

MOD@A™

Man **O**verboard **D**etection **@**nd **A**larm

a system designed by **EsiWelma®**



EsiWelma[®] – Company overview

Since 1979 **EsiWelma[®]** *designs, manufactures and maintains* electronic equipment and systems for marine application:

- An extraordinary experience in detection / monitoring / control / automation onboard merchant and naval vessels.
- Attention to integration with other systems
- Acquaintance with problems arising from marine environment
- Remote support and service throughout the world
- Certifications ISO 9001-2008 , AQAP 2110 NATO, ATEX 94/9/CE, MID 2004/22/CE

EsiWelma[®] is based in Genoa – Italy <http://www.esiwelma.it/en/index.html>



MOD@A™ - The Mission

(1)

During navigation MOD@A™ gives warning to the personnel on duty on the bridge that a person has fallen overboard.

No automatic operation is started, the system supports the personnel in becoming aware and deciding the manoeuvres to undertake in order to recovery the emergency situation

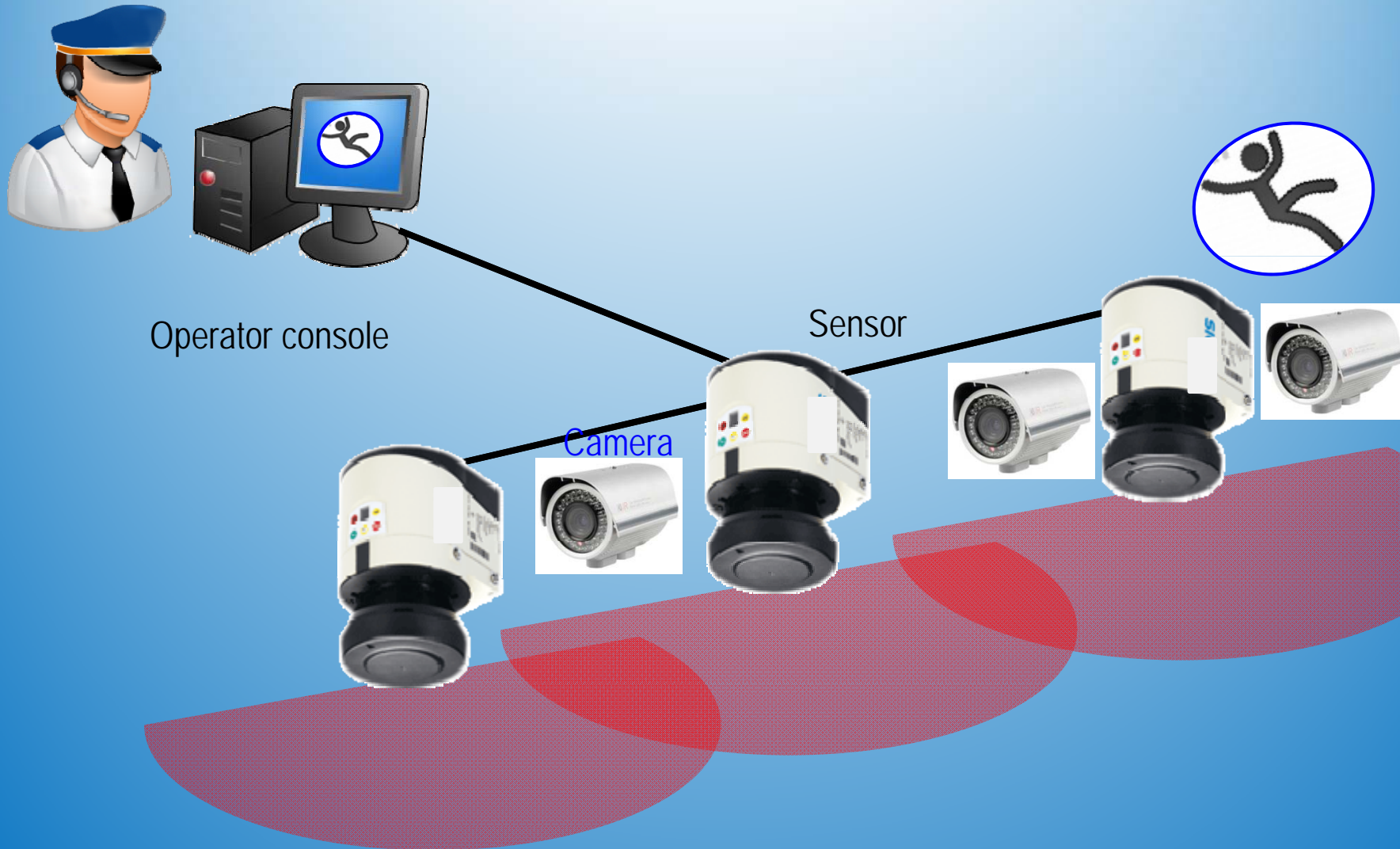
MOD@A™ - The Mission

(2)

- A network of sensors creates a barrier alongside the ship's perimeter
- A network of cameras monitors the ship's perimeter - images are continuously recorded
- When an object penetrates the barrier, an alarm is activated and
- the relevant scenario presented to the operator. An output to the Integrated Navigation System is sent.
- The operator has the possibility of reviewing repeatedly the images in details and in "slow motion" mode. He can decide about the nature of the event
- The video data are stored for later examination inside the system for a period of several months

MOD@A™ - System Architecture

(1)



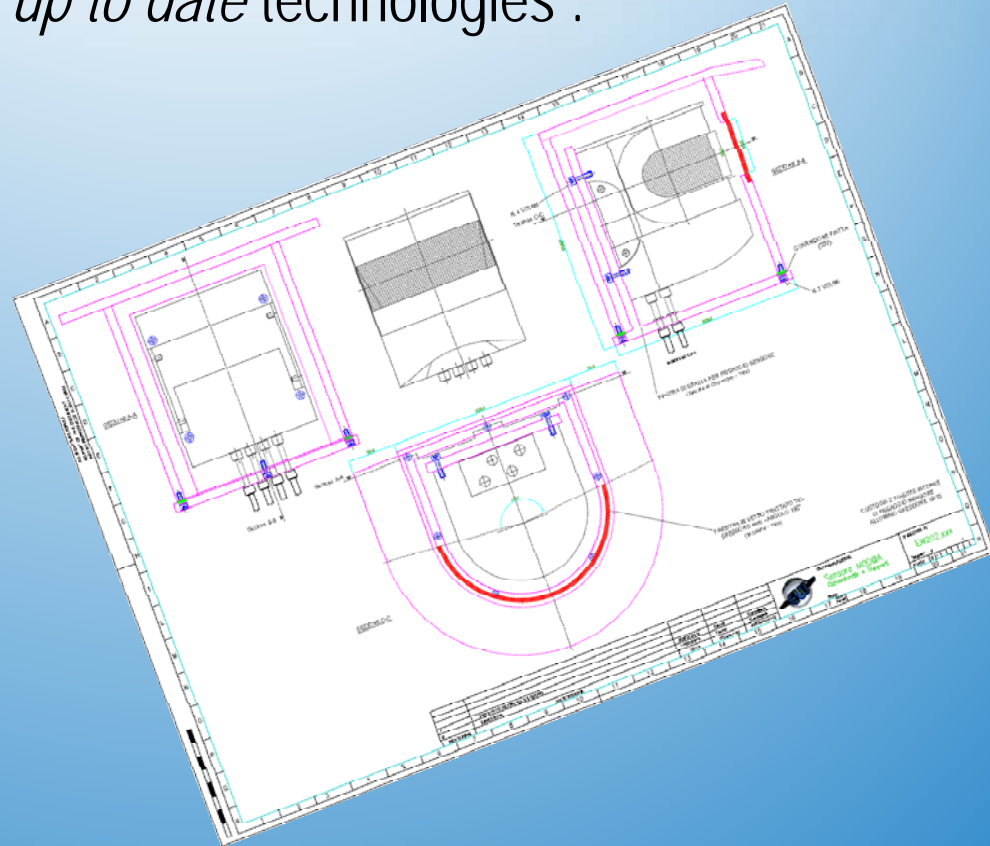
MOD@A™ - System Architecture (2)

- Several operator consoles may be adopted
- The general architecture is flexible and modular
- Hardware conforms industrial standard
- Software is proprietary

MOD@A™ - Technology overview

(1)

MOD@A™ uses different *up to date* technologies :



Laser scanners for detection of the object fallen overboard

MOD@A™ - Technology overview

(2)

Laser vs microwave, infrared, ultrasound sensors :

- High detecting capability day and night
- High detecting capability also in harsh environment
- Lowest rate of false alarms

MOD@A™ - Technology overview

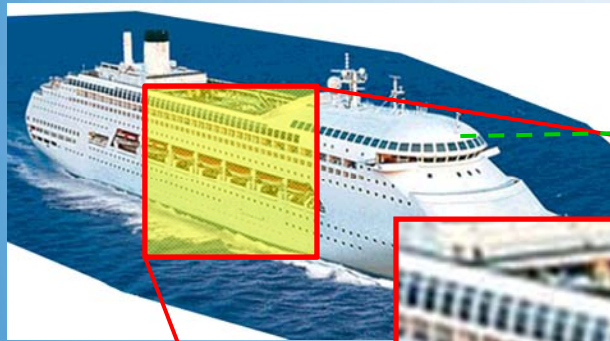
(3)



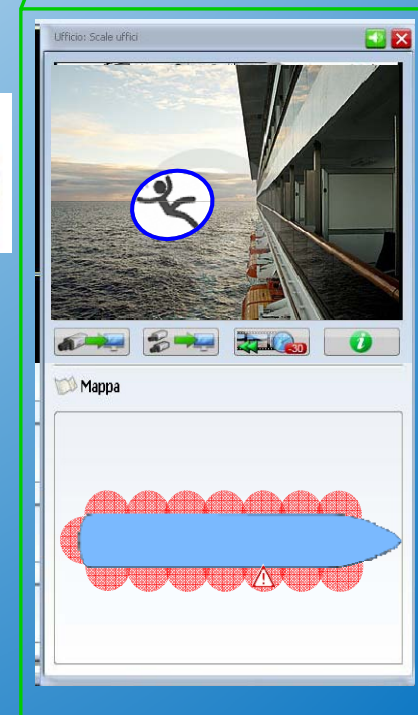
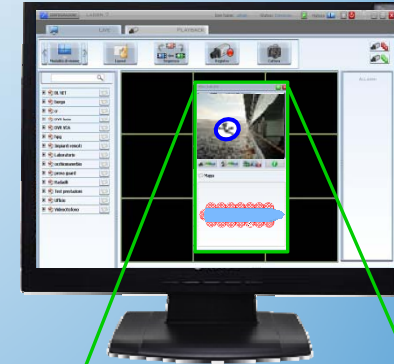
- High resolution cameras with infrared illuminator
- Sensors and cameras IP 67
- An exclusive data network selected for security reason

MOD@A™ - Operation

(1)

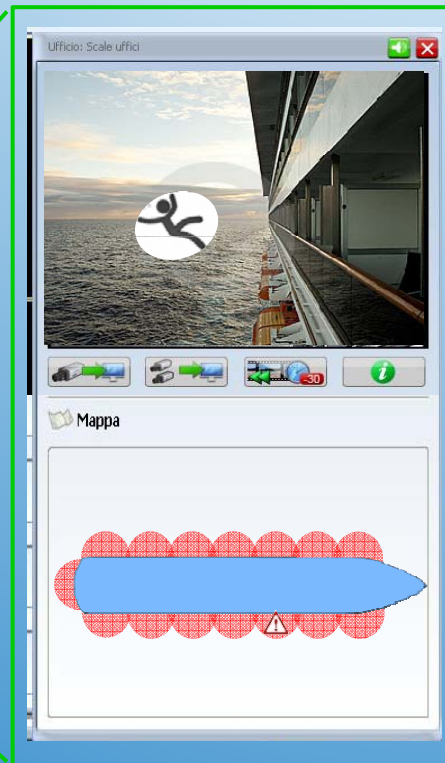
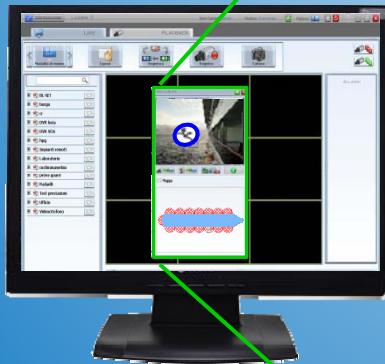


Operator console



MOD@A™ - Operation

(2)

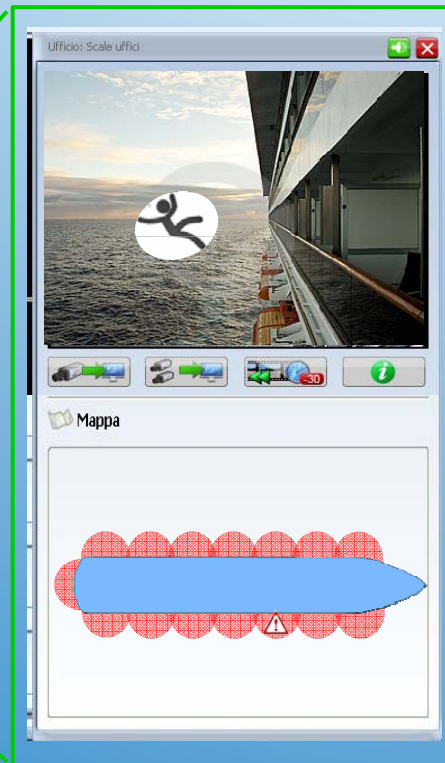
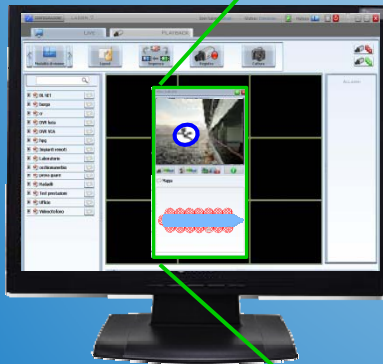


As soon as an object penetrates the barrier :

- *A flashing and acoustic alarm is activated*
- *An output is given to the Integrated Navigation System*
- *The interested area is graphically shown on the monitor*
- *The images of the relevant camera are automatically presented*
- *Operator can repeatedly review the images at adjustable speed*

MOD@A™ - Operation

(3)



- Operator can decide to send an email with attached images of the event to some designed persons
- Video, data and images of all the cameras are time and date-stamped and automatically recorded for a period of time of several months.
- Efficiency of sensors and cameras is monitored

MOD@A™ - Operating conditions

- Software filters equip the sensors in order to keep detecting capability in all weather conditions.
- All system components are IP67 (EN60529, Sezione 14.2.7) with temperature range extended.
- As far as shock and vibration are concerned, sensors comply with EN60068 for vibration and shock.

the end