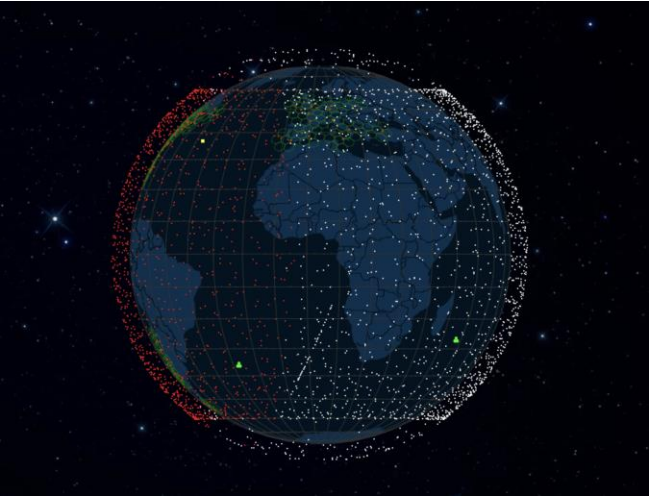
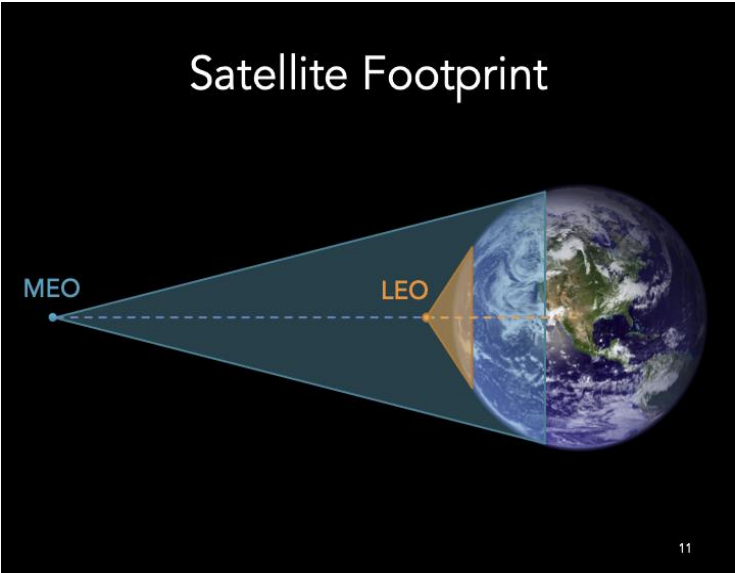
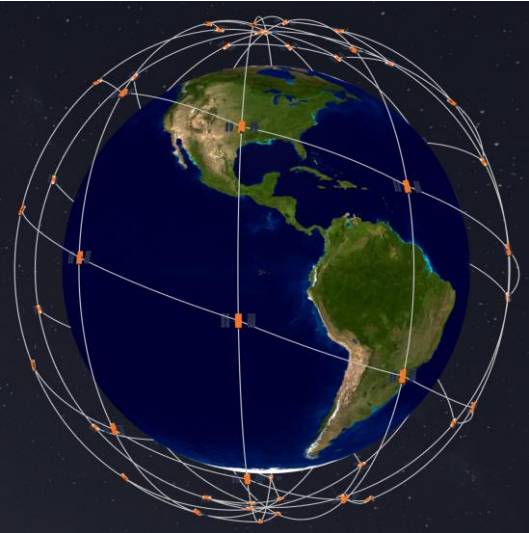




MARITIME SATELLITE FOR MARITIME SECURITY

T.R.Nugraha. Research Associate. Centre for International Law–National University of Singapore
trn93@nus.edu.sg

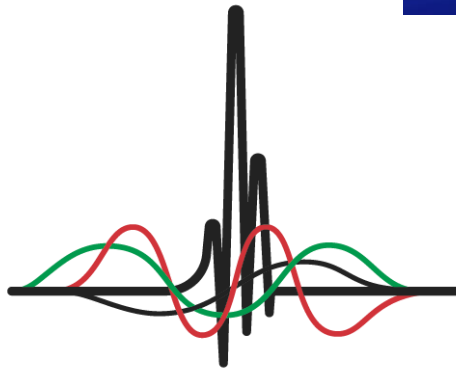
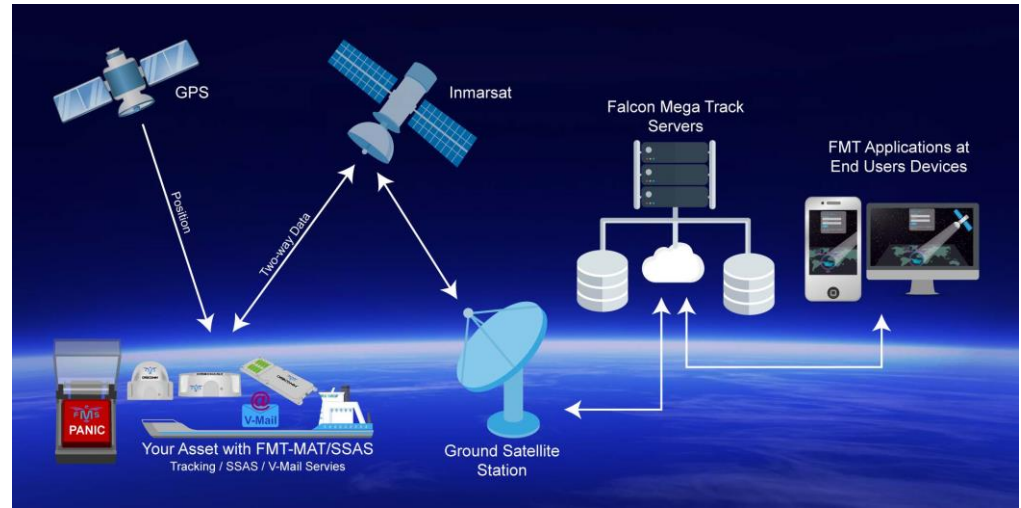
WHAT LEO SAT TECHNOLOGY



HOW DOES IT WORK AND WHO REGULULATE?

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MARSAT-SEC FROM LOS



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Exempli Gratia:

- 1982 Unclos Art 19 *Innocent Passage (1)&(2)*.
- 1982 Unclos Art 25 *Rights of Protection of the Coastal States*
- 1982 Unclos Art 39 *Duties of ships and aircraft during transit passage*
- 1982 Unclos Art 40 *Research and Survey Activities (Yuan wang ships??)*.
- *Etc.*

MARSAT IN THE FUTURE



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- **The use of MarSat has four purposes:**
 1. For communication and entertainment (on Yacht or Cruise Ship)
 2. For Ship control (Bridge Automation)
 3. For navigation (MASS and E-Nav)
 4. For Security (Reconnaissance, and Surveillance)

HOW DOES IT WORK?

Opportunities:

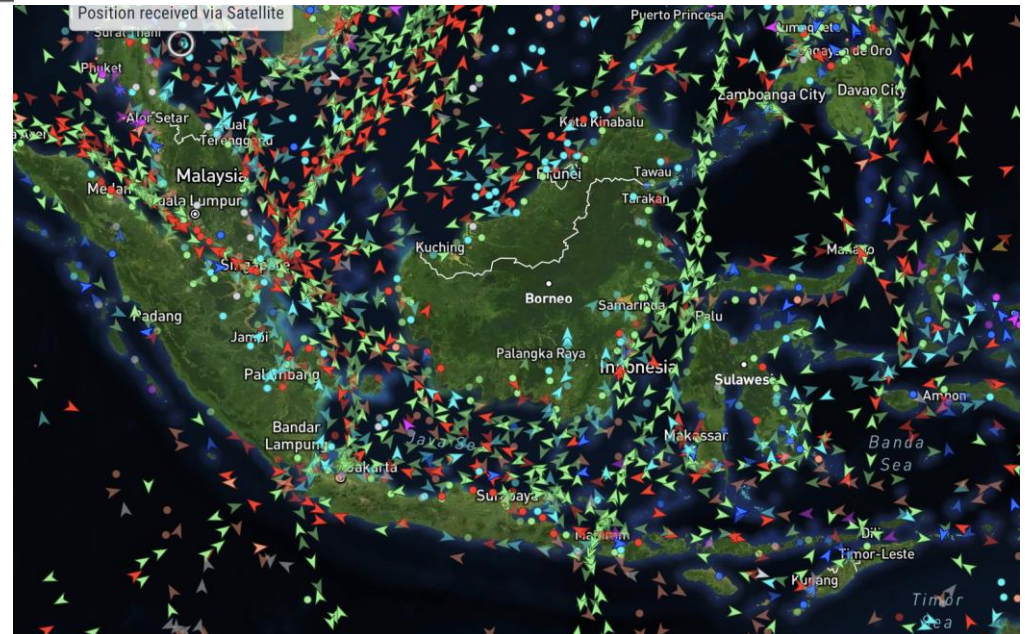
Challenges:

New satellite-based technologies a game changer for Indo-Pacific maritime security

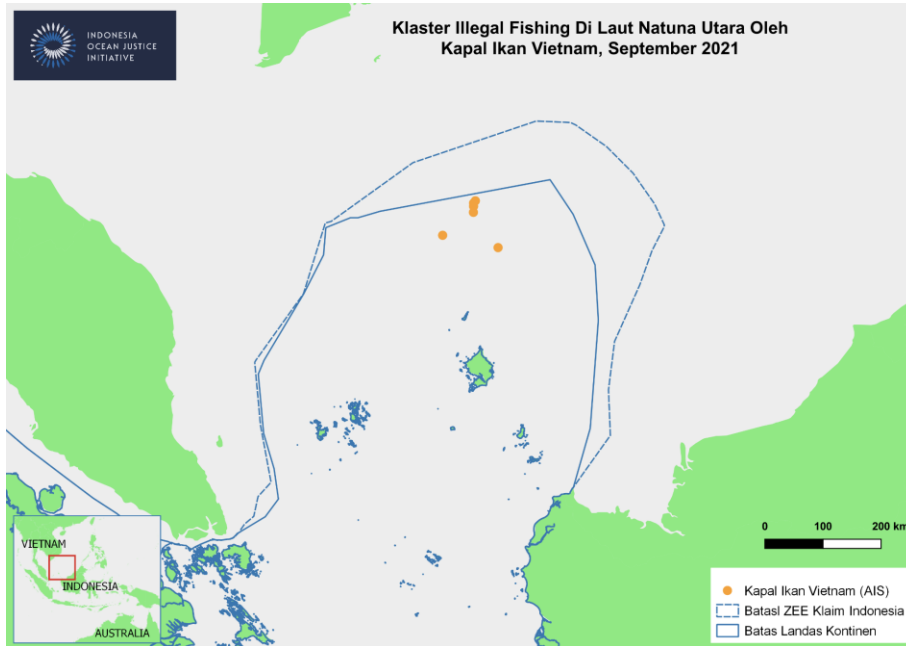
13 Jul 2022 | David Brewster



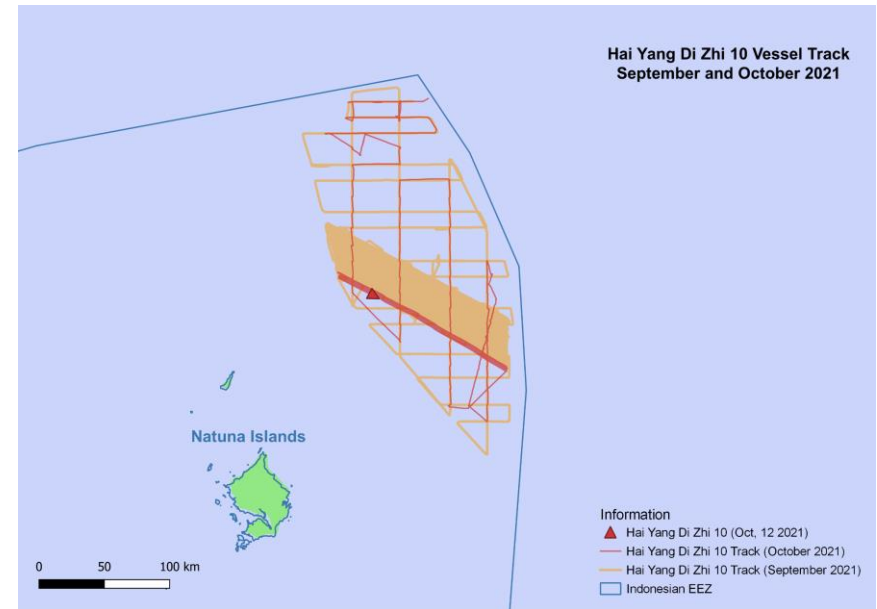
A revolution is now happening in maritime domain awareness that will have a profound impact on maritime security in the Indo-Pacific. The Quad's Indo-Pacific Partnership for Maritime Domain Awareness, announced at the leaders' summit in Tokyo in May, will combine new satellite-based technologies with existing systems to help identify illicit maritime actors. This and similar initiatives will provide a significant boost to the ability



REAL "THREAT" FOR INDONESIA?

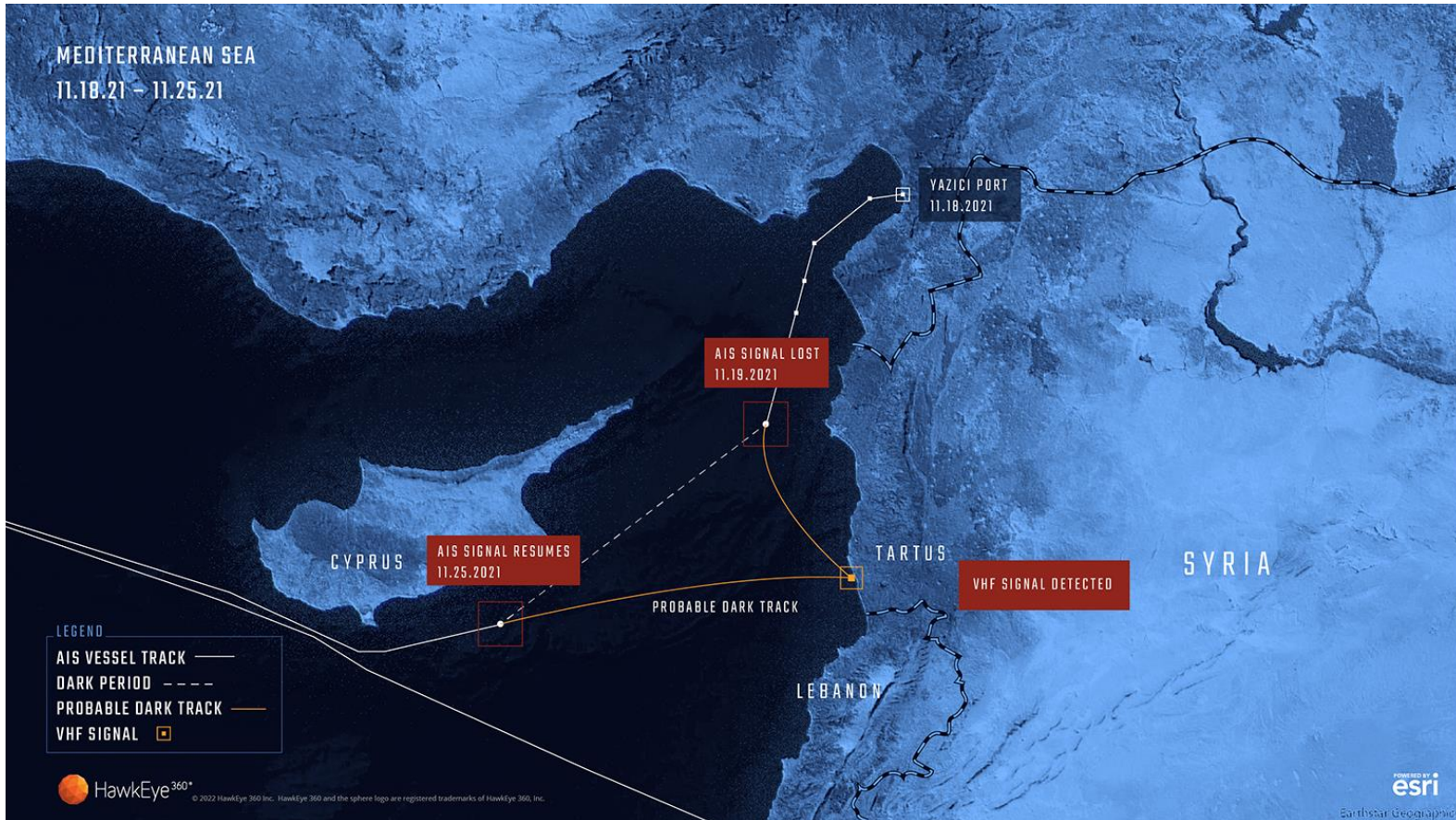


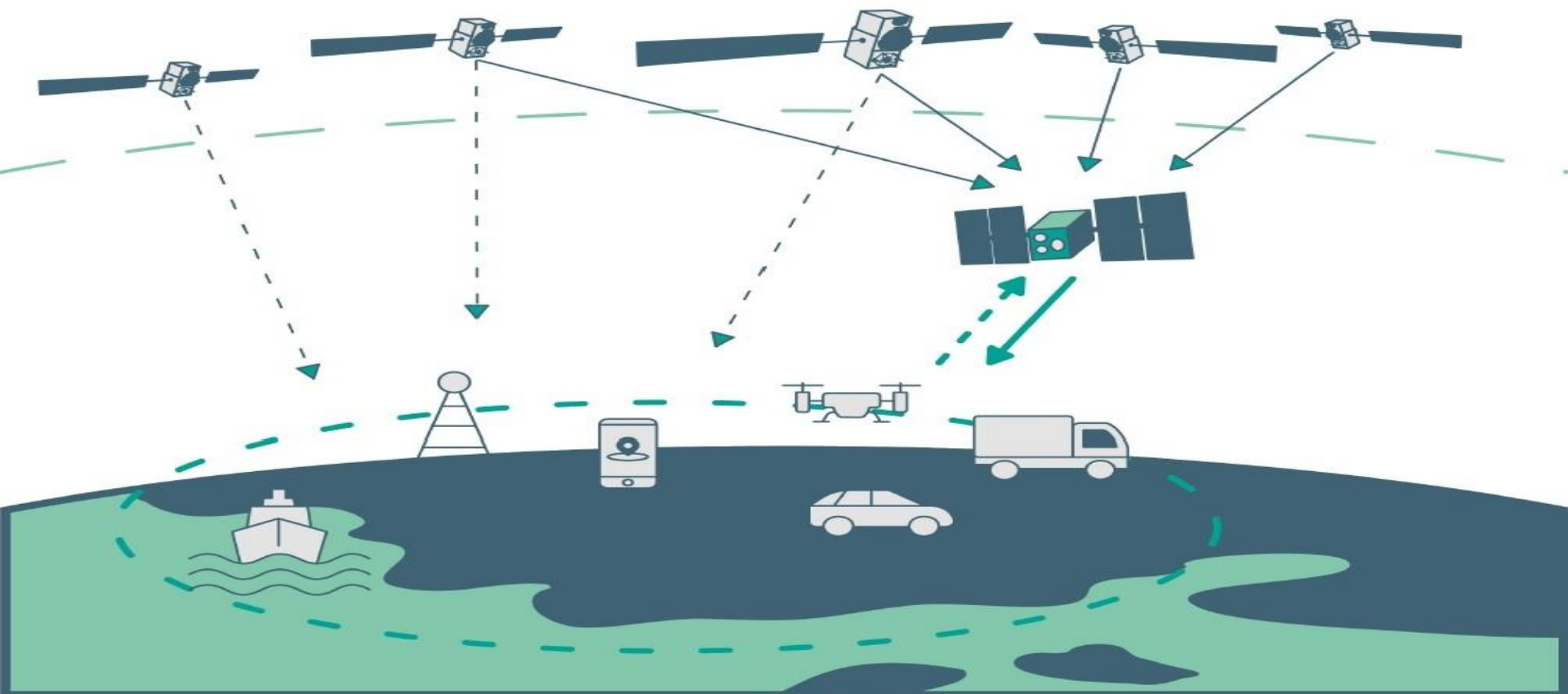
Pict: AIS Illegal Fishing Cluster in North Natuna. Source: IOJI "Ancaman IUUF dan Keamanan Laut di Indonesia"



Pict: Hai Yang Di Zhi 10 Berhenti di Titik Koordinat 109.425, 5.5566 Pada 2 September 2021
Source: IOJI "Ancaman IUUF dan Keamanan Laut di Indonesia"

RADIO FREQUENCIES GEOLOCATOR THROUGH VHF





GRATIA TIBI EST