

ISO 15926 and POSC Caesar Association

READI/NOAKA workshop:

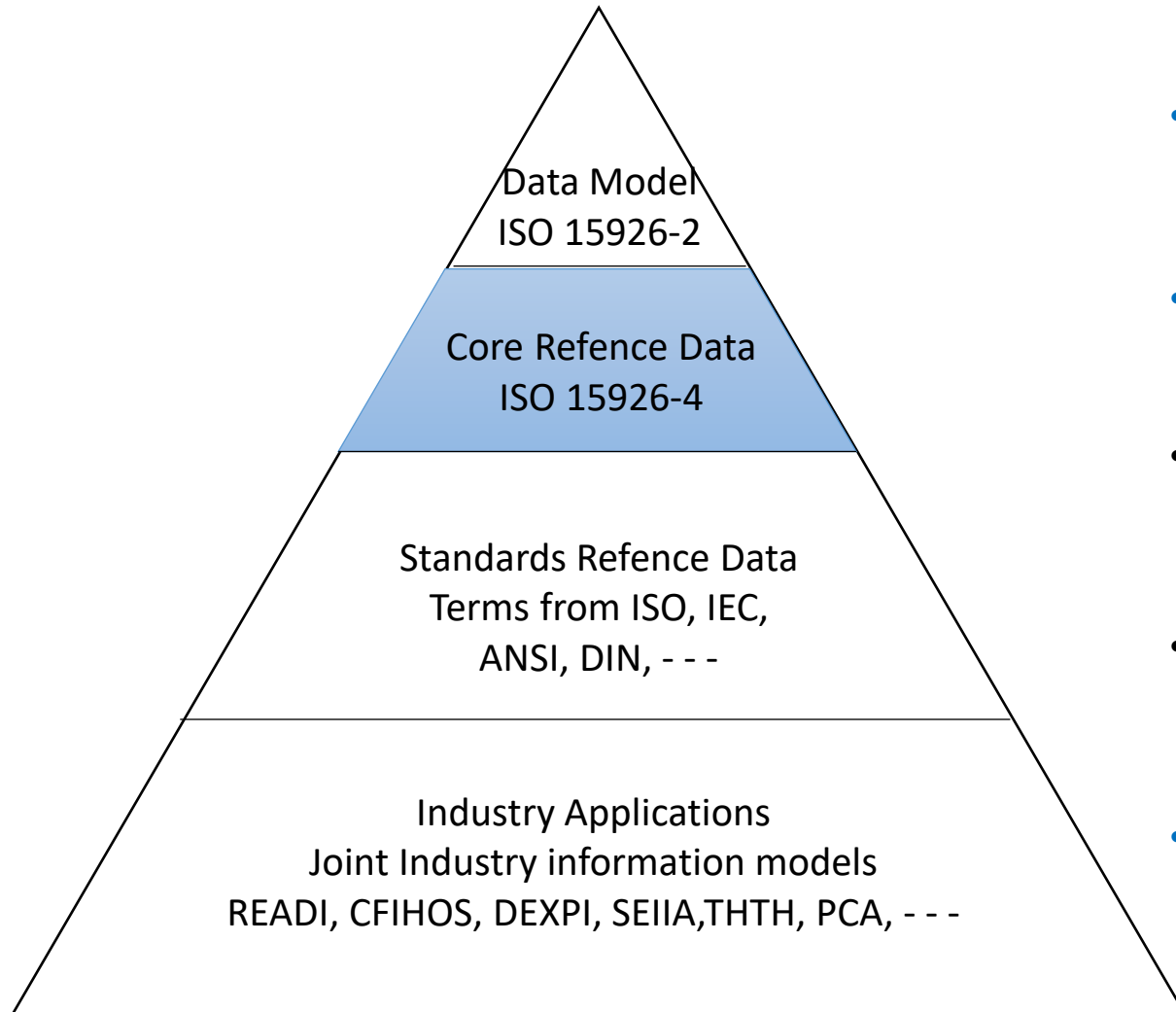
Presentation of PCA ISO 15926 Part 14 Reference Data Library

2022-02-18

Nils Sandsmark



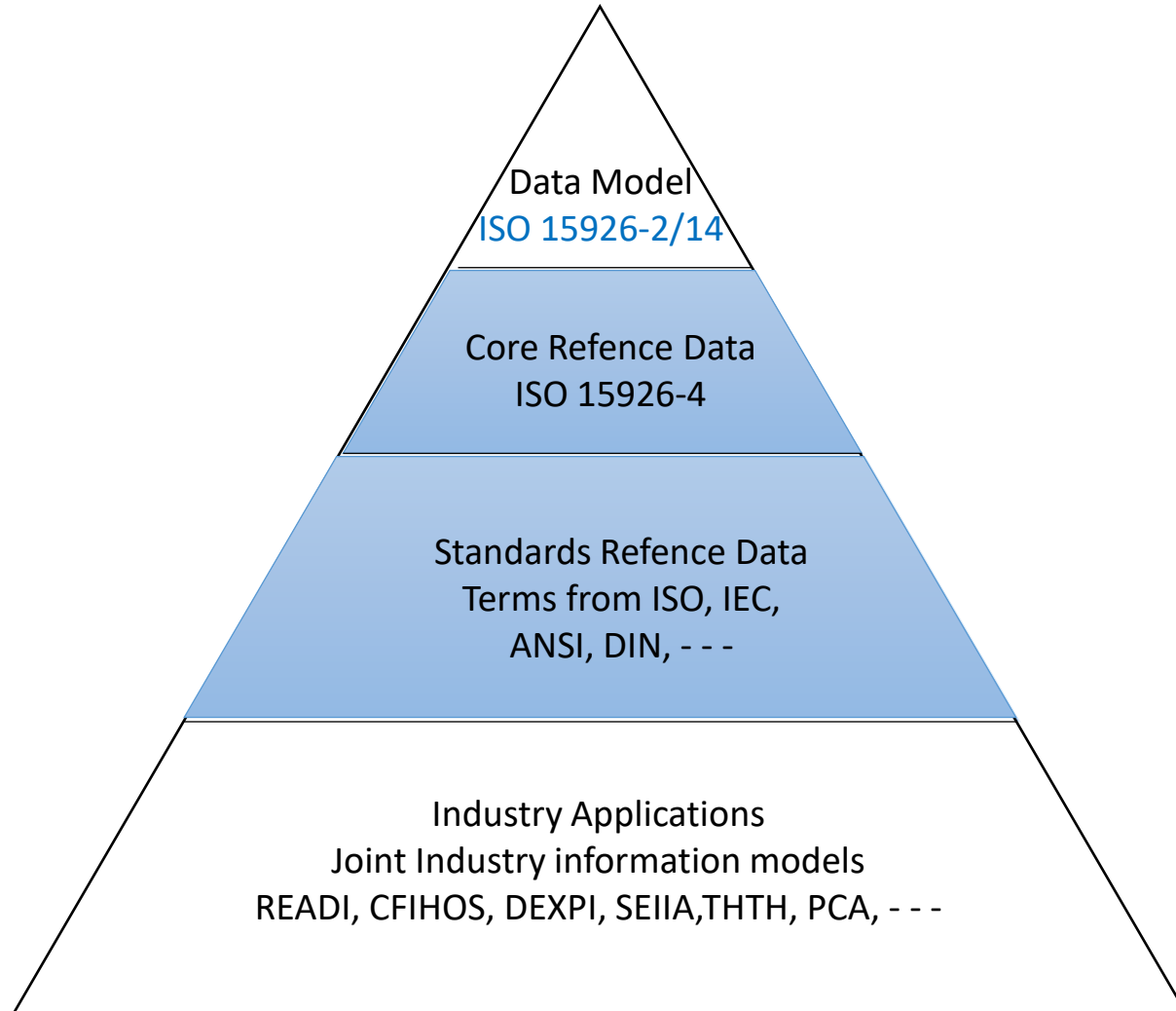
PCA – Reference Data Development from 1994 to 2021



*MRAIL –Master Reference data Action Interest List

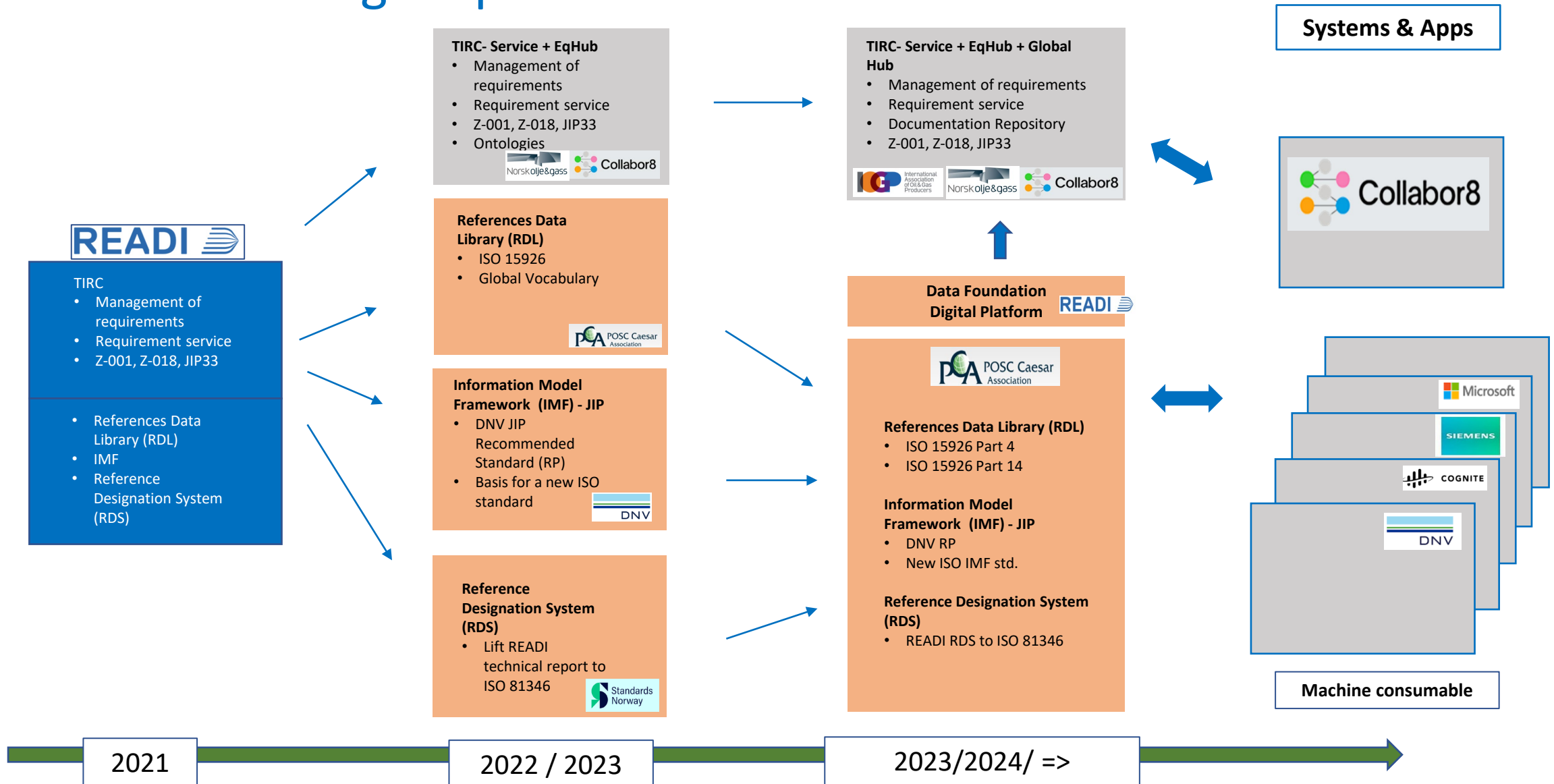
- Development of the Data Model and the Reference Data Library (RDL) stated in 1994
 - Cooperation with PISTEP UK and USPI NL
- **The PCA RDL has over 50 000 Reference Data Items (RDIs/Terms)**
 - This RDL was shared with many corporations, universities, research institutes, etc.
- **The PCA RDL is used 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**
 - **Three-year project based on PCA RDL 2, developed in *MRAIL**
 - **Include Core Reference Data from PCA, DEXPI and CFIHOS/JIP33**
 - **Collaboration with SEIIA and THTH started**
 - **23 000 RDIs**

Plans for further work



- **Include Standards Reference 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**
- Develop MRAIL Component Models based on JIP33, CFIHOS and ISO 15926
- **Establish an ISO 15926-14 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**

Strengthen PCA to become a hub for development and publishing of the READI digital platform

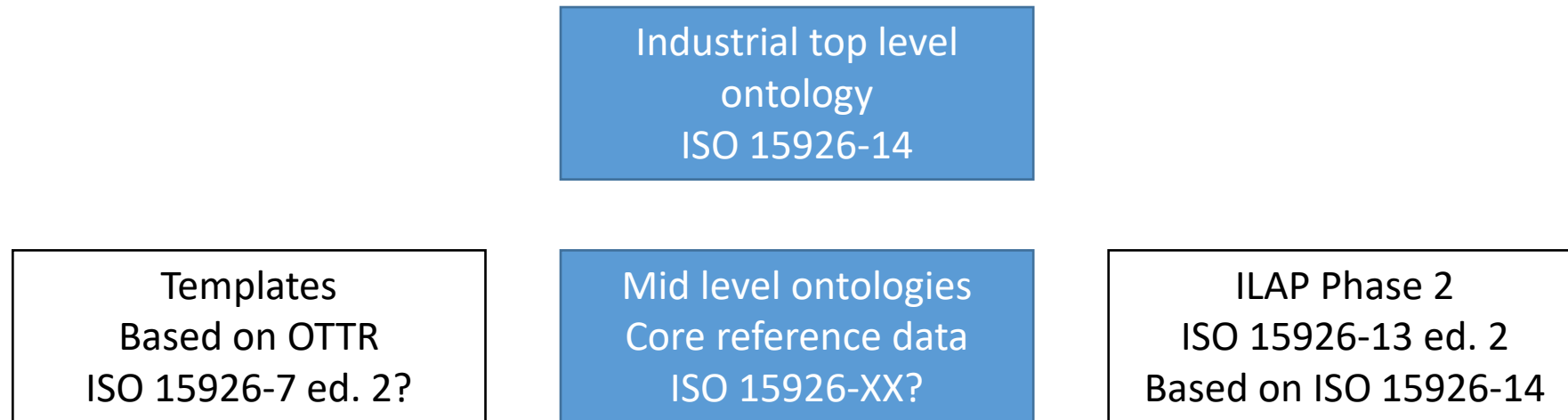


Further development of ISO/TR 15926-14
to an
Industrial Top-Level Ontology

Why is further development of ISO/TR 15926-14 necessary?

- Normative references to a TR is not allowed
- We need an Industrial Top-Level Ontology (TLO) that support reasoning
 - Important for interoperability between digital twins
 - Important for interoperability of industrial data in general
 - This is supported by strong interest for ISO 15926-14 in Australia, France, Germany, UK and USA
 - Other TLOs were originally not developed for industrial data
 - Semantic reasoning is high on the agenda in many communities e.g., aerospace
- Good documentation is crucial for widespread use
 - Allows use without involvement of the experts that developed the ontology
 - Secure interoperability between ontologies based on ISO 15926-14
- Necessary improvements must be added
- Secure the investment in READI, NOAKA and ILAP

Projects and initiatives, related to ISO 15926 -14



Objectives for further development of ISO 15926-14

- Lift the current version, ISO/TR 15926 – 14, to an ISO 15926-14 Industrial top-level ontology
- Provide good use cases and modelling examples
- Extend the community of ISO 15926-14 experts

Scope for further development of ISO 15926-14

- Add definitions
- Improve relations
- Align with:
 - The joint ISO/IEC work on Data architecture for digital twins
 - The ISO/TC 184/SC4 work on *Core terminology for industrial data*
 - Industry Ontology Foundry (IOF) (Development of ISO/IEC 21838-2: *Basic Formal Ontology* (BFO) and other ontologies)
 - OntoCommons (EU project)
- Improve mapping to ISO 15926-2: Data model
- Improve and complete the modelling examples (actual use cases) currently included in the proposed WD, some with data and templates

Project plan

- Milestones for the pre-project
 - Project start pre-project 2021-11-22
 - Project outline for potential participants completed: 2022-02-28
 - ISO project proposal completed: 2022-03-15 (To be sent to SC 4 member nations 6 weeks before the spring plenary)
 - Project proposal presented to the SC 4 spring plenary: May/June 2022
- Plan for the main project
 - Expected start main project 2022-04-15
 - Expected start of ISO project: End August 2022
 - Committee Draft (CD) submitted: February 2023
 - Draft International Standard (DIS) submitted: December 2023
 - PUBLICATION: End August 2024
 - Expected end main project 2024-09-30