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## **Predictive Condition Monitoring for Subsea Pumping Systems**

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### **Abstract**

For subsea pumps, regular maintenance is required (in the order of every 5 years or so). Being able to plan this intervention to be "just in time" will reduce downtime, and optimize production enhancement. Being able to state with certainty whether a pump e.g. can be allowed to run one extra year (i.e. 6 years instead of 5) gives reduced downtime. Such techniques have been applied to topside systems for a long time, and are now being extended to subsea systems.

A data monitoring system with algorithms for monitoring certain Key Performance Indicators for a pumping system has been developed and applied, and is used to determine "time to service". Three subsea pumping systems are used as real examples, with results from system testing and operation.

Subsea data networks with "self-healing" capabilities are briefly described.