

# *Joint Search and Rescue training*



*Supplier to the Royal Danish Navy*



## Training focus on

- Rescue operations
- Headquarters and operational units
- Aeronautical and Maritime SAR operations
- Joint Coordination Rescue Centers (JRCC)
- Maritime Rescue Coordination Centers (MRCC)

## Training in a simulated environment

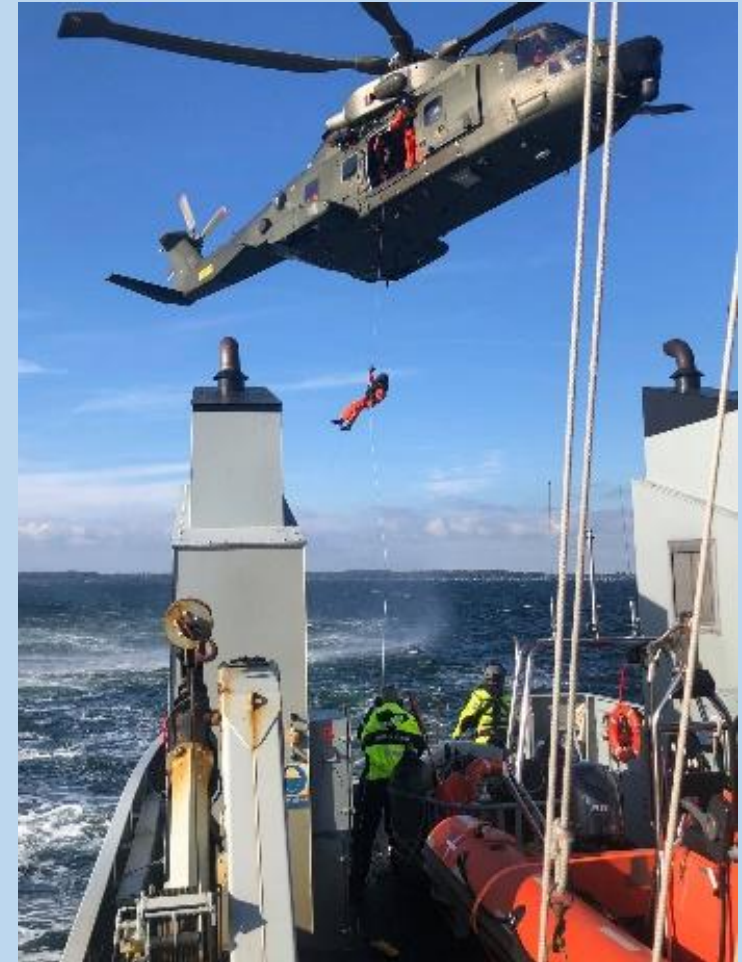




## Training Objectives

- OPS Room – On the job training
- Aircraft Coordinator training
- Mass Rescue Operation training
- Communication exercises
- GMDSS training

**Planning, Coordination and Execution**





## Roles Being Trained

- SAR Mission Coordinators (SMC)
- On Scene Coordinators (OSC)
- Air Coordinators (ACO)
- SRU Personnel
- Helicopter pilots
- Police
- Home Guard



*SAR scene*

## Simulator, SAR exercise

- Accident in Kattegat, East of Grenaa
- Vessel on fire
- Crew in lifeboats
- Helicopters called in for assistance
- Holding and Entry points
- Search patterns

## *Example*





*SAR scene*



## Simulator, SAR exercise

- SAR vessel
- Helicopters
- Lifeboats
- Vessel on fire
- Other ships



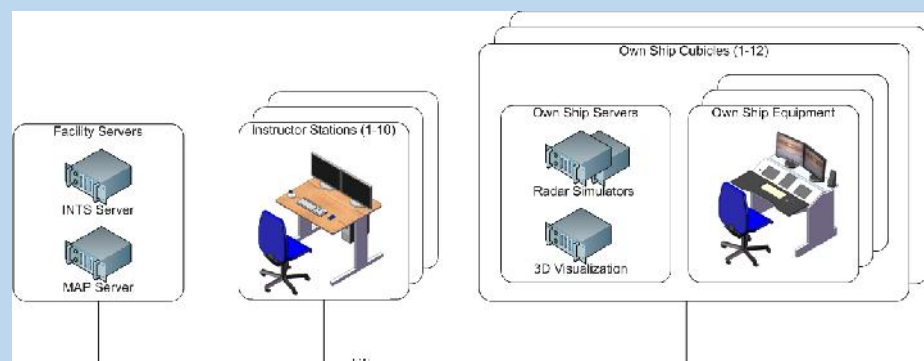
*Helicopter view*

*Example*

## JRCC Training Center

- Rescue Center OPS (JRCC)
- Own ship cubicles (SRUs)
- Communication systems
  - VHF-DSC, HF, UHF
- Instructor stations
- Facility servers

*OPS Room, example*



*Scalable solution*

*Multiple instructors, simultaneous exercises*

## OPS Room, desktop version

- Operation, Coordinate and Monitor
- Instruction, Debriefing/Replay
- Receiving/Investigating distress alerts
- Applying Search Action Plans (SOP)
- Plot and Execute search patterns
- Interact with On Scene Coordinators

*Instructor / Planning station*



*SMC station*





## SRU Cubicles

- Console or desktop versions
- Represents a ship or air asset
- Maneuvering / Conning unit
- 3D Visualization system
- Radio Comm and Intercom
- VHF radio



## Large 3D model library

### Moving assets

- Civilian ships
- War ships
- Air planes, Helicopters

### Land / Cultural objects

- Bouys
- Light houses (color frequency)
- Windmills, Churches
- Sea Chart reference points

### Customer-Specific 3D models

### 3D Visual effects

- Smoke
- Signal flags
- Waves, Clouds, Perception, Visibility



## SRU Cubicles, desktop version

- Cubicle represents one ship or air asset
- Maneuvering / Conning unit
- Monitors
- 3D Visualization system
- Radio communication & Intercom
- VHF radio





## SRU Cubicles, console version

- 3D Bridge view
- Radar unit
- Maneuvering / Conning unit
- Sea Chart ECDIS console
- VHF DSC radio



## VHF-DSC radio

- MMSI number, position, time
- Dual watch, Channel 16 and another
- VHF voice communication
- Sending distress
- Receiving distress from other ships
- Acknowledgement of received distress
- Replay of last received audio messages

### *Emulated J-SAR radio*





**Complete solution for training coordination  
of  
Aeronautical and Maritime SAR operations  
in the OPS room**



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 **JSAR**  
Joint Search And Rescue trainer



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