Civil Protection in Europe: Towards a Unified Command System? Lessons Learned, Studies and Ideas About Change Management

Jean-Paul Monet
Bouches-du-Rhône Fire department
jpmonet@sdis13.fr

Pierre Schaller
National French Fire Academy (Ensosp)
pierre.schaller@ensosp.fr

Sergio Pirone
Corpo forestal Piemonte, Italy
isp-pirone@corpoaibpiemonte.it

Marc Castellnou Ribau
Pau Costa foundation, Spain
incendi@yahoo.com

Stéphane Poyau
Landes Fire department

Marc Dumas
Bouches-du-Rhône Fire department

Christos Lampris
Attica Fire service, Greece

ABSTRACT
After the summer 2017 deadly wildfires in Portugal, President Juncker of the European Commission asked for “a stronger European Union (EU)”, clearly targeting civil protection management. This wish found achievement in the March 2019 guidance to establish a reserve of EU response capacities called “rescEU”, integrated into the jurisdictional basis of EU civil protection. However, the authors regret the ambition of this plan has not been fulfilled. Due to some very “European constraints” this “new deal” has introduced only small changes in terms of resources and knowledge management. In each of the past several years, climate change has brought new examples of fatal natural disasters: wildfires in Sweden, and Greece, and flash floods in Spain and France. Because of this continuous rise in disasters, and based on some lessons learned, the authors stress that it’s now time to shape a project to improve European Civil Protection. The idea is to move from the already good modular system of the EU Civil Protection Mechanism to an integrated, robust, and unique European Command System, which clearly must be fully interoperable with other existing mechanisms (US ICS, UNOCHA…).

Keywords

INTRODUCTION
The aim of this paper is to propose elements of a “new governance in operations” for European civil protection.
The years 2016 to 2018 gave unusual occasions to activate at large scale the EU Civil Protection Mechanism (EUCPM). In the context of climate change and the increasing occurrence of natural risks, there’s really a need (Brisset, 2006) and an opportunity to develop a European command and control framework (Maestracci, 2013), totally differentiated from humanitarian aid. Following some opinion papers and talks, we’d like to provide inputs in this paper for the further empowerment of the EUCPM.

The area of large incident and disaster management is a tricky world, a dreaded position and a place of covetousness, influences and domination. Academics regularly contribute (Topper and Lagadec, 2013; Dufès and Ratinaud, 2014), sometimes in a contradictory manner, to this vast domain (Wybo and Latiers, 2003). Many collaborative EU funded projects (FP7 and then H2020) related to disaster research topics are contributory too, and though they have led to fruitful inputs on the situation and needs, all of these projects have failed to lead to real field implementation.

Today more than ever, in a changing risk landscape, and after many destabilising incidents (terrorism in France and Belgium; wildfires in Portugal, Sweden, and Greece; floods...), empowering the European civil protection mechanism is essential. And clearly under the leadership of the Directorate-General for European Civil Protection and Humanitarian Aid of the European Commission (DG-ECHO), empowering the European civil protection mechanism is essential.

A first layer of improvement, developed after two years of work, resulted in the “rescEU” guidance issued in March 2019¹ to be integrated into the jurisdictional basis of the EU Civil Protection Mechanism. However, by introducing small changes in terms of resources and knowledge management, this new deal did not address the structural issues needed to constitute an effective update of EU policy.

As requested by many strategic authors, a harmonised Control and Command System (C2S) framework would give the European citizens safety and civil protection adapted to the breadth of the territory and the severity of the new challenges.

The following paper presents ongoing work, written by practitioners with first-hand knowledge of civil protection challenges. This work has no ambition to teach a “new normal guidance” but aims to provide insights and opinions of first responders, to support dealing with current global trends and the reality of the associated risks. Wildfires, due to their extension and intensity, could play in this evolution, the peculiar role they already played in some fire-prone countries (USA, Australia, Portugal, France...) in fostering command and control enhancements, further extended to all hazard management.

The paper is organised in four parts: after a quick comparison of existing systems and identification of possible contributions that each could give to new European operating modes, we depict some lessons learned and studies that motivate our proposal. Then, we describe a strong opportunity for the EU to establish a sui generis operational command and control system, which would be interoperable with the other major pre-existing global ones, without being enslaved to them. Finally, we provide some clues to solve the fundamental issue of teaching, training, exercising and sharing knowledge in the EU.

Hence, the globalisation of crisis and response systems goes beyond simple interoperability, towards a mode of governance, tackling at the same time climate change and emerging risks, while acknowledging the need for local adaptation in individual European states.

STATE OF THE ART

US ICS system

In the 1970’s, the Incident Command System (ICS) was developed by the US Forest Service to manage forest fires and other natural hazards, and it was quickly recognised as an efficient inter-agency control system. After the terrorist attacks of 11 September, following an ad hoc decision of the federal government, the concept was rapidly and widely spread throughout the United States. Now widely used there in its “All Hazards Management” version, ICS today involves thousands of civil servants, foresters, police officers, fire fighters and elected officials who constitute more than 15 regional teams. At the highest level, responding to the largest incidents known as Type I, these “Incident Management Teams” (see IMT, Figure 1.), are constituted with 50 specialists on 24/7 duty.

Today ICS is disseminated all over the world, with some adaptations. However, in France less than 20 fire officers have acquaintance with this system. After being trained through the ICS-420 Incident Management Team course,

---

¹ EU Parliament and council decision 2019/420 of 13th March 2019
a few of them participated in exercises in California and Australia. Some Spanish provincial foresters and Norwegian fire fighters are now implementing the US ICS directly. The fire service of Catalonia (GRAF, Grup d’Actuacions Forestal) is also influenced by ICS, especially in the practise of use of fire, which has been incorporated with a deep and extensive expertise in fires behaviour.

The FEMA (Federal Emergency Management Agency, www.fema.gov) is responsible, through its National Incident Management System, for organising, teaching and training of this doctrine. In general, the position of this agency towards teaching and giving public information can be an inspiration at the European level.

The World Health Organization (WHO) has also set up an ICS-related system, WHE, (WHO Health Emergencies, 2016). WHE is a very close system, not allowing for much sectoral adaptation (quite copy and paste). Some industrial companies, especially in oil and gas, have also adapted ICS for their crisis management, for example Total Offshore and Lyondell Basell (U.S. National Incident Management System presentation, 2017).

**UN Organization**

The United Nations Office for the Coordination of Humanitarian Affairs (UNOCHA) framework United (ref: Nations disaster assessment and coordination Field Handbook, 2018) has, from its creation, been inspired as well by ICS. Although its field command post is called “On-Site Operational Control Centre” (OSOCC), it is not a real command and control system, but instead highly inspired by humanitarian activities. The main theme in UN field organisations is coordination (Figure 2.). So UNOCHA, is now in charge of managing a large certification system (International Search and Rescue Advisory Groups - INSARAG), and responsible for international aid, that is more focused on search and rescue and humanitarian aid.
French system, GOC.
In France, the GOC (standing for Gestion Opérationelle et Commandement) system has provided a command-harmonised system since the 1990s. It manages four main levels of command based upon progressive field transfers of command. Level 2 (truck leader) is used to deal with the majority (more than 50 %) of French fire service missions, tackled with a single resource. Levels 3 to 5 employ several ranks of officers, from team (group) leader to senior incident commander. Deployment of an Incident Command Post (ICP) starts at Level 4. Built as a decision tool for the incident commander, the ICP is staffed with up to 12 persons; 20 in an interagency context. It builds an incident management team where the Incident Commander has a direct command of Sector Chiefs, generally 3, maximum 4 (see Figure 3. below).

![Figure 3. French GOC chart](image)

NATO Framework.
Due to “centric operations, demanding closer cooperation among more dispersed forces, the importance of interoperable C2 grows exponentially. Forces that expect to operate together must at least be able to communicate with each other via both voice and data formats, even though they are not yet equipped.” (Barry, 2003). Indeed, for years, command and control has been considered by NATO strategists as the “most crucial medium for interoperability”. Eventually, NATO shifted in 2017 toward a new command and control structure, but it’s interesting to note that this structure is based on a constellation of separate international headquarters split in the different member states.

![Figure 4. NATO basic chart](image)

In the field, NATO is working with a very classical organization, close to a generic ICS, actually. The four main functions (Figure 4.) are represented here in the scheme above: operations, planning, intelligence, and logistics. In many NATO operations, planning is done far from the field of operations, in a distant and secure headquarters. An actual case in Sweden (Figure 5. below, 2018) provided a very interesting implementation of this framework, managed by a large incident management team (90 – 100 officers).
After this experience the question arose: which relevant elements from these systems can be transferred to EUCPM with added value?

**LESSONS LEARNED AND STUDIES**

Over the same period some experiments, studies and trials have been done in several responding agencies. One was done in the Bouches-du-Rhône fire department, France (starting in 2014) where the planning section convinced the management to perform a trial. The new idea was to have in the same ICP both short-term planning (4-5 hours) and long-term planning (12-24 hours). Some full-scale exercises introduced this new idea. Other improvements were also implemented during these exercises to enrich the local command system.

At the same time, forest fire behaviour was deeply studied by behavioural experts and meteorological forecast engineers. The results of this analysis have been deployed simultaneously in prevention/fuel management and in Incident Command Post analysis functions, and a connection with the Catalonia fire service was established in 2014.

Large and violent wildfires in Greece (2007, 2018), Portugal (2016, 2017), Spain (2012, 2015, 2019) France (2003, 2016, 2019), Sweden (2018), Australia (2019), South Africa, and California (2018), gave in the last decade several opportunities to witness climate change consequences. These events also demonstrated a real need for a larger commitment of EU practitioners, in order to increase the quality of European civil protection mutual support. And the recent cases of EUCP mechanism activation (2016, 2017, 2018) demonstrated the need for field experts and very experienced responders.

The Swedish 2018 fires gave another perspective on emergency management in a “non-fire prone country”, using NATO guidance to deal with the unusual situation. Actually, the Kårbole-Ljusdal fire Incident command post followed the NATO standard organisation (cf. above: “NATO framework”), with a large Incident Management Team, driven by an Incident Commander, responsible for decisions, ground tactics and management. The latter was permanently reporting to the local policy maker (Province Governor), in charge of strategy, and in contact with national authorities. In this case, despite the larger EUCPM activation of its history (20 years), and the involvement of eight countries in response to support Sweden, DG ECHO constitutes only a very agile structure of coordination in the host country. And that was very valuable, a kind of “proof of concept”, which allowed all modules sent to be totally integrated into the Swedish command system and organisation.

Finally, last January an experimental European course was organised in Aix-en-Provence, France, in the context of European project called “Network of European hubs for civil protection and crisis management” (Ecorys, 2020).
Gathering 24 trainees from 20 different countries, this training was organised at the French fire service facility’s virtual reality simulator, involving a representative whole incident management team (15 to 20 players). This serious game provided a unique opportunity to organise some trials and experiments, as described below.

**Methodology:** during our experimental course we highlighted that at least in Europe, command and control systems are very close.

The aim of this experimental training was to establish and drive an incident management team on a big incident and to deal with the arrival of – at least – 2 EU modules.

Exercise Incident Command and Control: The management of the training proposed a fixed command framework (IC + 3-4 sectors + ICP, cf. Figure 6.). But otherwise, the organization and staffing of the Incident Command Post was fully adaptable to each Incident Commander (i.e. to each nation receiving UCPM aid).

We only had a small “sample” of countries to lead this Incident Command System simulation: Italy, France, Sweden and Greece. However, all attendees were involved in sections, ICP functions or single officer positions (safety, public info. officer, liaison officer …), giving a unique opportunity to have full international (Austria, Belarus, Croatia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Israel, Italy, Netherlands, Norway, Portugal, Slovakia, Spain, Sweden) interoperability. Even this statistically small experiment demonstrated that EU participant states are able to cooperate effectively in a command and control system, it also highlighted that a kind of common structure exists between all participant states. This common framework could obviously constitute the backbone of a future European command and control system.

**Module Involvement:** A structured, common command and control system is actually very helpful to optimize involvement of EU modules. To manage module national specificities and logistics, a very obvious methodology (more than 8 times tested in the experimental course) emerged in the experimental course: the Chief of Module needs to be directly involved with a sector, while a Liaison Officer needs to be assigned to the ICP, in order to be the permanent representative of the module (logistics, capabilities, safety, etc …).

This small-scale experience, more empirical than scientific, has given inputs to our research.

All these study cases and existing practices are very encouraging to the aim of harmonizing European civil protection. After reviewing some ideas and perspectives below, the authors will propose a kind of first idea draft to improve European response. But in order to avoid misunderstanding, we must first reach an agreement on some basic terminology, which unfortunately is not yet harmonised across the world. After discussing terminology, we will present our ideas on proceedings.

**DISCUSSION ON TERMINOLOGY**

We could start with the terms “crisis” and “crisis management” themselves: these words, initially meaning situations in which decision bodies lose control and their ability to act, have over time been stripped of their original meanings and now are used more generally to mean big incidents and incident management. Big incidents are not necessarily crises in the original sense, and a misbalance between available and needed means is not enough to create an actual crisis. However, random or quick evolution, lack of decisions, emergence of power struggles, and other signals of weakness need to be tackled in order to avoid crisis occurrence. In order to characterize these issues, and because no classification system exists in Europe, the US classification of incidents...
(see below Table 1.) could be used or slightly adapted in order to provide harmonisation at an international level.

**Table 1. US Incident classification**

<table>
<thead>
<tr>
<th>Type</th>
<th>“Definition”</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Type I</td>
<td>Huge incident</td>
<td>i.e. large on shore pollution lasting weeks P&gt;500</td>
</tr>
<tr>
<td>Type II</td>
<td>Big incident</td>
<td>i.e. Bushfire lasting 3 days P&lt;500</td>
</tr>
<tr>
<td>Type III</td>
<td>Important incident</td>
<td>i.e. Railway crash lasting one day with multiple assets</td>
</tr>
<tr>
<td>Type IV</td>
<td>First level of incident implying transfer of command</td>
<td>i.e. structure fire</td>
</tr>
<tr>
<td>Type V</td>
<td>Small usual mission dealt by one or two assets.</td>
<td>i.e. EMS mission with one ambulance</td>
</tr>
</tbody>
</table>

**What shall we call LEMA?** Nowadays, LEMA is European acronym for Local Emergency Management Authority. Nowadays it is frequently used in a broad sense, meaning all local incident managing activities. In our proposal, we use the term LEMA in its original sense, to refer to an elected (or non-elected) single person authority, who is a policy maker in charge of the strategy above the Incident Commander. To draw comparisons, UK uses “Competent Authority” and ICS “Agency Authority”.

**What is OSOCC?** This term was initially set by UNOCHA, in UNDAC/INSARAG guidelines, meaning On-Site Operations Coordination Centre (ref: Nations disaster assessment and coordination Field Handbook, 2018). Even though this term has gained partial recognition by EU civil protection, its meaning has been corrupted through the use of the surprising term “virtual OSOCC”, which describes a shared assessment IT tool. So, we propose to use other terms, more simple and precise: Incident Command Post (ICP) or Field Command Post (FCP), interchangeably, which is very close to US terminology.

**What about so-called standard operating procedures (SOPs)?** While this acronym is very trendy in Europe, with different understandings, (in total absence of harmonisation framework) we propose to clarify it by introducing a distinction. We suggest using STPs for *Standard Technical Procedures* and SCCPs for *Standard Command and Control Procedures*; both constituting SOPs (cf. Figure 7.)

**STPs:** as all EUCPM participant states have a great reservoir of skills relating to civil protection techniques, there is an opportunity to share and exchange. Currently technical practices are not regulated by any EU or other standard, so it’s now impossible to have standardised training on these practices. Nevertheless, “rescEU amendments” requires EU to fund and increase the circulation of this knowledge and these lessons learned.

**SCCPs:** We feel a real need to empower EUCPM through a “European Command System” (ECS), giving harmonized command and control methods at the international level in the EU. These command and control methods are the core of our proposal and are organised to give a common command system framework when EUCPM is activated. The interoperability of EU CP forces will be largely increased.

**HOW TO PROCEED?**
Although C2 systems and methods (e.g. ICS) used in other parts of the world, historically characterised by dependence on a large number of civil protection agencies, are not directly transferable nor exactly suitable to the more centralized European continent, the further empowerment of the existing EUCPM system is mandatory.

The idea developed here is not to copy and paste any system, but to develop, organise, implement and teach at EU level an ad hoc command system, ECS, tailor made for EU nations and disasters. It was foreseen since our 2018 works, but now somehow consolidated by our experimental training and new studies.

Critical issues are:

- To manage very mature but not harmonized national civil protection systems, in all participant states;
- To be interoperable in and through the member states, some of them very small, respecting existing systems and implying a transition in the format of incident management when international aid is asked;
- Being compatible with UNOCHA teams and INSARAG standards, and others systems ICS, NATO, WHO and ISO 22320\(^2\) compliant. But, clearly cut any doctrinal dependence from others international organizations such as UNOCHA standard, while EUCPM is today much influenced and dependant of the latter.

**General organization of the command framework**

The position of IC (incident commander) and its hierarchic relationship to LEMA plays a pivotal role.

His connection with sectors (generally 3) is sometimes variable, but the recognition of a sectorization of the incident field is permanent and mandatory. The aerial sector seems to be fundamental for safety issues but is very dependent on national aerial laws and standards.

The existence of an Incident Command Post (or Field Command Post) is consolidated. Its internal organization is variable, considering national command systems and history. This is the reason why we suggest considering “strongly suggested” sections (Figure 8):

---

\(^2\) ISO 22320:2018 Security and resilience — Emergency management — Guidelines for incident management
And optional ones:

• Communication
• Intelligence
• Security
• Safety
• Coordination/liaison
• Finance-administration

Single officer positions besides the IC are also very dependent on command and control national culture. At least the Safety Officer seems to be a point of convergence (if no safety section in ICP). Other advisors could be security (police), public information officer, liaison officers …

For large incidents, and activation of international European aid, the added value of this EU system could be in providing and establishing an interoperable framework of art of command, adaptable at state and at European level.

The proposed European Command System is, in evidence, a long-term solution. It has to be, at first, established and validated by the European Commission. Practitioners expect DG ECHO guidance and structural regulation rather than standardization. Nevertheless, this framework is, by construction, ISO 22-320 compatible.

ABOUT TRAINING

DG ECHO would obviously steer this mechanism by guaranteeing the standardisation of training procedures and the commitment of teams at the request of a Member State. EUCPM would have to spread the new defined knowledge, largely, with more instruction, more courses, and more exercises.

Thus, DG ECHO would need to manage, organise and teach a new command and control framework, allowing harmonisation at the international level in a way that can be integrated contingently into national systems as needed.

Finally, no new doctrine will succeed without a training framework. The authors propose to simply use the already existing training program (EU Brochure, 2016 and picture beside), and to further empower it. Two main principles could be therefore followed: first, totally distinguish these courses from humanitarian aid, and secondly selecting applicants from the world of responders.

CONCLUSION

We have imagined a body of doctrine, based on guidelines developed in this paper. Effective, interoperable, respectful of sovereignties, this system could match with the needs and wishes of EU for its citizens, and promote solidarity between the EU and non-European regions.

Of course, this proposal is anchored in experience rather than on scientific research. Further studies could be performed to confirm or give some new directions to this proposal. What is nowadays lacking is a reliable
inventory of all European participant states command and control systems. That could help to validate our assumption on the “common backbone”.

Regarding usual experience with instructing, training and exercising efforts, it could take at least three years to begin to fully use the new approach in operational situations. The first evaluation feedback is foreseen to be available after five years.

The European Commission has to determine how to organise the development of an improved EUCPM. How to concern and involve national civil protection, fire and EM services structures? What will be the role of national Fire and civil protection academies? How to let this European Command System knowledge percolate towards national levels? All these key points need to be solved if we really want to improve the interoperability of the participant states and the efficiency of EUCPM, to give to European citizens the safety they deserve.

GLOSSARY

NGO, NGOs non-governmental organization(s)

ECS European Command System

ERCC Emergency Response and coordination Center

EUCPM European Union Civil Protection Mechanism

ENSOSP Ecole Nationale des officiers de sapeurs-pompiers (French national officers’ Fire academy)

FCP Field Command post

GOC Gestion opérationnelle et commandement (Command and Operational management)

ICP Incident Command Post

INSARAG International Search And Rescue Advisory Group

LEMA: Local Emergency Management Authority, Decisional policy authority in incident management

OSOCC: On Site Operations Coordination Centre

STPs Standard Technical Procedures

SCCPs Standard Command and Control Procedures

SOPs Standard Operating Procedures

UNOCHA United Nations Office for the Coordination of Humanitarian Affairs

UNDAC United Nation Disaster Assessment and Coordination

REFERENCES


Maestracci, B. (2013) La gestion de crise, perspective européenne, Perspectives n°9, p. 159-161, Ensosp, Aix en Provence FR.


Collective work (2020) Network of European hubs for civil protection and crisis management, Final project report for DG ECHO, Ecorys, Rotterdam NL.

Brochure (2016), The Union Civil Protection Mechanism Training Programme, booklet, European Commission DG ECHO, Luxembourg LU.