



CASE STUDY

# AIS SPOOFING INVESTIGATION

San Marino Ship Register commissioned  
Pole Star Global to investigate Tanker  
"OCEAN SPECTRE"



# THE CHALLENGE

In early 2025, the San Marino Ship Register flagged concerns about a newly re-registered commercial tanker—OCEAN SPECTRE—following irregularities in its AIS transmission data.

After being reflagged from Palau in late 2024, the vessel's broadcast behavior became increasingly suspicious, including inconsistent position reports, implausible anchoring patterns, and gaps in movement history.

Given the potential implications for national reputation and regulatory compliance, the San Marino Ship Register engaged Pole Star Defense to conduct a thorough, independent investigation into the vessel's behavior and determine whether it was involved in sanctionable or unauthorized activity.

# THE SOLUTION

Pole Star analysts launched a detailed analysis combining AIS, LRIT, and satellite imagery to assess OCEAN SPECTRE's operational footprint from January 2024 through May 2025.

## The investigation revealed:

- ✓ 11 distinct periods of AIS spoofing, totaling over 236 days of falsified location data.
- ✓ AIS vs. LRIT position conflicts of over 100 nautical miles, notably near Larak Island, Iran.
- ✓ Use of "box-pattern" AIS positioning, a known spoofing tactic used to feign anchoring while concealing true movements.
- ✓ Concurrent AIS broadcasts from two distant locations—up to 421 nautical miles apart—strongly indicating manipulation.
- ✓ Confirmation via Sentinel-2 satellite imagery that the vessel was present in high-risk zones during periods it claimed to be anchored elsewhere.

**236**

Days of falsified  
location data

**11**

Periods of AIS  
Spoofing

**100**

Nautical Miles of  
LRIT vs. AIS  
position conflict

# THE RESULTS



AIS Spoofing vs LRIT Persian Gulf To Gulf Of Oman. 12-21 May 2025

With Pole Star's intelligence, the San Marino Ship Register received:

- ✓ A verified record of spoofing behavior and its operational context
- ✓ Detailed maps showing false AIS trails vs. actual locations
- ✓ Satellite-confirmed violations of expected routes and port activity
- ✓ Actionable insights to support de-flagging considerations, risk communication, and intergovernmental reporting

## CONCLUSION

Thanks to the proactive oversight of the San Marino Ship Register and the advanced investigative capabilities of Pole Star, the suspicious activities of OCEAN SPECTRE were identified, documented, and escalated appropriately.

This case demonstrates how early detection and independent verification are critical for maintaining the integrity of national registries and preventing misuse of a flag for illicit maritime activity. The investigation also reinforces the value of multi-source maritime intelligence in uncovering hidden behaviors that AIS alone cannot detect.

By turning suspicion into verified intelligence, the San Marino Ship Register took decisive action to uphold its standards and safeguard its international reputation.

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