

## **USAGE OF PROFESSIONAL ICT TOOLS IN OPERATIONAL RISK MANAGEMENT PROVEN SUPPORTING SOLUTIONS**

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### **Affiliation**

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### **Abstract**

Operational Risk Management (ORM) is a key issue in business and society continuity. A lot of information and communication technology tools are used in the ORM environment. All these tools are helping the emergency managers, but did we standardize, did we do quality checks, did we test performances, did we prove everything in disaster circumstances? A view.

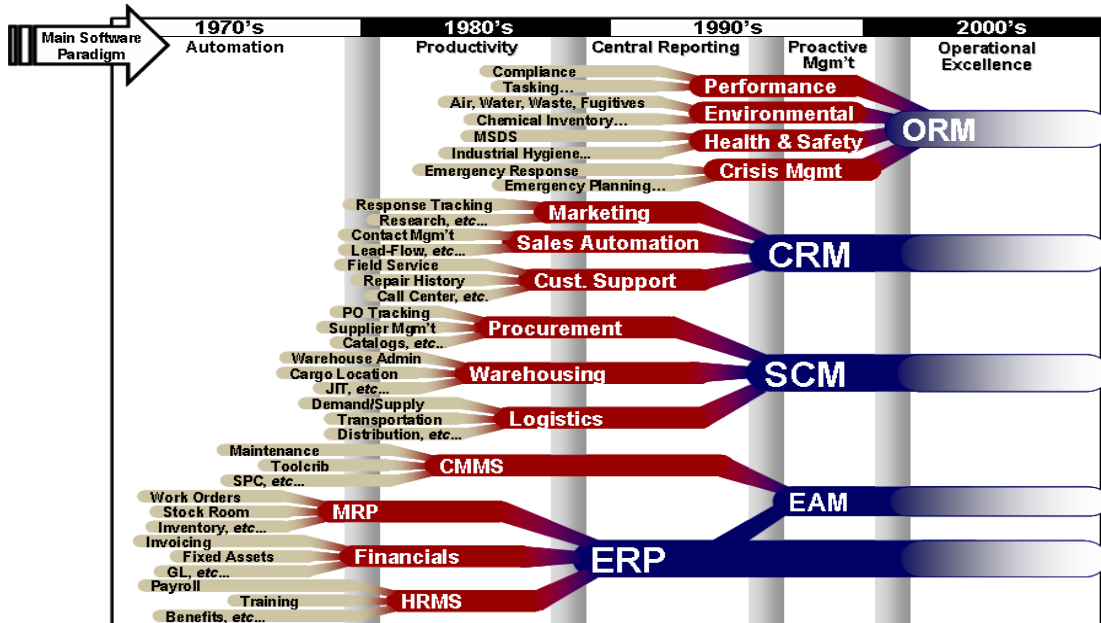
### **Introduction**

The use of information and communication technology in the emergency management environment looks still after so many years in a start up phase. The main difficulty for the introduction of ICT as supporting tool in emergency management is the uncertainty of de politic and governmental leaders. They do not know what the best organization model is for their 100% prepared and response emergency management. Emergency management is not adolescent and that is why ICT is not introduced as process supporting tool, because the processes are not ready. The only ICT which is used are small tools to manage or to automate some minor issues. The most used software in emergency management are the Microsoft explorer, outlook and office tools. These Microsoft products are a part of the crisis management suite. An emergency manager needs more, he needs tools to get a common operational picture to support him to make decisions in objectives, strategy and tactics.

### **ICT history**

Information and communication technology has changed over the last decades.

Crisis management has changed to not only responding but also prevention and preparation. The complete management to secure for the four risk factors: Nature, Technique, Procedures and people is named Operational Risk Management (ORM). With ORM we try to get optimization of society and business continuity. ORM handles event-, incident- and emergency management. Placing emergency management as a part of the complete ORM, the strategy should be to make a combined tool from all the small supporting tools. After ERP, SCM, CRM it is now time for ORM. See the graphic below:

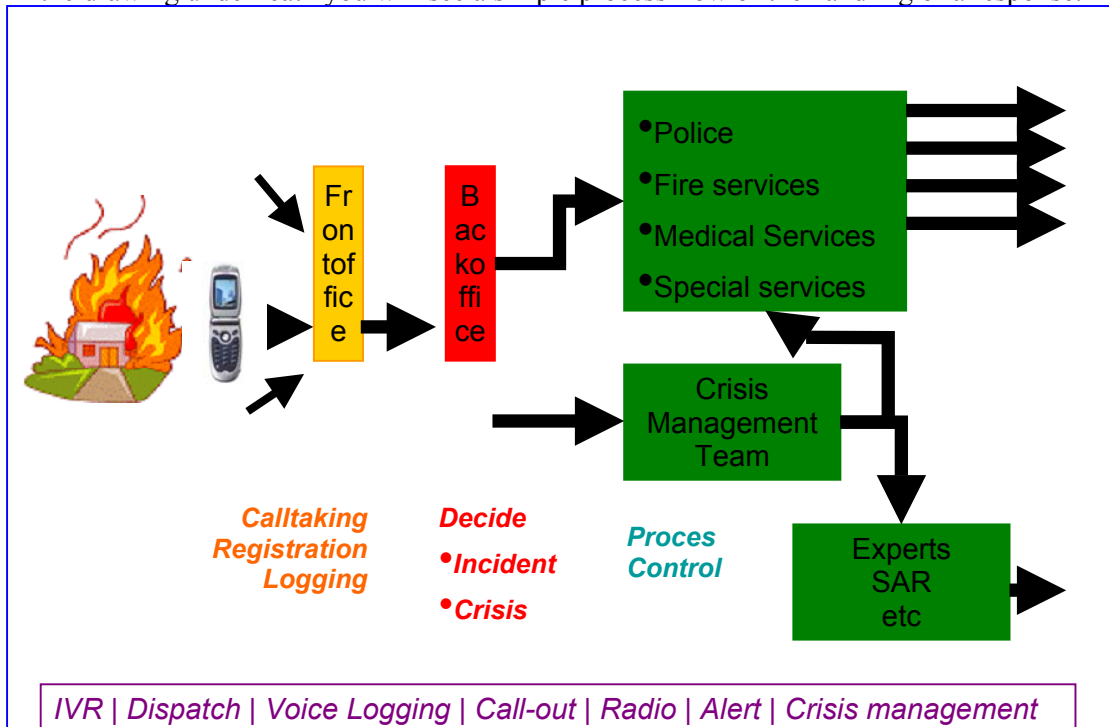


ICT evolution in the past 30 years

### Emergency management and ICT

From the moment someone calls the Alarm centre lot of ICT will be used. At that moment the need is created to optimize communication, information and coordination. Everything ought to perform at a higher level. Daily used working habits has to stress to 100% concentration. The fault tolerance must be zero. Decisions has to be made to equip people in their response and recovery. This all is unthinkable without using sophisticated information and communication technology.

In the drawing underneath you will see a simple process flow of the handling of a response.



Incident workflow in a dispatch centre

## Communication

To start up crisis response the most important part is communication. Call handling, voice logging, mobilization, notification and radio contact are very sensitive issues.

- Call Intake. In case of a small incident the dispatch centre receives normally one call and will decide the way of response. In case of a big incident the centralists at the dispatch centre will be occupied by handling phone calls and the chance of mistakes will increase. In the first “golden” 15 minutes the possibility of making mistakes are on the highest level. Making a mistake in this first part can give a domino effect on the whole response. ICT can be used for call-handling.
  - Interactive Voice Response system can give the centralist an overview at the intension of callers and probably also where they call from. (If there is a geographic layer in the IVR system.) The centralist will get the ability to get his calls parallel then serial, which will give him a better picture of what is going on.
  - Voice Logging. Constant logging all voice communication is not only crucial for registration and archiving, but also to have a small look back in the decision process. Voice logging systems are more and more advanced.
  - Radio it.
- Call-out systems: Activate communication plan, alert staff, mobilize forces, warn risk objects, notify media, start sirens, manage cell broadcast and many other alerting tools have to be initiated at a proper way as described in a standard operational procedure (SOP). This all is not possible anymore with manual call trees. Call-out systems like Communicator are common and used in nearly every dispatch centre.
- Radio communication. The operational rescue people need to have contact with the control centre and with each other. New techniques have brought us Tetra and Tetrapol which can work over more than one frequency. Some countries have implemented these systems and the progress is remarkable. In many countries the different agencies are working on different frequency and they can not work with one radio kit, this is not helping multi agency operations.

In the response phase during a crisis the service and support of all connections and networks are crucial for keeping communication in optima forma. All kinds of communication should be possible phone, radio, paging, fax, e-mail, chat, radio, internet, data.

## Information

Strategic information delivery is the most used sentence in crisis management. Taking care of the 3 R's: Right place, Right time, Right information. The reason of the 3R's is the struggle to receive “a common operational picture”. Knowing that information should be and is available, but getting this from the right sources to the right person is the main responsibility for every IT specialist. Organised Information Providing is one of the most difficult parts of emergency management. In the evaluation after a big crisis the most described sentence is: “... should have known ...” The questions are: 1. What information do I need to do my job 100% and 2. What information can I provide to let other do their job 100%.

Crisis management software is software that takes care of information processes. It is the process that picks up and delivers information to bring the aid service in the position to make a good and adequate decision. It is software full of processes and sub processes. Getting the right maps and pictures to receive an overall view. Getting information from other agencies how far they are. Getting information about the intension of the disaster. Getting information about availability of resources. Getting a view of the risk objects.

In the past the information technology to support emergency management was focused on the in- and output. The new generation is of Operational Risk Management software is focused on daily use and processing.

- ORM software. This software handles all not daily events and incidents. It helps you to optimize the continuity of your society and business. It is the shell above a lot of specific information packages, which are not often used. Most used software in the world is the Essential Suite. This software is build on/with Microsoft platforms as MS Sharepoint, MS Groove, MS Virtual Earth, MS Biztalk. This software is also configured around ICS (Incident Command System) and uses multi-agent systems.
- Calculation software. The intensity of an explosion or a leak has to be calculated. Universities and companies have made a great spectrum of many calculation tools: Hazardous material sheets, Gas dispersion models, Intelligence software and Calculation of explosions, oil spill and radiation.
- Crisis communication software. To beware of getting a crisis in a crisis the communication and information exchange to the media has to be done on careful and disciplined way. The CNN-ization of the society can make a small incident to a disaster. Special pressbureau software and Call –out systems are often used.

## **Coordination**

Organizing strategic and tactical synergy in emergency management is one of the most non discussed issues. Coordination starts before communication and information and in many countries good ICT to support emergency management stand stills because of the organizational coordination issue. A lot of money is flowing to consultants which have to advice to questions as: “Who is responsible for what?”. The technical issues are the most easiest. The functionality and responsibility issues are constantly under politic and jurisdiction discussion. In many countries it starts at the strategic level with the politic and law responsibly of the mayor, the governor and the departments. At the tactical level the questions are more about command and control: “Who is in charge?”. Describing a security matrix will give a view at strategic and tactical synergy through all organizations will help to find the rules in coordination.

## **Author Biography**

Jan Otten (1956) is a Dutch pioneer in ICT to support emergency management. He is founder and director of Respond BV. He studied mathematics, chemistry, physics, theology and informatics. Since 1993 he specialized in crisis management. Jan is travelling around the world to advice and support decision makers in their aim to coop with crises. Jan is a speaker with an enormous drive. He is a qualified NATO speaker.