



# OTO Melara

A Finmeccanica Company

Naval Systems

Ammunition

127mm



## "VULCANO" System

### 127mm BALLISTIC EXTENDED RANGE (BER) and GUIDED LONG RANGE (GLR)

"VULCANO" is a family of unguided (BER) and guided (GLR) ammunition for the 76mm, 127mm naval guns and 155mm land artillery systems.

"VULCANO" 127mm ammunition is conceived to give the 127/54 C and the 127/64 LW OTO Melara Naval Guns the capability to meet any present and future requirement for Precision Naval Fire Support and Long Range engagement of Surface Targets.

"VULCANO" 127mm BER maintains the anti-air role as well.

"VULCANO" 127mm rounds capitalize on new and emerging technology based upon a fin stabilized airframe with canard control for terminal guidance; mechanical interfaces are the same as standard 127mm ammunition.

"VULCANO" 127mm available rounds are:

- Ballistic Extended Range (BER) unguided multirole ammunition with multi function programmable fuze;
- Guided Long Range (GLR) ammunition with IR sensor for anti-ship role;

- IMU+GPS autonomous guidance for precise NFS actions (a Semi Active Laser sensor can be fitted as option).

All the systems needed to operate "VULCANO" 127mm ammunition are integrated into the 127/64 LW Control Console and no mechanical modification to the 127/64 LW gun is required.

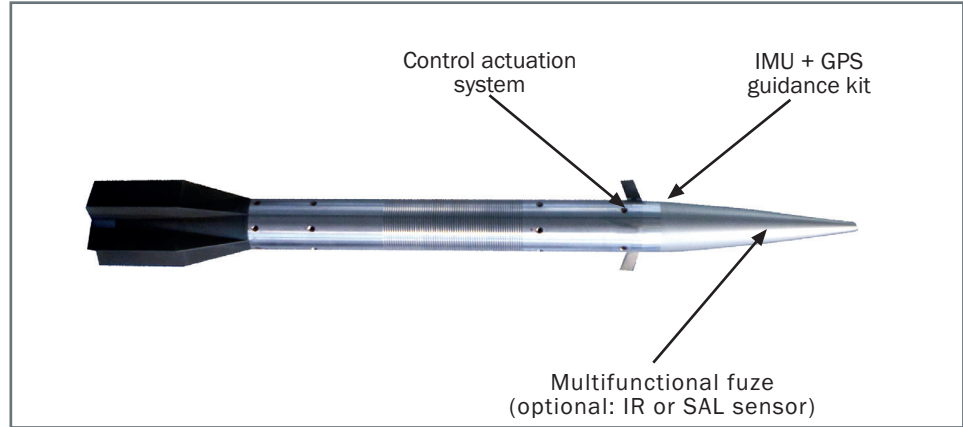
"VULCANO" 127mm is fully compatible with in-service 127/54 C guns with the addition of a module with the functions of:

- Programmer for ammunition's fuze and guidance system;
- Mission Planner and Executer for Naval Fire Support both in stand-alone mode and in interaction with ship's Network Centric Systems with the role of choosing firing solutions, selection of ammunition, definition of trajectories and firing sequences, ballistic computations etc.

Firing "VULCANO" 127mm ammunition does not affect the barrel life.

## DESIGN GUIDELINES:

- Sub calibre airframe
- Fin stabilised
- Ballistic flight, no additional propulsion
- IMU + GPS guidance system, gliding phase
- Insensitive Munition (IM)
- Possibility of Terminal Guidance (InfraRed-IR, Semi Active Laser Sal)
- Minimisation of engagement cost



## "VULCANO" ammunition 127mm BER (unguided) and GLR(guided)

### Ammunition configurations

Ballistic Extended Range (**BER**):  
unguided multipurpose ammunition

- Up to 60 Km range
- Multifunctional Fuze:
  - Altimetric
  - Impact/Delayed impact
  - Time
  - Proximity
- Notched HE warhead

Guided Long Range (**GLR/IR**):  
guided ammunition for ASuW

- Up to 80 Km range
- Autonomous IMU + GPS guidance
- IR terminal guidance
- Precise anti ship firing
- Notched HE warhead

Guided Long Range (**GLR**):  
guided ammunition for NFS

- Up to 100 Km range
- Autonomous IMU+GPS guidance
- Precise shore bombardment firing
- Notched HE warhead
- SAL terminal guidance(optional)

### Ship integration

Any equipment to operate Vulcano ammunition is integrated into gun control cabinet including:

- Guidance Control Unit
- Programming device for ammo initialization
- Digital interface with ship data transfer system

### Near Future Events

- 2013: BER qualification/ready for series production
- 2014: GLR Low Rate Initial Production