



Evacuation Optimiser

Provides instant advice to emergency staff on how to effectively manage an evacuation, based on simulations of different evacuation scenarios

WHAT PROBLEM DOES THE TOOL HELP SOLVE?

The main purpose of the tool is to pre-optimize and support the management of controlled crowd movement in public spaces in complex events, to prevent any injury and/or loss of life, e.g. in an emergency evacuation.

Without the tool:

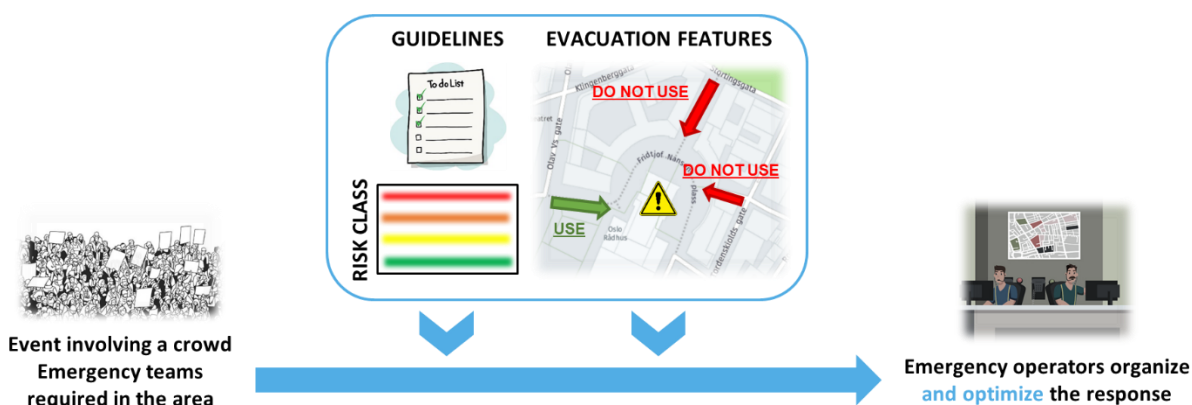
- The adequacy of number and size of exit routes is unidentified
- Specific gateways for emergency services are not known
- The total evacuation time and risk associated with evacuation remain unknown

With the tool:

- The number and direction of exit routes for the size of the crowd is evaluated
- Gateways for emergency services are identified
- An accurate calculation of total evacuation time and risk is presented to emergency operators via the IMPETUS platform
- Successful evacuation procedures

HOW IS IT DEPLOYED IN IMPETUS?

- **Who are the users:** First responders and security centre operators who are tasked with early notification of possible dangerous situations/threats, or online, real-time monitoring of the event/emergency; other stakeholders such as government officials, senior level management, city managers, etc.
- **What are the critical situations for deployment:** The tool facilitates coordination between different agencies, staff in control rooms and staff on location, and members of the public in preparation of and during a critical event. It can help dispatch required resources as efficiently as possible. The tool also facilitates planning of and execution of evacuations by mapping the quickest, most direct route for crowd control and movement.



HOW DOES IT WORK?

- **Preparation for an emergency:** Using data from people-counting sensors, the tool pre-simulates evacuation scenarios from a public space under different circumstances and provides general operative guidelines for managing the exit of a crowd in the different scenarios.
- **During an emergency:** Based on data from earlier simulations, the size of the crowd, the number of entry/exit point and the capacity of the evacuation routes, the tool estimates the time needed to evacuate the crowd, and estimates the risk involved. Guidelines on optimal entry and evacuation routes are presented to emergency personnel and security operators via the IMPETUS platform.



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