

GESI/EM

Simulation for emergency management and civil protection



Analyze, decide and command – efficient emergency management requires decision makers to anticipate the potential consequences of crisis situations and to use any available resource effectively to bring the situation under control, thus protecting the public and limiting damages in the best possible way. The multitude of possible threats and risks make achieving this task a serious challenge to governmental institutions, local authorities and corporations, in particular those managing critical infrastructures. The best measures to be prepared for crisis situations are emergency plans that answer the question “what if” and are supported by a team of well-trained crisis and emergency managers. CAE’s GESI Emergency Management (EM) simulation environment is an essential aid to meet these challenges. It simulates comprehensive emergency situations, providing an environment to develop emergency plans and train and prepare crisis and emergency managers.

The Simulation Environment

CAE GESI-EM provides an environment for emergency managers to plan, test, and train their response strategies in a safe and controlled environment. The essential factors of an event such as security and rescue forces, affected civilians, the terrain, weather conditions, and other entities are mapped as simulation elements. Their parameters can be modified by the user as the scenario unfolds. All emergency forces can be displayed down to the single unit level. Logistical considerations, such as fuel consumption and supply, repair and medical care of injured, are influenced by the response capability of the emergency forces.



Any response orders issued by the emergency managers are simulated within CAE GESI-EM. Emergency managers are able to see the impact of their decisions within the simulation environment. Data is captured to assess the success or failure of their decisions. Emergency plans can then be adjusted to address any resource gaps and areas of improvement.

Range of Simulated Disasters

CAE’s GESI-EM can simulate a wide range of possible disasters and crisis scenarios. The system offers a spectrum of threat scenarios for emergency management professionals to plan, test, and train their strategies against.

CAE’s team uses scientifically validated models to simulate the following:

- Natural disasters, such as earthquakes, hurricanes, wildfires, and flooding
- Manmade disasters, such as accidents in chemical plants and train or plane crashes
- Acts of terror, such as poison gas attacks or bomb attacks

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Applications

Training and Exercises

CAE's GESI-EM can be used for training courses of command personnel as well as for exercises to efficiently and realistically train and prepare for any scenario in the scope of crisis management. The simulation environment provides significant benefits to its users, preparing them for very complex scenarios which require close cooperation of local and international organizations.

Emergency preparedness and planning

Using CAE GESI-EM, emergency managers can plan, analyze, and train any type of scenario. The simulation environment allows the user to simulate any imaginable emergency scenario to perform the following:

- Analyze potential threats on critical infrastructures
- Evaluate the deployment of forces and means
- Identify security gaps
- Define measures
- Check and optimize emergency plans



Benefits

The CAE GESI-EM environment delivers the following benefits:

- Exercise directors and instructors easily prepare and perform exercises and training lessons
- Quickly provides alternative courses of action by testing "what if" scenarios thanks to faster than real-time simulation
- Real-time monitoring and analysis of scenario response results
- Development of realistic and comprehensive crisis and emergency scenarios for analysis and training
- Transparent and objective exercise debriefing

Features

CAE's GESI-EM simulation system includes the following features:

- Up to 32 000 single units
- Three-second update of the situation enabling real-time training
- Detailed 3D terrain databases
- Weather effects
- Simulation in real time and faster than real time
- Wide variety of threat and disaster scenarios involving police, fire services, rescue services, technical assistance services, and military personnel
- Comprehensive exercise directing functions (including replay, statistics, and magic functions)
- Interfaces to C2I systems, other simulations, and gaming environments, including

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