Information Alkmaar Class Mine Hunters

1. *General information*
   All four available ships have been built by: Van der Giessen-de Noord, Alblasserdam, The Netherlands.
   Haarlem – commissioned 12 Jan 1984 – decommissioned Feb 2012;
   Maassluis – commissioned 12 Dec 1984 – decommissioned Aug 2011;
   Middelburg – commissioned 10 Dec 1986 – decommissioned Dec 2011;
   Hellevoetsluis – commissioned 20 February 1987 – decommissioned Dec 2011.

2. *Additional information*
   The Royal Netherlands Navy has six identical vessels in operational use at the moment. Replacement of these vessels is not expected before 2025. However, The Royal Netherlands Navy has a preference for recommissioning the vessels again for own use. This is currently subject to consideration of the Joint Commander of the Forces in The Netherlands, of which a decision is expected soon.

   Training and education of crews will be provided by the Royal Netherlands Navy when it comes to an agreement. Also part of an agreement would be an on-board spare parts package, all documentation (excluding those under classification) and a maintenance period in order to transfer the vessels in operational condition.

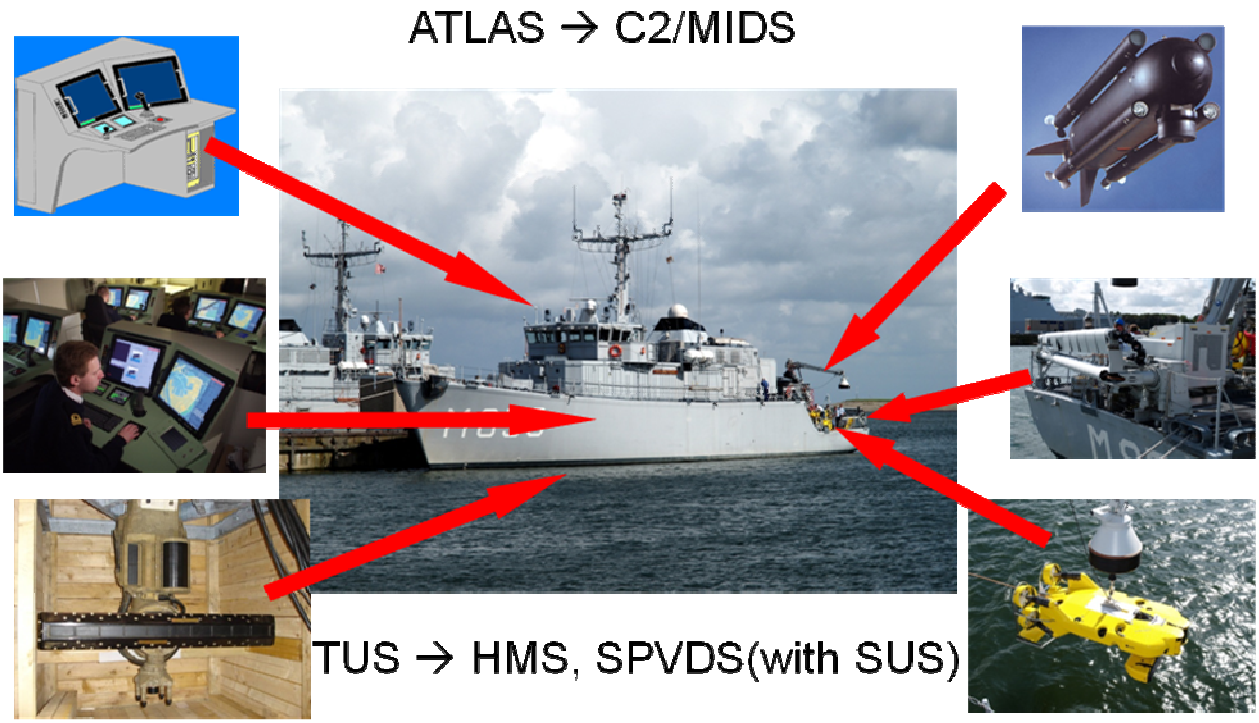
3. *Pictures*


M861

4. *Modernization Alkmaar Class Mine Hunter Royal Netherlands Navy*
   All vessels have been modernized recently (between 2005 and 2010). An overview of the specifics of this program can be found below.

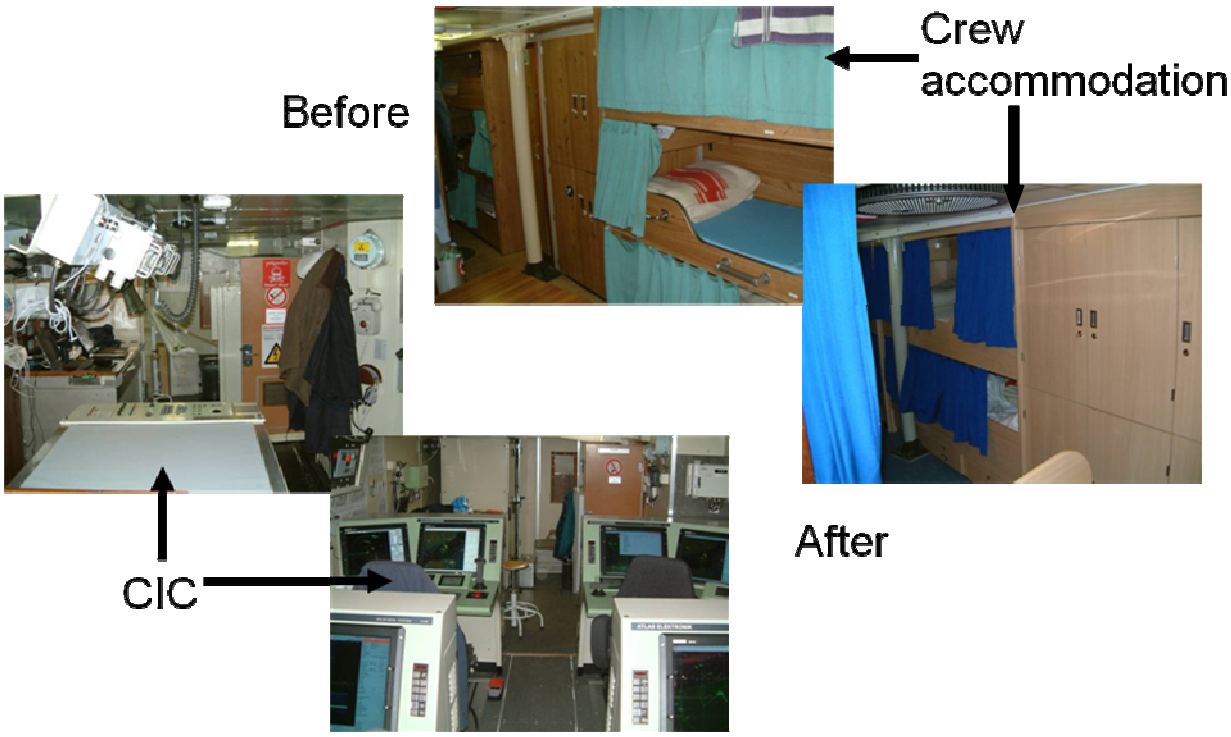
   <u>Programme Content</u>
   Sensor/weapon/command system
   - Integrated Mine Counter Measures System (IMCMS)
   - Inertial Navigation System
   - Internal Comms
   - DOLOG
   - Replacement 25 mm gun

IMCMS



Platform update

- Fire hazards
- Signature
- Stability
- HACCP galley
- Electrical power distribution
- Potable water production facilities
- Unmanned technical control room
- Accommodation



Bridge

Before

After

5. Sonar system:

The sonar system consists of the following subsystems:

- The Hull Mounted Sonar (HMS), Thales TSM 2022 Mk III (the Netherlands), provides simultaneous detection and classification of underwater objects;

- The Self Propelled Variable Depths Sonar (SPVDS) is supplemental to the HMS en provides simultaneous detection and classification of underwater objects in conditions in which the performance of the HMS is diminished. The SPVDS, Double Eagle Mk III, is capable of maneuvering in the water in front or deep underneath the mine hunter. The cable between the ship and the SPVDS is operated by the Cable protection Unit;
- The Acoustic Positioning System (APS) is used to determine the positions of the underwater vehicles (SPVDS and Sea Fox).

6. Detection:

- Detection of bottom-laid mines in depths from 10 to 80 meters;
- Detection of moored mines whose body is at a depth of 10 to 80 meters;
- Detection range under normal conditions is between 400 and 1000 meters.

Classification: classification range under normal conditions is between 100 and 170 meters.

7. Mine Identification and Destruction System:

The Mine Identification and Disposal System (MIDS) can be utilized to identify sonar contact and the destruction of moored mines, ground mines (including mines slightly covered by sand) and floating mines. The MIDS consists of three vehicles:

- The Combat vehicle – Sea Fox C: this is an expendable wire guided (fiber optic) underwater vehicle with a target identification and relocation system and a shaped charge. The weapon explodes after contact with the mine or if manually initiated by the operator. The Sea Fox C is a “fire and forget” weapon, meaning that it will (partially) autonomous destroy the target. After the weapon has been fired, it is no longer possible to retrieve it. The maximum number of Sea Fox C on board the mine hunter is 21;
- The Inspection vehicle – Sea Fox I: this is a recoverable wire guided (fiber optic) underwater vehicle, optimized for the identification of underwater targets. The Sea Fox I is reusable with a rechargeable battery pack and no explosives. There are normally three Sea Fox I on board of the mine hunter;
- The Training vehicle – Sea Fox T: this is a recoverable wire guided (fiber optic) underwater vehicle with the functionality to completely run the firing cycle. The Sea Fox T is reusable with a rechargeable battery pack and no explosives. One Sea Fox T is on board the mine hunter during deployments only.