

EUR21_04 - PILOT PROJECT: EVALUATION OF IIOT- BASED METHODS AND PROCESS FOR CONDITION MONITORING OF OFFSHORE ELECTRICAL DISTRIBUTION INFRASTRUCTURES

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Abstract - As Industrial Internet of Things (IIoT) connected technologies prove their effectiveness along the industry value chain, new solutions are now driving both digital transformation and new business models across enterprises. In Oil & Gas industry exploration and extraction processes, management of electrical distribution infrastructure assets is a key business area that stands to benefit. Monitoring of electrical systems has been implemented for many years using Intelligent Electronic Devices (IEDs) and Electrical Network Monitoring and Control Systems (ENMCS) allowing smarter operation. Today, IIoT and predictive analytics are taking smart operations a step further and are leveraging data to enable better decisions that result in the reduction of unscheduled downtime, increased safety and optimized maintenance. Many details must be considered when implementing a smart electrical distribution system including IIoT sensors, data collection, communication infrastructure, cybersecurity and both on-premise and cloud-based monitoring services. This paper describes a current oil company pilot project taking place aboard one of their remote Floating Production Storage and Offloading (FPSO) vessels and examines the design considerations, issues faced, implementation strategies and new perspectives realized for next steps to be taken by the industry.