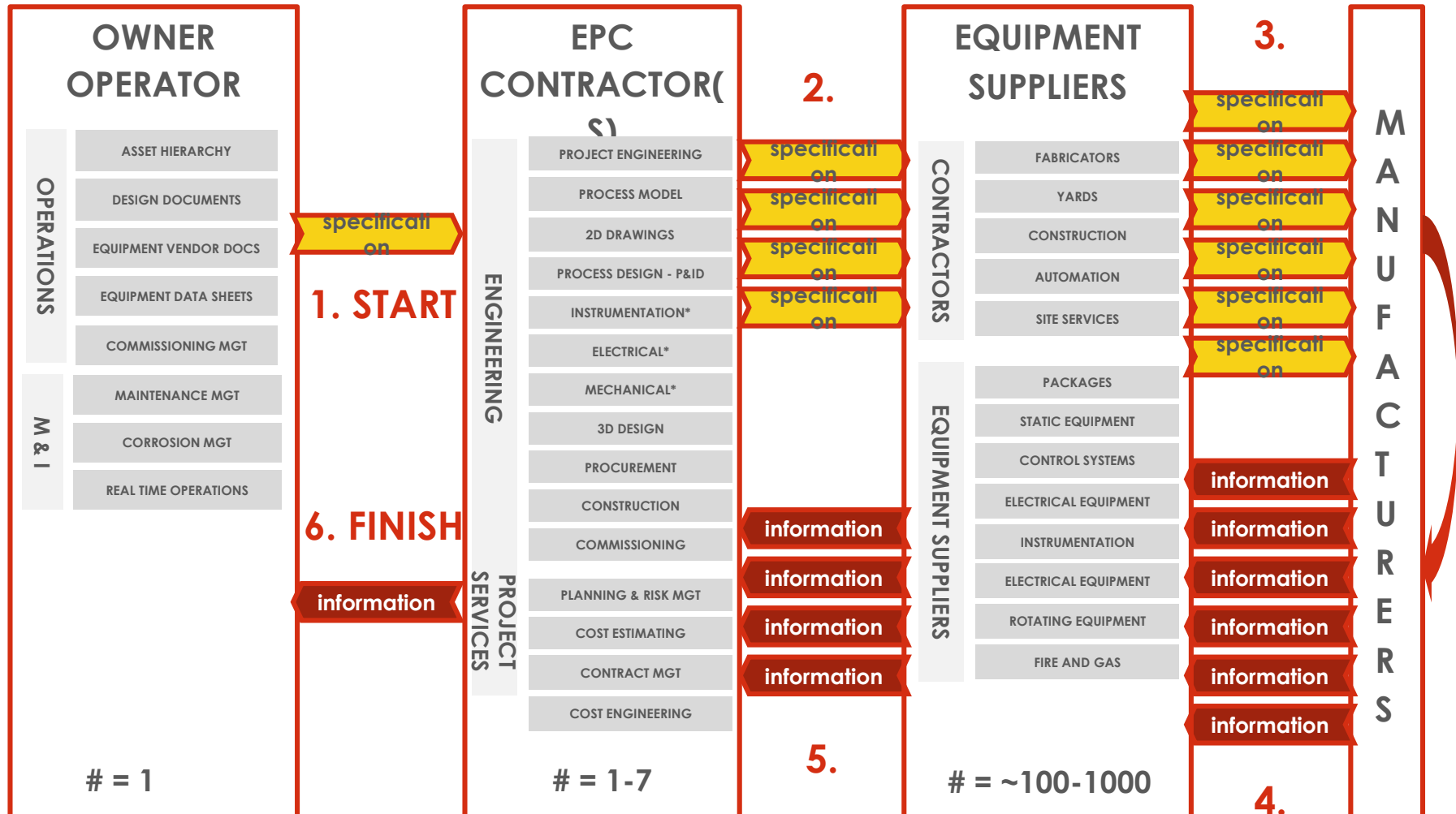
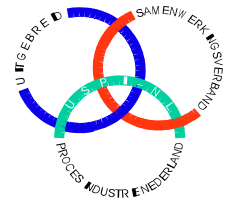


Capital Facilities Information Hand Over Specification

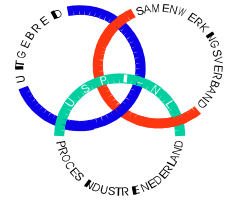
CFIHOS Industry Standard based on the
Shell Engineering Information Specification (EIS)
Design and Engineering Practice 82.00.10.30

Anders Thostrup
Chair, USPI-NL
IM/IT Functional Excellent Manager, Shell

Information handover causes pain for Owner Operators, but also for the rest of the supply chain. How can we fix it?



Capital facilities information hand over specification



Purpose:

Standardize the specification of information handover requirements for a project for operators, contractors and equipment manufacturers and suppliers

What is it:



1. A technical specification document

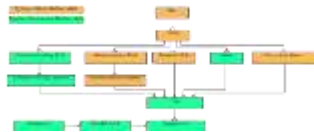
Requirements, rules and principles for information handover

2. A dictionary (Reference Data Library)

Consistent naming equipment & documents, acc. ISO stds.

3. A data Model

For structuring data and documents about assets



4. A process & guidance document

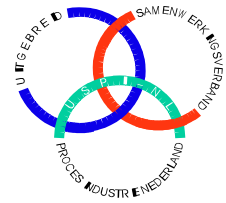
Outlining implementation steps, do's & don'ts



5. A set of requirements for implementation software

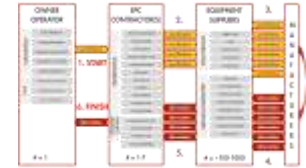
Outlining the functional requirements for handover systems

What are the CFIHOS core use cases?



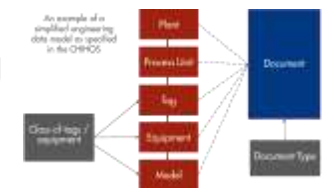
Project Execution

- 1. Interoperability:** Drive consistency through a common specification and dictionary from day 1 to reduce cost of consolidation of information at each step in the supply chain across the project
- 2. Debottlenecking:** Raise productivity by applying the “theory of constraints”1: e.g. find bottlenecks in design review & approval process using status reporting on information delivery & review
- 3. Accelerated handovers:** Continuously stage and validate asset data to assure data quality and accelerate population of operational systems to speed up the first oil date.



Operations

- 4. Speed up searches for information.** Reduce “search-time” by linking documents to tags (often quoted as 25% of operational staff time). Improve management of change for brownfield modifications.
- 5. Reduce operational risk.** Demonstrate control over “As Built” asset information. Use as a “minimum standard” for asset information. Use as a specification for integrated service contractors & data cleaning.

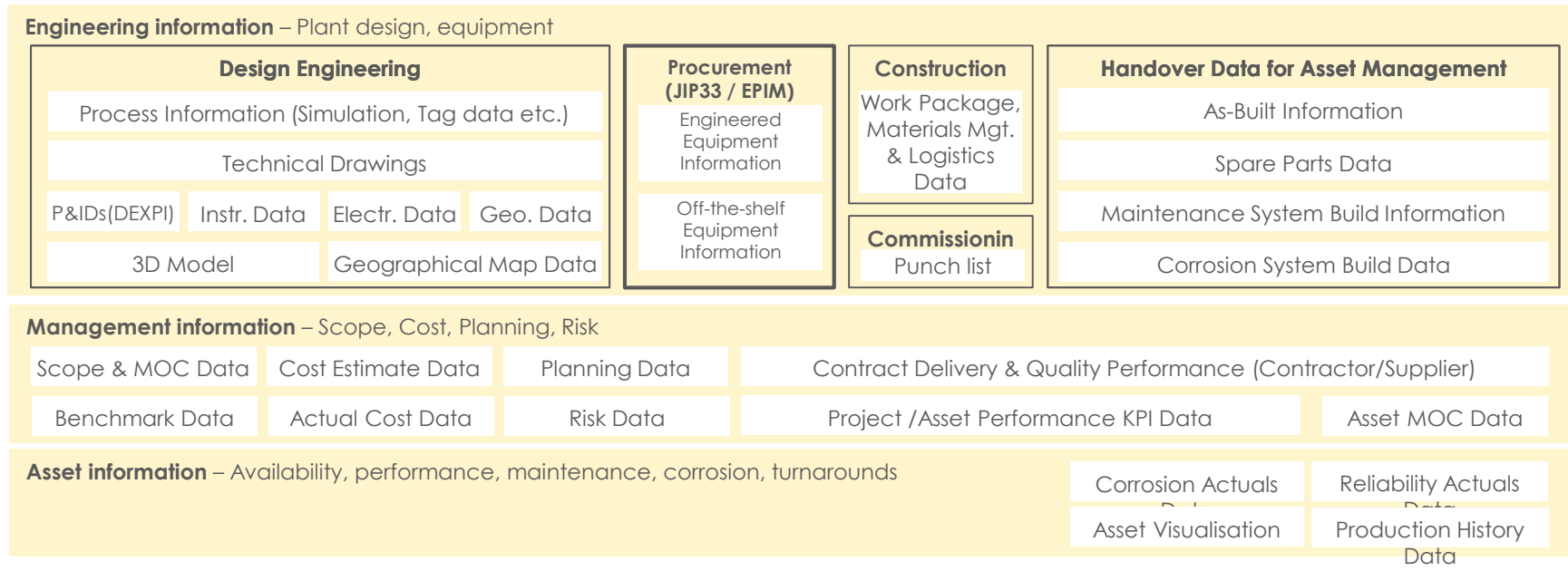


	Effect	Effect	Effect	Effect	Effect
Like Wood	Effect	Effect	Effect	Effect	Effect
Only	Effect	Effect	Effect	Effect	Effect
Pressure	Effect	Effect	Effect	Effect	Effect
Velocity	Effect	Effect	Effect	Effect	Effect
Library	Effect	Effect	Effect	Effect	Effect
Pressure	Effect	Effect	Effect	Effect	Effect
Velocity	Effect	Effect	Effect	Effect	Effect
Pressure	Effect	Effect	Effect	Effect	Effect
Velocity	Effect	Effect	Effect	Effect	Effect
Pressure	Effect	Effect	Effect	Effect	Effect

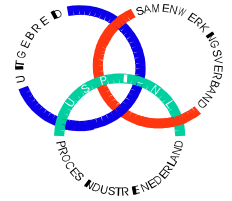
CFIHOS provides the “glue” across the data landscape



Common Data Structures and Definitions – Tag, Equipment and Properties Data, Documents Types & Metadata (CFIHOS)

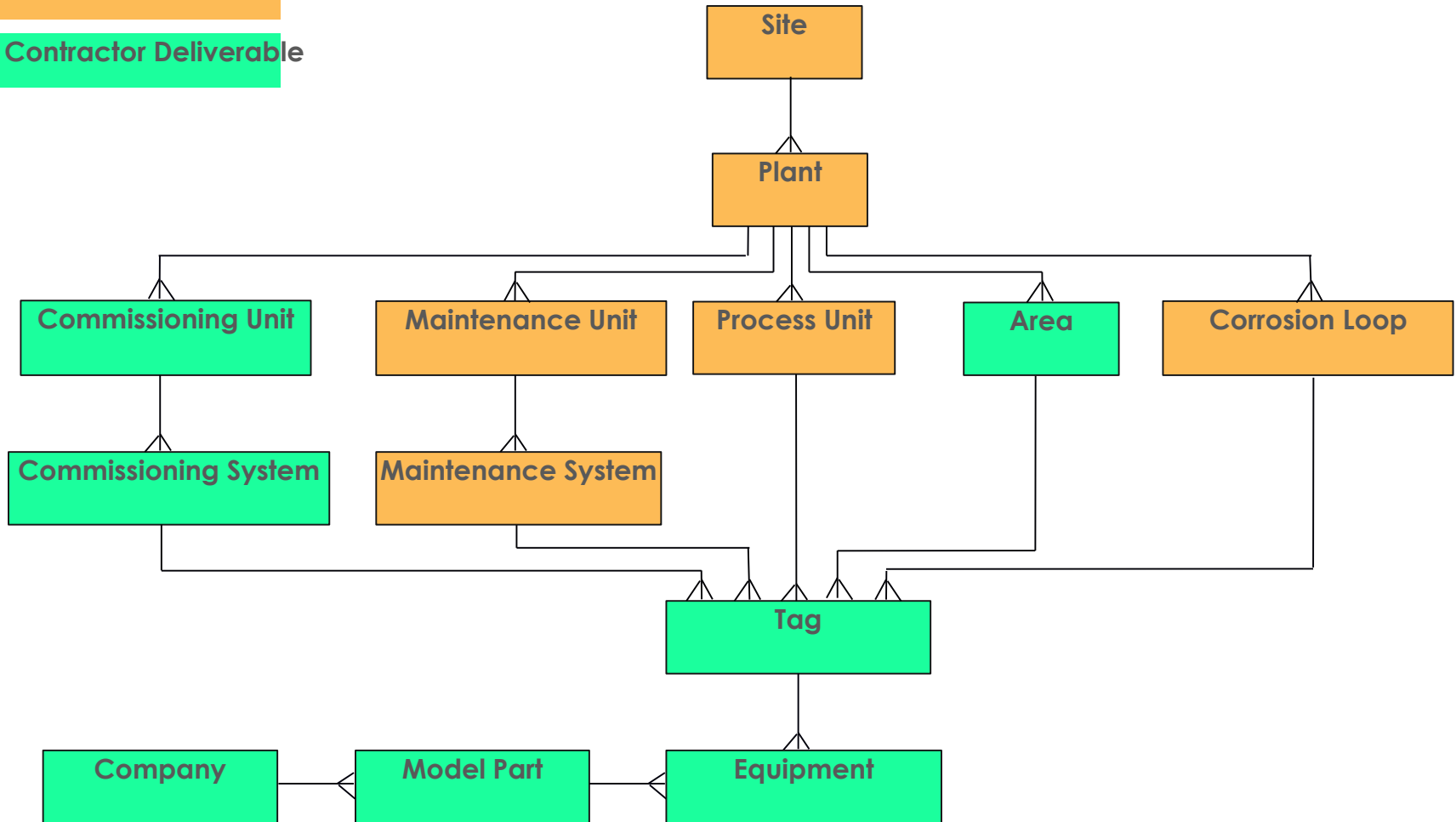


CFIHOS TYPICAL SCOPE: PLANT BREAKDOWN STRUCTURE

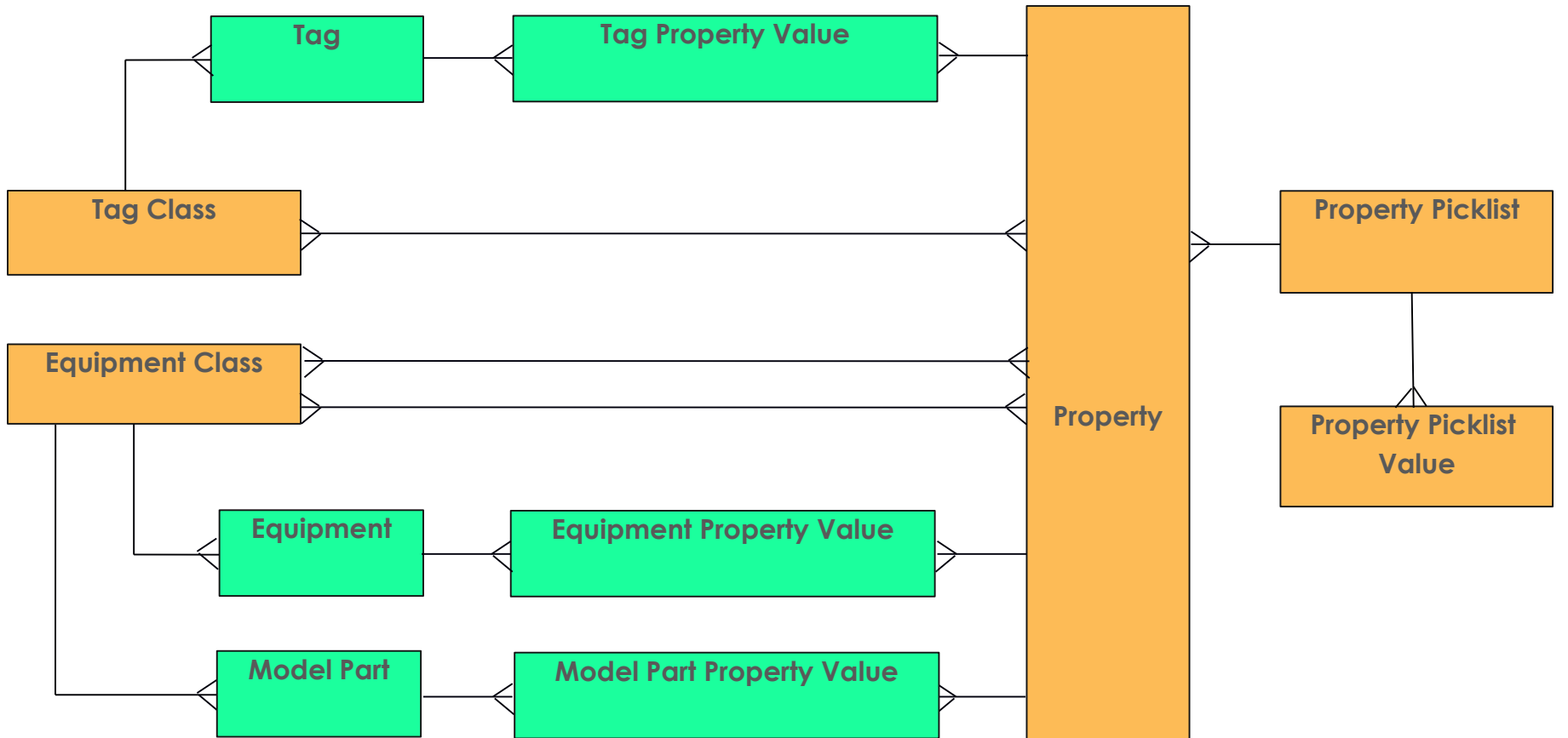
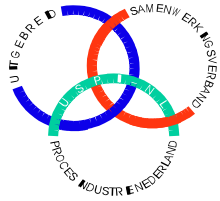


Typical Client Deliverable

Typical Contractor Deliverable



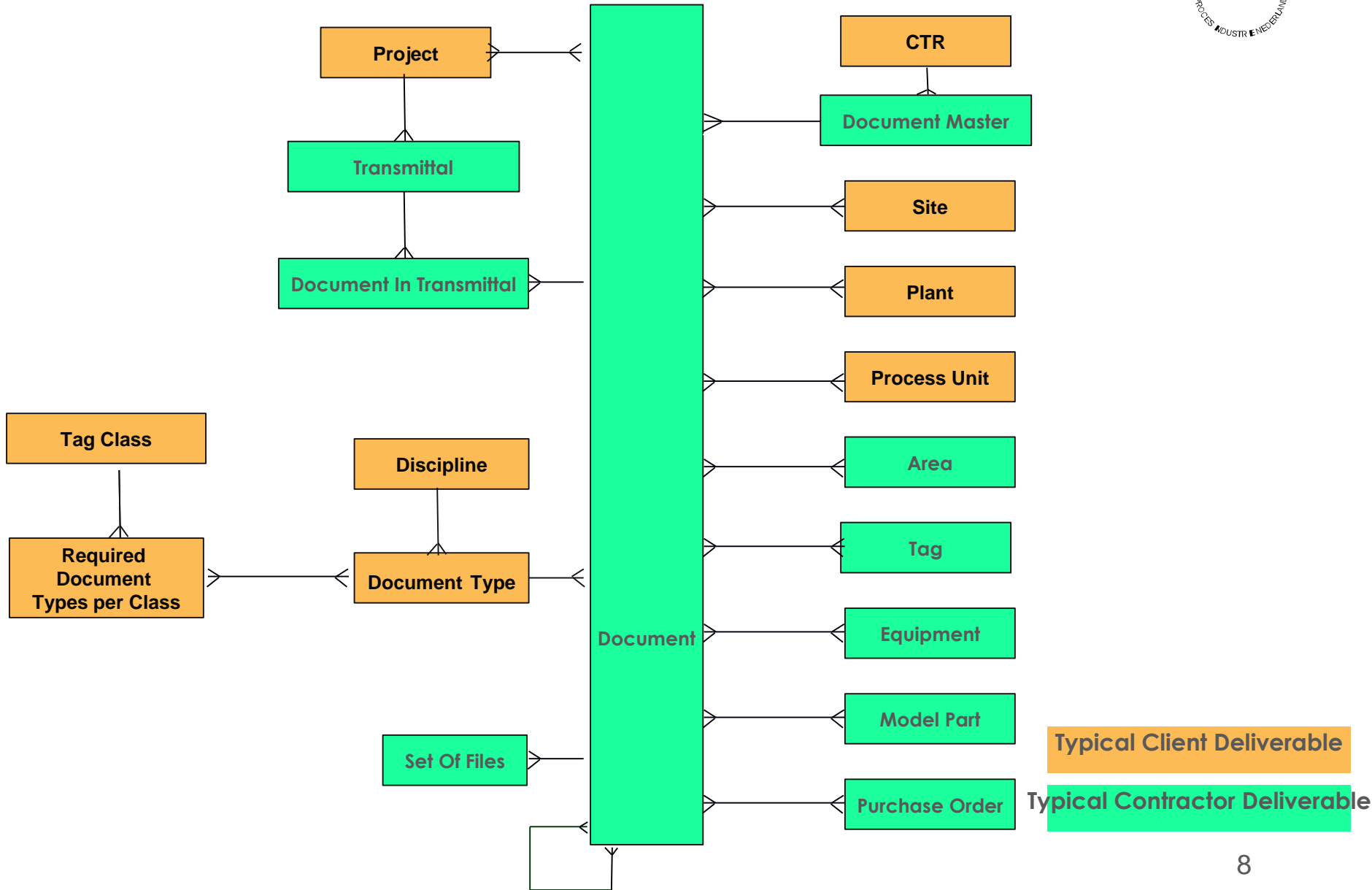
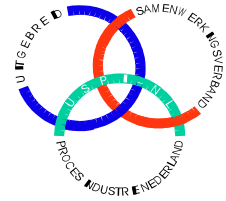
CFIHOS TYPICAL SCOPE: CLASSIFICATION



Typical Client Deliverable

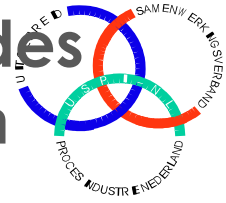
Typical Contractor Deliverable

CFIHOS TYPICAL SCOPE: DOCUMENTS

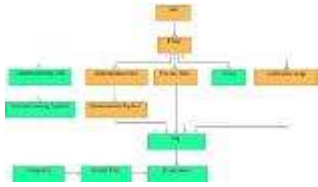




The CFIHOS Reference Data Library provides a common language for the supply chain

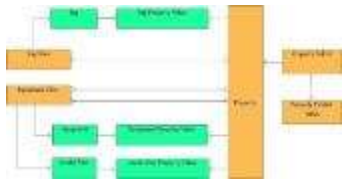


Plant Breakdown Structure



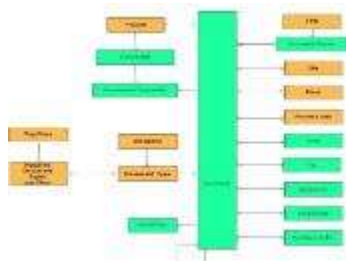
RDL_objects	33
RDL_object_attributes	189

Asset Classification



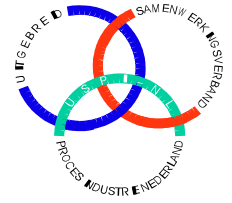
Tag Class	603
Equipment Class	603
Property	565
Tag/Equipment/Model Class Property	3761
Property Picklist	130
Property Picklist Values	1506

Document Classification



Discipline	42
Discipline Document Type	856
Required Document Types per Class	TBC

Starting point: Shell EIS RDL , i.e. Typical Oil & Gas Industry requirements for Asset Manager
 Mapped to ISO 15926 Part 4 which will be updated to complete gaps identified



How is CFIHOS implemented?

Specify information

1. Define IM specification for project scope using CFIHOS templates
2. Embed IM specification in EPCM contract clauses

Manage Information Review

3. Staff up Information Management team
4. Define Data and Document review processes
5. Set up information handover systems – loading, validation, staging

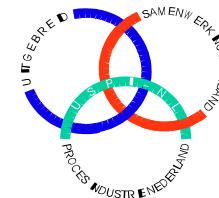
Handover Information

6. Map to target systems and transfer information

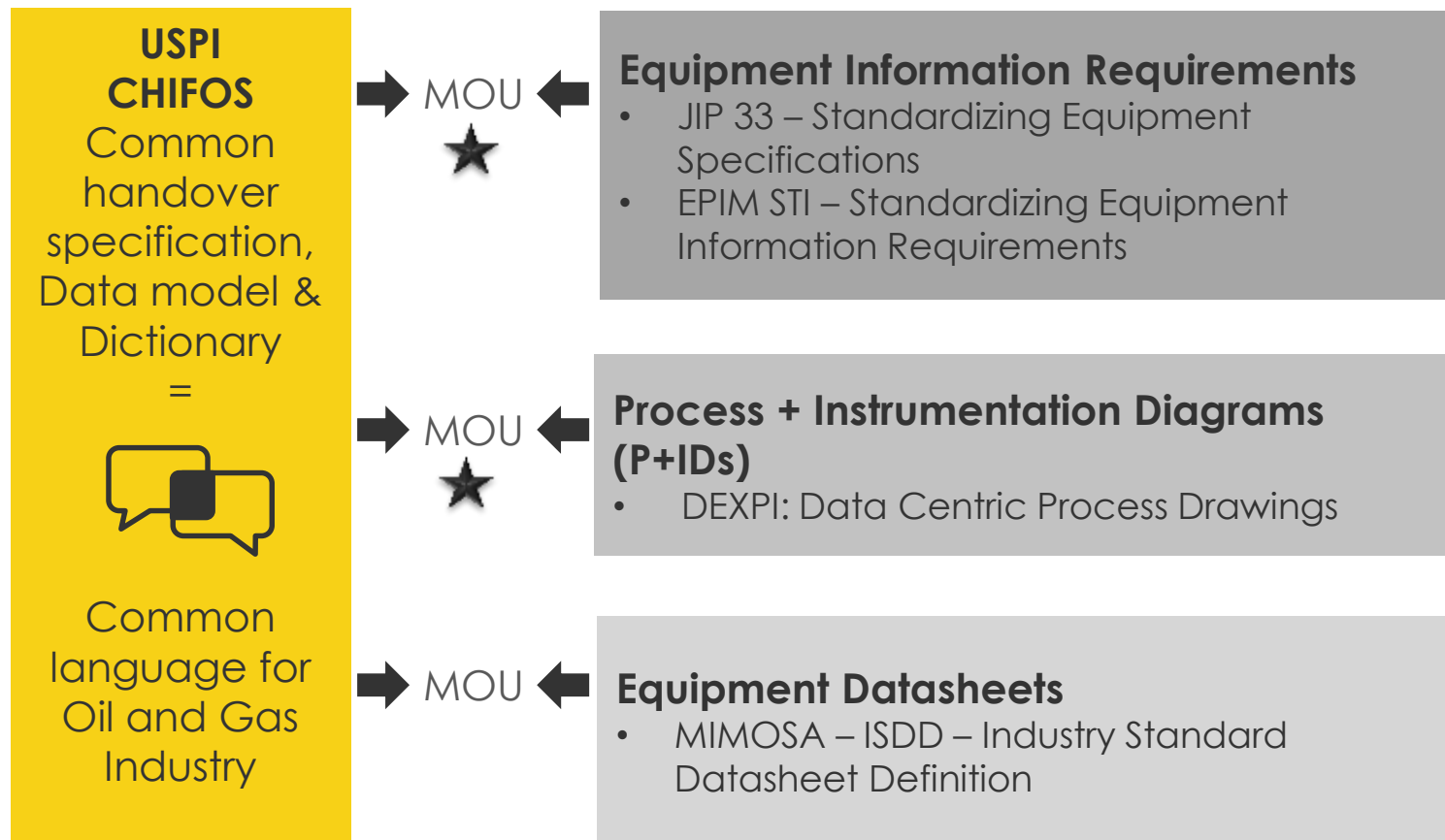


CFIHOS Participants

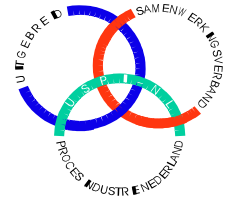




CFIHOS provides a platform for a common language and is aligning with other industry data standards via MOUs



Current Objectives and Release Plan

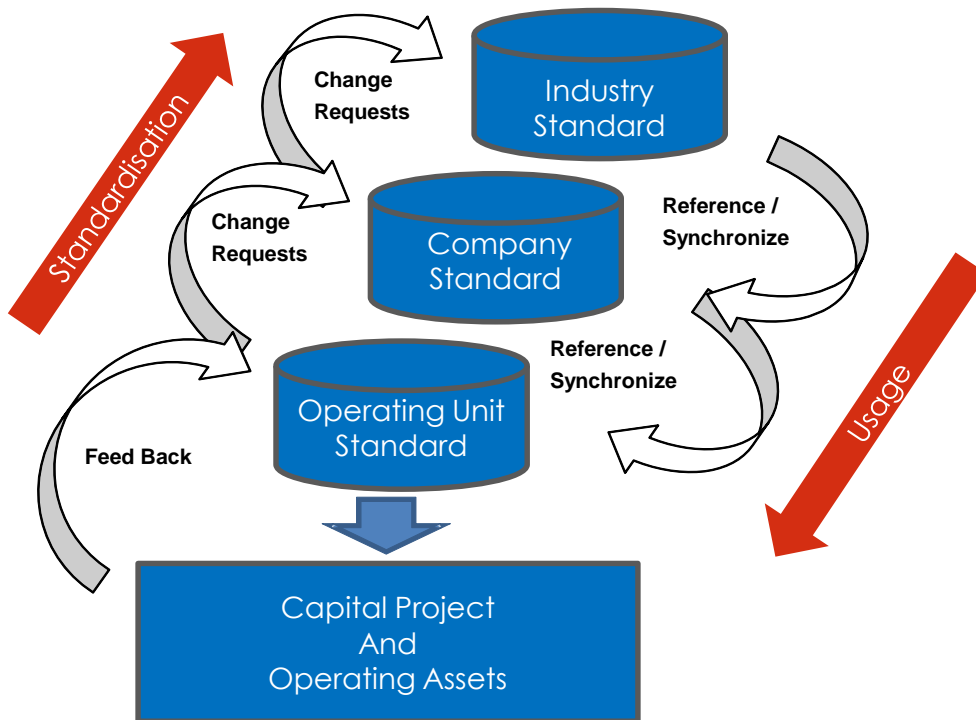
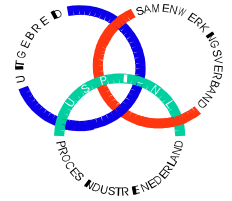


1. **Ensure OO's are comfortable prescribing CFIHOS** – alignment, contract language, broadening participation of EPCs and Equipment Vendors, Develop a long term roadmap/staircase.
2. **Make CFIHOS easier to understand** – e.g. guidance document. Make visible what is already available, e.g. validation rules, data model documentation, Youtube video's, education materials & framework targeted at different stakeholder groups management, IM leads, practitioners etc.

Content targets for next release

R.	Target	Target Deliverables
1.4	Q4 2019	Data model Document types and metadata Tag- and equipment classes Data requirements by tag and equipment class Scope of work and Specification document for contracts Implementation guides
1.5	TBD 2020	TBD in January. Likely targets: Vendor document requirements by Equipment class – incl JIP33, EPIM STI content EPC document deliverable requirements

How to develop and maintain a common Language: Envelope concept



1. Use standards and industry Reference Data Libraries as source of common vocabulary and definitions. Examples of Standard libraries are:
 1. ISO 19008 for cost & planning data
 2. ISO 15926 for engineering data
 3. ISO 14224 for equipment failure data
2. Examples of Industry libraries are:
 1. CFIHOS for engineering and asset mgt data
 2. DEXPI for P&ID data
3. Establish a company RDL using standards & industry RDLs - because most information is generated by third parties.
4. Leverage the common company RDL in Projects & Assets, and supplement with any reference data to address legacy and local requirements.

