

Numbers and/or Experience

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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.

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