

SMD

Hydrovision

Installing the inter-turbine power cables at North Hoyle.

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**Business Development
Manager**

**UK Offshore wind
2004**



“Innovative application of proven engineering”



We will be looking at:

- **Background**
- **LBT1 scope & capabilities**
- **Operations at North Hoyle**
- **Lessons learnt**
- **Summary & Conclusion**



Background – SMD Hydrovision Product Portfolio



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Tidal stream generator - TidE1



LBT1 - Capabilities

GPS buoy

Docking funnel
for lift line

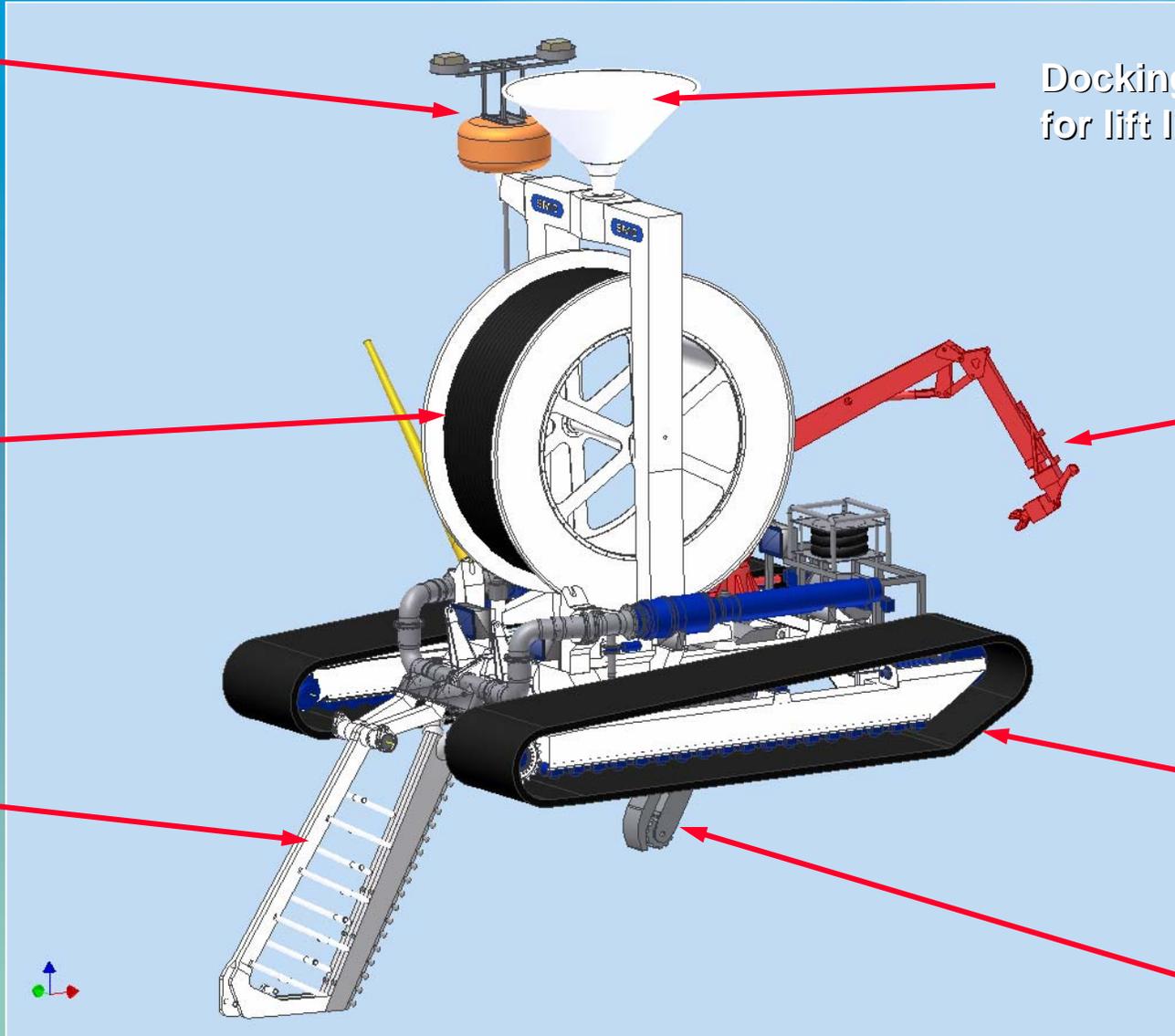
Power cable
drum

Manipulator
crane

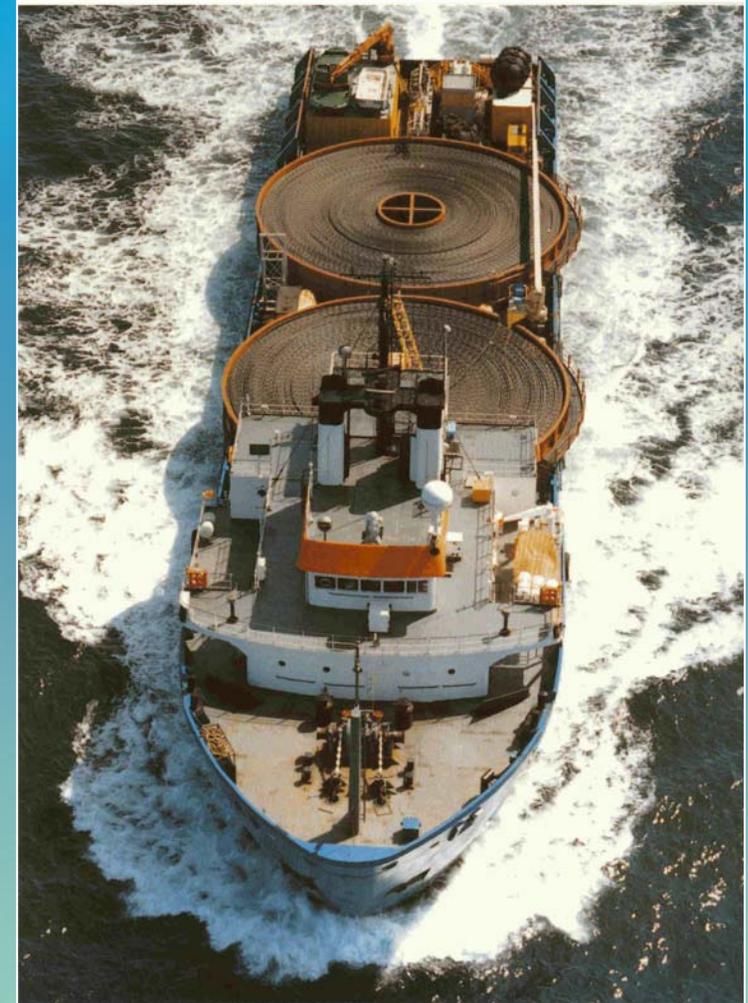
3m Jet Tool

Low Ground
Pressure
Tracks

1.6m Chain
cutter

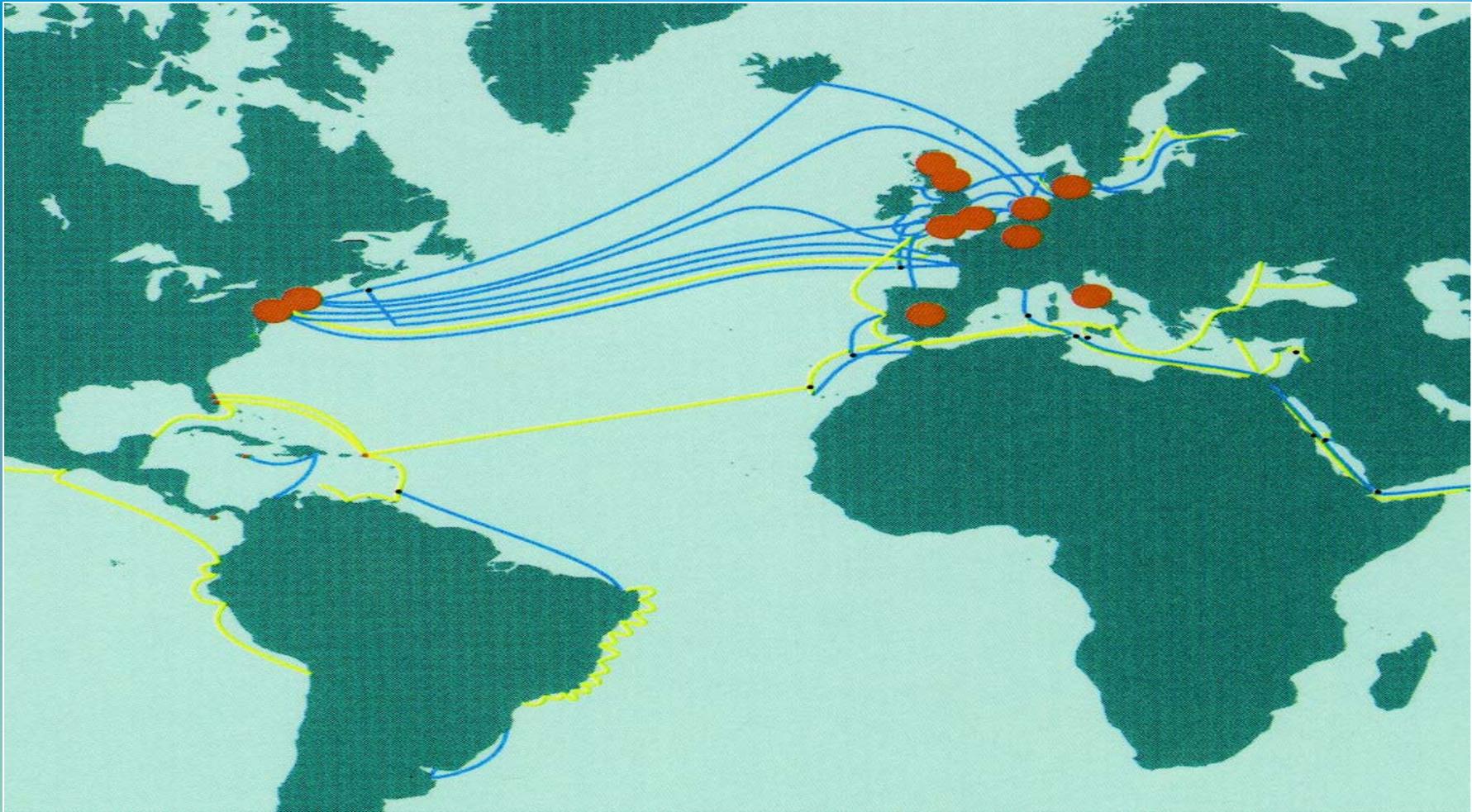


Background - Cable Installation Equipment



Courtesy of DSC

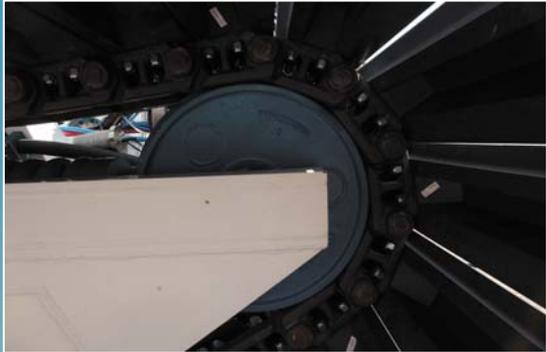
Background – Telecoms cable routes



Design drivers



➤ Operate in a broad range of conditions



➤ Tower to tower operations

➤ Maximise vessel utilisation



➤ Flexible operations

Delivering the Solution - Commissioning



Delivering the Solution – The Team



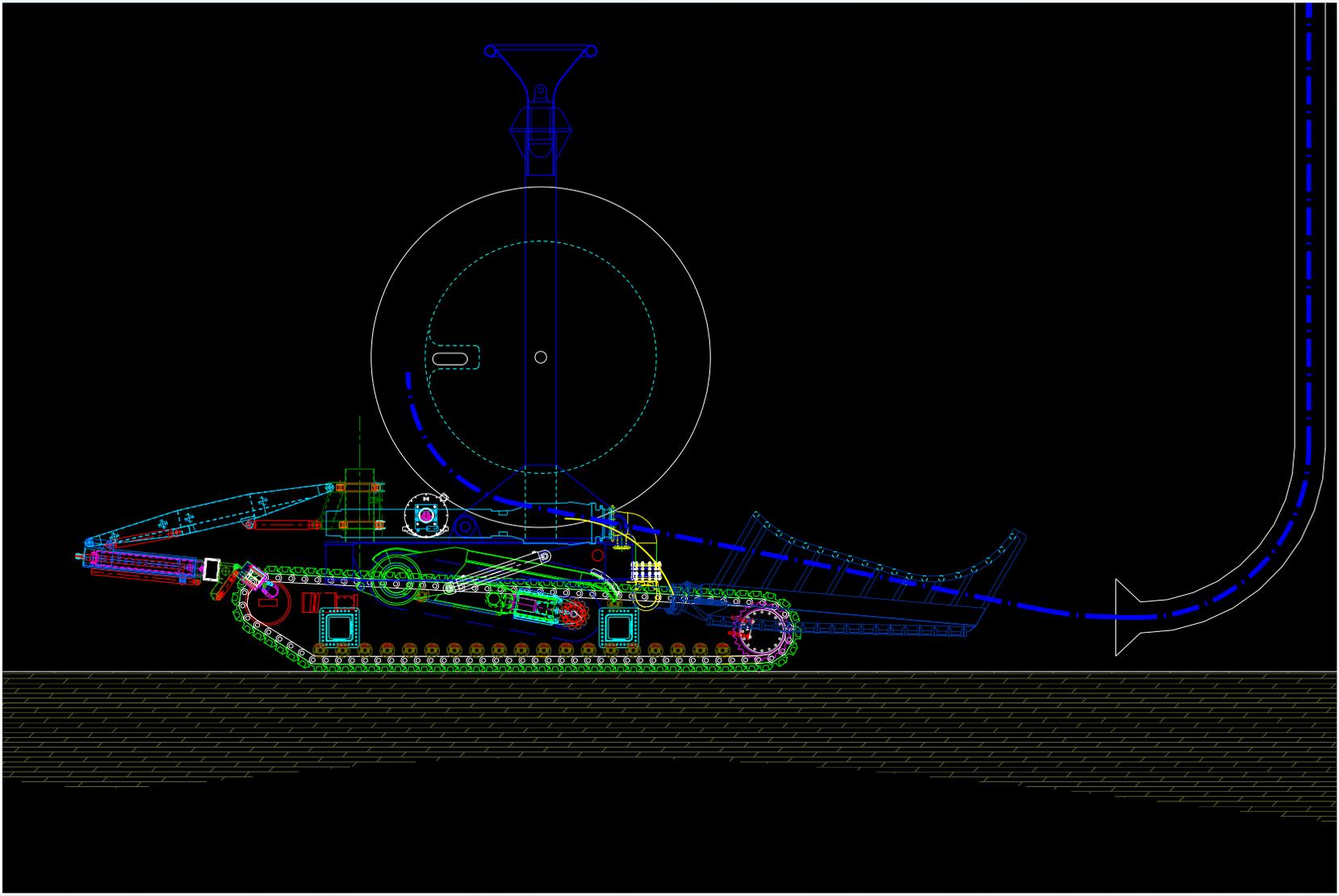
Delivering the Solution - Testing



Operations at North Hoyle - Launching

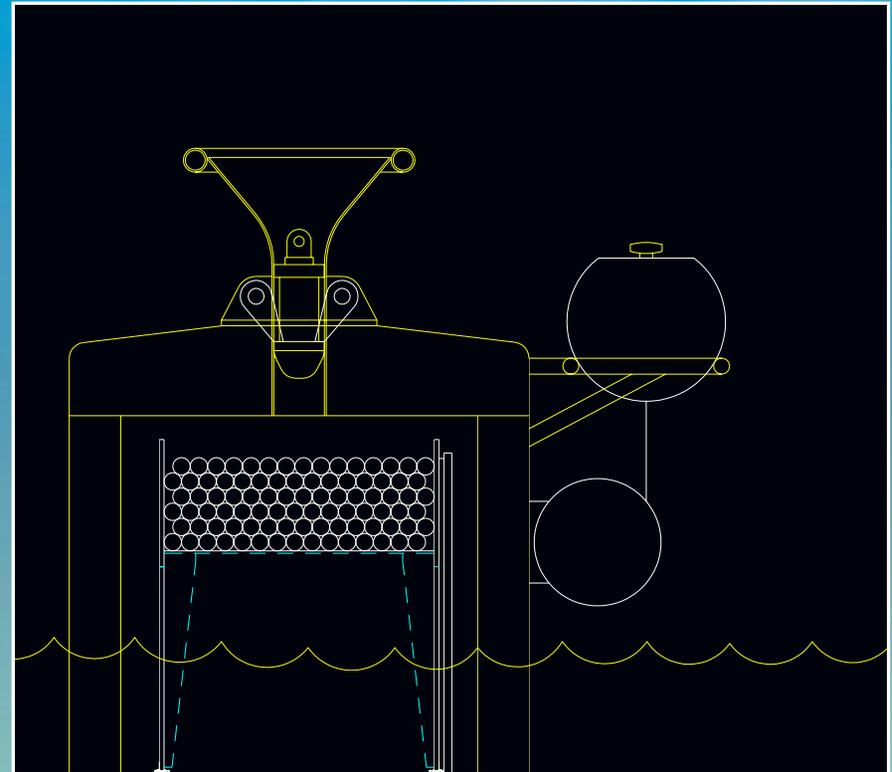
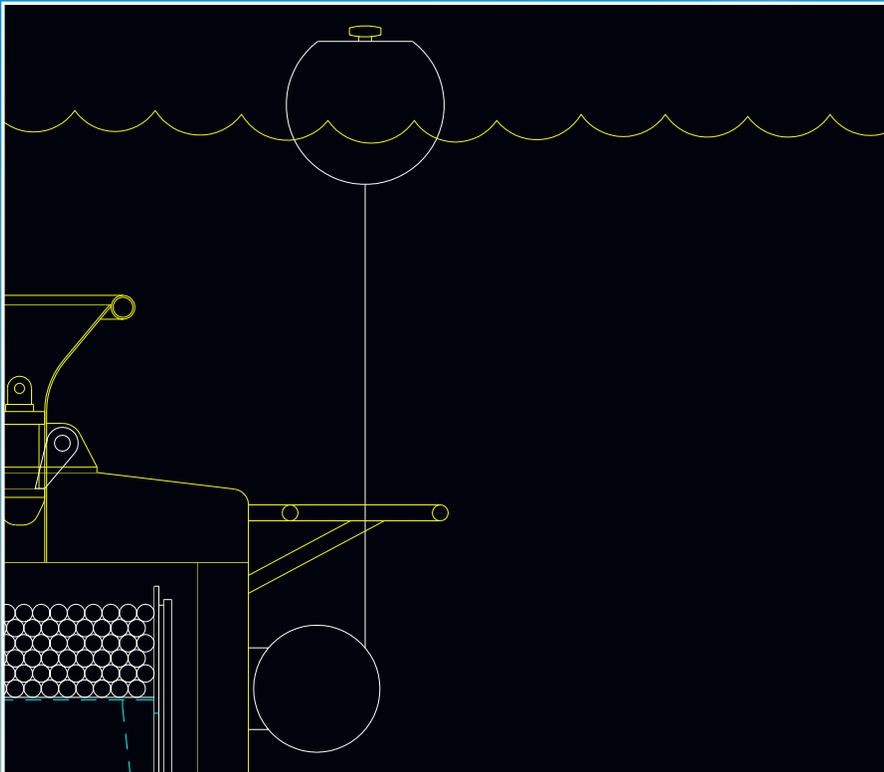


Operations at North Hoyle - Commencing



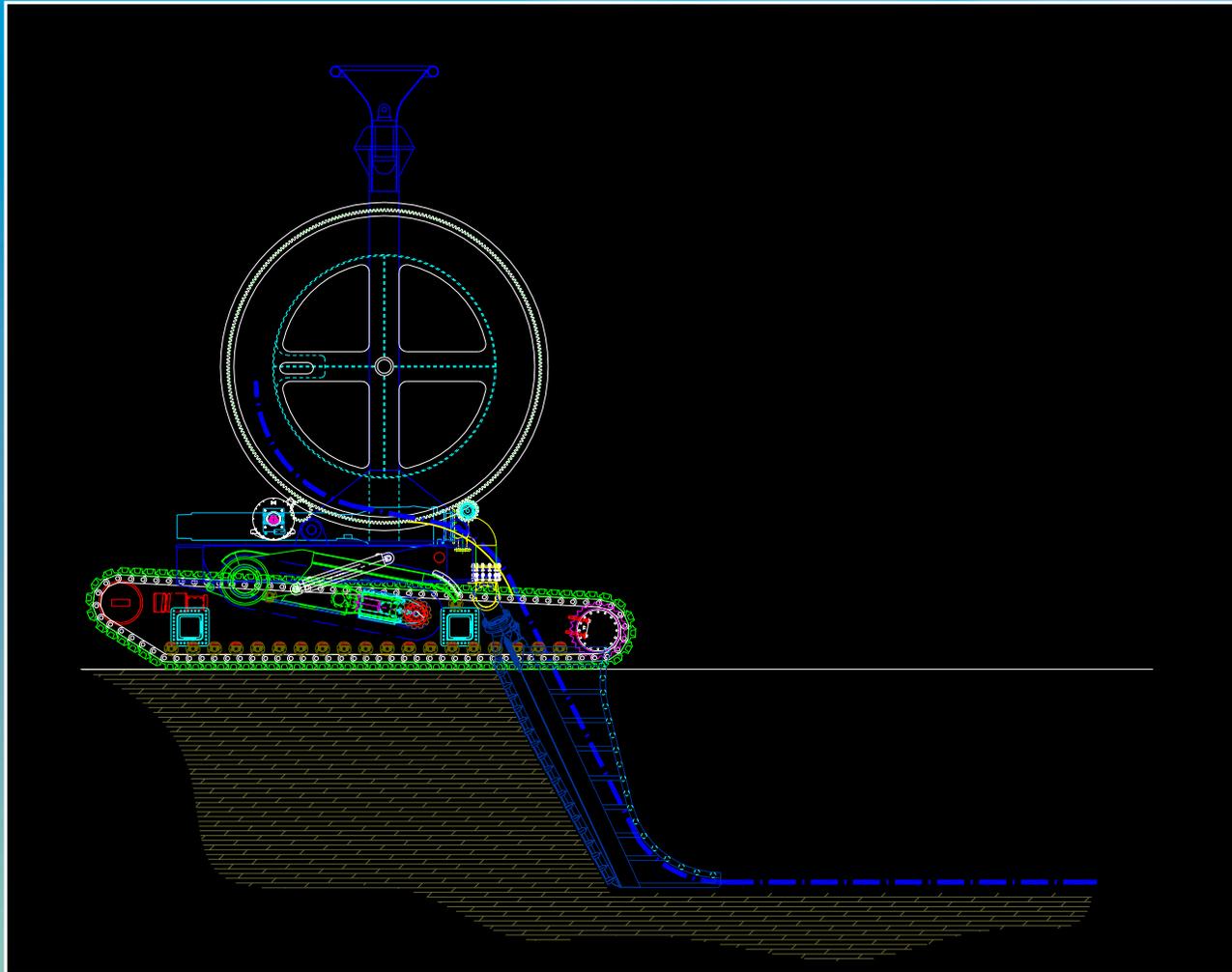
J-Tube Initiation

Operations at North Hoyle– GPS buoy

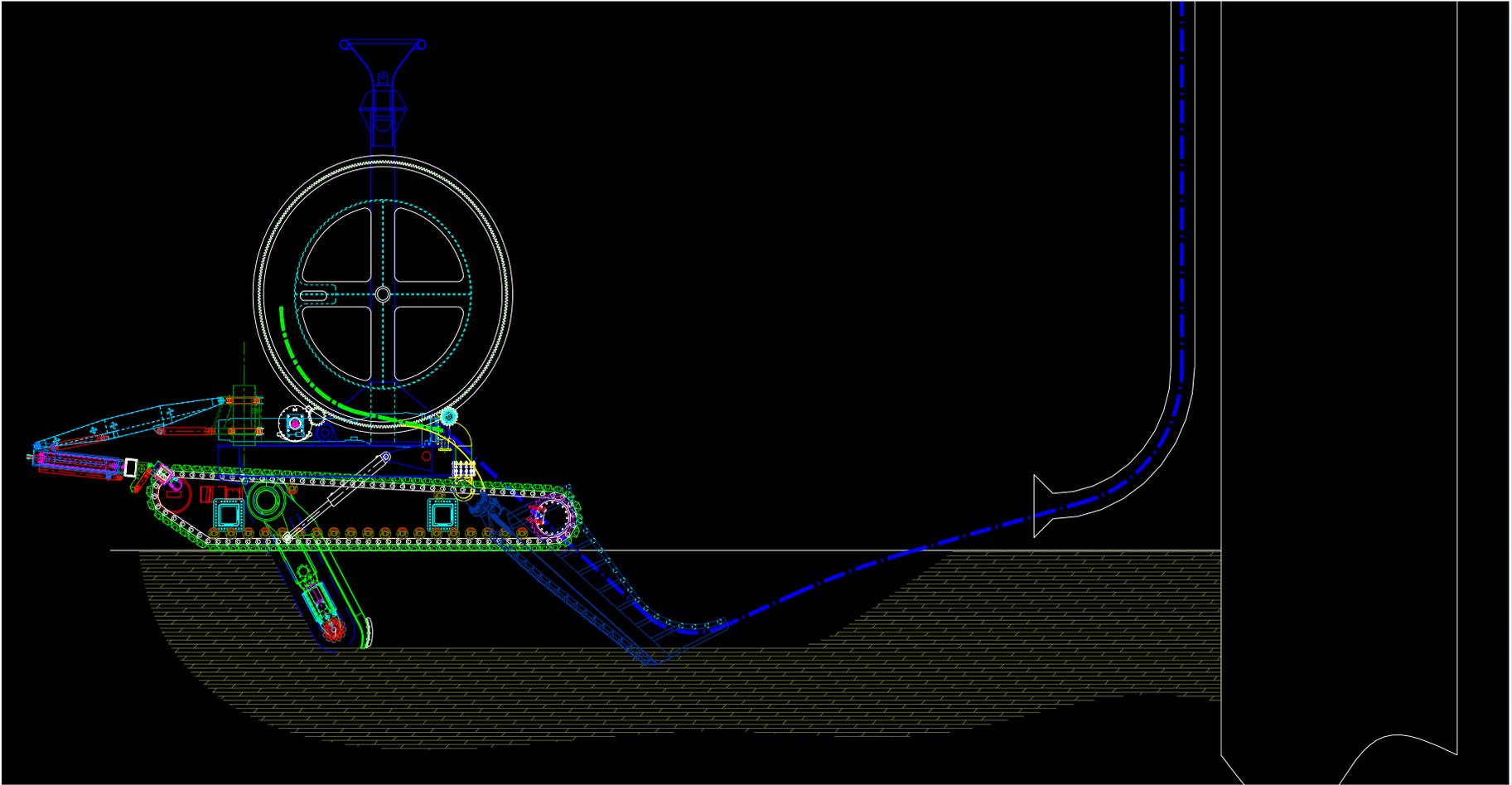


Vehicle Positioning

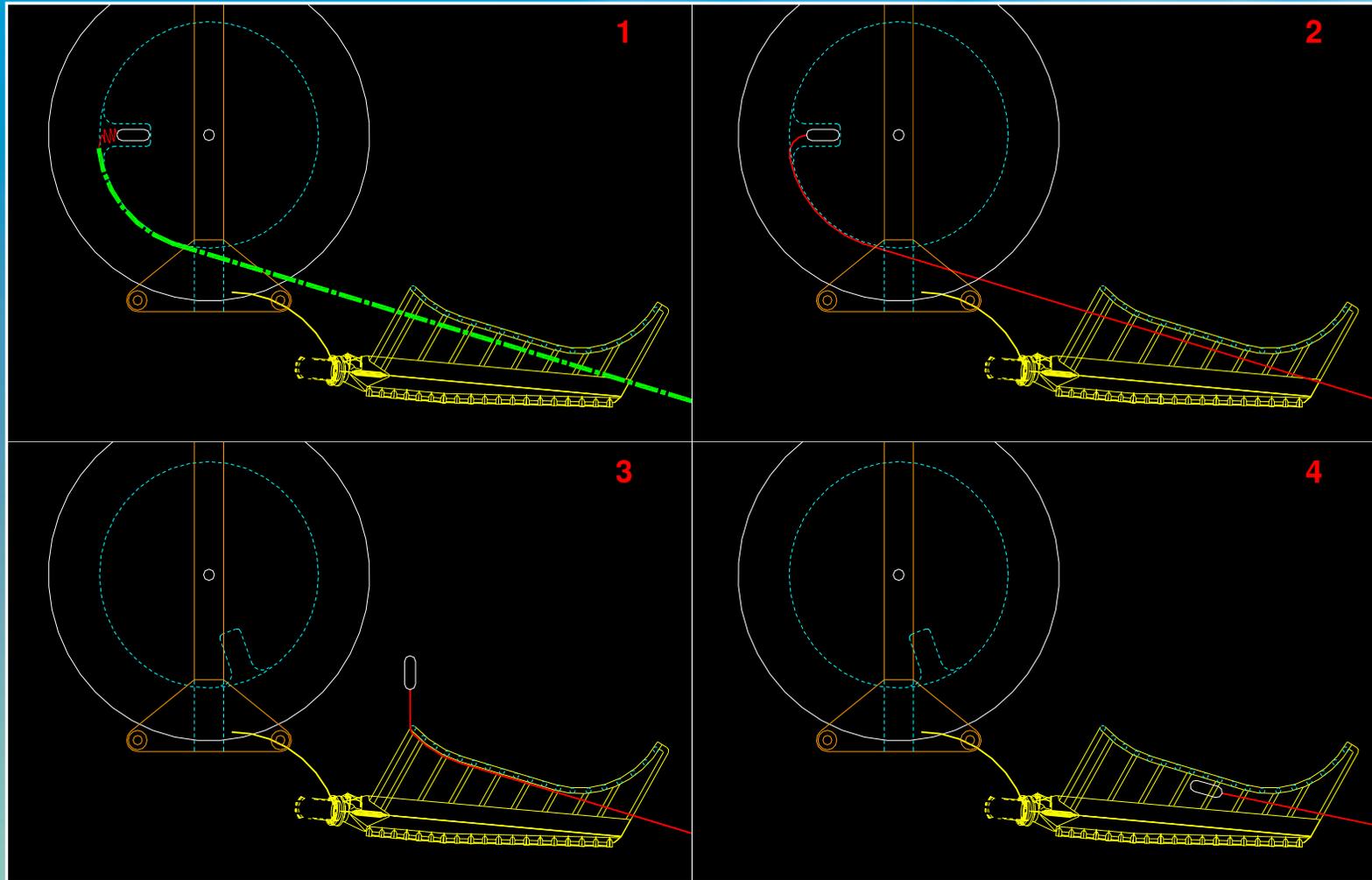
Operations at North Hoyle– Soft Ground Burial



Operations at North Hoyle– Hard Ground Burial



Operations at North Hoyle - Finishing

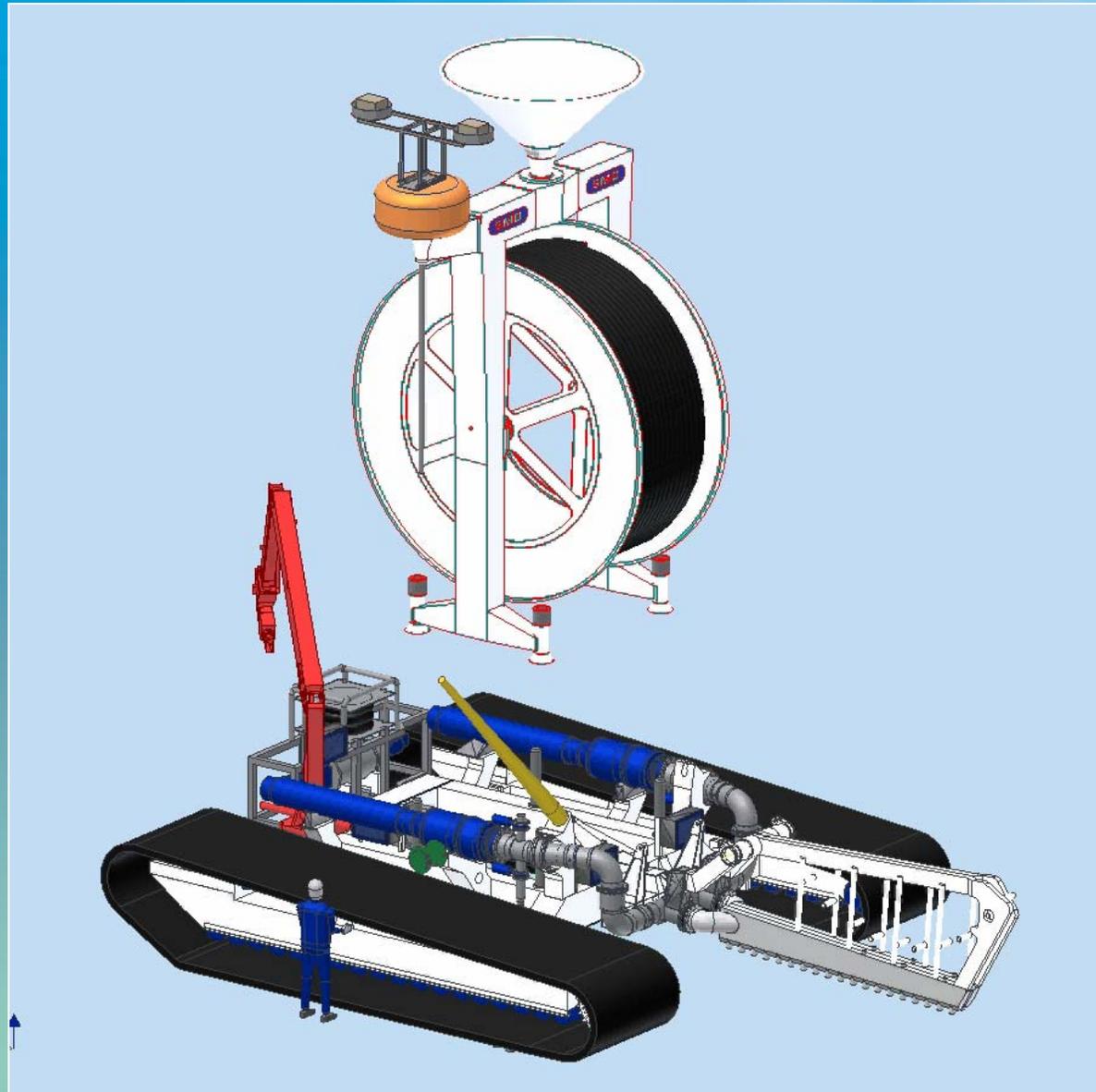


Cable Pull Off

Operations at North Hoyle - Recovery



Operations at North Hoyle - Replenishing



Reel Changeout

Lessons Learnt – Disturbance to seabed



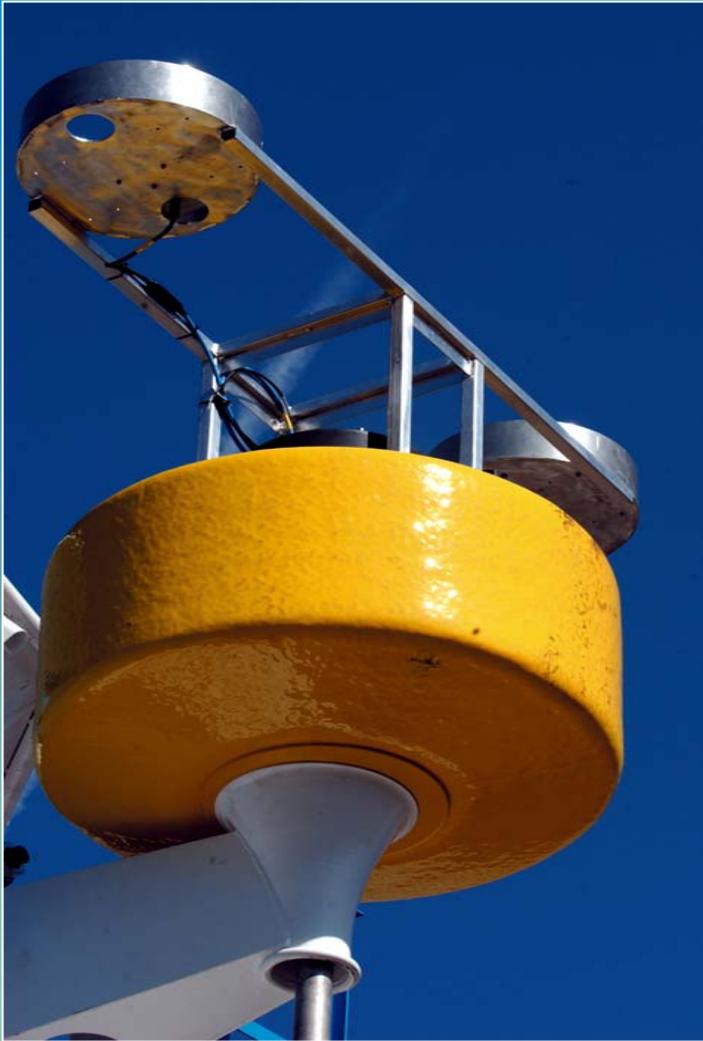
Lessons Learnt – Adaptable to host vessel



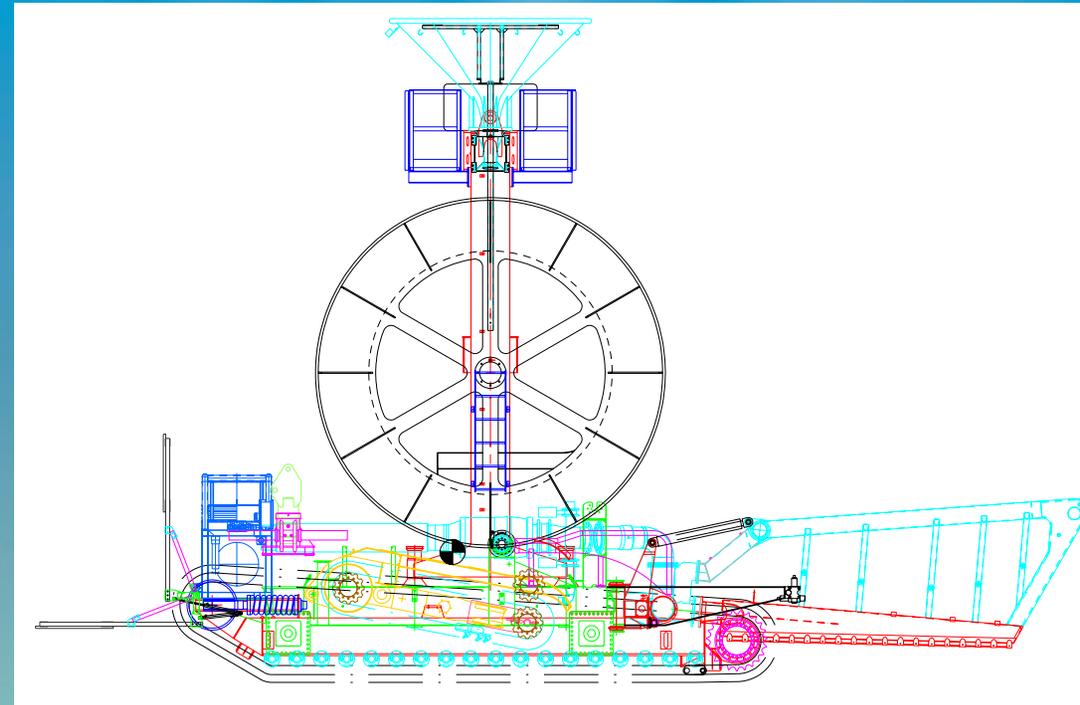
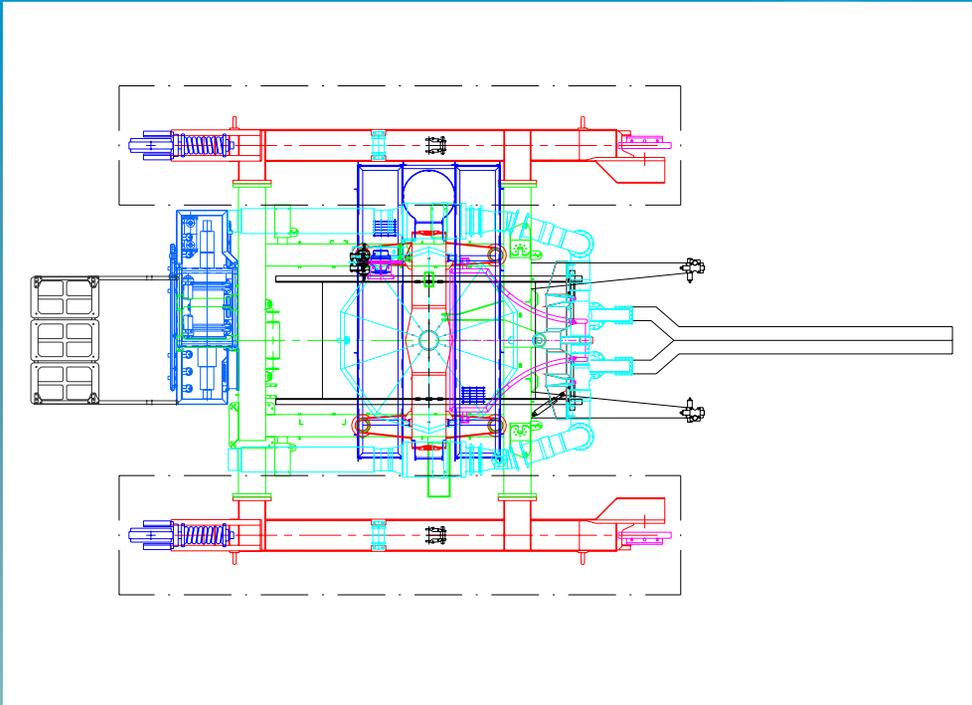
Lessons Learnt - Seabed composition



Lessons Learnt - Real time GPS



Lessons Learnt – Cable location



Summary and Conclusion



- **The concept works!**
- **Cable end operations dominate the installation**
- **Proven to be flexible and adaptable**
- **Reduce the impact of multiple vessels on future windfarms**

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