

PCA Welcome, Introduction & Update

**Invitational Owner Operator Forum
Brisbane, Australia, 29 October 2012**

Nils Sandsmark – General Manager PCA
Ian Glendinning – Project Leader JORD

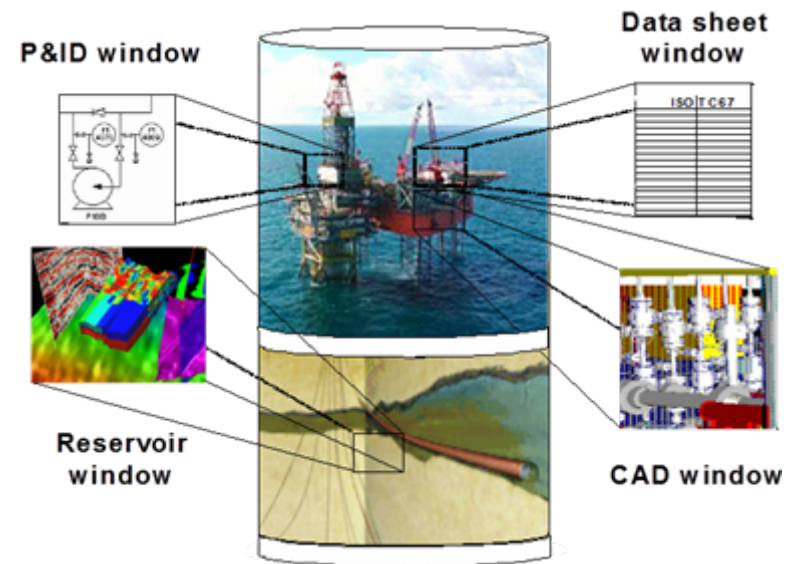
Agenda

- POSC Caesar Association
- Introduction and Update for ISO 15926
- Some Ongoing Projects
 - JORD (PCA and Fiotech)
 - EqHub, ReportingHub and LogisticsHub (EPIM Project)
 - Optiqe (EU)
 - Oil and Gas Interoperability (OGI) (ISO, MIMOSA, PCA and others)
- Standards Leadership Council (SLC)
- Summary

POSC Caesar Association (PCA)

- PCA is a global, **not-for-profit**, independent **member organization** developing, enhancing, and promoting methodology, content and solutions for **data interoperability** with special focus on **ISO 15926**
- PCA has 35 members in 12 countries on 4 continents
- PCA arranges forums and member meetings every year in:
 - Asia/Australia
 - Europe/Africa
 - America

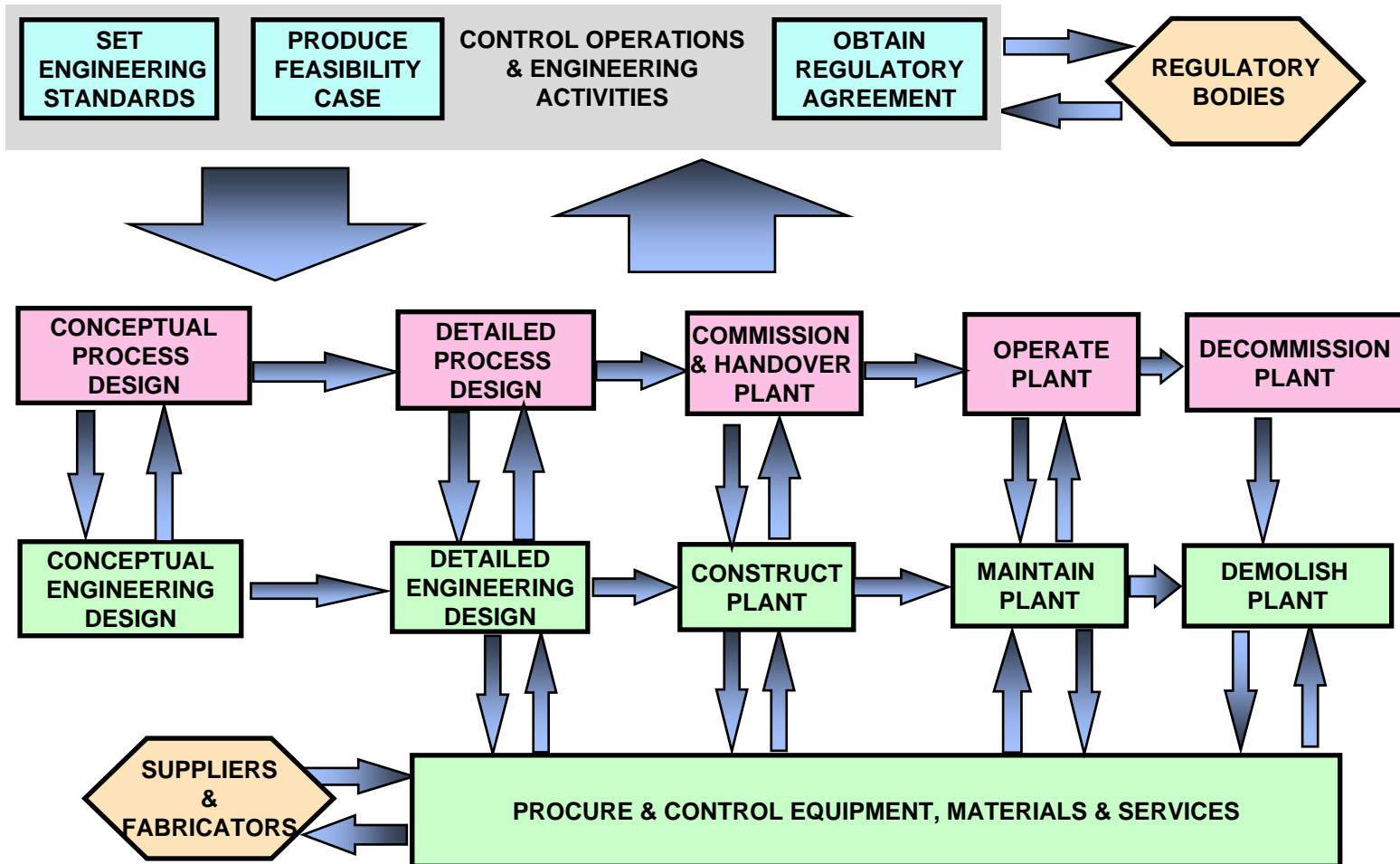
The vision of ISO 15926 data interoperability and life cycle



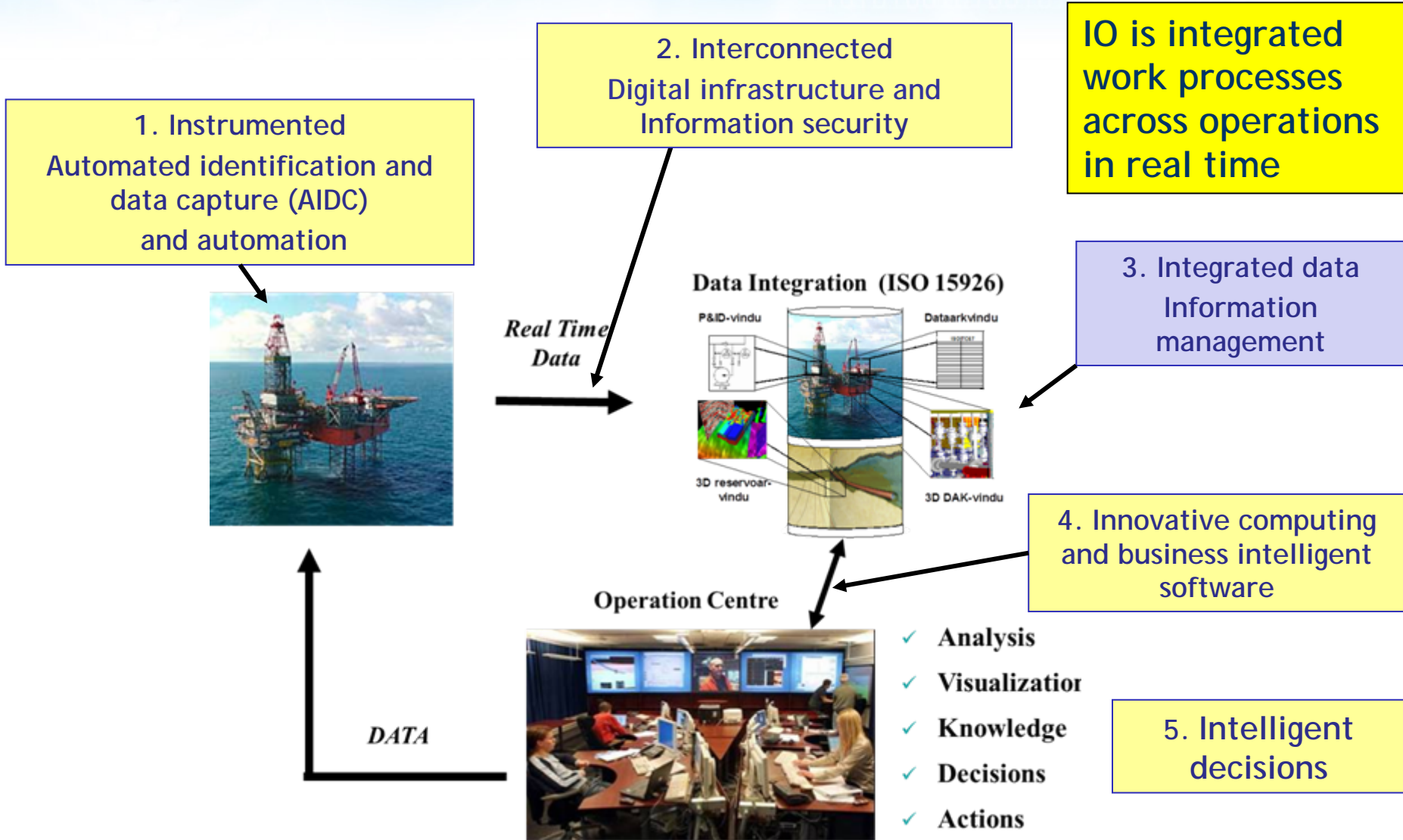
Focus areas have evolved so far:

1. Handover EPC - OO (1993+)
2. Integrated operations (2004+)
3. Operations & maintenance and integration between engineering and O & M (2008+)

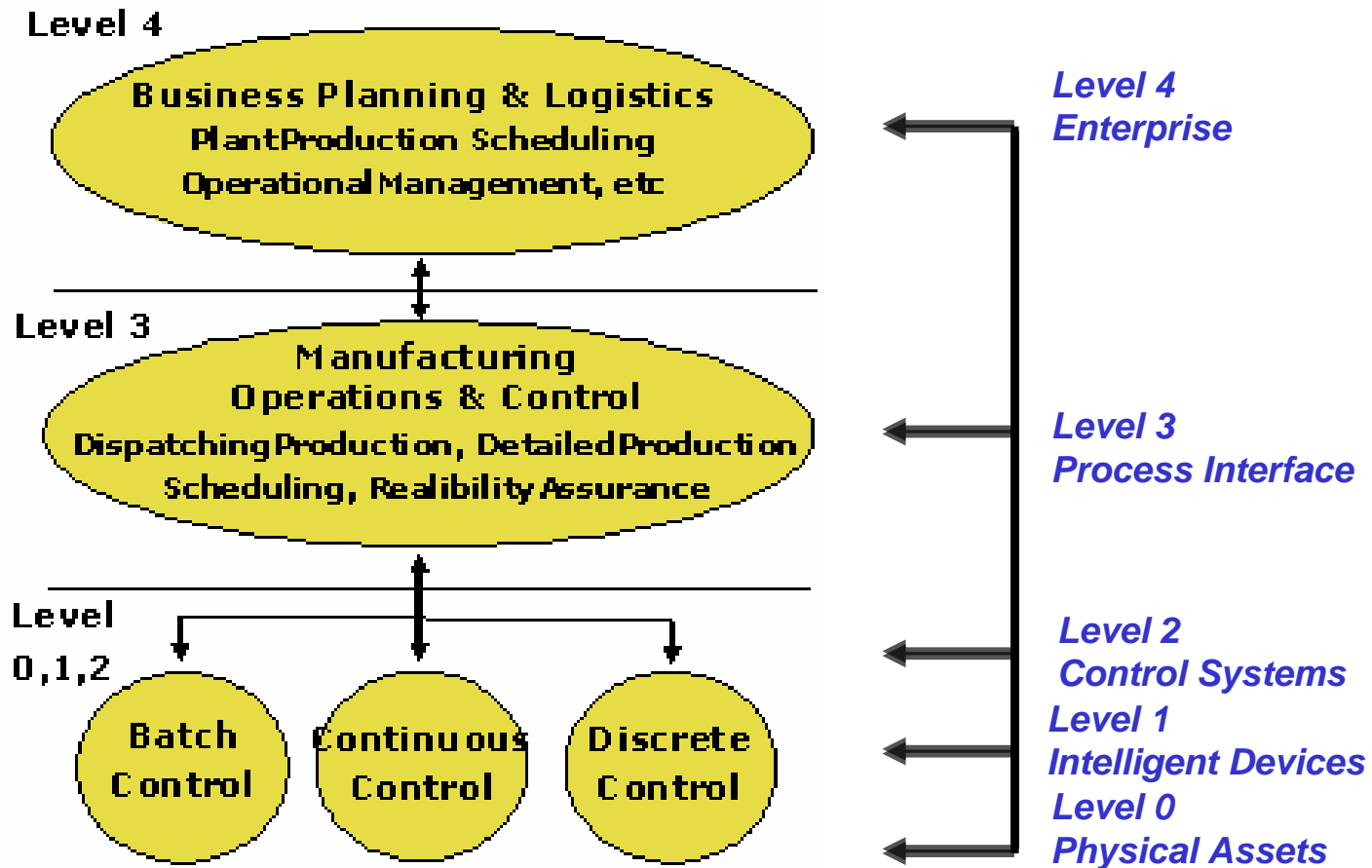
The PISTEP Model for Life Cycle Activities



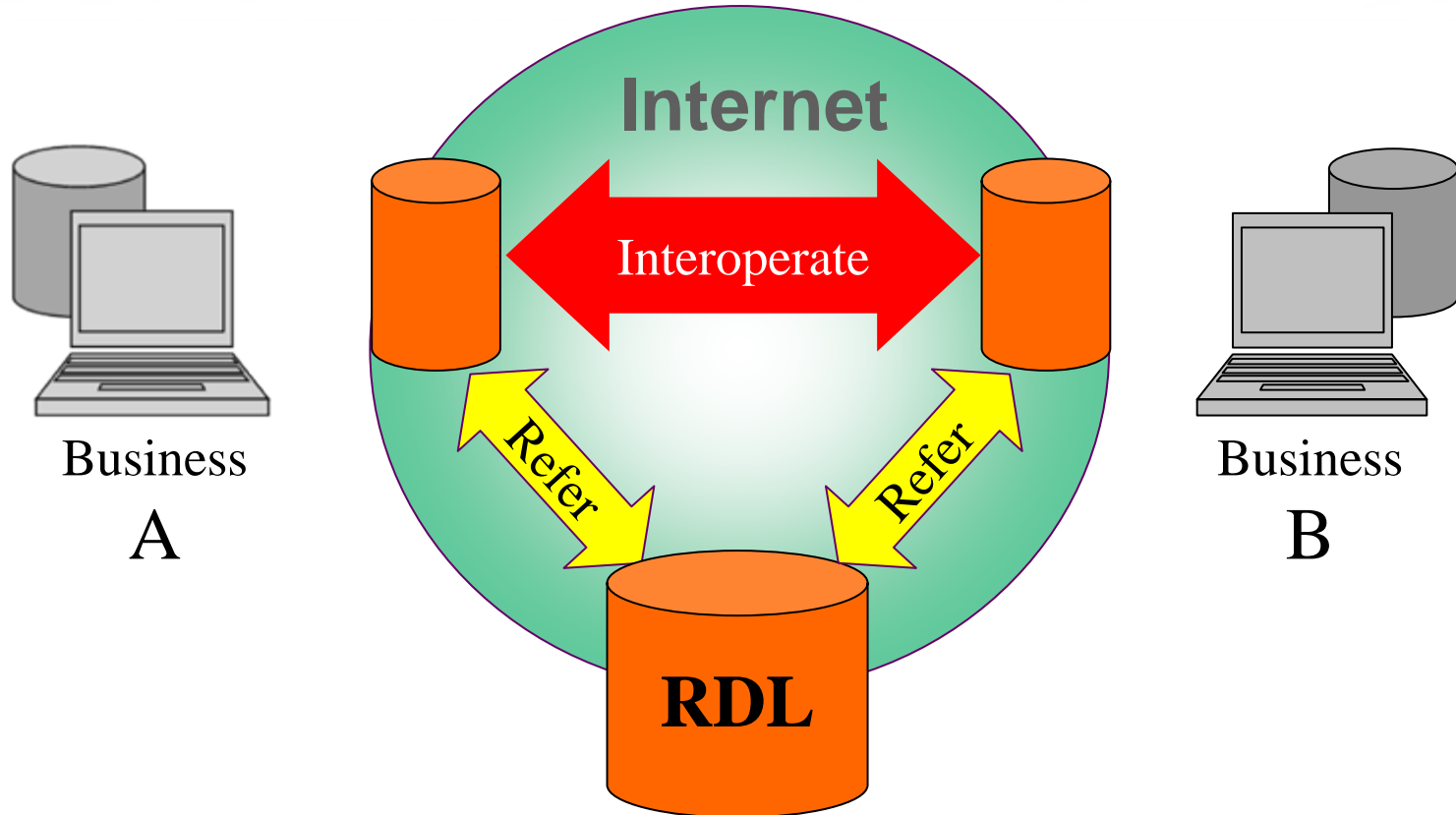
Integrated Operations (IO), ICT and the 5Is



The Purdue Reference Model



ISO15926 interoperability at its simplest

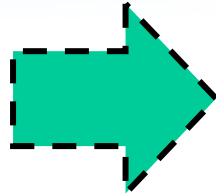


Using *standard shared references* & sharing references used,
reduces business ambiguity & reduces mapping overheads.

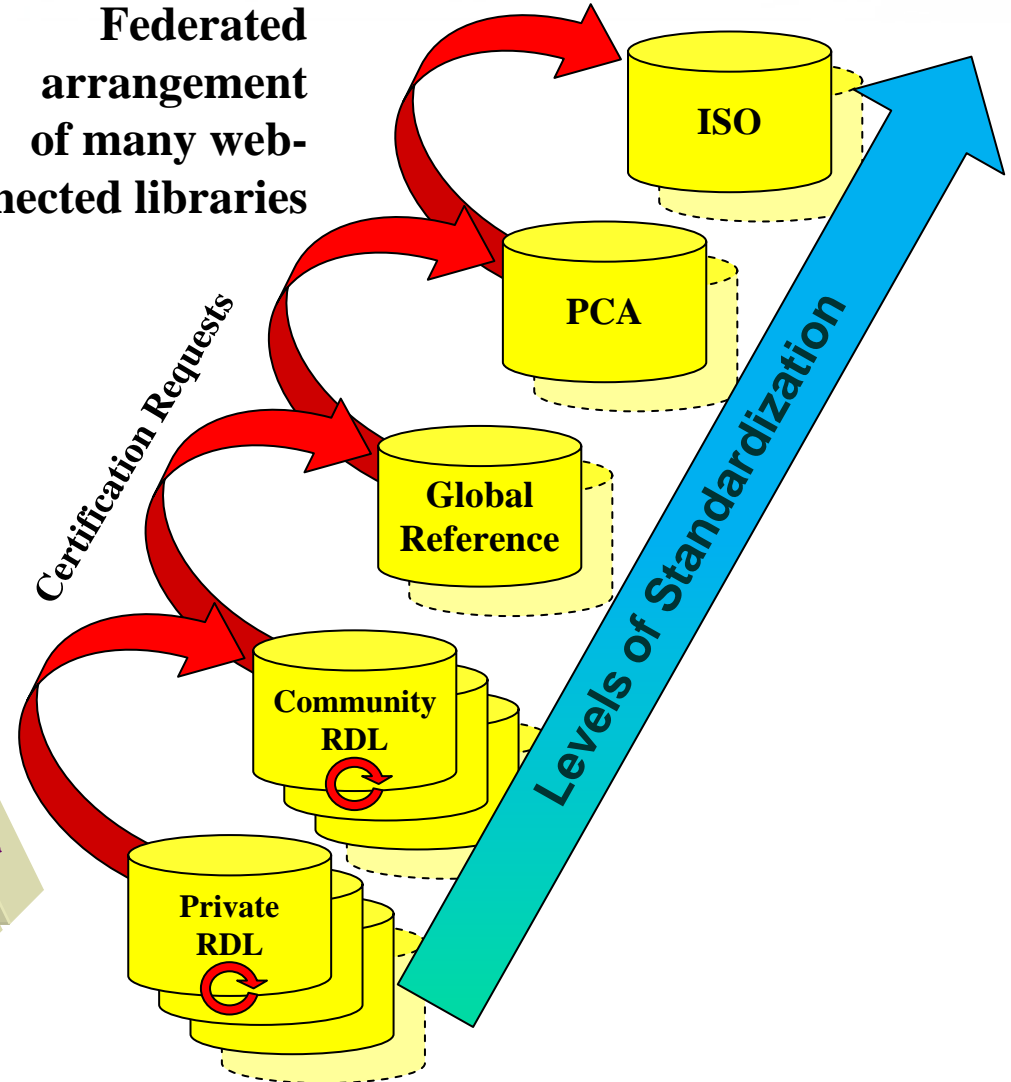
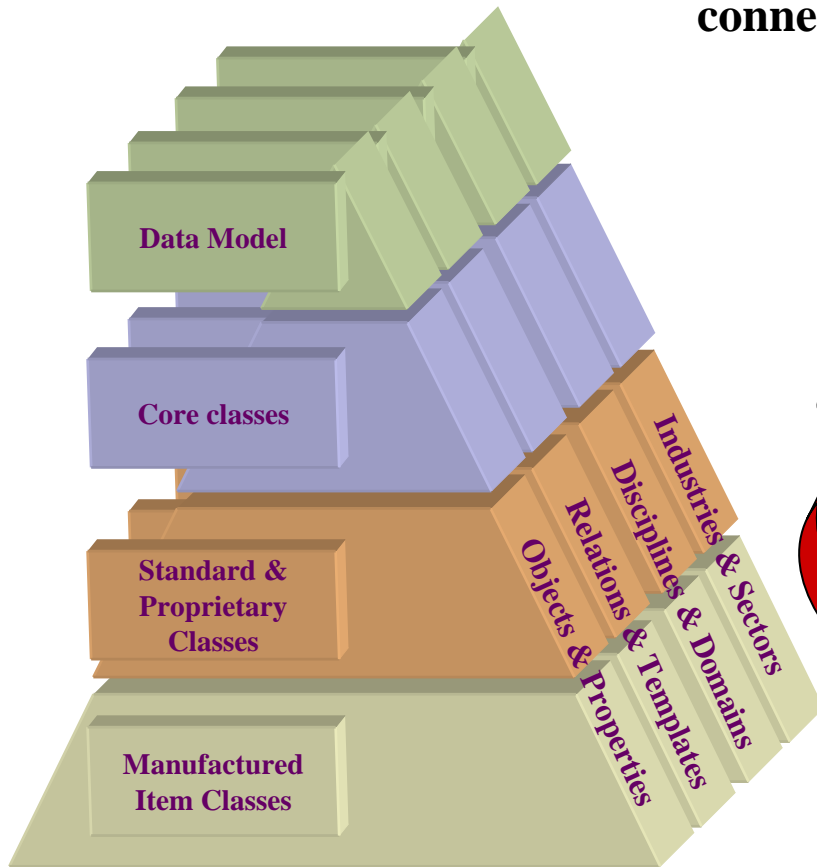
Makes interoperability easier and reduces risk & cost

ISO 15926 Reference data architecture

Logical organization of reference data



Federated arrangement of many web-connected libraries



Important Results in 2012 (1)

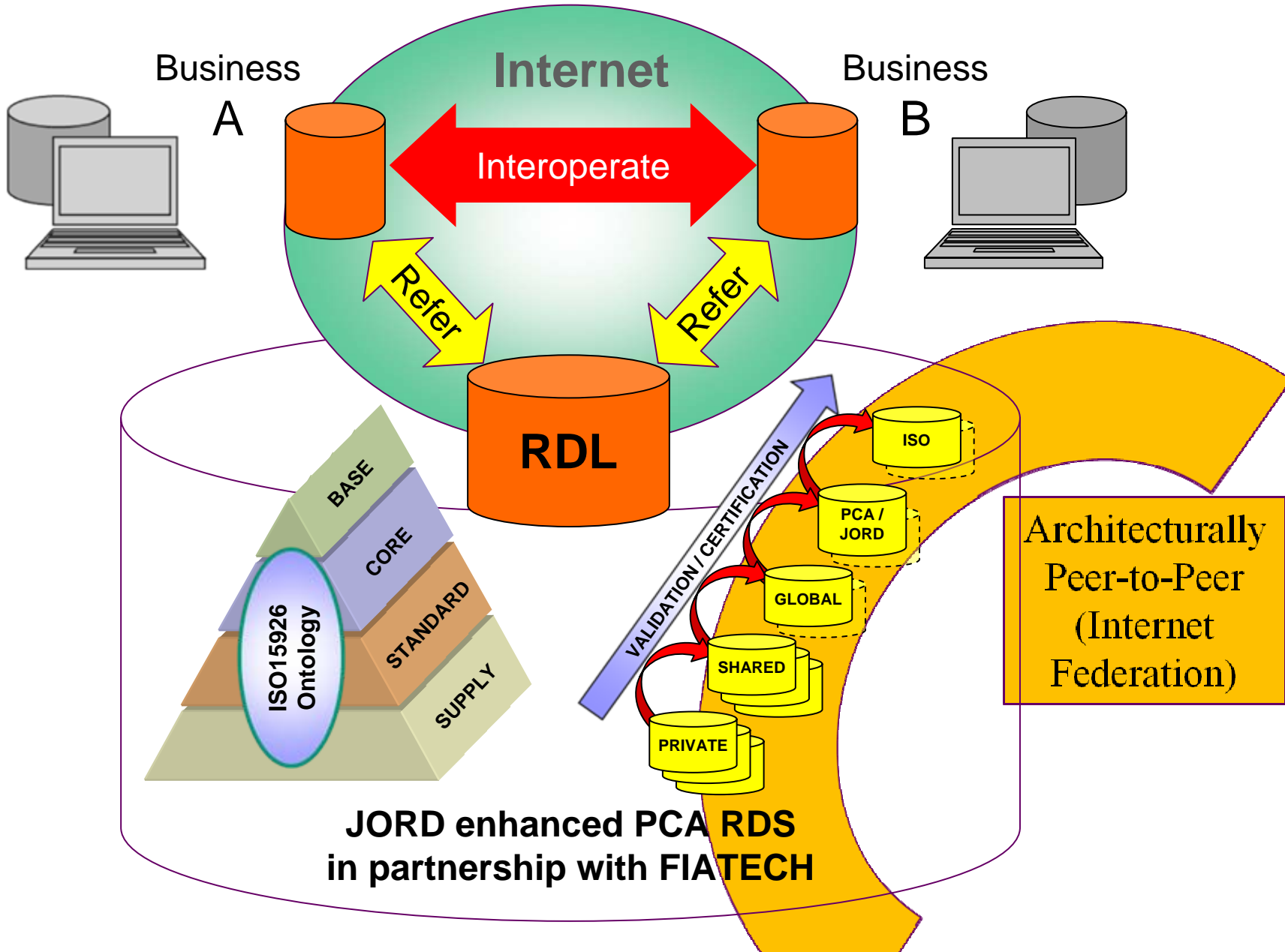
- **Enhanced and improved the quality of the PCA ISO 15926 Reference Data Library (RDL)**
- **Acquired a new Reference Data System and improved the service procedures**
- **Important results from the Special Interest Groups (SIGs)**
- **Good progress on ISO standardization**
- **New members: Rio Tinto and Top Quadrant**
- **One Service Level Agreements has been signed**

Special Interest Groups (SIGs)

Active Special Interest Groups:

- Modeling, Methods, and Technology
 - In co-operation with iRING
- Drilling and Completion
 - In co-operation with EPIM Reporting Hub
- Production and Reservoir
 - In co-operation with EPIM Reporting Hub
- Operation and Maintenance
 - Joint SIG with OpenO&M / MIMOSA
- Instrument and Control (>>> & *Equipment & Valves*)
 - In co-operation with iRING (& *FIATECH*)
- Geometry (2D & 3D)
 - In co-operation with FIATECH and iRING
- IT Architecture
 - Joint SIG with OpenO&M / MIMOSA
- TAB (Technical Advisory Board) – technical coordination of SIG activities

More information: <https://www.posccaesar.org/wiki/Sig>



JORD Project Scoping

- A - Compliance, Validation & Methodology
- B - Services Platform & Publishing Tools
- C - Training Resources
- D - Services Organization & Business Resources

JORD Project Phasing

- Phase 1 Technical Enhancements & “Fixes” (*May 11 to July 12*)
(*Fixes - known issues, known solutions, known resources*)
- Phase 2 Scalable Platform & Organization (*Up to 2 years*)
- Phase 3 Self-Sustaining Business Services Operation (*Thereafter*)

Ultimate aim - Scalable & Sustainable ?

Really about credibility and dependability:

Not being megalomaniac - focussing on the authoritative core of the federated whole, not attempting management control of all reference data for every industrial use.

**Having a business model and funding for self-sustaining operation.
Infrastructure for 24x7x365 operation & growing, federated content,
Organization & governance model for long-term viability,
Critical paths not dependent on a few specialists, etc.**

**Professional business arrangements
on which industrial users can rely**

Phase 1 Success

Compliance:

- Mapping Methodology – Issued – (and good agreement with MMT)
- Compliance Specification – Issued – (and customers already using to assess their own compliance, performing gap-analyses, requesting PCA assessment of their compliance, etc.)
- (*Validation Procedures – In Phase 2 per plan*)

PCA RDS Platform Enhancement:

- Triple-Store EndPoint – Live and supported (and being used)
- Sandbox Hosting – Live and supported (and being used)
- Implemented on commercial ISP's with full PCA control.

Business Model Development: – Common iRING branding agreement, using iRINGToday channel for market & business-case resources.

Phase 2 - “Scalable Platform & Organization” (#1)

- Target Completion June 2014
- Target Deliverable Milestones in 2013 include
- A - Compliance, Methodology & Validation scope
 - Core Template Pattern RDL content enhancement for Mapping Methodology.
 - Business Interface scoping element (BIDG) of Compliance Spec.
 - Validation Procedures (for RDL & Business Interfaces)
- B - Platform & Tools scope
 - Scalable technical infrastructure & business substrate
 - Enhanced RDL Management Tool
 - Interface Mapping Tool (embodying the methodology and content)
 - Other validation tools (later)

Phase 2 - “Scalable Platform & Organization” (#2, cont.)

- C - Training scope (General - non tools or methods specific)
 - Opportunistic and customer project driven in 2013
(15926/iRING/RDS approach, Business case development, 15926 modelling)
- D - Business Resources scope
 - Business Plan (for sustainable Phase 3 business operation)
 - Agreed scope and outline Feb 2013
 - Final detail business plan Sep 2013
 - Staff / contractor resources and operating procedures (per business plan)
 - Marketing Resources
 - iRINGToday channel and content (Business case success stories, Business value-add of increasing Compliance Levels, JORD milestone achievements, FAQ's, etc.)
 - Sales and Finance Resources
 - Service descriptions and price lists, T's&C's, SLA's, Customer accounting

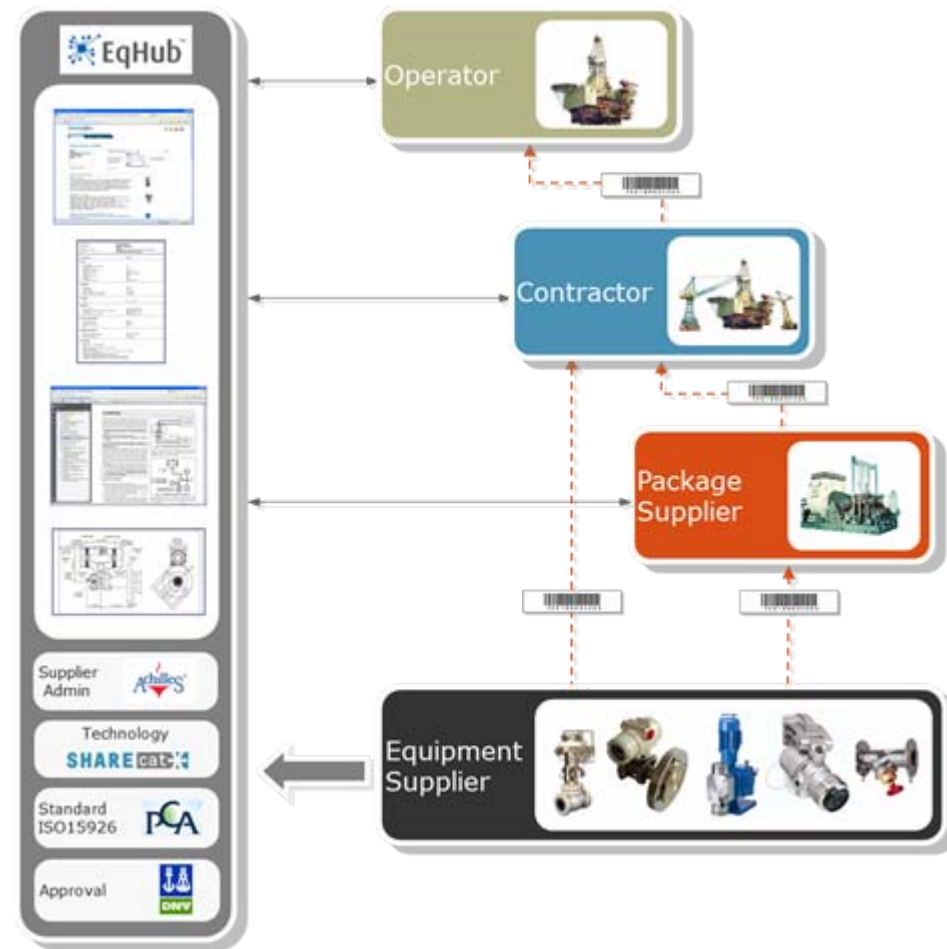
EPIM is the instrument for the operators on the Norwegian Continental Shelf to secure efficient information sharing among all relevant stakeholders by providing cost effective and user friendly common digital solutions based on international standards

- License2Share (L2S)
- EPIM EqHub
- EnvironmentWeb (EW)
- EPIM ReportingHub (ERH)
- EPIM LogisticsHub



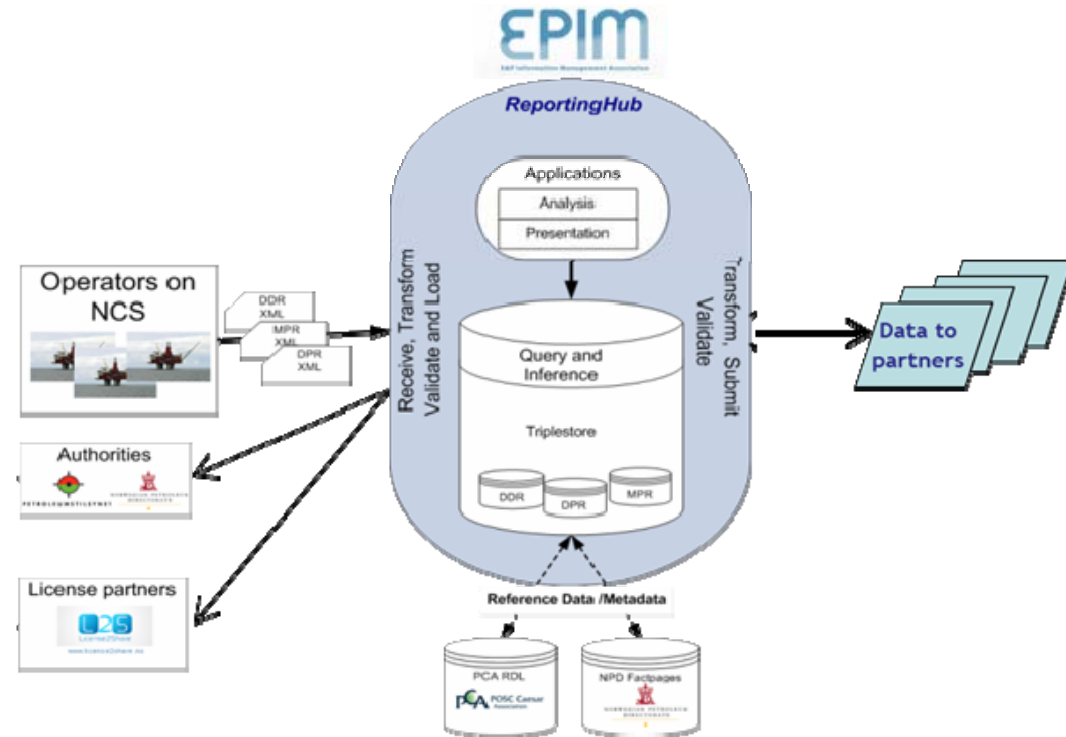
EPIM EqHub Project

- EqHub is a library of quality controlled technical information for standard equipment used in the oil & gas industry
- It is a joint industry solution to reduce cost and time spent on documentation, related to equipment procurement
- EPIM owns and operates the EqHub solution
- EqHub shall be based on PCA ISO 15926 ontology
- The EqHub solution is supported by Achilles, SHAREcat Solutions, PCA and DNV

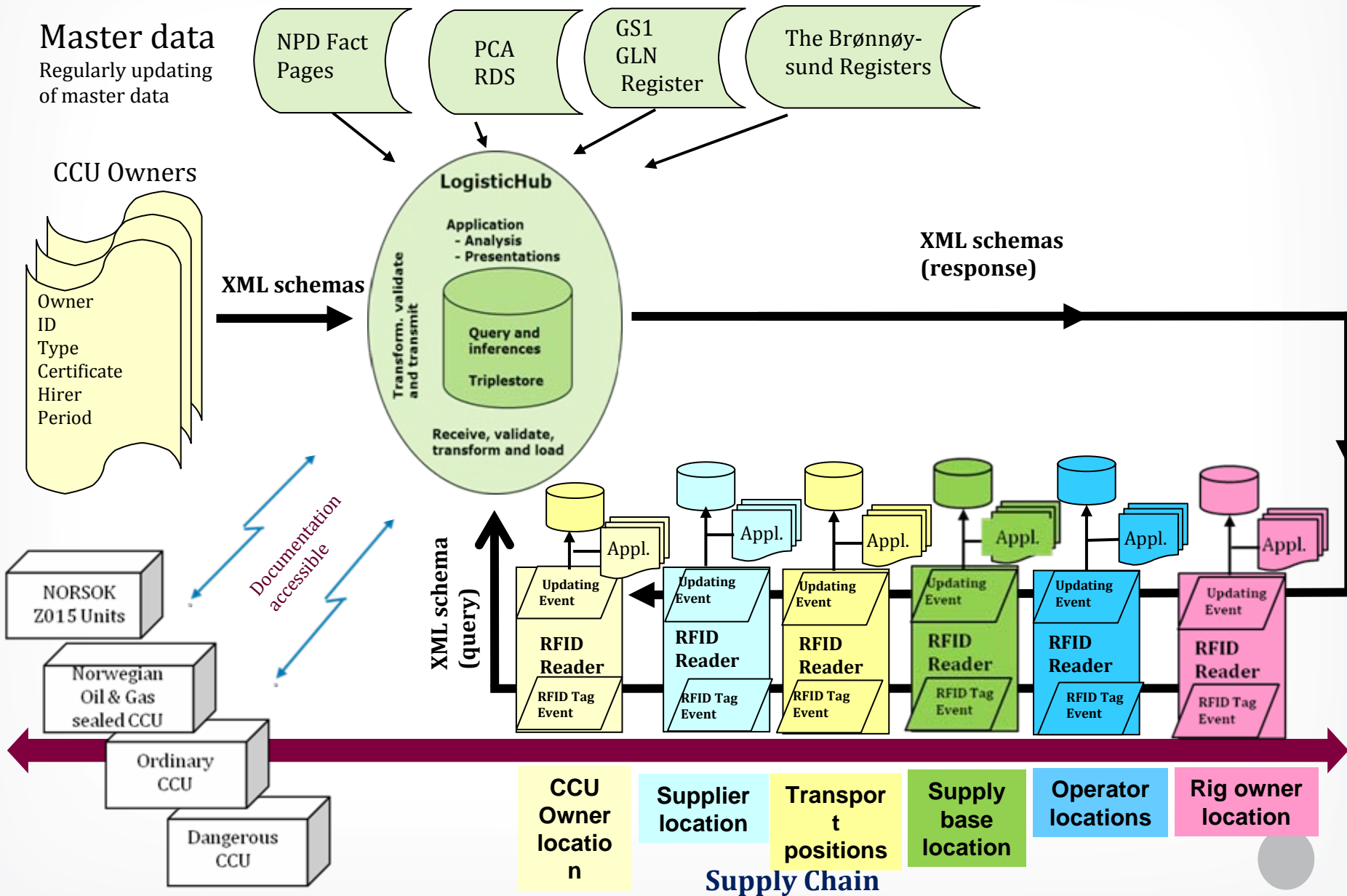


EPIM ReportingHub (ERH) - Phase 1

- Receive drilling and production reports from operators on the NCS, validate, store and send them to authorities and partners
- Provide drilling and production data to the partners on request
- Is flexible for changes in the reports and easy to extend to new types of reports
- Are based on NPD Fact Pages and PCA ISO 15926 ontology



ReportingHub - A schematic overview



Optique™



UiO : **University of Oslo**



SAPIENZA
UNIVERSITÀ DI ROMA



FREIE UNIVERSITÄT BOZEN
LIBERA UNIVERSITÀ DI BOLZANO
FREE UNIVERSITY OF BOZEN - BOLZANO



National and Kapodistrian
UNIVERSITY OF ATHENS



SIEMENS



Facts about Optique

- ▶ Large-scale integrating project (IP) under FP7-ICT Objective 4.4 Intelligent Information Management
 - ▶ 155 proposals in total (IP+STREPS)
 - ▶ Optique ranked 2nd, 14 of max 15 points
 - ▶ 35 IP proposals, 2 funded
- ▶ Total budget: 13 800 000 €
- ▶ EU contribution: 9 760 000 €
- ▶ Duration: 4 years
- ▶ Start: November 1 2012
- ▶ Annual reviews in December
- ▶ Annual plenary meetings in May/June

Turnaround times: weeks → hours

SIEMENS



Up to 80% time
on data access



Up to 70% time
on data access

Time that should be freed for core tasks!

Optique Platform

SIEMENS



Velocity

Complexity

30 GB/24h

structured data

3000 Tables

Parallel Streams

Diagnostic centres

turbines

EPDS

10 TB

OpenWorks

100 TB

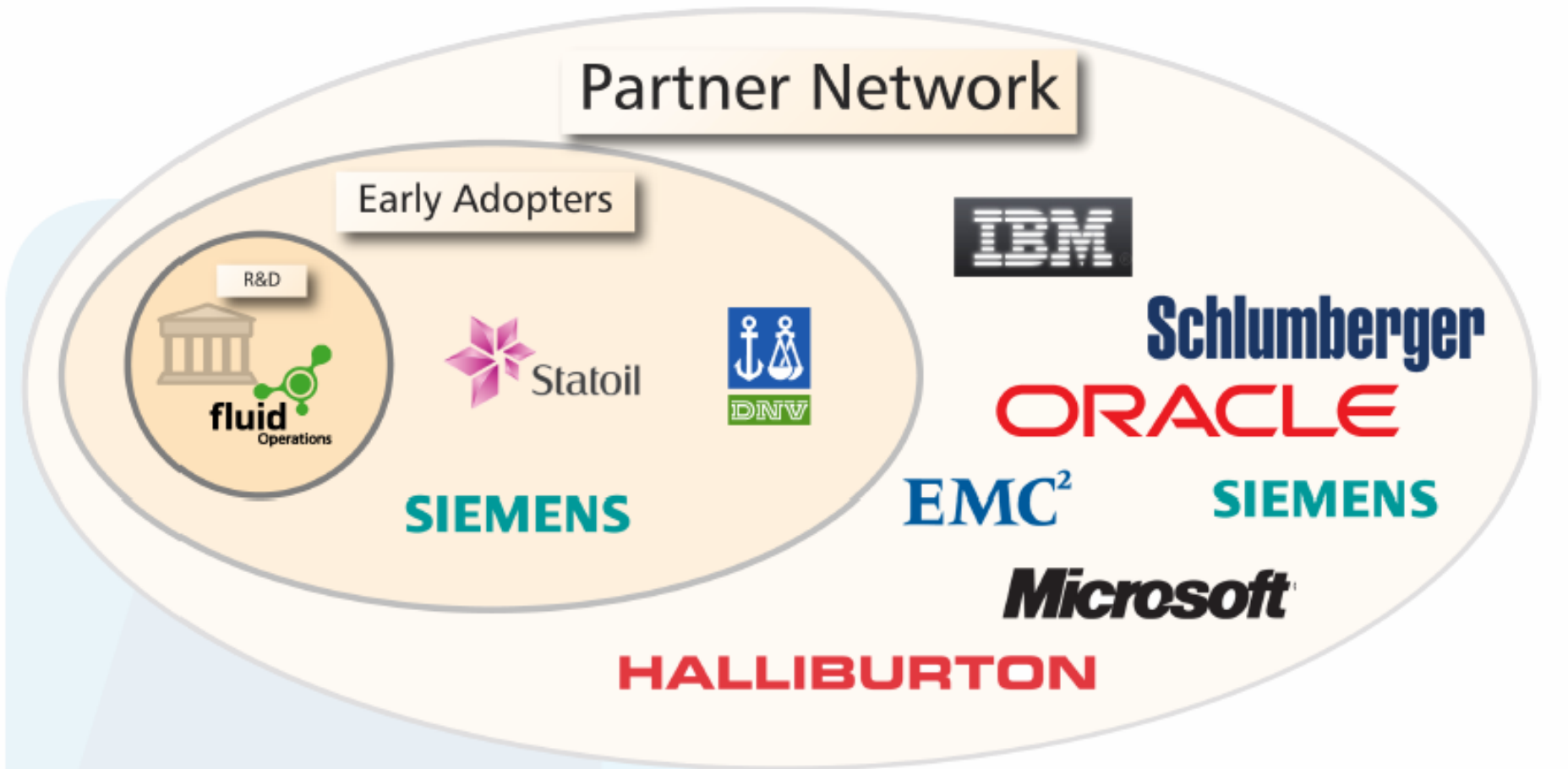
150 TB

raw data

PetroBank

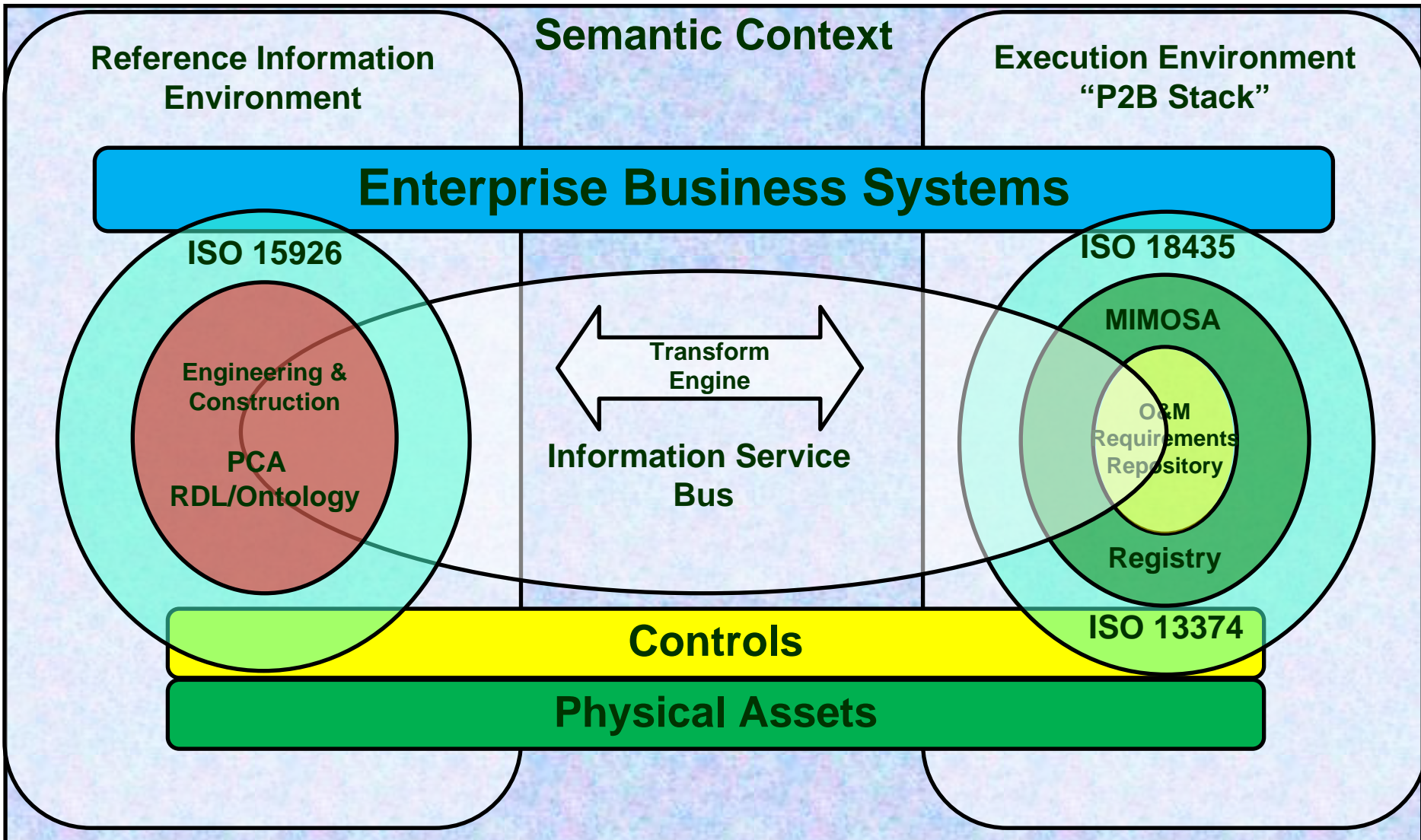
3 PB

Exploitation through the Optique Ecosystem





Oil and Gas Interoperability (OGI)



Standards Leadership Council - Members

| Organization | Senior Executive | Comments |
|---|----------------------|----------|
| Energistics | Jerry Hubbard | |
| MIMOSA | Alan T. Johnston | |
| The Open Geospatial Consortium (OGC) | Mark Reichardt | |
| International Association of Oil & Gas Producers (OGP) | | Observer |
| OPC Foundation | Thomas Burke | |
| PIDX International | Anthony Aiming | |
| The Pipeline Open Data Standard Association (PODS) | Janet Sinclair | |
| POSC Caesar Association | Nils Sandsmark | |
| Professional Petroleum Data Management Association (PPDM) | Trudy Curtis | |
| Troika International | Jill Lewis | |
| W3C | Frank Chum (Chevron) | Observer |

Standards Leadership Council (SLC)

For the upstream Oil & Gas Industry

Objectives:

- Identify areas of intersection to avoid creating duplicate or conflicting standards
- Identify opportunities for synergy, so we can build on our successes together.
- Better deliver the value proposition message for standards implementation
- Ensure maximum member benefits through participation in standards organizations

Established:

- February 24, 2012 in Houston

Meetings in the SLC:

- In 2012 two meeting has been held and one is planned November 14-15 in Oslo

Conferences:

- A one day conference was held in Houston on June 28, 2012. The next conference is planned in Europe in 2013

Summary

- ISO 15926 and the PCA ISO 15926 RDL are implemented:
 - Used for information handover since 1996/1997 (ETAP, BP & Shell and Åsgard, Statoil)
 - Used in more than 100 capital projects
 - Big implementations in 2011-2012 (Bechtel and other EPCs)
 - Used for Integrated Operations since 2006 (Tyrihans, Statoil, Daily Drilling Reports, Daily and Monthly Production Reports, Norwegian Continental Shelf)
 - Used for integration between operations & maintenance and engineering since 2011 (OGI pilot)
- Enhancements and improvements are necessary
 - JORD – We need more participants
 - Continuous improvements of the RDL through project and SIGs
- Participation and co-operation is necessary in order to accelerate the work