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# Seabed 2030 Hydrographic Data

Enabling Contributions

**Steve Keedwell**  
Shell Global Solutions (UK) Ltd  
Principal Technical Expert Offshore Survey

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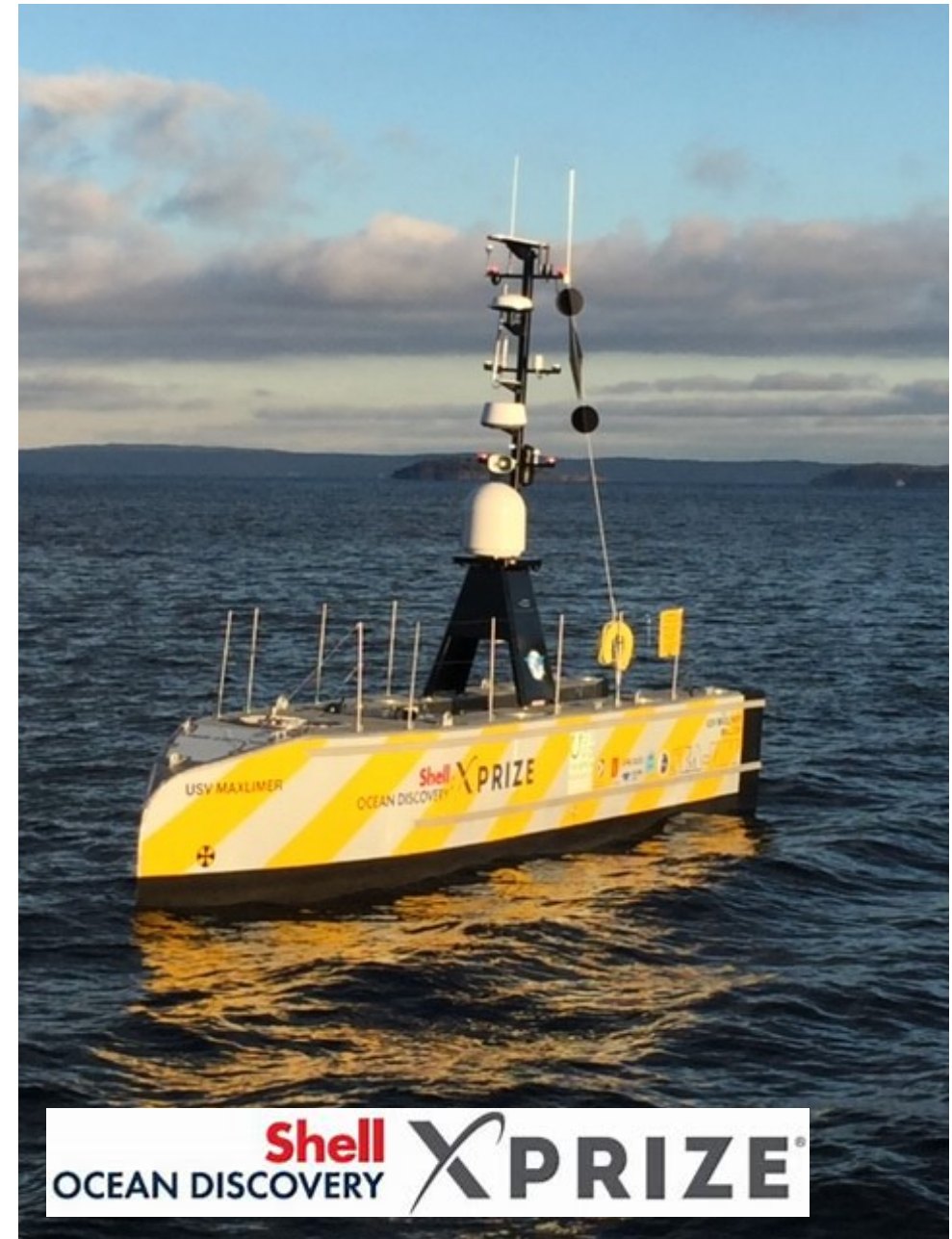
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# Agenda

- Introduction – the purpose and opportunity of presenting to IHO
- Where Shell operates.
- What hydrographic data does Shell acquire
- Opportunities, Challenges & Recommendations to enable Shell to contribute to Seabed 2030.

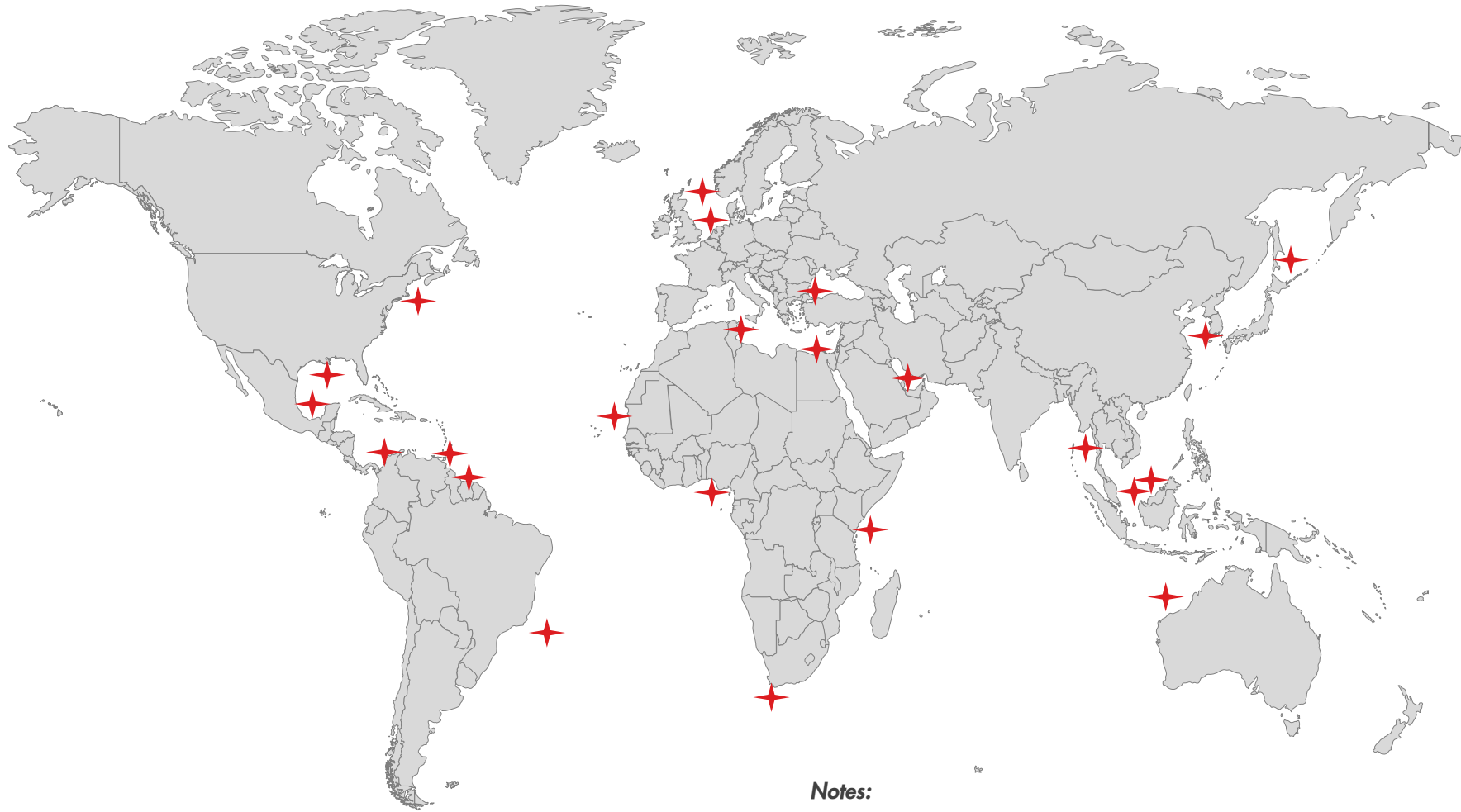
## Shell Ocean Discovery XPRIZE

- *The Shell Ocean Discovery XPRIZE brought global attention to the deployment of robotics to develop capabilities to acquire high resolution seafloor bathymetry at un-precedented amounts.*
- *Technology developed in the competition is being replicated for the purpose of acquiring bathymetry with a minimal footprint and cost.*





# Where Shell acquires hydrographic data



**Notes:**

*Stars represent approximate areas per country*

*Some of these are Joint Ventures incl Wind Energy JVs.*

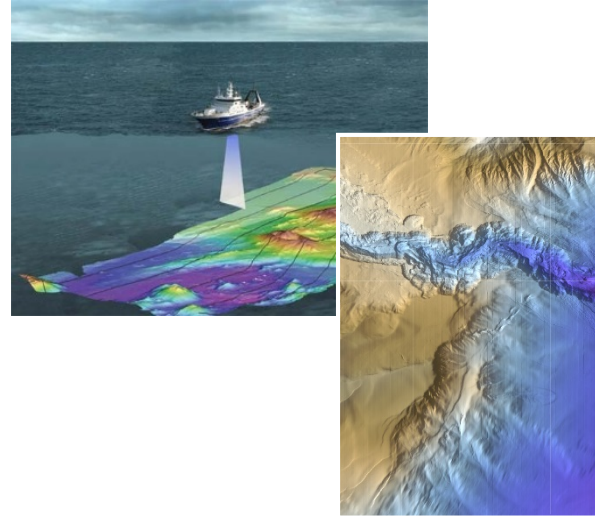
# What hydrographic data does Shell acquire ?

## Seismic Data



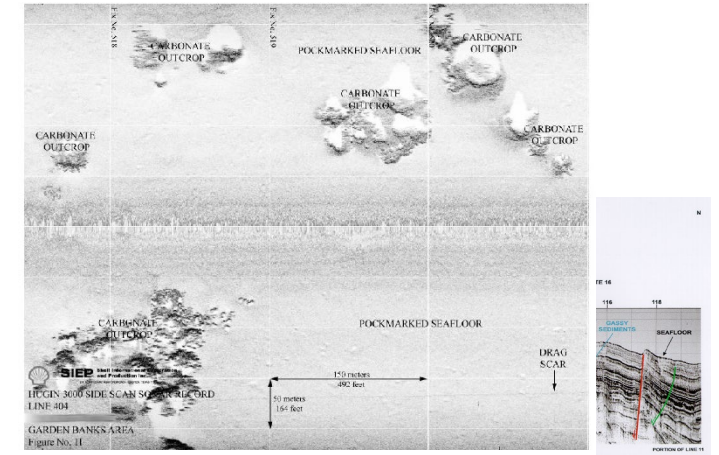
- Large area coverage (2D & 3D)
- First return data from seabed
- Hull acquired single beam echo sounder

## Bathymetric Data



- Exploration and reconnaissance surveys
- Site surveys – small area
- Potential for transit lines between locations/countries
- Swathe bathymetry

## Seabed Characteristics & Shallow Geology



- Site and pipeline route surveys -small area
- Side scan sonar for seabed surface characteristics
- Shallow geology with sub-bottom profilers and/or 2D high resolution surveys
- Soil and environmental samples.

# Opportunities, Challenges & Recommendation

Opportunities to contribute to Seabed 2030:

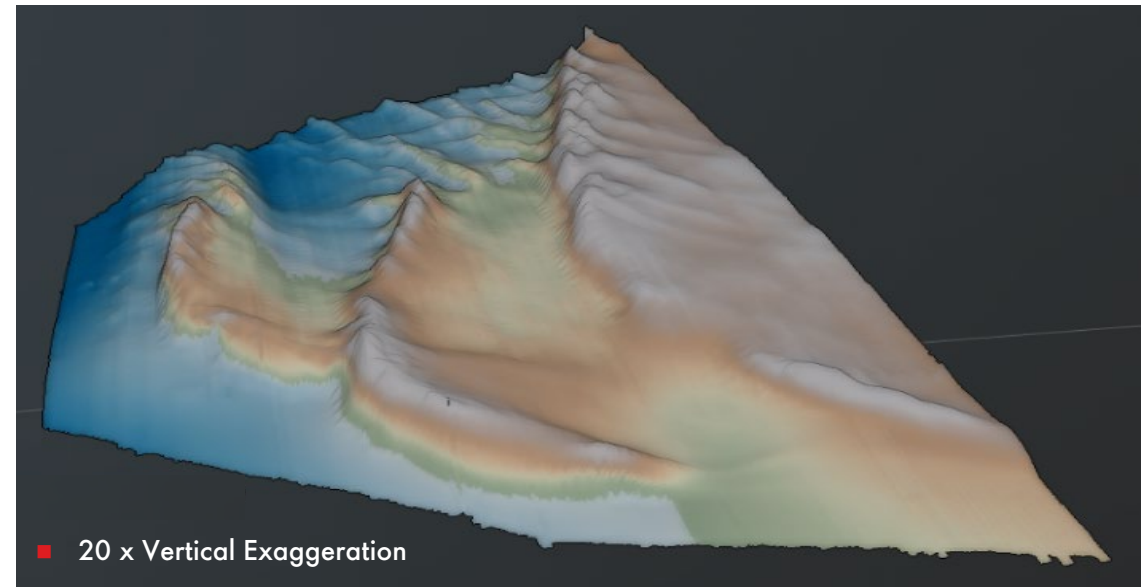
- Shell is acquiring data within country identified jurisdictional boundaries.
- Acquisition of MBES during vessel transits where Shell pays mobilization.

Challenges to contributing to Seabed 2030:

- Shell acquires the data but we do not have permission to share/donate without explicit prior country permission.
- Complex process to seek permission.

Recommendations to enable contributions to Seabed 2030:

- Improve collaboration between country Hydrographic Offices and the Natural Resource Regulator.
- Simplify and reduce permitting requirements for transits through country Exclusive Economic Zones (EEZ).



- Observed wrecks charted in a survey

