Nordic collaboration – SEIIA, PCA and THTH

THTH Spring webinar 2021

2021-05-28

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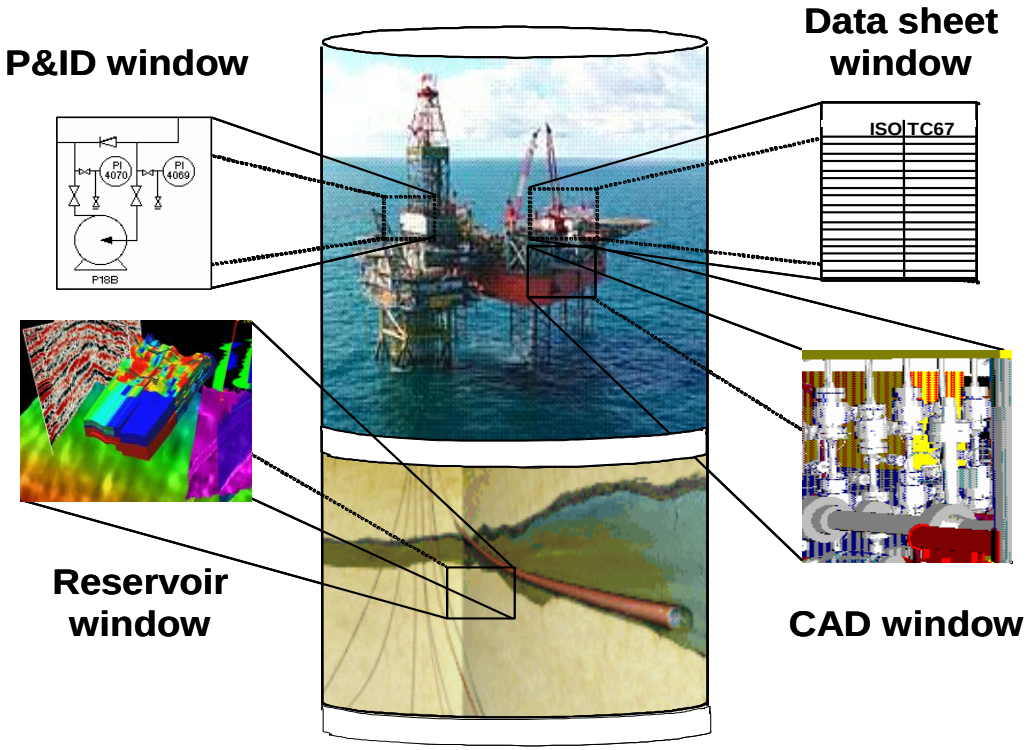
What is ISO 15926 about?



- Establish a common language
- Reduce cost and time for transfer and integration of data
- Support long life cycles
- Support Configuration Management and Long Time Archiving
- Enable full digitalization of work processes

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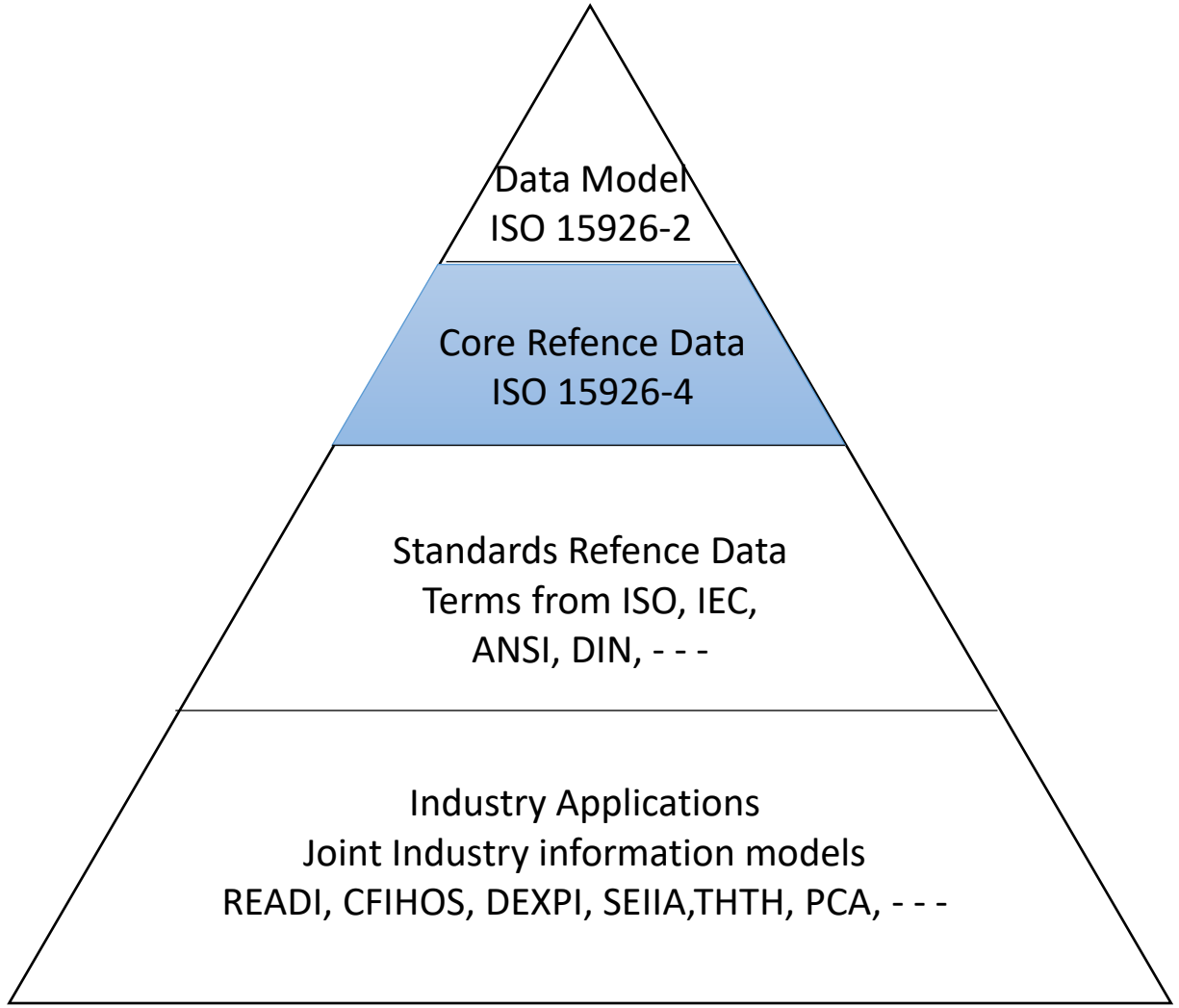
PCA – Reference Data Development from 1994 to 2021



*MRAIL –Master Reference data Action Internest List

- Development of the Data Model and the Reference Data Library (RDL) stated in 1994
  - Cooperation with PISTEP UK and USPI NL
- The PCA RDL has over 50 000 Reference Data Items (RDIs/Terms)
  - This RDL was shared with many corporations, universities, research institutes, etc.
- The PCA RDL is used all over the world
  - Five continents
  - Translated to both Russian and Chinese
- ISO 15926-4 ed. 1: *Initial reference data* was published by ISO in 2007.
  - Generated from the PCA database
  - 11 000 RDIs
- ISO 15926-4 ed. 2: *Initial reference data* was published in 2019.
  - Error corrections
  - UoM according to ISO 80 000
- **The ISO 15926-4 *Core reference data* ed. 3 project was approved in May 2020**
  - **Two-year project based on PCA RDL 2, developed in *MRAIL**
  - **Include Core Reference Data from PCA, DEXPI and CFIHOS**
  - **Collaboration with SEIIA and THTH started**
  - **23 000 RDIs**

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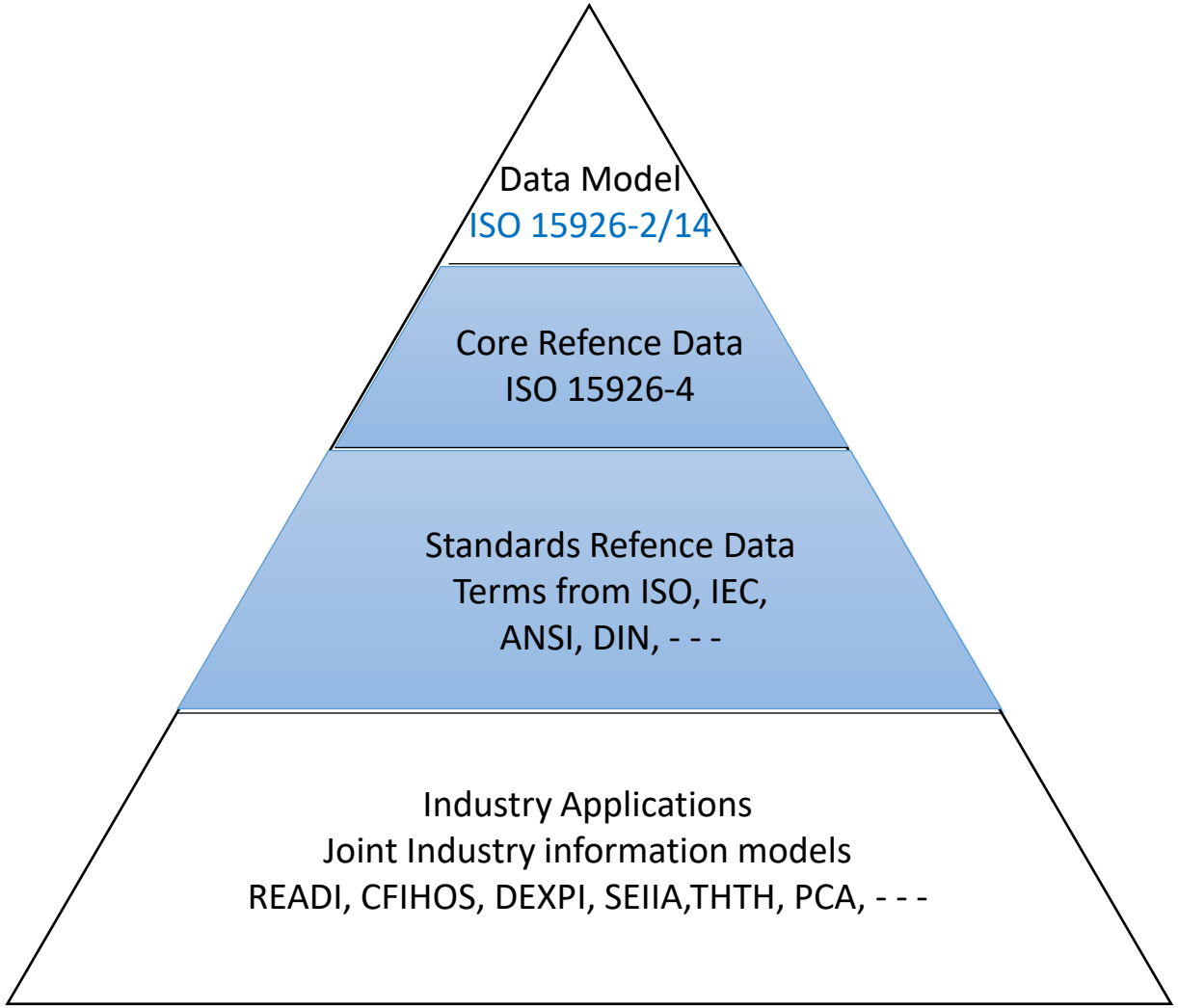
Plans for further work



- Include Standards Refence Data in PCA RDL 2 in cooperation with:
  - READI/NORSOK
  - CFIHOS/DEXPI/MIMOSA/SEIA/THTH
  - Other interested standards organizations like ISO TC 67
  - IPR issues must be resolved
- Establish an ISO 15026-14 based RDL in cooperation with:
  - READI/NORSOK
  - Other interested parties
  - This RDL will support semantic reasoning
- Further development of ISO 15926-14 to an Industrial Top-Level Ontology
  - READI/NORSOK
  - Other interested parties are welcome
- Production Value Network Interoperability
  - Nordic cooperation on an EU research project proposal
- **Establish a sustainable Reference Data Service for maintenance and enhancements**

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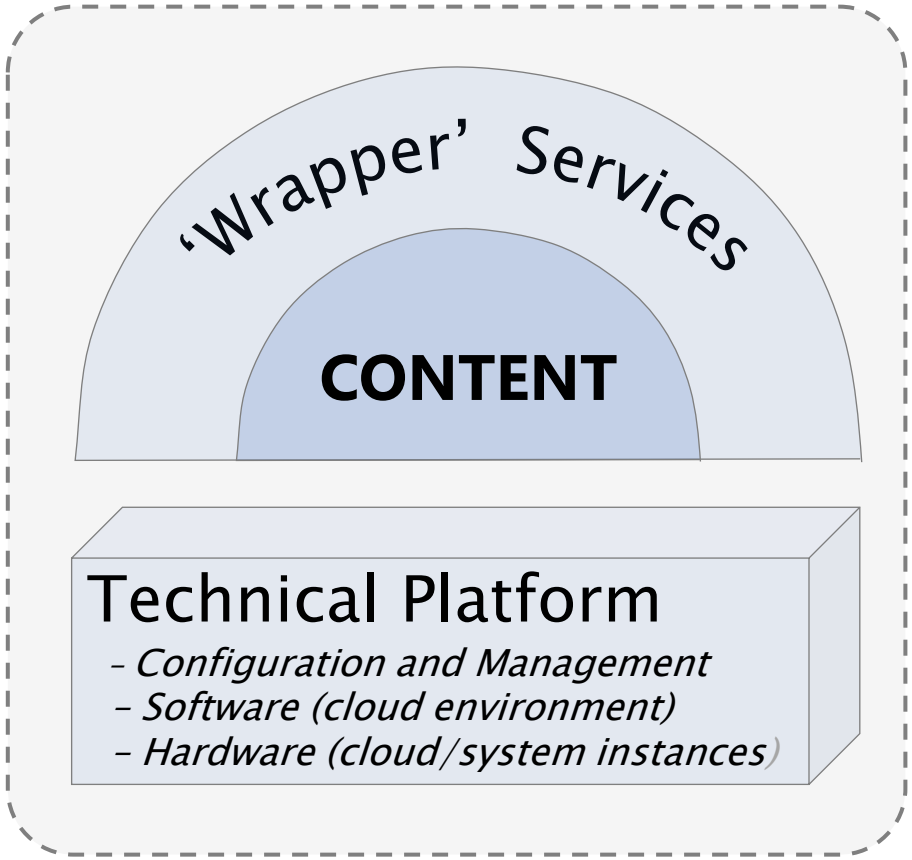
Reference Data Service for Maintenance and Enhancements



❶ **'Wrapper' Services**
- *Everything required to provide relevant offerings with predictable quality as a cloud service*

❷ **CONTENT**
- *PCA Reference Data Libraries and ontologies*

❸ **Technical Platform**
- *Everything required to underpin points* ❶ *and* ❷

❹ **Governance**
- *Everything required to manage above aspects as one*

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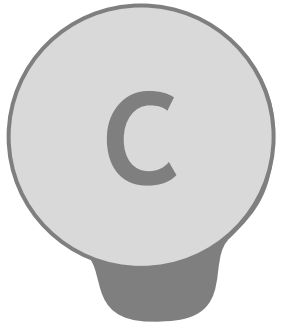
❸ Technical Platform

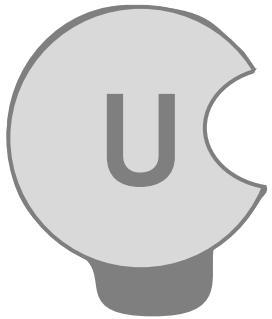
CONTENT OPS.

ADD data (CREATE)

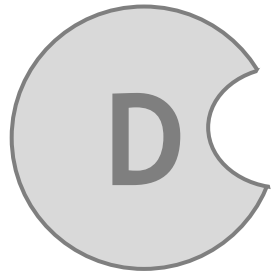


Existing data (READ)

Change/Add data (UPDATE)



Remove data (DEPRECATE)



Work in progress

- *MRAIL inkl. DEXPI & CFIHOS*
- *READI*
- *SEIIA & THTH*

Development → Staging → **Production**

selective promote

partial promote (at a time)

freeze/review, then full promote

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PCA Reference Data Services – First draft for discussion

Service Band	Services	Support
Free & Open Services	Basic Read & Query	Functioning Uptime Support only - for Registered Users
Subscription Services	Extended Read with Value-adding Queries & Views Sand Box hosting	General service, technical help & content usage Q&A
Fee-based Value-adding Services	All other update, content management, compliance validation, standardization, training & consulting services	Specific SLA's per priced service.

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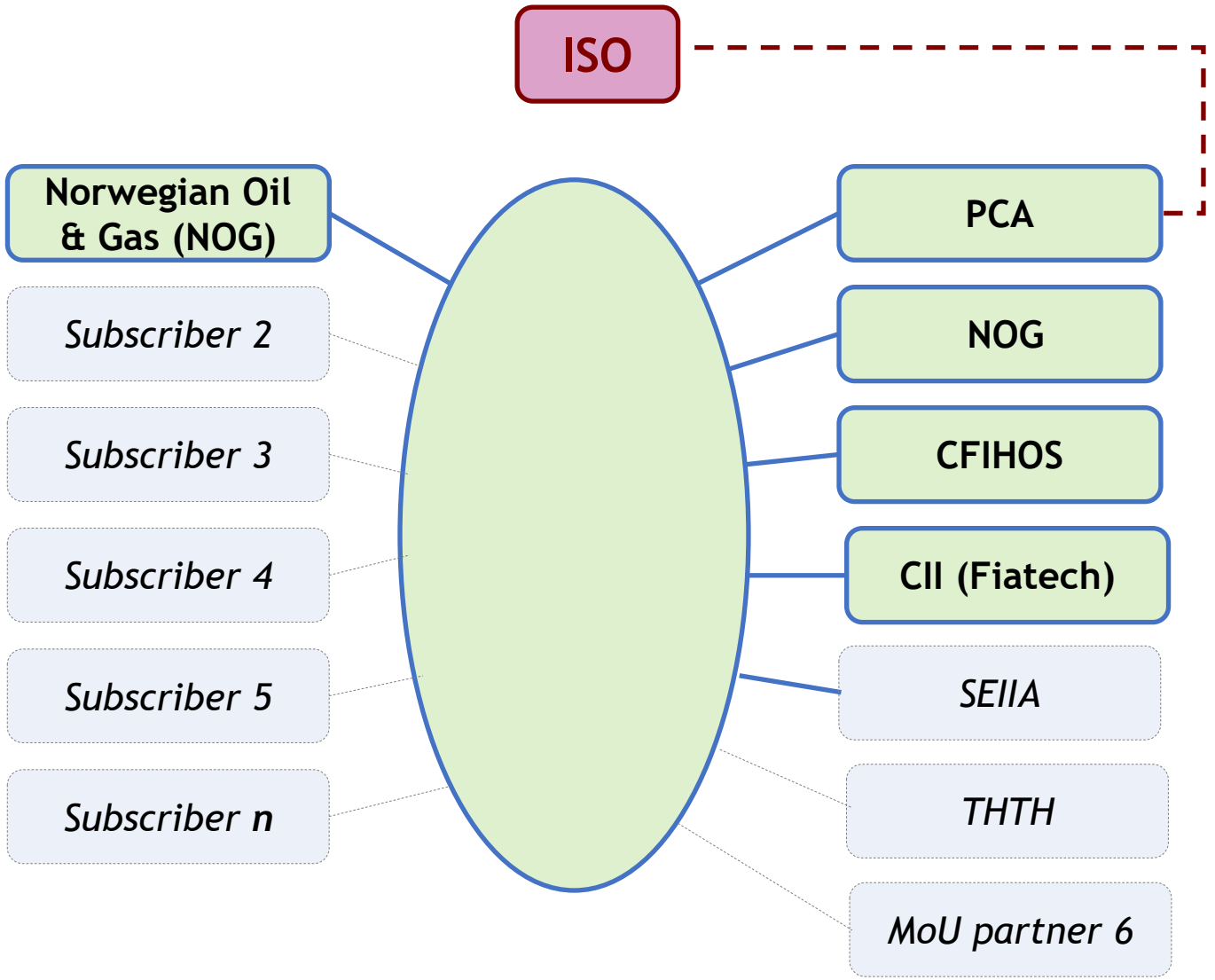
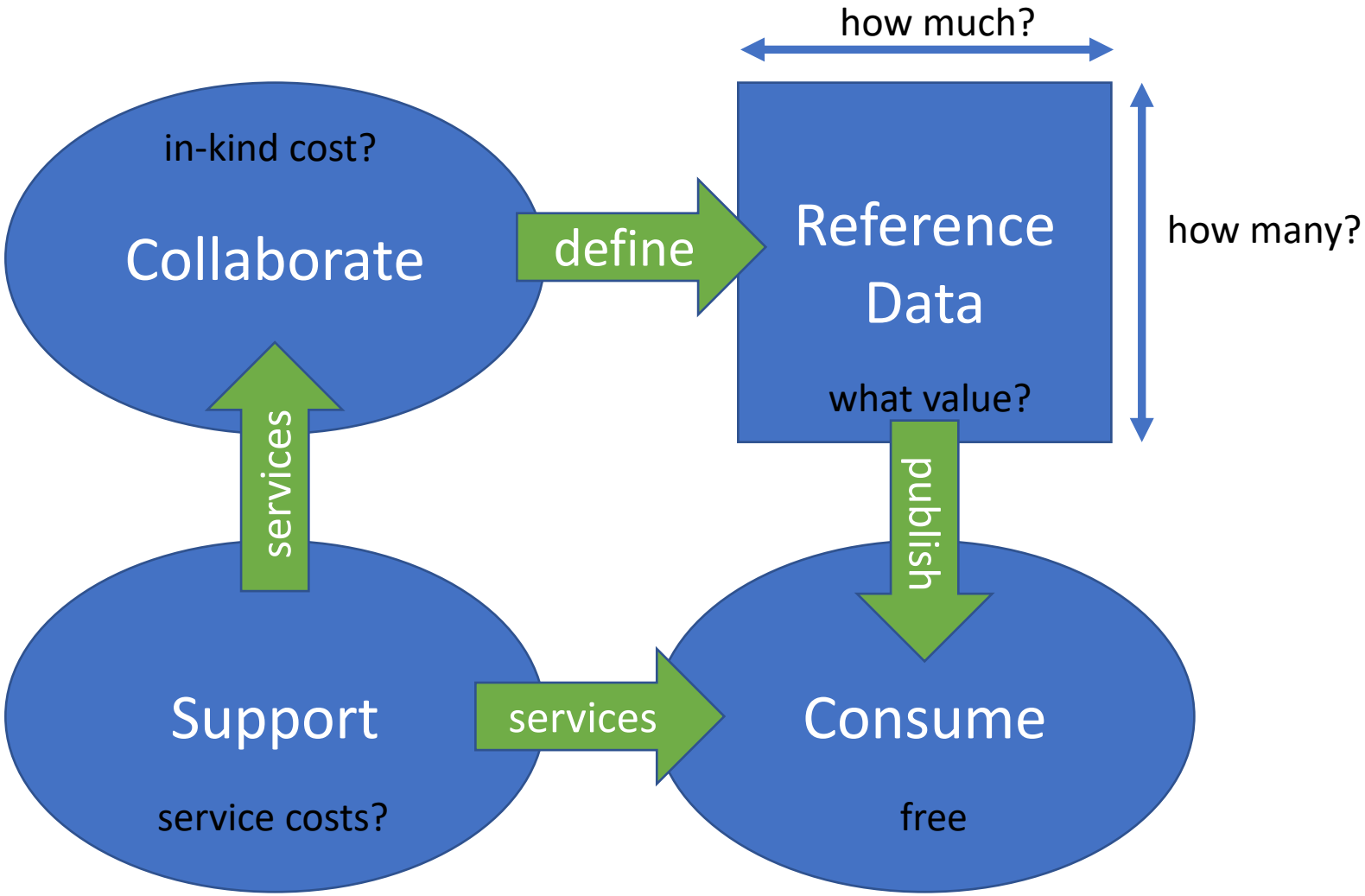
❹ Governance – Management Board - First draft for discussion



PCA welcomes O/O's, EPCs, equipment-, software- & catalog-providers, agencies and educational institutions, as well as industry associations

Industry Challenges



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Back-up slides

Summary

- What is PCA about?
  - Reference data and ontologies to improve interoperability
- What have PCA achieved lately?
  - Extended and improved RDLs - The PCA RDL 2
  - The Core RDL will be standardized as ISO 15926-4 ed.3
  - ISO 15026-14 – Top Level ontology that supports semantic reasoning
- Why is THTH and SEIIA important for PCA?
  - THTH and SEIIA can be key partner for reference data and ontology development, maintenance and standardization
- How is the collaboration with THTH and SEIIA?
  - Nordic collaboration is important for PCA

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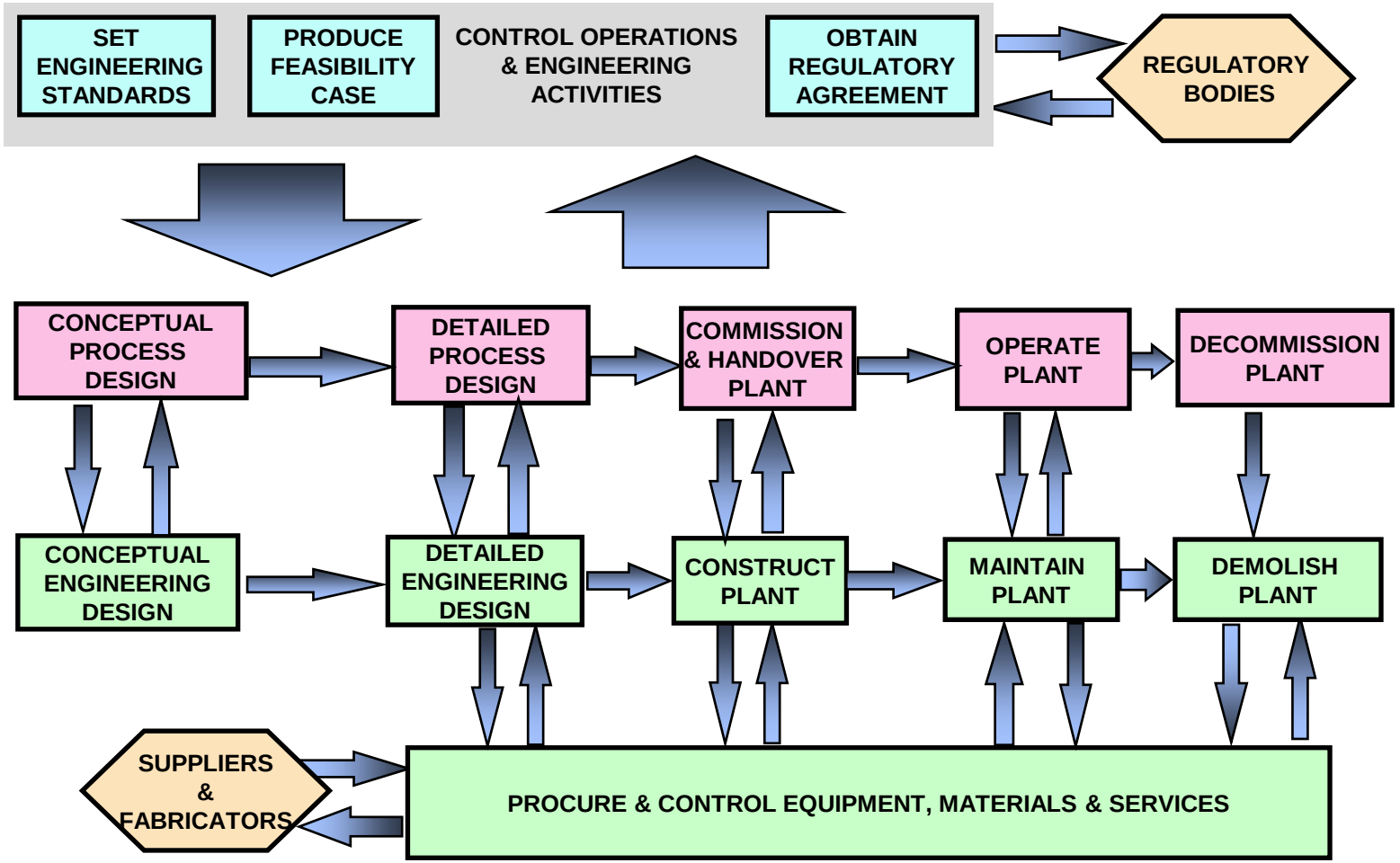
ISO 15926 Original Scope and Main Focus Areas

The PISTEP Model for Life Cycle Activities



PCA Main Focus Areas

- Started in 1997 with standards for information handover between EPCs and Owners/Operators
- Integrated Operations came in focus 2004
- A few years later Operation & Maintenance and integration between Engineering and Operation & Maintenance became important - Cooperation with CII (Fiatech), DEXPI and MIMOSA started
- Since 2014 RDL 2/ ISO/TS 15926-4 ed. 3, ILAP, STI, ISO 15926-14 and READI have been in focus

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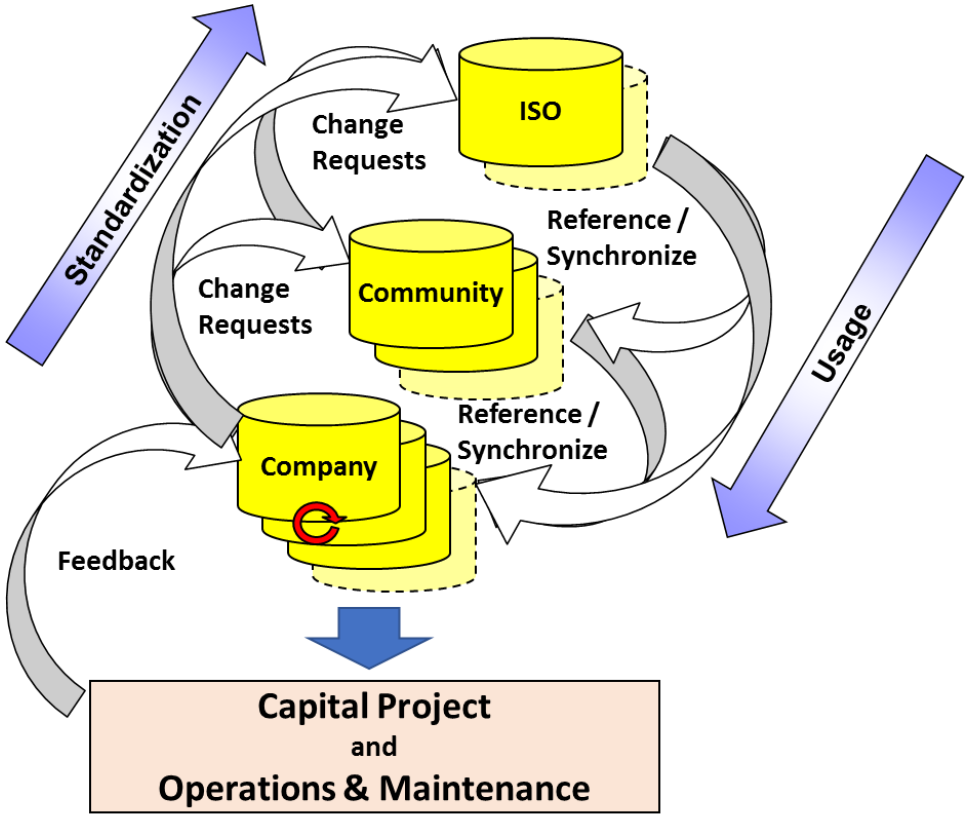
ISO 15926 Reference data architecture



- ISO Standards and reference data libraries
  - Generic and technically stable parts
  - ISO allows standards in databases
  - Freely available standards in databases can be negotiated
- Community, e. g. PCA, specifications, ontologies and reference data:
  - Limited to an area, e. g. the Norwegian Continental Shelf
  - Using fast developing technologies
  - Testing for later ISO standardization
- Company specifications and reference data:
  - Company internal specifications and reference data
  - Proposals for standardization

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Extensions and improvements in PCA RDL 2: Core reference data

- Improvements in RDL 2 includes results from projects and maintenance activities from 2006 to 2020
  - Consistent naming and definitions
  - Reference to other RDIs in text definition
  - Reference to source
  - Improve specialization and classification
  - Rules for use of entity types inanimate_physical_object and functional_object
  - Divided the RDL into smaller and different types of modules
  - Iimplemented ISO 80000 for UoM (Replace ISO 31)
  - Extended the Part 4 RDL from about 11 000 Reference Data Items (RDIs) to about 23 000 RDIs.
- Aligned with:
  - **CFIHOS (Draft completed, QA necessary)**
  - **DEXPI (Completed)**
  - **MIMOSA ISDD (Started)**
- PCA RDL 2 is based on ISO 15926-2: Data model – Not developed for semantic reasoning

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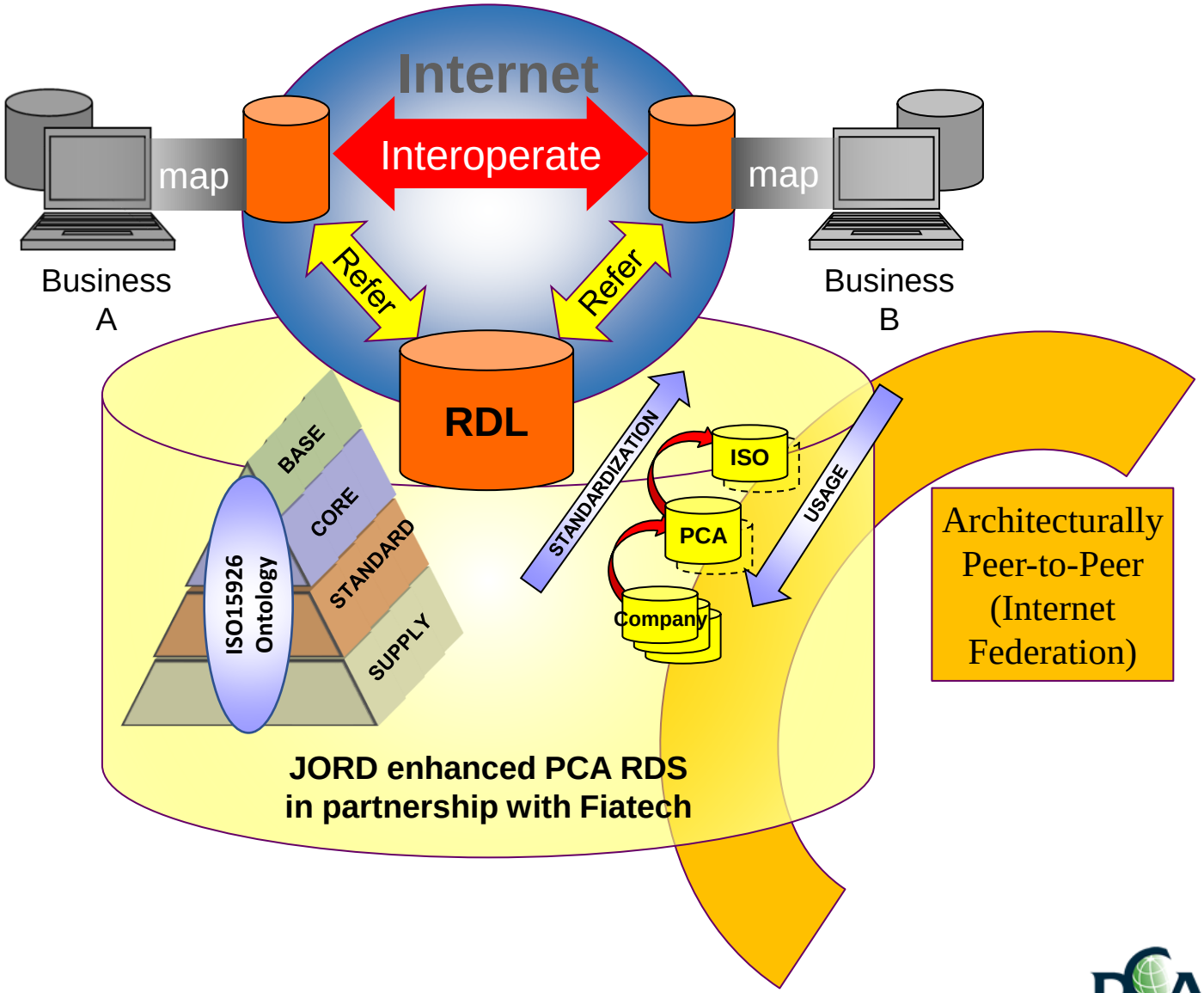
JORD Phase 1 & 2 Focus

Participants:

- Dow
- EPIM
- RosEnergoAtom
- Woodside
- Bechtel
- Black & Veatch
- CCC
- Emerson
- Hatch
- VNIIAES



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❶ 'Wrapper' Services

- **Browse** linked data (learning by navigating across different subject matter 'graphs')
- **Query** according to pre-organized criteria (industry, discipline, view, etc.)
- **Validate** your own candidate reference data (upload extracted data sets)
- **Add** your own reference data : via ① Simplified Track or ② Robust Track
- **Verify** identifiers across public/neutral and company-specific reference data
- *[When allowed:]* Online **Editing**; supporting collaborative efforts
- *[In addition:]* **Support** to reference data adoption projects, **training** for staff
- *[Across all:]* Simple user interface(s; Web/desktop and touch/handheld)

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