



 **ODYSSEY**

---

MARINE EXPLORATION

Baseline Environmental Database – 11 December 2013

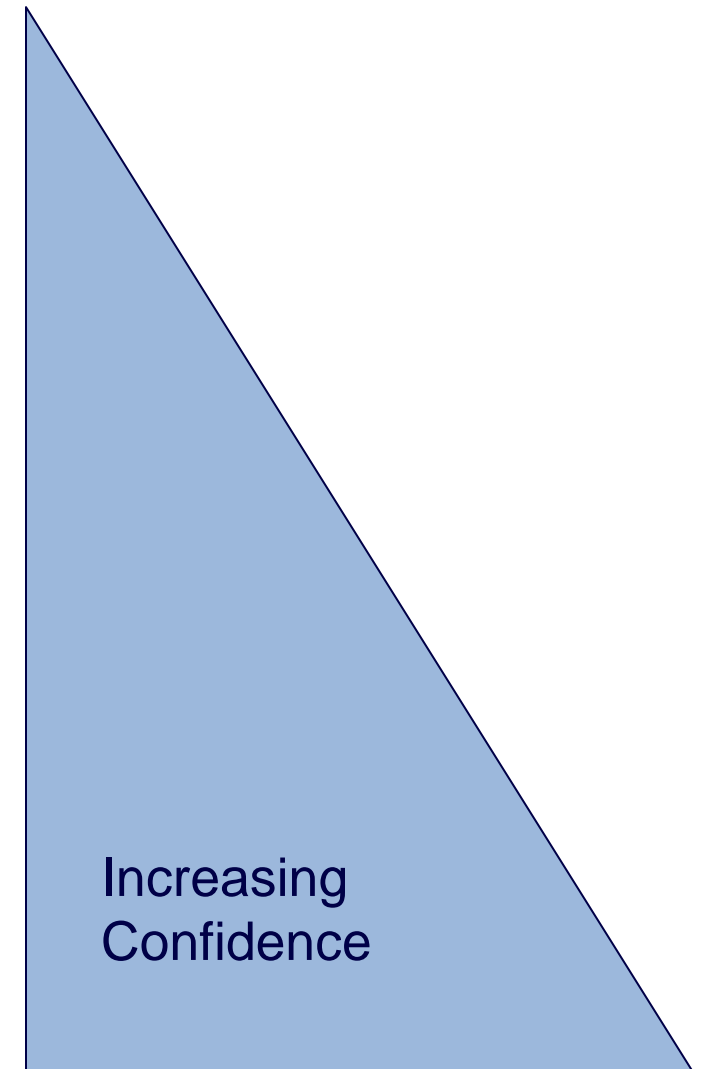
# Baseline Environmental Database

- **Collect baseline environmental data at all stages of resource development**
- **Scale collection efforts as resource is proven – opportunistic to dedicated**
- **Standardise data collection programs as much as possible**



# Conceptual Staged Approach to Resource Development

- **Stage 1 – Routine Exploration**
  - Regional multibeam mapping
  - Tow-yo plume sniffing
- **Stage 2 – Prospect-scale First Pass Identification**
  - ROV targeting of encouraging features
  - Video, Rock sampling
- **Stage 3 – Prospect First Pass Evaluation**
  - ROV transects
  - ROV multibeam
  - Initial drilling
- **Stage 4 – Prospect Evaluation/Resource Definition:**
  - Pre/post-drilling visual inspections
  - Resource drilling

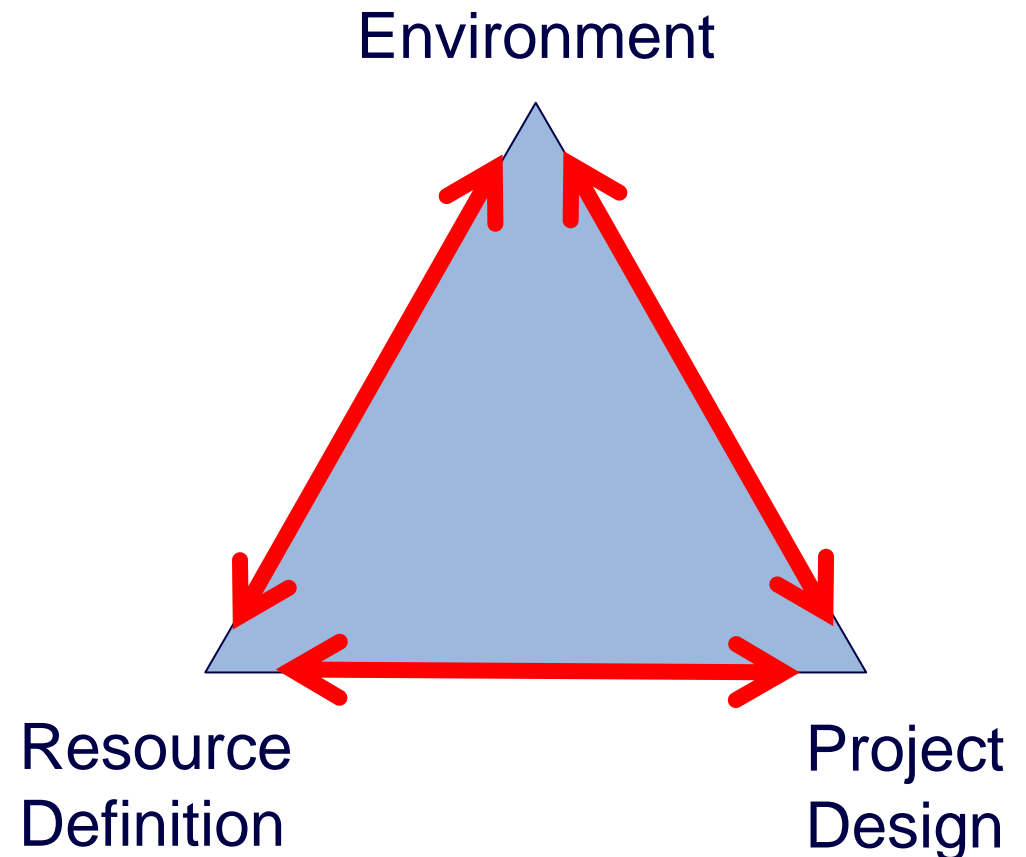


# Conceptual Baseline Environmental Program

Conceptual Stage	Stage 1 Routine Exploration/Targeting	Stage 2 Prospect-scale First Pass Identification	Stage 3 Prospect First Pass Evaluation	Stage 4 Prospect Evaluation/Resource Definition
<b>Conceptual Exploration</b>	<ul style="list-style-type: none"> <li>Regional multibeam</li> <li>Tow-yo plume sniffing</li> </ul>	<ul style="list-style-type: none"> <li>Targeted ROV dives</li> <li>Rock sampling</li> </ul>	<ul style="list-style-type: none"> <li>ROV transects</li> <li>ROV multibeam</li> <li>Initial drilling</li> </ul>	<ul style="list-style-type: none"> <li>Resource drilling</li> <li>Pre/post drilling visual inspections</li> </ul>
<b>Conceptual Environment</b>	<ul style="list-style-type: none"> <li>CTD</li> <li>Multibeam</li> <li>Marine observations (surface only).</li> </ul>	<ul style="list-style-type: none"> <li>CTD</li> <li>Video</li> <li>Macrofauna</li> <li>Water samples</li> <li>Marine obs (surface, water column)</li> </ul>	<ul style="list-style-type: none"> <li>CTD</li> <li>Multibeam</li> <li>Video</li> <li>Macrofauna</li> <li>Marine obs.</li> </ul>	<ul style="list-style-type: none"> <li>CTD</li> <li>Water samples</li> <li>Video</li> <li>Biology macro, meio, etc.</li> <li>Ore/OB</li> <li>Sedimentation</li> <li>Marine obs.</li> <li>*****</li> <li>EIA studies</li> </ul>

# Who Designs Baseline Environmental Programs?

- Proponent team: environment (in-house, consultants), engineers, geologists
- Leading scientists
- Governments
- Stakeholders
- Inclusive, continuous, adaptive process



# Who Collects the Data/Samples?

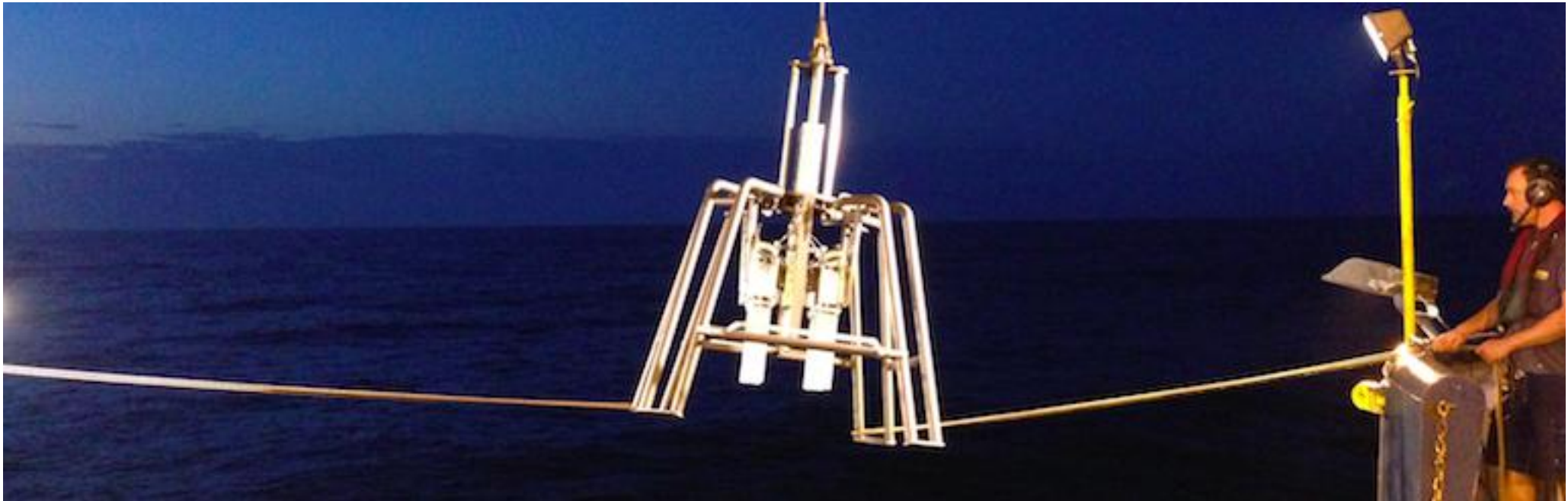
- **Dedicated, multidisciplinary science team**
- **Host country students, scientists**
- **Government personnel**
- **Learning opportunities go both ways**



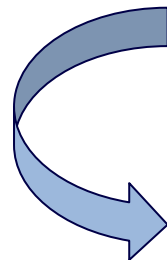


# Consistency

- Consistent approach to designing sampling programs, data collection programs
- Standardised, consistent formats of data storage
- Adaptable to specific project sites & advances in science, techniques



- **Project Design**
- **Environmental Impact Assessment**
- **Environmental Management Plans**
- **Monitoring**
- **Scientific papers**
- **Increased knowledge of systems**



**CONTINUOUS  
IMPROVEMENT**

