Status and plans for ISO 23726 Part 1 - Overview and fundamental principles

First draft of ISO/PWI 23726-1 for review in the IDO core group
2025-06-24

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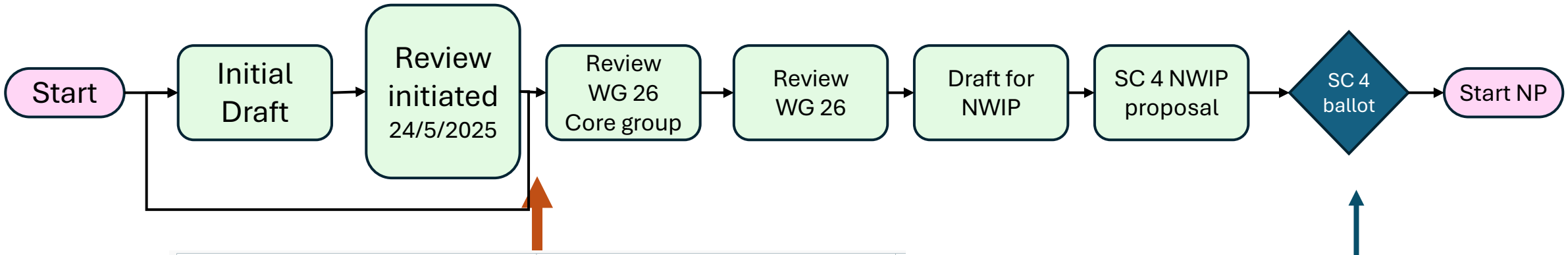
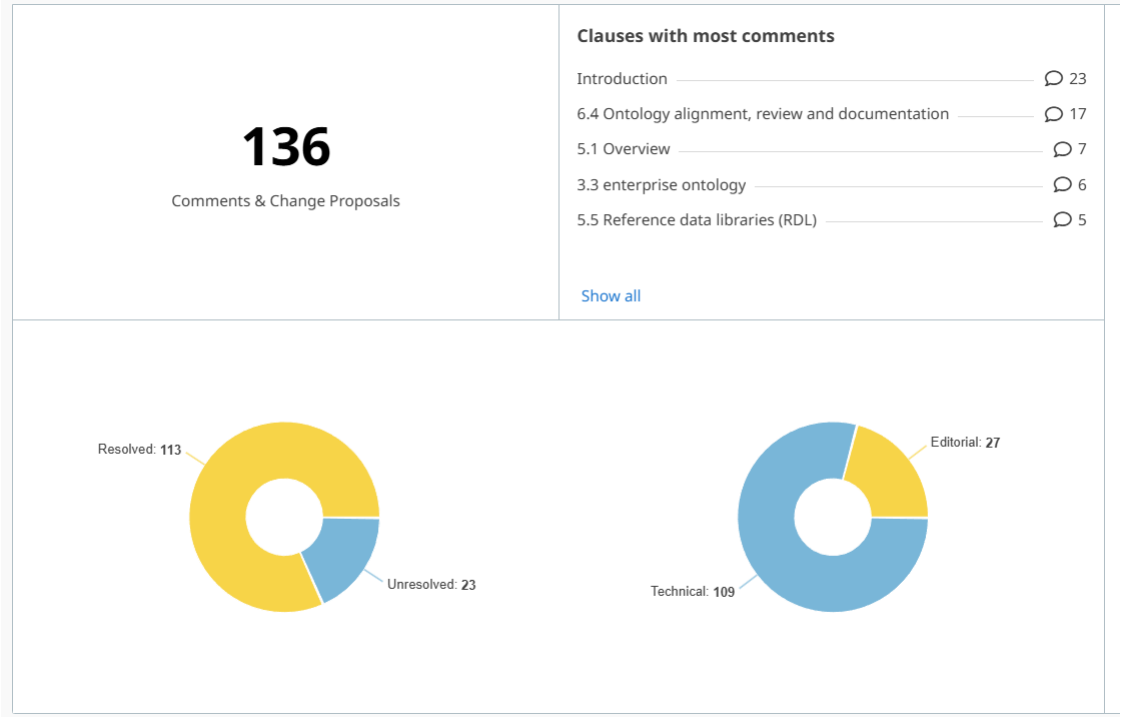
ISO/PWI 23726-1 schedule





ISO TC 184 SC4 90th Plenary in Nagasaki October 2025

Updated 25/6/25

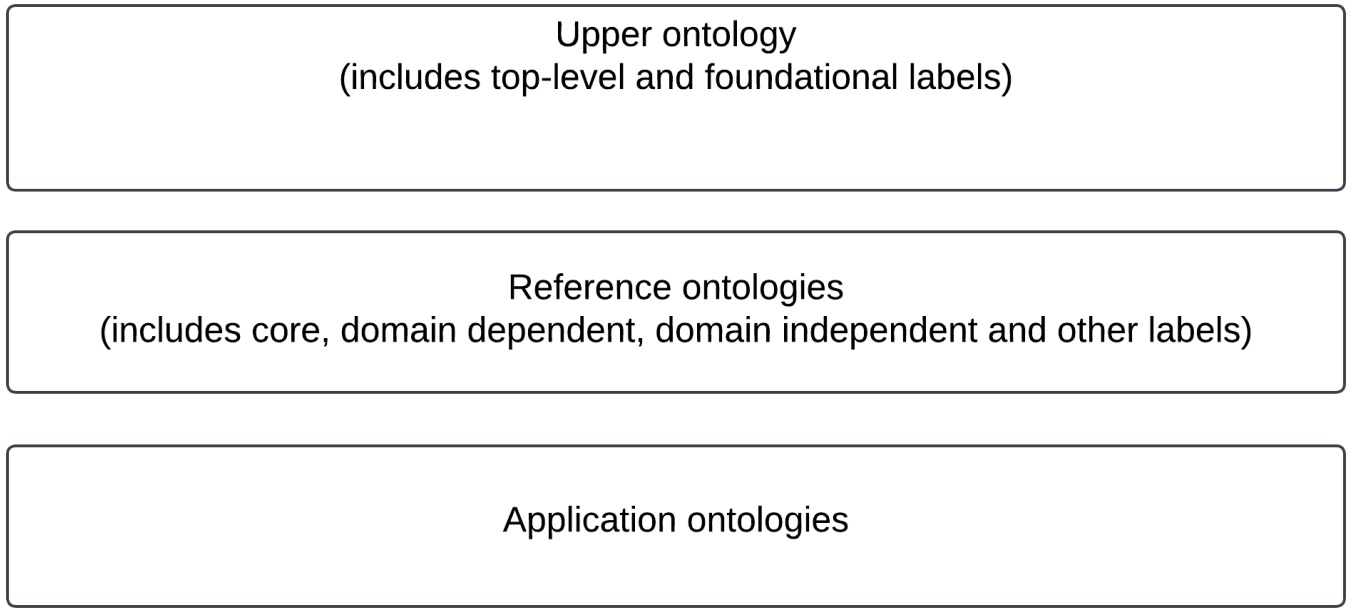
Content of *ISO/PWI 23726-1 Overview and fundamental principles*

- Foreword
- Introduction
- Scope
- Normative references
- Terms and definitions
- Parts in the OBI series
    1. Overview and fundamental principles
    2. Vocabulary
    3. Industrial data ontology
    4. Ontology for scheduling
- OBI ecosystem
    1. Overview
    2. Stakeholders in the OBI ecosystem
    3. Ontology alignment
    4. Reference ontologies
    5. Reference data libraries (RDL)
    6. RDF vocabularies
    7. Relationship to Semantic Web technologies
    8. Ontology (modelling) patterns
    9. Different levels of modelling detail
    10. Data quality rules
- Fundamental principles
    1. OWL 2 Direct Semantics consistent
    2. Resource Description Framework (RDF and RDFS)
    3. Shared OBI series artefact ownership
    4. Ontology alignment, review and documentation
    5. Ontological conflicts
    6. Ontology evaluation
    7. Ontology maintenance agencies and process
    8. Rule consistency
    9. Ontology modularisation
    10. Annotation
    11. Use cases and competency questions
    12. Versioning and storage of ontology artefacts
    13. Axiomisation of classes

Current draft has 24 pages

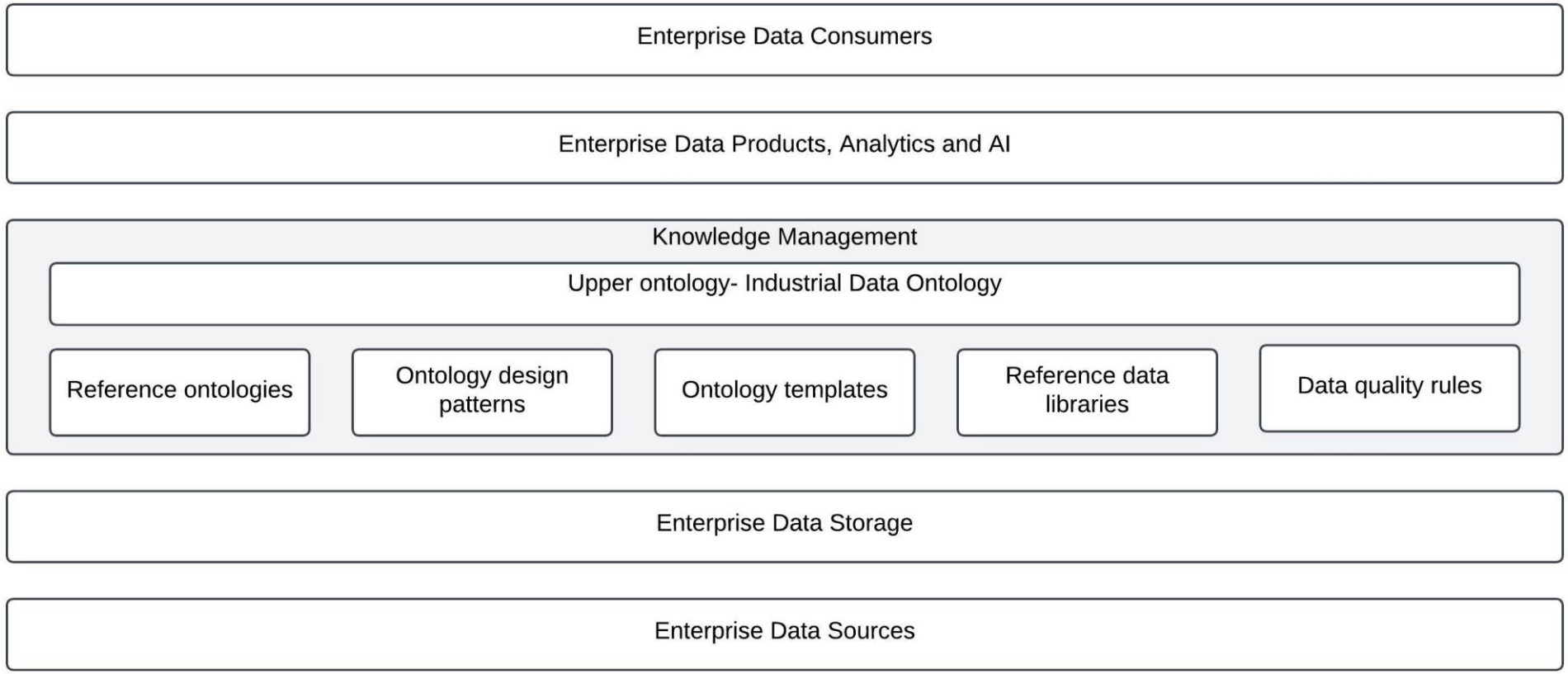
- Grounding in mathematical logic
- Ontology namespace, formatting and annotation guidelines
    1. General
    2. Namespace
    3. Sub-directory structure
    4. Prefixes
    5. Class names
    6. Property Names
    7. Data Properties
- Annotation properties
    1. General
    2. Required annotations for naming RDF resources
    3. Annotation properties for providing definitions
    4. Annotation properties for informal guidelines
    5. Annotation properties for cross-referencing other ontologies
    6. Annotation properties for provenance and versioning
    7. Annotation properties for representing ontology evolution

Terms used in ISO 23726 to describe different types of ontologies

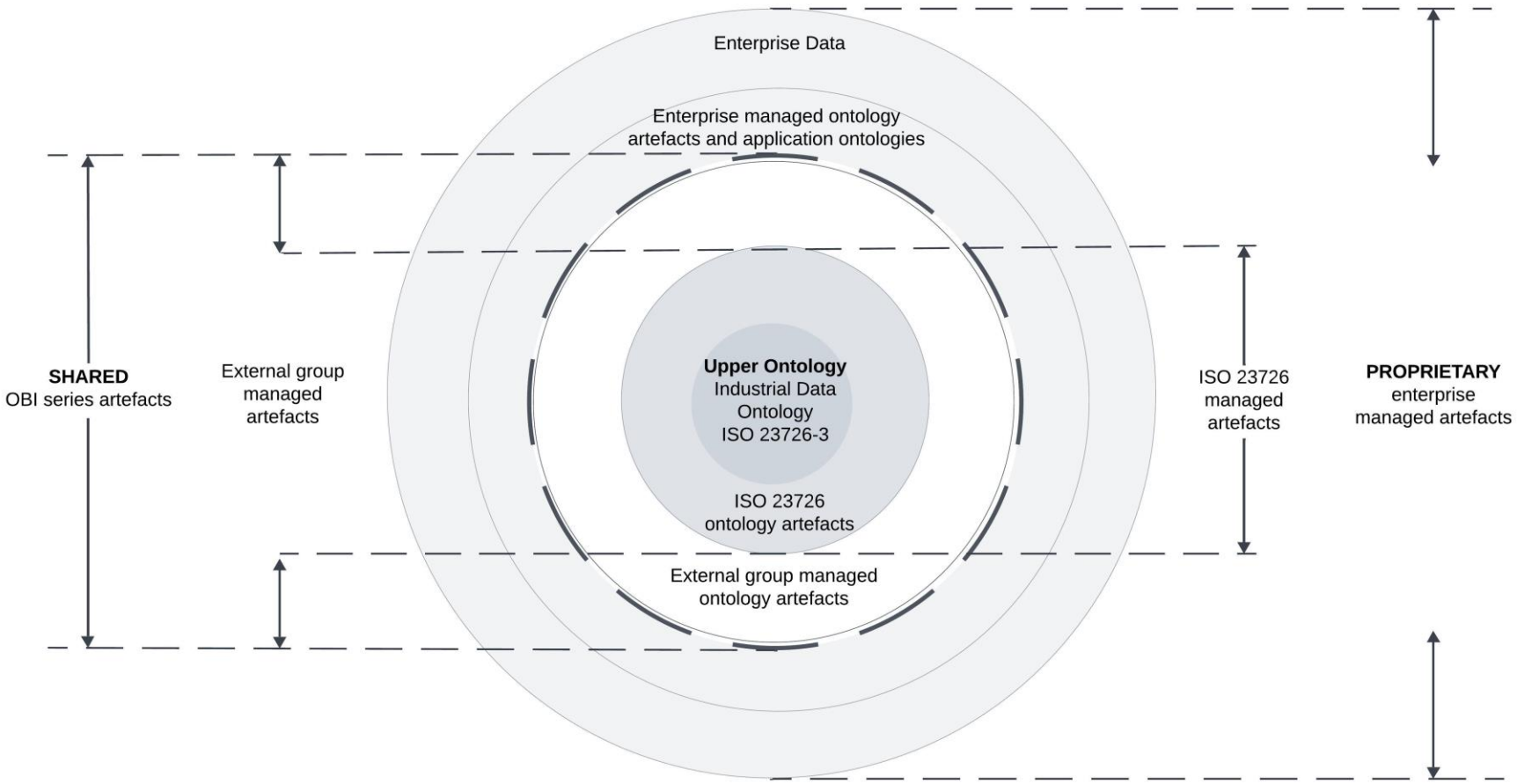


- A reference ontology is a domain-specific ontology that models key concepts in a domain so that other more specialized ontologies or applications can reuse or extend it.
- A trusted reference ontology can be used across multiple applications. A reference ontology does not necessarily aim to model everything in the domain.
- There is no agreement in the literature as to a naming convention for ontologies between the top-level and an application ontology. Various names such as Core, Domain, Domain-independent, Domain-dependent are used but not clearly defined. Reference ontologies is used here as a label for all of these. Many application ontologies will import a number of reference ontologies.

A high level architecture for ISO 23726 ontology based interoperability is proposed

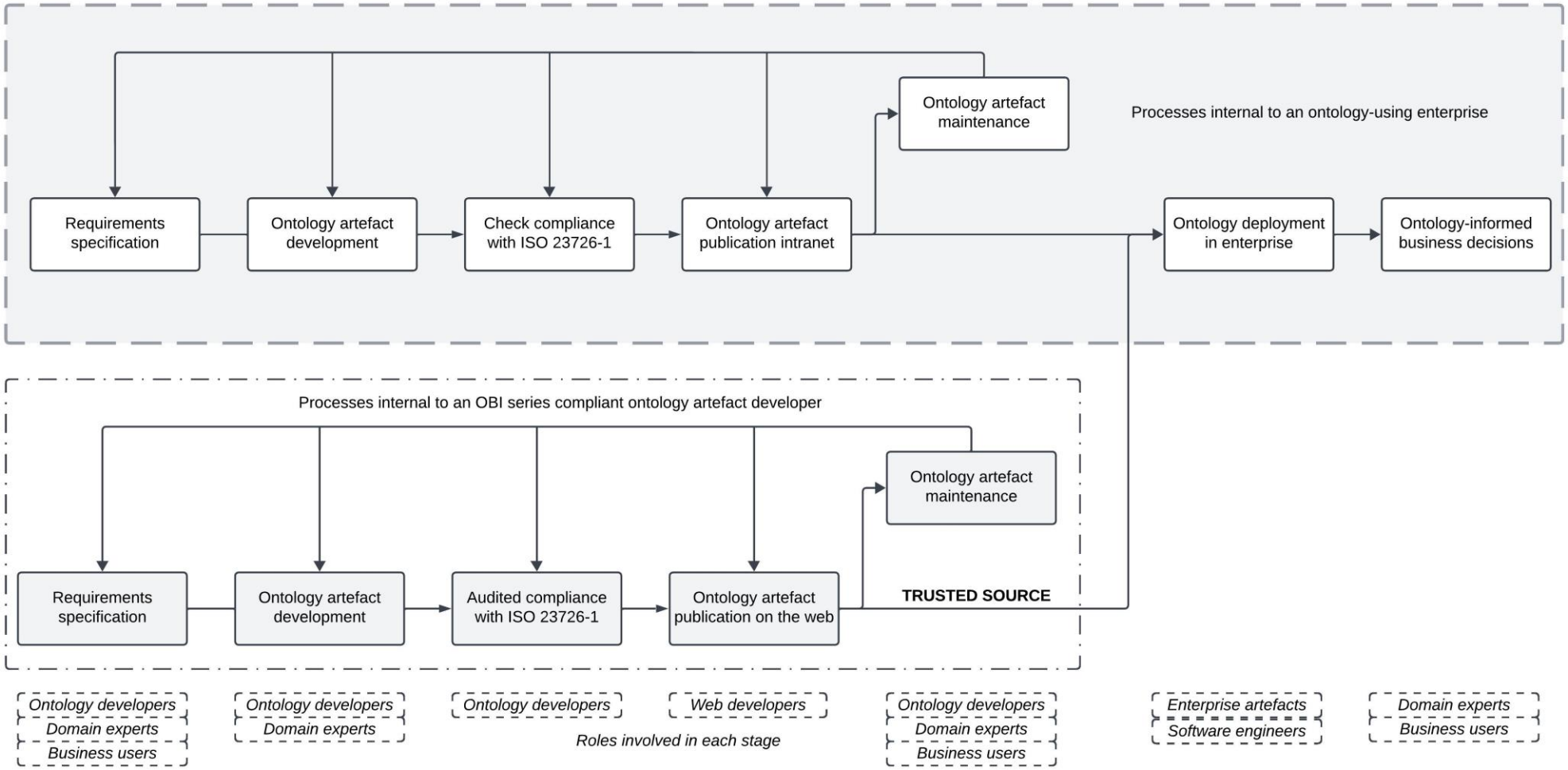


Artefacts in the OBI ecosystem



- Artefacts inside the black dashed line are shared resources.
- Artefacts and data outside the black dashed line are private and managed by the enterprise (or groups of enterprises).
- A shared ecosystem requires ontological alignment to ensure new entrants to the ecosystem are aligned to ISO 23726-3 and do not add concepts that are already defined in other ontology artefacts in the OBI ecosystem.

Stakeholders in the OBI ecosystem



Thank you!