



## **Magen David Adom's incident management platform**

### **Preface**

Magen David Adom (MDA) is Israel's Emergency Medical Services, Blood Services and Red Cross National Society. MDA also has an auxiliary role for the medical forces of the home front command in times of war.

Established in 1930, MDA gained vast experience during the years in responding to medical emergencies, terror attacks and disaster preparedness and response.

With 2M incoming calls to its 8 emergency dispatches, MDA responds to more than 800,000 medical emergencies annually, an average of an ambulance dispatch each 40 seconds and an incoming call each 15 seconds.

In order to optimize its response and enhance the organizational capacities, MDA combined innovative technologies with its experience and created a Next Generation Incident Management platform that meets various challenges by overcoming existing inherent time gaps in emergency dispatches, automatically allocating and dispatching the organizational resources and providing a comprehensive view of all the necessary data on one consolidated database for the use of the decision makers.

The main advantage of the MDA's NGIM is the fact that it is developed by first responders for the use of first responders. The full integration between the developers, who are well aware to the challenges and needs of the users puts an emphasis on key points that may improve the work of the emergency command and control (C&C) center and the incident management. That, in turn leads to better response which results in lifesaving.

MDA's NGIM is designed to use by any organization that operates a call center, where a fast response to Incident Management is critical to the organization's mission success



## **Rationale**

During emergency response, there is an inherent time gap in data collection, resources (first responders, ambulances, fire engine etc.) dispatching, scene overview and data transfer to decision makers.

By eliminating these time gaps and through a continuous flow of information to the emergency C&C center, commanders and decision makers, the emergency response will improve and will lead to saving more lives.

First, transfer of information that is found by passers-by in the event area quickly and accurately to the emergency C&C center and decision makers will play a key role in eliminating time gaps required for information gathering. Second, an automated allocation and dispatch of the nearest and most appropriate resource will eliminate time gaps required for communication. And last, comprehensive view of all the relevant information for the incident stakeholders will lead to facts-based decision making, monitoring and supervision of the incident response.

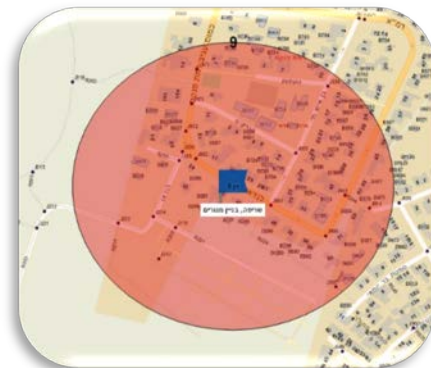
## **Organization's challenges and how MDA's NGIM mitigates them**

MDA identified several challenges for incident management:

- a. **Challenge:** difficulty in eliminating the precious time wasted locating data, deliberating and communicating during an incident that can potentially lead to delays and an undesirable outcome.

### **Solution:**

- MDA's NGIM allows a Geolocation of a caller, if he/she are unable to provide an exact address. Since in many countries, triangulation of a cellular phone is restricted due to privacy, the NGIM uses text messages and user based apps (Whatsapp, for example) to get the caller's location and displays it on the NGIM map. This eliminates the need for questioning the caller of his locations and minimize the resource allocation process.





- The NGIM assists in scene assessment by allowing the call to send pictures and to stream live-video directly to the call taker. Thus, the call taker can understand the scale of the incidents, whether there is a need for special resource allocation (i.e. specialized rescue units etc.) and can also instruct the caller with immediate actions to be carried. This eliminates the need for further questioning of the caller and improves the optimization of resource allocation.



- Based on the gathered information, the NGIM automatically looks for the nearest and most appropriate resources for response and automatically dispatches them. Resource include emergency and/or command vehicles, human resource and any external resource defined in the system (public-available defibrillators for example). The dispatching is done using a hand-held devices, i.e. cellphones or tablets placed in the emergency vehicles. A remote announcement/siren can also be attached to the system. This eliminates the need for finding the nearest and most appropriate resource to respond and the communication used for dispatching.



By eliminating those times gaps, the NGIM system optimizes the response time and assists in better managing of the incident.

- b. Challenge: Struggle to get a single comprehensive and easy-to-understand view of the relevant data related to an incident occurring in real time.

Solution:

- An integrated view of the relevant data related to an incident from various external systems is presented to C&C center, incident commander and the decision makers in one consolidated platform.



- The various resources have different representation, showing their status and capacities.



Other responding agencies can also be presented, allowing more comprehensive view of the incident.

- The comprehensive real time information allows monitoring and supervision of the incident response, and to tackle errors in advance or immediately after they occur.

- c. Challenge: Inability of decision makers to get a real time view and alerts of the situation that is relevant to their specific role in managing the incident.

Solution:

- All the relevant data is presented to decision makers either on dedicated screens in the C&C center, a hand-held device or via web dashboard.
- The NGIM system has the ability of parallel management of several scenes, including automated dispatching for each scene and presenting real-time information to the decision makers



- Alerts can be predefined, so that an incident commander will be alerted accordingly, for example if a fire-fighter spends more than 30 minutes wearing protective equipment, if a team did not respond to an incident within the time limits or any other alert that influences the incident management.



- d. Challenge: Trouble for the various roles to accurately follow the recommended set of response actions when managing an incident.

Solution:

- Integrated easy to use stand operation procedures (SOPs) and medical protocols enables medical guidance for lay rescuers and ensures completion of the coordination and reporting activities.



- e. Challenge: Lack of accurate and consolidated archived data, related to an incident, for auditing and debriefing purposes.

Solution:

- The entire information related to an incident is archived in one consolidated database, which can serve the organization for debriefing and auditing.

- f. Challenge: Struggle to adopt a new C&C system and not have it become an addition system that needs to be monitored along with the other existing systems.

Solution:

- Modularity and scalability and is one of MDA NGIM's key features, allowing customization and integration of additional features and devices as needed. The system different modules can be customized and adapted according to the operational needs, as well as the local legal requirements.
- NGIM is based on a modern system architecture for both on premises and cloud installations.





## **Summary**

MDA's NGIM involves innovative technologies with Israel's experience of emergency response. It is designed to meet the challenges the emergency teams and each organization that is required to respond fast, face on a daily basis.

The NGIM platform is a tested and proven platform, implemented more than 10 years ago in Israel's national emergency medical services, several years ago in the Philippines Red Cross and recently implemented in the national fire and rescue service, following required customization.

It is being constantly developed to meet the requirements of the evolving incident managing world. By using the NGIM platform, MDA is able to optimize its response and enhance the organizational capacities.

The NGIM is a next generation incident management platform which protect the lives of the next generation.