EOOS | Technology Forum 2022

THINKING AHEAD: THE TECHNOLOGY OF THE SCIENCE WE WILL NEED FOR THE OCEAN WE WANT

New Developments in Big Data Approaches

Nick Wise
CEO, OceanMind

An Ocean of Data

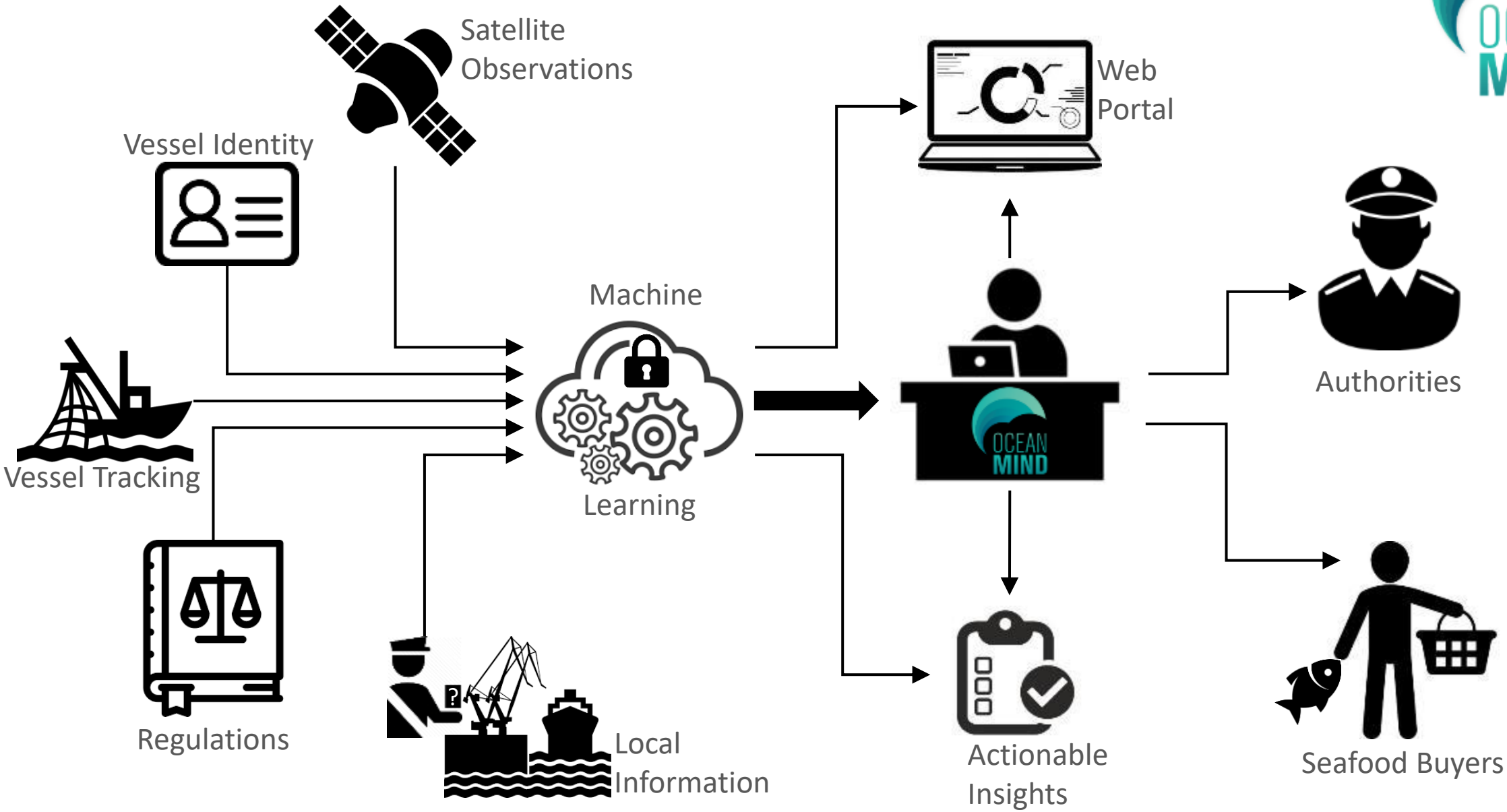
- Technology is no longer a limiting factor in monitoring remote systems
- Sensor technologies, communications technologies, cloud computing, all reaching global scale
- The challenge now is deriving meaning from the deluge of data to inform timely decision making

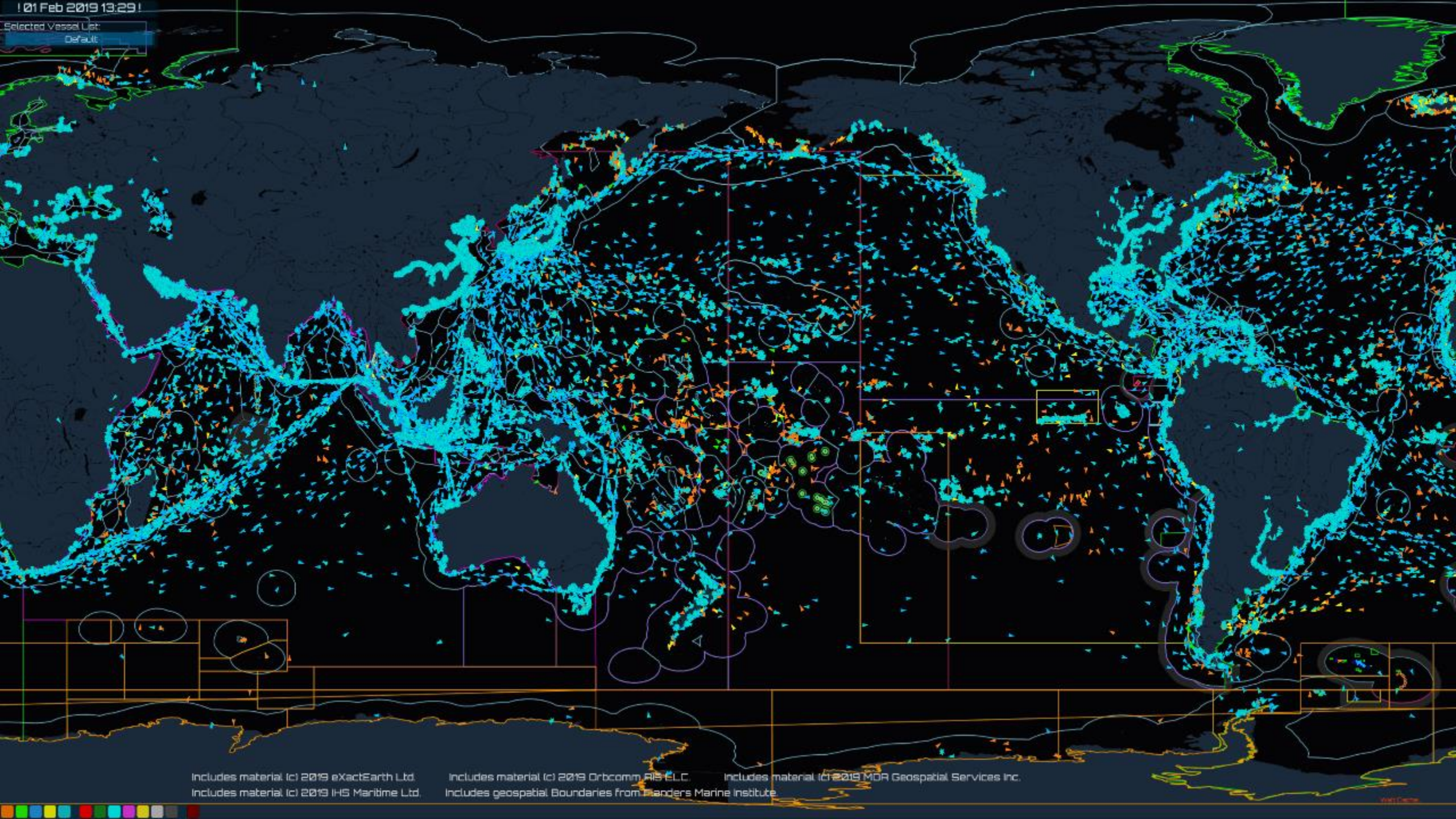
OceanMind Example

To power enforcement and compliance to protect the ocean's ability to provide for human wellbeing

OceanMind is an impact-oriented, not-for-profit organisation

How OceanMind Works

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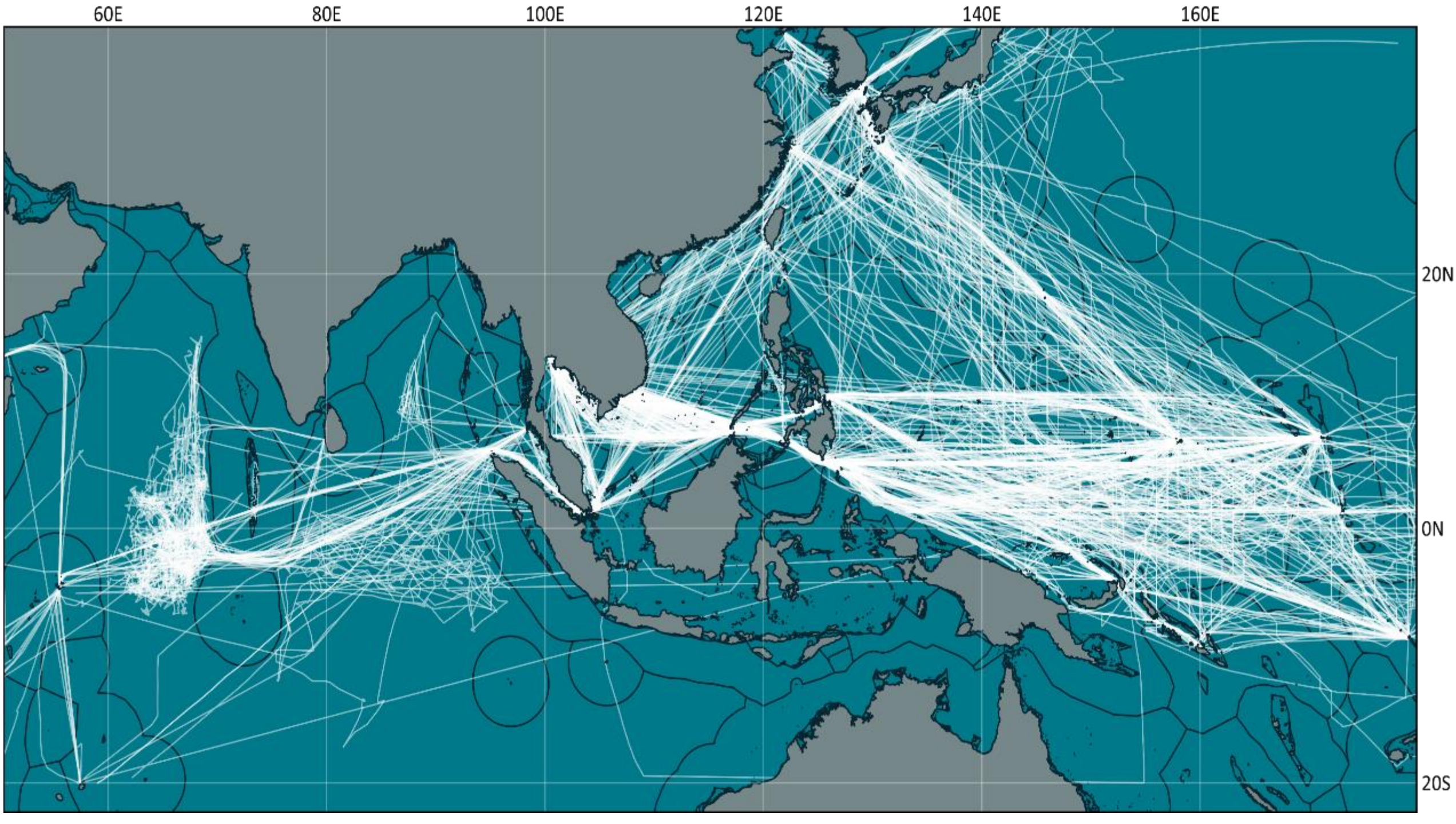
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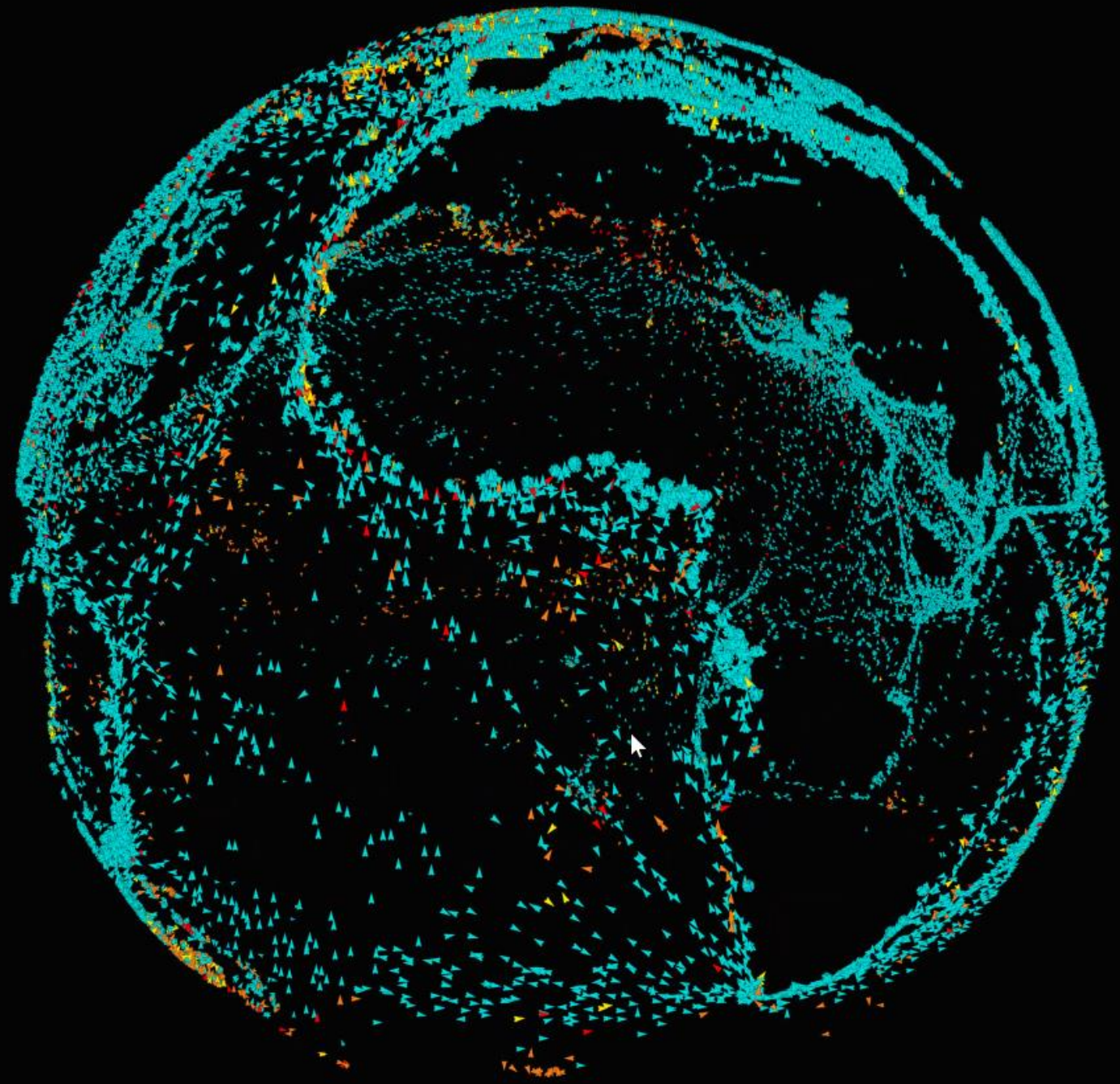

Key Components of Big Data

- Data gathering (specialised)
- Edge analysis (standardised)
- Data ingres (standardised)
- Data storage and indexing (standardised)
- Data management (standardised)
- Data aggregation and analysis (specialised nature, standardised infrastructure)
- Data visualisation and dissemination (specialised nature, standardised infrastructure)

Reuseable Building Blocks

- Save resources, leverage existing systems
- Cloud computing systems provide most of the system
- Focus on areas of specialism:
  - sensors/data gathering
  - analysis

MULTIDISCIPLINARY APPROACHES

- Machine learning is not magic, better, it’s maths
- No amount of data science circumvents the need for domain expertise
- But expertise in maths is also mandatory
- Multidisciplinary teams are essential, data scientists with domain experts
- Think global, train local

CONCLUSION

- Exciting times, so much tech and data available
- Specialise in your domain, use existing platforms and data
- Partner to form multidisciplinary teams for best results