

# CASE STUDY – SEMI SUB IN CELTIC SEA CONDITIONS

## Project Description

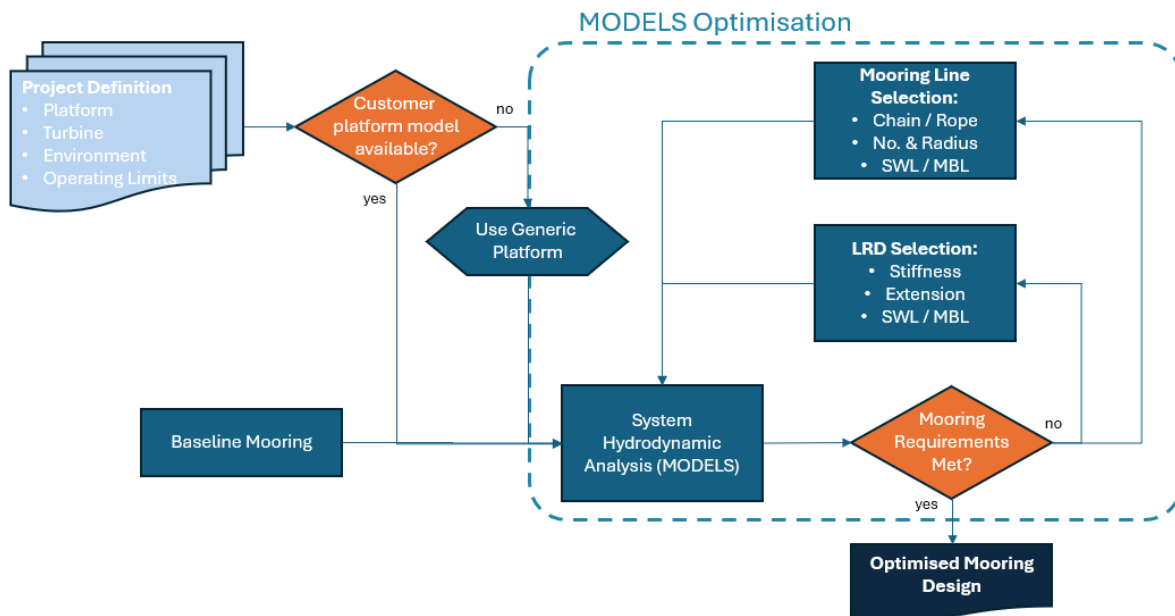
The Case Study project considers a proposed floating wind farm in a Celtic Sea site which are summarized as follows:

Farm Capacity [MW]	100
Turbine Size (MW)	15
No. of Turbines	7
Lifetime (yrs)	30
Water depth (m)	75
Metocean conditions	Celtic Sea
Mooring Lines per Platform	3
Distance from Port (nm)	30
Distance from Grid Connection (km)	35
WACC	6.3%
Capacity Factor	52%
Platform Type	Semi-Sub
Anchor Type	Suction



## Optimisation Approach

The project assessment was carried out using an LRD optimization process developed by Dublin Offshore:



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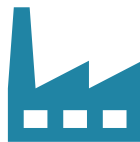
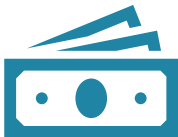
## Pre & Post Mooring System

The baseline mooring system is compared to the LRD optimised mooring system demonstrating the LRD impacts:

	Nylon Baseline	Polyester Baseline	LRD Mooring
Mooring Layout	3x1 Configuration 600m Anchor Radius	3x1 Configuration 700m Anchor Radius	3x1 Configuration 675m Anchor Radius
Mooring Line	350m x <b>260mm</b> Dia Nylon	843m x <b>260mm</b> Dia Polyester	525m x <b>169mm</b> Dia Polyester
Mooring Chain	190m x <b>150mm</b> R4 Studded	100m x <b>150mm</b> R4 Studded	74m x <b>117mm</b> R4 Studded
Load Reduction Device	N/A	N/A	1 No.
System MBL	<b>~1,900T</b>	<b>~1,800T</b>	<b>915T</b>
Pre-Tension	<b>~250T</b>	<b>~200T</b>	<b>130T</b>

## Project Outcomes

The key outcomes of the LRD Optimised Mooring System across critical commercial evaluation categories are:



Cost	Supply Chain	Risk
<ul style="list-style-type: none"> <li>• <b>39%</b> Reduction in CAPEX</li> <li>• <b>7%</b> Reduction in Install Cost</li> </ul>	<ul style="list-style-type: none"> <li>• <b>117mm</b> chain Vs <b>150mm</b> chain</li> <li>• <b>169mm</b> rope Vs <b>260mm</b> rope</li> <li>• <b>130Tonne</b> Vs <b>250Tonne</b> BP Vessel</li> </ul>	<ul style="list-style-type: none"> <li>• Lower MBL components throughout.</li> <li>• All components certifiable for Long Term Mooring</li> </ul>

## Want to know more?

Contact us on [hello@dublinoffshore.ie](mailto:hello@dublinoffshore.ie) to discuss cost and risk reduction on your project mooring system.