LUCIAD WITHIN HEXAGON GEOSPATIAL

- Application / Template Platform
- Solution Platform
- API Platform
OVER HUNDRED THOUSAND VESSELS NAVIGATING THE WATERS
How can we spot suspicious behavior?

OVer Hundred Thousand Vessels Navigating the Waters
Which ships are not transmitting AIS?

How can we spot suspicious behavior?

OVER HUNDRED THOUSAND VESSELS NAVIGATING THE WATERS
What is suspicious behavior?

Which ships are not transmitting AIS?

How can we spot suspicious behavior?

OVER HUNDRED THOUSAND VESSELS NAVIGATING THE WATERS
IoT: CHALLENGES & OPPORTUNITIES

→ IoT data overflow
  ▪ Aircraft, vessels,… are providing continuous location information through (satellite) AIS, ADS-B,…
  ▪ Add to this connected cars, Lidar sensors, smart city sensors,…

→ Big challenges, big opportunities
  ▪ How to react in real-time?
  ▪ How to efficiently perform post-incident analysis?
  ▪ Can historic information be exploited?
BIG DATA SHIFT
From hypothesis-driven to data-driven analysis

BEFORE
KNOW
UNKNOWN
AUTOMATED ANALYSIS
(machine learning, statistics, etc.)
REPLACE
THE HUMAN

NOW
UNKNOWN
UNKNOWN
VISUAL DATA ANALYSIS
AUGMENT
THE HUMAN
HUMANS ARE visual
More of our neurons are dedicated to vision than the other four senses combined.

40% of all nerve fibers connected to the brain are linked to the retina.

Humans are visual.
BIG DATA SHIFT
From hypothesis-driven to data-driven analysis

BEFORE
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AUGMENT THE HUMAN
DEGREE-OF-INTEREST RANKING

→ Luciad is doing fundamental R&D to exploit IoT location information for mission-critical decision making
  ▪ Through statistical & machine learning methods

→ To rank data & events according to degree-of-interest
  ▪ Objective & subjective rankings
  ▪ Analyzing past & present, predicting the future

→ To guide the controller or analyst
TAKE AWAYS

• IoT sensors are producing **unprecedented amounts of data**, too much for a human to sift through

• Purely automated AI algorithms will only find answers to the known unknowns

• But sometimes we don’t know what we’re looking for. We need to answer to the **unknown unknowns**

• AI can assist the user and accelerate insight through degree-of-interest ranking
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Humans will (need to) stay in the loop

- Expert knowledge
- Superior visual system
- Mission critical decision making
THANK YOU!

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