

**ERC- Digital Energy
Working Group (June 4th) -
Offshore Logistics use case**

Predictive/prescriptive analytics

IoT

Autonomous vehicles
(Drone, ...)

Telecommunication (5G, ...)

Blockchain

VR/AR

Secure data pooling

Data management
(infrastructure, cloud, ...)

Logistic companies

Challenges:

- Competent personnel, retraining existing workforce
- Investment costs
- IT related issues as security between clients, assets and owned systems (ISO27001 related)
- Interfacing to existing (Client) platforms
- Redundancies and reliability (back up systems, lack of knowledge of old systems)

Opportunities:

- Data quality increases, lower error ratio
- Better prediction of (client) supply chain demands
 - Better forecasting of asset demands (fleet size)
 - Improved budgetting forecast
 - Better resource planning
- Accurate maintenance cost prediction (fleet maintenance)
- Cost reduction for clients due to higher efficiency in planning (just in time)of equipment (high rental equipment costs)
- Improved environmental footprint, redcuton in GHG emissions

Shipping companies

Challenges

- Autonomous ships and vessels
- Lack of access to the data/information from the entire business chain (end -users, vendors, ...)

Opportunities

- Abundance of monitoring data for incidents/events
- Cost reduction in the manufacturing process by utilizing data

Operators

Challenges

- Reduction in O&G activities, growth in offshore wind
- Mature fields: frequent maintenance schedules, marginal profits
- Reuse, decommissioning and abandonment
- Emissions
- Data Availability

Opportunities

- Cost and emission reduction by shared logistics
- Combining O&M activities with reuse/decom activities
- Avoid unscheduled maintenance/proactive planning
- Trends toward unmanned platforms

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1. Logistic companies

1.1. Challenges:

- 1.1.1. Competent personnel, retraining existing workforce
- 1.1.2. Investment costs
- 1.1.3. IT related issues as security between clients, assets and owned systems (ISO27001 related)
- 1.1.4. Interfacing to existing (Client) platforms
- 1.1.5. Redundancies and reliability (back up systems, lack of knowledge of old systems)

1.2. Opportunities:

- 1.2.1. Data quality increases, lower error ratio
- 1.2.2. Better prediction of (client) supply chain demands
 - 1.2.2.1. Better forecasting of asset demands (fleet size)
 - 1.2.2.2. Improved budgeting forecast
 - 1.2.2.3. Better resource planning
- 1.2.3. Accurate maintenance cost prediction (fleet maintenance)
- 1.2.4. Cost reduction for clients due to higher efficiency in planning (just in time)of equipment (high rental equipment costs)
- 1.2.5. Improved environmental footprint, redcution in GHG emissions

2. Shipping companies

2.1. Challenges

- 2.1.1. Autonomous ships and vessels
- 2.1.2. Lack of access to the data/information from the entire business chain (end -users, vendors, ...)

2.2. Opportunities

- 2.2.1. Abundance of monitoring data for incidents/events
- 2.2.2. Cost reduction in the manufacturing process by utilizing data

3. Operators

3.1. Challenges

- 3.1.1. Reduction in O&G activities, growth in offshore wind
- 3.1.2. Mature fields: frequent maintenance schedules, marginal profits
- 3.1.3. Reuse, decommissioning and abandonment
- 3.1.4. Emissions
- 3.1.5. Data Availability

3.2. Opportunities

- 3.2.1. Cost and emission reduction by shared logistics
- 3.2.2. Combining O&M activities with reuse/decom activities

3.2.3. Avoid unscheduled maintenance/proactive planning

3.2.4. Trends toward unmanned platforms

4. Data management (infrastructure, cloud, ...)

5. Secure data pooling

6. VR/AR

7. Blockchain

8. Telecommunication (5G, ...)

9. Autonomous vehicles (Drone,)

10. Predictive/prescriptive analytics

11. IoT