Monitoring mooring performance - managing risk with data technology

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About Knowix

**About Applied Fiber**
- Applied Fiber is the industry leader in advanced terminations with 20 years of experience in offshore, mining, aerospace and military
- DNV Type approved terminations for fiber ropes
- Developed rope digitization IP complementary to termination technology
- **Knowix is an independent spin-off from Applied Fiber**

**Knowix delivers digitization of fiber rope systems**
- Real time system monitoring
- Data and condition monitoring
- Product data consolidation at point of use

**Knowix and Applied Fiber partner in the delivery of intelligent terminations**
The Mooring Life .... reduce cost and risk

Design, Build and Install
- Materials
- Technology
- Design
- Modeling
- Testing
- Certifications
- Knowhow
- Partnerships

Operations
- Field Data
  - Tension
  - Elongation
  - Excursions
  - Dampening
  - Exposure
  - Positioning

Maintenance and Inspection

Decom

Floating Wind Solutions
Modeling to Knowing

Integration with platform data

Smart Terminations

Various power and communications options

K-Nodes along rope

Integration with data from other mooring components

Data accessible locally and remotely
Value of smart terminations

- Built-in housing for sensors
- Installation/Operational Benefits
  - Simplify rigging arrangement
  - Quick connect options
  - Improved fatigue at interfaces with metal hardware
- Fatigue monitoring at individual rope strand level
Conclusions

- Field data validates mooring system working as designed and provides details of anomalous events

- Smart terminations can deliver synthetic condition monitoring

- System integration drives broader design and modeling optimization delivering improved reliability

- P-F curves support condition based inspection which reduce operational costs
Thank you for your time and attention

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