

# Floating Wind Solutions

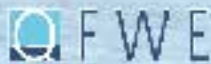
## Integrated Monitoring of Dynamic Cables



Mike Ellis

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Organized by



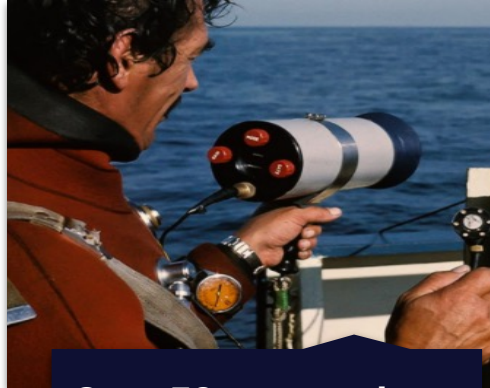
Quest Offshore

The logo icon for FWS (Floating Wind Solutions), featuring a stylized blue and white wave or circular pattern.

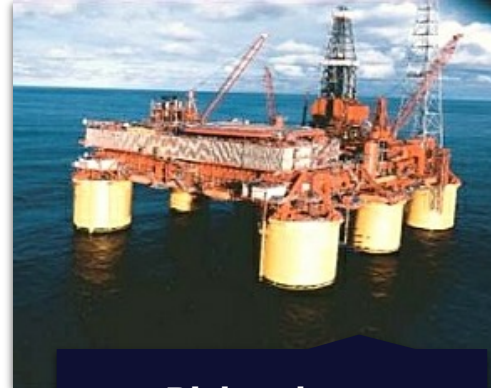
**FWS**

The Marriott Marquis, Houston 1-3 March 2022

# About us and our Capabilities



**Over 50 years subsea experience**



**Rich subsea engineering heritage**



**Evolving subsea technologies**



**Navigation & Positioning**



**Sensing Imaging & Monitoring**



**Wireless comms & remote operations**

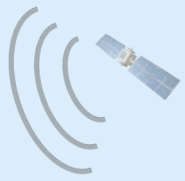


**Floating Wind Solutions**

# Contending with Even More Dynamism



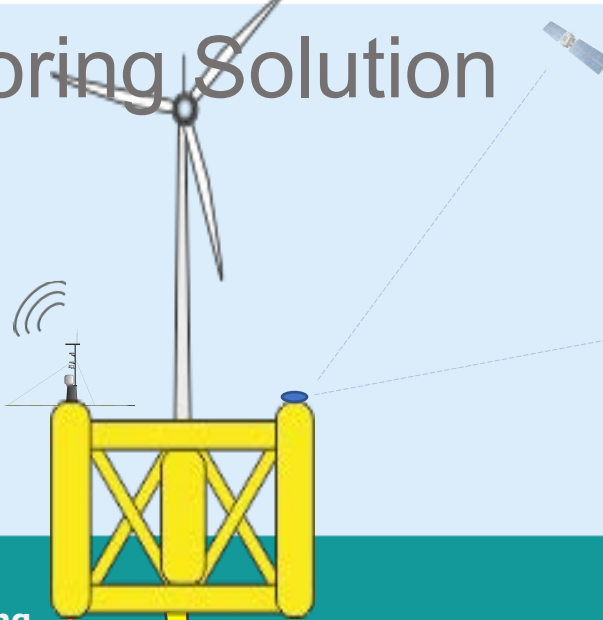
# Real-world Cable Monitoring Solution



**ROAM communications to shore**



**Data harvesting**



**Bend stiffener e.g. vibration & inclination**

**Mooring monitoring**

**Buoyancy e.g. depth & position**

**Tethers and anchor e.g., tension & position**

**Local and spatial sensors**

**Current profiling & temp/salinity**

**Lander - Data management, comms & pos**

**TDP & CPS e.g., motion, position, vibration & temp**



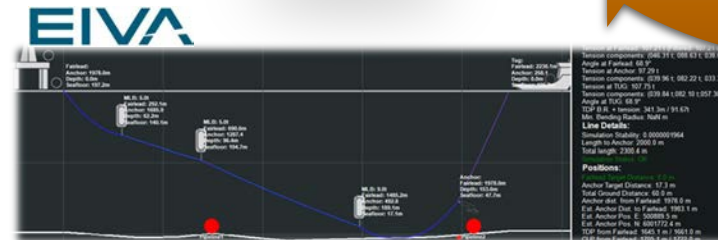
# Value in Validation to Build Confidence

## 1. Learning Phase

- Improving Catenary Design through **Demonstrators**

## 2. Life-cycle Knowledge Phase

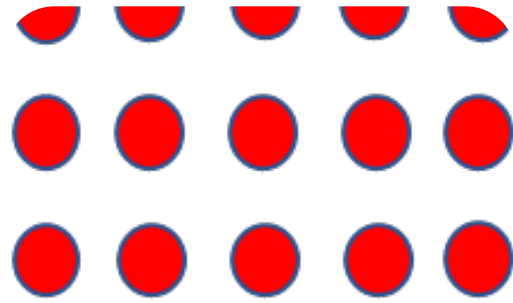
- Building confidence in **predictive models** over asset lifetime



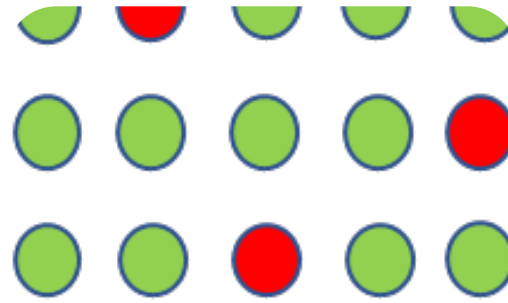
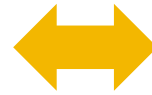
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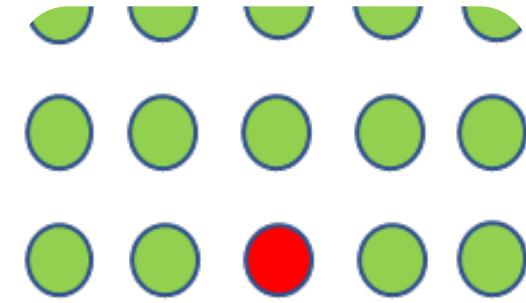
# Sensor Configuration Methodologies



**Complete layout**  
Lower performing sensors installed on all dynamic cables on string.  
Monitoring all cables with ADCP + Landers in between.



**Scatter layout**  
Several locations with full midlevel performing sensors installed on dynamic cables along with an ADCP + Lander



**Sparse layout**  
Strategically placed full configuration - Higher performing sensors and Lander + ADCP system installed on very few dynamic cables.'

Thanks for listening!

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