

# MOD@A™

**M**an **O**verboard **D**etection **@**nd **A**larm

*a system designed by* **EsiWelma®**



# EsiWelma<sup>®</sup> – Company overview

Since 1979 **EsiWelma<sup>®</sup>** *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<sup>®</sup>** 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*

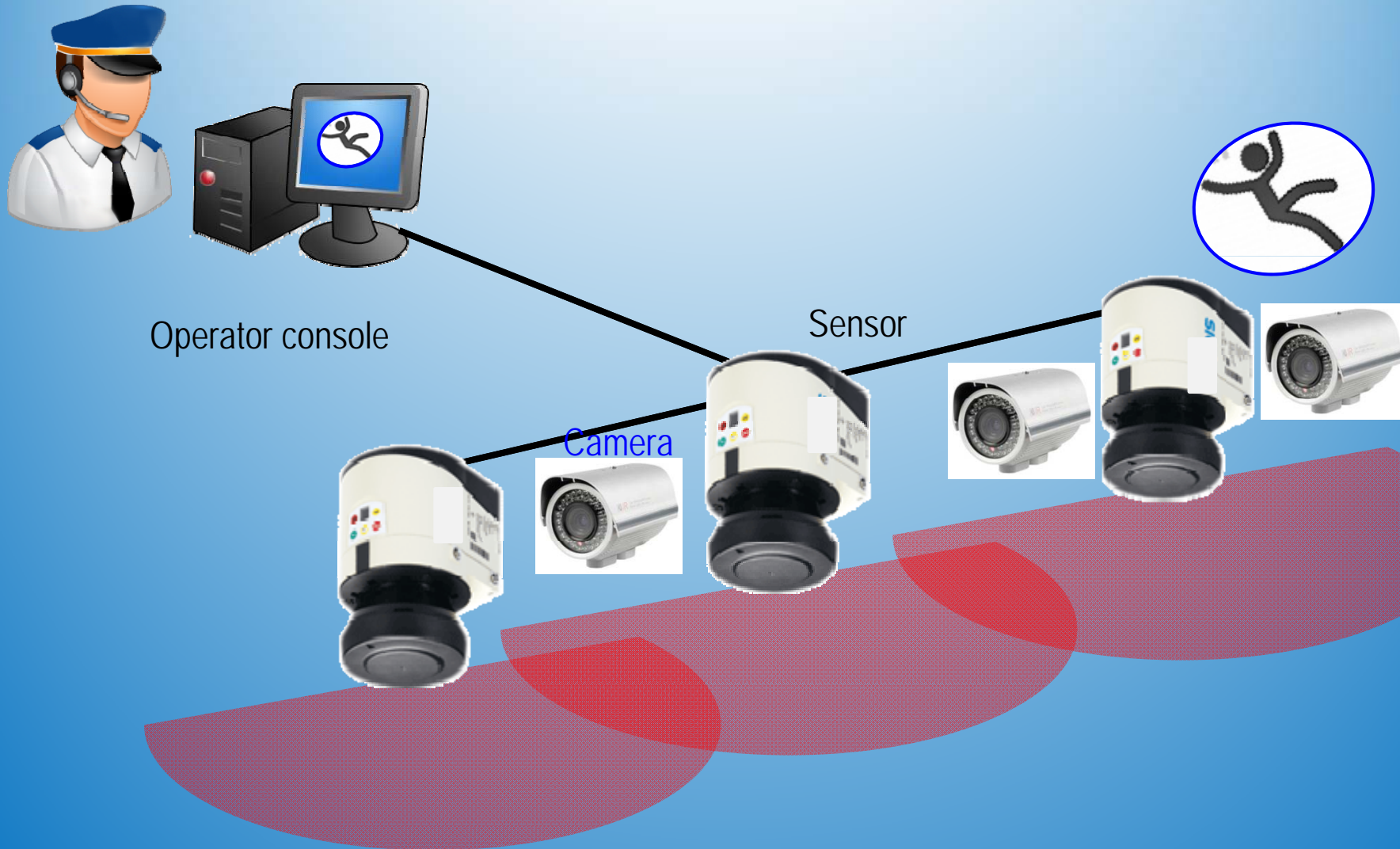
# MOD@A™ - The Mission

(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)



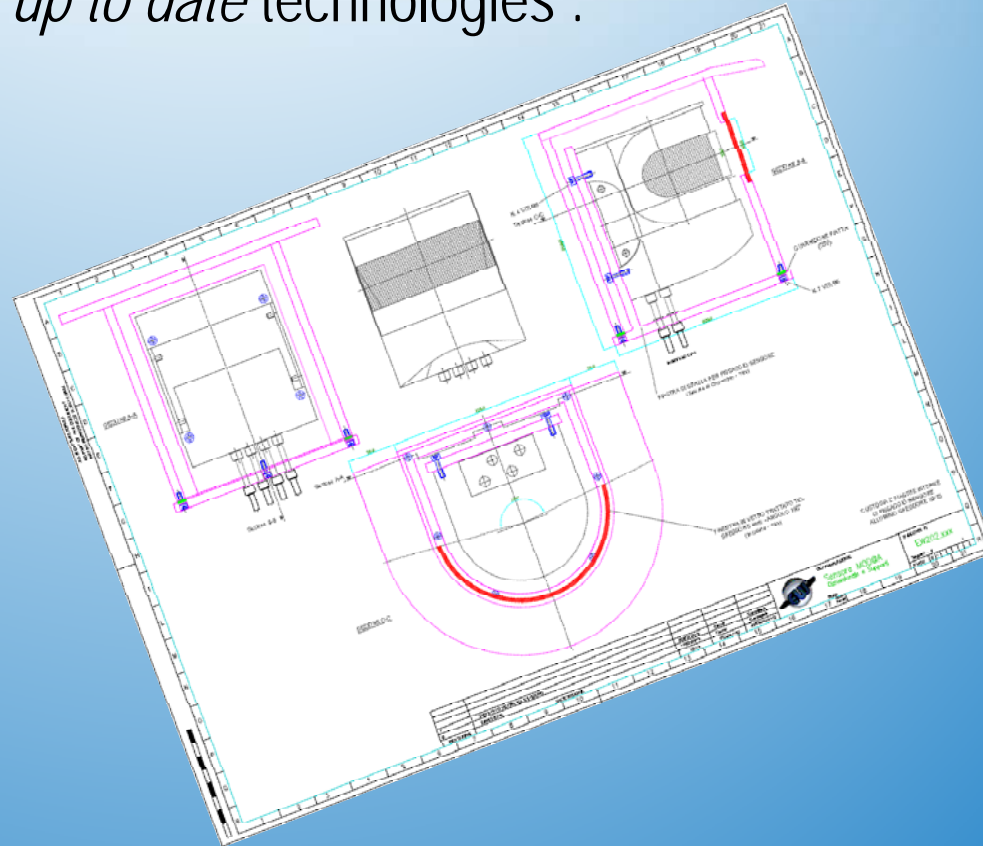
# MOD@A™ - System Architecture (2)

- 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

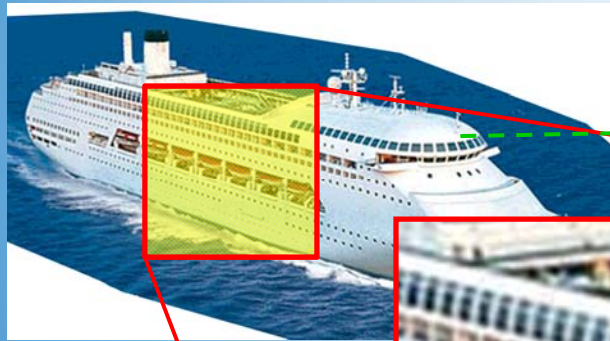
(3)



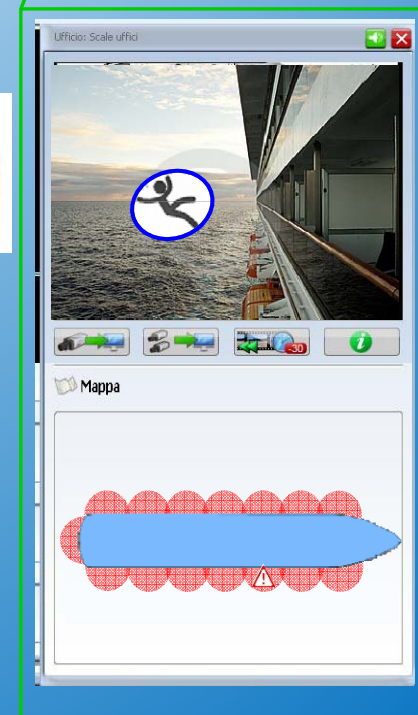
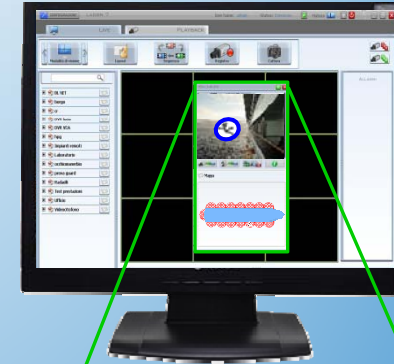
- High resolution cameras with infrared illuminator
- Sensors and cameras IP 67
- An exclusive data network selected for security reason

# MOD@A™ - Operation

(1)

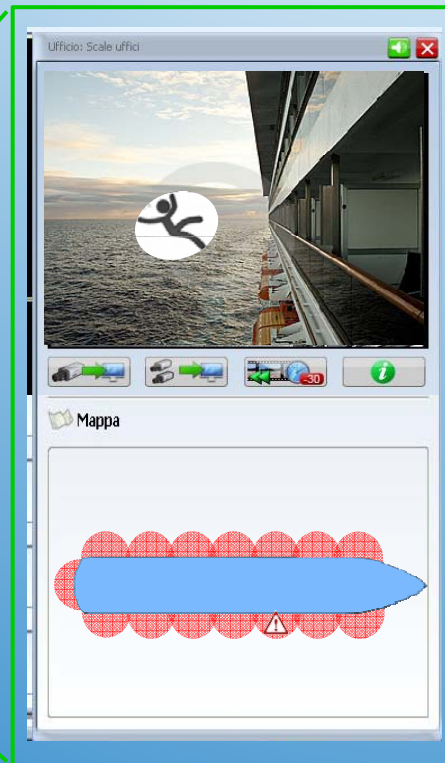
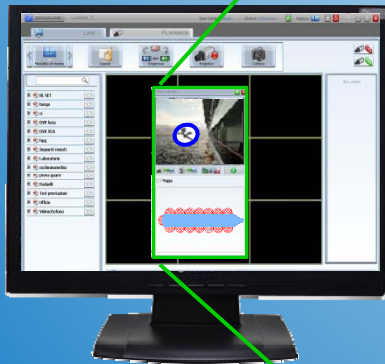


Operator console



# MOD@A™ - Operation

(2)

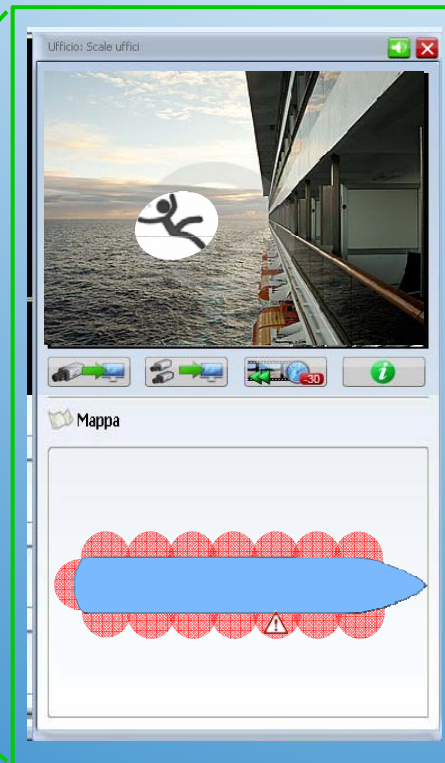
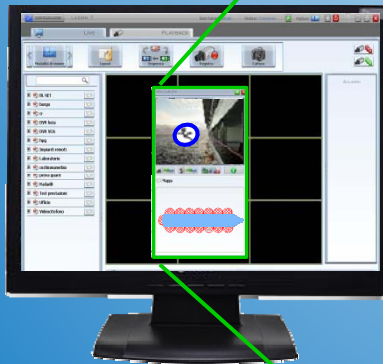


*As soon as an object penetrates the barrier :*

- *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*