Oil and Gas Interoperability (OGI)

OGI Pilot

ISO TC 184 OGI Technical Specification

Alan Johnston
MIMOSA President

ISO TC 184/WG 6 Convener
Oil and Gas Interoperability (OGI) Pilot and ISO OGI Technical Specification

- OGI Pilot is managed by Joint MIMOSA/PCA O&M SIG
- Covers Core Physical Asset Life-cycle – Capital Project > O&M
- Use Case Driven
- Provides basis for unambiguous **Compliance Testing**
- **Industry Foundation Architecture** - Leverages a Portfolio of supplier-neutral, Industry and ISO Standards and Specifications which are incorporated by reference
- Owner/Operator Leadership and Governance
- Participating suppliers support required use cases with COTS solutions supporting required standards
- Provides **Basis for ISO TC 184 OGI Technical Specification**
- Publication – All working documents and results are on the mimosa website at [www.mimosa.org](http://www.mimosa.org)
key use cases

1. “handover” as-designed/built information from engineering, procurement, construction phase to O&M phase
2. recurring updates - send engineering upgrades to O&M systems
3. field engineering changes sent to engineering (bottom up)
4. on-line product data library updated with engineering reference information (asset based data)
5. operations & maintenance configuration changes (e.g. remove/replace transmitter)
6. preventive maintenance (PM) triggering
7. condition-based maintenance (CBM) triggering
8. early warning notification
9. incident management – actual & near-miss information captured and escalated along the lines of accountability
10. O&M systems information provisioning
Debutanizer Fractionator PFD
Debutanizer P&ID 001- Worley Parsons
OGI Pilot Run as a true Capital Project
Uses Standard Engineering Artifacts
IBM ISBM Implementation Provides Connectivity Environment

Phase 1
2012 ISA Automation Week Live OGI Pilot Demo

IBM IIC

ISO 15926 Reference Data

Live OGI Pilot Demonstration
Overall Product and Technology Map
ISO TC 184/WG 6
Oil and Gas asset management operations and maintenance Interoperability (OGI) Technical Specification Project Update

Alan T. Johnston
Convener
Nils Sandsmark
Co-convener

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ISO TC 184/WG 6
Some Relevant Standards Activities

ISO TC 67
Materials, equipment and offshore structures for petroleum, petrochemical and natural gas industries

ISO TC 108
Mechanical vibration and shock

ISO TC 184
Industrial automation systems and integration

SC4
Industrial Data

SC5
Condition monitoring and diagnostics of machines

SC5
Architecture, communications and integration frameworks


* indicates bibliography reference

ISO TC 184/WG 6
Scope and Deliverables

- The OGI TS specifies the use of a combination of ISO and industry standards to meet the interoperability requirements of the Oil and Gas industry and appropriate closely related industry groups such as the Petrochemical industry.

- Major associated deliverables include:
  - Industry developed and owned Pilots driven by industry Use Cases
    - Downstream Pilot
    - Upstream Production Optimization and Drilling Automation Pilots
  - Industry developed and owned Use Cases are prioritized by owner/operators and incorporated by reference
  - Industry developed and owned pilot & Compliance Data Sets are incorporated by reference
    - Downstream Data Set – Plant Light Ends Unit with debutanizer and depropanizer towers
    - Upstream – Drilling Automation, Rigs and Wells Construction Data Sets – with SPE DSATS
OGI Use Cases

key industry use cases

1. “digital handover” as-designed/engineered/built O&M information from engineering, procurement, construction phase to O&M phase
2. recurring updates - send engineering upgrades to O&M systems
3. field engineering changes sent to engineering (bottom up)
4. on-line product data library updated with engineering reference information (asset based data)
5. operations & maintenance configuration changes (e.g. remove/replace transmitter)
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Context for Collaboration

Reference Information Environment

Semantic Context

Execution Environment “P2B Stack”

Enterprise Business Systems

ISO 15926
Engineering & Construction
PCA
RDL/Ontology

Transform Engine

OpenO&M Information Service Bus

ISO 18435
MIMOSA
O&M Requirements Repository
Registry

ISO 13374

ISO TC 184/WG 6

Controls

Physical Assets
Application Domain Integration Diagram

ISO TC 184/WG 6
Supporting National ISO TC184 Committees

• **National TC 184 Representatives Currently Supporting OGI Project**
  • Canada
  • Japan
  • Netherlands
  • Norway
  • United Kingdom
  • United States of America
  • Australia (Through Liaison with TC 108/SC 5)

• **Established support from experts**
  • TC108 SC5
  • TC184 SC4
  • TC184 SC5