

# Four pillars of control

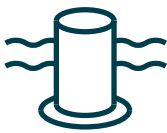
Offshore risk cannot be removed. But it can be reduced.

In marine foundations, better operational insight helps teams move from reactive problem-solving to proactive control, making decisions earlier, with greater confidence, and in closer alignment with real-world offshore conditions.

## Why control matters



**Larger turbines**  
6 MW - >26 MW  
Rapid scaling increases installation complexity and risk.



**XXL monopiles**  
>10 m diameter  
Bigger foundations demand more from equipment, engineering and planning.



**Less familiar seabeds**  
Greater geological variability and limited historic data increase uncertainty.



**High cost of delay**  
£113,280/day per 100 MW  
Plus £200,000-£500,000/day in vessel and crew costs.



### Ground intelligence See the seabed sooner

- |                 |                                                                                                                                                                                                                  |
|-----------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BUILT ON</b> | <ul style="list-style-type: none"><li>• Integrated geophysical and geotechnical strategy</li><li>• Outcome focused investigation</li><li>• Operational and performance focused installation simulation</li></ul> |
| <b>ENABLES</b>  | <ul style="list-style-type: none"><li>• Earlier risk visibility</li><li>• Higher planning confidence</li><li>• Fewer seabed-driven surprises</li><li>• Regulation compliant installation delivery</li></ul>      |



**27%**  
of the world's ocean floor mapped to modern standards



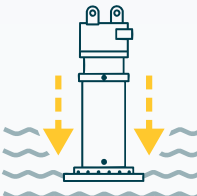
### Early alignment Win certainty before installation begins

- |                 |                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BUILT ON</b> | <ul style="list-style-type: none"><li>• Early contractor engagement</li><li>• Installation-led interpretation</li><li>• Installation-led planning</li></ul>   |
| <b>ENABLES</b>  | <ul style="list-style-type: none"><li>• Smarter and faster decision making</li><li>• Stronger project readiness</li><li>• Reduced late-stage change</li></ul> |



### Installation performance Control the hammer-pile-soil system

- |                 |                                                                                                                                                               |
|-----------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BUILT ON</b> | <ul style="list-style-type: none"><li>• Optimised hammer selection</li><li>• Tuned energy delivery</li><li>• Real-time system control and operation</li></ul> |
| <b>ENABLES</b>  | <ul style="list-style-type: none"><li>• Predictable pile driving</li><li>• Lower installation risk</li><li>• Improved offshore efficiency</li></ul>           |



**≈ 50%**  
Nearly half of offshore wind farms installed globally have used Menck hammers



### Acoustic control Noise is inevitable. Better control improves outcomes

- |                 |                                                                                                                                                                                      |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>BUILT ON</b> | <ul style="list-style-type: none"><li>• Noise-aware hammer operation</li><li>• Model data-driven mitigation strategy</li><li>• Integrated abatement systems</li></ul>                |
| <b>ENABLES</b>  | <ul style="list-style-type: none"><li>• Confident regulatory compliance</li><li>• Fewer noise or performance related interruptions</li><li>• Controlled acoustic footprint</li></ul> |



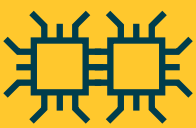
Menck Noise Reduction Unit (MNRU):  
**9–12 dB at source**

## Control in action

Project control is defined by how quickly teams can predict, analyse and execute when offshore reality diverges from plan. Increasingly, that control is data-driven.

Predict | Analyse | Respond | Execute

### Emerging focus areas



Digital twins



AI-guided operations and installations



Real-time acoustic feedback



Closed-loop control

“Project certainty is not a function of prediction. It is a function of control.”

Act on Control.



Read the full whitepaper [here](#)