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Abstracts from the panel

Standardisation in Disaster Risk Management:
between operational necessity and political sensitivity

Developing a conceptual basis for (pre-)standardisation in the civil protection domain

Corresponding Author:

Claudia Berchtold

Fraunhofer Institute for Technological Trend Analysis (INT) Germany

claudia.berchtold@int.fraunhofer.de

Author(s):

Maike Vollmer[1] and Philip Sendrowski[2]

[1]Fraunhofer Institute For Technological Trend Analysis (INT), Maike.Vollmer@Int.Fraunhofer.De, DEU
[2]Fraunhofer Institute For Technological Trend Analysis (INT), Philip.Sendrowski@Int.Fraunhofer.De, DEU

Structural interoperability approaches, meaning formalised approaches through certification or mutually agreed-upon (informal) standards, have been developed at the international scale for thematic fields. Particularly the Urban Search and Rescue, the Emergency Medical Team (EMT) and the CBRN (Chemical, Biological, Radiological and Nuclear) domains have thereby made great progress over the past decades and developed for example the INSARAG guidelines[1] or the EMT classification[2] with a great level of detail on scope and competences of support teams including their certification.

At the European level, attempts to enhance interoperability are currently approached by different actors and measures. For example, the Directorate General for European Civil Protection and Humanitarian Aid Operations (DG ECHO) deals with the implementation of EU competencies in civil protection. In this context it implements and facilitates training and exercises programmes based on a modular certification approach within the framework of the Union Civil Protection Mechanism, including the exchange of experts.[3] Data and technology elements are increasingly standardised, as showcased for example by the digital radio standard TETRA or the Common Alerting Protocol to facilitate interoperability of emergency messages. Several EU-funded projects have also targeted technical standardisation, for example by pre-commercial procurement projects such as Broadway[4] to enhance the interoperability and hence mobility of communication technologies between responder organisations. In general, standardisation of civil protection aspects plays an important role with respect to technologies, but also with respect to terminologies and procedures which have been addressed for example by research projects such as ResiStand or DRIVER+. ResiStand has established a process to support standardisation in disaster resilience and crisis management. Results include a roadmap, and a catalogue of standardisation needs, opportunities and standardisation items. DRIVER+ was closely linked with *ISO/TC 292 – Security and resilience* and at the European level with *CEN/TC 391 – Social and Citizen Security* standardisation initiatives.[5]

However, a holistic approach allowing to assess the standardisation potential of a solution (which can be technical or procedural) including the use of table top exercises and field exercises, and facilitating their actual (pre-) standardisation is lacking at the European level. Building on existing approaches, we would hence like to present approaches developed in the context of the STRATEGY project to develop a respective framework for assessing the standardisation potential and hence interoperability of solutions.

[1] https://www.insarag.org/guidelines (11.09.2020)

[2] https://extranet.who.int/emt/emt-classification (11.09.2020)

[3] https://ec.europa.eu/echo/files/civil_protection/civil/prote/pdfdocs/Training brochure.pdf (17.02.2021).

[4] https://www.broadway-info.eu/ (17.02.2021)

[5] https://www.driver-project.eu/discover-our-results/standardisation-in-driver/ (17.02.2021).

Ethics and (pre)standardisation in the area of Disaster Management.

Corresponding Author:

Panagiotis Loukinas

Trilateral Research United Kingdom

panagiotis.loukinas@trilateralresearch.com

Author(s):

This presentation focuses on the relationship between ethics and (pre)standardisation in the area of disaster management. In the context of standardization, there has only been limited discussion around ethical and social aspects, as well as around the impact of standards on different ethical principles and fundamental rights [1]. In particular, this presentation examines the ethical, legal and societal issues that arise during the design, development and implementation of standards that aim to better facilitate the work of first responders. The consideration of these issues at the design stage of (pre)standards, including efforts to ensure the positive impact of standards and the mitigation of any negative implications can lead to responsible standardisation[2] Building on the research conducted within the EU-funded ResiStand and STRATEGY projects, this work aims to develop a framework to assess new proposed standards from an ethical perspective. On the one hand, it looks at how principles such as transparency, openness and sustainability can be applied to the process of developing standards not only during a formal standardisation process but also at a (pre)standardisation level. This includes, for example, the importance of engaging with a diverse number of stakeholders during the development of new standards. On the other hand, the presentation explores how the impact of standardisation items on principles commonly impacted during disaster management activities, such as dignity, privacy and autonomy, can be assessed to ensure these standards are beneficial for various stakeholders and the society as a whole. Following the emphasis given by international and regional standardisation bodies on particular sustainable development goals, issues around social responsibility as well as the impact of standards on gender equality are taking into account. Finally, the relevance of competition law and intellectual property rights that must be respected in the context of standardisation is reiterated.

[1] Gordon, J., & Fomin, V. V. (2019). Ethics and Standardization. In K. Jakobs (Ed.), Corporate Standardization Management and Innovation (pp. 177-192). IGI Global. http://doi:10.4018/978-1-5225-9008-8.ch009.

[2] Jakobs, K. (2019). Managing Responsible Standardization of Smart Infrastructures and Applications. In K. Jakobs (Eds.), Corporate Standardization Management and Innovation (pp. 193-202). IGI Global. http://doi:10.4018/978-1-5225-9008-8.ch010.

Numbers and/or Experience

Corresponding Author:

Markus Jenki

Centre for Security and Society University of Freiburg Germany

markus.jenki@css.uni-freiburg.de

Author(s):

Sabine Blum[1] and Mario Digennario[2]

[1]Centre For Security And Society, DEU
[2]Competence Center EU Civil Protection And Disaster Assistance At Johanniter-Unfall-Hilfe E.V, DEU

Apart from (local) training effects, the further development and comparative assessment of operational concepts, SOPs, team composition, leadership structures and communication processes is a key issue in large scale exercises. In an ongoing research project, that deals with major railway accidents in tunnels, the regionally different rescue concepts were compared and those responsible, including experts from Austria and Switzerland, were brought together at one table, to look for optimized solutions despite different national and regional structures in the fire and rescue services.

Against this background, responsible actors across the rescue chain have called for indicators and systematic, transparent procedures to document progress and make outcomes comparable. Among others, the project evaluated the largest on-scene exercise to date in Germany. We will discuss two approaches to process development in detail and highlight the respective strengths and weaknesses.

One way is to break down long chains of actions into ever smaller sections and make them assessable one by one. To each of these sections tailored evaluation approaches have been used – e.g. video documentation of the immediate rescue from the train, transit lists for patients at rescue sites or direct evaluation of medical measures by specialist observers. Based on the documentation, various indicators can be transparently applied, such as time expenditure, quality of supply or resource load. The indicators can often be expressed in numbers and even hierarchized. The approach builds on quality assurance procedures in hospitals, but presents new challenges in complex large-scale on-scene exercises.

But for several topics, e.g. situational awareness, information processing and the resulting decisions by officers-in-charge, this approach is not feasible. Complex, collaborative tasks necessitate comprehensive information and descriptions of the situation, intertwined simultaneous strands of action, and overall impressions. Therefore actor's impression in the concrete exercise situation must be preserved and made accessible for people who were not on site. For this purpose, we firstly developed a time-synchronized video documentation system (24 static plus 8 mobile cameras). Secondly, we synchronized written expert reports linked to photo documentations based on time and location and, thirdly, we tested a form of video observation by experts, in which trained experts record comments and assessments parallel to videotaping situations. These approaches have attracted considerable interest among the participating emergency forces, as they seem to be particularly suited for dealing with collaboration problems, allow for an intense multi-professional review and partly for quick dissemination of findings.