

Business: Overview



Founded in 1989 by Drs Amos Barkai & Mike Bergh.



Quantitative fisheries management and eLog Solutions. Predictive analytics and Big Data.



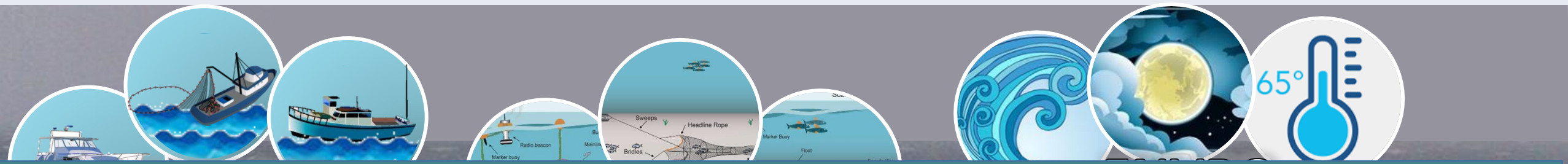
Offices in Cape Town, Johannesburg, Lisbon and London.



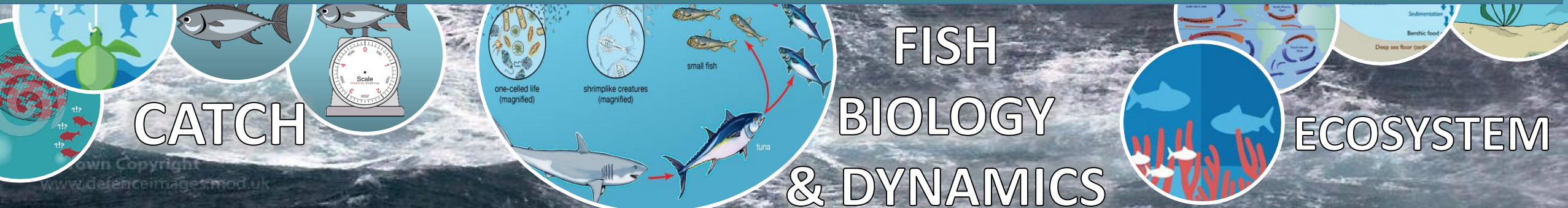
Operates in 17 countries.



Research of the North Area Division Coasted to thisplex



DYNAMIC CHAOS

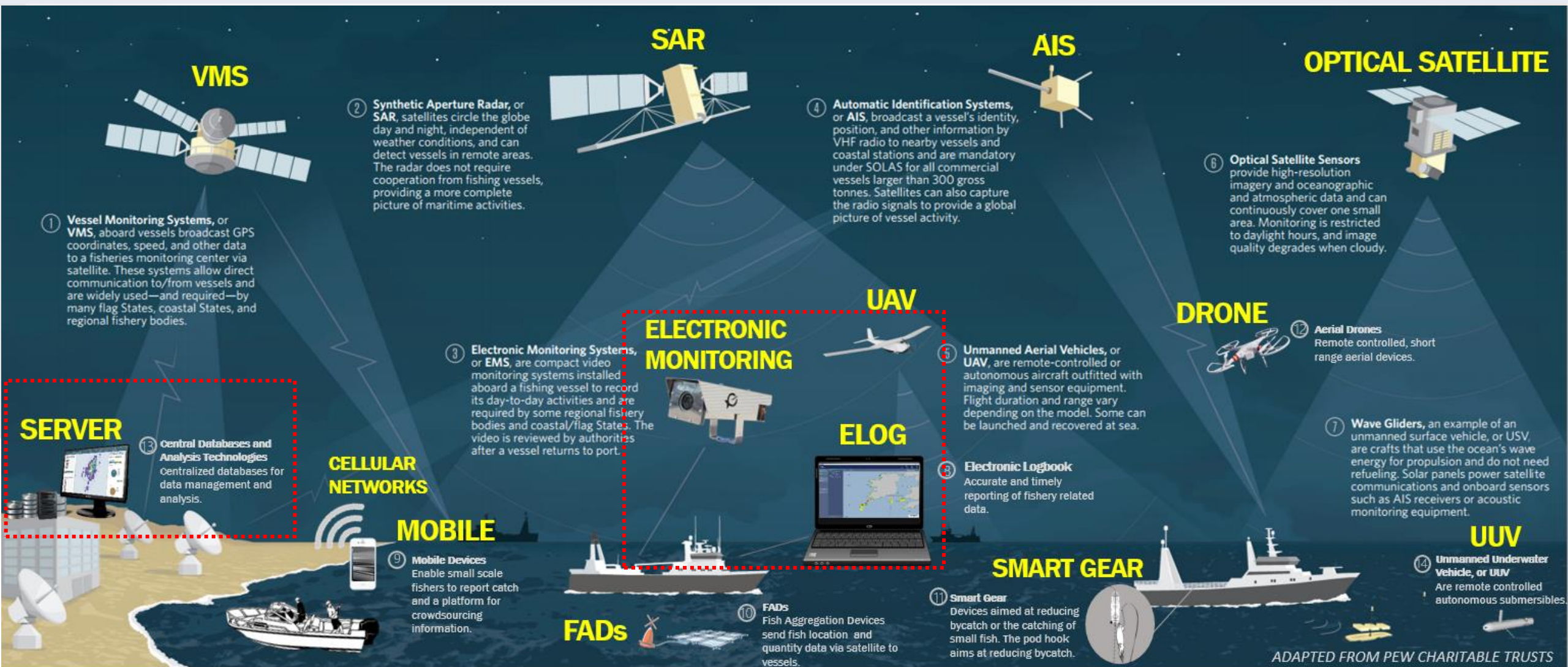


CATCH

FISH
BIOLOGY
& DYNAMICS

ECOSYSTEM

Technology and Data Saturation Without Direction and/or Cooperation



ADAPTED FROM PEW CHARITABLE TRUSTS

1: Need Structured and Cooperation

Citizen science

- Need to collect high quality,
- Verifiable,
- And structured data.
- Citizen Science needs to take the next step and allow citizens to analyse the data they have collected.



Industrial

- eLogs that collect data beyond compliance needs.
- Universal Data Standards.
- Fishers and Owners to get use out of their data.
- Collect high resolution data for greater insight.



Artisanal

- Data collected at sea and collated on a web server.
- Allows small scale fishermen to connect.
- Multi-stakeholder engagement
- Socio-economic empowerment: Fair trade.



Knowledge Sharing

- Bring together various clusters of knowledge.
 - Science
 - Industry
 - Sustainability leaders
- Coming together to address cross-cutting issues and opportunities



Introducing BIG DATA Thinking and Methodology into Fisheries Management

- Chaotic System
- Resists conventional predictive analytics techniques
- Fishing industry is in dire need of new solutions and disruptive innovation
- The fisheries industry, exists at the nexus of many complex, dynamic, interacting systems and has both need for, and the data to satisfy the requirements of modern machine learning techniques.



*BIG
DATA*

Illusion Of Knowledge

**THE GREATEST
ENEMY
OF KNOWLEDGE
IS NOT IGNORANCE,
IT IS
THE ILLUSION
OF KNOWLEDGE**

10s of data review studies have shown paper
logbook data to be:

- WORTHLESS

Or even worse

- MISLEADING

Illusion of Knowledge



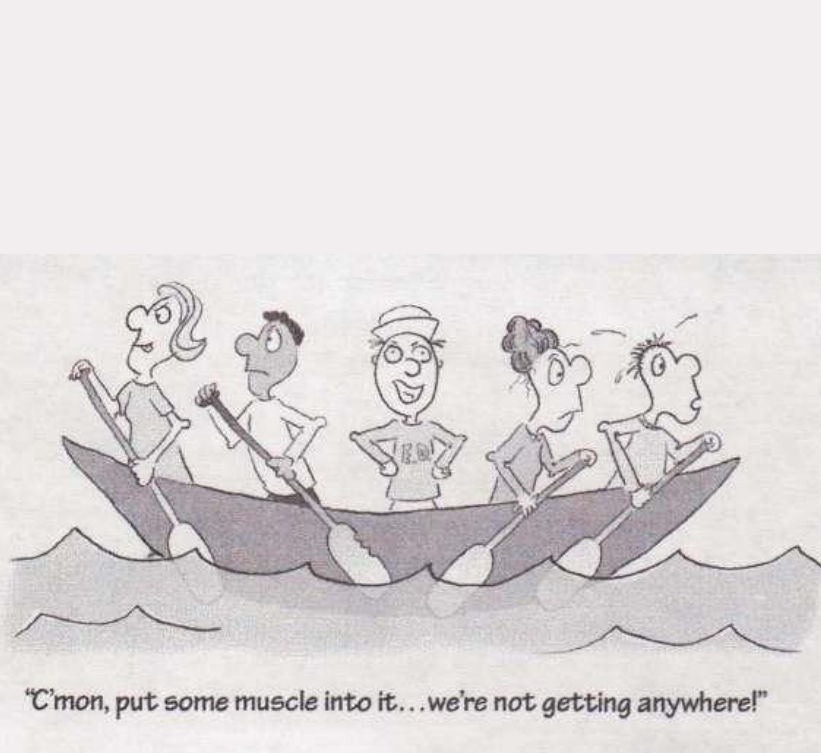
The attempt to apply OLD THINKING to both:

- data collection and
- data analysis techniques

to meet the massive demand for information and deal with the massive accumulation of data is simply:

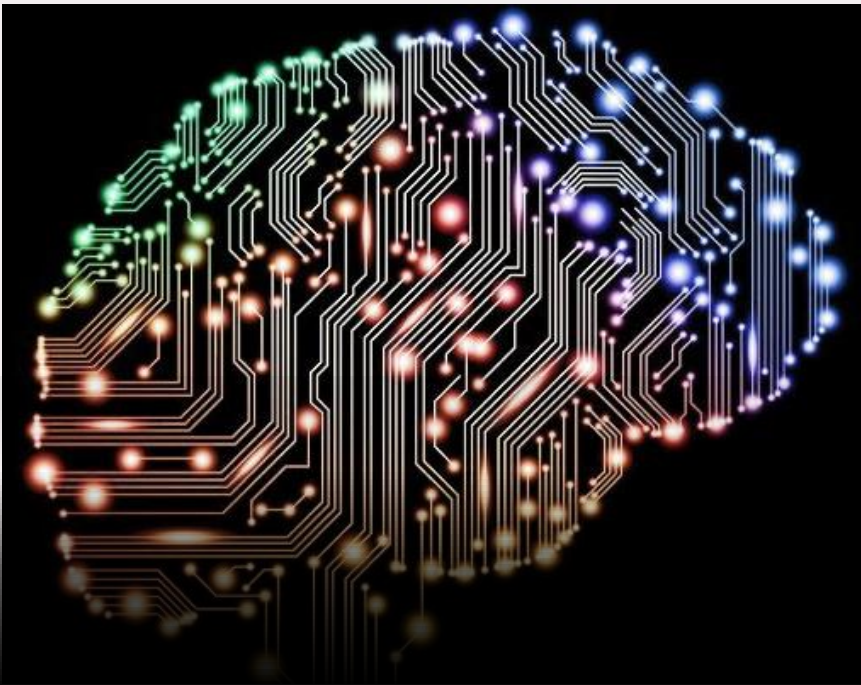
- not realistic
- nor practical

Reasons:



- No clear or quantifiable objectives are set
- Poor technology - poor data quality
- Culture of misreporting
- Lack of agreed standards on all levels
- Little to no understanding or interest in data science controlling the data collection process
- Management thinking is anachronistic
- Instead of looking at new ways of doing things just hammering fishers with more regulations and more data requirements

Solutions:



- Species recognition
- Events recognition
- Catch estimates
- Fishing effort estimates
- Fish source IDs using genetic markers...

- Set up minimum requirement standards
- Make it simple and beneficial for fishers to collect good quality data
- Implement technology with consideration of practical realities
- Advanced data mining techniques at all levels of management, analysis and harvesting programme development
- Create data and knowledge sharing platforms that are cooperative and bring them under one roof
- Incorporate machine learning techniques and technologies