



metaphacts

CFIHOS on metaphactory

CFIHOS Conformance 08/2025



Evidence provided by metaphacts

- *Demo video* on *Youtube*
<https://www.youtube.com/watch?v=r-lAnzpiQE8>
- Statement of Software Conformance to CFIHOS 2.0
- This presentation (pdf)

Agenda

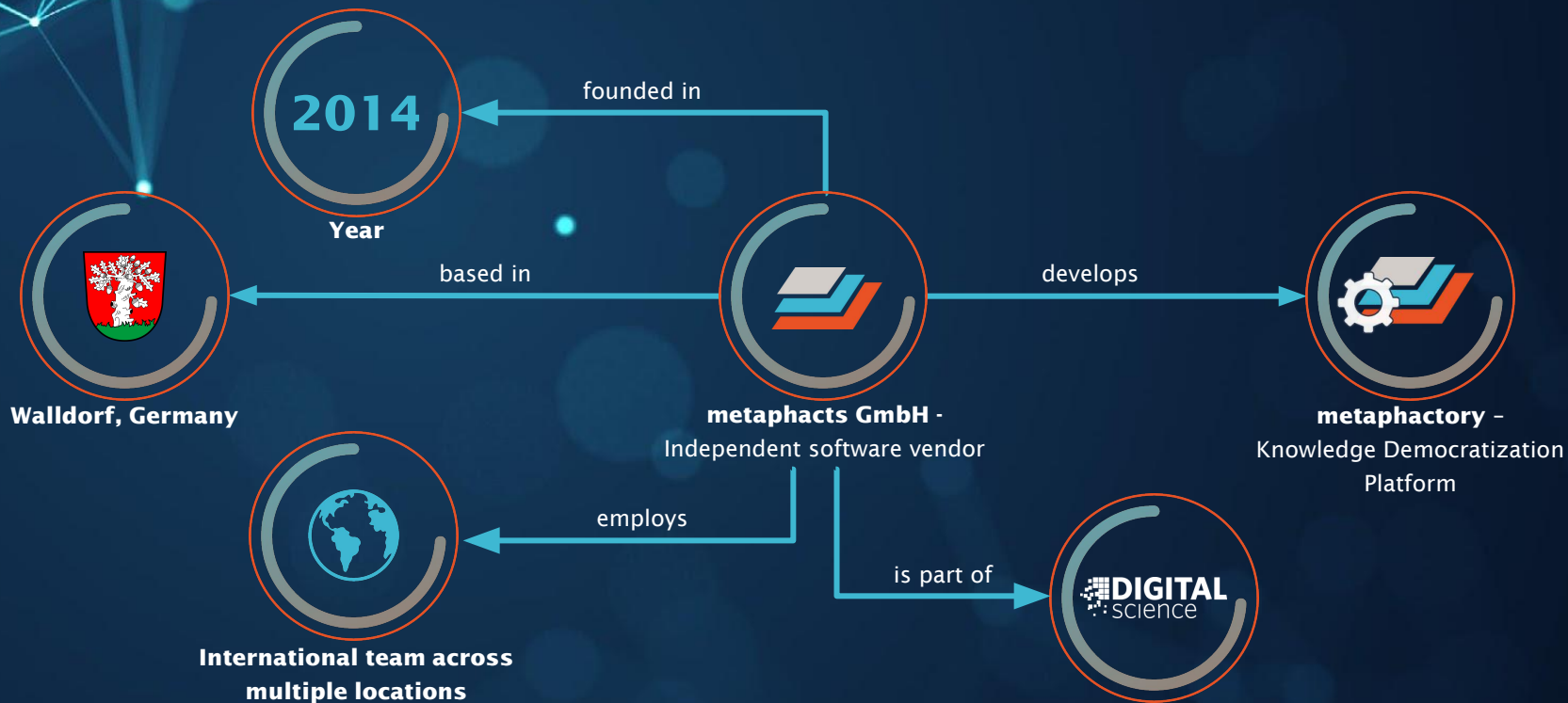
Introduction to <i>metaphacts</i> and <i>metaphactory</i>	<u>4-7</u>	
A1 - Store CFIHOS standard (CFIHOS Ontology on <i>metaphactory</i>)	<u>8-16</u>	<u>1:00</u>
A2 - Define project standard (Project Specification on <i>metaphactory</i>)	<u>17-25</u>	<u>4:17</u>
A3 & A4/B1 & B2 - Extending & Sharing apps, Data Import & Export	<u>26-36</u>	<u>6:04</u>
B3 - Data Validation	<u>37-38</u>	<u>8:47</u>
C1 & C2 - Mapping capabilities	<u>39-44</u>	<u>9:38</u>
D1, D2, D3, & D4 - Check, integrate, and transfer data	<u>45-52</u>	<u>5:17</u>
E1 - Review and validate	<u>53-54</u>	<u>8:47</u>
F1 & F2 - Deliver, track, & update	<u>55-58</u>	<u>7:35</u>

Demo video on Youtube (<https://www.youtube.com/watch?v=r-lAnzpiQE8>)



Unlocking the value of your data with knowledge graphs

Company Snapshot

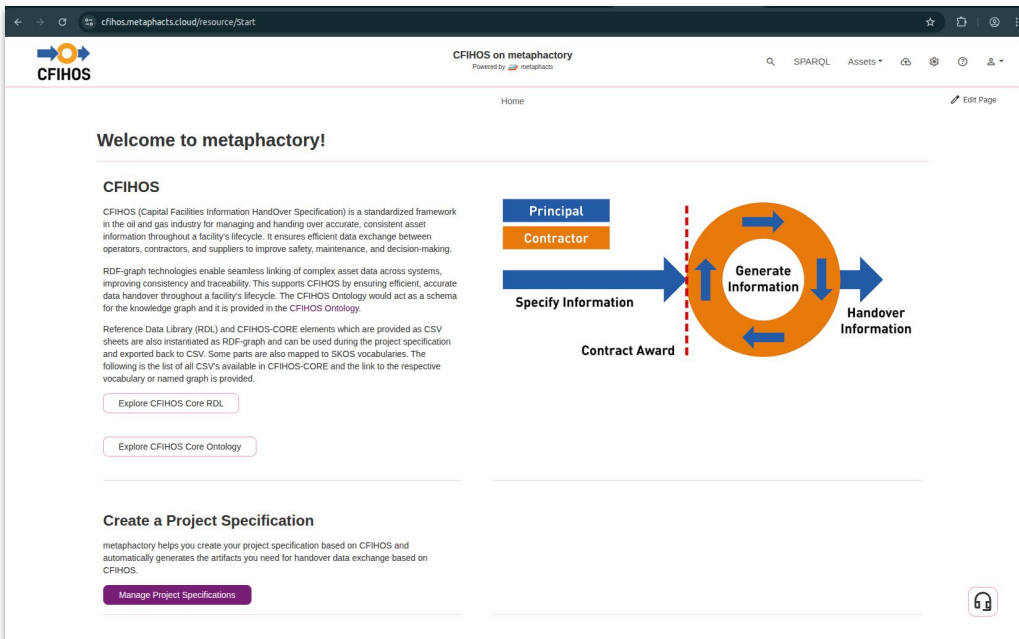


Introduction to metaphactory

metaphactory is a browser-based framework for handling semantic data.

Users can create custom applications for reading, visualising, and editing semantic data.

The *CFIHOS on metaphactory* app-package can be installed on any *metaphactory* instance. The app can be further customized and shared between independent *metaphactory* installations.



The screenshot shows the 'CFIHOS on metaphactory' web application. The header includes the CFIHOS logo, the title 'CFIHOS on metaphactory', and navigation links for SPARQL, Assets, and a user profile. The main content area is titled 'Welcome to metaphactory!' and features a section for 'CFIHOS' with descriptive text about its purpose in the oil and gas industry. Below this, there are two buttons: 'Explore CFIHOS Core RDL' and 'Explore CFIHOS Core Ontology'. A diagram illustrates the workflow: 'Principal' and 'Contractor' roles lead to 'Specify Information', which then leads to 'Generate Information' (a circular process) and finally to 'Handover Information'. A 'Contract Award' event is also shown. At the bottom, there is a section 'Create a Project Specification' with a 'Manage Project Specifications' button.

metaphactory accelerates knowledge graph adoption

Improve data literacy across the enterprise

- › Out-of-the-box, intuitive interfaces for searching, browsing & exploring your Knowledge Graph

Capture hidden expert knowledge in your knowledge model

- › Visual ontology modeling for domain experts & business users; Taxonomy & Dataset management

Build Knowledge Graph applications to match your enterprise requirements

- › Low-code approach to building custom interfaces that enable business-user interaction with the Knowledge Graph



Platform based on open standards

 Graph Data Model	 Vocabularies	 Ontology Language	 Rules & Constraints	 Query Language
 Linked Data Platform	 Web Components	 HTML Templates	 Java Backend	 REST APIs

   
Findable Accessible Interoperable Reusable

metaphactory utilizes Resource Description Framework (**RDF**), a foundational technology of the W3C Semantic Web stack. RDF represents information as subject-predicate-object triples, creating a flexible web of data known as a **knowledge graph**.

RDF allows us to represent entity attributes, complex relationships, and metadata required by CFIHOS, while at the same time allowing extensibility of the underlying data model.

By leveraging this technology, *metaphactory* helps you manage CFIHOS data in an inherently **Findable, Accessible, Interoperable, and Reusable (FAIR)** manner, streamlining data collection and handover processes.



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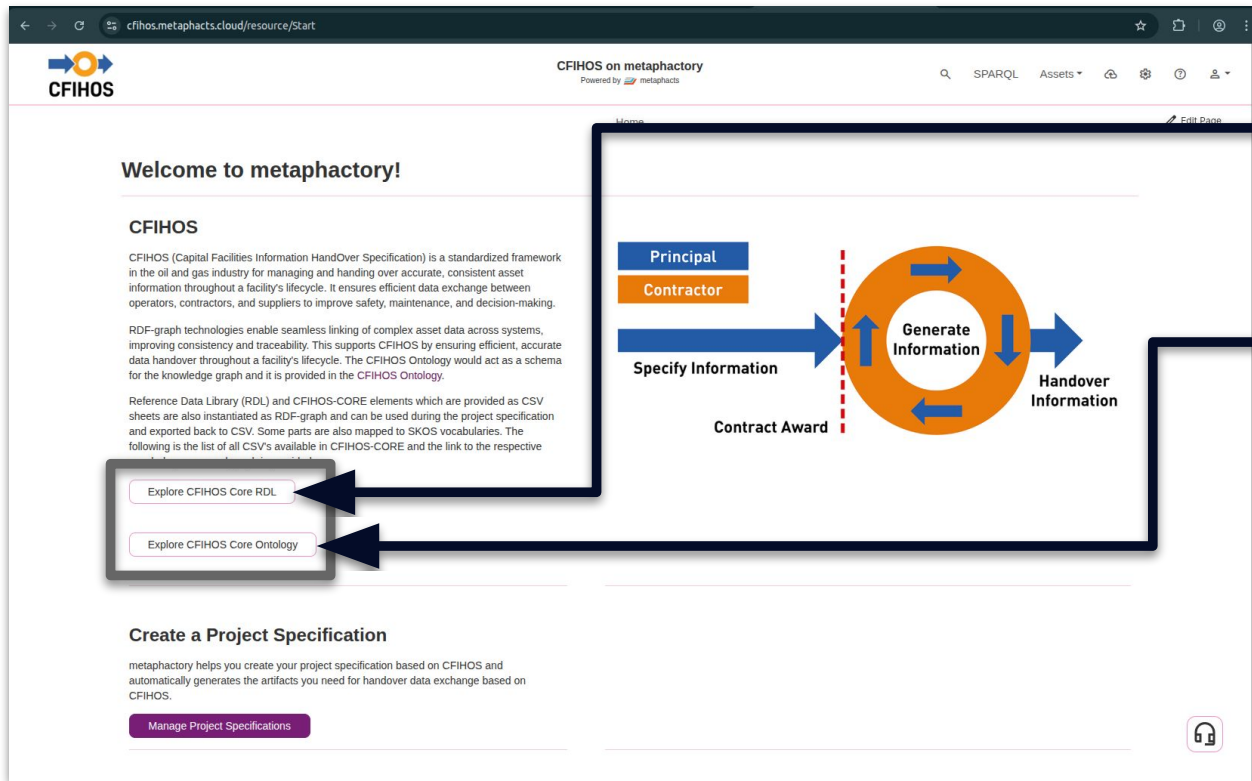
A1 - Store CFIHOS standard



Solutions provided by *CFIHOS on metaphactory* build upon:

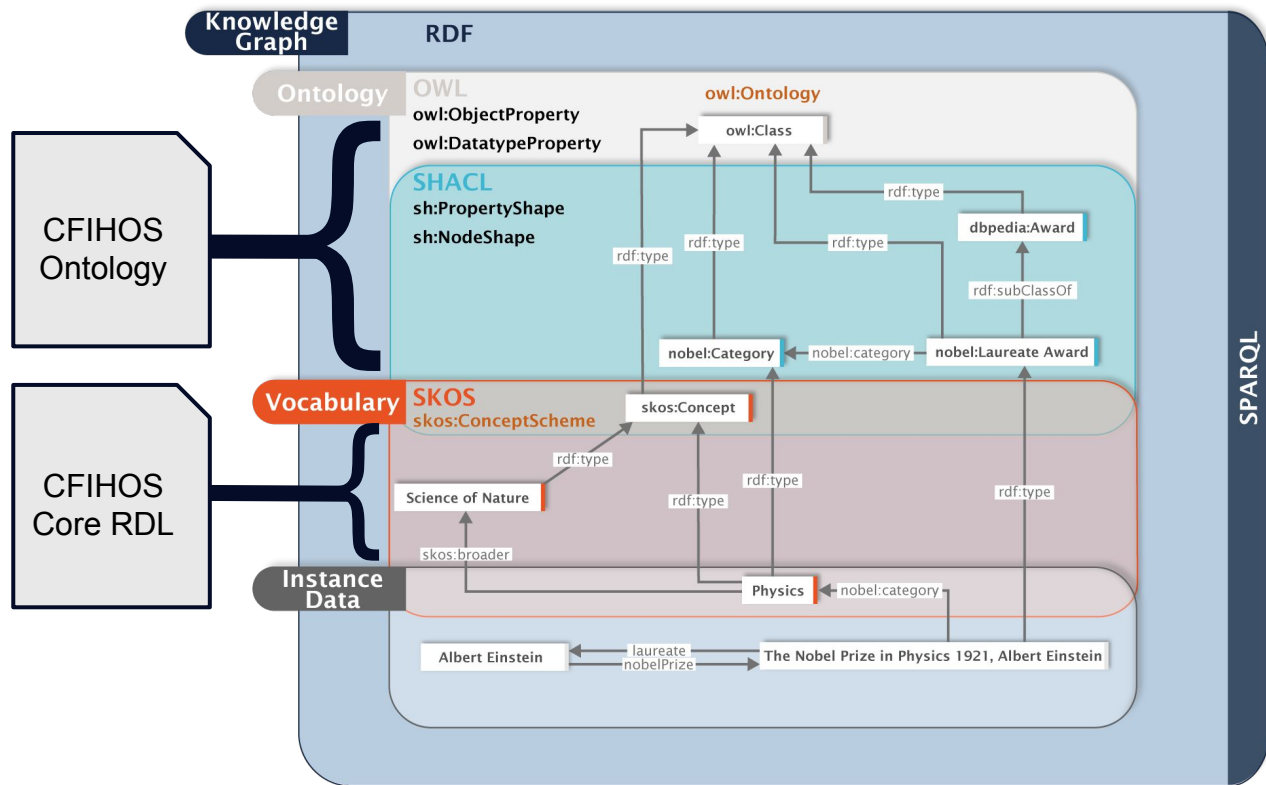
- CFIHOS Core Reference Data Library (RDL) as instance data in the Knowledge Graph
- CFIHOS Data Model represented as an ontology in the Knowledge Graph

The *CFIHOS on metaphactory* solutions allow handling of various CFIHOS-based use cases in the context of the conformance areas A, B, C, D, E, and F.



The screenshot shows the CFIHOS on metaphactory web application. The interface includes a header with the CFIHOS logo and navigation links. The main content area is titled "Welcome to metaphactory!" and contains a section for CFIHOS, which describes the framework and its purpose. Below this, there are two buttons: "Explore CFIHOS Core RDL" and "Explore CFIHOS Core Ontology". A diagram overlay is positioned in the center of the page, illustrating the CFIHOS process flow. The diagram shows a circular flow with a central orange circle labeled "Generate Information". To the left, a blue box labeled "Principal" and an orange box labeled "Contractor" are connected by a blue arrow labeled "Specify Information". This arrow points to the central circle. Below the arrow is the text "Contract Award". To the right of the central circle, a blue arrow labeled "Handover Information" points away from the circle. The diagram is divided by a vertical dashed red line.

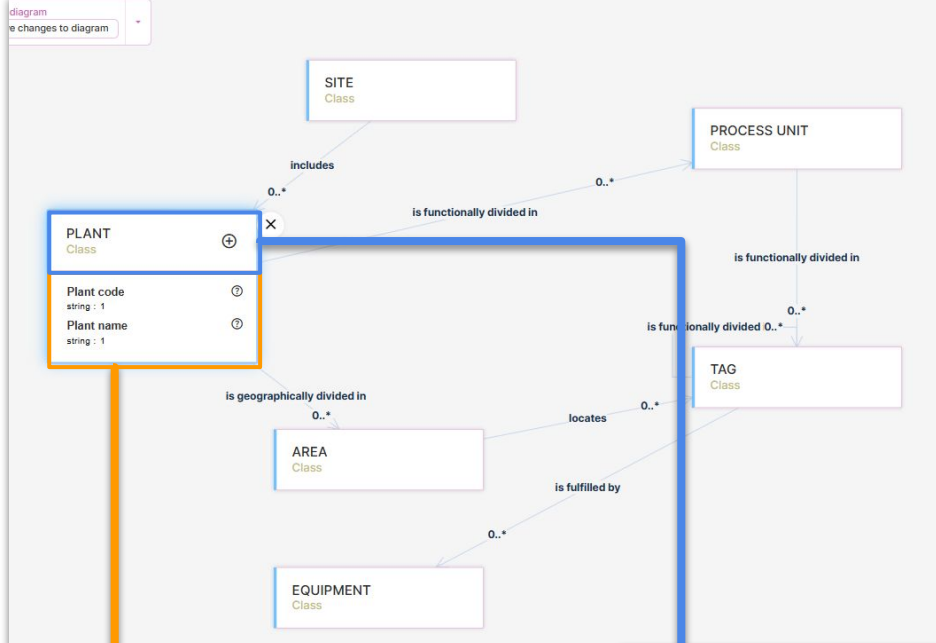
Connecting ontologies, vocabularies, & instance data



metaphactory knowledge graph approach - Layering of open W3C semantic knowledge graph standards as utilized & applied by metaphactory

Benefits

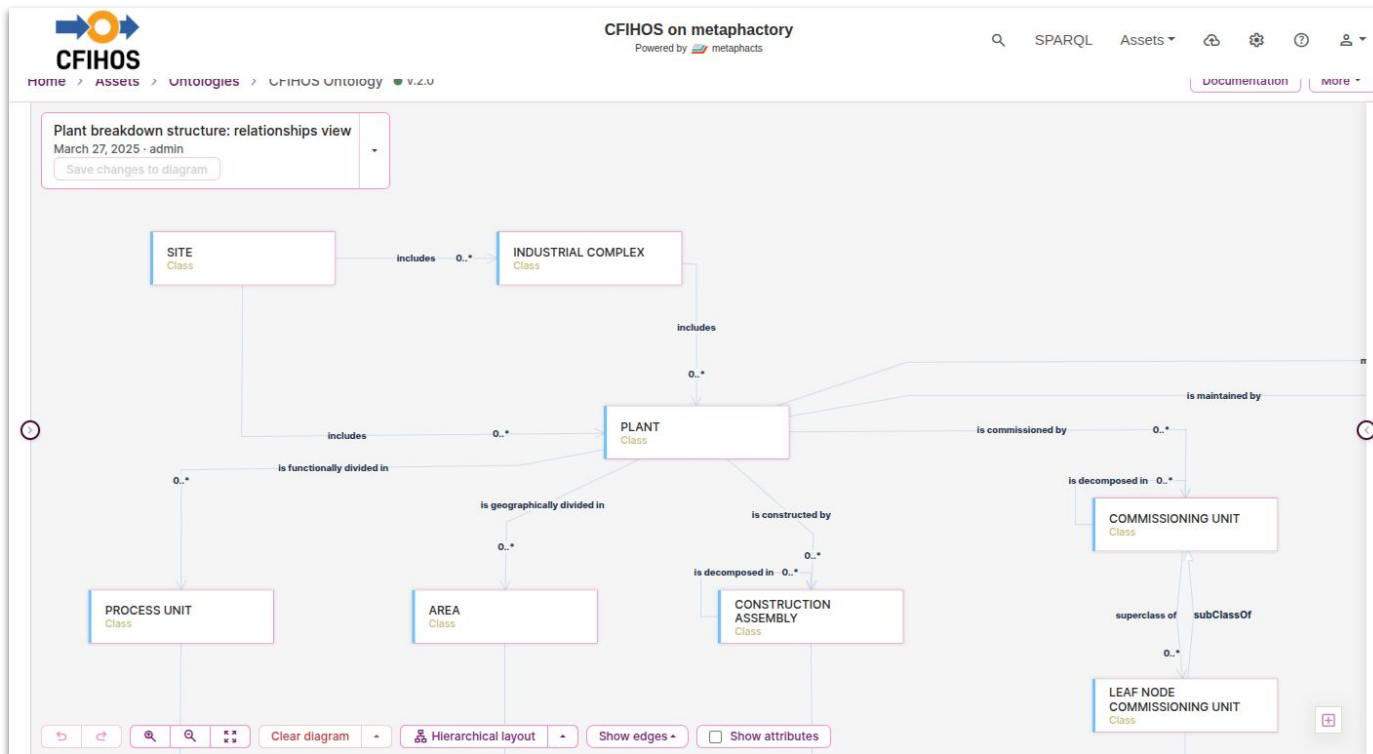
- » Interlink ontologies & vocabularies to support reuse while separating management & governance tasks
- » Improve stakeholder communication, asset documentation & governance
- » Enable model-driven applications with e.g., auto-suggestions in semantic forms, runtime validation of user interaction, hierarchical facets in search, etc.
- » Ensure data quality by running checks & validations against business logic



The CFIHOS Data Model is modeled as an RDF Graph. Entities have become classes, and some attributes have become properties.

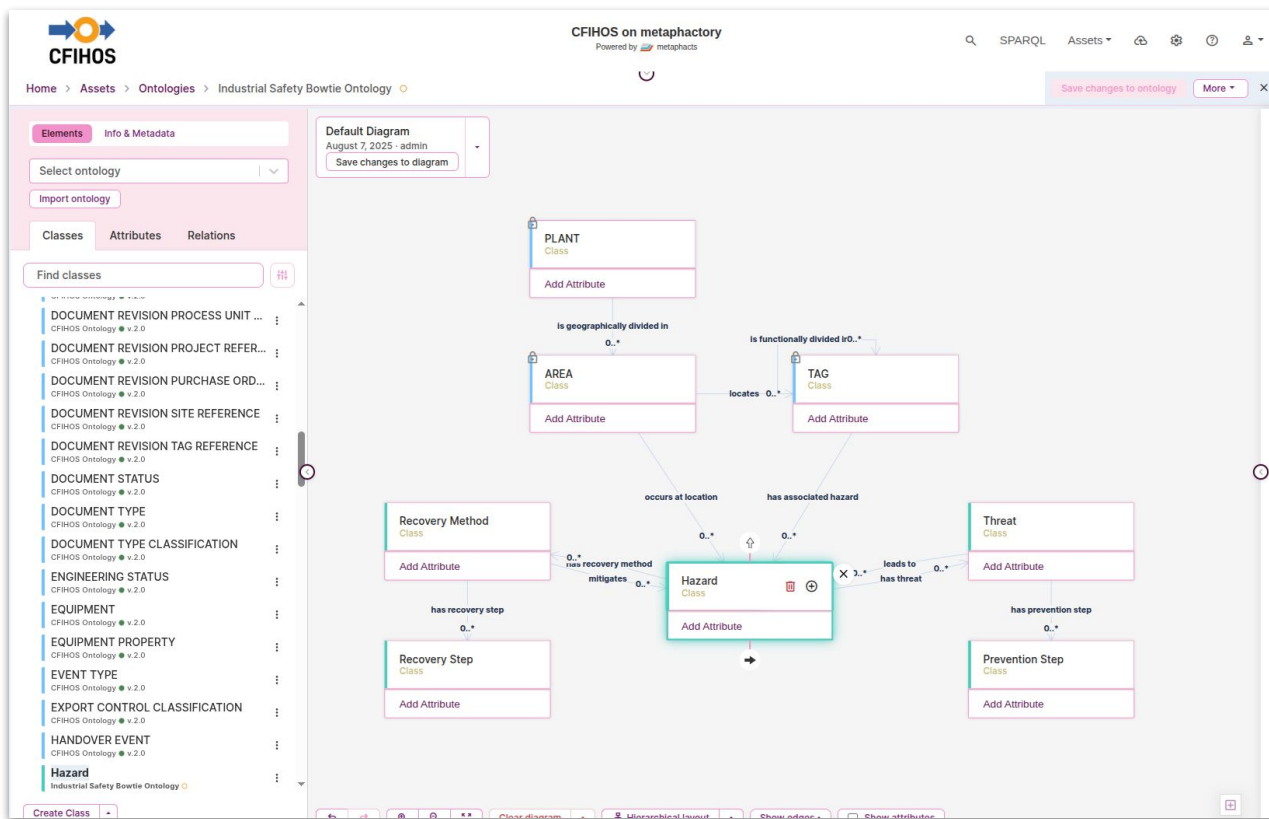
Those attributes that were originally used only as foreign keys are redundant in this RDF model. Through the use of unique identifiers (IRIs) and predicates (a.k.a. relationships).

A	B	C	D	E
CFIHOS unique code	section	object	entity name	property name
CFIHOS-00000031	A.2.02	entity:	plant	
CFIHOS-10000003		attribute:	plant	site code
CFIHOS-10000005		attribute:	plant	plant code
CFIHOS-10000006		attribute:	plant	plant name
CFIHOS-10000147		attribute:	plant	ISO language code
CFIHOS-10000240		attribute:	plant	measurement system code
CFIHOS-10000367		attribute:	plant	industrial complex code



This is the *Plant Breakdown structure* slide from the data model recreated in the *metaphactory* ontology editor as a diagram.

This view is interactive. Classes can be added to and removed from the canvas, and if there is a relationship to another class that is already on the canvas, it will appear automatically, as the diagram reads the data model from the ontology.

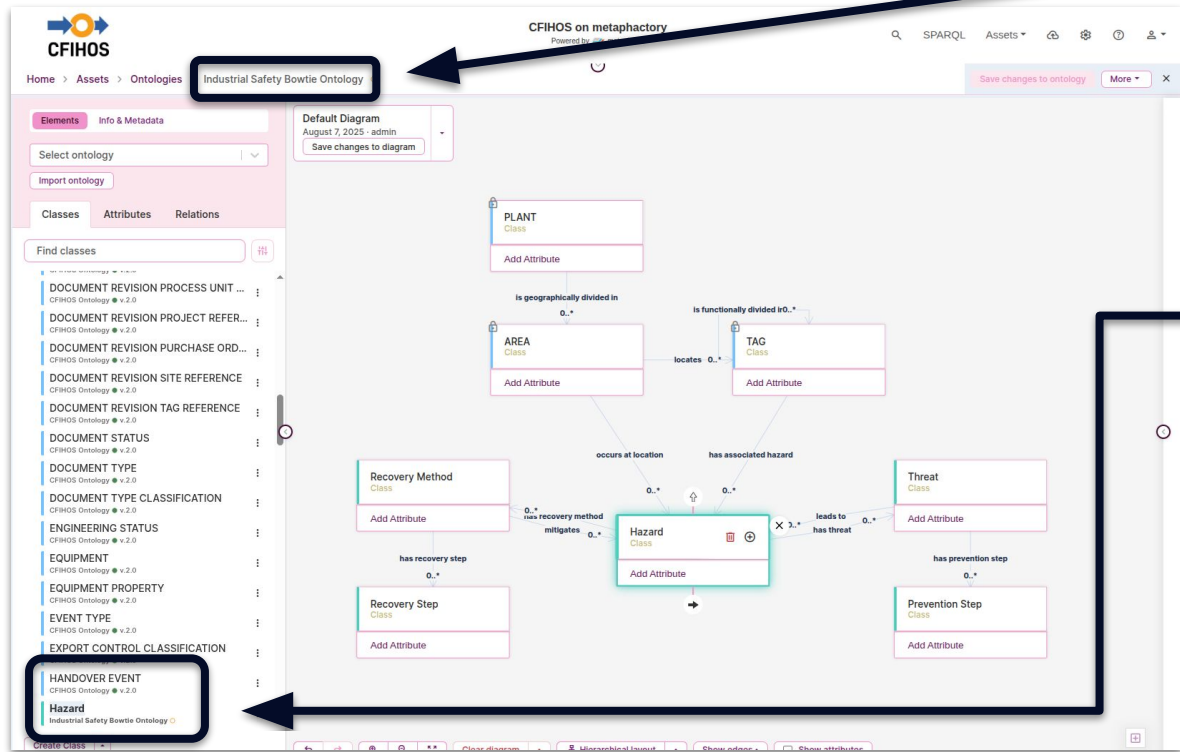


With *metaphactory*, you can easily both browse and edit ontologies and any diagrams you create for them.

We can also use the ontology editor to load existing or create new ontologies and import the CFIHOS ontology into them.

This allows the user to expand or restrict the core CFIHOS RDF model as required.

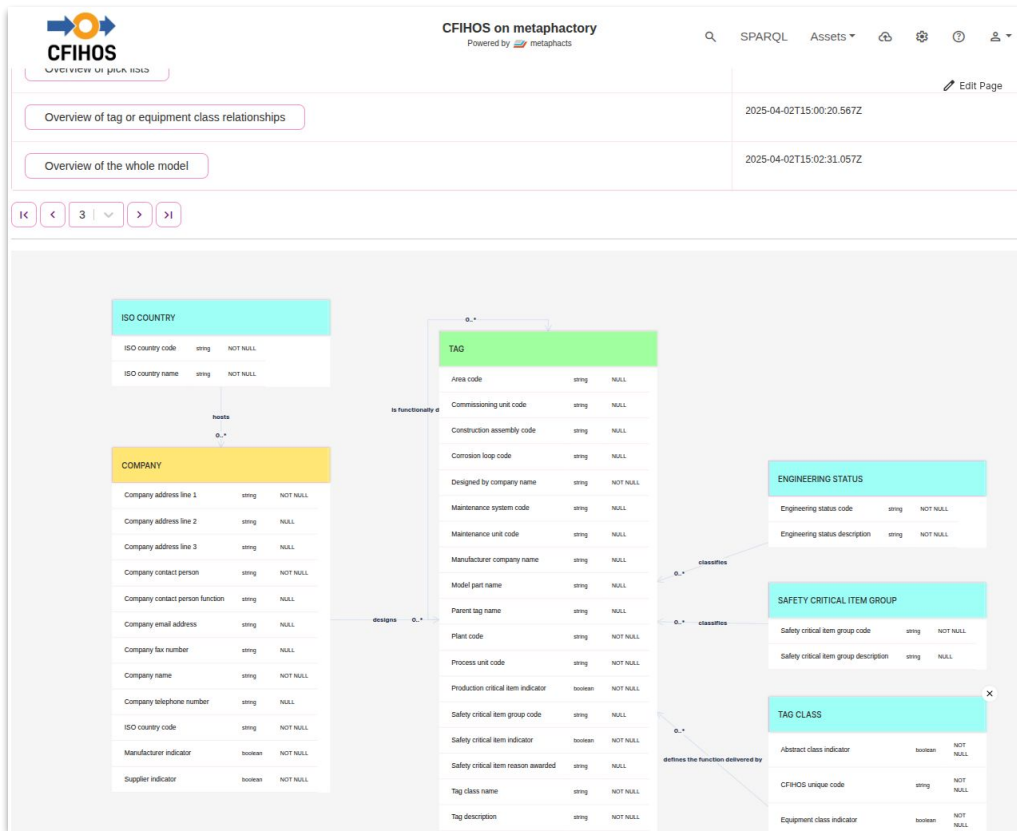
Note that we are not editing the CFHIOS ontology, but a seemingly unrelated one.



When one ontology is imported into another, all its classes, attributes, and relations become available. The editor informs us to which ontology which classes belong. We can now add new relations between the classes of the two ontologies, or simply add more attributes or change existing relations.

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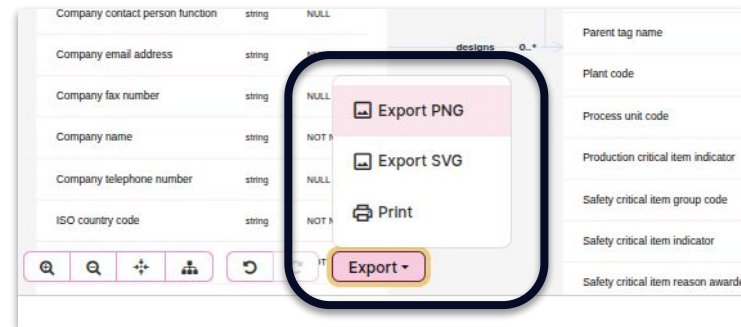
In this example, you can see all Equipment Classes, including all attributes and the hierarchy of elements.



In some cases, you may want to highlight classes according to some attribute. *CFIHOS on metaphactory* provides an additional diagram viewer that shows the data source as colours according to the data model slides.

The viewer can be modified to read any other class attribute, so long as it is recorded in the RDF data.

Finally, both this viewer and the ontology editor diagram viewer allow manipulation and export of the diagrams.





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A2 - Define project standard



The start page also provides a link to the project specification management page.

Here you can create the list of CFIHOS items that is required for your project, based on either the default CFIHOS scenario templates, or one that is provided by you.

CFIHOS on metaphactory
Powered by metaphacts

Home Edit Page

Welcome to metaphactory!

CFIHOS

CFIHOS (Capital Facilities Information HandOver Specification) is a standardized framework in the oil and gas industry for managing and handing over accurate, consistent asset information throughout a facility's lifecycle. It ensures efficient data exchange between operators, contractors, and suppliers to improve safety, maintenance, and decision-making.

RDF-graph technologies enable seamless linking of complex asset data across systems, improving consistency and traceability. This supports CFIHOS by ensuring efficient, accurate data handover throughout a facility's lifecycle. The CFIHOS Ontology would act as a schema for the knowledge graph and it is provided in the [CFIHOS Ontology](#).

Reference Data Library (RDL) and CFIHOS-CORE elements which are provided as CSV sheets are also instantiated as RDF-graph and can be used during the project specification and exported back to CSV. Some parts are also mapped to SKOS vocabularies. The following is the list of all CSV's available in CFIHOS-CORE and the link to the respective vocabulary or named graph is provided.

[Explore CFIHOS Core RDL](#)

[Explore CFIHOS Core Ontology](#)

Create a Project Specification

metaphactory helps you create your project specification based on CFIHOS and automatically generates the artifacts you need for handover data exchange based on CFIHOS.

[Manage Project Specifications](#)

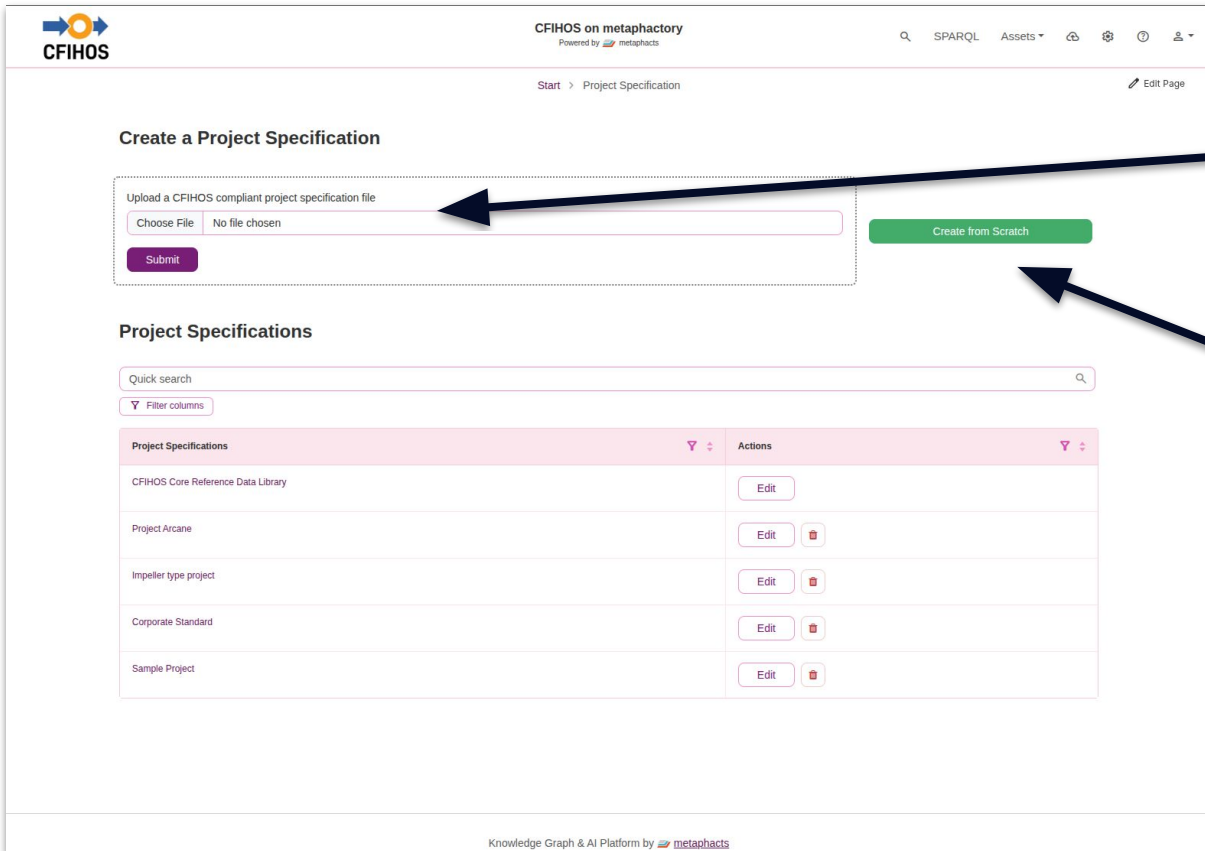
Principal Contractor

Specify Information





Contract Award

Generate Information

Handover Information



The screenshot shows the 'CFIHOS on metaphactory' interface. At the top, there's a navigation bar with 'Start > Project Specification' and an 'Edit Page' link. The main section is titled 'Create a Project Specification' and contains two options: 'Upload a CFIHOS compliant project specification file' (with a 'Choose File' button and a 'Submit' button) and 'Create from Scratch' (a green button). Below this is a 'Project Specifications' section with a search bar and a table of existing specifications.

Project Specifications	Actions
CFIHOS Core Reference Data Library	<button>Edit</button>
Project Arcane	<button>Edit</button> 
Impeller type project	<button>Edit</button> 
Corporate Standard	<button>Edit</button> 
Sample Project	<button>Edit</button> 

You can create your project standards by either:

- Uploading an existing specification
- or-
- Creating a completely new specification

The project specification is the container for the information about the project. All entities involved in the project, all instance data, and all requirements are recorded in it.

Section	Entity	CFIHOS CORE REQ.	CFIHOS EXTENDED REQ.	Template 1: EPC or ESC		Template 2: FEED		Template 3: Document Only		Template 4: Package Vendor		Template 5: Standard Equip.		Template 6: Concept Design	
				Principal to Contractor	Contractor to Principal	Principal to Contractor	Contractor to Principal	Principal to Contractor	Contractor to Principal	Principal to Contractor	Contractor to Principal	Principal to Contractor	Contractor to Principal	Principal to Contractor	Contractor to Principal
A6.12	NATIVE FILE DELIVERY TIMING	Yes	Yes	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
A6.13	DOCUMENT FORMAT	VIEW - PROPERTY PICKLIST VALUE	RDL Picked	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
A6.16	HANDOVER EVENT	Yes	Yes	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
A6.17	DISCIPLINE DOCUMENT TYPE HANDOVER REQUIREMENT	VIEW - DISCIPLINE DOCUMENT TYPE	Yes	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
A7.02	DOCUMENT MASTER	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
A7.03	ISO LANGUAGE	VIEW - PROPERTY PICKLIST VALUE	RDL Picked	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
A7.04	DOCUMENT REVIEW TYPE	VIEW - PROPERTY PICKLIST VALUE	RDL Picked	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-
A8.01	DOCUMENT REVISION	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
A8.02	TRANSMITTAL	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
A8.03	REASON FOR ISSUE	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
A8.04	ADDITIONAL FILE	No	No	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
A8.05	DOCUMENT REVISION SITE REFERENCE	No	No	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
A8.06	DOCUMENT REVISION PLANT REFERENCE	No	No	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
A8.07	DOCUMENT REVISION PROCESS UNIT REFERENCE	No	No	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
A8.08	DOCUMENT REVISION PLANT AREA REFERENCE	No	No	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
A8.09	DOCUMENT REVISION TAG REFERENCE	No	No	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes
A8.10	DOCUMENT REVISION INSTRUMENT REFERENCE	No	No	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes	-	Yes

Create New Project

Project Name *

New Project

Create a new template

Contract Scenario *

Template 1: EPC or ESC

Template 1: EPC or ESC

Template 2: FEED

Template 3: Document Only

Template 4: Package Vendor

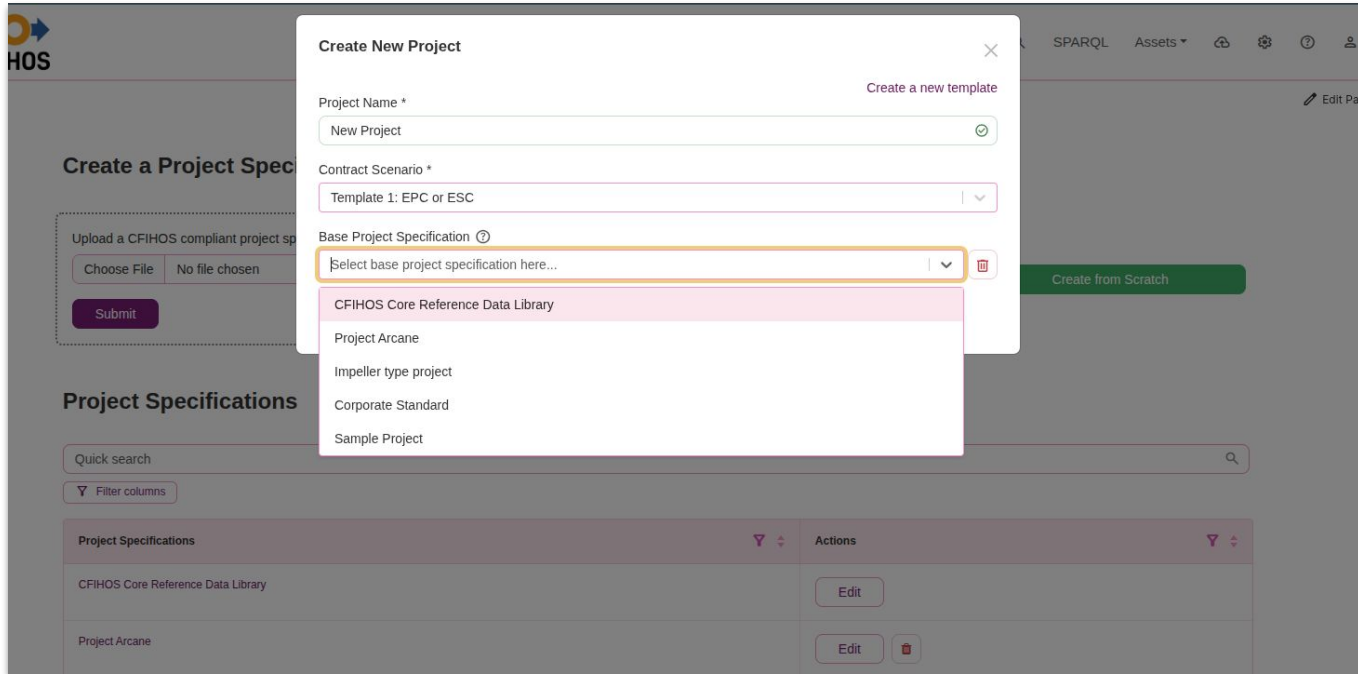
Template 5: Standard Equip.

Template 6: Concept Design

Template 7: Simple Project

When starting a new project specification, you must first select a contract scenario.


You can select any contract scenario that is already defined by CFIHOS, but you also have the option to modify pre-existing scenarios or create your own entirely custom template.



The screenshot shows the 'Create New Project' modal in the CFIHOS on metaphactory application. The modal has a title bar with a close button. It contains three main sections: 'Project Name *' with a text input field containing 'New Project' and a 'Create a new template' link; 'Contract Scenario *' with a dropdown menu showing 'Template 1: EPC or ESC'; and 'Base Project Specification' with a dropdown menu showing 'Select base project specification here...'. The dropdown menu is open, displaying a list of options: 'CFIHOS Core Reference Data Library', 'Project Arcane', 'Impeller type project', 'Corporate Standard', and 'Sample Project'. The background of the application is dimmed, showing a 'Create a Project Specification' section with an 'Upload a CFIHOS compliant project specification' area and a 'Project Specifications' table.

Project Specifications	Actions
CFIHOS Core Reference Data Library	<button>Edit</button>
Project Arcane	<button>Edit</button> <button>Delete</button>

Along with the scenario, you must also select the starting entities. This can again be the list as provided by CFIHOS core RDL, or it can be a custom company standard that you or a third party has designed for use in *CFIHOS on metaphactory*.




CFIHOS on metaphactory

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Q

SPARQL

Assets



metaphacts

☰

Home

Property

Equipment Class

Tag Class

Equipment Class Property

Tag Class Property

Tag Or Equipment Class Source Standard

Tag Or Equipment Class Property Source Standard

Object Equivalent Mapping

Tag Class Equipment Class Relationship

Discipline Document Type

Source Standard Document And Data Requirement

Export

New Project

Edit Page

Compare

Validate

Contract Template:

The project specification is based on contract template Template 1: EPC or ESC

The following entites are involved in this contract scenario, consider modifying them accordingly.

Quick search

CFIHOS Entity	Contractor to Principal	Principal to Contractor
DOCUMENT REVISION SITE REFERENCE		true
DOCUMENT REVISION PROCESS UNIT REFERENCE		true
TAG		true
DOCUMENT REVISION PLANT AREA REFERENCE		true
COMMISSIONING UNIT		true
LEAF NODE COMMISSIONING UNIT		true
MAINTENANCE SYSTEM		true
DOCUMENT REVISION MODEL PART REFERENCE		true
EQUIPMENT		true
KIT COMPONENT		true


1

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>

>>

When you have selected both items for your project specification and created the project, the project is then populated according to base entities list and the scenario template that you have selected.



CFIHOS on metaphactory

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🔍

SPARQL

Assets

🔗

⚙️

🔔

👤

📄

Edit Page

Create Tag Class Property

Home

Property

Equipment Class

Tag Class

Equipment Class Property

Tag Class Property

Tag Or Equipment Class Source Standard

Tag Or Equipment Class Property Source Standard

Object Equivalent Mapping

Tag Class Equipment Class Relationship

Discipline Document Type

Source Standard Document And Data Requirement

Export

❑ CFIHOS

❑ NON-CFIHOS

❑ All

Quick search


🔍

⌵

Filter columns

Tag Class Property	Actions	Tag Class	Property
switchgear and controlgear for ingress protection	⋮	switchgear and controlgear	ingress protection
switchgear and controlgear for lower limit ambient operating temperature	⋮	switchgear and controlgear	lower limit ambient operating temperature
switchgear and controlgear for mounting arrangement	⋮	switchgear and controlgear	mounting arrangement
switchgear and controlgear for upper limit ambient operating temperature	⋮	switchgear and controlgear	upper limit ambient operating temperature
switchgear and controlgear for rated current	⋮	switchgear and controlgear	rated current
switchgear and controlgear for rated frequency	⋮	switchgear and controlgear	rated frequency
switchgear and controlgear for rated voltage	⋮	switchgear and controlgear	rated voltage
switchgear and controlgear for communication protocol	⋮	switchgear and controlgear	communication protocol

Here, you can further edit, add, and remove entities as necessary. If you did not yet possess the base specification that you need for your standard, this is where you can create this list for future use.



CFIHOS on metaphactory
Powered by metaphacts

Q

SPARQL

Assets

🔗

⚙️

ℹ️

👤

☰

Home

Property

Equipment Class

Tag Class

Equipment Class Property

Tag Class Property

Tag Or Equipment Class Source Standard

Tag Or Equipment Class Property Source Standard

Object Equivalent Mapping

Tag Class Equipment Class Relationship

Discipline Document Type

Source Standard Document And Data Requirement

Export

Tag Class Property - New Project

☐ CFIHOS
☐ NON-CFIHOS
☐ All

Quick search

Filter columns

Tag Class Property		Tag Class	Property
switchgear and controlgear for ingress protection	⋮	switchgear and controlgear	ingress protection
switchgear and controlgear for lower limit ambient operating temperature	⋮	switchgear and controlgear	lower limit ambient operating temperature
switchgear and controlgear for mounting arrangement	⋮	switchgear and controlgear	mounting arrangement
switchgear and controlgear for upper limit ambient operating temperature	⋮	switchgear and controlgear	upper limit ambient operating temperature
switchgear and controlgear for rated current	⋮	switchgear and controlgear	rated current
switchgear and controlgear for rated frequency	⋮	switchgear and controlgear	rated frequency
switchgear and controlgear for rated voltage	⋮	switchgear and controlgear	rated voltage
switchgear and controlgear for communication protocol	⋮	switchgear and controlgear	communication protocol

Edit Page

Create Tag Class Property

Click on the “Actions” button to either edit an entity (in this case a *Tag Class Property*), or to remove the entity from the project’s list.

You can create an entirely new entity via the button in the top right.

Create Tag Class Property

CFIHOS Identifier
Enter cfihos identifier here...

Tag Class
Search and select tag class here...

Property
Search and select property here...

TAG OR EQUIPMENT CLASS PROPERTY SOURCE STANDARD
Search and select tag or equipment class property source standard here...

Add value

Property To Group Assignment
Search and select property to group assignment here...

Add value

Save Reset

Property
ingress protection
lower limit ambient operating temperature
mounting arrangement
upper limit ambient operating temperature

Discipline Document Type	Source Standard Document And Data Requirement	Export
switchgear and controlgear for rated current	switchgear and controlgear for rated frequency	switchgear and controlgear for rated voltage
switchgear and controlgear for rated frequency	switchgear and controlgear for rated voltage	switchgear and controlgear for communication protocol

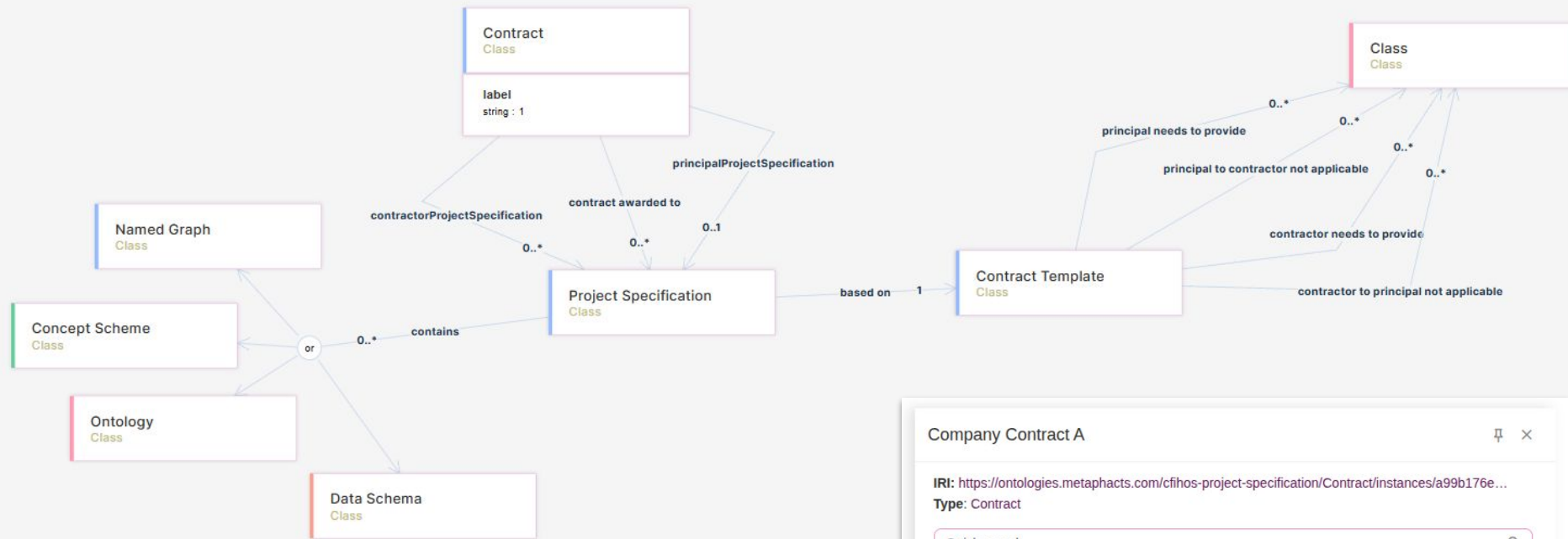
This is the form for creating a new *Tag Class Property*. Various validation mechanisms are in place to ensure the data adheres to the CFIHOS model as defined in the ontology.



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A3 - Support tender and contract





Tender and Contract is both supported and extensible. Further information can be captured based on the needs of the customer.

When sharing data, the sharing can be done in one central platform, or an exchange can be performed between two independent *metaphactory* systems, whichever fits the needs of the participants.

Company Contract A

IRI: <https://ontologies.metaphacts.com/cfihos-project-specification/Contract/instances/a99b176e...>

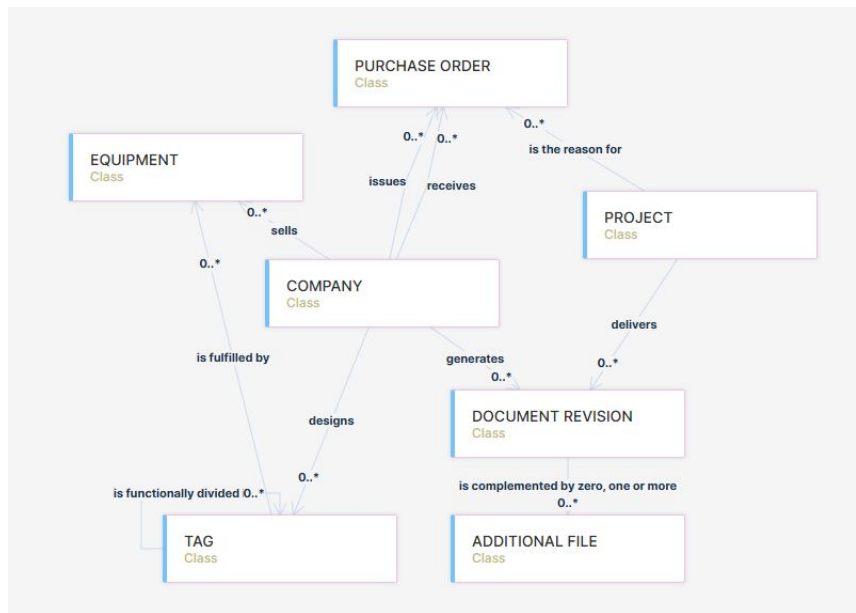
Type: Contract

Quick search

contract awarded to	Contractor 1 Response
contractorProjectSpecification	Contractor 1 Response , Contractor 2 Response
principalProjectSpecification	Project Arcane

Quick search <input type="text"/>	<input type="button" value="New Instance"/>
Instance	Actions
metaphacts GmbH	<input type="button" value="Edit"/>
A Manufacturer Company	<input type="button" value="Edit"/>

metaphacts GmbH	
IRI: https://www.jip36-cfihos.org/ontology/CFIHOS...	
Type: COMPANY	
Quick search <input type="text"/>	
Manufacturer indicator	false
Supplier indicator	false
Company contact person	Digital Science
Company address line 1	Walldorf
Company name	metaphacts GmbH
Company email address	email@metaphacts.com



CFIHOS related entities like list of Companies, Document Revisions, Additional Files, ... can be instantiated to support the process.


Comments can be provided on entities as a possible way to communicate.



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A4 - Share project standard





CFIHOS

CFIHOS on metaphactory
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SPARQL
Assets

Edit Page

Home
Property
Equipment Class
Tag Class
Equipment Class Property
Tag Class Property
Tag Or Equipment Class Source Standard
Tag Or Equipment Class Property Source Standard
Object Equivalent Mapping
Tag Class Equipment Class Relationship
Discipline Document Type
Source Standard Document And Data Requirement
Export

CFIHOS Data Model Diagrams
View Diagrams

Export as CSV - New Project

Click on the following buttons to export the RDF data as a CSV file in the manner of the current CFIHOS CORE RDL exchange format.

Export All

CFIHOS-LD

Export CFIHOS object equivalent mapping

Export Discipline

Export Document Type

Export Discipline Document Type

Export Equipment Class

Export Equipment Class Property

Export Handover Event

Project specifications can be exported as CSV files. These share the same layout as the RDL, and any other tool compatible with CSV and can use them.

You can also use the raw RDF serialization formats (JSON-LD, Turtle, etc.) to export the entire content in one file.

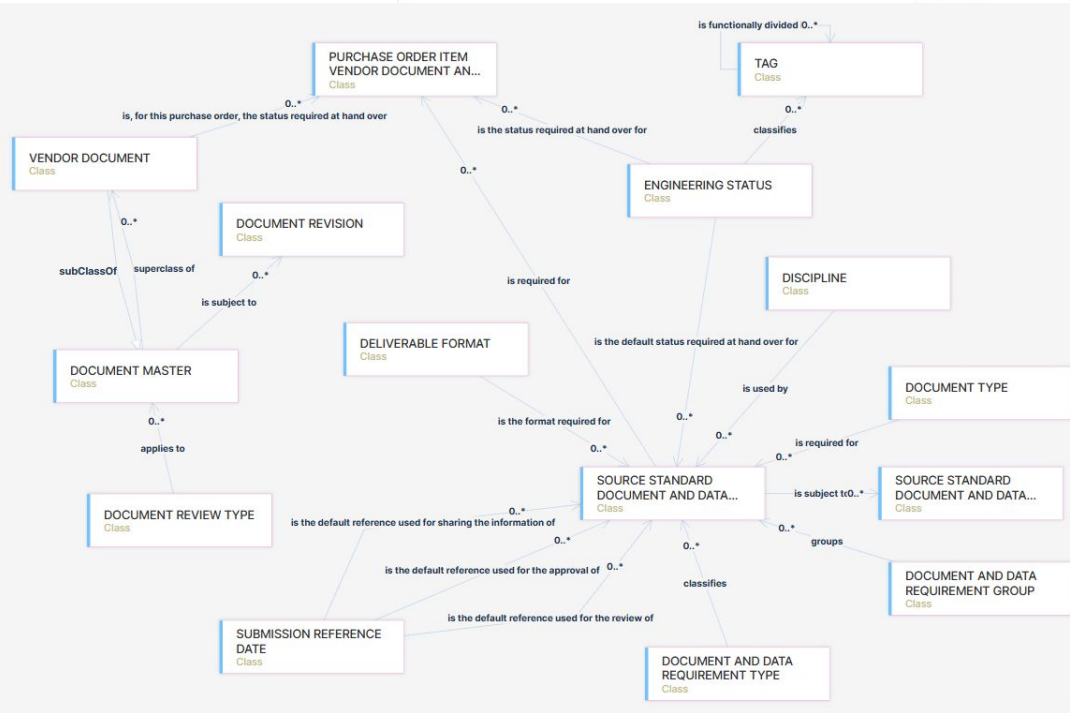
	A	B	
1	cfihos_unique_code	discipline_code	discipline_description
2	CFIHOS-20000001	AA	A macro discipline covering the administrative and management related items associated with
3	CFIHOS-20000002	BA	A macro discipline covering the specification and management of field installation and hook up
4	CFIHOS-20000003	CB	A civil engineering specialty addressing the design of buildings meant for occupancy.
5	CFIHOS-20000004	CG	A civil engineering specialty addressing the engineering behaviors of earth materials.
6	CFIHOS-20000005	CI	A civil engineering specialty addressing systems necessary to support a site, including but not
7	CFIHOS-20000006	CS	A civil engineering specialty addressing the design of structures which resist loads, specifically
8	CFIHOS-20000007	CX	A discipline addressing the design and maintenance of earthworks, including but not limited to
9	CFIHOS-20000008	EA	A discipline addressing the design and application of circuitry and equipment for power gener
10	CFIHOS-20000009	FA	A discipline addressing the management of project cost and schedule, involving such activitie
11	CFIHOS-20000010	HE	A discipline addressing the interface between capital project and the natural environment, spe
12	CFIHOS-20000011	HH	A discipline addressing the health and welfare of personnel engaged in work or employment
13	CFIHOS-20000012	HP	A discipline addressing assessment of condition, analysis of risk and mitigation of potential ha
14	CFIHOS-20000013	HS	A discipline addressing assessment of condition, analysis of risk and mitigation of potential ha
15	CFIHOS-20000014	HX	A macro discipline used to classify content generally addressing a combination of 'safety', 'se
16	CFIHOS-20000015	IN	A discipline addressing the design and application of monitoring and control systems.

Quick search

New Instance

Instance	Actions
anchoring study	Edit
applicable standards list	Edit
approved vendor list	Edit
aspect data	Edit

anchoring study	
IRI: https://www.jp36-cfihos.org/data/328a966b-721e-4592-b234-64d31... Type: Concept, DOCUMENT TYPE	
Quick search 🔍	
definition	Includes anchoring of offshore vessels and the interaction of anchor lines with sub-sea pipelines and structures.
is in scheme	Document Type Vocabulary - Corporate Standard
is top concept in scheme	Document Type Vocabulary - Corporate Standard
Document type short code	8268
Document type name	anchoring study
Document type description	Includes anchoring of offshore vessels and the interaction of anchor lines with sub-sea pipelines and structures.
is used by	CFIHOS-20000686



All entities relevant to document requirements, submission reference date, document types, etc are based on CFIHOS and can be used to specify the project requirements.



metaphacts

B1 - Creation tools



New Instance

The fields of the form are based on the COMMISSIONING UNIT class in the context of CFIHOS Ontology v.2.0

Commissioning unit code * ?
Enter commissioning unit code here...

Commissioning unit name * ?
Enter commissioning unit name here...

is decomposed in
Search and select is decomposed in here...
Add value

superclass of
Search and select superclass of here...
Add value

Cancel Save

New Instance

The fields of the form are based on the TAG class in the context of CFIHOS Ontology v.2.0

Safety critical item reason awarded ?
Enter safety critical item reason awarded here...

Tag description * ?
Enter tag description here...

Tag name * ?
Enter tag name here...

Tag request number ?
Enter tag request number here...

Production critical item indicator * ?
☐

Safety critical item indicator * ?
☐

can be implemented by
Search and select can be implemented by here...
Add value

has
Search and select has here...
Add value

has its acquisition covered by
Search and select has its acquisition covered by here...
Add value

Edit

The fields of the form are based on the SITE class in the context of CFIHOS Ontology v.2.0

Site code * ?
Site-0291

Site name * ?
Site Bastion

includes
Search and select includes here...
Metaphacts Plant 01
PLANT

is referenced by
Search and select is referenced by here...
Add value

Delete Cancel Save

All CFIHOS classes of the ontology can be instantiated. Instances can be connected to each other via their relations (likewise defined in the ontology) to form a new knowledge graph. Data created this way is validated via the ontology model.

Schema and metadata of engineering artifacts like P&ID diagrams can be linked to CFIHOS elements.

Other tools can use our exports to setup their systems.




metaphacts

B2 - Gathering and integration tools



The screenshot displays the 'CFIHOS on metaphactory' web application. The top navigation bar includes the CFIHOS logo, the title 'CFIHOS on metaphactory' (Powered by metaphacts), and search and asset management tools. The breadcrumb trail indicates the current path: Home > Assets > Vocabularies > Mappings > Astronomical Terms Vocabulary to Unit of Measure Vocabulary - Corporate... The main heading is 'Astronomical Terms Vocabulary to Unit of Measure Vocabulary - Corporate Standard', with the URL <https://vocabularies.metaphacts.com/mappings/astromical-terms-vocabulary-to-unit-of-measure-vocabulary-corporate-standard> below it. The interface is divided into three main sections. The left section, 'Astronomical Terms Vocabulary v.0.1', contains a 'Quick search' bar and a list of terms: '1 billion km' and 'Parsec'. The middle section, 'Unit of Measure Vocabulary - Corporate Stand...', shows a search for 'teram' resulting in the term 'terametre'. The right section, 'New mappings (1)', shows a mapping between '1 billion km' and 'terametre' with an 'exact match' dropdown. A 'Save' button is located at the bottom right. A message on the left states 'No suggestions' and 'Drop a term from the source or target vocabularies to get suggestions'.

Entities and values can be mapped between the CFIHOS RDL and/or various company-specific specifications (ECLASS, IEC CDD, etc.) via *metaphactory's* Vocabulary Mapping feature.



CFIHOS on metaphactory

Powered by metaphacts

SPARQL

Assets

Home

>

Assets

>

Physical Datasource Schemas

>

Schema Ontology Mapping

>

Mappings for Mapping to CFIHOS

Edit Page

Mappings for Mapping to CFIHOS

Map Data Schema

<https://schemas.metaphacts.com/schema-ontology-mapping/mapping-to-cfihos>

Quick search

With selected...

Element Type

Only Mappings generated by AI

<input type="checkbox"/>	In Data Schema	In Ontologies	Actions
<input type="checkbox"/>	Oil&Gas Project Database Schema	CFIHOS Ontology	
<input type="checkbox"/>	manufacturers Data entity	COMPANY Class	
<input type="checkbox"/>	name Data element	Company name Attribute	
<input type="checkbox"/>	pumps Data entity	EQUIPMENT Class	
<input type="checkbox"/>	sites Data entity	SITE Class	
<input type="checkbox"/>	sitename Data element	Site name Attribute	

A vital aspect of ETL pipelines is finding where each relevant data element is located - Physical Data Sources and their structure can be represented in *metaphactory* and mapped to CFIHOS.

You can import physical data schemas and likewise map them to CFIHOS or related company domain models with *metaphactory*.

This allows to capture all information, provenance, tracing, and have an overview where data is located.



metaphacts

B3 - Validation tools



Project Arcane

[Compare](#)[Validate](#)

Contract Template: The project specification is based on contract template [Template 1: EPC or ESC](#)
The following entites are involved in this contract scenario, consider modifying them accordingly.

Quick search 🔍	
CFIHOS Entity	Validation
INDUSTRIAL COMPLEX 🔗	⚠️ As a Principal you need to provide information about this entity.
PLANT 🔗	Valid instances: 1
MAINTENANCE SYSTEM 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER ITEM 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER ITEM FOR MODEL PART 🔗	⚠️ As a Principal you need to provide information about this entity.
SELECTABLE MODEL PART FOR TAG 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER 🔗	⚠️ As a Principal you need to provide information about this entity.

Various integrity checks based on SPARQL and SHACL exist throughout the *CFIHOS on metaphactory* application.

Here, as an example, in the project specification view, the system notifies us that not all entities are being provided as demanded by the selected scenario.

Validation rules can be modified and further restricted based on specific needs.



metaphacts

C1 - Share project standard



Click on the following buttons to export the RDF data as a CSV file in the manner of the current CFIHOS CORE RDL exchange format.

Export All

CFIHOS-LD

Export CFIHOS object equivalent mapping

Export Discipline

Export Document Type

Export Discipline Document Type

Export Equipment Class

Export Equipment Class Property

Export Handover Event

Export Property

Export Property Picklists Values

Export Property Groupings

Export Source Standard


Export IOGP JIP33 Information Requirements Specification

Document Required Per Class ⓘ

Tag Class


Export Tag Class Property

- Data can be finalized and exported in various formats, such as CSV sheets, JSON-LD, or RDF Turtle. Diagrams can be imported as Trig and exported as Trig, PNG, or SVG.
- Various user roles can be set up on a single system, and they can collaborate with each other.
- Formats are not strictly limited to those mentioned so far; *metaphactory* can import and export a wide variety of formats.
- Transfers can happen offline through file sharing or via API calls.


CFIHOS

Data Import and Export

Data Import

Repository: (from context) 

Advanced Options

File Upload

Load by HTTP/FTP/File URL



Drag & Drop your RDF file(s) here


OR

Browse Files

Data Upload via Drag & Drop is limited in nature. Please refer to the [data loading help](#) for details.

RDF files can be uploaded directly via the UI.

RDF exports of data produced with *CFIHOS on metaphactory* can be imported to any other instance, where the file can be viewed and further modified as required.



CFIHOS on metaphactory

Powered by metaphacts

SPARQL

Assets

Home

>

Assets

>

Physical Datasource Schemas

>

Schema Ontology Mapping

>

Mappings for Mapping to CFIHOS

Edit Page

Mappings for Mapping to CFIHOS

Map Data Schema

<https://schemas.metaphacts.com/schema-ontology-mapping/mapping-to-cfihos>

Quick search

With selected...

Element Type

Only Mappings generated by AI

<input type="checkbox"/>	In Data Schema	In Ontologies	Actions
<input type="checkbox"/>	Oil&Gas Project Database Schema	CFIHOS Ontology	
<input type="checkbox"/>	manufacturers Data entity	COMPANY Class	
<input type="checkbox"/>	name Data element	Company name Attribute	
<input type="checkbox"/>	pumps Data entity	EQUIPMENT Class	
<input type="checkbox"/>	sites Data entity	SITE Class	
<input type="checkbox"/>	sitename Data element	Site name Attribute	

A vital aspect of ETL pipelines is finding where each relevant data element is located - physical Data Sources and their structure can be represented in *metaphactory* and mapped to CFIHOS.

You can import physical data schemas and likewise map them to CFIHOS or related company domain models with *metaphactory*.

This allows to capture all information, provenance, tracing, and have an overview where data is located.



metaphacts

C2 - Collect and aggregate information



New Instance

The fields of the form are based on the TAG class in the context of CFIHOS Ontology v.2.0

Safety critical item reason awarded ⓘ
 Enter safety critical item reason awarded here...

Tag description * ⓘ
 Enter tag description here...

Tag name * ⓘ
 Enter tag name here...

Tag requisition number ⓘ
 Enter tag requisition number here...

Production critical item indicator * ⓘ
☐

Safety critical item indicator * ⓘ
☐

can be implemented by
 Search and select can be implemented by here... | ▾
[Add value](#)

has
 Search and select has here... | ▾
[Add value](#)

has its acquisition covered by
 Search and select has its acquisition covered by here... | ▾
[Add value](#)

Cancel Save

All CFIHOS classes of the ontology can be instantiated. Instances can be connected to each other via their relations (likewise defined in the ontology) to form a new knowledge graph. Data created this way is validated via the ontology model.



metaphacts

D1 - Create information



New Instance

The fields of the form are based on the COMMISSIONING UNIT class in the context of CFIHOS Ontology v.2.0

Commissioning unit code * ?
Enter commissioning unit code here...

Commissioning unit name * ?
Enter commissioning unit name here...

is decomposed in
Search and select is decomposed in here...
Add value

superclass of
Search and select superclass of here...
Add value

Cancel Save

Edit

The fields of the form are based on the SITE class in the context of CFIHOS Ontology v.2.0

Site code * ?
Site-0291

Site name * ?
Site Bastion

includes
Search and select includes here...
Metaphacts Plant 01
PLANT

is referenced by
Search and select is referenced by here...
Add value

Delete Cancel Save

New Instance

The fields of the form are based on the TAG class in the context of CFIHOS Ontology v.2.0

Safety critical item reason awarded ?
Enter safety critical item reason awarded here... ✖

Tag description * ?
Enter tag description here...

Tag name * ?
Enter tag name here...

Tag requisition number ?
Enter tag requisition number here... ✖

Production critical item indicator * ?
☐

Safety critical item indicator * ?
☐

can be implemented by
Search and select can be implemented by here...
Add value

has
Search and select has here...
Add value

has its acquisition covered by
Search and select has its acquisition covered by here...
Add value

All CFIHOS classes of the ontology can be instantiated. Instances can be connected to each other via their relations (likewise defined in the ontology) to form a new knowledge graph. Data created this way is validated via the ontology model.



metaphacts

D2 - Gather and integrate information



CFIHOS on metaphactory
Powered by metaphacts

Home > Assets > Vocabularies > Mappings > Astronomical Terms Vocabulary to Unit of Measure Vocabulary - Corporat...

Astronomical Terms Vocabulary to Unit of Measure Vocabulary - Corporate Standard

<https://vocabularies.metaphacts.com/mappings/astronomical-terms-vocabulary-to-unit-of-measure-vocabulary-corporate-standard>

No suggestions

Drop a term from the source or target vocabularies to get suggestions

Astronomical Terms Vocabulary v.0.1

Quick search

1 billion km

Parsec

Unit of Measure Vocabulary - Corporate Stand...

teram

terametre

New mappings (1) Existing mappings (1)

1 billion km

1 billion km exact match terametre

Save

Entities and values can be mapped between the CFIHOS RDL and/or various company-specific specifications (ECLASS, IEC CDD, etc.) via *metaphactory's* Vocabulary Mapping feature.



metaphacts

D3 - Check information



Project Arcane

[Compare](#)[Validate](#)

Contract Template: The project specification is based on contract template [Template 1: EPC or ESC](#)
The following entites are involved in this contract scenario, consider modifying them accordingly.

Quick search 🔍	
CFIHOS Entity	Validation
INDUSTRIAL COMPLEX 🔗	⚠️ As a Principal you need to provide information about this entity.
PLANT 🔗	Valid instances: 1
MAINTENANCE SYSTEM 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER ITEM 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER ITEM FOR MODEL PART 🔗	⚠️ As a Principal you need to provide information about this entity.
SELECTABLE MODEL PART FOR TAG 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER 🔗	⚠️ As a Principal you need to provide information about this entity.

Various integrity checks based on SPARQL and SHACL exist throughout the *CFIHOS on metaphactory* application.

Here, as an example, in the project specification view, the system notifies us that not all entities are being provided as demanded by the selected scenario.

Validation rules can be modified and further restricted based on specific needs.



metaphacts

D4 - Transfer information



Click on the following buttons to export the RDF data as a CSV file in the manner of the current CFIHOS CORE RDL exchange format.

Export All

CFIHOS-LD

Export CFIHOS object equivalent mapping

Export Discipline

Export Document Type

Export Discipline Document Type

Export Equipment Class

Export Equipment Class Property

Export Handover Event

Export Property

Export Property Picklists Values

Export Property Groupings

Export Source Standard

Export IOGP JIP33 Information Requirements Specification

Document Required Per Class ⓘ

Tag Class

Export Tag Class Property

- Data can be finalized and exported in various formats, such as CSV sheets, JSON-LD, or RDF Turtle. Diagrams can be imported as Trig and exported as Trig, PNG, or SVG.
- Various user roles can be set up on a single system, and they can collaborate with each other.
- Formats are not strictly limited to those mentioned so far; *metaphactory* can import and export a wide variety of formats.
- Transfers can happen offline through file sharing or via API calls.



metaphacts

E1 - Review and validate



Project Arcane

[Compare](#)[Validate](#)

Contract Template: The project specification is based on contract template [Template 1: EPC or ESC](#)
The following entites are involved in this contract scenario, consider modifying them accordingly.

Quick search 🔍	
CFIHOS Entity	Validation
INDUSTRIAL COMPLEX 🔗	⚠️ As a Principal you need to provide information about this entity.
PLANT 🔗	Valid instances: 1
MAINTENANCE SYSTEM 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER ITEM 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER ITEM FOR MODEL PART 🔗	⚠️ As a Principal you need to provide information about this entity.
SELECTABLE MODEL PART FOR TAG 🔗	⚠️ As a Principal you need to provide information about this entity.
PURCHASE ORDER 🔗	⚠️ As a Principal you need to provide information about this entity.

Various integrity checks based on SPARQL and SHACL exist throughout the *CFIHOS on metaphactory* application.

Here, as an example, in the project specification view, the system notifies us that not all entities are being provided as demanded by the selected scenario.

Validation rules can be modified and further restricted based on specific needs.



metaphacts

F1 - Deliver to business



Click on the following buttons to export the RDF data as a CSV file in the manner of the current CFIHOS CORE RDL exchange format.

Export All

CFIHOS-LD

Export CFIHOS object equivalent mapping

Export Discipline

Export Document Type

Export Discipline Document Type

Export Equipment Class

Export Equipment Class Property

Export Handover Event

Export Property

Export Property Picklists Values

Export Property Groupings

Export Source Standard

Export IOGP JIP33 Information Requirements Specification

Document Required Per Class ⓘ

Tag Class

Export Tag Class Property

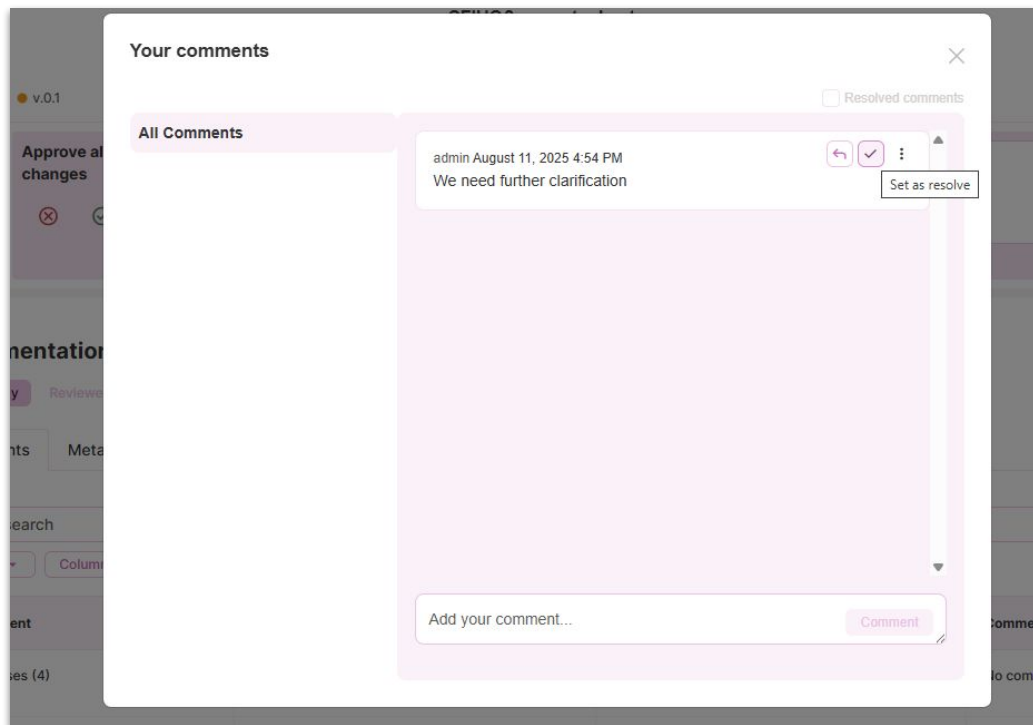
- Data can be finalized and exported in various formats, such as CSV sheets, JSON-LD, or RDF Turtle. Diagrams can be imported as Trig and exported as Trig, PNG, or SVG.
- Various user roles can be set up on a single system, and they can collaborate with each other.
- Formats are not strictly limited to those mentioned so far; *metaphactory* can import and export a wide variety of formats.
- Transfers can happen offline through file sharing or via API calls.



metaphacts

F2 - Track and update





Ontologies and Vocabularies allow for review processes, wherein comments can be added and changes can be accepted or rejected by admins and data stewards.

Certain CFIHOS-specific elements in *metaphactory* also support commenting features.

Find out more:

<https://metaphacts.com>

Explore metaphactory:

<https://help.metaphacts.com>



metaphacts

CFIHOS on metaphactory

CFIHOS Conformance 08/2025

