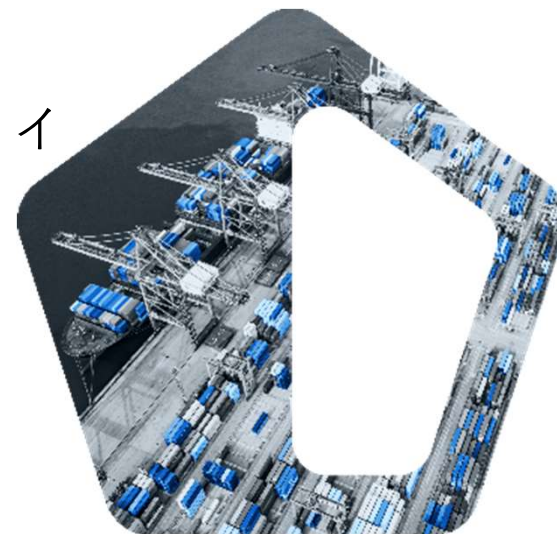


MarineTraffic by Kpler

笹川平和財団主催 海事DXセキュリティセミナー

実例から見るAISの不正操作・ダークアクティビティ



2026年10月14日 | 笹川平和財団(虎ノ門)

| 実例から見るAISの異常とダークアクティビティ

Agenda

- 制裁とは | なぜDark Activityが行われるか
- 制裁対象船増加の背景 | リスクの見えづらさ
- 制裁要因 | Dark Activity
- Dark Activity | AISとの関連・検出方法
- Demo — Dark Activity一覧 | 実例 | 従来の検知方法の限界
- まとめ

| 制裁 | Dark Activity

国・国際機関が、特定の国・企業・個人・船舶などに課す経済・取引上の制限措置

国際海運で広く参照される制裁当局・制度

米国
OFAC

英国
FCDO / OFSI

国連
安全保障理事会

EU
EU制裁

船舶が制裁対象となる主な理由

制裁対象貨物の積載・輸送

制裁対象の原油・石油製品、武器、規制品など

制裁対象者・国との取引・関与

制裁対象企業・個人・国に関係する輸送や取引

制裁回避・ダークアクティビティ

AIS Off / Spoofing / Dark STS / Dark Port Call など

制裁対象船舶との取引・関与により、二次制裁リスクが生じ得る可能性

船主・運航会社

荷主・商社

メーカー

金融機関

保険会社

サプライヤー

NEXT | ダークアクティビティ

制裁対象船増加の背景 – 検知の困難

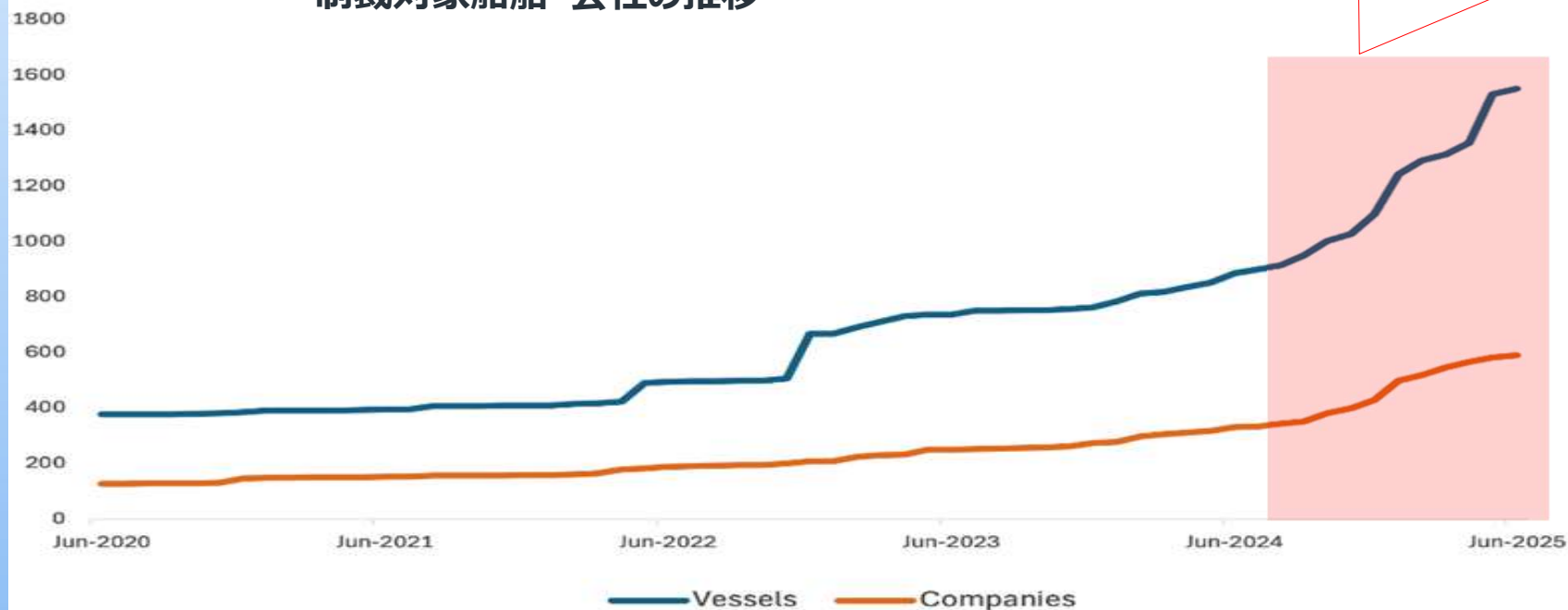
制裁対象船舶増加の背景：

2024.09～ KplerがUS/UK/EUに詳細インテリジェンス提供を開始

- 従来把握が難しかった「積載貨物」「そのトレーダー・荷主」「Dark Activity」の情報を入手
- 制裁貨物運搬船・制裁貨物関連のDark Activityが可視化

US, UK, EUに情報提供開始

制裁対象船舶・会社の推移



Dark Activity | AISとの関連・検出方法

制裁・規制対象との関与を隠すため、船舶の位置・航跡・STS・寄港等を不透明化する行為

AIS gaps

AIS送信を意図的に停止
／長時間のギャップ／荷
役の形跡

AIS Spoofing

実際とは異なる位置・航
跡をAIS上に表示

Dark STS

AISで確認できないせどり

Dark Port Call

AISで確認できない寄港
・港湾活動

Flag / Ownership Change

頻繁な船籍変更・複雑な
所有権変更

Kpler検出：2025.1–2026.10

High Risk STS	制裁対象船舶とのSTS 制裁対象貨物のSTS	4,251件 / 1,836隻
------------------	---------------------------	--------------------

Dark STS	AISオフ・スプーフィング状態での STS	2,018件 / 1,169隻
----------	--------------------------	--------------------

AIS Spoofing	位置情報の偽装	3,535件 / 1,230隻
-----------------	---------	--------------------

AIS Spoofing | Kpler Detection Approach

Hybrid detection



- | | | |
|----|-----------------|------------------|
| 01 | Satellite × AIS | 衛星画像とAIS位置情報の突合 |
| 02 | Signal | 受信局でAIS信号が確認できるか |
| 03 | Validation | 不可能な移動・ジャンプ・不連続 |
| 04 | Movement | 異常な速度変化 |
| 05 | Speed | 過去航跡との不自然な一致 |
| | History | |

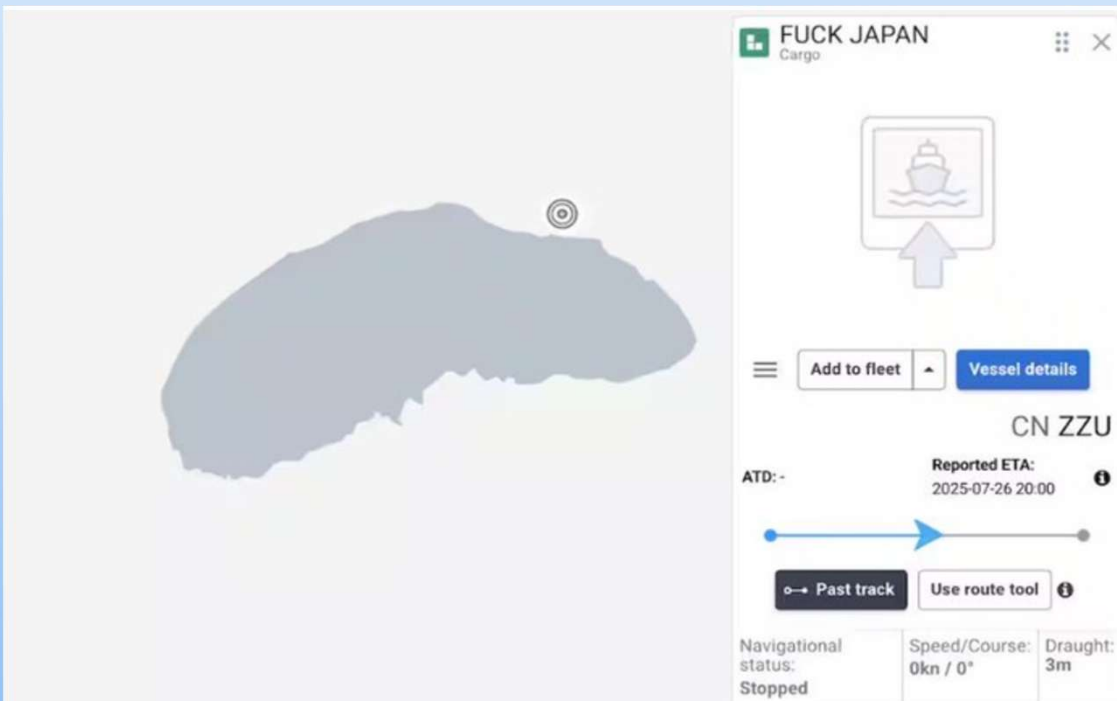
AIS Spoofing 一例

【FUCK JAPAN】尖閣諸島に“日本を侮辱する名前の船”が出現…何者かが偽の信号発信か？

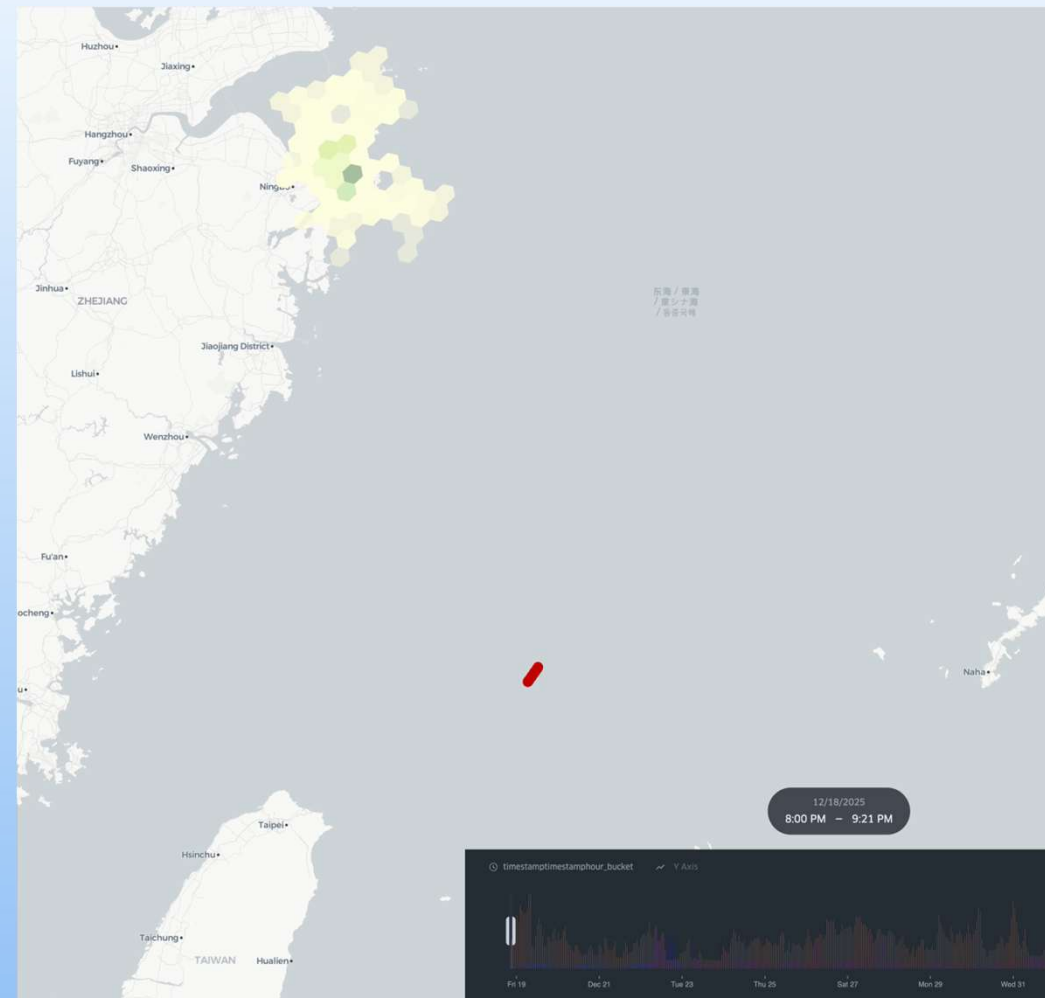
日本テレビ放送網

船が発する位置情報などの信号を受信し地図上で示すウェブサイト「マリントラフィック」で、日本を侮辱する名前の船が、尖閣諸島・魚釣島付近に表示されていることがわかりました。「マリントラフィック」を提供するKpler社の担当者は何者かが偽の信号を発している可能性が高いとして調査しています。

>>続きを読む



存在しない船舶



信号受信位置

DEMO – Sanction Cargo – 未制裁船

Risk & Compliance

Fleet

Custom fleet All

Vessels Search vessels

Flags Search flags

Risk type Cargo

Ownership & Management

Authority Search authority

Fleet type All

Reset all

Current fleet status

Total
6,839

Sanctioned & High risk2,622

Medium risk4,217

Low risk0

Vessels

6,839 total

Name	IMO	FI...	Current risk st...	Vessel category	Vessel type	Vessel subtyp
ABINSK	9303869	RU	S	Dry Cargo	Bulk Carrier	Bulk Carrier
ACE	9263227	PA	S	Tanker	Liquid Tanker	Crude Oil T
ADELINE G	9234666	PA	S	Tanker	Liquid Tanker	Crude Oil T
ADITYA	9203784	GY	S	Tanker	Liquid Tanker	Crude Oil T
ADMIRAL	9274446	RU	S	Tanker	Liquid Tanker	Crude Oil T
AEGIS	9275660	SY	S	Tanker	Liquid Tanker	Crude Oil T

Regulatory (any)

Management (any)

Operational (any)

Flag (any)

Vessel

Cargo

Trade

Ownership

Flag

制裁対象貨物の積載：制裁トリガー

DEMO – Dark Activity – 制裁対象船

Risk & Compliance

Fleet

Custom fleet All

Vessels Search vessels

Flags Search flags

Risk type AIS spo... +1

Ownership & Management

Authority Search authority

Fleet type All

1 Jan 2022 – 16 Oct 2026

All data

Reset all

Current fleet status

Total
656

Sanctioned & High risk
568

Medium risk
88

Low risk
0

Daily strait crossings

Insight

Maritime News

RISK AND COMPLIANCE · 16 Oct 2026

Shadow fleet sanctions relief won't solve the tanker crisis

Contributing author: Panagiotis Krontiras, Tanker Freight Analyst...

RISK AND COMPLIANCE · 13 Oct 2026

The Rise of the Shadow Fleet: A September 2026 Overview

Overview The global shadow fleet continued to expand in September 2026, reaching 3,23...

Vessels

656 total

Name	IMO	FL...	Current risk st...	V...
ACE	9263227	MZ	S	
ADELINE G	9234666	PA	S	Tanker
ADITYA	9203784	GY	S	Tanker
ADMIRAL	9274446	RU	S	Tanker
AEGIS	9275660	SY	S	Tanker
AKCENT	9381732	RU	S	Tanker
AKHILL	9410870	RU	S	Tanker
AKKORD	9259599	RU	S	Tanker
AKSEL	9410894	RU	S	Tanker
AKVILON	9249087	RU	S	Tanker
AL SAFA	9222649	GN	S	Tanker
AL SALMI	9298296	PA	S	Tanker
AL SIDDEEQ	9312509	PA	S	Tanker
ALBA	9268112	MZ	S	Tanker
ALBARRAQ Z	9252943	KM	S	Tanker
ALBEDO	9213313	BB	S	Tanker
ALGORITM	9299745	RU	S	Tanker

Regulatory (any)

Management (any)

Operational (any)

Flag (any)

AIS gaps

AIS spoofing

High risk Port Calls

Dark Port Calls

High risk STS transfer

Dark STS transfer

1 - 500 of 656

Vessel size	A...	Beneficial owner	Disponent owner	Registered owner	ISM manager
CC	23	-	EXTENSIVE SHIPPING LTD	EXTENSIVE SHIPPING LTD	EXTENSIVE SHIPPING LTD
VLCC	23	U BEACON SHIPPING ...	NOVA SHIPPING MANAGE...	U BEACON SHIPPING CO...	JOYGUIDE SHIPPING MANAGE...
Suezmax/LR3	26	-	-	-	-
Suezmax/LR3	22	-	-	FAR FRONTIERS LLC	FAR FRONTIERS LLC
Panamax/LR1	22	-	FINE SANMATA SHIPPING...	TENAX INTERNATIONAL ...	-
Aframax/LR2	18	-	FAR FRONTIERS LLC	FAR FRONTIERS LLC	FAR FRONTIERS LLC
Aframax/LR2	18	GLOBAL SEAWAY LLC	-	GLOBAL SEAWAY LLC	GLOBAL SEAWAY LLC
Aframax/LR2	23	-	FAR FRONTIERS LLC	FAR FRONTIERS LLC	FAR FRONTIERS LLC
Aframax/LR2	17	FAR FRONTIERS LLC	FAR FRONTIERS LLC	FAR FRONTIERS LLC	FAR FRONTIERS LLC
Suezmax/LR3	21	-	-	FAR FRONTIERS LLC	FAR FRONTIERS LLC
MR	25	-	-	BLUE PEARL NAVIGATION	MANARAT ALKHALEJ MARINE
Panamax/LR1	21	-	BILLION NEXUS INTL CO L...	BILLION NEXUS INTL CO ...	TONGAN SHIPPING LTD
VLCC	19	-	ANBO SHIPPING PTE LTD	METROPATH GROUP LTD	ANBO SHIPPING PTE LTD
Aframax/LR2	23	CRYSTAL GAS INC	-	CRYSTAL GAS INC	-
Panamax/LR1	23	-	-	-	-
Aframax/LR2	25	UPGARD MANAGEME...	ALBEDO SHIPPING LTD	ALBEDO SHIPPING LTD	BEACON MARINE SERVICES CO
Aframax/LR2	20	FAR FRONTIERS LLC	FAR FRONTIERS LLC	FAR FRONTIERS LLC	FAR FRONTIERS LLC

Dark Activity (AIS Spoofing / Dark STS) – 高確率で制裁対象

DEMO - Example – Dark Activity

Vessel characteristics Ownership Performance insights **Compliance**

Regulatory risks

- ✖

Vessel
The vessel is currently sanctioned

>
- ✖

Cargo
The vessel has transported restricted cargo since 1st of January 2022

>
- ✔

Trade
The vessel has not been involved in restricted trade since 1st of January 2022

>
- ✖

Ownership
The vessel's current ownership is subject to sanctions

>
- ✔

Flag
The vessel's current flag state is not sanctioned

>

Operational risks

- ✖

AIS gaps
6 high risk AIS gaps detected

>
- !

High risk STS transfers
The vessel has conducted 5 high risk STS transfers

>
- !

Dark STS transfers
22 high risk Dark STS transfers detected

>
- ✔

High risk Port Calls
No port call risks detected

>
- !

Dark Port Calls
9 dark port call risks detected

>

Operational risks

AIS gaps High risk STS transfers **Dark STS transfers** High risk Port Calls Dark Port Calls AIS spoofing AIS identity man

Date	Current vessel	Counterparty	Zone	Source
22/03/2026	ADELINE G 9234666 AIS off	SONIA I 9357365 AIS off	SINGAPORE WAITING ZONE CENTRAL	Satellite imagery
17/03/2026	ADELINE G 9234666 AIS off	TOUR 2 9364112 AIS off	SINGAPORE WAITING ZONE CENTRAL	Satellite imagery
21/01/2026	ADELINE G 9234666 AIS off	CUMA 9379703 AIS on	SINGAPORE WAITING ZONE CENTRAL	Satellite imagery

AISをオフにしてせどり

Operational risks

AIS gaps High risk STS transfers Dark STS transfers High risk Port Calls Dark Port Calls **AIS spoofing**

Date/Time ↓	Reported zone	Source
From: 2025-07-19 15:00 To: 2025-07-21 03:00	Start: TELOK RAMUNIA ANCHORAGE End: TELOK RAMUNIA ANCHORAGE	Satellite imagery
On 2025-07-20 09:00 detected via satellite imagery , estimated true zone SINGAPORE WAITING ZONE CENTRAL		
From: 2025-07-04 15:19 To: 2025-07-10 09:07	Start: TELOK RAMUNIA ANCHORAGE End: TELOK RAMUNIA ANCHORAGE	Satellite imagery
From: 2025-05-30 18:32 To: 2025-06-05 14:17	Start: TELOK RAMUNIA ANCHORAGE End: TELOK RAMUNIA ANCHORAGE	Satellite imagery

位置偽装

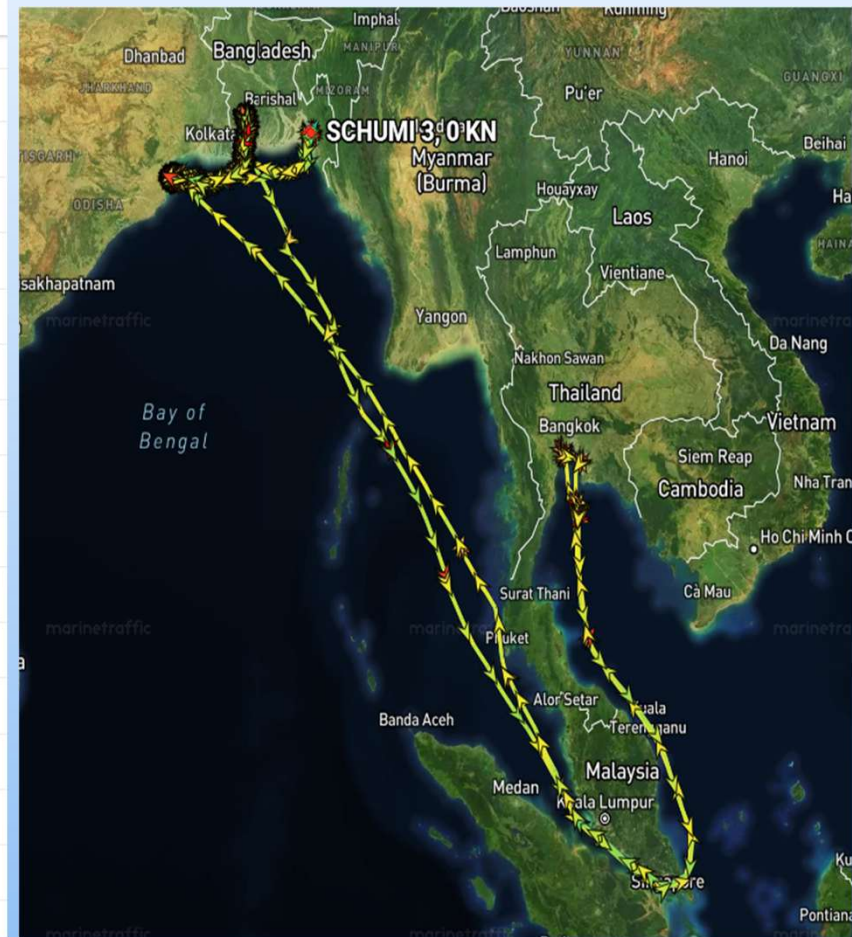


DEMO - 一種のDark Activity – 従来のスクリーニングでの限界

 **SCHUMI 3**   *LPG Tanker* IMO: 9125413

Overview Port call log Vessel characteristics Ownership Performance insights Compliance In the news

Port	UN/LOCODE	Actual time of arrival	Actual time of departure	Duration
 DHAMRA ANCH (UTC +5.5) India	-	2026-09-27 05:37 LT (UTC +5.5)		
 KOLKATA ANCH (UTC +5.5) India	-	2026-09-27 00:11 LT (UTC +5.5)	2026-09-27 03:49 LT (UTC +5.5)	3hrs 38mins
 MONGLA ANCH (UTC +6) Bangladesh	-	2026-09-21 17:13 LT (UTC +6)	2026-09-21 17:52 LT (UTC +6)	39mins
 MONGLA (UTC +6) Bangladesh	BDMGL	2026-09-21 16:10 LT (UTC +6)	2026-09-21 16:25 LT (UTC +6)	15mins
 MONGLA (UTC +6) Bangladesh	BDMGL	2026-09-20 16:01 LT (UTC +6)	2026-09-20 16:18 LT (UTC +6)	17mins
 KOLKATA ANCH (UTC +5.5) India	-	2026-09-19 09:39 LT (UTC +5.5)	2026-09-19 14:58 LT (UTC +5.5)	5hrs 19mins
 DHAMRA ANCH (UTC +5.5) India	-	2026-09-12 08:05 LT (UTC +5.5)	2026-09-19 07:58 LT (UTC +5.5)	6d 23hrs 53mins
 KOLKATA ANCH (UTC +5.5) India	-	2026-09-12 01:43 LT (UTC +5.5)	2026-09-12 06:22 LT (UTC +5.5)	4hrs 39mins
 MONGLA ANCH (UTC +6) Bangladesh	-	2026-09-11 13:00 LT (UTC +6)	2026-09-11 13:35 LT (UTC +6)	35mins
 MONGLA (UTC +6) Bangladesh	BDMGL	2026-09-11 11:47 LT (UTC +6)	2026-09-11 12:10 LT (UTC +6)	23mins
 MONGLA (UTC +6) Bangladesh	BDMGL	2026-09-10 10:00 LT (UTC +6)	2026-09-10 10:12 LT (UTC +6)	12mins
 KOLKATA ANCH (UTC +5.5) India	-	2026-09-09 02:46 LT (UTC +5.5)	2026-09-09 08:31 LT (UTC +5.5)	5hrs 45mins
 DHAMRA ANCH (UTC +5.5) India	-	2026-09-07 14:16 LT (UTC +5.5)	2026-09-09 01:16 LT (UTC +5.5)	1d 11hrs
 KOLKATA ANCH (UTC +5.5) India	-	2026-09-07 06:42 LT (UTC +5.5)	2026-09-07 12:16 LT (UTC +5.5)	5hrs 34mins
 MONGLA ANCH (UTC +6) Bangladesh	-	2026-09-06 17:22 LT (UTC +6)	2026-09-06 17:59 LT (UTC +6)	37mins



航跡・寄港歴：異常性なし

DEMO - 一種のDark Activity – 従来のスクリーニングでの限界

SCHUMI 3 **LPG Tanker** IMO: 9125413

Overview Port call log Vessel characteristics Ownership

Regulatory risks

- Vessel**
The vessel is not sanctioned
- Cargo**
The vessel has transported restricted cargo since 1st of January 2022
- Trade**
The vessel has not been involved in restricted trade since 1st of January 2022
- Ownership**
The vessel's ownership has not been sanctioned
- Flag**
The vessel's current flag state is not sanctioned

Operational risks

- AIS gaps**
2 high risk AIS gaps detected
- High risk STS transfers**
The vessel has conducted 9 high risk STS transfers
- Dark STS transfers**
No high risk dark STS transfers detected
- High risk Port Calls**
No port call risks detected
- Dark Port Calls**
No dark port call risks detected

Regulatory risks

Vessel Cargo Trade Ownership Flag

Date/Time	Origin	Destination	Product	Risk	Under OPC	Authority
From: 2025-02-26 To: 2025-03-02	Iran	Mongla Port Bangladesh	Butane HS 271113	High risk	⊗	OFAC, UKSL & EU
From: 2025-01-28 To: 2025-01-30	Iran	Mongla Port Bangladesh	Butane HS 271113	High risk	⊗	OFAC, UKSL & EU
From: 2024-11-11 To: 2024-11-17	Iran	Mongla Port Bangladesh	Butane HS 271113	High risk	⊗	OFAC, UKSL & EU
From: 2024-11-02 To: 2024-11-04	Iran	Mongla Port Bangladesh	Butane HS 271113	High risk	⊗	OFAC, UKSL & EU

Operational risks

AIS gaps High risk STS transfers Dark STS transfers High risk Port Calls Dark Port Calls AIS spoofing AIS identity man

Date/Time	Vessel	Area	Reasoning	Source
From: 2025-01-15 09:00 To: 2025-01-16 09:00	DA LI IMO: 9113379	Indian Ocean		Algorithm
From: 2024-12-25 09:00 To: 2024-12-26 09:00	GONG DE TIAN IMO: 9005065	Indian Ocean		Algorithm
From: 2024-11-01 11:22 To: 2024-11-02 06:43	RONG HAO IMO: 9193733	Haldia		Algorithm
From: 2024-02-01 16:01 To: 2024-02-02 06:49	DA LI IMO: 9113379	Dhamra Light.		Algorithm

制裁対象貨物をせどりで運搬 – 制裁対象国への寄港無し Dark Activityでなくても、従来のスクリーニングの困難

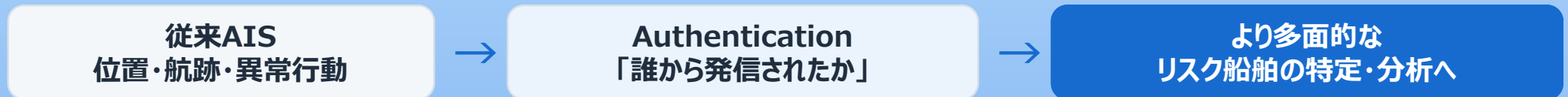
まとめ | AISの“不確実性”も、リスクを見つける重要なシグナル

AISを単一の「正しい情報」として見るのではなく、異常・欠落・不整合も含めて分析する。



KEY MESSAGE 「AISを信じる／信じない」ではなく、AISの異常を含む複数の事実からリスクを判断

VDES / Authentication へ



VDES / Authenticationは、既存のAIS分析に新たな「信頼性のシグナル」を加える

MarineTraffic概要
ユーズケース



Thank you !!

Capt. Yu Yamada

Senior Manager, APAC Maritime Commercial Team

yyamada@kpler.com

MarineTraffic: www.marinetraffic.com

Kpler: www.kpler.com