

kpler

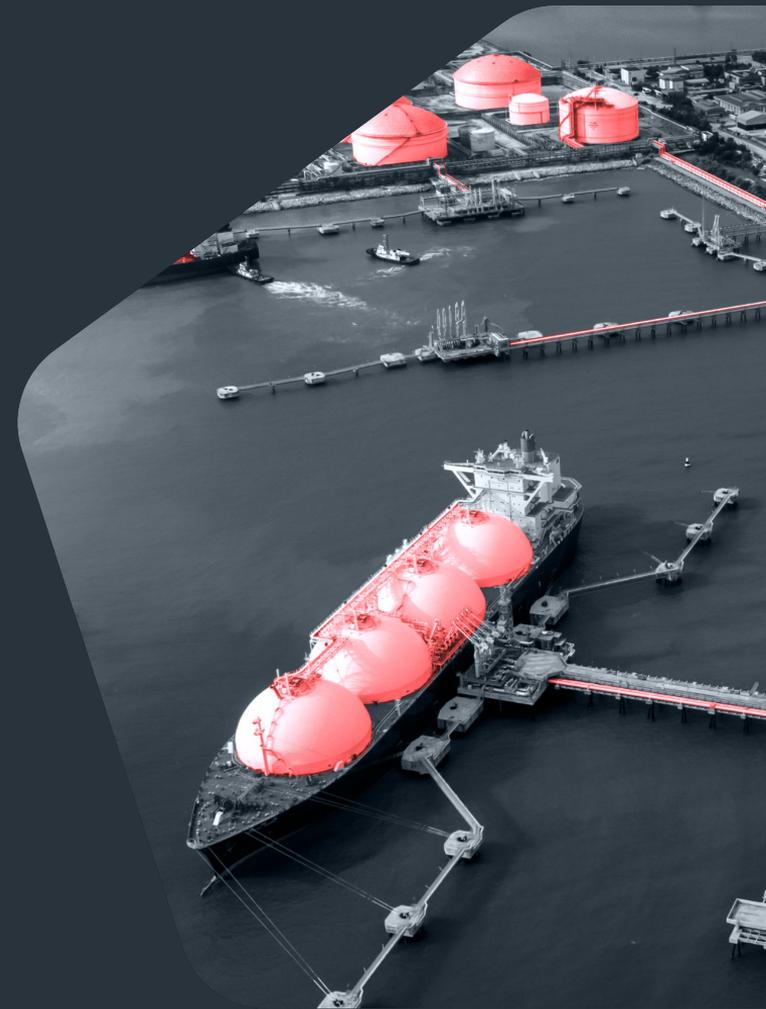
Deceptive Shipping Practices

Quantifying risk for non-sanctioned vessels

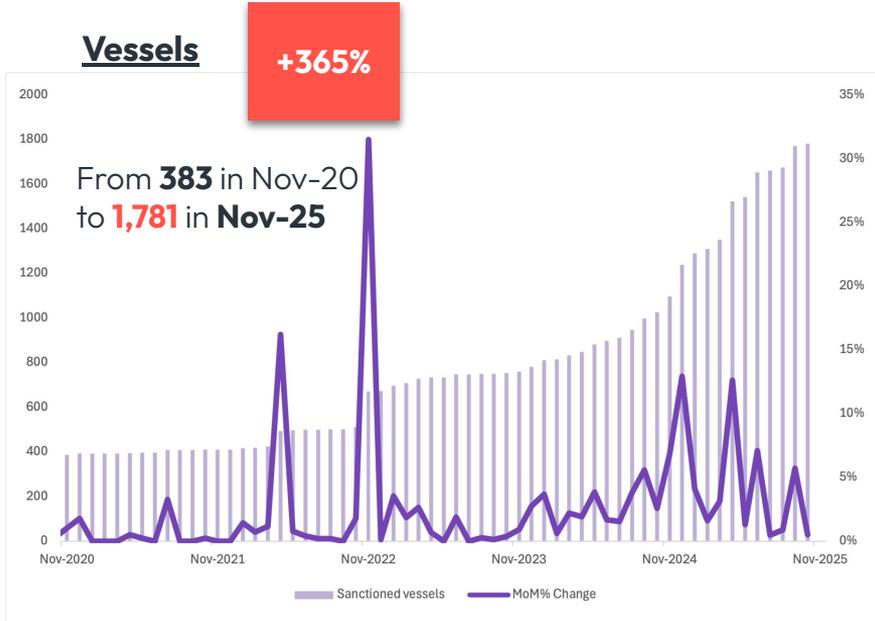
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Increase in sanctions is the output of Deceptive Shipping Practices over the past five years



Cumulative sanctioned vessels and Month-on-Month % growth

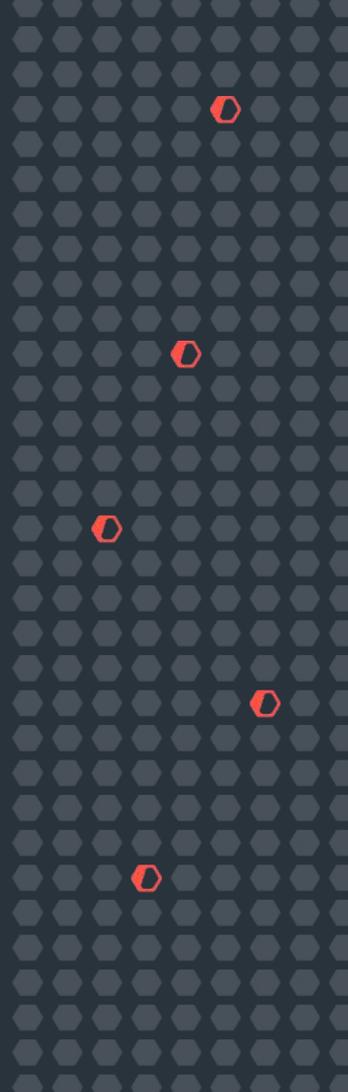
Cumulative sanctioned companies and Month-on-Month % growth

Global shadow fleet is decreasing at 6% YoY due to increased enforcement



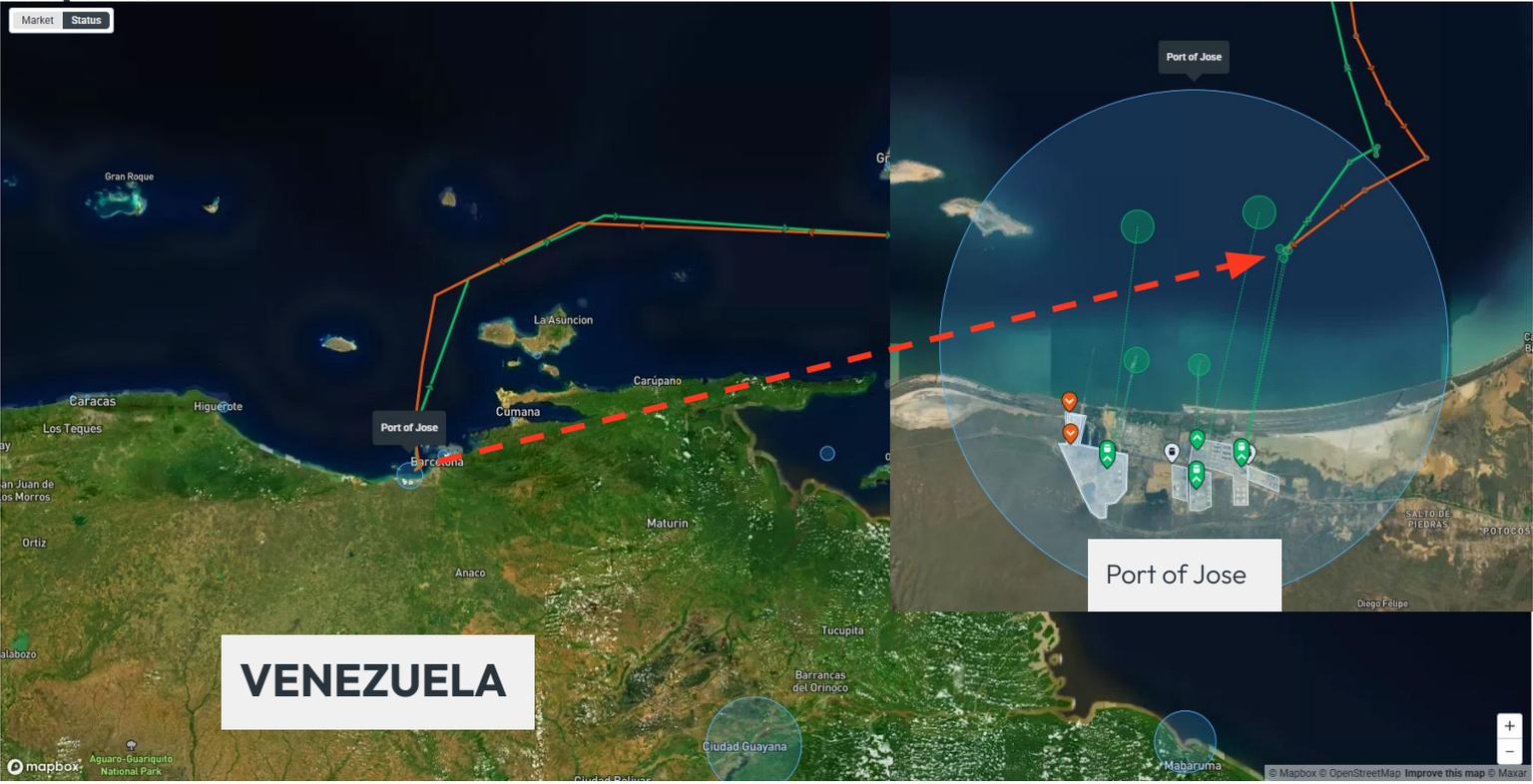
- **Shadow vessel** = loaded sanctioned cargo AND at least one of these conditions are met:
 - Unknown ISM Manager
 - No IACS class
 - No IGP&I coverage
 - Age 20+
 - Dark STS
 - AIS spoofing
- **3,200+** active shadow vessels
- **30+** vessels per month on average have joined the shadow fleet over the past 12 months
- **~6% decrease** due to sanctions

Typical spoofing patterns



Normal signaling

A typical positions signaling, where the vessel sails in the port area, berths, loads and then departs



A vessel loading in Venezuela, while spoofing its location in the Caribbean Sea



A vessel loading in Venezuela, while spoofing its location at WAF



Spoofing Patterns

A vessel loading in Venezuela, while spoofing its location in Tolu, Colombia. Some vessels are pretending to load in non sanctioned countries to appear legitimate

load



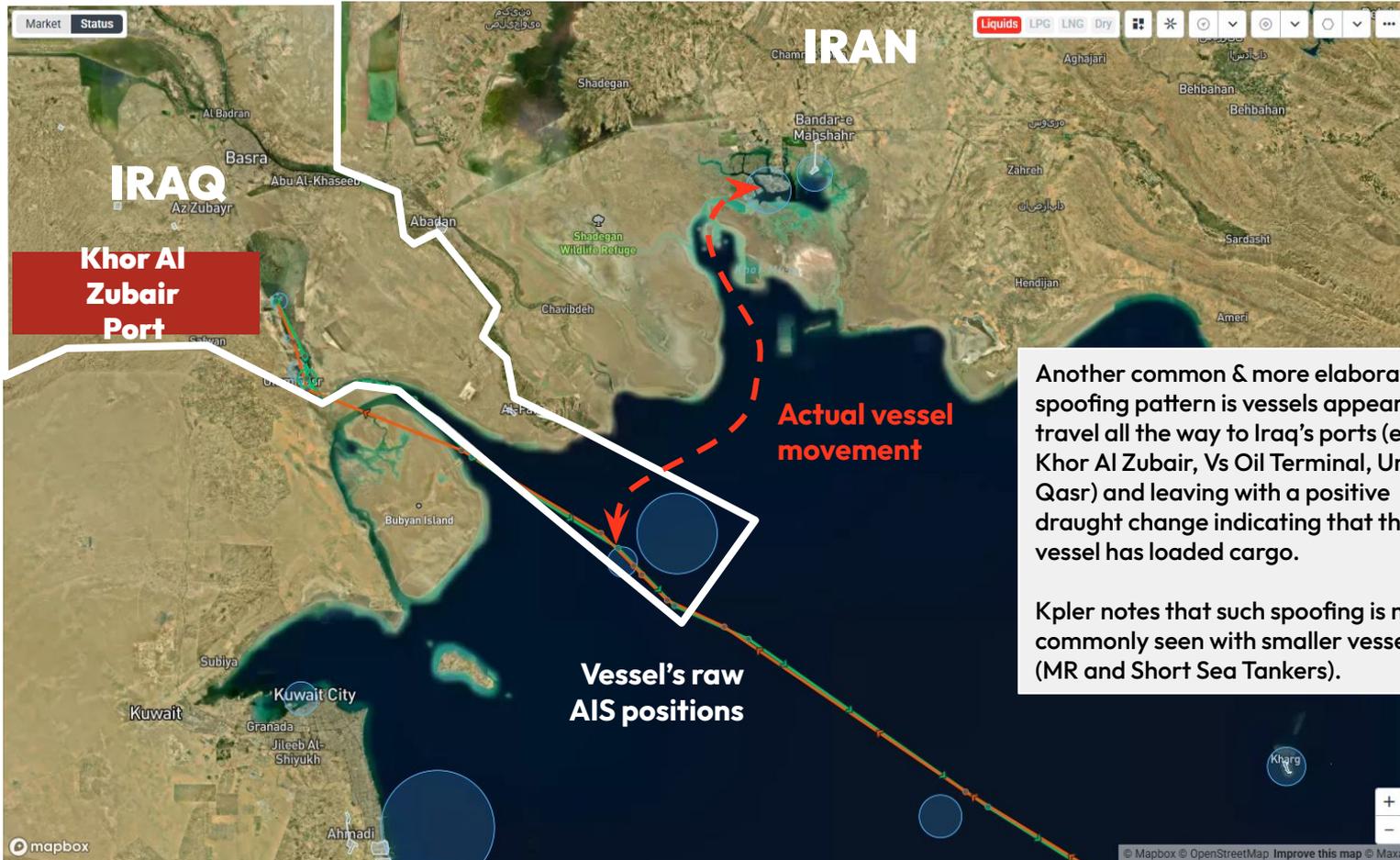
Vessel loading in Iran while spoofing at Al Basrah



A common spoofing pattern is vessels ending their tracks at Iraq's Al Basrah Oil Terminal, turning off their AIS transponder and restarting their AIS signal a few days later with a positive draught change, indicating that the vessel has loaded cargo.

Kpler notes that such spoofing is more commonly seen with larger vessels (LR1 and larger).

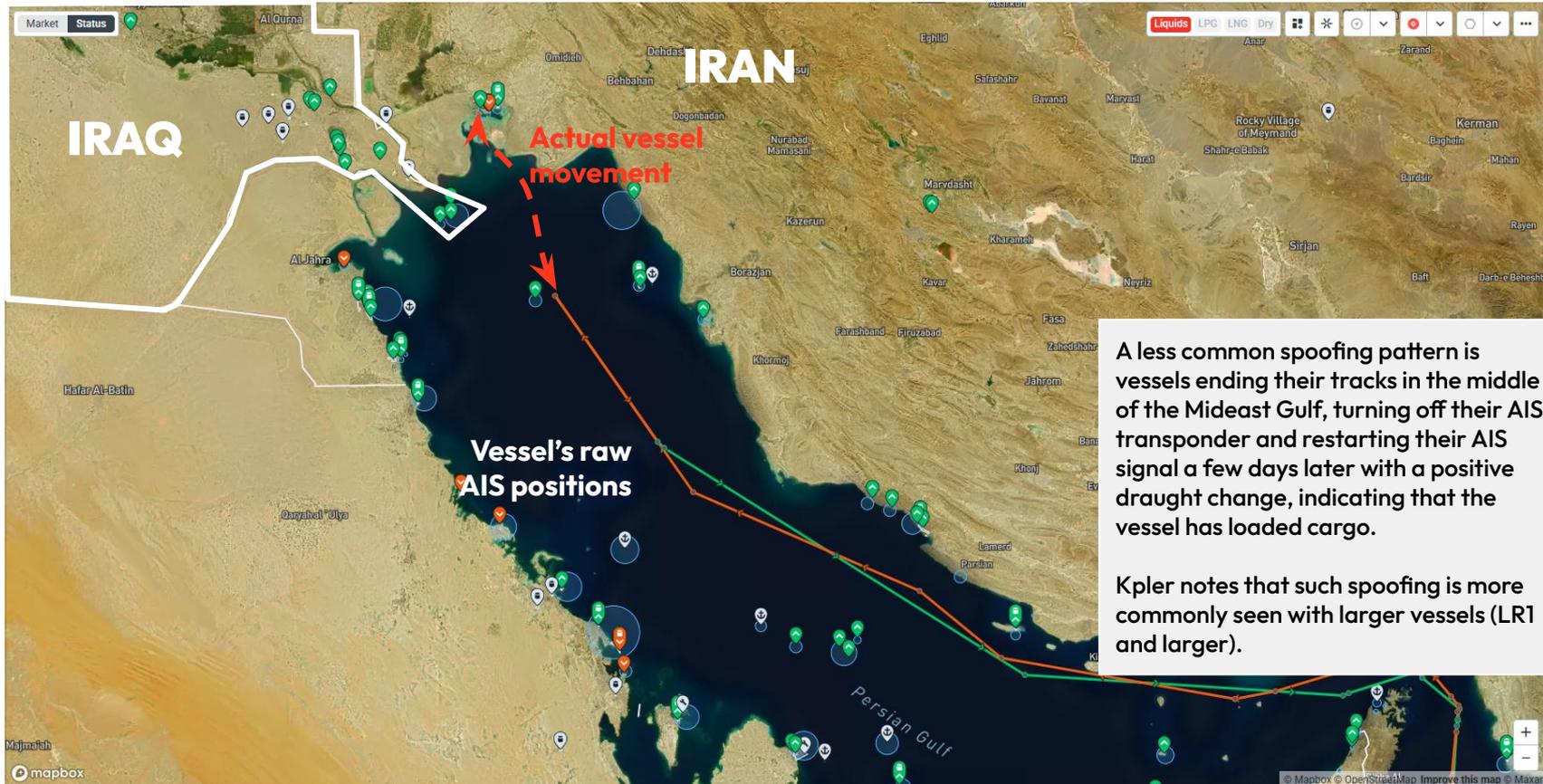
Vessel loading in Iran while spoofing at Khor Al Zubair Port



Another common & more elaborate spoofing pattern is vessels appearing to travel all the way to Iraq's ports (e.g., Khor Al Zubair, Vs Oil Terminal, Umm Qasr) and leaving with a positive draught change indicating that the vessel has loaded cargo.

Kpler notes that such spoofing is more commonly seen with smaller vessels (MR and Short Sea Tankers).

Vessel loading in Iran while spoofing at other parts of Mideast Gulf



A less common spoofing pattern is vessels ending their tracks in the middle of the Mideast Gulf, turning off their AIS transponder and restarting their AIS signal a few days later with a positive draught change, indicating that the vessel has loaded cargo.

Kpler notes that such spoofing is more commonly seen with larger vessels (LR1 and larger).

Vessel loading in Black Sea Russia, while disappearing for a prolonged period of time

Vessels loading from Russia, will often ping their location while entering the Black Sea, but disappear as they sail further in.

Then, they will reappear days later, as they're exiting the Black Sea again, seemingly showing as if they never approached Russia.

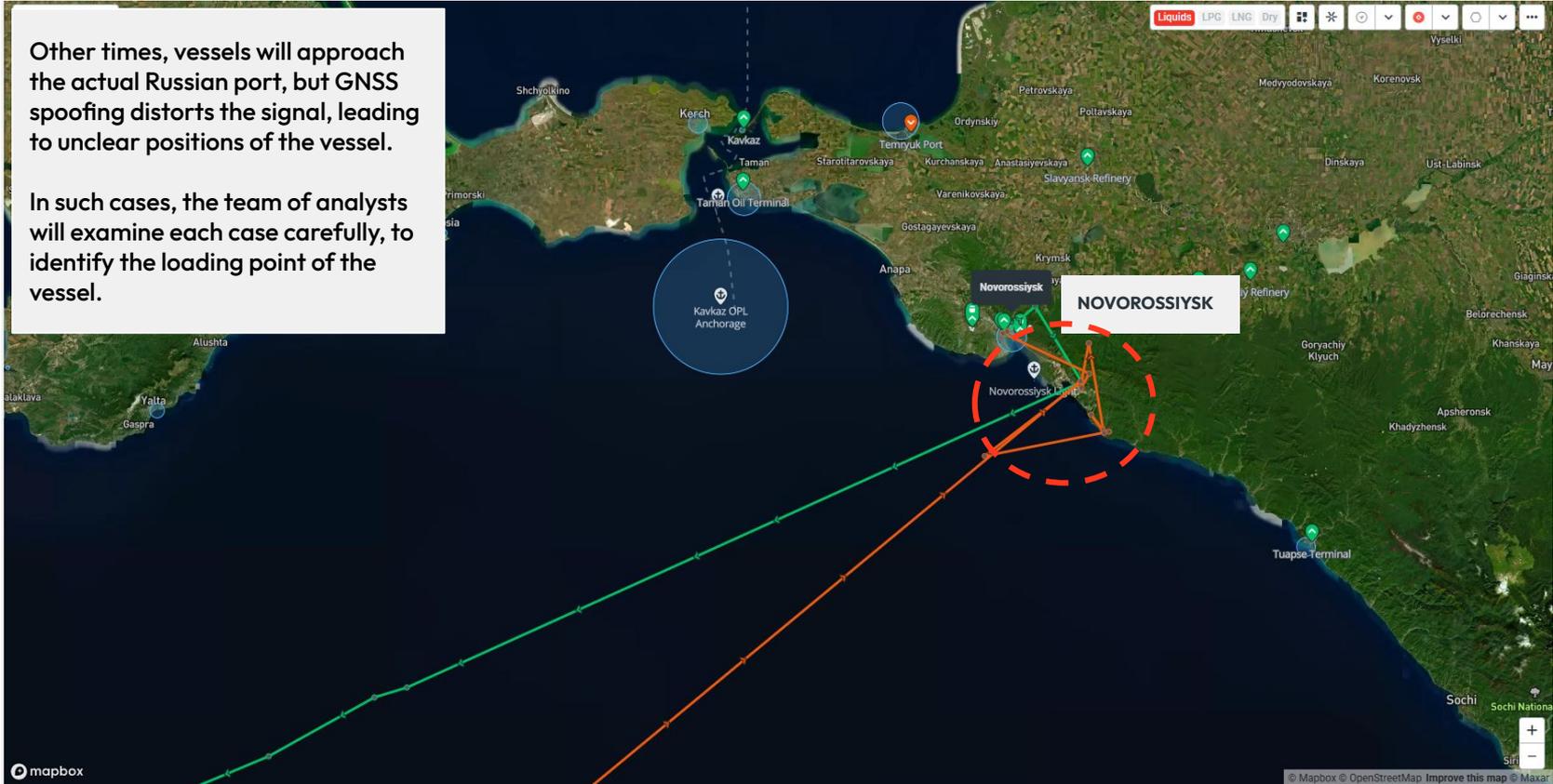
However, during that time of turned off AIS, we are able to identify their load from Russian ports or the Kavkaz STS zone.



Vessel loading in Black Sea Russia, affected by GNSS spoofing

Other times, vessels will approach the actual Russian port, but GNSS spoofing distorts the signal, leading to unclear positions of the vessel.

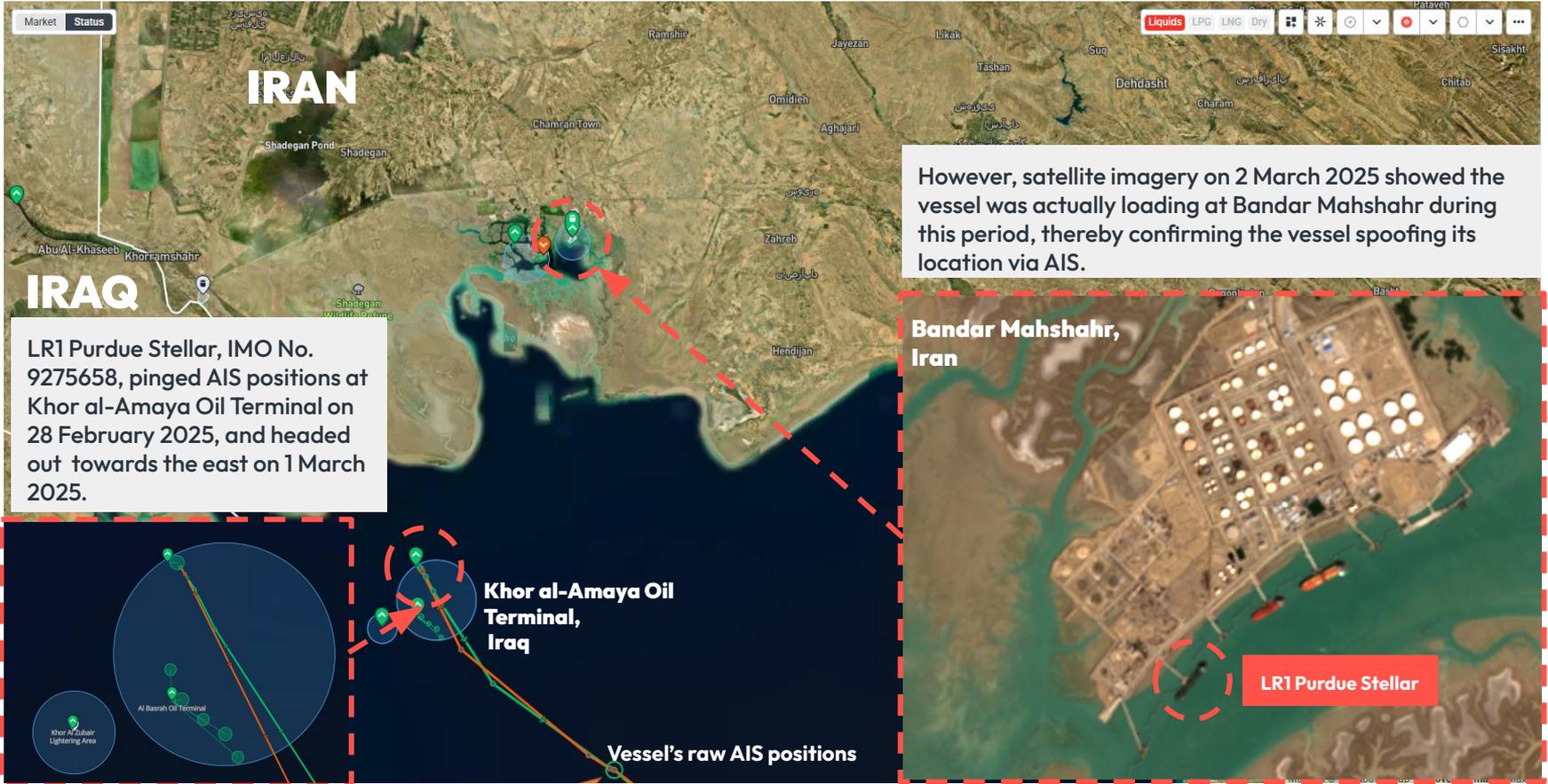
In such cases, the team of analysts will examine each case carefully, to identify the loading point of the vessel.



Identification of real location



LRI Purdue Stellar loading fuel oil in Iran, while spoofing AIS at Khor al-Amaya Oil

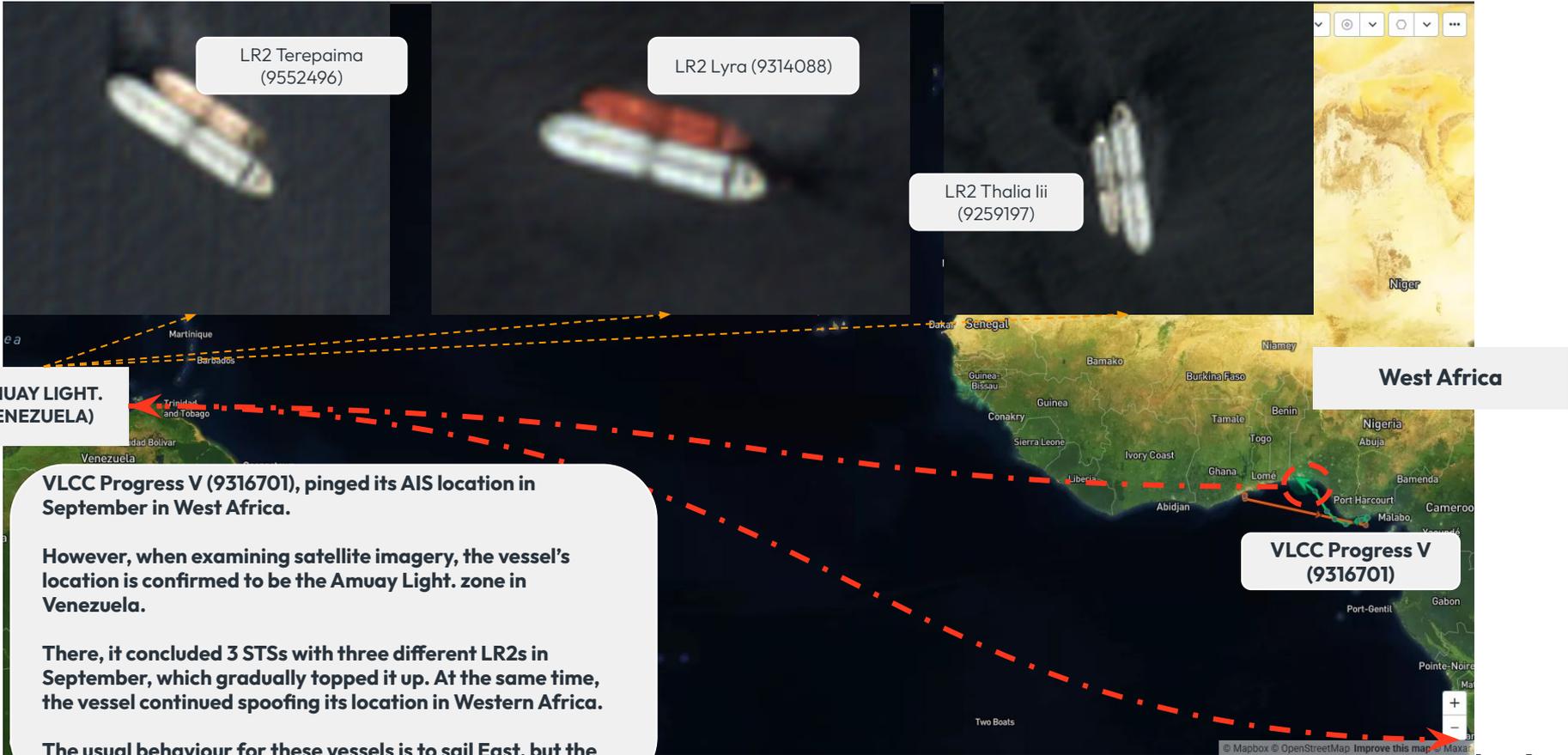


A vessel loading in Venezuela, while spoofing its location at WAF

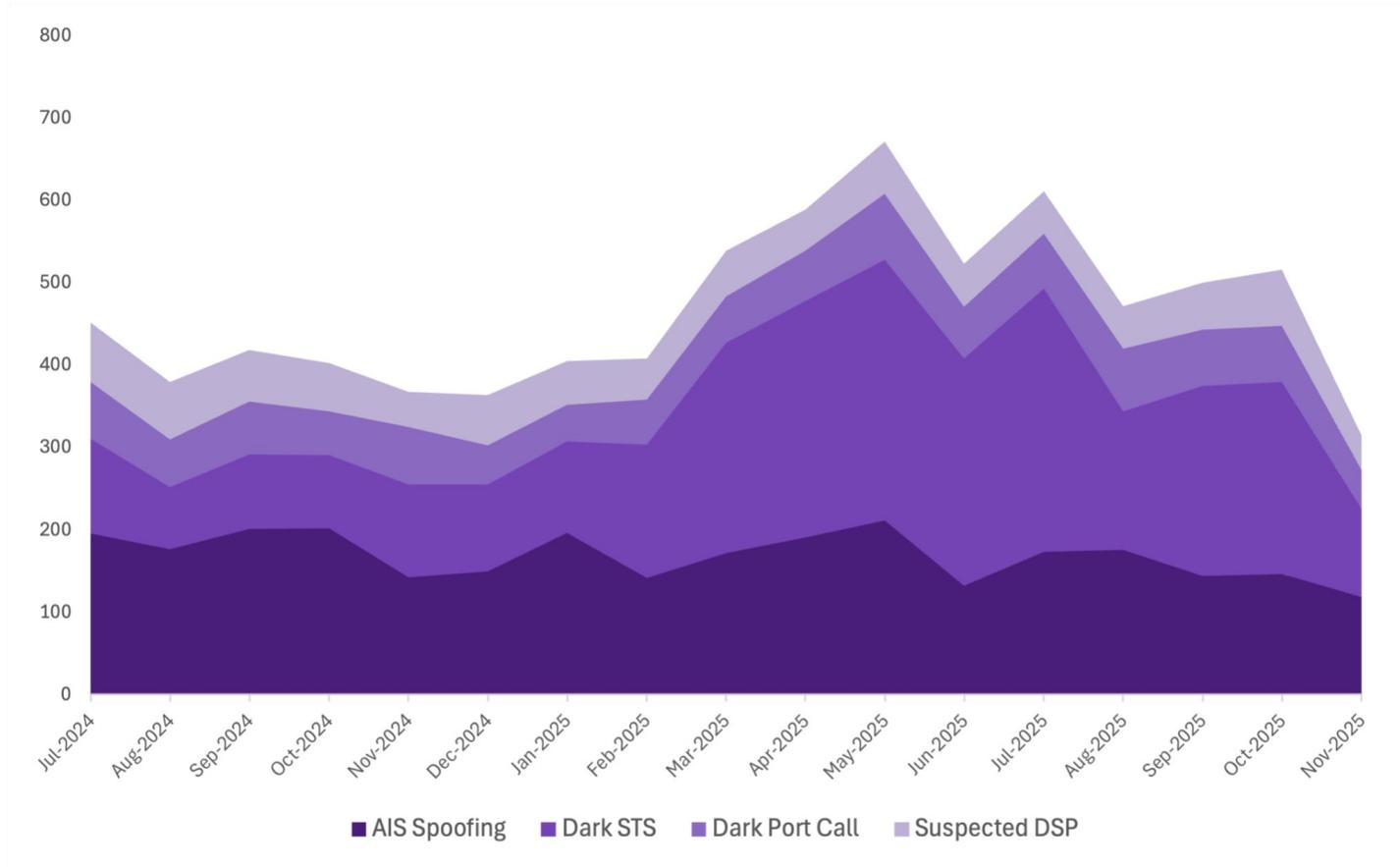


VLCC La Balena (IMO 9230969), while spoofing at WAF, had multiple STSs with smaller vessels, such as LR2 Terepaima (IMO 9552496) on 27 Aug 2025. This is a typical pattern of a VLCC topping-up by multiple shuttle tankers, before departing. In this case, La Balena also had STS operations with two more LR2s

A vessel loading in Venezuela, while spoofing its location at WAF



Sharp rise in dark STS +177% since Mid-2024 as the main method to conceal cargo origin



Predictive analysis shows that 300+ vessels could be sanctioned within the next 12 months

Predicting the sanctions

Core inputs for the last 12 months:

- AIS spoofing
- Dark port calls
- Dark STS transfers
- If a vessel shows three or more deceptive practices behavior
- Sanctioned cargo
- Any suspected spoofing/dark activity

Pool: 3,200 shadow vessels



302 stand out as **high risk of facing sanctions** within the next 12 months

46% were involved in Dark STS

94% engaged in AIS spoofing

33% made a dark port call

21% were flagged for suspected dark activities

After October, 35 vessels out of these 302 vessels have already been sanctioned

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35 already been sanctioned since October 2025

Key takeaways

1000+ sanctioned vessels since January 2024

From January 2024 to 2025:

- **1,011** vessels were sanctioned
- **80.1%** of AIS spoofing vessels were sanctioned within a year
- **31.5%** of dark STS transfers vessels were sanctioned within a year
- **300+** non-sanctioned vessels show high risk of sanctions in the next 12 months

Regulators are shifting from identity-based assessments to behavior-based patterns.

What's next for Risk & Compliance solutions?

To address key challenges and support faster, more informed decision-making, we are focusing on:

Real-time alerts of sanctions and operational risk updates

Enabling users to act swiftly on emerging threats and compliance triggers.

Expanded DSP detection

Enhancing coverage to include zombie fleet activity, STS operations, and port calls during spoofing periods.

Focus on Maritime Threat Intelligence

Introducing insights on security incidents, piracy, and smuggling to improve situational awareness at sea.

Improved visualisation of risk events

Enriching map-based displays for greater explainability and user confidence in risk interpretation.



Thank you! Questions?

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