

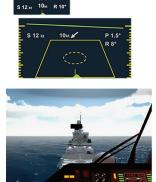
# PROJECTION MAPPING LANDING AID

# Augmented reality for the helicopter landing on ship helidecks

The projection mapping landing aid (PMLA) superimposes an image of the landing scenario on the hangar face for the pilot to have situational awareness as they land. The image integrates relevant sensing data augmenting the perception of the pilot during landing and reducing workload.

## MAIN CHARACTERISTICS

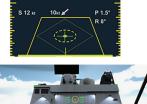
- > Approach alignment indication
- > 3D helicopter positioning:
  - > Position on deck
  - > Altitude over deck
- > Horizon reference, integrated in the altitude indication
- > Scenario data:
  - > Environment (wind speed and direction)
  - > Navigation (course, speed and attitude)
- > Maneuver data recording



Approach









Touch Down



### Benefits

- Safe landing in low-light conditions due to improved perception
- > Reduced workload for pilots
- > Eliminates or supplements landing signal officer (LSO) on deck
- Substitutes radio data communication
- > Landing data available for analysis and training
- > Display for deck crew communications
- > Low-impact installation

#### **Technical Specifications**

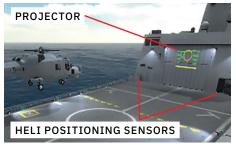
- > Helicopter position:
  - > Range: 100m
  - > Accuracy: 0.1-to-0.6m (depending on the range)
- > Display:
  - > Size: 3m x 1.8m (length x height)
  - > Resolution: Standard HD 720p
- > Projector dimensions:
  - > 530mm x 430mm x 380mm

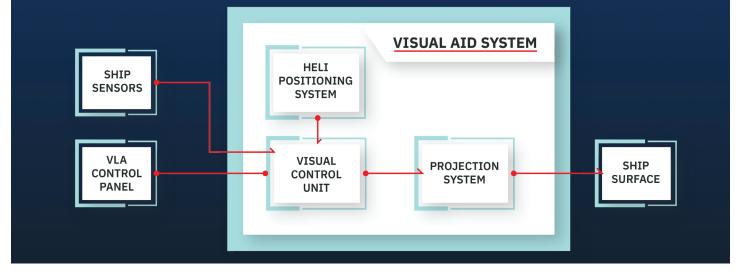


#### INSTALLATION AND ENVIRONMENT SPECIFICATIONS

- > Projector: Hangar surface installation
- > Positioning sensors: Deck installation
- > Enclosure: Waterproof IP 56 (EN 60529)









#### **PMLA**

- > Precise helicopter positioning
- > Pilot situational awareness
- > Easy deck area installation

#### **PATENT PENDING:**

IT 102017000137484 EP 18816251.5 CANADA 3,083,171 USA 16/767,064

#### L3Harrissellsht\_PMLA

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