

Enabling step-change

For engineers: about the interoperability standard for process plants ISO 15926, and the data handover standard CFIHOS based on it.

ISO 15926 & CFIHOS

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Purpose

- Interoperability using standards:

- For data integration

- ISO 15926**

- For data handover from Engineering contractor to Owner/Operator

- CFIHOS**

- (Capital Facilities Information Handover Spec)

- Purpose:

- Decrease risk by higher data quality and save cost.

ISO 15926 – what is it?

- ❑ International standard, ISO TC184-SC4 WG3 (industrial data related to discrete products);
- ❑ Neutral layer used for data integration;
- ❑ Federation of databases – Semantic Web technology;
- ❑ Interoperability standard;
- ❑ Interoperability meaning:
“the ability of different types of computers, networks, operating systems, and applications to work together effectively, without prior communication, in order to exchange information in a useful and meaningful manner”.

What is in ISO 15926?

- Reference data library (RDL)

- = A central online database

- <http://data.posccaesar.org/rdl>

- And also a work-in-progress data

- <http://data.15926.org/rdl>

- Data integration and interoperability methodology

- Open source software <http://15926.tools>



Demo – open browser and query a centrifugal pump class

http://data.15926.org/rdl

15926browser

search (default)

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Menu

search in <http://data.15926.org/rdl>

centrifugal pump

API 610 CENTRIFUGAL PUMP DATA SHEET IN ENGLISH AND ASCII
BETWEEN BEARINGS CENTRIFUGAL PUMP
BOTTOM ENTRY VERTICAL INLET CENTRIFUGAL PUMP
CANNED MOTOR CENTRIFUGAL PUMP
CANTILEVER CENTRIFUGAL PUMP
CENTRELINE-MOUNTED CENTRIFUGAL PUMP
CENTRIFUGAL PUMP
CENTRIFUGAL PUMP SKID
CENTRIFUGAL PUMP STAGE
CENTRIFUGAL PUMP SYSTEM
CENTRIFUGAL PUMP WITH AXIALLY SPLIT CASING
CENTRIFUGAL PUMP WITH DISCHARGE THROUGH COLUMN
CENTRIFUGAL PUMP WITH DOUBLE CASING
CENTRIFUGAL PUMP WITH RADially SPLIT CASING
CENTRIFUGAL PUMP WITH SEPARATE DISCHARGE
CENTRIFUGAL PUMP WITH SINGLE CASING
CENTRIFUGAL RUN-OFF PUMP
CENTRIFUGAL SEWAGE PUMP
CLOSE-COUPLED CENTRIFUGAL PUMP
DEFINITION OF CENTRIFUGAL PUMP WITH PUMP CURVE
DISCHARGE THROUGH COLUMN LINE SHAFT CENTRIFUGAL PUMP
EIGHT STAGE CENTRIFUGAL PUMP
ENCLOSED LINE SHAFT CENTRIFUGAL PUMP
FIVE STAGE CENTRIFUGAL PUMP
FLEXIBLY COUPLED CENTRIFUGAL PUMP
FOOT-MOUNTED CENTRIFUGAL PUMP
FOUR STAGE CENTRIFUGAL PUMP

The semantic web triples are visible in the result. Notice that the class has a data type.

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search in <http://data.15926.org/rdl>

centrifugal pump

CENTRIFUGAL PUMP

id	http://data.15926.org/rdl/RDS416834
rdfs:label	CENTRIFUGAL PUMP
skos:definition	A <CENTRIFUGAL PUMP> is an <ARTEFACT> and a <BARE PUMP> utilizing impellers provided with vanes generating centrifugal force to achieve the required pressure <HEAD>.
meta:valEffectiveDate	1999-07-01Z
rdf:type	ClassOfInanimatePhysicalObject
rdfs:subClassOf	ARTEFACT
rdfs:subClassOf	BARE PUMP
Superclass for	AXIAL FLOW PUMP
Superclass for	BETWEEN BEARINGS CENTRIFUGAL PUMP
Superclass for	BOTTOM ENTRY VERTICAL INLET CENTRIFUGAL PUMP
Superclass for	CENTRELINE-MOUNTED CENTRIFUGAL PUMP
Superclass for	CENTRIFUGAL PUMP WITH AXIALLY SPLIT CASING
Superclass for	CENTRIFUGAL PUMP WITH DISCHARGE THROUGH COLUMN
Superclass for	CENTRIFUGAL PUMP WITH DOUBLE CASING
Superclass for	CENTRIFUGAL PUMP WITH RADially SPLIT CASING
Superclass for	CENTRIFUGAL PUMP WITH SEPARATE DISCHARGE
Superclass for	CENTRIFUGAL PUMP WITH SINGLE CASING
Superclass for	CENTRIFUGAL RUN-OFF PUMP
Superclass for	CENTRIFUGAL SEWAGE PUMP
Superclass for	CHANNEL IMPELLER PUMP
Superclass for	CHOPPER PUMP
Superclass for	CLOSE-COUPLED CENTRIFUGAL PUMP
Superclass for	DEEPWELL PUMP
Superclass for	DIFFUSER PUMP

there are eventually always 2 super classes

bare pump means there is no driver

The pump system has all components

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search in <http://data.15926.org/rdl>

PUMP SYSTEM

id	http://data.15926.org/rdl/RDS414081061
rdfs:label	PUMP SYSTEM
skos:definition	A <PUMP SYSTEM> is a <PUMP> and a <SYSTEM>, consisting of one or more <BARE PUMP>s and auxilliary systems and parts
meta:valEffectiveDate	2007-03-14Z
rdf:type	ClassOfFunctionalObject
rdfs:subClassOf	PUMP
rdfs:subClassOf	SYSTEM
Superclass for	ARCHIMEDIAN SCREW ASSEMBLY
Superclass for	CENTRIFUGAL PUMP SYSTEM
Superclass for	PIPELINE BOOSTER STATION
Superclass for	POSITIVE DISPLACEMENT PUMP SYSTEM
Superclass for	RECIPROCATING PUMP SYSTEM

Document



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search in <http://data.15926.org/rdl>

document

DOCUMENT

id	http://data.15926.org/rdl/RDS3333040
rdfs:label	DOCUMENT
skos:definition	A <DOCUMENT> is a <FunctionalObject> which has the purpose of <PROVIDING> a written, drawn, presented or recorded representation of thoughts
meta:valEffectiveDate	2019-12-11Z
rdf:type	ClassOfFunctionalObject
rdfs:subClassOf	FunctionalObject
Superclass for	AGREEMENT RECORD
Superclass for	ASSURANCE PROCEDURE
Superclass for	BROCHURE
Superclass for	CALCULATION SHEET
Superclass for	CATALOGUE
Superclass for	CERTIFICATE
Superclass for	CHANGE CONTROL PROCEDURE
Superclass for	CHART
Superclass for	COMMISSIONING PROCEDURE
Superclass for	COMMUNICATIONS PROCEDURE
Superclass for	CONTRACT
Superclass for	CONTROL PROCEDURE
Superclass for	CORRESPONDENCE
Superclass for	CORROSION INHIBITION SYSTEM DESIGN
Superclass for	COST CONTROL PROCEDURE
Superclass for	COUNTRY REGULATIONS PROCEDURE
Superclass for	DATASHEET
Superclass for	DECLARATION

taxonomies of document types



Datasheet

15926browser

Not secure | data.15926.org/rdl

☆ ABP 4

15926browser

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Menu

search in <http://data.15926.org/rdl>

document

DATASHEET

id	http://data.15926.org/rdl/RDS17987174
rdfs:label	DATASHEET
skos:definition	A <DATASHEET> is an <InformationObject> and a <DOCUMENT> with the purpose of <COMMUNICATING> <DATA>; it usually contains a set of defined fields within which <DATA> is supplied
meta:valEffectiveDate	2006-08-14Z
rdf:type	ClassOfInformationObject
rdfs:subClassOf	DOCUMENT
rdfs:subClassOf	InformationObject
Superclass for	AC GENERATOR DATA SHEET
Superclass for	CONVERTER DATA SHEET
Superclass for	HEAT AND MASS BALANCE SUMMARY
Superclass for	HIGH VOLTAGE SWITCHBOARD DATA SHEET
Superclass for	INDUCTION MOTOR DATA SHEET
Superclass for	INSTRUMENT DATA SHEET
Superclass for	INTEGRITY OPERATING ENVELOPE DATASHEET
Superclass for	LIGHTING PERFORMANCE DATASHEET
Superclass for	LOW VOLTAGE SWITCHBOARD DATA SHEET
Superclass for	MANUFACTURER DATASHEET
Superclass for	MATERIAL SAFETY DATASHEET
Superclass for	NOISE DATASHEET
Superclass for	POWER TRANSFORMER DATA SHEET
Superclass for	PROCESS DATA SHEET
Superclass for	PUMP DATA SHEET
Superclass for	STREAM DATA SHEET
Superclass for	THRUSTER DATA SHEET

Activities



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search in <http://data.15926.org/rdl>

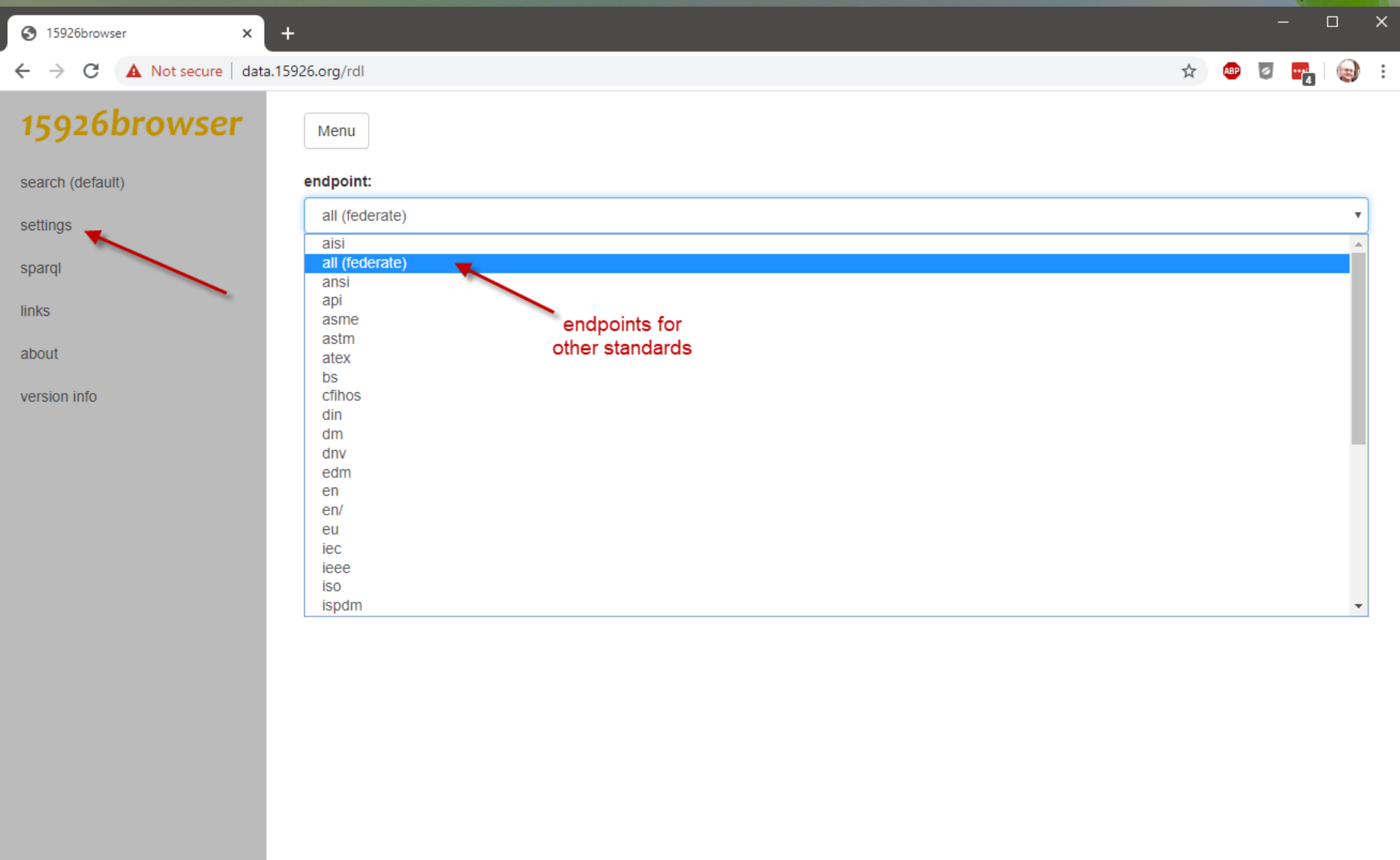
engineering

ENGINEERING

id	http://data.15926.org/rdl/RDS9675152
rdfs:label	ENGINEERING
skos:definition	<ENGINEERING> is the <Activity> of designing or producing by methods of technical sciences by which the properties of matter and the sources of energy in nature are made useful for mankind in structures, machines, and products
meta:valEffectiveDate	2006-09-04Z
rdfs:subClassOf	Activity
rdf:type	ClassOfActivity
Superclass for	ARCHITECTURAL ENGINEERING
Superclass for	BASIC ENGINEERING
Superclass for	CHEMICAL ENGINEERING
Superclass for	CIVIL ENGINEERING
Superclass for	COMPUTER AIDED ENGINEERING
Superclass for	CONCEPTUAL ENGINEERING
Superclass for	CONTROL SYSTEMS ENGINEERING
Superclass for	COST CONTROL AND PLANNING
Superclass for	DETAILED ENGINEERING
Superclass for	ELECTRICAL ENGINEERING
Superclass for	ENVIRONMENTAL ENGINEERING
Superclass for	GEOTECHNICAL AND FOUNDATION ENGINEERING
Superclass for	HVAC ENGINEERING
Superclass for	INFRASTRUCTURE ENGINEERING
Superclass for	MAINTENANCE ENGINEERING
Superclass for	MATERIALS AND CORROSION ENGINEERING
Superclass for	MECHANICAL ENGINEERING
Superclass for	OCEAN ENGINEERING

activities

Next to /rdl there are other endpoints



The screenshot shows a web browser window with the address bar displaying "data.15926.org/rdl". The page title is "15926browser". On the left side, there is a sidebar menu with the following items: "search (default)", "settings", "sparql", "links", "about", and "version info". A red arrow points from the "settings" item to the main content area. The main content area has a "Menu" button at the top left. Below it, the label "endpoint:" is followed by a dropdown menu. The dropdown menu is open, showing a list of endpoints: "all (federate)", "aisi", "ansi", "api", "asme", "astm", "atex", "bs", "cfihos", "din", "dm", "dnv", "edm", "en", "en/", "eu", "iec", "ieee", "iso", and "ispdm". The "all (federate)" option is highlighted in blue. A red arrow points from the text "endpoints for other standards" to the "all (federate)" option in the dropdown menu.

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endpoint:

all (federate)

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ansi

api

asme

astm

atex

bs

cfihos

din

dm

dnv

edm

en

en/

eu

iec

ieee

iso

ispdm

endpoints for other standards

Exploring classes outside the core RDL

15926browser

Not secure | data.15926.org/rdl

15926browser

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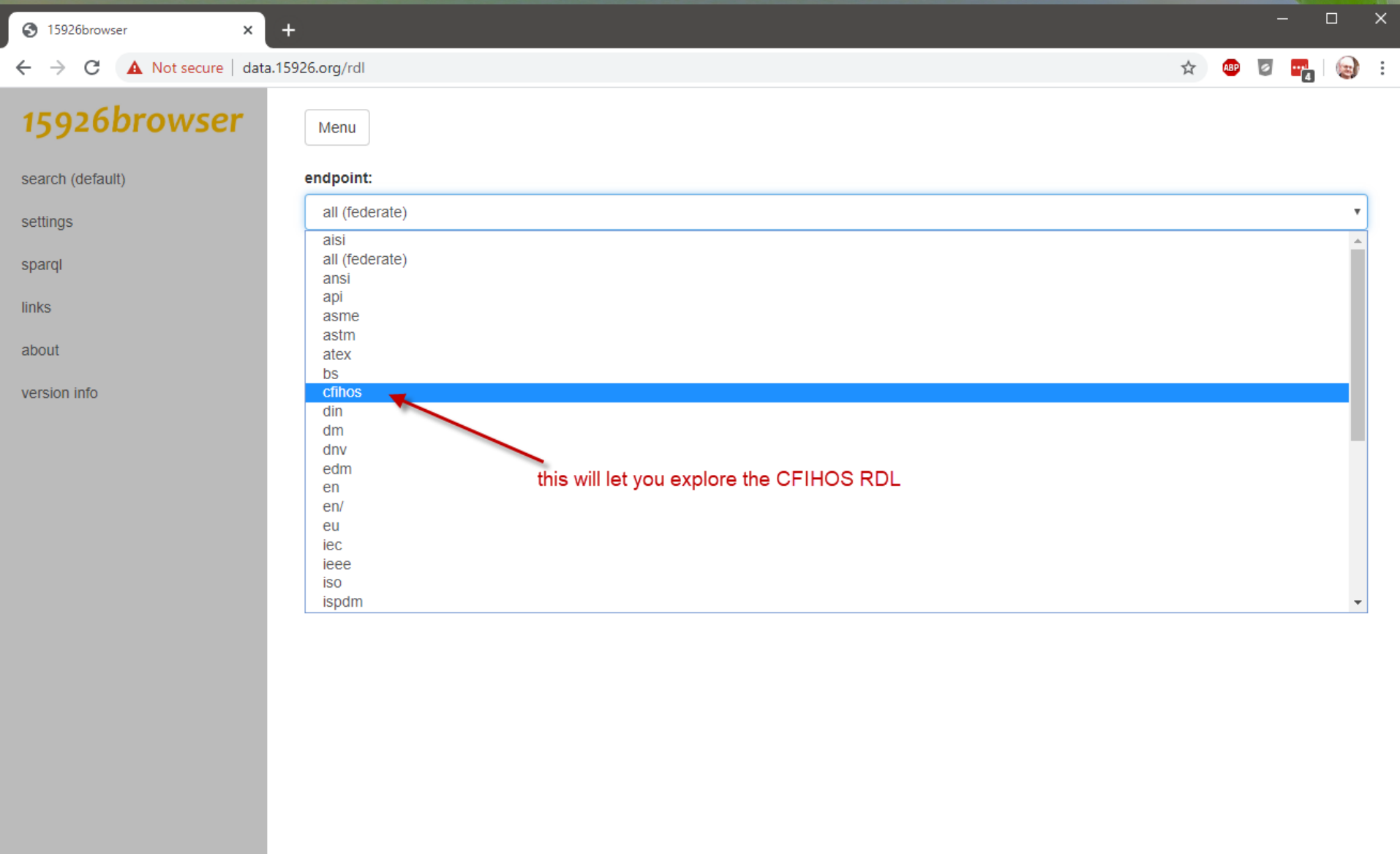
Menu

search in <http://data.15926.org/all>

pump

ACTIVATED SLUDGE PUMP
AGRICULTURAL CHEMICAL SPRAY PUMP
AIR DRIVEN PISTON PUMP
AIR-POWERED PUMP
ALKALINE PUMP
API 610 CENTRIFUGAL PUMP CLASS
API 610 CENTRIFUGAL PUMP DATA SHEET IN ENGLISH AND ASCII
API 610 CENTRIFUGAL PUMP DATASHEET IN ENGLISH AND ASCII
API 610 MODEL BB1 CENTRIFUGAL PUMP
API 610 MODEL BB2 CENTRIFUGAL PUMP
API 610 MODEL BB3 CENTRIFUGAL PUMP
API 610 MODEL BB4 CENTRIFUGAL PUMP
API 610 MODEL BB5 CENTRIFUGAL PUMP
API 610 MODEL OH1 CENTRIFUGAL PUMP
API 610 MODEL OH2 CENTRIFUGAL PUMP
API 610 MODEL OH3 CENTRIFUGAL PUMP
API 610 MODEL OH4 CENTRIFUGAL PUMP
API 610 MODEL OH5 CENTRIFUGAL PUMP
API 610 MODEL OH6 CENTRIFUGAL PUMP
API 610 MODEL VS1 CENTRIFUGAL PUMP
API 610 MODEL VS2 CENTRIFUGAL PUMP
API 610 MODEL VS3 CENTRIFUGAL PUMP
API 610 MODEL VS4 CENTRIFUGAL PUMP
API 610 MODEL VS5 CENTRIFUGAL PUMP
API 610 MODEL VS6 CENTRIFUGAL PUMP
API 610 MODEL VS7 CENTRIFUGAL PUMP
API 610 PUMP DATA SHEET

The CHIFOS RDL is in here 100%



The screenshot shows a web browser window with the address bar displaying "data.15926.org/rdl". The page title is "15926browser". On the left side, there is a sidebar with the following links: "search (default)", "settings", "sparql", "links", "about", and "version info". The main content area has a "Menu" button at the top. Below it, the "endpoint:" section shows a dropdown menu with the following options: "all (federate)", "aisi", "all (federate)", "ansi", "api", "asme", "astm", "atex", "bs", "cfihos", "din", "dm", "dnv", "edm", "en", "en/", "eu", "iec", "ieee", "iso", and "ispdm". The "cfihos" option is highlighted in blue. A red arrow points to the "cfihos" option with the text "this will let you explore the CFIHOS RDL".

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endpoint:

all (federate)

aisi

all (federate)

ansi

api

asme

astm

atex

bs

cfihos

din

dm

dnv

edm

en

en/

eu

iec

ieee

iso

ispdm

this will let you explore the CFIHOS RDL

Try out the Sparql editor

The screenshot shows a web browser window with two tabs: '15926browser' and 'Virtuoso SPARQL Query Editor'. The address bar shows 'data.15926.org/rdl' with a 'Not secure' warning. The browser interface includes a sidebar on the left with the following menu items: '15926browser', 'search (default)', 'settings', 'sparql', 'links', 'about', and 'version info'. The 'sparql' item is highlighted, and a red arrow points from it to the text 'Sparql editor' in the main content area. The main content area has a 'Menu' button, an 'endpoint:' label, a text input field containing 'rdl', and a 'hide deprecated:' label with a checked checkbox. The status bar at the bottom shows 'data.15926.org/rdl#'. The background of the slide features a close-up image of a green caterpillar on a leaf.

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sparql

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about

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Menu

endpoint:

rdl

hide deprecated:

☒

Sparql editor

data.15926.org/rdl#

If you know what you're doing.

15926browser x Virtuoso SPARQL Query Editor x +

← → ↻ ⓘ Not secure | 68.71.136.105/sparql ☆ ABP [extension icons]

Virtuoso SPARQL Query Editor

[About](#) | [Namespace Prefixes](#) | [Inference rules](#) | [RDF views](#)

Default Data Set Name (Graph IRI)

Query Text

```
select ?g ?id ?label
where { graph ?g {
?id rdfs:label ?label .
filter contains(str(?id), '15926')
filter contains(str(?label), 'pump')
}}
order by ?g ?label
LIMIT 100
```

If you know Sparql, write a query

(Security restrictions of this server do not allow you to retrieve remote RDF data, see [details](#).)

Results Format: **HTML** (dropdown menu open)

- Auto
- HTML
- HTML (Basic Browsing Links)
- Spreadsheet**
- XML
- JSON
- Javascript
- Turtle
- RDF/XML
- N-Triples
- CSV
- TSV

Execution timeout: seconds (values less than 1000 are ignored)

Options: ☐ Output (has no effect on some queries and output formats)

(The result can only be sent by report (instead of executing the query) or, see [details](#))

Run Query Reset

choose an output

Copyright © 2020 [OpenLink Software](#)
Virtuoso version 07.20.3229 on Win64 (x86_64-generic-win-64), Single Server Edition

There are many other Sparql endpoints



Page [Discussion](#)

Read

[View source](#)

[View history](#)

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[Log in](#)

SparqlEndpoints

see also: [SPARQL](#)

In addition to the list below, Mondeca provides a [SPARQL endpoint uptime service](#) which monitors the availability of all SPARQL endpoints that are cataloged in [CKAN](#). A [similar service](#) is provided by Vienna University.

Currently Alive SPARQL Endpoints

(alphabetical. let's avoid [PoorMansHypertext](#) and in-your-face URIs, please)

Project	status	SPARQL endpoint	Webform	comment
Wikidata	(2017-02-23) alive	endpoint	GUI	See also SPARQL federation input
BBC Programmes and Music	(2010-06-29) alive	endpoint	Ajax based Visual Query Builder	Powered by OpenLink Virtuoso ; also supports Faceted Browsing and Exploration
Bio2RDF	(2010-01-07) alive	List of 40 SPARQL endpoints	n/a	uses OpenLink Virtuoso
BioGateway	(2010-01-07) timeout	endpoint	webform	BioGateway provides many parameterizable SPARQL queries, both biological as ontological, on RDF graphs that were optimized for querying. The graphs have relational closures. Empowered by OpenLink Virtuoso .
BBC Backstage (HP Labs)	(2010-01-07) server not responding	endpoint	webform	uses joseki 3
BBC John Peel sessions				

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Introducing RDL_Reporter.xlsm

Automatisch opslaan RDL_Reporter.xlsm Zoeken Onno Paap

Bestand Start Invoegen Pagina-indeling Formules Gegevens Controleren Beeld Ontwikkelaars Help Team Delen Opmerkingen

Plakken Calibri 11 A⁺ A⁻ B I U Lettertype Uitlijning Getal Voorwaardelijke opmaak Opmaken als tabel Celstijlen Invoegen Verwijderen Opmaak Sorteren en filteren Zoeken en selecteren

F13 Action

	A	B	D	F	G	H	I
1	RDL2 browser to spreadsheet tool version 75				Endpoint: http://data.15926.org/rdl/		
2	Contact: onno.paap@gmail.com			Action	ACTIVATED SLUDGE PUMP	http://data.15926.org/rdl/RDS16765614	
3				Action	AGRICULTURAL CHEMICAL SPRAY PUMP	http://data.15926.org/rdl/RDS16765749	
4	Search:	pump		Action	AIR DRIVEN PISTON PUMP	http://data.15926.org/rdl/RDS6015602	
5				Action	AIR-POWERED PUMP	http://data.15926.org/rdl/RDS16765434	
6	Settings			Action	ALKALINE PUMP	http://data.15926.org/rdl/RDS16765479	
7	List Entities		List Subclasses	Action	ANTI PUMPING ARTEFACT	http://data.15926.org/rdl/RDS955619	
8	Orphans		Doubles	Action	API 610 CENTRIFUGAL PUMP DATA SHEET IN ENGLISH AND AS	http://data.15926.org/rdl/RDS2227041	
9	Missing Super		Deprecated Super	Action	ARCHIMEDIAN SCREW PUMP	http://data.15926.org/rdl/RDS433169	
10	Error in Definitions			Action	ARMOURED PUMP	http://data.15926.org/rdl/RDS16765119	
11	Compare RDL2 with views folder			Action	ASH PUMP	http://data.15926.org/rdl/RDS394037481	
12	Clear Cache (use on DB change)			Action	AUTOMATIC TROUGH PUMP	http://data.15926.org/rdl/RDS16765299	
13	Note: first set coloring on in Settings			Action	AXIAL FLOW PUMP	http://data.15926.org/rdl/RDS16765074	
14	Coloring (containing this string will give this color)			Action	AXIAL FLOW PUMP IMPELLER	http://data.15926.org/rdl/RDS461339	
15	ClassOfFunctionalObject			Action	AXIAL FLOW PUMP WITH ADJUSTABLE BLADES	http://data.15926.org/rdl/RDS16772229	
16	ClassOfInanimatePhysicalObject			Action	AXIAL FLOW PUMP WITH REVERSIBLE BLADES	http://data.15926.org/rdl/RDS16772274	
17				Action	AXIAL FLOW PUMP WITH VARIABLE PITCH BLADES	http://data.15926.org/rdl/RDS16772319	
18				Action	AXIAL PISTON PUMP	http://data.15926.org/rdl/RDS394134651	
19				Action	AXIALLY SPLIT PUMP CASING	http://data.15926.org/rdl/RDS16771959	
20				Action	BACK PULLOUT PUMP	http://data.15926.org/rdl/RDS16772004	
21				Action	BARE PUMP	http://data.15926.org/rdl/RDS2220063	
22				Action	BARREL EMPTYING PUMP	http://data.15926.org/rdl/RDS16771554	
23				Action	BARREL EMPTYING SFMI-ROTARY PUMP	http://data.15926.org/rdl/RDS16771599	

RDL browser about Results1 Gereed 100%

Call up a taxonomy. Add classes. Send to MRAIL

Automatisch opslaan ☐ RDL_Reporter.xlsm Zoeken Onno Paap

Bestand Start Invoegen Pagina-indeling Formules Gegevens Controleren Beeld Ontwikkelaars Help Team Delen Opmerkingen

Calibri 11 A⁺ A⁻ B I U Lettertype Uitlijning Standaard \$ % 000 .00 →.00 Voorwaardelijke opmaak Opmaken als tabel Celstijlen Invoegen Verwijderen Opmaak Sorteren en filteren Zoeken en selecteren

A1

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z
1		CENTRIFUGAL PUMP														AXIAL FLOW PUMP					rdl:RDS16765074		An <AXIAL FLOW PUMP> is a <CENTRIFUGAL PUMP> provided with an axial flow impeller to generate a low head at large flows			
2		AXIAL FLOW PUMP														AXIAL FLOW PUMP WITH ADJUSTABLE BLADES					rdl:RDS16772229		An <AXIAL FLOW PUMP WITH ADJUSTABLE BLADES> with impeller adjustable to regulate the pump capacity for a desired combination of flow and head			
3		AXIAL FLOW PUMP														AXIAL FLOW PUMP WITH REVERSIBLE BLADES					rdl:RDS16772274		An <AXIAL FLOW PUMP WITH REVERSIBLE BLADES> with impeller reversible (for the purpose of changing flow direction)			
4		AXIAL FLOW PUMP														AXIAL FLOW PUMP WITH VARIABLE PITCH BLADES					rdl:RDS16772319		An <AXIAL FLOW PUMP WITH VARIABLE PITCH BLADES> that has blade pitch varied during operation.			
5																										
6																										
7																										
8																										
9																										
10																										
11																										
12																										
13																										
14																										

RDL browser about Results1 Gereed 100%

How big is it? And how are changes supported?

- ❑ The POSC Caesar library had 11,000 core classes for a long time.
- ❑ There is a team called MRAIL (Major RDL Action Items List) lead by POSC Caesar, expanding it. Now 20,000 classes including those of CFIHOS and DEXPI.
- ❑ Support will continue to go through this team, through change requests.

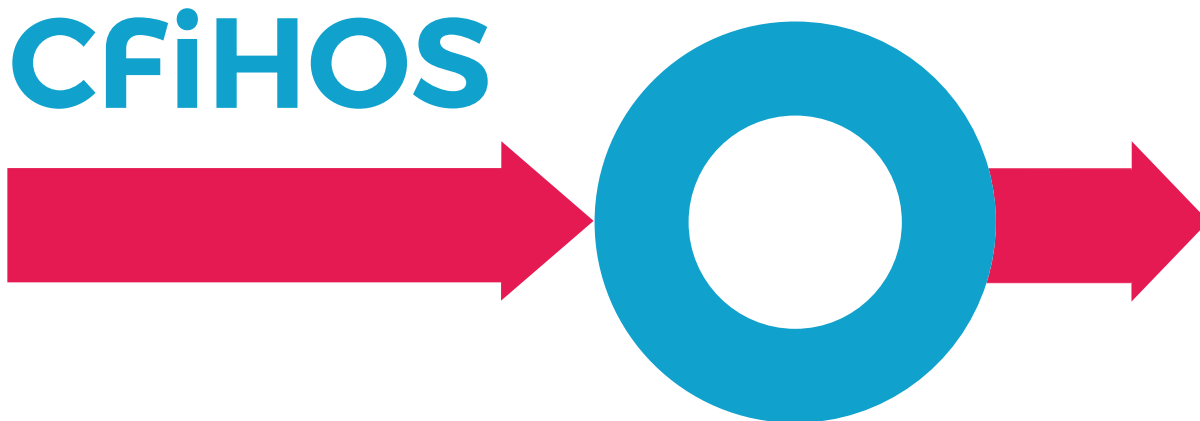
A close-up photograph of a green caterpillar chrysalis hanging from a leaf. The chrysalis is bright green with small black spots and is attached to a thin, brown stem. The background is a soft, out-of-focus green.

CFIHOS

Capital Facilities Information
Handover Spec.

CFIHOS – what lead to the decision to start this?

- ❑ To create a standard for EPC contractor data handover
- ❑ The project:
 - ❑ The Shell Engineering Information Specification (EIS) Design and Engineering Practice was based on the EPISTLE handover guide, and approved as a Shell standard in 2004. It has undergone 3 revision, and has been used in 60+ projects and 10+ assets.
 - ❑ It was handed to USPI as seed standard for CFIHOS in 2012. The first version was approved for use in June 2014, version 1.4 was released in 2019.
 - ❑ Leadership over CFIHOS went over to IOGP



<input type="checkbox"/> Accenture	<input type="checkbox"/> Fluor	<input type="checkbox"/> Reliance Industries Ltd.
<input type="checkbox"/> Aker Solutions	<input type="checkbox"/> FNNI Limited	<input type="checkbox"/> Repsol
<input type="checkbox"/> ASSAI, Software supplier	<input type="checkbox"/> Fujitsu Engineering Technologies	<input type="checkbox"/> ReVisionz
<input type="checkbox"/> Aucotec	<input type="checkbox"/> Hexagon PPM, Software supplier, NL	<input type="checkbox"/> Saipem S.p.A, Italy
<input type="checkbox"/> Autodesk GmbH	<input type="checkbox"/> Honeywell Proces Solution	<input type="checkbox"/> SAP
<input type="checkbox"/> AVEVA, Software supplier, UK	<input type="checkbox"/> JGC	<input type="checkbox"/> SBM Offshore
<input type="checkbox"/> Bechtel Corporation	<input type="checkbox"/> KAIST, Korea	<input type="checkbox"/> Sellafield Limited
<input type="checkbox"/> Bentley Systems Software supplier, UK	<input type="checkbox"/> KBR	<input type="checkbox"/> Sharecat Solutions
<input type="checkbox"/> BHGE, ITA	<input type="checkbox"/> KHNP, Hydro and Nuclear Industry Operator, Korea	<input type="checkbox"/> Shell Global Solutions International
<input type="checkbox"/> BlueCielo, Software supplier, NL	<input type="checkbox"/> Kinsman Group LLC	<input type="checkbox"/> Siemens PLM Software
<input type="checkbox"/> BP, Oil & Gas, UK	<input type="checkbox"/> Kraken IM	<input type="checkbox"/> Sirfull
<input type="checkbox"/> CB&I	<input type="checkbox"/> Kyungpook National University	<input type="checkbox"/> SNC-Lavalin
<input type="checkbox"/> Cenovus	<input type="checkbox"/> L&T Technology Services, India	<input type="checkbox"/> Suncor
<input type="checkbox"/> Chevron, Oil & Gas, UK/USA	<input type="checkbox"/> MatchIT	<input type="checkbox"/> Sweco Belgium
<input type="checkbox"/> Covestro Deutschland AG	<input type="checkbox"/> McDermott Inc	<input type="checkbox"/> Talent Swarm
<input type="checkbox"/> Cure Maintenance Consultants, NL	<input type="checkbox"/> Mitsubishi Heavy Industries	<input type="checkbox"/> TechnipFMC
<input type="checkbox"/> Dassault Systèmes	<input type="checkbox"/> OpenText	<input type="checkbox"/> Toshiba
<input type="checkbox"/> Datum360, UK	<input type="checkbox"/> Opidis	<input type="checkbox"/> Total, oil and gaz France
<input type="checkbox"/> DMS Corporation	<input type="checkbox"/> Petrofac, Engineering company, UK	<input type="checkbox"/> Unasys, UK
<input type="checkbox"/> DPS	<input type="checkbox"/> PETRONAS, Malaysia	<input type="checkbox"/> Versatec Energy, Software supplier, NL
<input type="checkbox"/> Eastman Chemical Company	<input type="checkbox"/> Phusion IM, UK	<input type="checkbox"/> Wood, Equipment supplier, UK
<input type="checkbox"/> Evonik	<input type="checkbox"/> Plant Resource Technology Ltd., China	<input type="checkbox"/> Woodside
<input type="checkbox"/> Equinor (Statoil)		<input type="checkbox"/> Yokogawa Europe B.V.
<input type="checkbox"/> ExxonMobil, Oil & Gas, USA		

What is in the CFIHOS package?



- ❑ **A technical specification document**
Requirements, rules and principles for information handover
- ❑ **A dictionary** (Reference Data Library)
Consistent naming equipment & documents, acc. ISO stds.
- ❑ **A data Model**
For structuring data and documents about assets
- ❑ **A process & guidance document**
Outlining implementation steps, do's & don'ts
- ❑ **A set of requirements for implementation software**
Outlining the functional requirements for handover systems

Documents > _WORK > CFIHOS > CFIHOS Version 1.4_with CR0029 >

Search CF

Name	Date modified	Type	Size
CFIHOS Data Model and Data Dictionary	3/19/2020 9:47 PM	File folder	
CFIHOS Narrative Set	3/19/2020 9:47 PM	File folder	
CFIHOS Reference Data Library RDL	3/19/2020 9:47 PM	File folder	
CFIHOS V1.4 FAQ.docx	10/17/2019 9:47 AM	Microsoft Word D...	735 KB
CFIHOS_issues and clarifications templat...	10/17/2019 9:47 AM	Microsoft Excel W...	26 KB
Post v1.4 vote resolution summary.xlsx	10/17/2019 9:47 AM	Microsoft Excel W...	21 KB

The CFIHOS RDL

Automatisch opslaan ☐ CFIHOS tag class properties V1.4.csv Zoeken Onno Paap

Bestand Start Invoegen Pagina-indeling Formules Gegevens Controleren Beeld Ontwikkelaars Help Team Delen Opmerkingen

Plakken Klembord Lettertype Uitlijning Getal Stijlen Cellen Bewerken

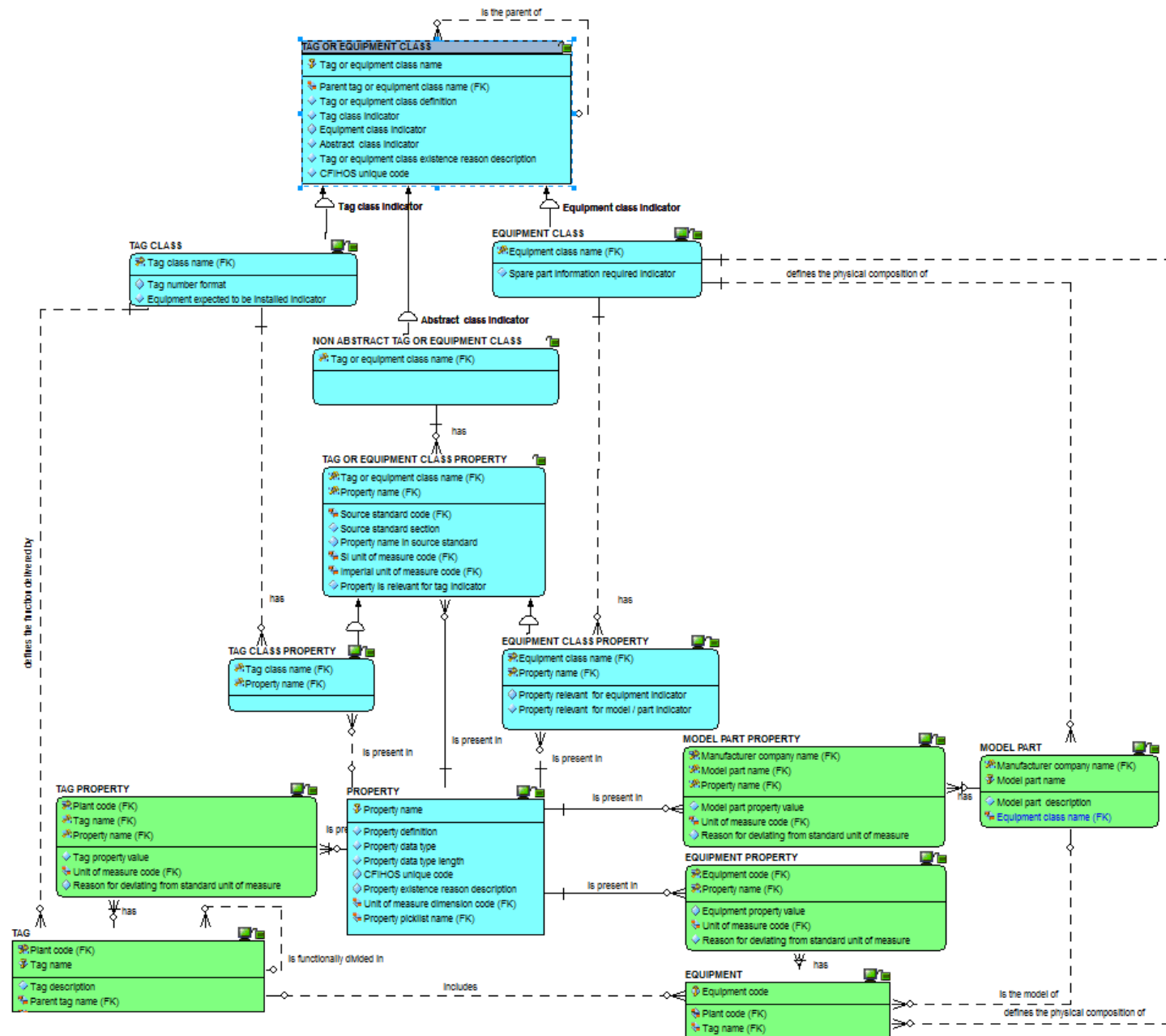
A6 absorber column

	A	B	C	D
1	tag class name	tag class CFIHOS unique id	tag property name	tag property CFIHOS unique id
2	absolute pressure transmitter	CFIHOS-30000395	explosion protection gas group	CFIHOS-40000110
3	absolute pressure transmitter	CFIHOS-30000395	explosion protection temperature class	CFIHOS-40000112
4	absolute pressure transmitter	CFIHOS-30000395	explosion protection zone	CFIHOS-40000113
5	absolute pressure transmitter	CFIHOS-30000395	safety integrity level	CFIHOS-40000579
6	absorber column	CFIHOS-30000800	bottom section normal operating pressure	CFIHOS-40000026
7	absorber column	CFIHOS-30000800	bottom section normal operating temperature	CFIHOS-40000027
8	absorber column	CFIHOS-30000800	design specification	CFIHOS-40000487
9	absorber column	CFIHOS-30000800	external coating specification	CFIHOS-40000613
10	absorber column	CFIHOS-30000800	external insulation type	CFIHOS-40000114
11	absorber column	CFIHOS-30000800	fluid name	CFIHOS-40000132
12	absorber column	CFIHOS-30000800	insulation code	CFIHOS-40000178
13	absorber column	CFIHOS-30000800	intermediate section normal operating pressure	CFIHOS-40000184
14	absorber column	CFIHOS-30000800	intermediate section normal operating temperature	CFIHOS-40000185
15	absorber column	CFIHOS-30000800	top section normal operating pressure	CFIHOS-40000420
16	absorber column	CFIHOS-30000800	top section normal operating temperature	CFIHOS-40000421
17	absorber column	CFIHOS-30000800	upper limit design pressure	CFIHOS-40000535
18	absorber column	CFIHOS-30000800	upper limit design temperature	CFIHOS-40000536
19	accumulator	CFIHOS-30000315	design specification	CFIHOS-40000487
20	accumulator	CFIHOS-30000315	external coating specification	CFIHOS-40000613
21	accumulator	CFIHOS-30000315	external insulation type	CFIHOS-40000114
22	accumulator	CFIHOS-30000315	fluid name	CFIHOS-40000132
23	accumulator	CFIHOS-30000315	lower limit operating pressure	CFIHOS-40000556

CFIHOS tag class properties V1.

Gereed Weergave-instellingen 100%

Property use : the attributes view



Conclusion

- The CFIHOS leadership
 - IOGP (international Oil and Gas Producers)
 - Project manager: Peter Townson pt@iogp.org
- The contract for EPC contractors
 - Will have CFIHOS in it
- Software for CFIHOS
 - Hexagon, AVEVA, Bentley Systems and Datum360 sell commercial licenses
 - Open source public domain software is soon ready
- ISO 15926
 - POSC Caesar: Nils Sandsmark nils.sandsmark@posccaesar.org
 - Fluor: Onno Paap onno.paap@fluor.com