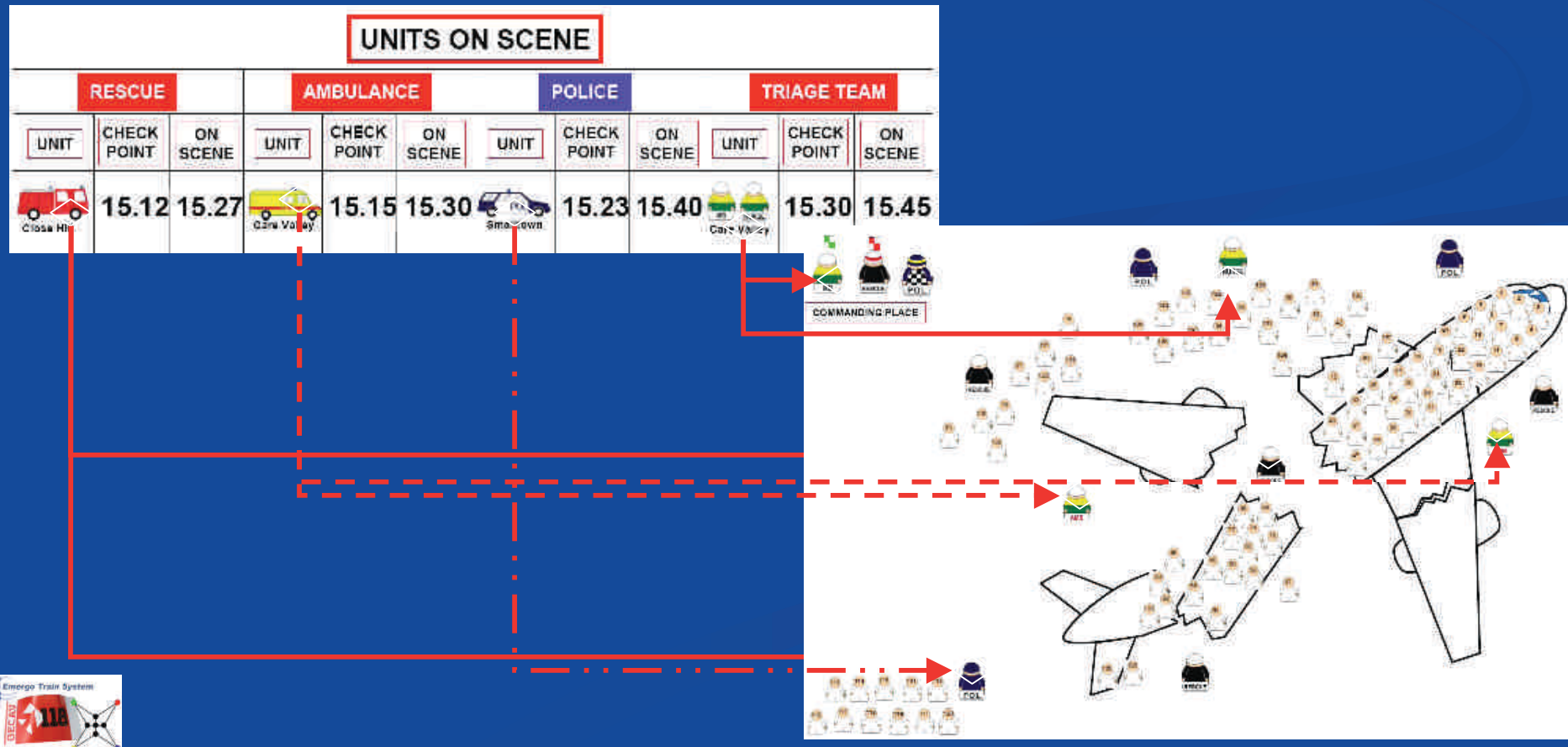
The whiteboard is organized into several functional areas:

- Emergency Department:**
  - ARRIVING PATIENTS:** A log for 'SEVERELY INJURED' and 'LIGHT INJURED' patients.
  - EMERGENCY TEAM:** A grid for tracking team members (Nurse, Doctors, Patient, Ambulance) across multiple shifts.
- SMALLTOWN:** A central section for general patient management.
- SURGERY:**
  - OP THEATRE:** A grid for tracking surgical teams (1, 2, 3, 4) and their resources (Nurse, Surgeons, Patient, Ambulance).
- INTENSIVE CARE:**
  - VENTILATOR:** A grid for tracking ventilator resources (1-4).
  - BEDS OTHER:** A grid for tracking other bed resources (1-8).

Additional labels on the left include 'INFORMATION SOURCE', 'CONSIDERING PLACES', 'TRACE TEAM', and 'AVAILABLE STAFF'.

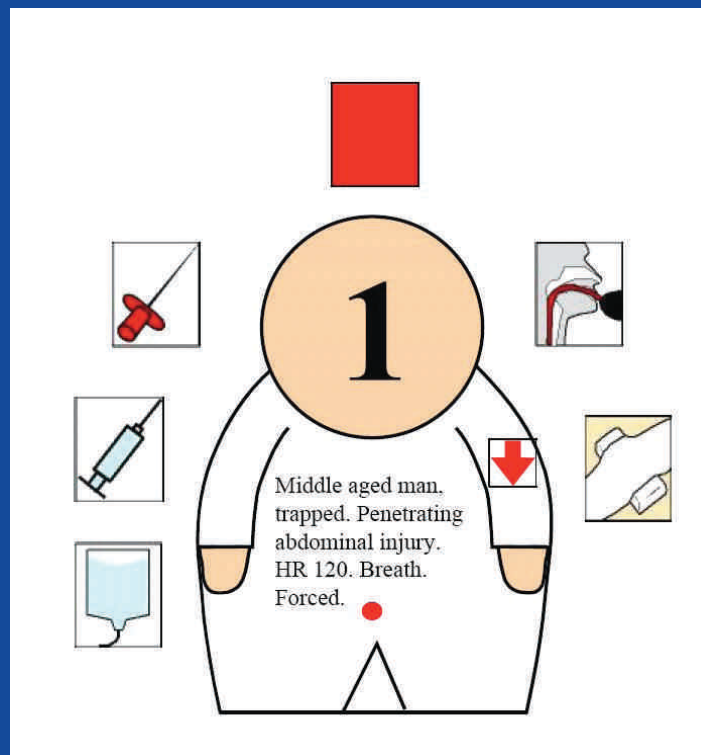
# Simulation in real time






- 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