

INTERVIEW

VICE ADMIRAL MANUEL ANTONIO MARTINEZ RUIZ

Director for Engineering and Naval
Shipbuilding of the Spanish Armada





Vice Admiral Manuel Antonio Martinez Ruiz is the Director for Engineering and Naval Shipbuilding of the Spanish Armada. He is a frequent lecturer in Universities invited by the Spanish Institute for Strategic Studies and CESEDEN. He has been an associate professor at the Universidad Carlos III and is a tenured professor of the Master in Logistics and Economic Management for the Defence at the Complutense University of Madrid (UCM). Furthermore, he is the professor of the International Master of Military Naval Engineering at the Naval Engineering School (ETSIN-UPM). VA Martinez was given an excellence award by the UCM.



What are key questions facing the naval forces today?

Operation in a multidomain environment is probably the major challenge for naval forces today and tomorrow.

How has the operation of Hypersonic Weapons changed naval tactical and strategic outlook?

Facing hypersonic threats requires creating new tactics and developing new technologies based on more sensitive sensors and better processing systems as well as operating in a distributed force based on combat cloud technologies

What are the key technologies having the most significant impact on Naval capabilities?

The warship is considered a data processing centre with improved sensors and ultra-wideband communication, all of them under a robust cyber defence environment.

When conceptualising naval defence, what would you say has caused the most significant change during your lifetime and why?

The technologies are available to develop multifunctional radars integrated into a very robust fire control loop that supports multiple missile engagements.

As we look to the future, have there been any trends that may help predict how the Naval power will change?

Naval power is probably the most challenging as it operates in 5 domains: space (MTMD), AAW, ASuW, ASW and cyber warfare. The warship is considered a data center with highly integrated sensors and processing capabilities.

Have new technologies and concepts, such as multidomain integration, changed anything from the ship's launch to its commissioning?

A warship should be designed based on a robust model-based system engineering methodology. No room to include new capabilities from launching to commissioning.

From initial design to full service, adopting ships into the forces may take over a decade. How does the navy ensure that no platform is obsolete by its induction?

Obsolescence management is critical during the shipbuilding phase.

What are the Key friction points Navies have with the industry today, and how would you suggest overcoming them?

It is critical to have a common understanding of staff requirements and to put in place a robust specs tracking system. The difference in understanding the scope of the system specs is a friction point that should be avoided.

If you could send the industry one message, what would it be?

Be part of the team.

How is the right balance between tried and tested technologies and innovation best achieved?

No technologies under TRL9 should be taken into consideration in a shipbuilding program.





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