

Regelmäßig Inhalte vernetzen

microDocs
mit Hilfe von Semantic Correlation Rules
im Content Delivery
nutzbar machen

tekom Jahrestagung 06.11.2020

Prof. Dr. W. Ziegler, Karlsruhe Univ. Appl. Sciences & I4ICM

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- Karlsruhe Univ. Appl. Sciences
Hochschule KA (HSKA), Information Management & Media
- Institute Information & Content Management (I4ICM)
Research Transfer: PI-Class, REx, CVM, Content Delivery, microDocs

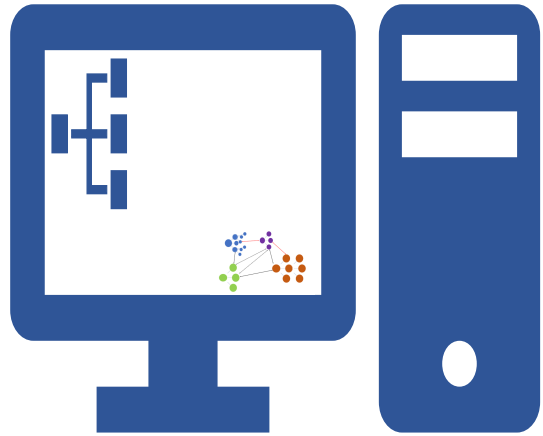
Agenda

Research & Development of Semantic Correlation Rules (SCR)

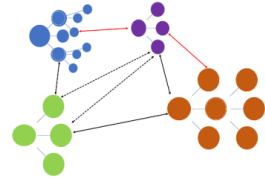
- (Re-)Introducing microDocs
- How to implement microDocs by SCR
- How SCR are implemented
- Summary

Re-Introducing microDocs

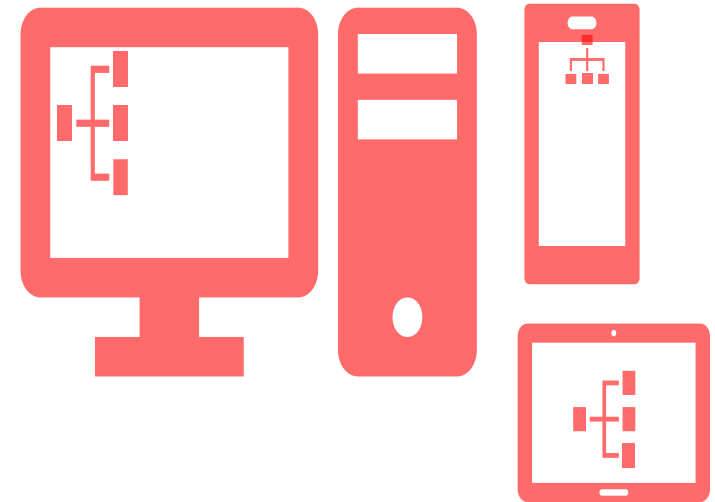
CMS



SMS



CDP



Introduction

Recent Situation in Information Management

- **Content Management**

as a standard technology for content creation and process automization

- **Content Delivery**

as a driver for content provisioning and digital information services

- **Semantic Modelling**

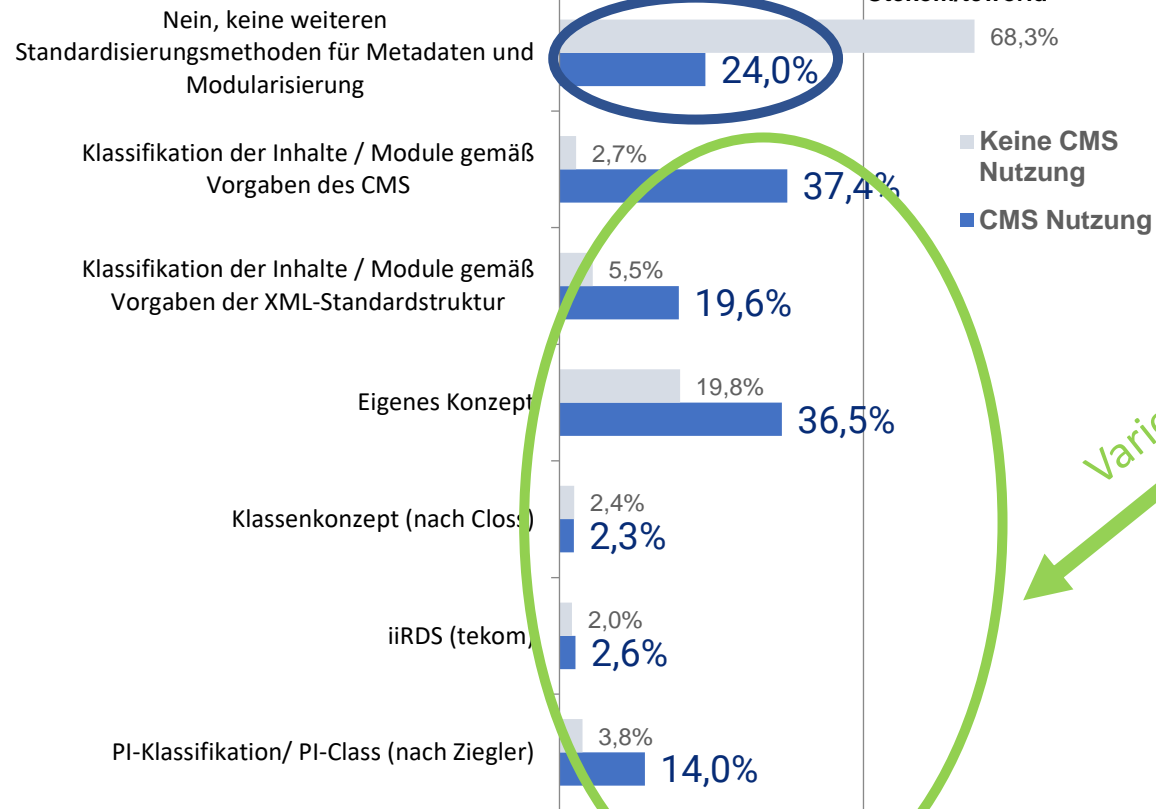
as an enabling technology for linked data, model-based engineering and
and for **sharing knowledge**

Market maturity / penetration

How Metadata are used in CCMS

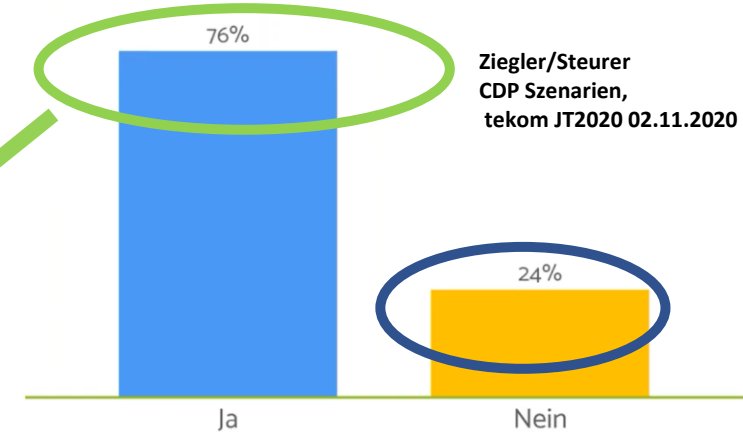
Standardization of Metadata

Straub/Ziegler 2019
©tekom/tcworld

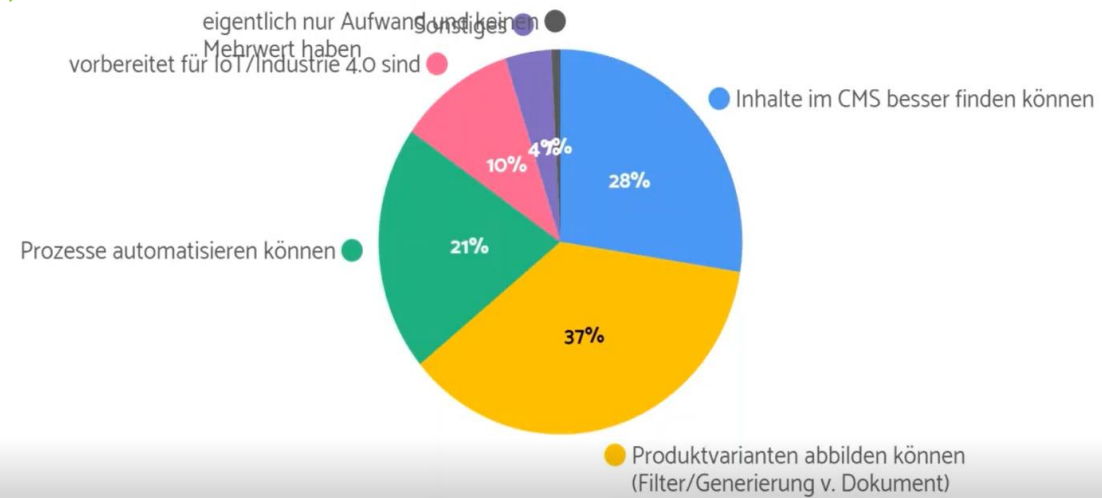


Use of Metadata

Ziegler/Steurer CDP Szenarien,
tekom JT2020 02.11.2020

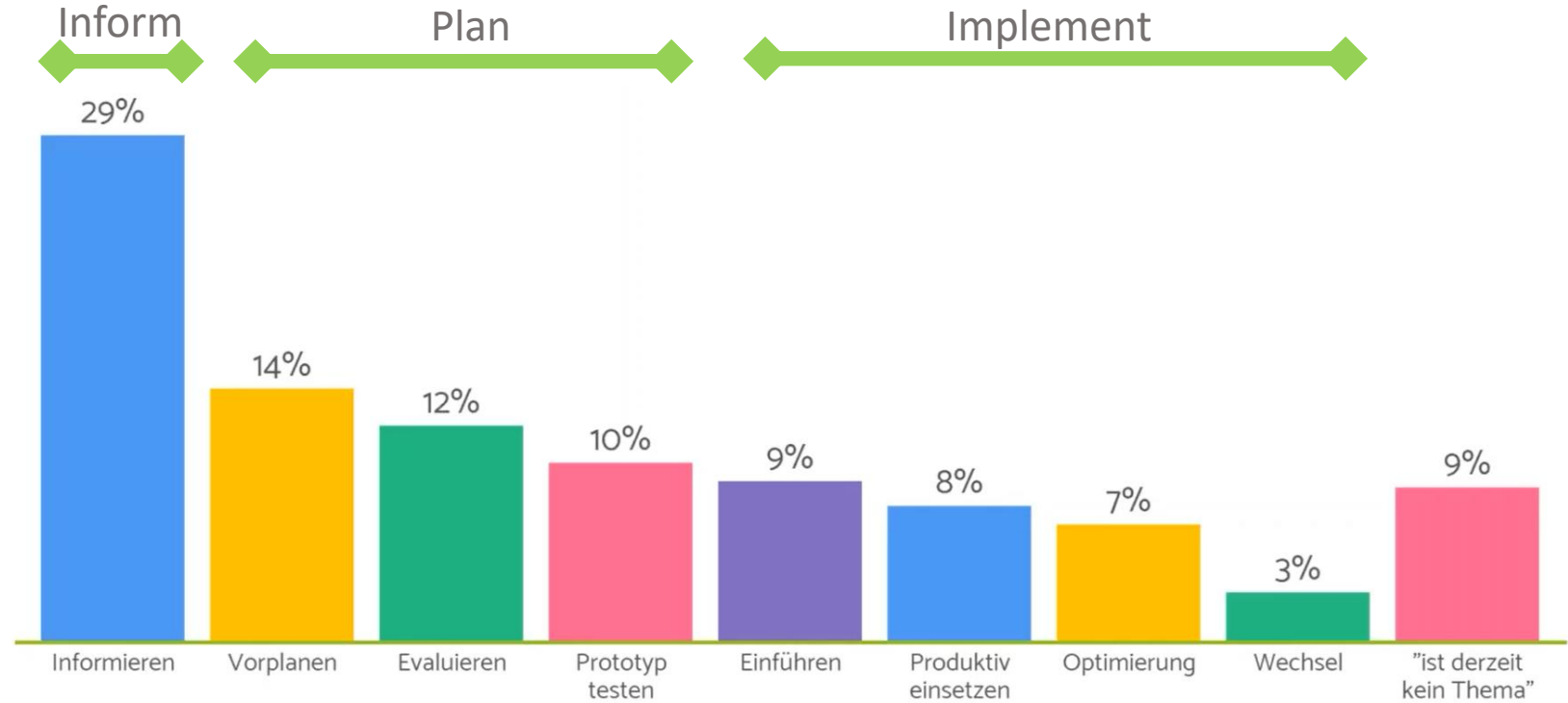


Variety of different metadata concepts and system implementations



Introduction

Content Delivery: System Introduction Phases



Introduction

Metadata are used for

- search facets for retrieval
- object identification
- API parameter call & deep linking

Content Delivery

Component

Hydraulic system

Oil Pump

Information

Procedure

Testing

Machine

Z-006

Configuration

$a_1 | b_3 | \dots | x_5 | y_1 | z_5$

Hydraulic system

The hydraulic oil sample is taken via a test connection on the variable displacement pump.



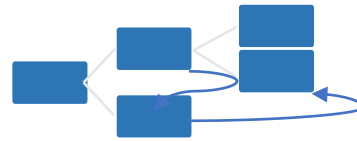
Fig. 250: Sampling point for hydraulic oil

- ▶ Start the engine and wait 3 minutes.
 - ▷ The hydraulic oil is circulated.
- ▶ Engage the parking brake and secure the machine against rolling away.
- ▶ Connect the test line to the test connection G.
- ▶ 0.2 l Drain the hydraulic oil into the receptacle.
- ▶ Fill the sample container.
- ▶ Remove the test line and seal the test connection.

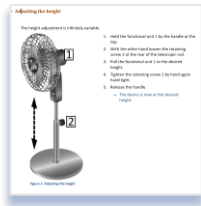
Retrieved Objects in CDP

Single topic

microDocs



Document
(complete topic assembly)



Lack of context

What is needed?

Abundance of content

A structured set of topics
with relevant context
and sufficient content

Relevance and sufficiency
ist defined by use cases!

Product-Class	Information-Class
Base/ Telescopic Rod	Operation/ Height Adjustm
X3B, X3-H1, X5-B, X5-D,...	User Manual, Service Manual,...

Product-Class	Information-Class
Base/ Telescopic Rod	Operation/ Height Adjustm
X3B, X3-H1, X5-B, X5-D,...	User Manual, Service Manual,...

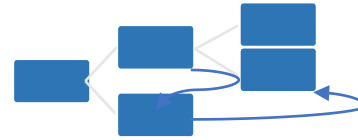
X3B

User Manual,

Future Content Access

microDocs (2019)

microDocs



Definition

A microDoc is a (sub-)set of topics required by predefined use cases and **connected by a logical concept** as a dynamic publication in search media

The logical concept, the relevant context and the amount of required content can be derived at different levels from rules and semantic models.

How to implement microDocs by Semantic Correlation Rules (SCR)

Defining microDocs through Correlation Rules

SCR aim to **express explicitly**
the hidden experience of users
and **knowledge** of encountered
groups

Use Case Harvesting & Knowledge Sources

Use Cases are typically reported and described by

- Service-technicians
- Help-Desks
- Direct and indirect user feedback
- Training staff
- Developers, engineers (prospective)
- UX professionals, Web analytics experts
- Regulatories, standards & laws experts
- Admins (IT), Configurator
- ...
- Content architects and writers
(by exchanging knowledge with other groups)

Implementing microDocs

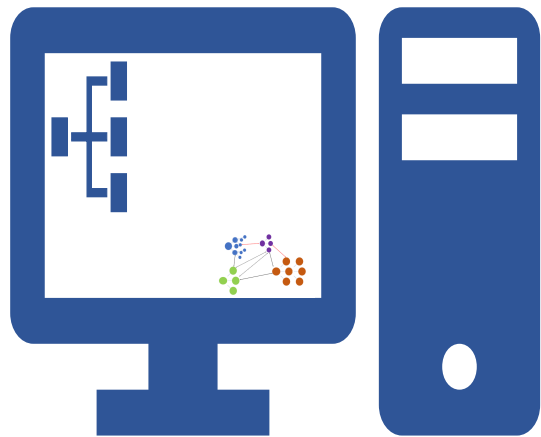
The principles of SCR
address the
„logical concept“ of mDocs
as sharable knowledge

Semantic Correlation Rules Requirements

SCR should...

- ... describe correlations of (information) objects in a simple, but formalized and standardized way (→XML/RDFS/OWL) using existing object metadata
- ... be independent of specific content and explicit (CMS) linking processes
- ... be (able to be) modelled in different system environments
- ... be interpreted in search and delivery environments (e.g. as microDocs)

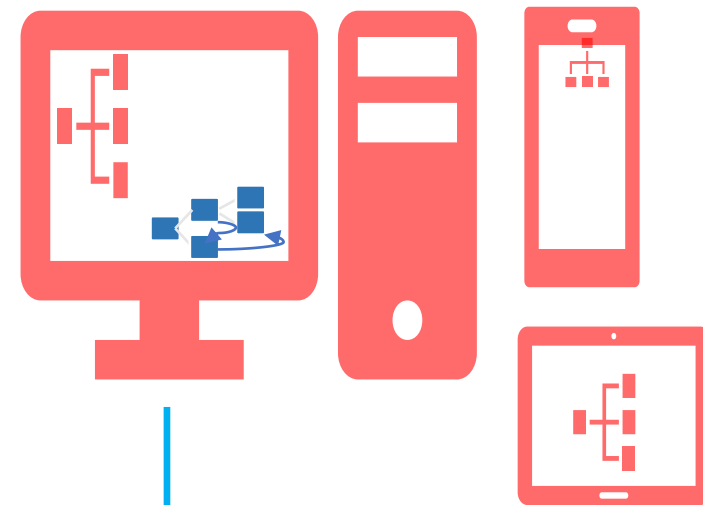
CMS



SMS



CDP



SCR

Correlation Rules
applied for demonstration
purposes to the
PI-Fan reference content
(www.pi-fan.de)
&
PI-Class + iiRDS Classification

Test and Demo Case

Primary Object

Getting started

The device is operated with a mains power voltage of 230V. Connect the device to the mains as described below.

Figure 1. Connection to the mains

1. Make sure that the plug (A) and the plug socket, which you wish to use to operate the device, are not damaged.
2. Connect the plug (A) to the socket (B).

The device is now ready to use.

Content Copyright (c) 2015, PI-Fan Project
iiRDS Implementation Copyright (c) 2019, I4I Consortium

PI-Class:
P: Connection
I: Task/Getting started

iiRDS:
TopicType: Task
Lifecycle: PuttingToUse
Subject: **Functionality**
Component: Connection

Manual troubleshooting

Not all problems are electronically detected.

Some common problems are listed here with their possible causes and the actions to be taken.

Problem	Cause	Action
The device does not turn on.	<ul style="list-style-type: none"> The power plug is not fully plugged into the socket outlet. The extension plug socket is not turned on or is not plugged in to a wall socket. The socket is defective 	See Checking the power supply .
The rotor does not rotate even though the device is turned on.	The gearbox is damaged.	Have the gearbox replaced.

Content Copyright (c) 2015, PI-Fan Project
iiRDS Implementation Copyright (c) 2019, I4I Consortium

PI-Class:
P: PI-Fan
I: Diagnostics/
ManualDiag

iiRDS:
TopicType: Reference
Lifecycle: Fault
Subject: **ManualCheck**
Component: **PI-Fan**

Secondary Objects

Correlated with

Error codes on display

Error codes are displayed on the screen if complications are detected electronically. Subsequently, these error codes are listed with possible causes and actions to be undertaken.

Error code	Cause	Action
1X111	Control defective	Replace the control unit.
2X222	Actuator locked	See Checking the power supply .
3X333	Defective heating element	Replace the rotor.
4X444	Gearbox damaged	Replace the gearbox.

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PI-Class:
P: PI-Fan
I: Diagnostics/
Errorcodes

iiRDS:
TopicType: Reference
Lifecycle: Fault
Subject: --
Component:
DisplayOperatingElement

Contact data

Our website:

www.pi-fan.de

www.pi-class.i4icm.de

Copyright:

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Contributors to the PI-Fan Project (1.0):

W. Ziegler

Contributors to the PI-Fan Project (1.1):

R. Gruenert, W. Ziegler

PI-Class:
P: PI-Fan
I: Descriptive/ContactData

iiRDS:
TopicType: Reference
Lifecycle: --
Subject: **ContactInformation**
Component: **PI-Fan**

Use Case


Demo Case

applied to the
PI-Fan reference content
&
PI-Class

Getting started

The device is operated with a mains power voltage of 230V. Connect the device to the mains as described below.

Figure 1. Connection to the mains



1. Make sure that the plug (A) and the plug socket, which you wish to use to operate the device, are not damaged.
2. Connect the plug (A) to the socket (B).

The device is now ready to use.

Content Copyright (c) 2015, I4CM, P2015
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Primary Object

```
<NamedIndividual rdf:about="http://www.i4icm.de/PI-Fan/InRule1">
  <rdf:type rdf:resource="http://www.i4icm.de/scr#InRule"/>
  <scr:hasCorrelation rdf:resource="http://www.i4icm.de/PI-Fan/OutRule1"/>
  <scr:hasCorrelation rdf:resource="http://www.i4icm.de/PI-Fan/OutRule2"/>
  <scr:hasCorrelation rdf:resource="http://www.i4icm.de/PI-Fan/OutRule3"/>
  <scr:selects rdf:resource="http://www.i4icm.de/PI-Fan/Connection"/>
  <scr:selects rdf:resource="http://www.i4icm.de/PI-Fan/GettingStarted"/>
</NamedIndividual>
```

Correlated with

Manual troubleshooting

Not all problems are electronically detected.

Some common problems are listed here with their possible causes and the actions to be taken.

Problem	Cause	Action
The device does not turn on.	<ul style="list-style-type: none"> The power plug is not fully plugged into the socket outlet. The extension plug socket is not turned on or is not plugged in to a wall socket. The socket is defective 	See Checking the power supply.
The rotor does not rotate even though the device is turned on.	The gearbox is damaged.	Have the gearbox replaced.

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I4CM Implementation Copyright (c) 2019, I4CM Consortium

Secondary Objects

```
<NamedIndividual rdf:about="http://www.i4icm.de/PI-Fan/OutRule1">
  <rdf:type rdf:resource="http://www.i4icm.de/scr#OutRule"/>
  <scr:selects rdf:resource="http://www.i4icm.de/PI-Fan/ManualDiagnostics"/>
  <scr:selects rdf:resource="http://www.i4icm.de/PI-Fan/PI-Fan"/>
  <scr:Strength rdf:datatype="http://www.w3.org/2001/XMLSchema#integer">10
</NamedIndividual>
```

Secondary Objects

Manual troubleshooting

Not all problems are electronically detected.

Some common problems are listed here with their possible causes.

Problem	Cause
The device does not turn on.	<ul style="list-style-type: none"> The power plug is not plugged in to the socket. The socket is not working.
The rotor does not rotate even though the device is turned on.	The gearbox is damaged.

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iRDS Implementation Copyright (c) 2019, iRDS Consortium

```
<!-- http://www.i4icm.de/scr/scr#OutRule1 -->
```

```
<NamedIndividual rdf:about="http://www.i4icm.de/scr/scr#OutRule1">
  <rdf:type rdf:resource="http://www.i4icm.de/scr#OutRule"/>
  <scr:selects rdf:resource="http://iirds.tekom.de/iirds#Fault"/>
  <scr:selects rdf:resource="http://iirds.tekom.de/iirds#GenericReference"/>
  <scr:selects rdf:resource="https://www.i4icm.de/pifan#ManualCheck"/>
  <scr:selects rdf:resource="https://www.i4icm.de/pifan#PIFan"/>
```

```
<scr:Strength rdf:datatype="http://www.w3.org/2001/XMLSchema#integer">10</scr:Strength>
```

```
</NamedIndividual>
```

Correlated with

Error codes on display

Error codes are displayed on the screen if complications are detected electronically. Subsequently, these error codes are listed with possible causes and actions to be undertaken.

Error code	Cause	Action
1X111	Control defective	Replace the control unit.
2X222	Actuator locked	See Checking the power supply .
3X333	Defective heating element	Replace the rotor.
4x444	Gearbox damaged	Replace the gearbox.

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Contact data

Our website:

www.pi-fan.de

www.pi-class.i4icm.de

Copyright:

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Contributors to the PI-Fan Project (1.0):

W. Ziegler

Contributors to the PI-Fan Project (1.1):

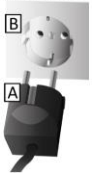
R. Gruenert, W. Ziegler

Primary Object

Getting started

The device is operated with a mains power voltage of 230V. Connect the device to the mains as described below.

Figure 1. Connection to the mains



1. Make sure that the plug (A) and the plug socket, which you wish to use to operate the device, are not damaged.
2. Connect the plug (A) to the socket (B).

The device is now ready to use.

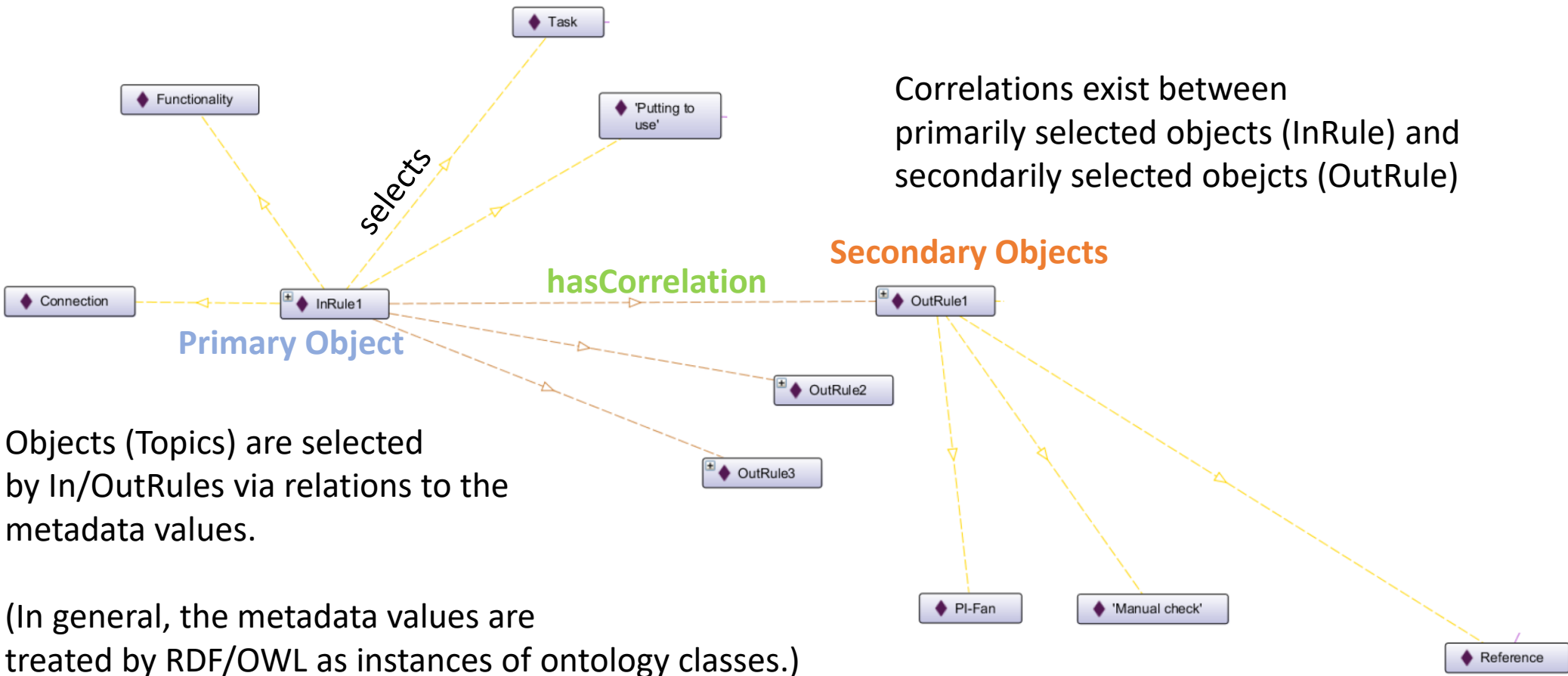
Content Copyright (c) 2015, PI-Fan Project
iRDS Implementation Copyright (c) 2019, iRDS Consortium

```
<!-- http://www.i4icm.de/scr/scr#InRule1 -->
```

```
<NamedIndividual rdf:about="http://www.i4icm.de/scr/scr#InRule1">
  <rdf:type rdf:resource="http://www.i4icm.de/scr#InRule"/>
  <scr:hasCorrelation rdf:resource="http://www.i4icm.de/scr/scr#OutRule1"/>
  <scr:hasCorrelation rdf:resource="http://www.i4icm.de/scr/scr#OutRule2"/>
  <scr:hasCorrelation rdf:resource="http://www.i4icm.de/scr/scr#OutRule3"/>
  <scr:selects rdf:resource="http://iirds.tekom.de/iirds#Functionality"/>
  <scr:selects rdf:resource="http://iirds.tekom.de/iirds#GenericPuttingToUse"/>
  <scr:selects rdf:resource="http://iirds.tekom.de/iirds#GenericTask"/>
  <scr:selects rdf:resource="https://www.i4icm.de/pifan#Connection"/>
</NamedIndividual>
```

Correlations: generalized, untyped relations

RDF/Ontology Visualization in Protégé



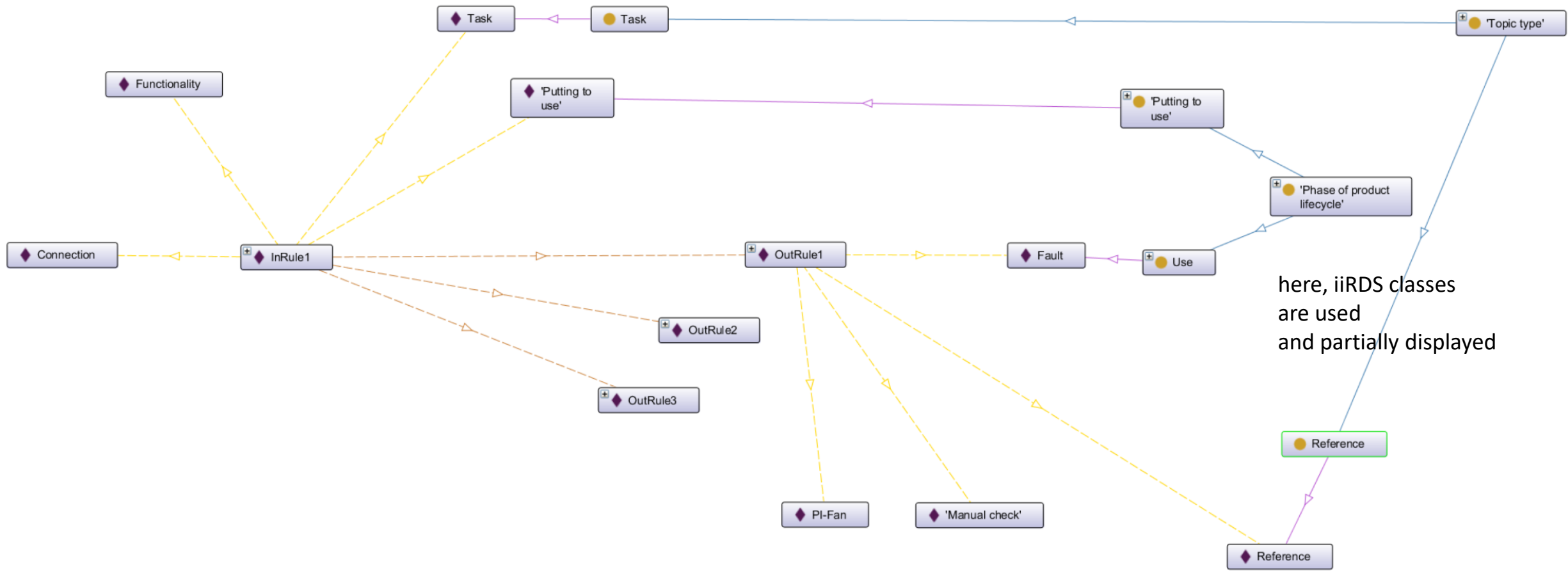
Correlations exist between primarily selected objects (InRule) and secondarily selected objects (OutRule)

Secondary Objects

Objects (Topics) are selected by In/OutRules via relations to the metadata values.

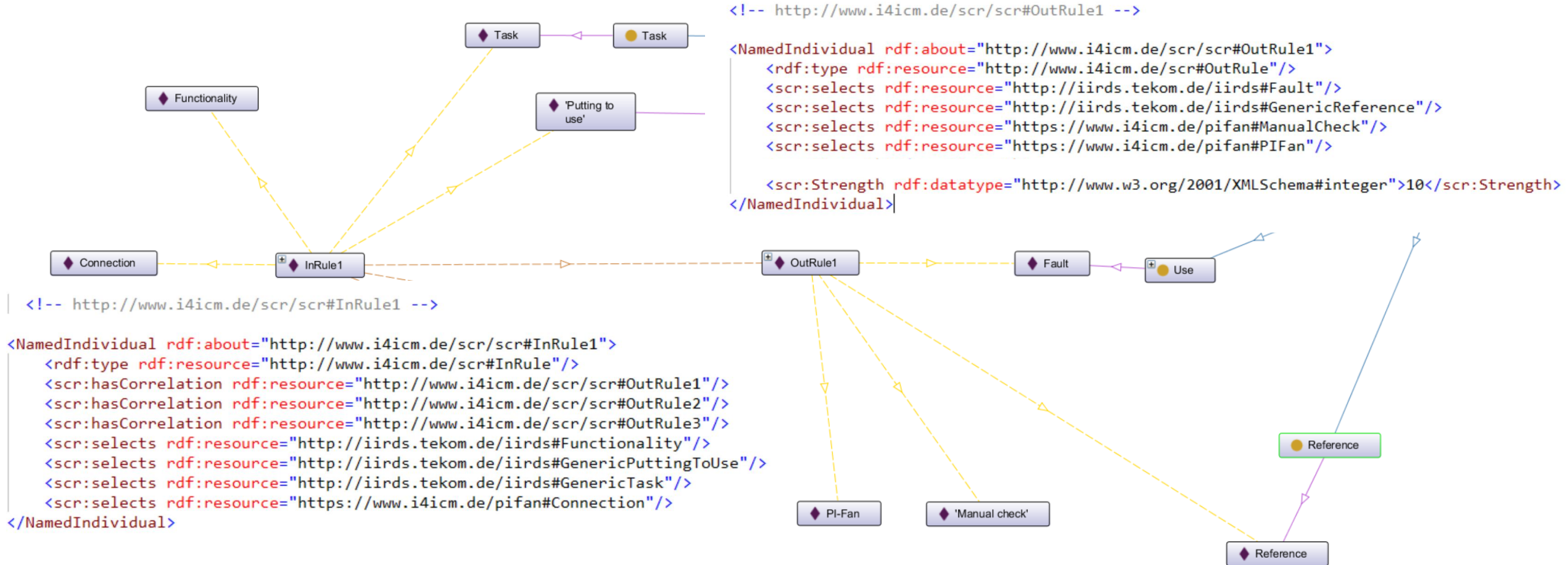
(In general, the metadata values are treated by RDF/OWL as instances of ontology classes.)

Metadata as instances of metadata classes given by custom/standardized (CCMS) ontologies



here, iiRDS classes are used and partially displayed

Implementation of SCR as RDF/OWL-rules (using iIRDS classes)



Documentation

In-code documentation (see scr.owl file)

RDF explanations on usage of classes, relations, instances and data properties

- Classes
 - scr
 - InRule
 - OutRule
- Relations
 - hasCorrelation
 - selects
 - equals
- Instances
 - (scr.root)
- Properties
 - ID
 - ReleaseDate
 - Role
 - Scope
 - Strength
 - Title
 - Version

Documentation

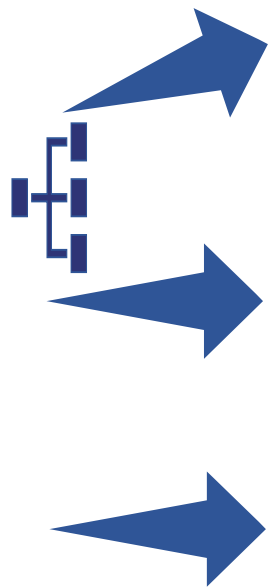
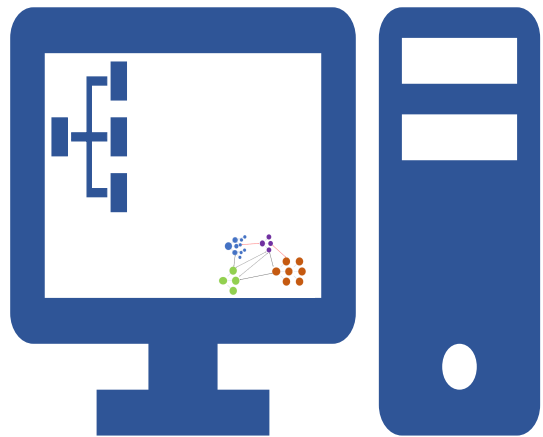
hasCorrelation

- Untyped correlation pointing from InRules to OutRules.
- The correlation describes the binding of secondary objects (information deliverables; often topics) to primary objects within a delivery scenario.
- In general, there are 1:N correlations as relations from InRules to OutRules, so that a certain number of information deliverables are displayed as microDocs. MicroDocs are therefore bound to the primarily requested object.
- Subtypes of the relation might be typed in further scr versions.

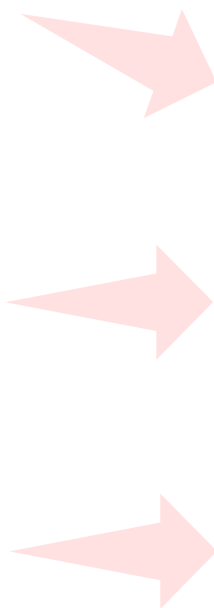
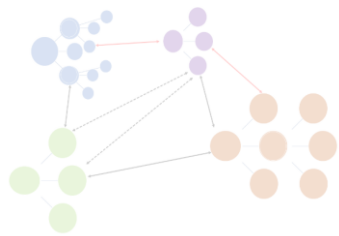
How (and where)
Semantic Correlation Rules
have been implemented

(2020)

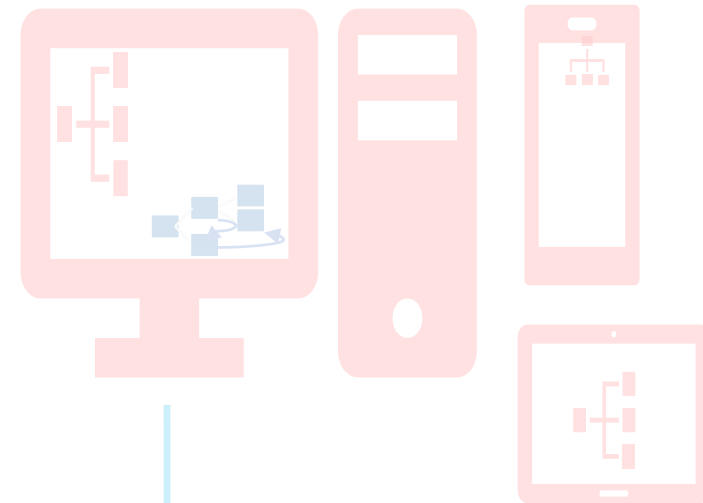
CMS



SMS



CDP



microDocs

CCMS

Smart Media Creator (Expert Communication Systems)

System implementation & visualization

The screenshot displays the Smart Media Creator (SMC) interface. The browser address bar shows the URL: `127.0.0.1:8080/4.3.2a/#id=1596612291202&uri=/System/Charakterisierung/SCR/scr.theme&...`. The interface includes a top navigation bar with tabs for 'Struktur', 'Knotenübersicht', 'Metadaten', 'Referenzen', 'Sprachen & Versionen', and 'Zugriffs-Log'. Below this, there are action buttons such as 'Editieren', 'E-Mail', 'Versionierung', 'Referenzen anpassen', 'Medien generieren', and 'Lokalisieren'. The main content area is divided into two panes. The left pane, titled 'Aktueller Klassifizierung', shows a tree structure with 'scr' as the root, containing 'InRule' (with 'InRule1') and 'OutRule' (with 'OutRule1', 'OutRule2', and 'OutRule3'). The right pane, titled 'Objekt-Metadaten', displays the following data:

Objekt-Metadaten	
ID	1596612292309
Pfad	/Content/Tickets/SCR/OutRule1.theme [Webdav-Link]
Erstellt von	mr / 2020-08-05 10:48:07
Zuletzt geändert von	mr / 2020-08-13 16:45:44
Typ	Instanz
Standardsprache	German
Klassifizierung	
IRI	www.i4icm.de/scr/scr#OutRule1
equals	http://iirds.tekom.de/iirds#ProductVariant
Strength	10
selects	www.i4icm.de/pifan#PIFan, www.i4icm.de/pifan#ManualCheck, http://iirds.tekom.de/iirds#GenericReference, http://iirds.tekom.de/iirds#I
Charakterisierung	<ul style="list-style-type: none">Kategorien<ul style="list-style-type: none">SCR<ul style="list-style-type: none">scr<ul style="list-style-type: none">OutRule

microDocs

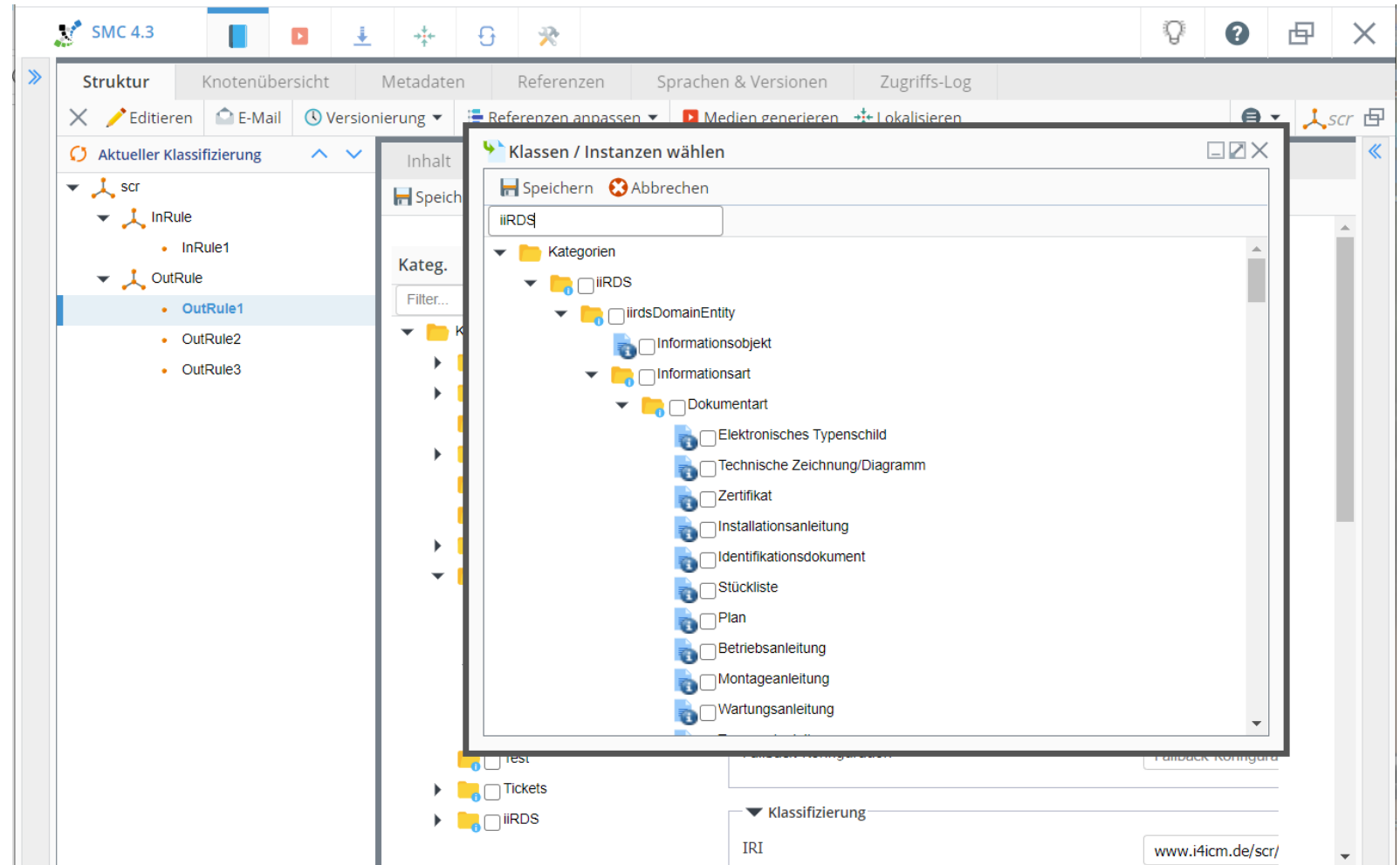
CCMS

Smart Media Creator

(Expert Communication

Systems)

System implementation & visualization



microDocs

System implementation & visualization

CCMS

Klar: Suite (Klarso)

Term:Studio v3.6.63

File Mode Widgets Extras Help

Concepts

Name	Type	Found
11 Base	Product classes	found
9 Base plate	Product classes	found
21 Blade	Product classes	found
20 Blade mount	Product classes	found
7 Ceiling mount	Product classes	found
6 Ceiling mounting plate	Product classes	found
32 Complete device	Product classes	found
29 Connection	Product classes	found
26 Cover	Product classes	found
28 Display	Product classes	found
16 Display_operating element	Product classes	found
34 Drive	Product classes	found
30 Electric motor	Product classes	found
31 Gear box	Product classes	found
27 Heating	Product classes	found
23 Heating element	Product classes	found
19 Impeller	Product classes	found
24 Light fitting	Product classes	found

Contact data

Name	Type	Info
16 Function	Information class	foundByT
19 General safety	Information class	foundByT
10 Getting started	Information class	foundByT
26 Getting started (structure)	Information class	foundByT
46 Height adjustment	Information class	foundByT
38 Info extrins.	Information class	foundByT
37 Info intrins.	Information class	foundByT
6 Information class 1	Information class	foundByT
7 Information class 2	Information class	foundByT
8 Information class 3	Information class	foundByT
20 Intended use	Information class	foundByT
13 Layout	Information class	foundByT
14 Maintenance	Information class	foundByT
28 Maintenance (structure)	Information class	foundByT
42 Manual	Information class	foundByT
36 Manual diagnostic	Information class	foundByT
1 Operating manual	Information class	foundByT
9 Operation	Information class	foundByT
27 Operation (structure)	Information class	foundByT

Terms: OutR:Manual di

Key	Value
1 Scope	
2 strength	10

1 OutR:Manual diagno

Hierarchical Search

PI-Fan documents

- PI fan
 - 1_1 Safety_Gen. safety
 - 2 DESCRP_Product description
 - 2_1 Safety_Intended use
 - 2_2 Safety_Forsee. misuse
 - 2_3 DESCRP_Technical data
 - 2_4 Technical data overview
 - 3 DESCRP_Assembly
 - 4 INSTR_Getting started
 - 5 DESCRP_Operation
 - 5_1 INSTR_Adjusting the height
 - 5_2 INSTR_Adjusting the pit

Typology Typology

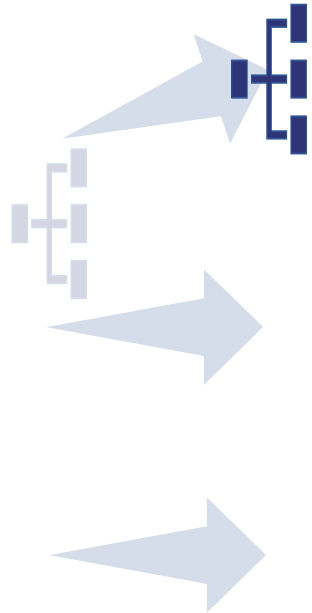
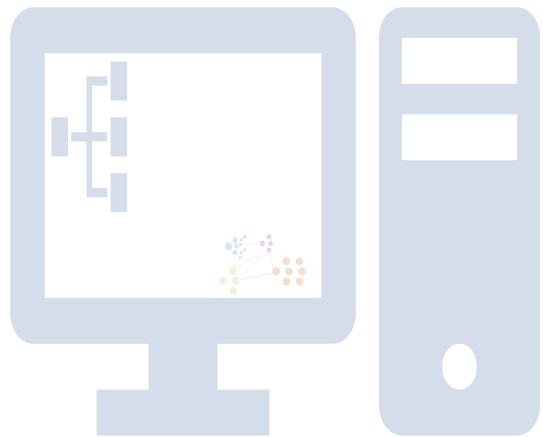
Inheritance Parent/Child Table Analysis

Associative SCR-Editor

IN-Object	IN-Rules	OUT-Rules	OUT-Object
1 Connection	1 InR:Connection,Getting started	1 OutR:Manual diagnostic,PI fan ...	1 Manual diagnostic
2 Getting started		2 OutR:Error Code,PI fan (complete ...	2 PI fan (complete device)
		3 OutR:Contact data,PI fan (complete...	

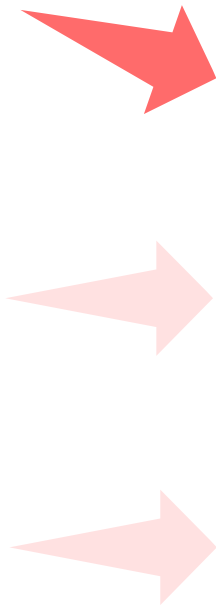
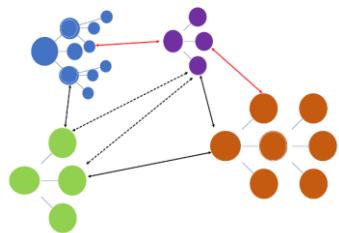
tbody td img h2 i div b scr.root scr-inrule scr-outrule Attribut Benutzer Element Dokument html Paragraph p Text Konzept Information class Product information Modal range

CMS

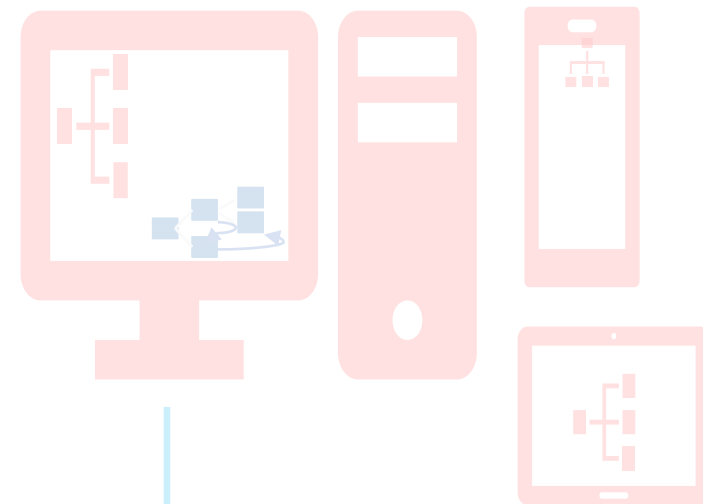


SMS

Semantic Modelling Systems



CDP



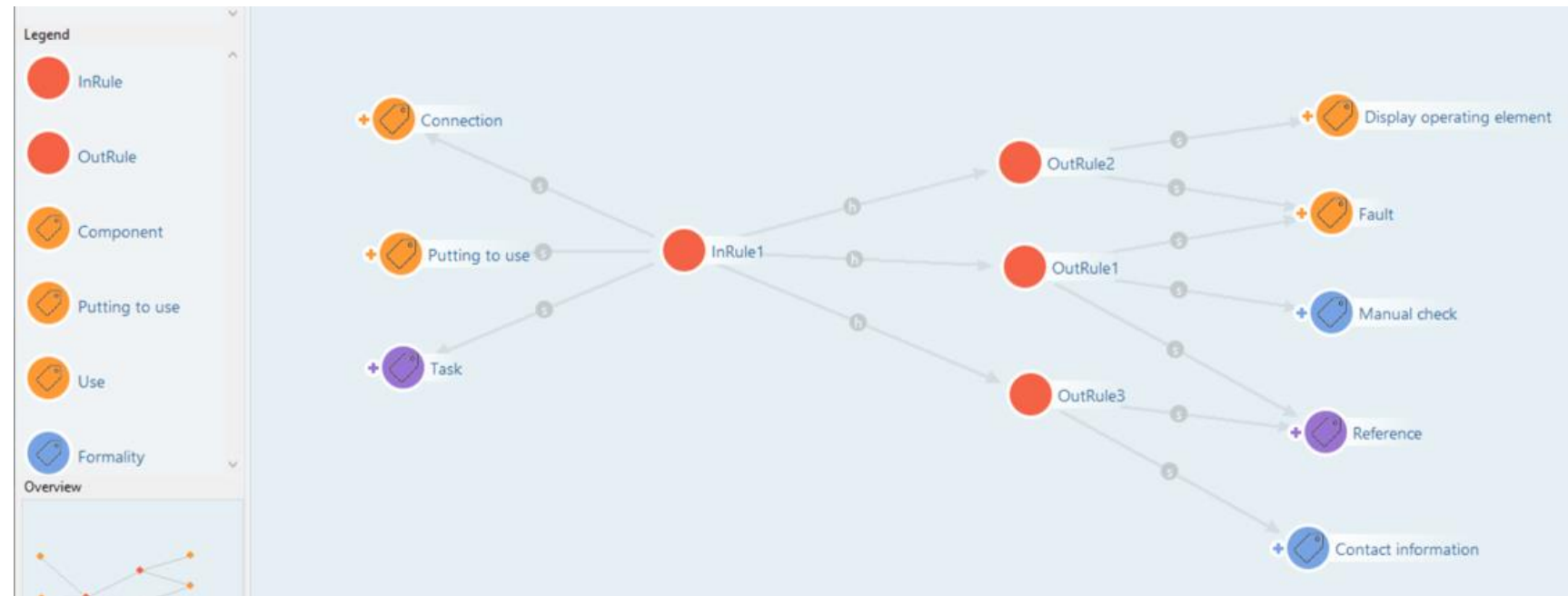
microDocs

SMS

I-Views/Empolis

iiRDS Modell + SCR

System implementation & visualization



microDocs

SMS: Ontolis

System implementation & visualization

The screenshot displays the Ontolis software interface with three main windows:

- Bibliothek (Library):** A tree view showing the project structure. The selected path is: `PME Demo-Server I4ICM` > `Semantic Correlation Rules (Demo Case)` > `1.00 Semantic Correlation Rules (Demo Case)` > `Rules` > `iiRDS Rules` > `1.00 RuleSet (PI-Class)`. The `1.00 RuleSet (PI-Class)` node is highlighted with a dashed box.
- RuleSet (PI-Class):** A diagram showing the composition of the selected RuleSet. It consists of `InRule1` and three `OutRule` instances:
 - `OutRule1` (Strength 10)
 - `OutRule2` (Strength 4)
 - `OutRule3` (Strength 5, highlighted with a dashed box)
- Gültigkeitsregeln (OutRule3):** A diagram showing the conditions for `OutRule3`. It is defined by a conjunction (&) of two conditions: `P` (with `PI-Fan` checked) and `I` (with `ContactData` checked).

microDocs

SMS: Sherlock

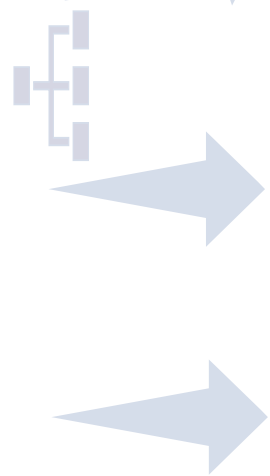
Fischer Information

Technologies

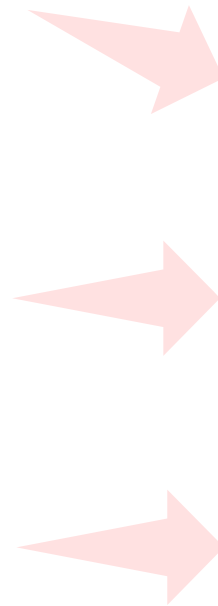
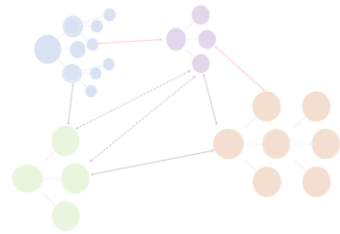
System implementation & visualization

The screenshot shows the Sherlock application interface. On the left is a navigation sidebar with sections: Dashboard, ACCESS MANAGEMENT (Users, Groups, Applications), SEMANTIC MODELING (Rules, Rule Sets, Testing & Preview), and INFORMATION SYSTEMS. The main content area is titled 'PI-Class' and 'Semantic Modeling / Rule Sets / PI-Class'. It features a workflow diagram with three steps: 1. Select InRule, 2. Select OutRule, and 3. Result. The diagram shows an 'InRule_1' node (red circle) with the text 'Connection GettingStarted'. Three lines labeled 'hasCorrelation' connect it to three 'OutRule' nodes (blue circles): 'OutRule_3' (ContactData PI-Fan Strength:5), 'OutRule_2' (ErrorCode PI-Fan Strength:4), and 'OutRule_1' (ManualDiagnostic PI-Fan Strength:10). At the bottom are 'Back', 'Reset', and 'Submit' buttons.

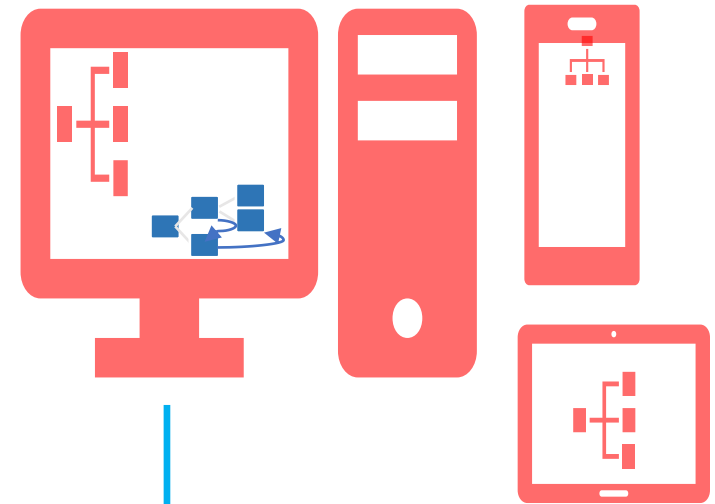
CMS



SMS



CDP



SCR processing

CDP

Sherlock (CDP-GUI)

Fischer Information

Technologies

System implementation & visualization

Content Delivery

WAKO Press ZXUN 78 Inbetriebnahme Konfiguration

Informationen

WAKO Press ZXUN 78 Produkt	Inbetriebnahme Konfiguration Abschnitt	100-AAE-CFK Variante	Einstellelemente 0.37 ... 3 kW Inhalt
-------------------------------	---	-------------------------	--

Inhalt

WAKO Press ZXUN 78 Variante 100-AAE-CFK DIP-Schalter-/ Potibelegung 1

Einstellelemente 0.37 ... 3 kW
Auf der Innenseite der Drive Unit finden Sie die Einstellelemente. Vorgenommene Einstellungen durch DIP1, DIP2, P2, P3 und P1 müssen mit DIP1/1aktiviert werden. Die Einstellungen werden bei jedem Netzeinschalten erneutübernommen.

6.2.1. DIP-Schalter-/ Potibelegung 0

0.37 ... 3 kW

Verknüpfte Inhalte

- Fehlerbehandlung
- Technische Daten
- Kontakt Daten

Powered by Sherlock

SCR processing

CDP: CDS

Expert Comm. Systems

System implementation & visualization

← 🔍 PI-fan

Table of Contents ^

- 📄 Allgemeine Sicherheitsf
- > 📄 Produktbeschreibung
- > 📄 Montage
- 📄 Inbetriebnahme
- > 📄 Bedienung
- > 📄 Wartung
- > 📄 Fehlerbehebung
- 📄 Entsorgung

Inbetriebnahme

Abbildung: Anschluss an das Stromnetz

Das Gerät wird mit einer Netzspannung von 230V Wechselstrom betrieben. Schließen Sie das Gerät wie im Folgenden beschrieben an das Stromnetz an.

1. Vergewissern Sie sich, dass am Netzstecker (A) und an der Steckdose, an welcher Sie das

Manuelle Fehlerbehebung ▾

Contact data ▾

Fehlercodes im Display ▾

+

SCR processing

CDP:

CMDS (Ontolis)

System implementation & visualization

The screenshot displays the ONTOLIS CMDS web application interface. The top navigation bar includes the logo, the text 'ONTOLIS CMDS', the user name 'Fabricius, Nicole', and several utility icons. The main content area is divided into three panels:

- Left Panel (Delivery Packages):** A tree view showing a hierarchy of topics. The 'Inbetriebnahme' section is expanded, and '1.00 Ventilator anschließen' is selected.
- Center Panel (Hilfe: Ventilator anschließen):** The main help article. It features a title 'Ventilator anschließen', a paragraph explaining the 230V AC power requirement, and two numbered steps: 1. Check for damage at the plug and socket. 2. Connect the plug to the socket. Below the text is an image of a two-prong electrical plug (labeled 'A') being inserted into a wall outlet (labeled 'B').
- Right Panel (Weitere Informationen):** A sidebar with 'Topics' and 'FAQ' sections. The 'FAQ' section contains two questions: 'Kann ich das Gerät mit Batterien betreiben?' and 'Ist der Betrieb des PI-Fan umweltfreundlich?'.

SCR processing

System implementation & visualization

CDP:
CMDS (Ontolis)

The screenshot displays the ONTOLIS CMDS interface with three main panels:

- Delivery Packages (Left Panel):** A tree view under 'PI-Fan Bedienungsanleitung' containing sub-sections like 'Orientierung', 'Montage', 'Inbetriebnahme', 'Bedienung', 'Wartung', and 'Diagnose' with various numbered tasks.
- InRule#1 (Center Panel):** A rule editor showing 'InRule#1' with properties: Information Unit (Topic), Topic Type (Task), Information Subject (Functionality), Component (Connection), and Phase of product lifecycle (Installation). It is correlated with four output rules (OutRule#1 to #4) via 'has correlation' relationships.
- Secondary Objects (Right Panel):** A list of objects such as 'Manuelle Fehlerbehebung', 'Fehlercodes am Display', 'Copyright Information', 'Unsere Webseite', and 'Kann ich das Gerät mit Batterien betreiben?', each with its own set of properties like Topic Type, Information Subject, Component, and Phase of product lifecycle.

SCR processing

CDP: I-Views Content

Basis: iiRDS + SCR

System implementation & visualization

i-views content

Search term

key-user

(5)

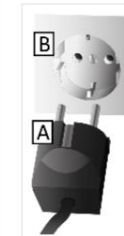
(2)



EN

Connecting the device

The device is operated with a mains power voltage of 230V. Connect the device to the mains as described below.



1. Make sure that the plug (A) and the plug socket, which you wish to use to operate the device, are not damaged.
2. Connect the plug (A) to the socket (B).

- The device is now ready to use.

Figure 1: Connection to the mains

Documents

Correlated Topics

Copyright information

Error codes on display

Manual troubleshoot...

Our website

Product Variant

X5-DH1

Component

SCR processing

C-REX.net IDS API

Basis: iIRDS + SCR

SCR API (Content Service / headless CMS/CDP)

scr InRules

GET /scr/v1/InRules

GET /scr/v1/InRules/{id}

scr InRules

GET /scr/v1/InRules

Parameters

Name	Description
subject string (query)	urn:uuid:bf190d6b-d396-49f7-a32e-0dd7d07c3bf

Execute Clear

Responses

Request URL

```
http://localhost:49327/scr/v1/InRules?subject=urn%3Auuid%3Abf190d6b-d396-49f7-a32e-0dd7d07c3bf
```

Querying scr:InRules correlated to Information Unit

- subject – ID of certain iIRDS information Unit
- Result is JSON, with meta information of scr:InRule

```
{
  "items": [
    {
      "hasCorrelation": [
        {"id": "http://www.i4icm.de/scr/scr#OutRule1"},
        {"id": "http://www.i4icm.de/scr/scr#OutRule2"},
        {"id": "http://www.i4icm.de/scr/scr#OutRule3"}
      ],
      "selects": [
        {"id": "http://iirds.tekom.de/iirds#GenericFunctionality"},
        {"id": "http://iirds.tekom.de/iirds#GenericPuttingToUse"},
        {"id": "http://iirds.tekom.de/iirds#GenericTask"},
        {"id": "https://www.i4icm.de/pifan#Connection"}
      ],
      "titles": [
        {"language": "de", "value": "Dynamische Beziehungen (SCR)"}
      ],
      "id": "http://www.i4icm.de/scr/scr#InRulePiFan"
    }
  ]
}
```

SCR processing

CDP/DCS

Digital Content Service

C-REX.net IDS

Practice Innovation

The screenshot displays the 'PI-Fan' user interface. At the top, there is a dark header with the title 'PI-Fan' and a copyright notice '© 2020 c-rex.net GmbH'. Below the header is a navigation menu with a search icon and a dropdown menu currently set to 'Alle'. The menu items include: Safety, Assembly, Getting started (highlighted in orange), Product description, Maintenance, Operation, Troubleshooting, Contact data, and Disposal. To the right of the menu, there are icons for a star and a printer, with the text 'Getting started' below them. A light blue box contains a dropdown menu with the following options: Dynamische Beziehungen (SCR), Troubleshooting, Fehlercodes, and Kontakt Informationen. Below this box, the heading 'Getting started' is followed by the text: 'The device is operated with a mains power voltage of 230V. Connect the device to the mains as described below.' and the caption 'Figure 1. Connection to the mains'. A partial image of a terminal block is visible at the bottom.

SCR

In Preparation

- ... more to come

microDoc (Draft)

CDP

Classification-based Rules

for Linking

(Topic Pilot /Docufy 2019)

TOPIC PILOT®

DE | admin | ABMELDEN

Suche Suchen [Alle Inhalte](#)

Inhalt

T3-B Ventilator „PI-Fan“

- Ergänzende Anweisungen
- Allgemeine Sicherheitshinweise
- + Produktbeschreibung
- Montage
 - Rotor montieren
- Inbetriebnahme
- + Bedienung
- + Wartung
- + Fehlerbehebung
- Kontaktdaten
- Entsorgung

Rotor montieren

Topic - Bevor Sie Ihr Gerät benutzen können, müssen Sie zunächst den Rotor montieren. Hier erfahren Sie, wie Sie dies tun können.

14.05.2018

▼ Weiterführende Informationen

Andere Informationen rund um diese Komponente: [T3-B – Basis, Rotor](#)

Andere Komponenten mit dieser Informationsart: [T3-B – Basis, Montage](#)

Spezifische Sicherheitshinweise für diese Komponente [T3-B – Basis, Rotor, Sicherheit](#)

Allgemeine Sicherheitshinweise für diese Produktvariante: [T3-B – Basis, Sicherheit](#)

VORSICHT
Kleinkinder oder Haustiere können Kleinteile verschlucken

– Halten Sie Kleinkinder und Haustiere vom Ort der Montage des Geräts fern, um das Verschlucken von Kleinteilen wie Schrauben zu vermeiden!




Abb. 1: Schutzgitter-Rückseite montieren

1. ► Schieben Sie die Schutzgitter-Rückseite [1] auf den Antrieb [2], wie in Abb. 1 „Schutzgitter-Rückseite montieren“ zu sehen.

microDoc (Draft)

CDP

Classification-based Rules
for Linking
(CDS / Schema 2019)

SCHEMAPortal DE admin

Inbetriebnahme
Inbetriebnahme

Inbetriebnahme

Das Gerät wird mit einer Netzspannung von 230V Wechselstrom betrieben.

B

A

Anschluss an das Stromnetz

1. Vergewissern Sie sich, dass am Netzstecker A und an der Steckdose, an welcher Sie das Gerät betreiben wollen, keine Beschädigungen sind.
2. Verbinden Sie den Netzstecker A mit der Steckdose B.

→ Das Gerät ist nun einsatzbereit.

Verwandte Inhalte

- [Fehlercodes am Display](#)
- [Kontaktdaten](#)
- [Manuelle Fehlerbehebung](#)

Andere Sprachen

Deutsch (de-de)

Andere Versionen

Version: 2

Verwandte Inhalte

- > Fehlercodes am Display
- > Kontaktdaten
- > Manuelle Fehlerbehebung

Ist diese Information hilfreich?

Bitte bewerten Sie den Inhalt dieser Seite. Wir freuen uns über Ihr Feedback.

☆☆☆☆

Notizen

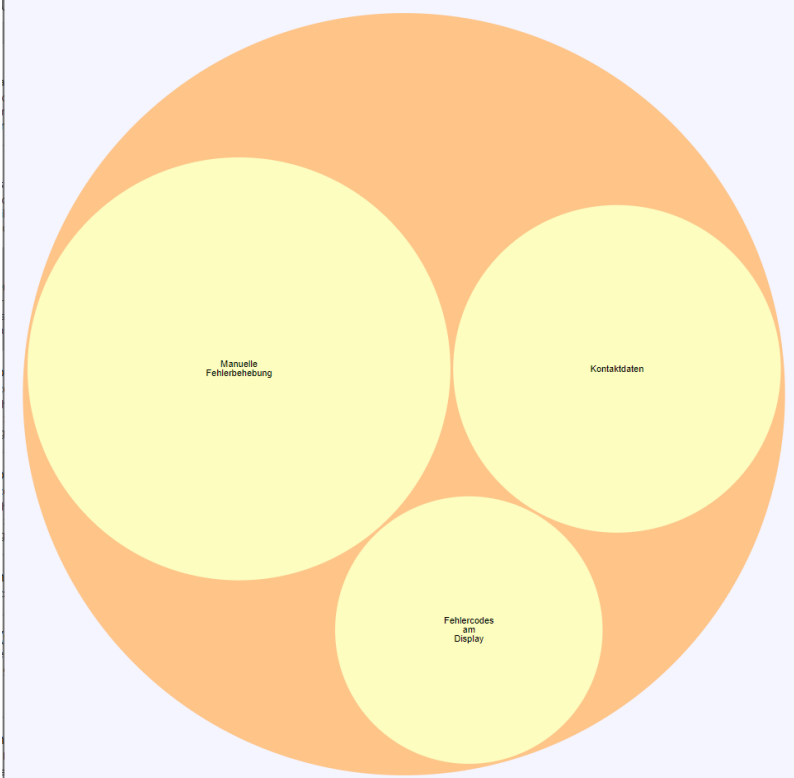
Sie können eigene Notizen zu diesem Dokument hinzufügen.

Öffentlich

Speichern

microDoc

Visualization



Installation

Getting started

The device is operated with a mains power voltage of 230V. Connect the device to the mains as described below.

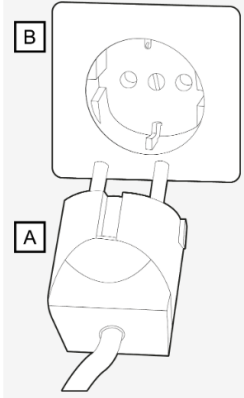


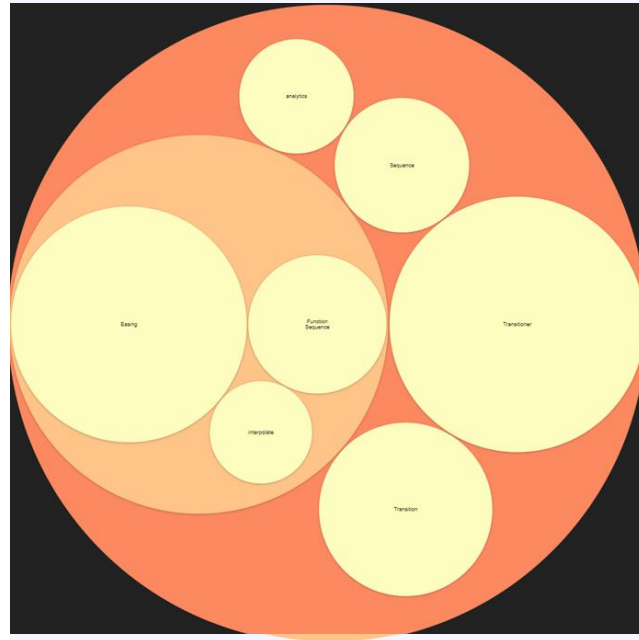
Abb. 1 : Connection to the mains

Make sure that the plug **A** and the plug socket, which you wish to use to operate the device, are not damaged.
VConnect the plug **A** to the socket **B** .

The device is now ready to use.

microDoc

Visualization



Höhe einstellen

Die Höhe des Geräts ist stufenlos einstellbar.

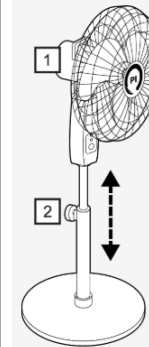


Abb. 1 : Höhe einstellen

Greifen Sie die Funktionseinheit **1** am Griff auf der Oberseite.

Lösen Sie mit der anderen Hand die Halteschraube **2** an der Rückseite der Teleskopstange.

Ziehen Sie die Funktionseinheit **1** auf die gewünschte Höhe.

Ziehen Sie die Halteschraube **2** mit der Hand wieder handfest an.

Lassen Sie den Griff los.

Das Gerät hat nun die gewünschte Höhe.

Summary

Summary

Semantic Correlation Rules

- are a technical and standardized implementation of microDocs
- store and apply knowledge from relevant use cases for information delivery (and other tasks...)
- describe class-to-class relations (e.g. links) between objects

Summary

SCR aspects and features

- Adaptable to user- and industry-relevant use cases of information requests and delivery events
- Compatible with widely adopted CMS technologies for semantic metadata (taxonomy, classifications, properties)
- Easy-to-use creation tools and interfaces; import/export mechanisms
- „(Ultra-)Light-weight ontology“:
Easy modelling without deep knowledge of semantic technologies
- First implementations in CDP;
import mechanisms and management by CDP;
Processing and integration depth depend strongly on CDP!
- Starting point of for more complex semantic modelling;
integration into semantic models and modelling tools
- Allows for systematic improvement of correlations and subsequently content, systems and products
- Allows for sharing and using knowledg of critical use cases

Ressources

Legal issues (free to use, but references are mandatory)

Version 1.0.0 of Semantic Correlation Rules (SCR)

Intent:

Provide a generic object correlation mechanism for implementing microDocs concepts in delivery scenarios.

Typically used in content delivery portals (CDP) or other kinds of search portals.

© 2020 Prof. Dr. W. Ziegler

Karlsruhe Univ. of Applied Sciences &

Institute for Information and Content Management (I4ICM)

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Ressources

<https://www.i4icm.de/>

→ Publikationen

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Literature & Downloads

- W. Ziegler, "Regelmäßig Verbindungen schaffen", technische kommunikation, Vol. 6, S. 18-25 (2020)
- W. Ziegler, Extending intelligent content delivery in technical communication by semantics: microdocuments and content services: Proceedings of the ETLTC 2020 conference. Aizuwakamatsu, Japan (2020)
<https://doi.org/10.1051/shsconf/20207703009>
- W. Ziegler, „Delivery zwischen Kontext und Content" technische kommunikation, Vol. 6, p. 58-61 (2019)
- SCR Downloads <https://www.i4icm.de/downloads/scr/1.1.0/> <https://www.i4icm.de/scr/>
 - SCR Definition in OWL/RDF notation (Base classes and relations): SCR.owl
 - Example of SCR-file for the PI-Fan using iiRDS: PI-Fan.iiRDS.scr.owl
 - Example of SCR-file for the PI-Fan using PI-Class: PI-Fan.PI-Class.scr.owl

The corresponding complete files including correlations and classes/instances are also included for information purposes
- PI-Downloads (<https://www.i4icm.de/downloads/>)
 - PI-Fan classes/instances (slightly modified for demonstration purposes) using the PI-Class classification schema
 - PI-Class core classes of the PI-Classification methodology
- iiRDS Downloads
 - PI-Fan Reference content using iiRDS
<https://iirds.org/material-downloads/sample-content/>
 - iiRDS Definition
<https://iirds.org/material-downloads/iirds-version-1-0-1/>

Feedback

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