

# ICAO Aviation Green Recovery Seminar

TIME TO BUILD BACK BETTER





## *Drones and artificial intelligence to stop African illegal fisheries*

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*CTO, ATLAN Space*



## Worldwide \$26 Billion of economic loss due to Illegal fishing



**Economic**  
1.4\$ Billion



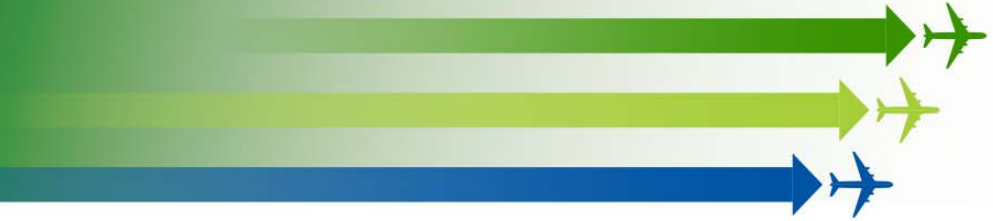
**Social**  
300 000 jobs destroyed



**Environmental**  
5.2 Millions Tons Spoiled

Illegal Fishing in West Africa\*

\* FAO and Overseas Development Institute



# Oceans' monitoring

Part of the solution\*



Monitor



Analyse






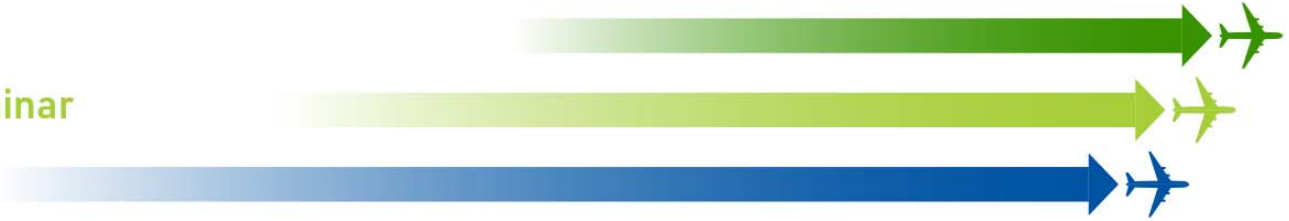
Manage

\* Studies and field experiences from NGOs (e.g. Grid Arendal)



## Drones potential

 <h3>Endurance</h3> <p>Cutting edge lithium and hydrogen batteries and new combustion engines allows drones to fly from 5 to more than 20 hours.</p>	 <h3>Precision</h3> <p>New drone's payload sensors, especially optical one, have a great sensitivity, and can increase precision by reducing the altitude.</p>	 <h3>Cost</h3> <p>Glass fiber, foam and additive manufacturing have drastically decreased the price of the aircraft, in addition to allowing cheap and easy repair.</p>
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## Drones limitations



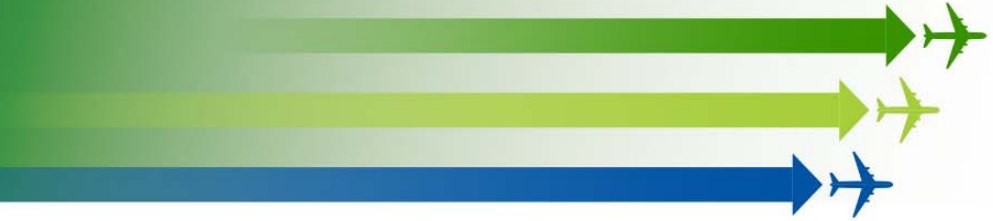
### TRANSMISSION EQUIPMENT

- **Technical Range limitation to 90 Km**
- **Legal Range Limitation to 5 Km in Morocco**
- **Very Expensive**



### EXPERT RESOURCES

- **Scarce and expensive professionals**
- **Human errors**



# Mimicking human pilot

Onboard Artificial Intelligence





## Recovery in the blue shade



Biohazard Dumping



Illegal Fishing



Seaweed Proliferation



Sea Rescue



Human Trafficking

SO<sub>x</sub>

IMO Sulphur  
Emission

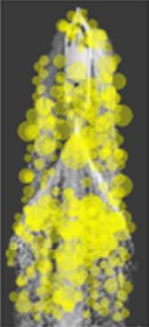




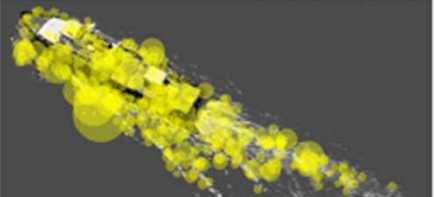
Database Machine Learning

Camera feed

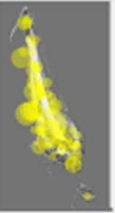
Objects 3 (304) Too low inliers (6 in 32 out)



4 (297) Too low inliers (6 in 78 out)

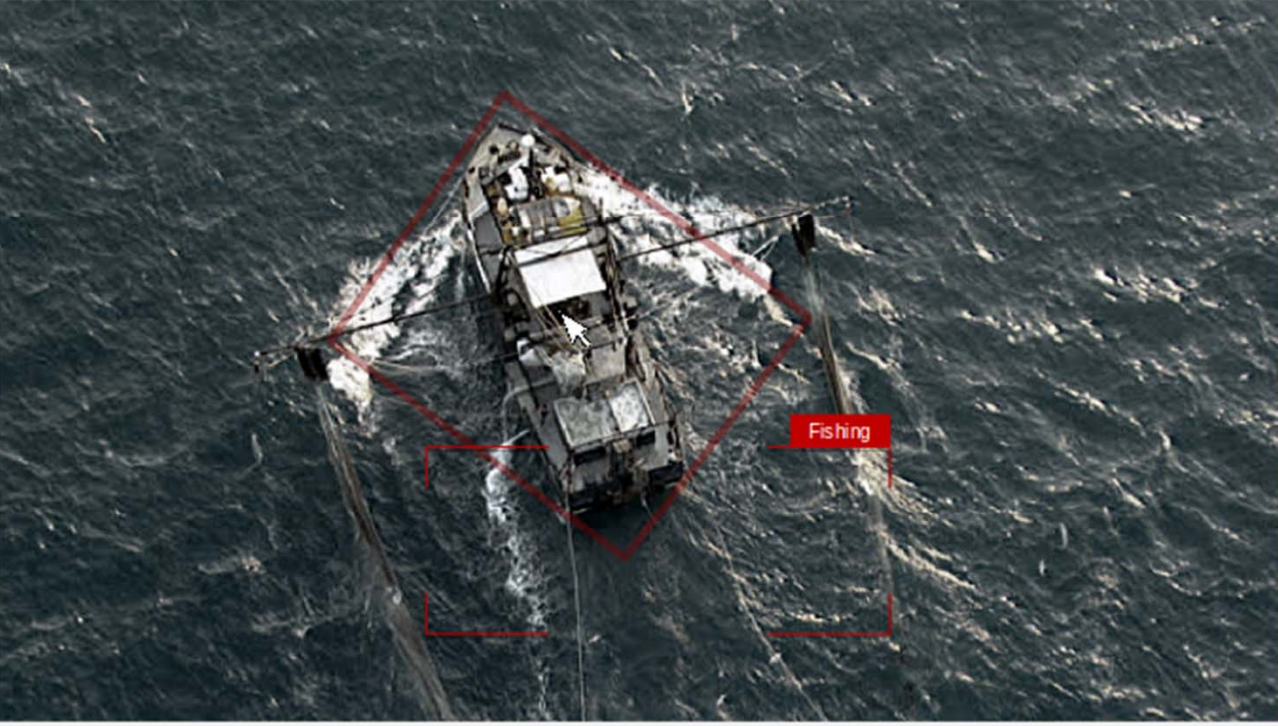


5 (66) Too low matches (5)



Update objects

Camera



MATCH 83%



ICAO Aviation Green Recovery Seminar



NATIONAL GEOGRAPHIC



FISH GUARD



# OUTSMARTING ILLEGAL FISHING

PRIZE WINNING INITIATIVE UNDERWAY IN THE SEYCHELLES





ATLAN Space®



Thank you!

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