



Cross-functional standardization of controlled terminologies through knowledge graphs



DS07

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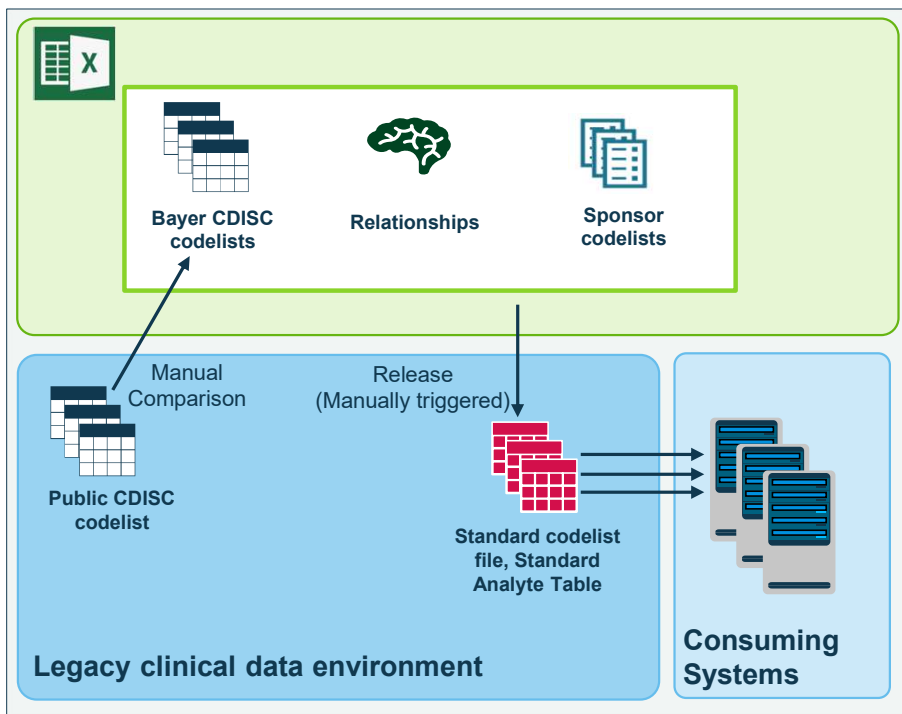




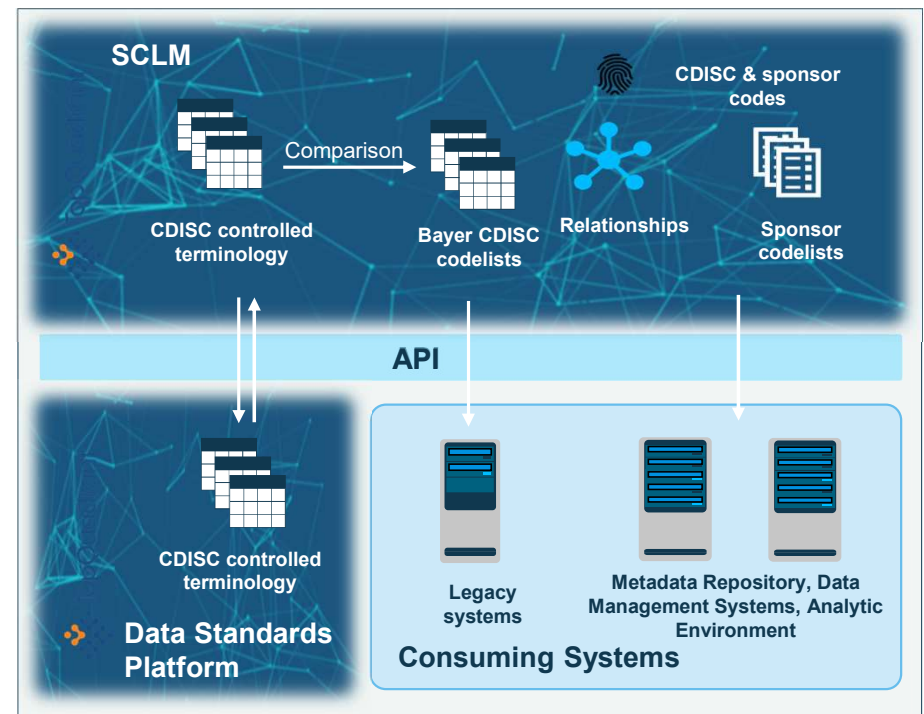
SCLM4Future

Develop and maintain the medical standards

Current Situation



To-Be Solution





TopBraidEDG

Data Governance Solution for Ontology Management @ Bayer



TopBraidEDG for Ontology Management @ Bayer

About TopQuadrant

TopQuadrant helps organizations succeed in information management. Its flagship product, TopBraid EDG, uses Knowledge Graph technologies to connect metadata silos and deliver meaningful access for all data stakeholders to enterprise metadata, business terms, reference data, data and application catalogs, data lineage, requirements, policies, and processes.

CONEDG

Data Standard Maintenance and Governance for not GxP regulated processes

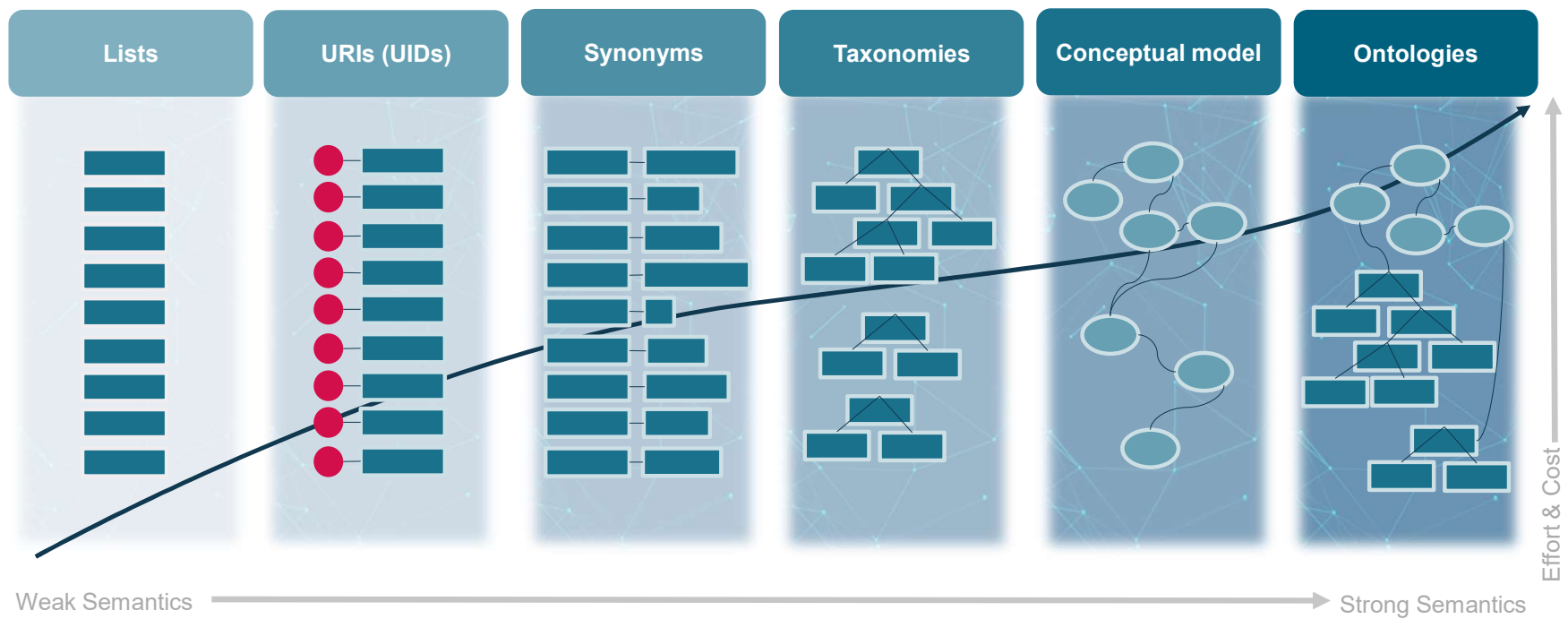
qEDG

Qualified EDG instance for GxP regulated processes

- Medical Term Grouping
- Standard Codelist Maintenance

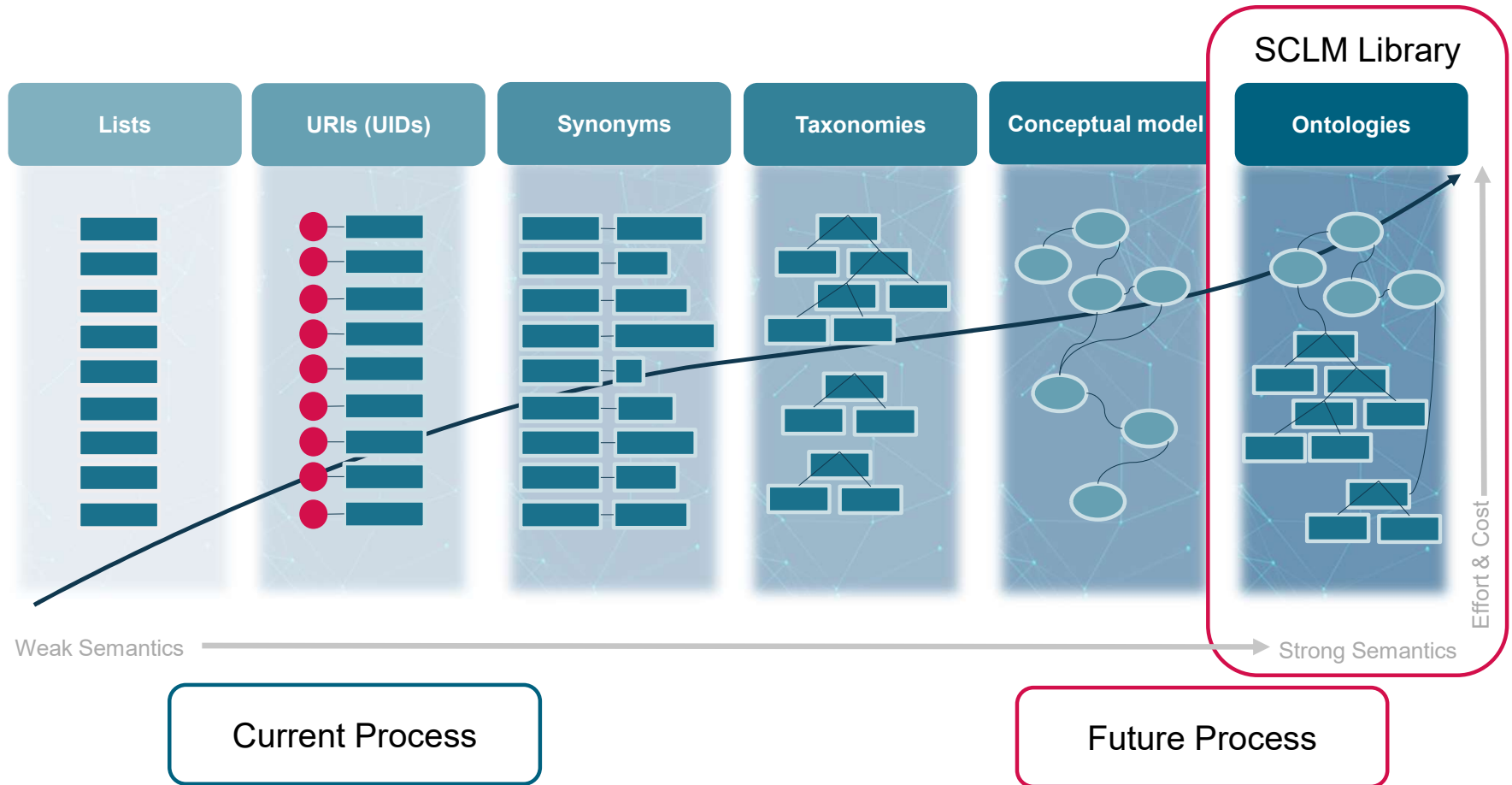


Ontology development Process





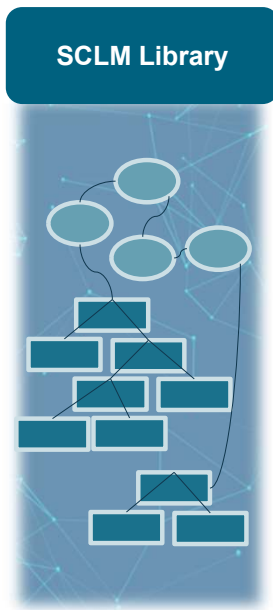
Ontology development Process





Standard Codelist Maintenance (SCLM) Library

Introduction

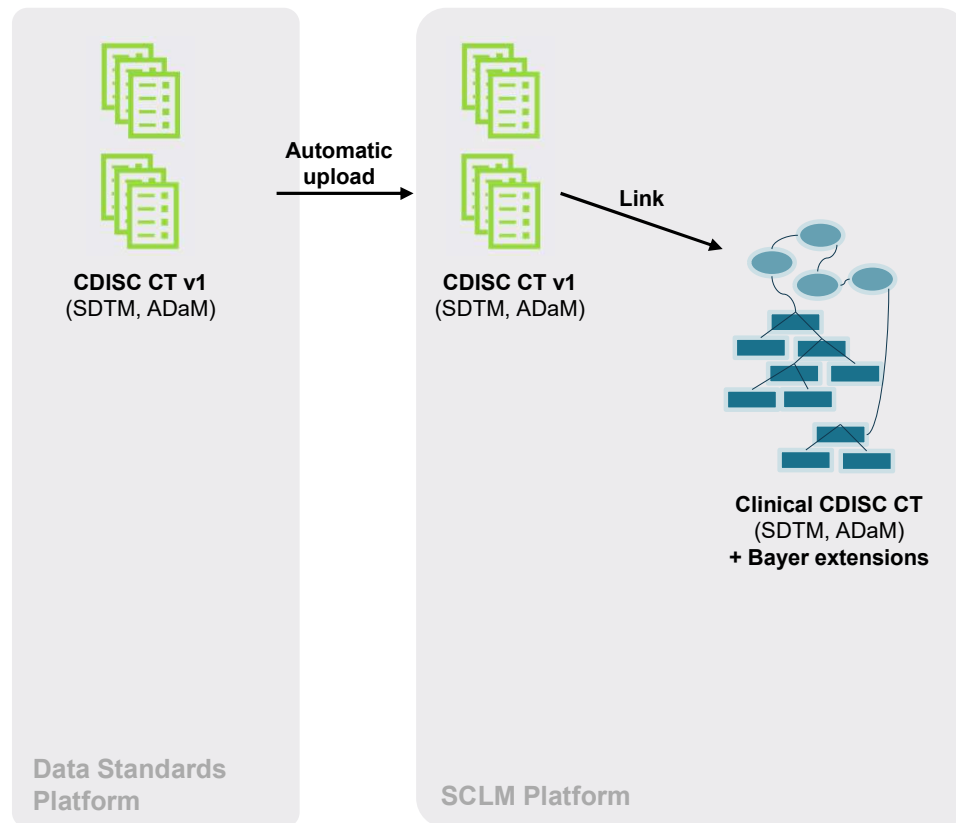


- // Single point of truth for Clinical codelist standards within Bayer
- // Aligned with CDISC controlled terminology (CDISC CT)
- // Stored in data graphs that are based on ontology schemas (define the relationships and properties)



CDISC Mapping

SCLM Library is aligned and up-to-date with CDISC controlled terminology (CDISC CT)

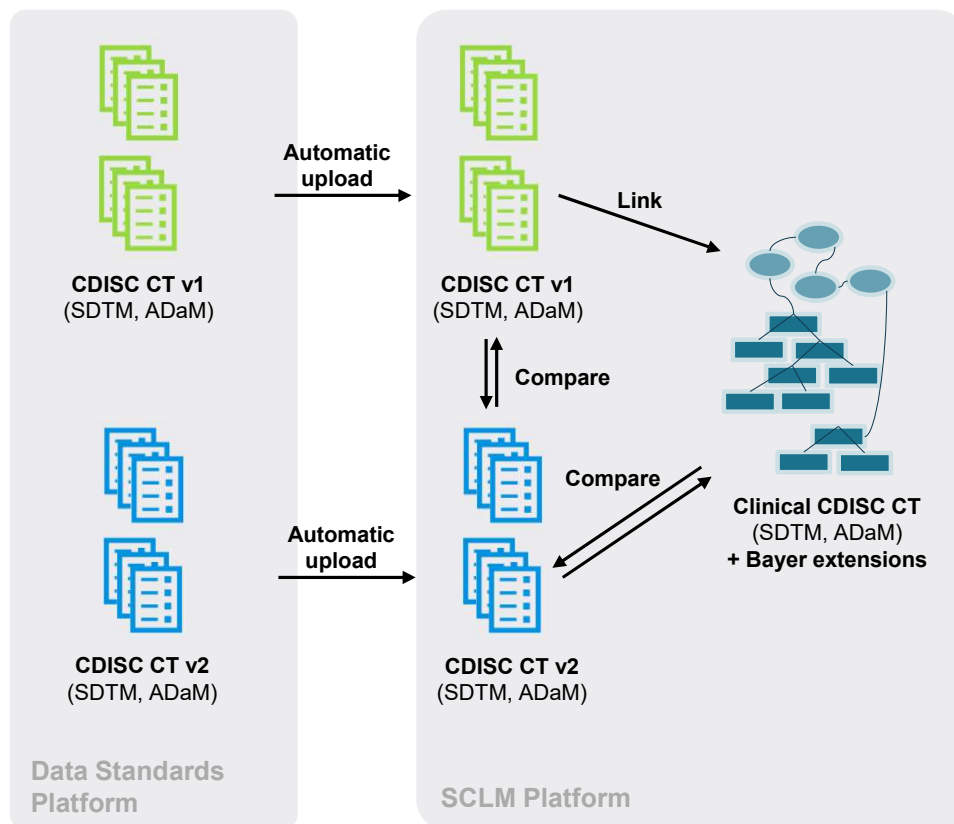


- // CDISC Controlled Terminology is automatically uploaded and linked to the SCLM library
- // SCLM library is stored in data graphs and ontology schemas



CDISC Mapping

SCLM Library is aligned and up-to-date with CDISC controlled terminology (CDISC CT)

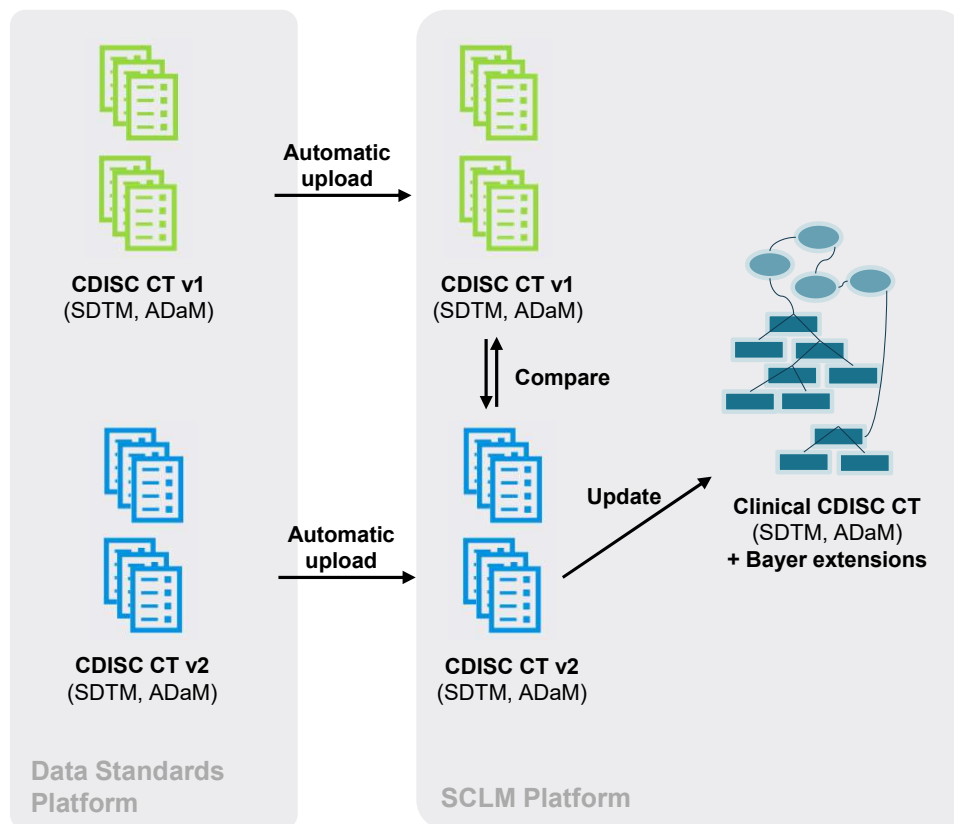


- // CDISC Controlled Terminology is automatically uploaded and linked to the SCLM library
- // SCLM library is stored in data graphs and ontology schemas
- // New versions of CDISC CT are automatically uploaded and compared to the previous CDISC version and the SCLM library



CDISC Mapping

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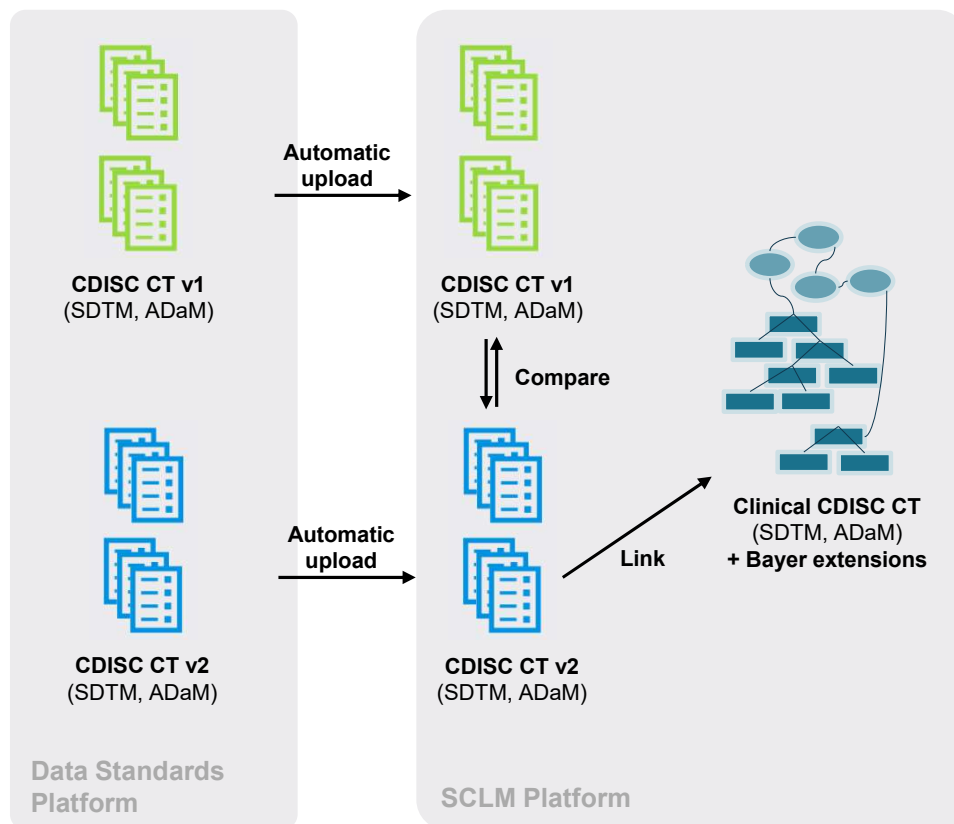


- // CDISC Controlled Terminology is automatically uploaded and linked to the SCLM library
- // SCLM library is stored in data graphs and ontology schemas
- // New versions of CDISC CT are automatically uploaded and compared to the previous CDISC version and the SCLM library
- // Changes in CDISC are semi-automatically updated in the SCLM library



CDISC Mapping

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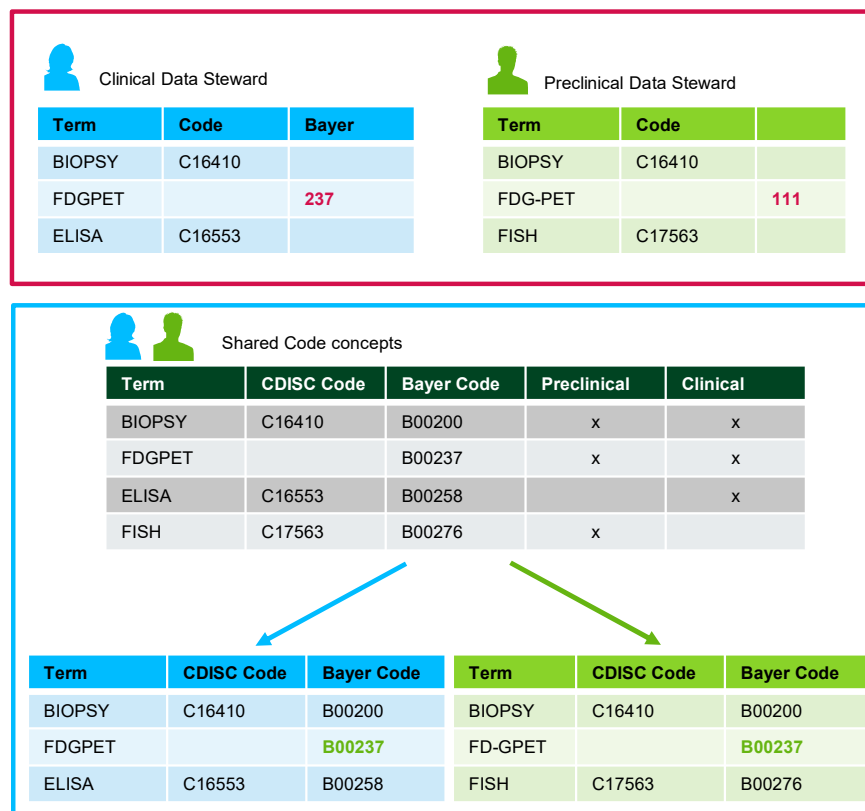


- // CDISC Controlled Terminology is automatically uploaded and linked to the SCLM library
- // SCLM library is stored in data graphs and ontology schemas
- // New versions of CDISC CT are automatically uploaded and compared to the previous CDISC version and the SCLM library
- // Changes in CDISC are semi-automatically updated in the SCLM library
- // The newest CDISC CT version is used as a basis to maintain the SCLM library



Shared Code concepts

One standard across R&D



// Current Situation

- // In Preclinical and Clinical the same CDISC SDTM Codelists are maintained **twice**
- // Preclinical & Clinical have different needs in adding new terms to a codelist
- // Both are focused on just adding those terms which are used
- // **Problem**
 - // **Exact terms will be not identified** as the same because they have different spellings and different/no IDs
 - // Less efficient in comparing data across functions

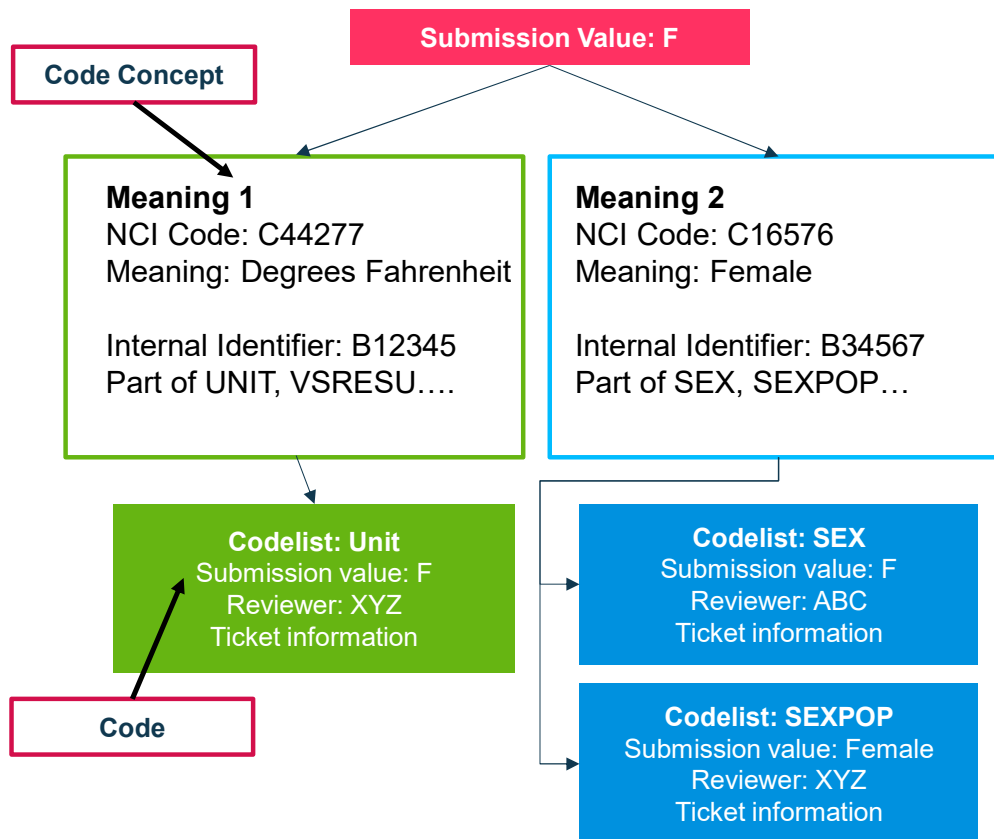
// Future Solution

- // One CDISC standard used across R&D
- // Reduce mistakes and duplicates by having one single point of truth
- // Allow for different terms
- // Use one ID across all projects and trials
- // **Benefit**
 - // Fast Analyses
 - // Comparable data

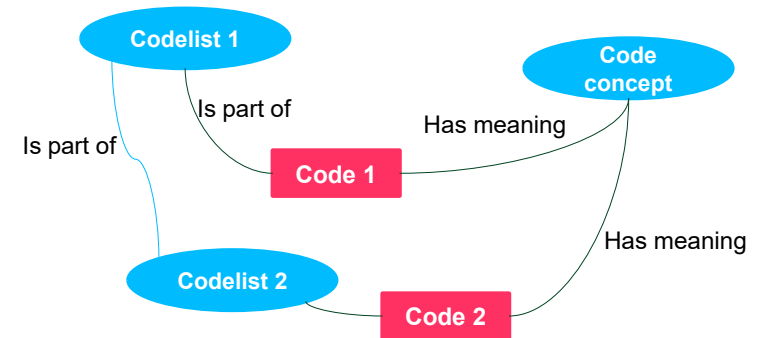


Code concepts with an internal identifier

Introducing code concept as a new standard object



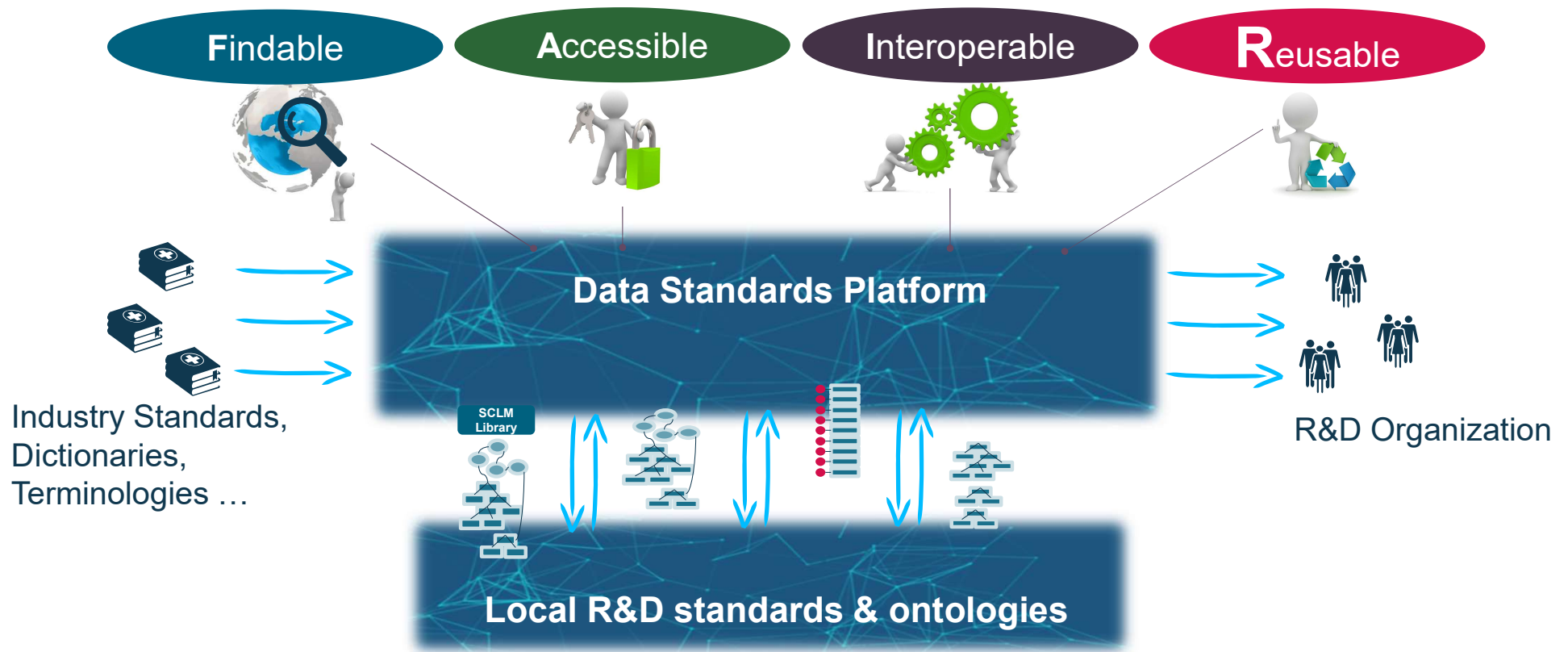
- // Code concept is separate from code itself
- // Refers to a medical/business meaning
- // Same code concept can be **related to many codes**
- // connecting different codes with the same (medical/business) meaning





FAIR Data

Making use of our knowledge





Outlook

The benefit of knowledge graphs & ontologies

Improve quality of data

- // More transparency & data exchange
- // Breaking data silos

Save time & reduce effort

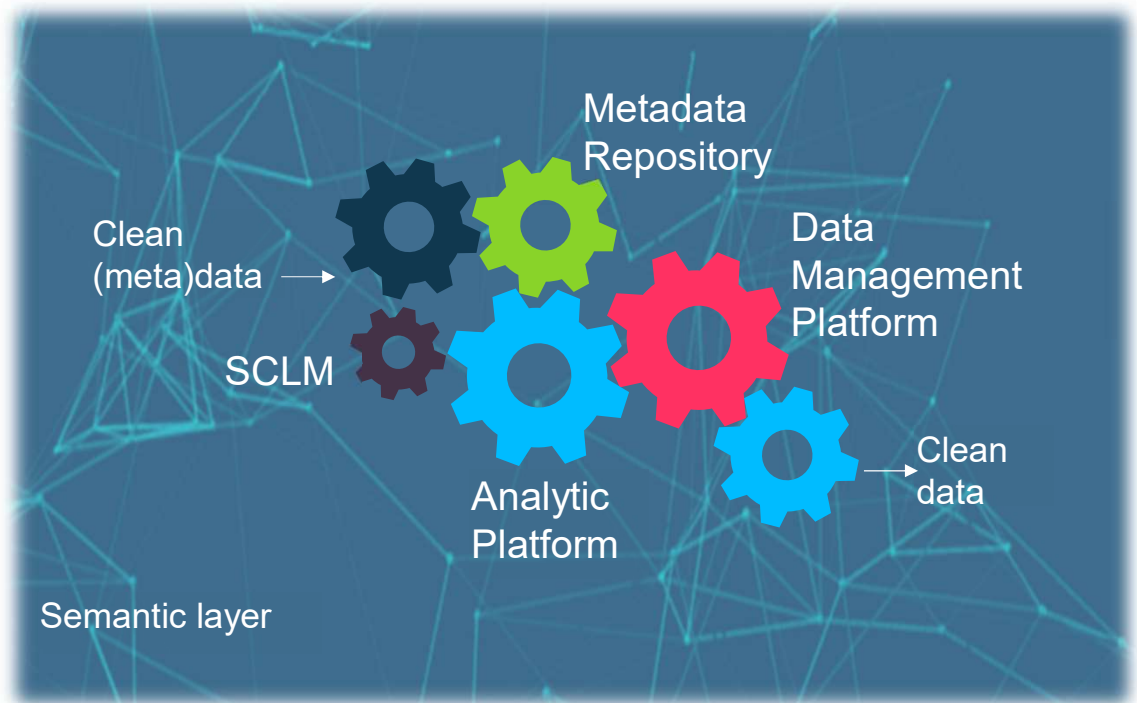
- // Compatible interfaces
- // Change traceability

Interoperability and reusability

- // Extensible backbone
- // Easier data integration

Basis for extended capabilities

- // Linked data
- // Data modeling and analytics





Questions?

Thank you!

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