



# Real-Time Equipment Management on Intelligent Platforms

C. Piovesan, Asset Performance Optimization, J. Kozman, CLTech Consulting, C. Crow and C. Taylor, Schlumberger

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## Problem Statement

Significant downtime on remote assets results from surface equipment failures. Reducing downtime requires definition of operating envelopes, early identification of equipment outages and root-cause failure analysis. Intelligent real-time principles for topside equipment enable value delivery and productivity enhancement.

## Description

A new solution analyzes and delivers datastreams from fixed surface equipment utilizing commercial software and available bandwidth. Disparate data from multiple vendors is aggregated on a multilevel secure network. Workflow automation and data mining algorithms use business rules derived from subject matter experts. An integrated data visualization framework delivers views of equipment performance, alarms, and notifications against key performance indicators.

## Application

I-Platform solutions reduce facility costs and “personnel on board” requirements, improve safety and regulatory compliance, and increase system availability, sustainability and environmental responsibility. Data analysis provides planning of equipment maintenance schedules and rapid identification of equipment problems in remote locations. Replacing nonproductive time with planned downtime increases profitability for operators in geographically or geopolitically remote areas.

## Results and Observations

The proof of concept solution takes benchmark data from operating assets and generates thresholds, alarms, and notifications displayed to role-based and configurable dashboards for action by globally dispersed subject matter experts. It uses real-time data feeds from rig operators, delivered through industry servers to operational service centers.

## Conclusions

I-Platform dashboards serve as an interface to multiple assets, providing a holistic global view of operations, ability to identify critical events quickly as conditions or failures, and timely resolution by globally dispersed experts.

## Significant New Contributions

- 1) A solution applied to topside equipment using capabilities from downhole operations to deliver value for remote assets.
- 2) A unique data analysis tool for codifying equipment expertise into business rules using artificial intelligence and data mining.
- 3) A visual aggregation dashboard for disparate data streams that is quickly and easily configured by local users.