# PEARSONLIVE RISK ASSESSMENT

AI driven technology for risk identification of threats at sea

**Paarsonlive Risk Assessment** is a risk assessment system based on vessel Behaviour analysis and compliance to identify risk factors for each vessel that is subject to observation or is within the territorial limits.

The increasing number of vessels and traffics will increase the level of difficulty in identifying the risks. The limited resources available will not be sufficient if assigned to conduct massive observations. For security threat detection, behaviour patterns are also dynamic, changing according to conditions in the field. If done manually, it will take up a very large resource. In addition, the accuracy will also be reduced.

Generally, organizations carry out risk-scoring based only on compliance/compliance with permits, but vessel behaviour must also be a major consideration. In many cases, criminals behave abnormally to hide their activities.

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If there are more and more indications, the potential risk should not be ignored anymore. In general, the more indications of risk, the greater the value of the risk.

Risk assessment is a challenge in itself, so that it is in accordance with the character of the organization. Static assessment cannot be applied on a complex scale because it will result in a false positive value.

The existence of Artificial Intelligence technology, especially utilizing machine learning technology, provides a breakthrough for conducting risk assessment simulations. Using machine learning to study patterns of changing patterns that occur and enabling machines to evaluate, perform dynamic weight calculations and analytically calculate risk factors will greatly help you determine the targets that need to be analysed.

In the end you can save a lot of resources and produce accurate intelligence products to prevent crime and accidents at sea.

## Variable Anomaly

Many factors influence a ship's risk assessment, including:

- Compliance (vessel age, Flag, RO, Company performance, Number of shortfalls & Number of holdings)
- Behavioural Analysis
  Weather (significant waves, currents, wind) And more...
- Behavioural Analysis
  The behaviour patterns of vessels that have abnormal indications have their own characteristics, some general signs that can be marked include:
  - Turn off AIS
    The vessel turns off AIS in a certain area, at a certain time, and activates AIS outside the meeting point
  - False identity
    Vessel deleting Identity (NULL), vessel changing identity (name,
  - vessel type, vessel type, MMSI, etc.)
    Teleportation
    The vessel moves from one location to another at an abnormal speed
- Dark Rendezvous
  Vessels meet at points that are not allowed to be filled by vessels at a certain speed so that there is an indication of transhipment.
- Draught changes
  The ship sails in the middle of the sea, slows down / stops and then there is a change in draught and drove back.
  And much more..

## Key Features Include:

- **Data Collection**
  Provides the ability to perform data acquisition used to perform risk assessments including AIS/Weather/-Zone/Historical Cause data etc. the more data that becomes a parameter, the wider the perspective of the data that can be processed.

- **Machine Learning & Rule Base**
  The system performs an analytical modelling process to carry out a risk assessment. The assessment system is dynamic in accordance with the risk rules that are incorporated into the analytical process.
  Analytical modelling system to perform assessment assessments.
  Powerful learning & training mechanisms to test machine learning outcomes, and test models
  The coefficient of risk value is dynamic which can change at any time

- **Risk Assessment**
  The output of the risk assessment provides an overview of the vessel's behaviour level, whether normal or abnormal. With the risk assessment, users/analysts can easily sort and explore only vessels that behave abnormally.