Maritime vessel detection and behavioural analysis to identify uncooperative vessels associated with oil pollution and illegal, unreported and unregulated fishing (IUU)

Geraint Cooksley & Andrew Iwanoczko
Telespazio VEGA UK
Global player in satellite solutions and service delivery

<table>
<thead>
<tr>
<th>Telespazio VEGA UK</th>
<th>Telespazio Group</th>
<th>Leonardo</th>
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<tbody>
<tr>
<td>Employees</td>
<td>130</td>
<td>2,500</td>
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Telespazio S.p.A (Italy)
Telespazio VEGA Deutschland
Telespazio VEGA UK
Telespazio France
Telespazio Argentina
Telespazio Brazil
Telespazio Iberica
Telespazio Group Maritime Solution providing multi-sensor Maritime Situational Awareness:

- security and intelligence organizations
- environmental protection
- resources management
- Market analysis and business intelligence

Access

<table>
<thead>
<tr>
<th>as a Service</th>
<th>on Premises</th>
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<tbody>
<tr>
<td><strong>Contents</strong> provided to the Customer, generated through operational service chains</td>
<td><strong>Software</strong> provided to the Customer who independently generates the contents</td>
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</table>
· What are illicit maritime behaviours?

· How can these behaviours be identified?

· How can technology help?

· What can we usefully understand?

· How could these technologies be enhanced for the Atlantic?
· **What are illicit maritime behaviours?**

· How can these behaviours be identified?

· How can technology help?

· **What can we usefully understand?**

· How could these technologies be enhanced for the Atlantic?
- Illegal fishing
- Smuggling
- Illegal Immigration
- Drug trafficking
- Embargo breaches
· What are illicit maritime behaviours?

· How can these behaviours be identified?

· How can technology help?

· What can we usefully understand?

· How could these technologies be enhanced for the Atlantic?
Vessel rendezvous
No positional messaging
Changes of heading / speed
Persistent / recurrent behaviour
Accumulated behaviour
· What are illicit maritime behaviours?

· How can these behaviours be identified?

· How can technology help?

· What can we usefully understand?

· How could these technologies be enhanced for the Atlantic?
· Systematic ship detections

· AIS for Sea Lines of Communication

· Vessel density per ship type

· Link to data sources

· Dashboards of key metrics
· What are illicit maritime behaviours?

· How can these behaviours be identified?

· How can technology help?

· What can we usefully understand?

· How could these technologies be enhanced for the Atlantic?
Port activity

Fishing intensity

Pop-up floating O&G platforms

Migrant vessel search & rescue

Illegal fishing

Drug trafficking

Embargo breaches
· What are illicit maritime behaviours?

· How can these behaviours be identified?

· How can technology help?

· What can we usefully understand?

· How could these technologies be enhanced for the Atlantic?
Wide area near real time Information
Via Sentinel-1 NRT
Via NovaSAR
Via COSMO-SkyMed NRT
2hr globally
30 mins in ground station
Thank you...

Questions?

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