



RAPTOR S.D.R.

SUBMERSIBLE DRILLING RIG



RAPTOR S.D.R

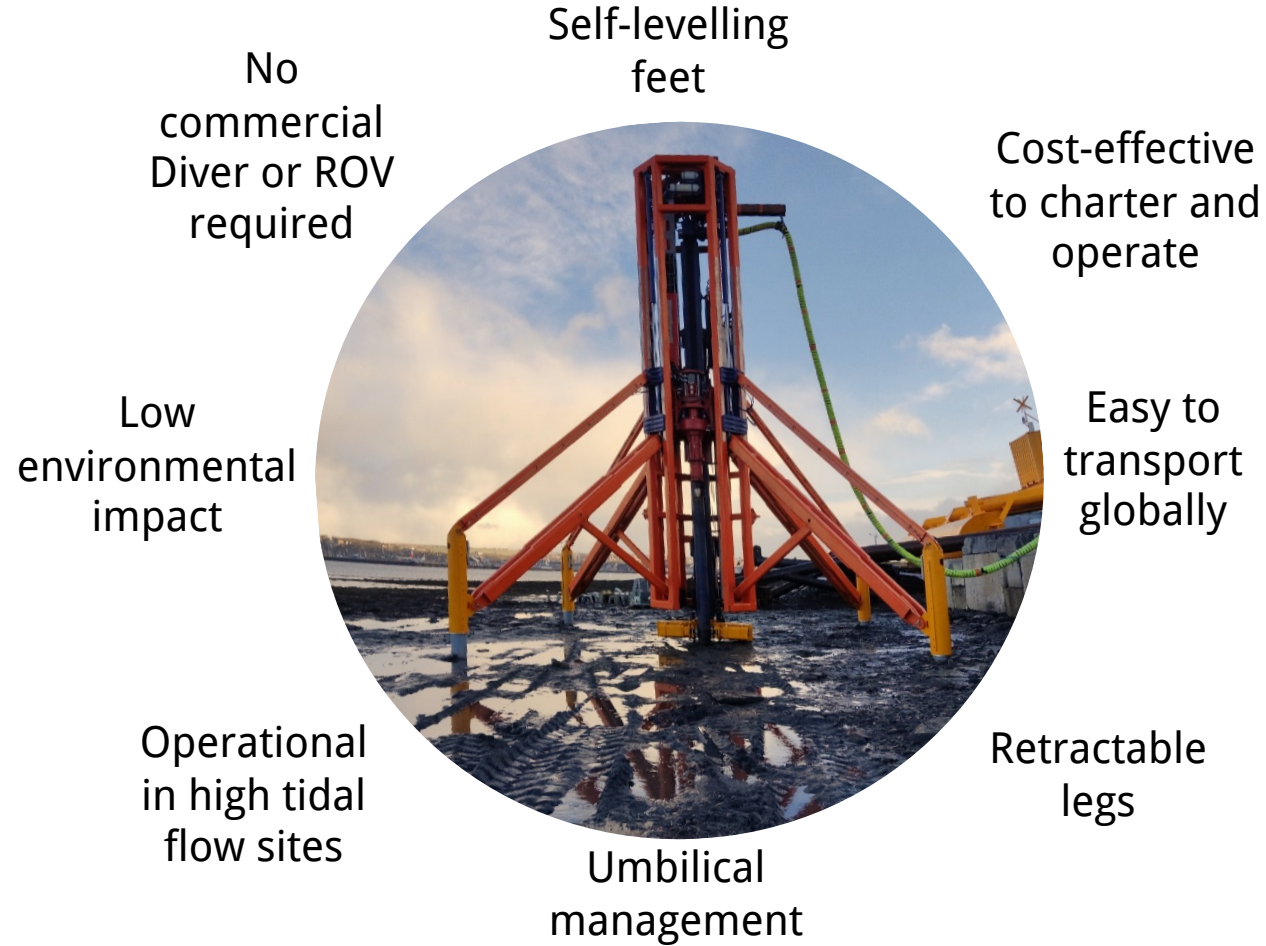
TECHNOLOGY INTRODUCTION

The SDR project is the design, manufacture and development of cost-effective drilling option for mooring and anchoring solutions. This project augments the existing drilling rig concepts available on the market with an innovative, robust purpose-built solution that will enable low-cost drilling & piling operations.



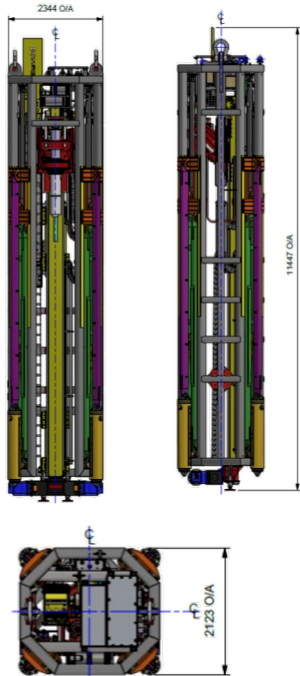
RAPTOR S.D.R

UNIQUE SELLING POINTS



Raptor S.D.R

SPECIFICATIONS



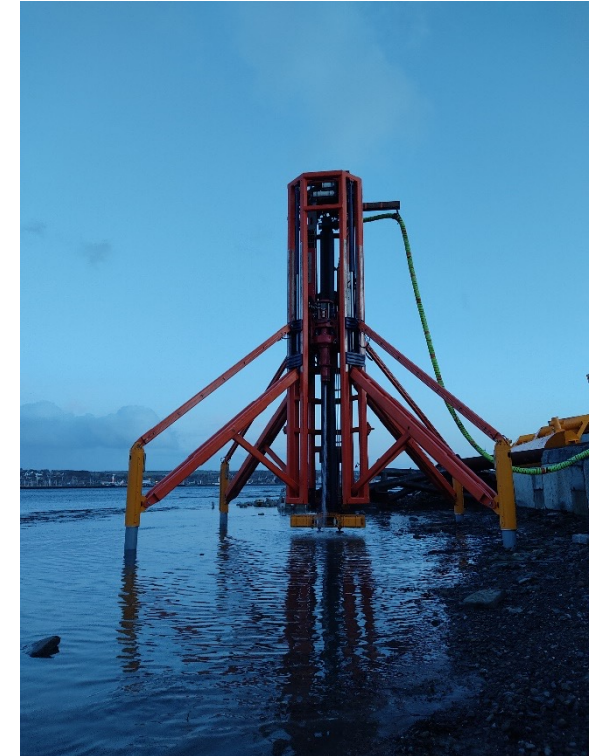
Storage Position

- Dimensions:
 - 2.12m x 2.34m x 11.4m

Drilling Position

- Dimensions:
 - 8.5m x 8.2m x 11.4m

- Overall Weight: 30t
- Drilling diameter <800mm holes
- Levelized feet up to 1m



Raptor S.D.R

SPECIFICATIONS

Drilling Head

Power by hydraulic motor with hydraulic speed gear change.

☉ Pull back capacity:

☉ 51Tons

☉ Speed:

☉ 1st Torque 2963Nm (0 to 43 rpm)

☉ 2nd Torque 1558Nm (0 to 83 rpm)

☉ 3rd Torque 389Nm (0 to 330 rpm)



Raptor S.D.R

SPECIFICATIONS

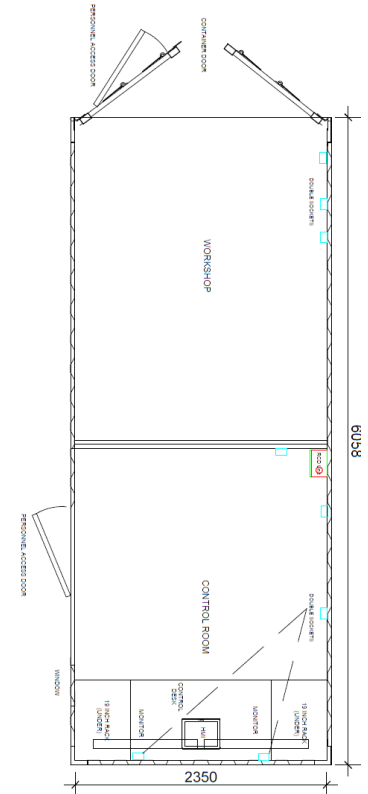
Control System

The remote-control system of the S.D.R allows it to work up to depths of 100m.

- 6x32" screens to monitor operations.



- Located on deck of operation vessel in a 20ft container.
- Workshop area.

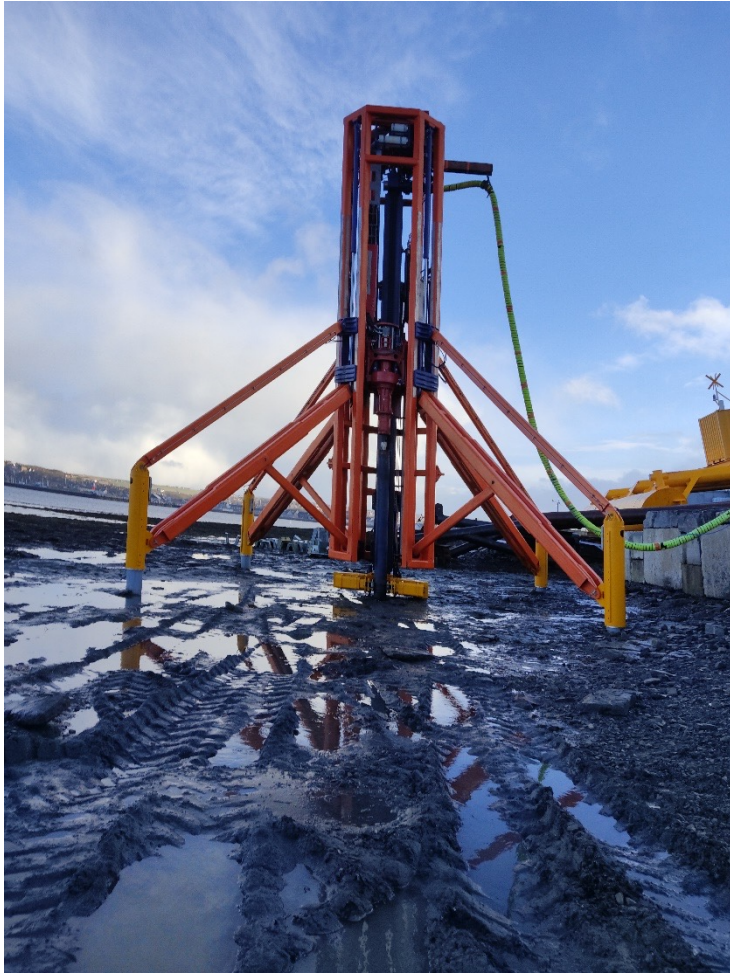


RAPTOR S.D.R

PROJECT EVOLUTION



Dry Test Trials



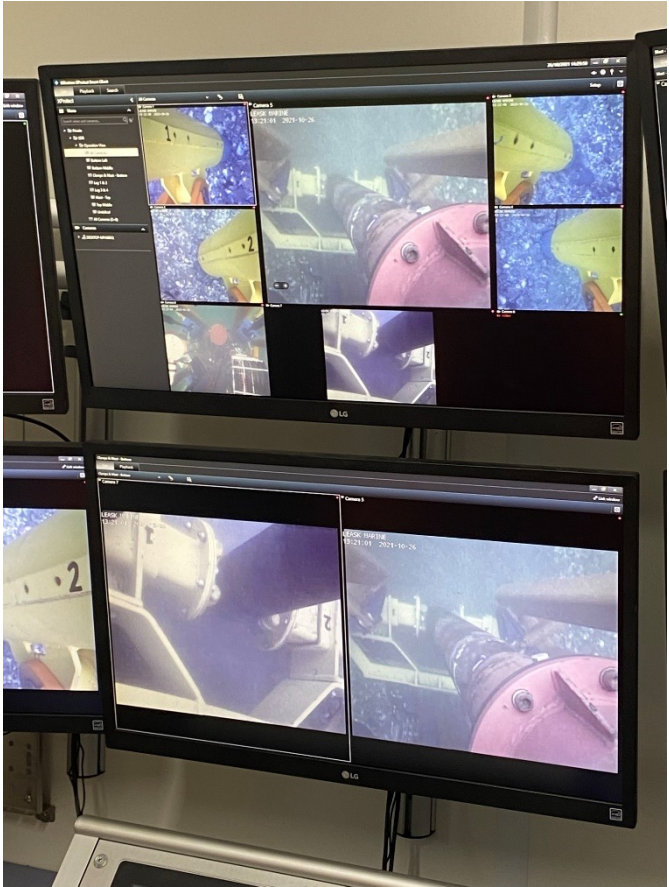
Dry Test Trials



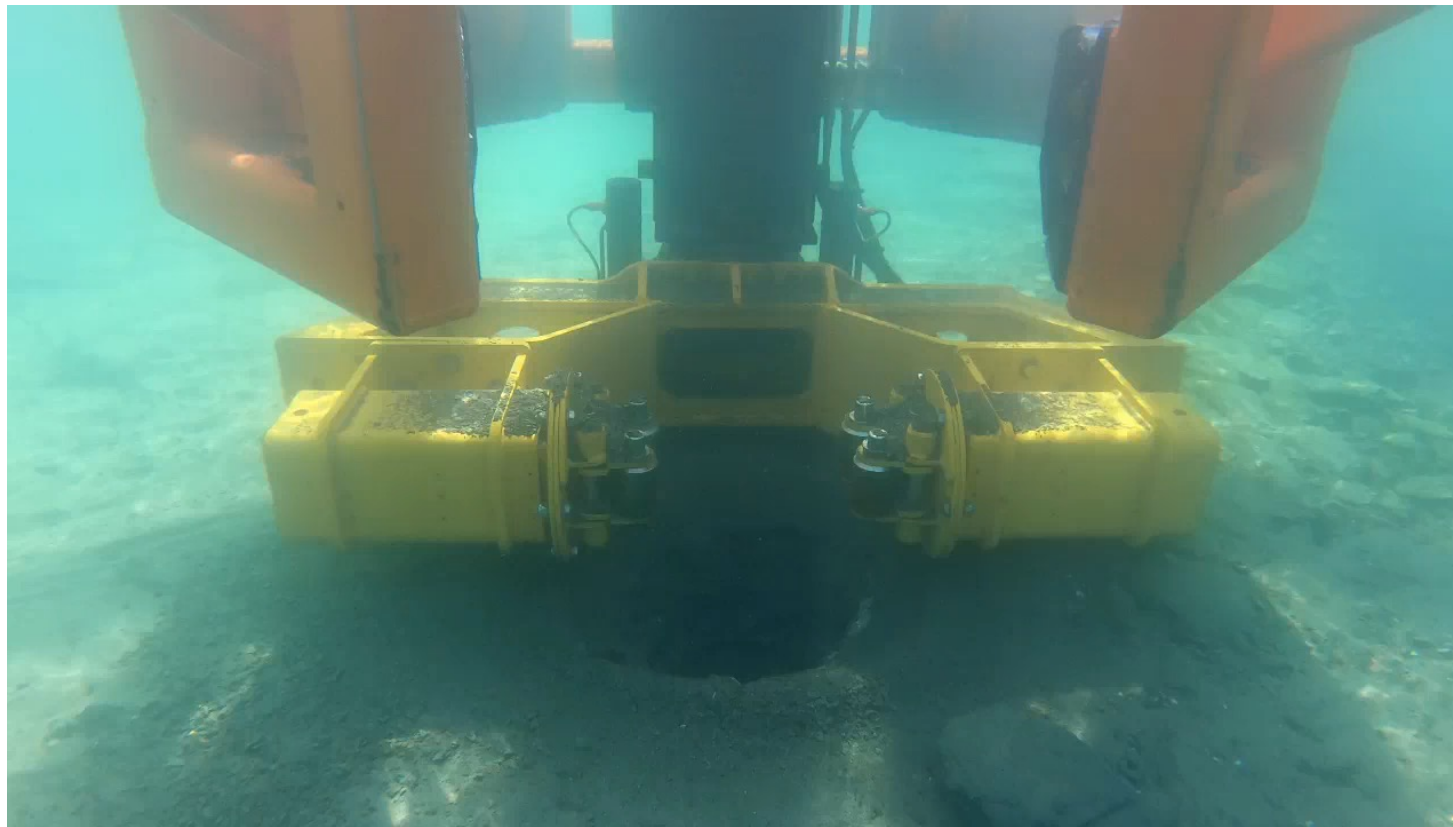
Wet Test Trials



Wet Test Trials



Wet Test Trials



Anchor Testing

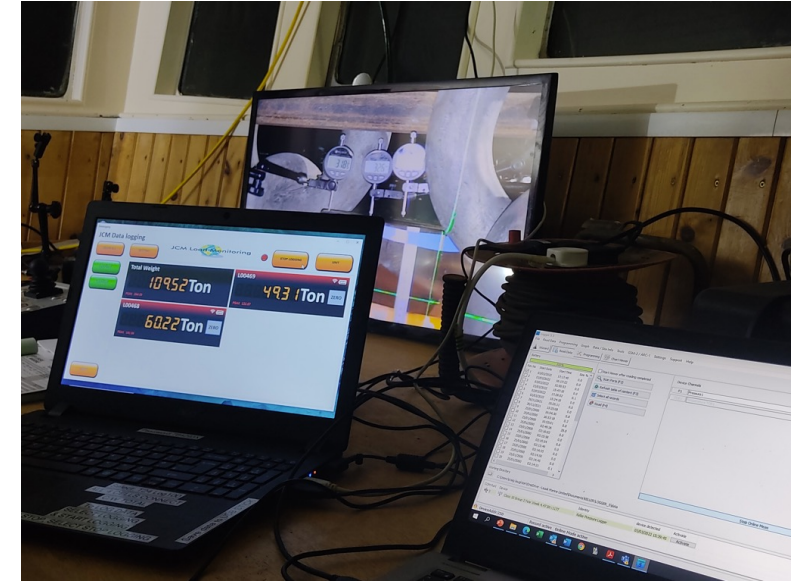
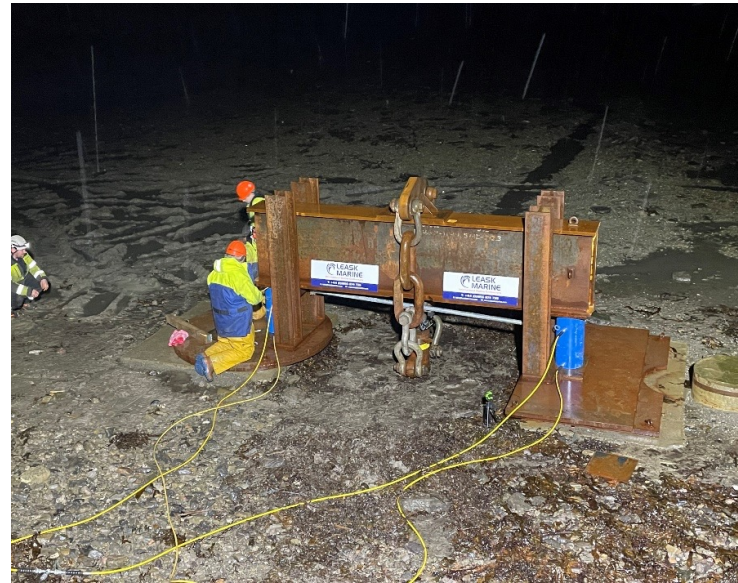


Onshore pile vertical pull testing

of drilled anchor systems, and pile lateral push tests complete



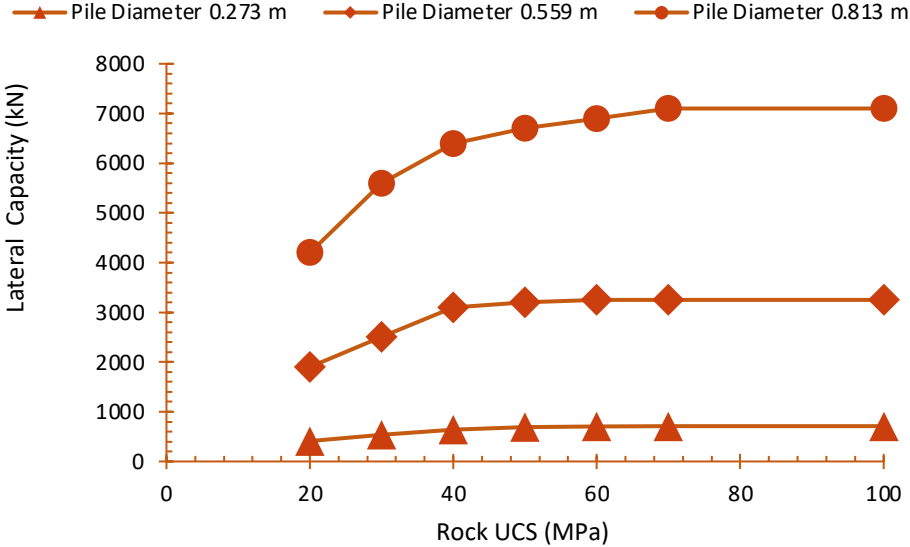
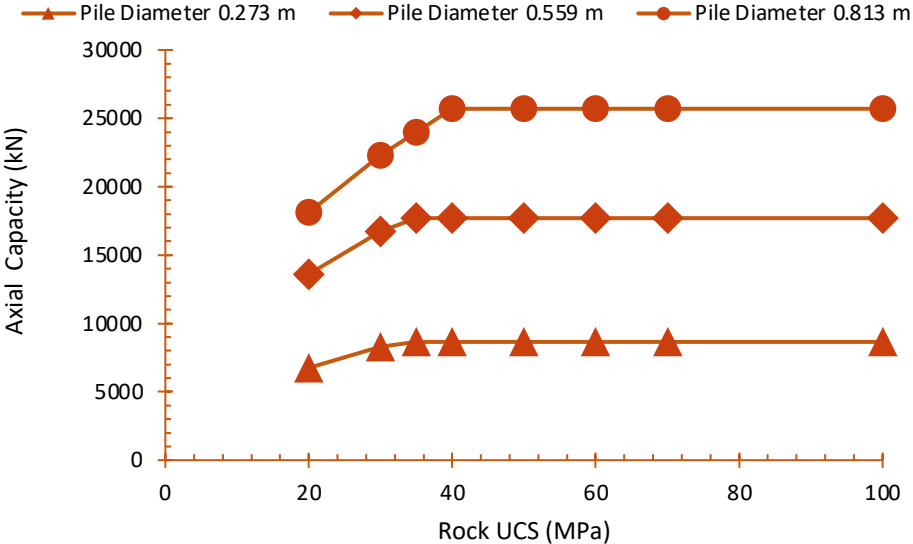
Full functional and sensor check carried out on multiple gauges



Onshore pile vertical pull testing

Mobilisation and commissioning carried out

Anchor Capacity validation analysis



Finite Element Analysis is used for detailed design based on project specific geotechnical data and loading conditions. 3D FEA can also be employed where lateral loading is dominant.

Combined failure mechanisms with reverse bearing resistance at the toe, shaft friction and rock mass failure can be modelled.

