

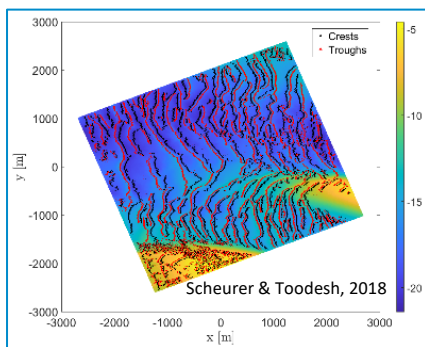
Primo Marine can support with Seabed Mobility using a data-driven approach to provide decision-making analyses to reduce total expenditure where sandwave dynamics pose specific challenges to power cables (interconnectors, inter-array and export cables) during the pre-operational and post operational phases of subsea cable projects.

Critical challenges where Primo Marine can provide decision-making analyses:

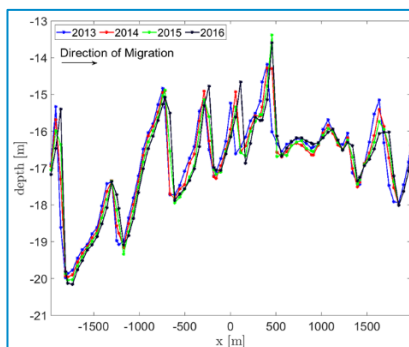
- Determining the most cost-effective cable route at acceptable risk levels.
- Determining the required burial depth to avoid future exposures or free spans.
- Determining the expected rate of sediment infill between trenching and cable installation.
- Determining the survey data to be acquired during pre-operational and post-operational planning, ensuring there are no gaps.
- Ensuring the data quality is sufficient for reliable engineering.

Typical services Primo Marine provides:

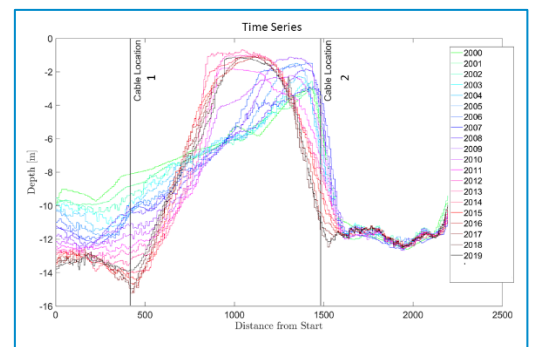
- Determination of seabed mobility and seabed characterisation based on morphological parameters e.g. sandwave heights, wavelength and direction of migration.
- Semi-automatic detection and identification of sandwave crests and troughs.
- Estimation of Non-Mobile Reference Level (NMRL) for specified cable routes and routing designs.
- Time series analysis using statistical methods for predicting changes in seafloor depths over time with quantified uncertainties.
- Applying decision thresholds to probabilistic predictions to determine vulnerable locations along cable routes.
- Risk profile updates associated with probability of failure.
- Difference Maps e.g. bed elevation ranges showing areas of accretion and erosion.



- Detect crests and troughs of sandwaves.
- Routing designs and spacing.
- Seabed characterisation of mobile features.



- Single and multiple epoch approaches to determine non-mobile reference level.
- Direction and rates of sandwave migration.



- Time series analysis for predicting changes in seabed depths.
- Seabed mobility assessment for optimal burial depth determination and re-routing. Avoid very dynamic areas that have been identified.

The benefits:

- ✓ **Reduce maintenance campaigns to effectively lower impact on our environment.**
- ✓ **Reduce Operational Expenditure (OPEX) during feasibility, early development and post operational phases of project.**
- ✓ **Reduce total expenditure (TOPEX) by lowering the probability of exposures and freespans.**
- ✓ **Cost efficient remedial operations due to effective seabed level predictions.**

*You have another request? Get in touch with us!
We look forward to helping you. Your Primo Marine Team.*

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