Subsea all-electric technology enabling next generation field developments

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Einar Winther-Larssen | PLM All electric
All-electric Technology Enabler for lower CAPEX and OPEX Subsea

Enabling Future Subsea Systems

- SPS
- WOCS
- Pump
- Compression
- Processing
- Manifolds

Control Automation / Integrated Operations
Safety System (ESD + PSD)
Flow and Measurements

Aker Solutions
All electric Technology
Benefits with All electric

- Higher flexibility
  - during early system design phase
  - Simpler expansion of field
  - Simpler integration of control loops
  - enables programmable sequences within the actuator

- Lower CAPEX investment
  - Lower umbilical cost
  - Comparable component cost
  - Less equipment topside (weight and envelope)

- Lower OPEX cost
  - Hydraulics are removed
  - Less topside equipment
  - More monitoring to enable planned intervention

- Higher reliability and availability
  - Easier to monitor the functions continues
  - Higher degree of condition monitoring
Next Generation Subsea Electronics and actuation platform – Flexible, reduced cost and predictable

Vectus™ 6.0

EL-drive™
Vectus™ 6.0 - Next Generation Subsea Electronics

- Advanced Software Oriented System
  - Automation in design and test
  - Project configuration utilities
  - Maintenance and management tools
  - Condition and performance monitoring

- Reliable Hardware Platform
  - High I/O density
  - Advanced network management
  - Powerful processing
Vectus™ 6.0 Platform vs. Module

PSM
Power Supply Module

AEM
Auxiliary Electronics Module

EM
Electronics Module
Vectus™ 6.0 Manufacturability
Next Generation Subsea Electric Actuator Platform

Electric actuation

Subsea Production Systems
Subsea Pumping
Subsea Compression
Subsea Factory

El-drive™ Platform
El-drive™
Aker Solutions electric actuation platform

Goal of El-drive™

- Build a configurable electric actuator platform based on
  - common qualified building blocks with high quality production method
- Prove it with qualified products used for manifold valves and chock valves using CI4 interface

Benefits

- Limit needed investment and time to build new applications
- Ability to meet customer requirements without extensive additional qualification
- One platform to work from
El-drive™
Standardization - Higher flexibility - Less components – Lower cost
El-drive™
Standardization - Higher flexibility - Less components – Lower cost

- Stackable modules enables easy reconfiguration
- Future flexibility with reduced need for redesign and requalification
- Thermal management through direct convection to seawater through enclosure for each module
- Easy to assemble and test
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El-drive™ and ™ Vectus Technology
You are hereby invited to a Technology demonstration in Oslo
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