# Group Decision Making in Emergency Response at the Port of Rotterdam

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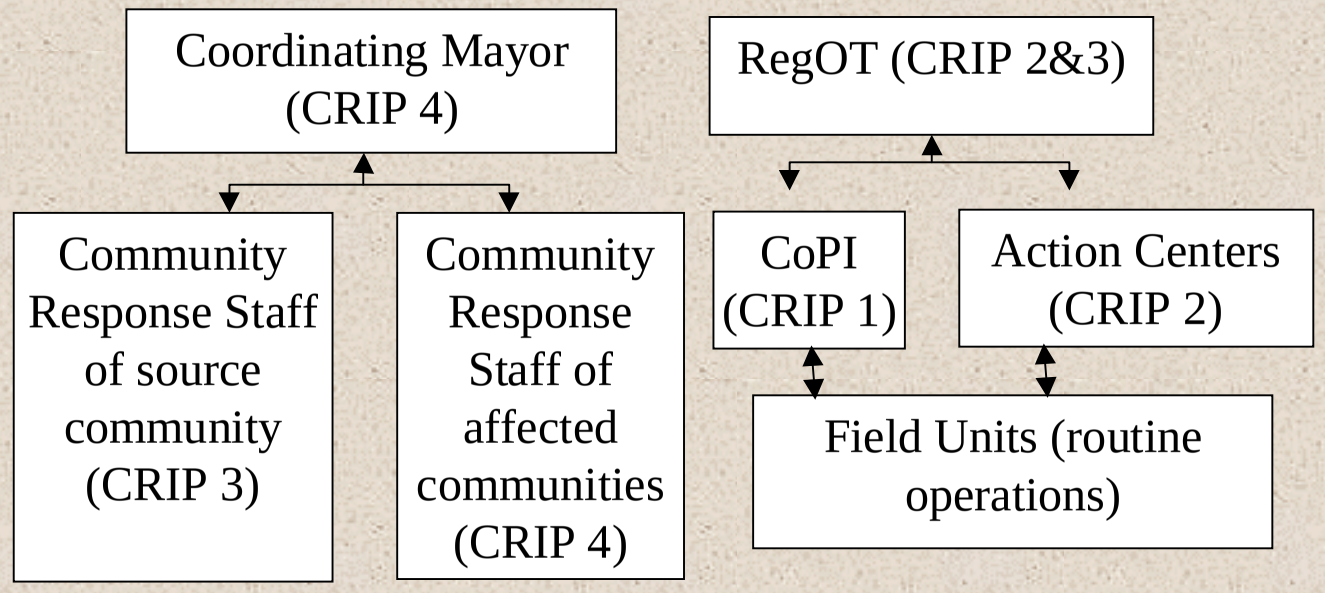
# ER Services at the Port of Rotterdam

# Command Incident Place (CoPI)

# Command and Control Setting




**Focus of this research is on use of advanced ICT for CIP Services: (1) Fire Brigade, (2) Ambulance, (3) Police, (4) Port Authority, (5) HazMat, (6) Commander, (7) Press Officer.**

# The Problem

| Current Situation | Future Situation |
| --- | --- |
| • Dispersed CoPI members<br>• Limited information availability at CoPI<br>• Limited communications possibility<br>• Difficulty in data access and processing<br>• Different levels of knowledge | • ICT equipped CoPI center<br>• Standard communication<br>• Readily accessible knowledge sources<br>• Facilitated CoPI communications<br>• Automatic data update |

# Evaluation of Past Incidents

- 16 incidents: 1991-97; 7 CRIP I, 8 CRIP II, 1 CRIP IV. 4 critical points identified:

1. Incident start-up phase: chaotic, incomplete CoPI, lack of overview, lack of general incident information.

2. Availability of specific information: unknown HazMat type, lack of weather data, uncertainty about response.

3. Communication: miss-communication about CRIP level, faxes not sent, time and location of measurements miss-communicated, insufficient processing of updated communications.

4. Knowledge: dispersed knowledge sources, procedural knowledge lack, divergent assessments of alarm level, lack of complementarity of response tasks.

# Evaluation through Interviews

- 6 interviews: 2 (RHRR), 1 (DCMR), 1 (police), 2 (GGD):
- Regional authority: positive about ICT, including ES, GIS, Internet, to bridge "cultural" differences; different level of familiarity with ICT can be disadvantageous; computer training necessary; integrate software in daily work.

2. Chemical experts: negative experience with IT system; environment is too complex to automize in ICT system; avoid information overflow.
3. Police: negative experience with IT; information update was insufficient; no IT during CoPI; need for an IT manager at CoPI; currently too many IT projects going on.
4. Port authority: positive about ICT; general information about the port gets updated automatically; easier information retrieval.

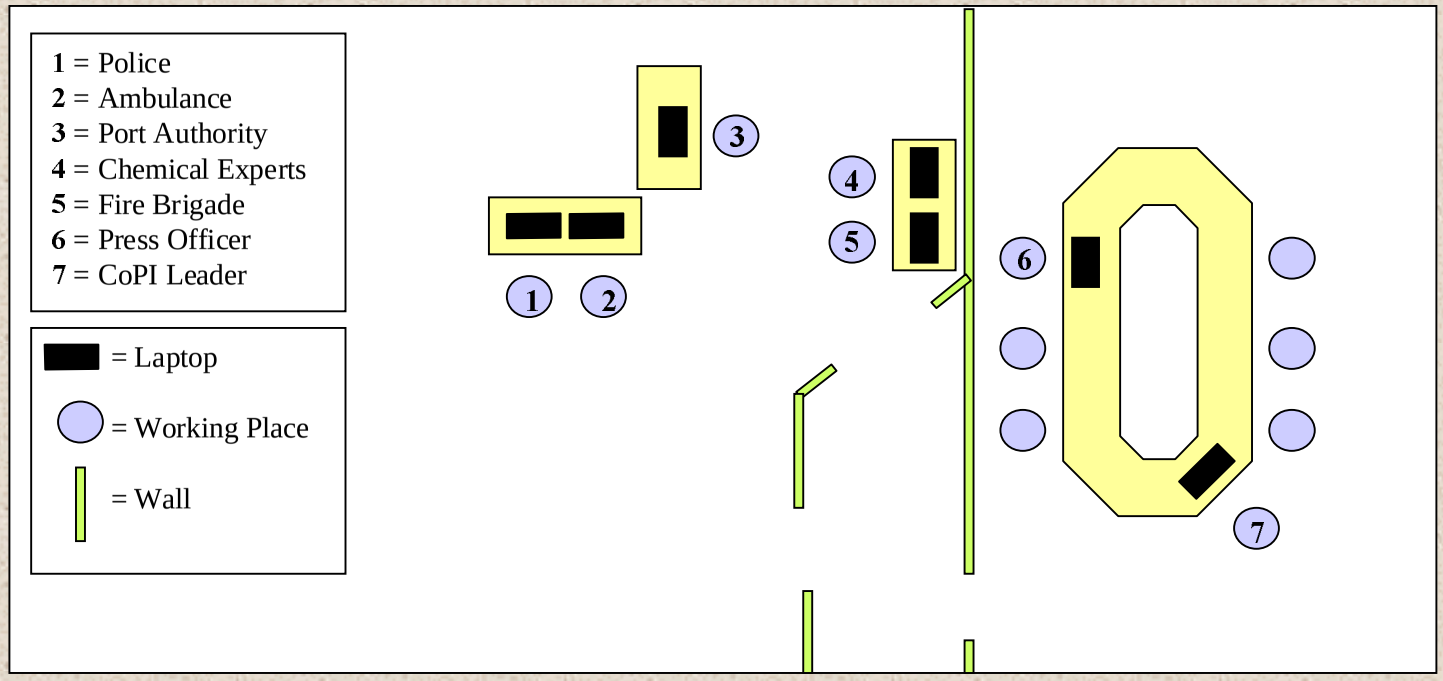
# Evaluation from Trainings

**Structured interviews with 14 personnel, scale (1=worst, 9=best)**

- **(7.2) Advanced ICT improves CoPI activities**
- **(8.0) Visual information improves CoPI/RegOT/GVS**
- **(8.1) GIS improves CoPI activities**
- **(7.4) Live visual improves CoPI/Reg/OT/GVS**
- **(7.9) Advanced data bases improve CoPI**
- **(5.5) Distributed CoPI via Internet**
- **(6.9) Advanced ICT in start-up phase**
- **(7.0) Human information manager in new ICT CoPI**
- **(7.6) ICT improves relation CoPI - RegOT**

# Outlook

## Experimental assessment of CoPI: Sept. 2001




| Design of Experiment | Team A | Team B |
|---|---|---|
| Scenario A | Method 1 | Method 2 |
| Scenario B | Method 2 | Method 1 |

| CoPI Communication | external | internal |
|---|---|---|
| Method 1 | ICT | oral |
| Method 2 | ICT | ICT |

# Conclusions

- ICT-based CoPI must improve services
- ICT-based CoPI must integrate different “cultures”
- ICT-based system must be part of daily work
- Experimental assessment necessary