

Mobilising MCVideo Workshop Report

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centre for
mobilities
research

Sociology







Use Case Scenarios

The following describes a number of example scenarios where the BroadWay solution is vital to support communication during complex pan-European events



Natural Disaster – Forest Fire

A huge forest fire has been raging for several days in a Southern Europe country A. Countries B and C agree to send each two water bombers to provide backup to the firefighters of country A. Planes and technical teams are based on a field one hundred kilometres away from the fire. Joint operation of countries A, B and C will use voice but also will exchange geographical information of fire propagation and local status including local environmental analysis data.



Rescue operation – A Cruising ship on fire at Adriatic Sea

A cruise ship bound from Brindisi (Italy) to Patras (Greece) with 1500 passengers on board has a fire on-board. The position is 40 miles east from Corfu. The mission principles are the same as the previous case – only the number of proceeding merchant vessels will be added to the case.



Heavy Truck and Tourist Bus collision at Finnish-Norwegian border

During the last years, tourism in northern Finland has increased rapidly. Despite arctic conditions, tourist groups are moving also during the winter season across the Norwegian border towards Nordkapp. During the Arctic winter, the driving conditions vary and can be extremely difficult. After collision of a heavy truck and a tourist bus, a joint rescue operation by Finland and Norway has begun. Land rescue forces and paramedic helicopter are used.



MCVideo

This set of Mission Critical applications leverages video media. The users can make a **video call** among groups as in a conference call, video can be **streamed** to the group members **from a robot or drone, a security camera** etc. In the context of public safety, the personnel can enrich the voice media with video (**Push to Video**) allowing first responders to share real condition of the surrounding area with other PSA group members. This information will enable other PSAs to take better decisions.



MC Services Common Functionalities:

- User authentication and service authorization
- Service configuration
- Affiliation and de-affiliation
- Extended Location Features
- (Dynamic) Group Management
- Identity management
- MC Security framework
- Encryption (media and control signalling)

MCVideo, Common Functions plus:

- Group Call (including emergency group calls, imminent peril group calls, emergency alerts)
- Private Call (off-network)
- Transmission Control

MCDData, Common Functions plus:

- Short Data Service (SDS)
- File Distribution (FD) (on-network)
- Transmission and Reception Control
- Handling of Disposition Notifications
- Communication Release

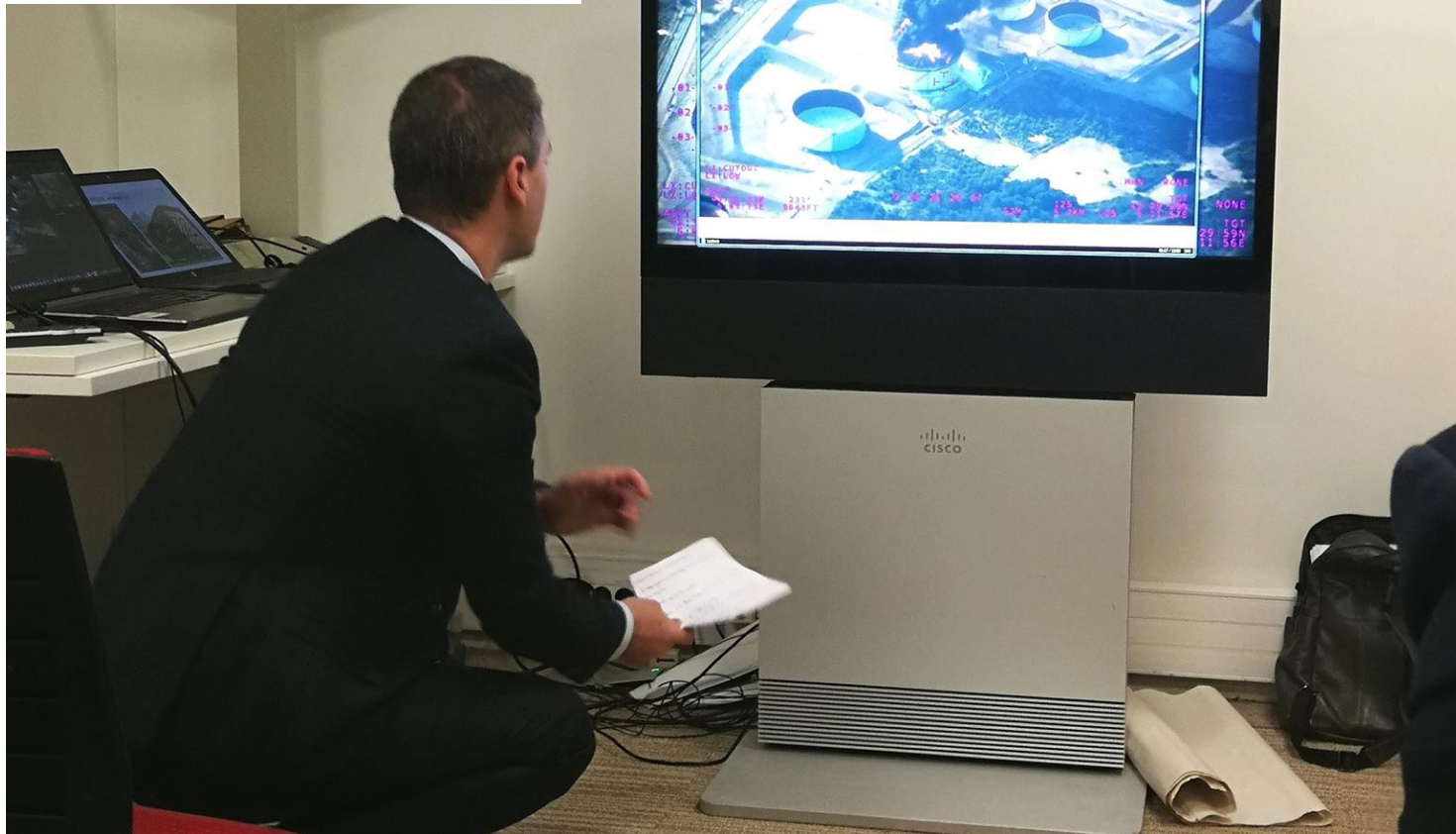


<https://5gbarcelona.org/pilots/5g-connected-ambulance/>

What does it mean for practitioners?

How do/how will they do it?

Eric Rodriguez



Body-worn cameras

In 2017, £22,703,235 have been spent for 47,922 body worn cameras by UK's police forces.

California saw use of force by officers drop by 59 % when they wore cameras, and complaints about officers falling by 87 %



Take better decisions how ...? How to make IT good?



Facial
recognition
system

'Civil liberties group says facial recognition systems used by Met and South Wales police are wrong nine times out of 10'

**"I'm afraid of the logging system telling what I did"
Norwegian Paramedic Interview 2015**

If technology is
ready, the
public is not.
We need to
convince them.

Prefet Lambert

Huge Potential

But ...

Good, Bad, Complex
Transformative,
Disruptive

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What is the future of work with MCVideo?



How do we make MCVideo good? Who's 'we'?

National Emergency Medical Service Israel	10.30 – 10.45
Marseille Fire Brigade-SDIS13 France	10.45 – 11.30
Red Cross Bavaria	
Estonian Academy of Security Sciences Estonia	
Cyprus Police	
Belgian Federal Police Belgium	11.30 – 12.15
Norwegian Police ICT services Norway	12.15 – 12.30
Turku University of Applied Sciences Finland	
Belgian Federal Police Belgium	12:30 – 12:45
First Responder Network Authority USA	12.45 – 14.45
NOKIA France	
Quixoticity UK	13:45 – 14.15
First Responder Network Authority USA	
ITTI Poland	14.15 – 14:45
THALES France	14.45 – 15.15
University of Melbourne Australia	
PSCE Belgium/UK	15.15 – 16.00
	16.00 – 17.00
	17.00 – 17:30
1. Practitioner	
2. Practitioner Network	
3. Industry	
4. SME	
5. Academic	
6. Missing: Policy	
7. Missing: Network Operator	

Introduction

**The Use of MC Video during past events in France
(Eric Rodriguez - R&D Manager SDIS13)**

- 1. Value Network + Brainstorm 'Say It'**
- 2. Show It**

Lunch

- 3. Storyboard it**
- 4. Act it**

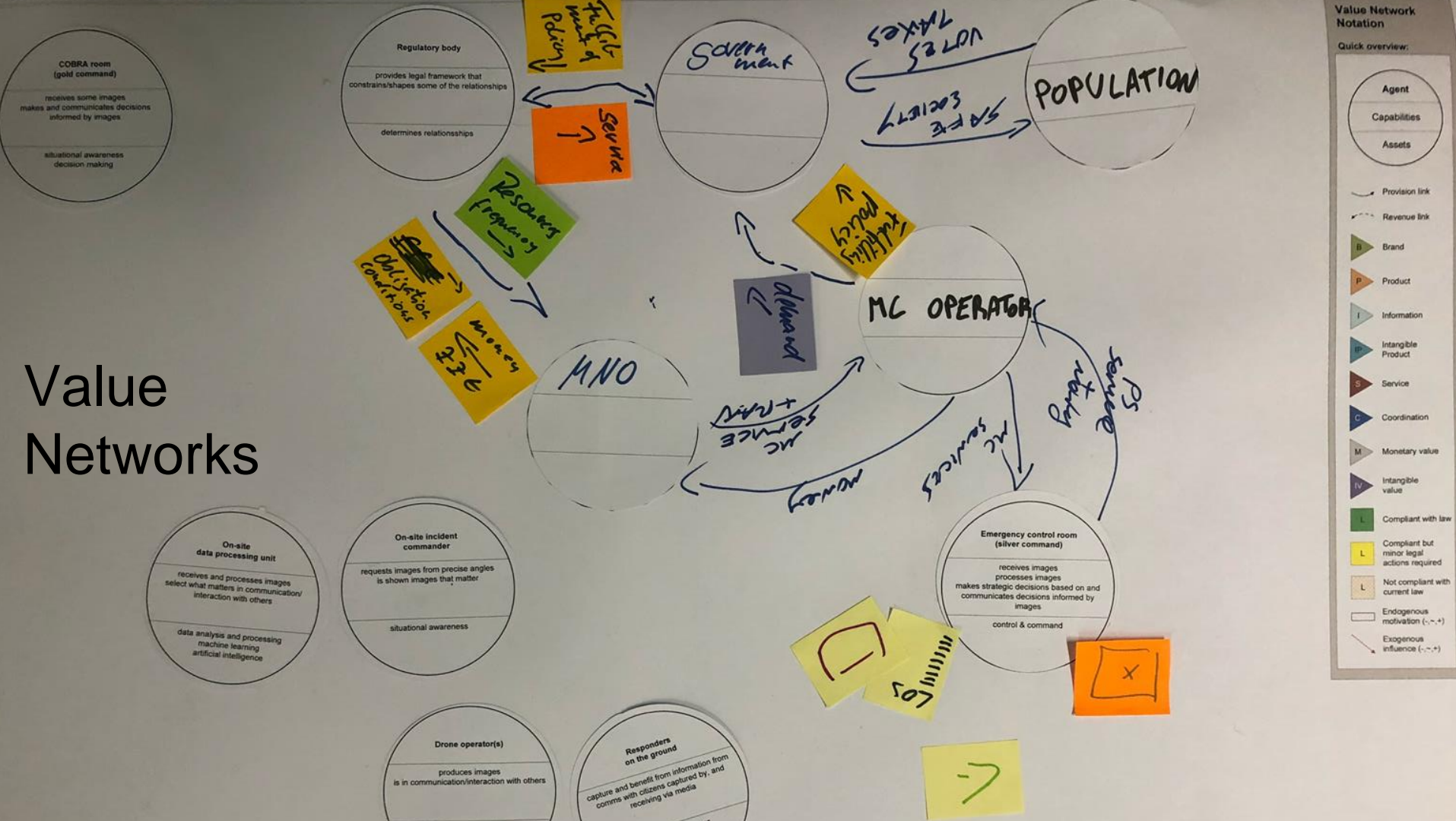
Coffee break

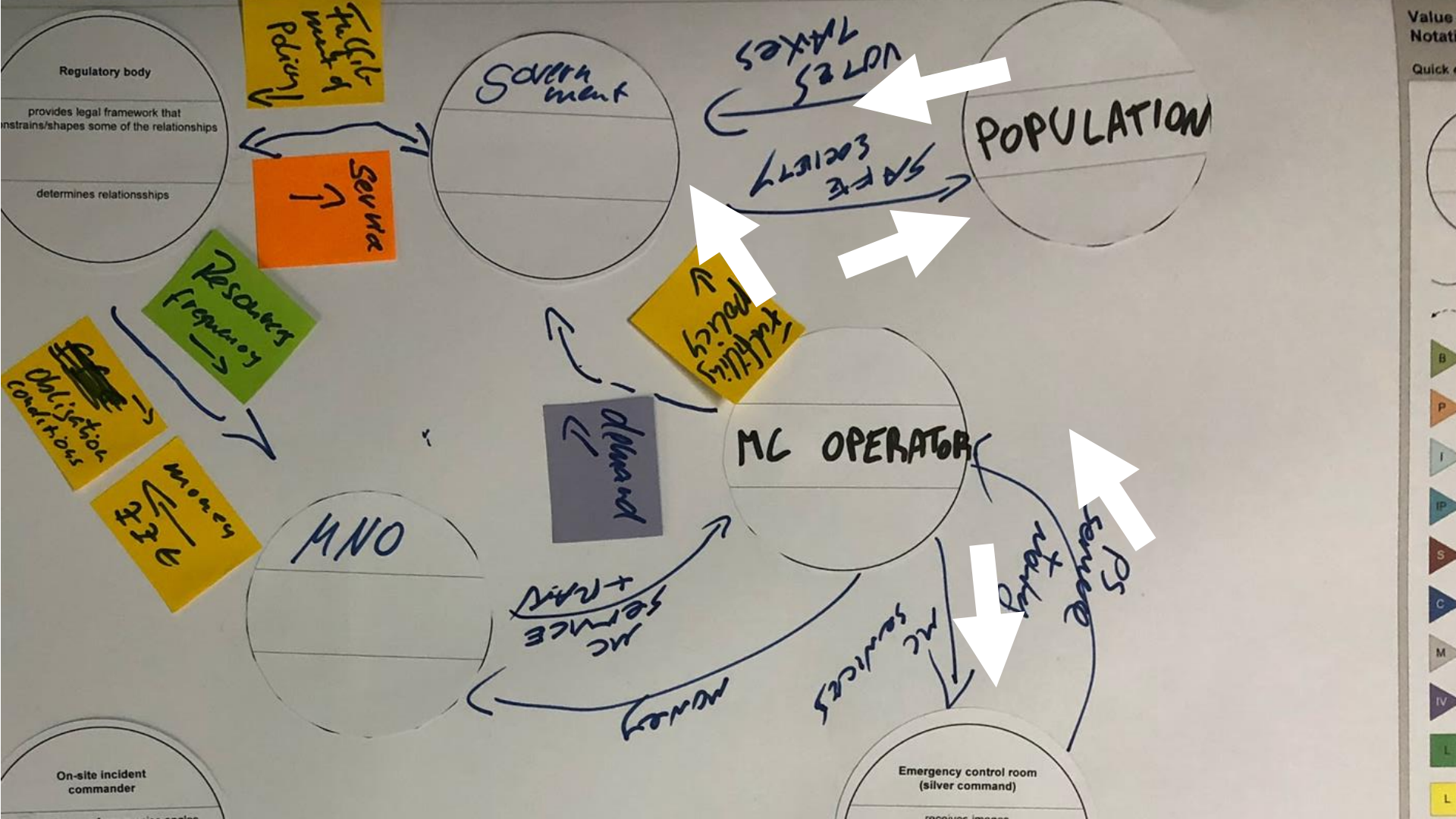
- 5. Video record it**

Break and screening

- 6. Reflections & Prepare for Conference**

Value Networks





Impressions



Border
Controls

- monitoring border

Search
+ Capture
immigrants
person

Remote
diagnostic of
Patients
- response
- social care

Tracking
Vehicles and
Persons

Welfare/social
care technology
Sensors start
Video

Extreme weather
events

Traffic Patrol

Managing
Public order
- major event

monitoring +
surveillance
using AI.



Public Safety Answering Point

data

Accident

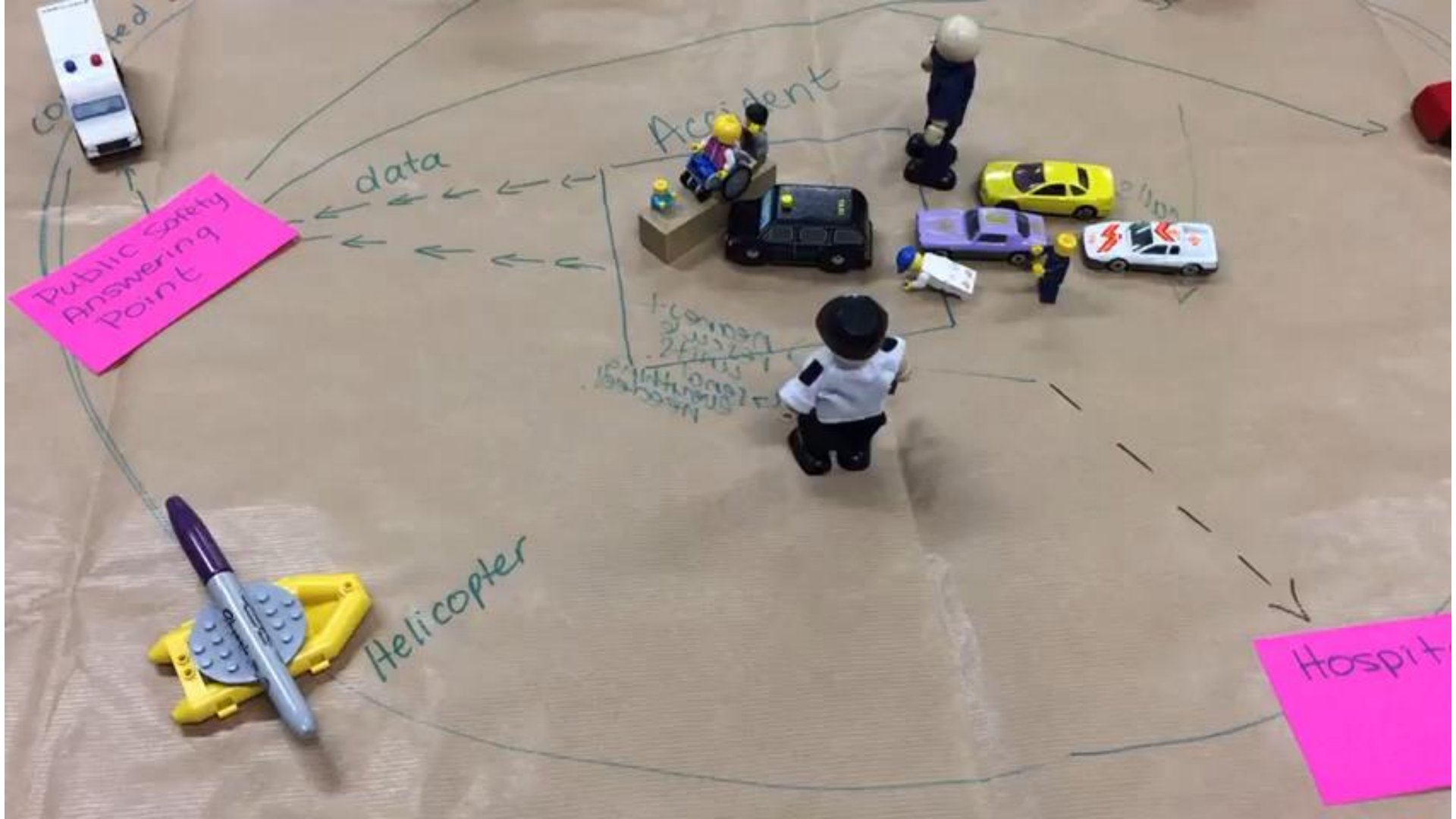


1- corner
2- fire
3- ambulance
4- police
5- hospital



Helicopter

Hospital





SHARING

PSC Europe
Public Safety Communications Europe

USE CASE EXCHANGE

Innovation inspired by practice.



Some lessons learnt

About MCVideo

- 3GPP MCVideo v Practitioner MC - different perspectives - need to align better
- Better understanding of available solutions
- The concept was new to me
- Network and capacity for transmission is not all - MCVideo comes from so many sources, what will we do with all the video? Artificial intelligence is useful, but what are the algorithms needed? How do we trust them, and train people to use it?
- What are the processes, procedures, and practices in different countries? We need to draft a process document of how to exploit MC Video for PPDR
- Legal and ethical issues are complex and important - we need to understand them better
- We need to design for citizen understanding and engagement, and for civil liberty preserving use of data

About the approach

- Very useful, makes things clear and concrete
- Use of futures thinking and backcasting to connect to emerging technologies, finding new innovative use cases
- Good to see how difficult issues can be simplified with this method
- More lectures (on case studies, collect issues experienced in implementation in different countries)
- Prioritise more what new technologies improve
- Very good method for thinking about the needs and solutions of MCVideo
- Use one incident, utilise real world examples as basis
- Value chain mapping, what's next?
- More time needed

General

- How different countries are organized differently
- Control room and dispatch practices + transformation
- PPDR are facing cuts, cuts, cuts

Next Steps - Making IT Good

- Short Report in Conference Review
- Use Cases Video Prototypes available on Use Case Exchange/ PSCE Website by end of this year
- A summer school / summer schools? On ...
 - Digital ethics, legal issues, public interest, what are the arguments, issues, approaches
 - MCDData, MCVideo, 5G - From Case Studies to good futures
 - Standardisation and practitioner needs relationship aligning
 - Value chain mapping - who's motivated to invest and contribute in what way? What are the value flows? Where are frictions, stoppages, opportunities, leverage points for PSCE?
 - Develop processes a la Drone BBK Michael Judex for MCx
- International collaboration with Firstnet, Australia - e.g to train AI algorithms
- Discussion on public acceptability → favourable public opinion → legal frameworks & digital ethics - capability to adopt - include citizens as ultimate end users, undertake citizen engagement
- Research contribution to conference - call for papers e.g. on these matters - rewarded with publication