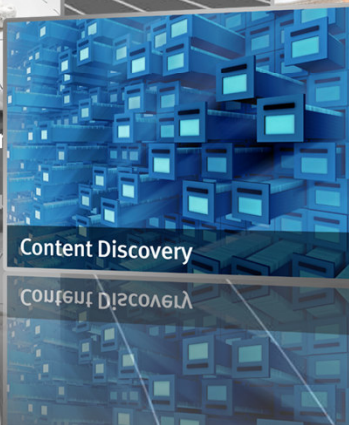


SMW⁺ - Semantic Enterprise Wiki

ISWC 2011

hansch@ontoprise.de

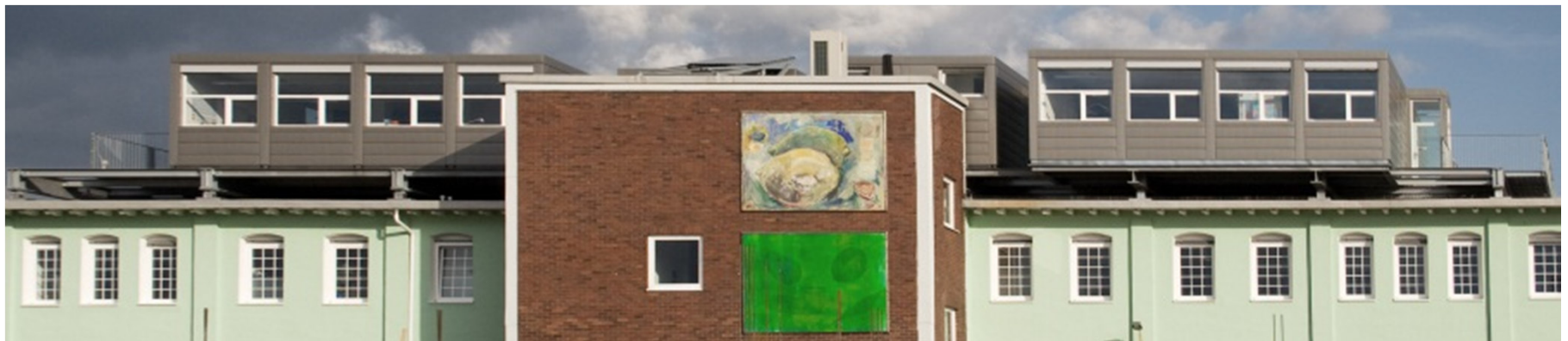
<http://www.smwplus.com>



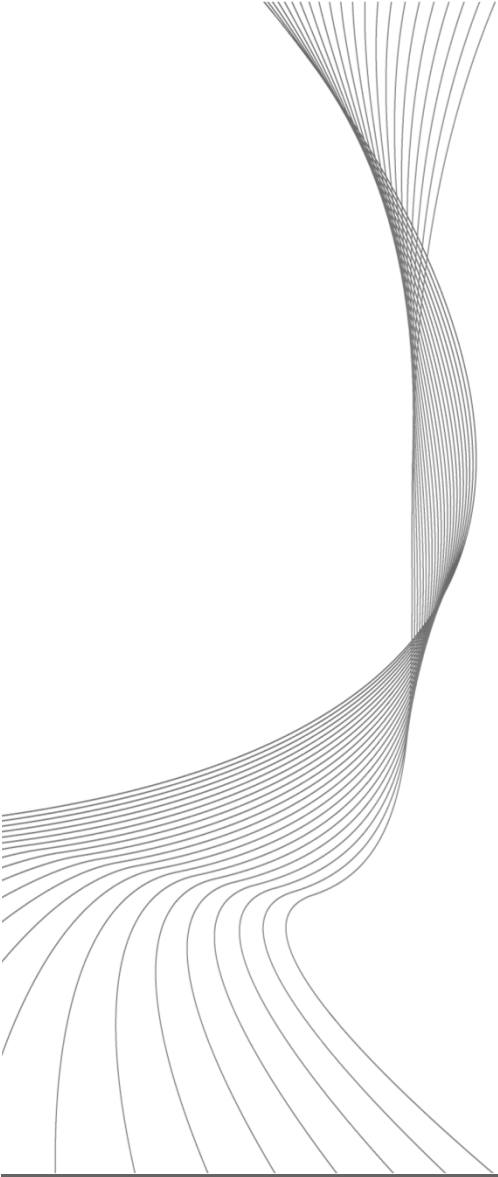
About ontoprise GmbH

ontoprise GmbH is a leading company in industry proven semantic infrastructure and solutions worldwide. ontoprise solutions provide fast contextual access to enterprise knowledge thus enabling better decisions. They help to increase the technical and operational efficiency of companies.

Founded: 1999
Team: 75 employees
Location: Germany, Karlsruhe
Focus: - Integrated semantic platform



Overview

- 
- SMW⁺ in a nutshell
 - Why are semantic Wikis better?
 - Demo of SMW⁺
 - Examples of use
 - Where to get SMW⁺?

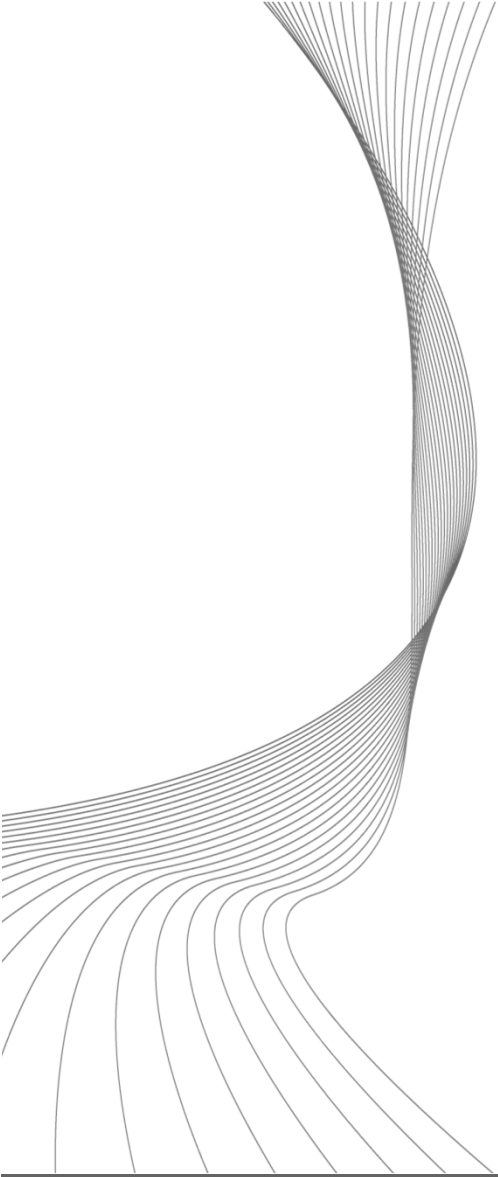
SMW⁺ in a nutshell



**SMW⁺ is a Semantic Enterprise Wiki
for agile collaboration on rich text and data**

- **It is a Wiki:** *Platform for web-based collaboration and quick authoring and provision of content.*
- **It is a database:** *Users embed data in text that can be retrieved with powerful data query mechanisms.*
- **It is a data integration tool:** *Users access data from external databases, web services or the Semantic Web from within the Wiki.*
- **It is enterprise-ready:** *Installs in 15 minutes and comes with business-critical features. Extendible and scalable.*

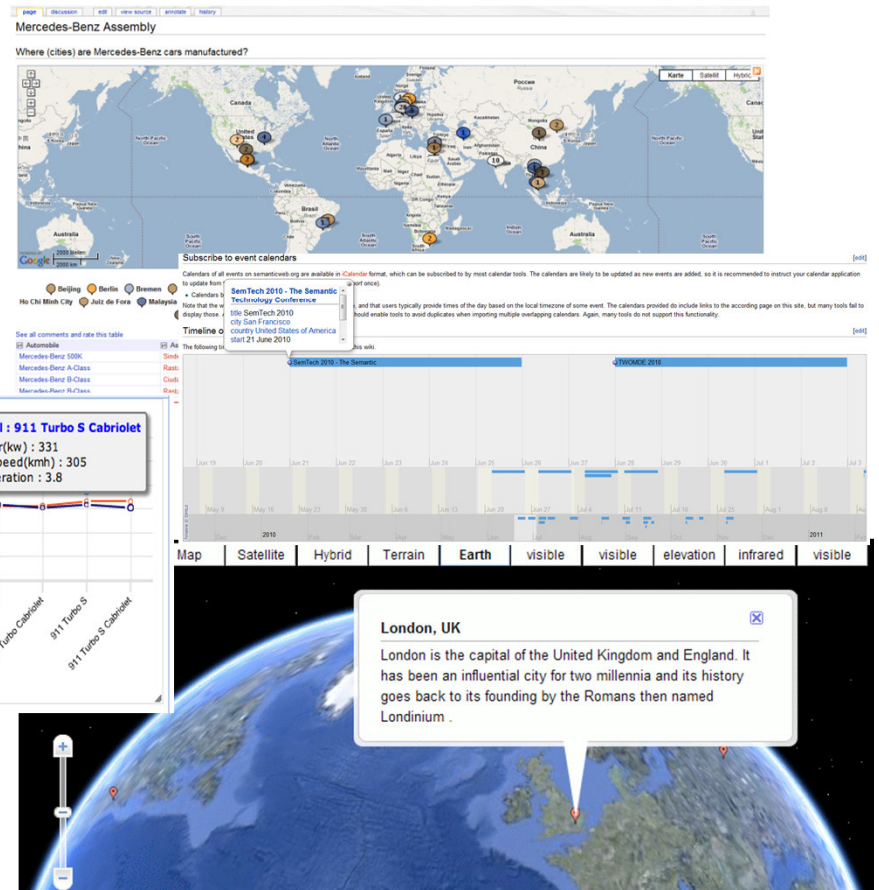
Overview

- 
- SMW+ in a nutshell
 - Why are semantic Wikis better?
 - Demo of SMW⁺
 - Examples of use
 - Where to get SMW⁺?

Text and data are together in one web-based collaboration tool

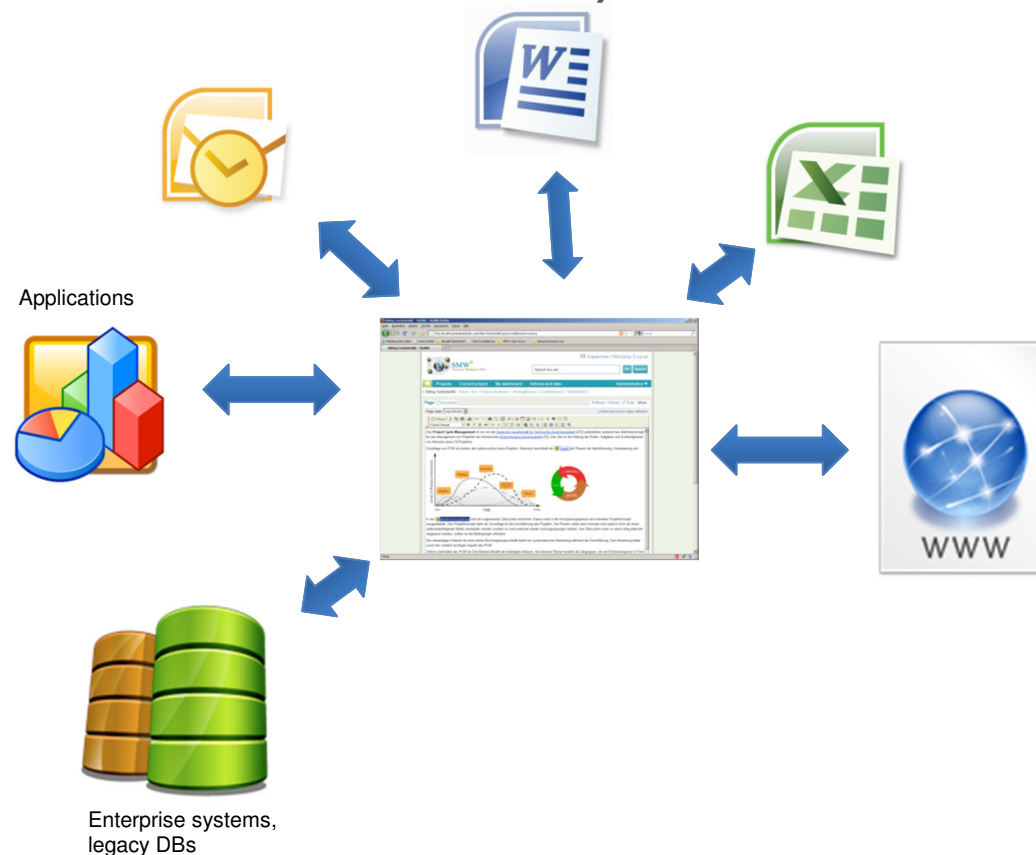
- Consensus building process is applied to text **and** data
Expert A comes to a different estimate of the expected work effort than expert B.
- Context of data is given in natural language text
The risk of failure in this project is 50% because we have never done this before.
- Reports are embedded directly in the text
All employees having worked abroad for at least 2 years and having web development skills?

- Data leads to more easier exploration, better search results, more meaningful navigation and, intuitive access to it through visualizations.

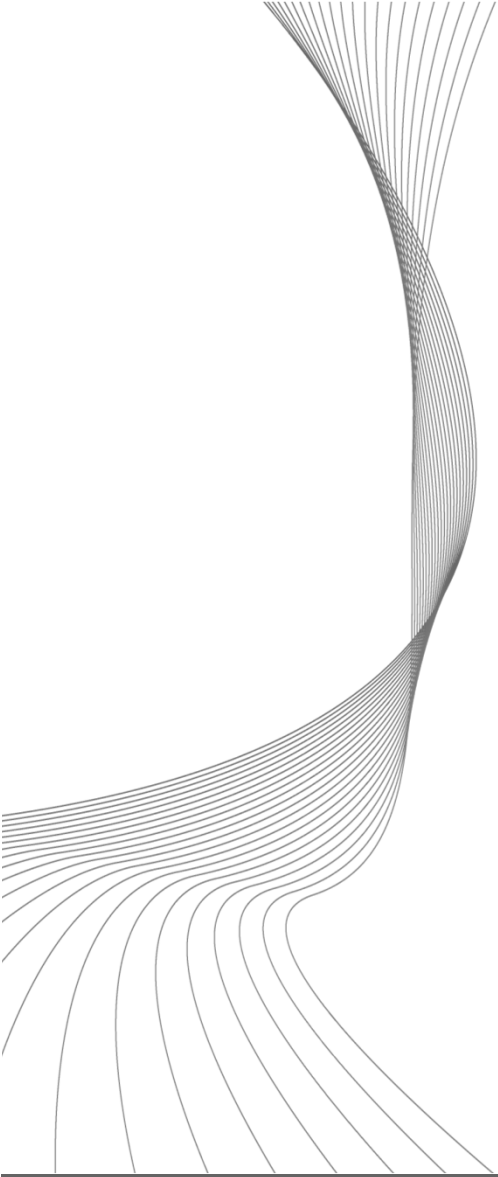


Heterogeneous data is integrate and aligned in the Wiki

- Semantic technology allows to integrate data from different sources and to align it in one single place
- A semantic wiki can act as socially curated information hub



Overview

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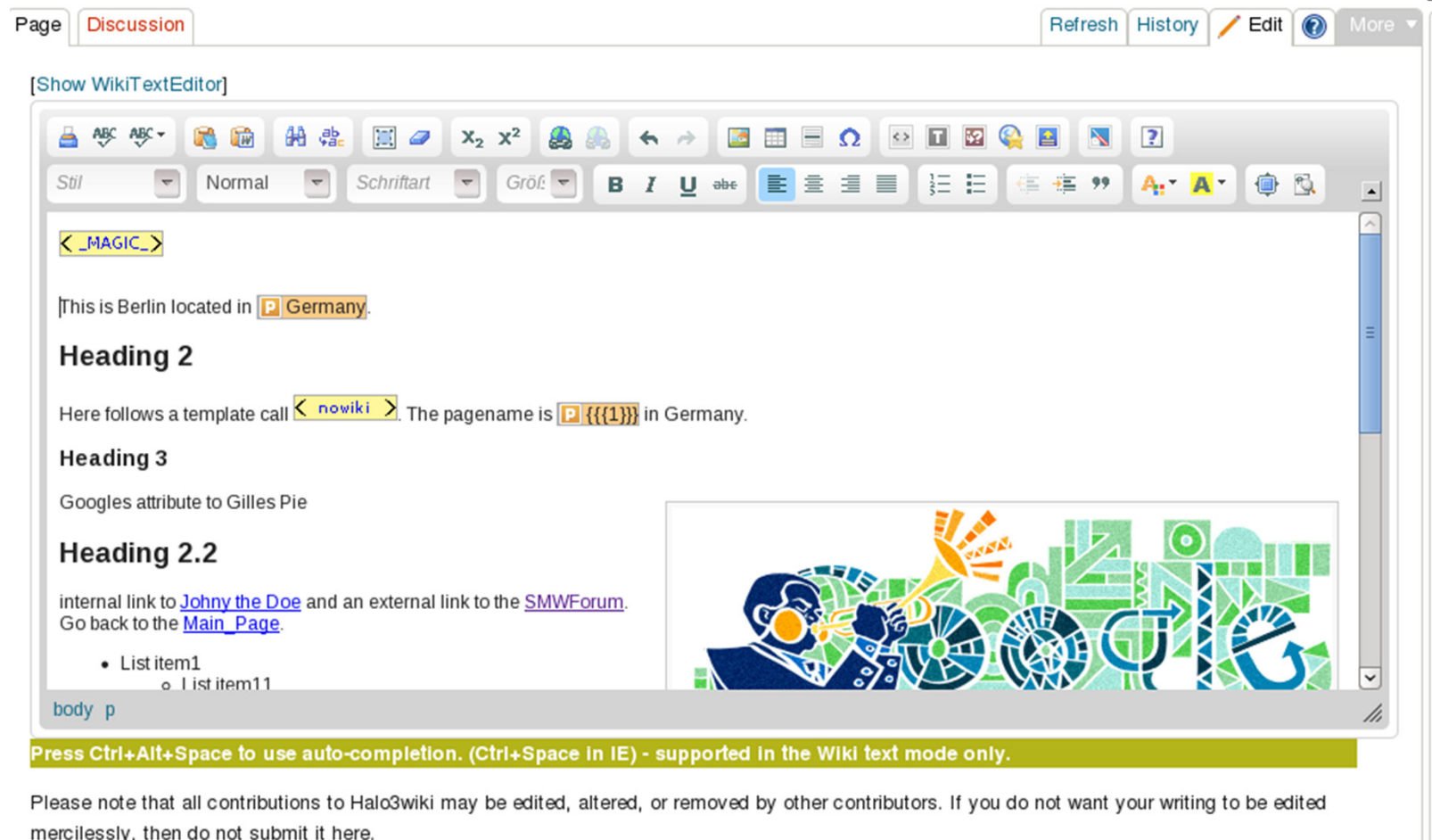
Demo

The next sequence of slides will not be presented.
Instead we will give a 5 minutes demonstration of the most important features:

http://smwforum.ontoprise.com/smwforum/index.php/Tutorial/SMW%2B_Demo_video

SMW⁺ 1.5.6 – WYSIWYG Editor

- Easily format rich text, create tables and embed images and templates



SMW⁺ 1.5.6 – Semantic Toolbar

- Easily inspect, create and alter the semantic annotations of a wiki article.

The screenshot displays the SMW+ 1.5.6 Semantic Toolbar interface. The main editing area shows a wiki article with the text: "As an example this property is limited to the status codes of P Green, P Yellow, and P Red. Edit this page to change these and create your own custom set of status codes. P". Above the text is a toolbar with various icons for editing and semantic actions.

The right sidebar contains several panels:

- Links to Other Pages**: A section for navigating to other pages.
- Tools**: A section for various tools.
- Categories**: A section for managing categories. It shows a category named "pro" and a list of categories: "Project", "Property", "Symmetrical properties", and "Transitive properties".
- Properties**: A section for managing properties. It shows a table of properties with their domains and ranges.
- Property Characteristics**: A section for configuring property characteristics. It includes fields for Domain (Project), Type (String), Min. cardinality, and Max. cardinality. There are buttons for "Add type", "Apply", and "Cancel".
- Help**: A section for help and annotation hints.

SMW⁺ 1.5.6 – Automatic Semantic Forms

- Data entry forms are created on the fly from the ontology and always kept up-to-date.


Page **Discussion** Refresh History Edit ? More ▾


Page state: unprotected ▾

Enter project data

Title*:

Description:

Start date: 

End date: 

A date must be entered in the format "YYYY-MM-DD".

Website (include 'http://'):

Status: ▾

As an example the values for status are preset to Red, Yellow and Green. You may customize this list by changing the allowed values in the [status property](#)

Members:

Enter a comma delimited list of project members. (Auto-completes on pages in the category 'Person'.)

Sponsors:

Enter a comma delimited list of organizations. (Auto-completes on pages in the category 'Organization'.)

Fields marked with * are mandatory.

*Explore semantic data
exceptionally fast*

- Drill-down search results by categories, properties, and their values
- Find relevant articles, facts, and semantic content
- Identify suitable properties for queries

Faceted Search

Search

Selected facets

- Skyscrapers between 250 and 299 meters **X**
- ▼ Located in **X**
 - Chicago (3)
remove range

remove all

Categories

- Skyscrapers in Chicago, Illinois (3)
- Building (3)
- Condominiums in Chicago, Illinois (2)
- University and college academic buildings in the United States (1)
- Residential skyscrapers in Chicago, Illinois (1)

Result 1 to 3 of 3

Aqua (skyscraper) **I**

is in category: [Apartments in Chicago, Illinois](#) | [Condominiums in Chicago, Illinois](#) | [\(more\)](#)

has properties: [\(show\)](#)

Last changed: 2011-02-24 11:39

Chase Tower (Chicago) **I**

is in category: [Building](#) | [Buildings and structures](#) | [Office buildings in Chicago, Illinois](#) | [\(more\)](#)

has properties: [\(show\)](#)

Last changed: 2011-02-24 11:39

Legacy Tower **I**

is in category: [Building](#) | [Condominiums in Chicago, Illinois](#) | [Skyscrapers in Chicago, Illinois](#) | [\(more\)](#)

has properties: [\(show\)](#)

Last changed: 2011-02-24 11:39

< Previous 1 Next >

SMW⁺ 1.5.6 – Query Interface

Easy query construction with the Query Interface GUI

- Creation, loading, editing and (re-) using of existing queries
- Handling of multiple query results and result formats
- Special query search

The screenshot displays the 'Special' tab of the SMW+ 1.5.6 Query Interface GUI. The interface is divided into several sections:

- Query Tree Navigation:** A sidebar on the left showing a tree structure with 'Main Query' and 'Categories' (containing 'task').
- Buttons:** 'Add Category', 'Add Instance', and 'Add Property' are located at the top right of the main area.
- Property name:** A text input field containing 'assign'.
- Show in results:** A dropdown menu showing 'Assignee' (Type: Page | Range: Person).
- Value must be set:** A section with a 'Page' label and a dropdown menu showing 'Bugentry assignee' (Type: Page) and 'Is assignee of' (Type: Page | Range: Task).
- Table Column Preview:** A section with a table containing one column labeled 'Article title'.
- Result Preview:** A list of search results including 'Another task for fred 1', 'Cdsjkchnsjdchn 2 1', 'Debugging task 1', 'Definition of Ultrapedia system architecture', 'Design of SMW+ components', and 'Dkdjlkj'.
- Query Layout Manager:** A section at the bottom with buttons for 'Preview Results', 'Copy to clipboard', 'Insert as notification', 'Show full query', and 'Reset Query'. It also includes a checkbox for 'Include inferred results'.

SMW⁺ 1.5.6 – Ontology Browser

SMW⁺ Semantic Enterprise Wiki

Change view | Log in / create account

Search this wiki

Projects | Current project | My dashboard | Articles and data

Main Page > Add and edit Form > AddData > Main Page > OntologyBrowser

Special page

The ontology browser lets you navigate through the ontology to easily find and identify items in the wiki. Use the Filter Mechanism at the upper left to search for specific entities in the ontology and the filters below each column to narrow down the given results. Initially the flow of browsing is left to right. You can flip the flow by clicking the big arrows between the columns.
Press **Ctrl+Alt+Space** to use auto-completion. (**Ctrl+Space** in IE)

Filter Browsing | Reset | Hide Instances

Category Tree | Property Tree

Instances

Properties

Type/Range

Property	Count	Type/Range
Has employee	(0)	Person
Homepage	(18)	URL
Mbox	(5)	Email
Phone	(3)	String
HasCategory	(29)	String
HasGeocoordinates	(20)	Geographic coordinate
Location	(21)	String

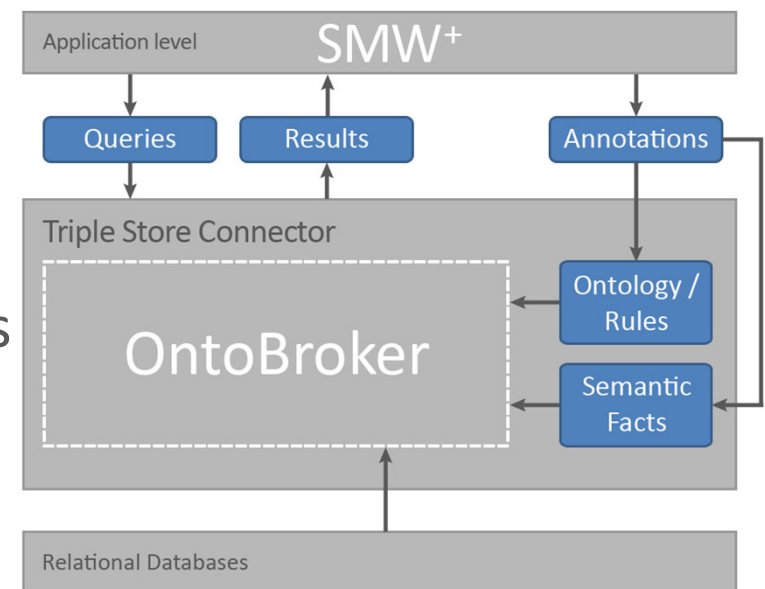
- gives an overview of the wiki's ontology and knowledge base
- users can navigate through the category and property hierarchy and inspect instances and their properties
- administrators can change the ontology, e.g. by adding and renaming categories or deleting instances

Semantic Data Integration with TripleStore professional 1.5.6

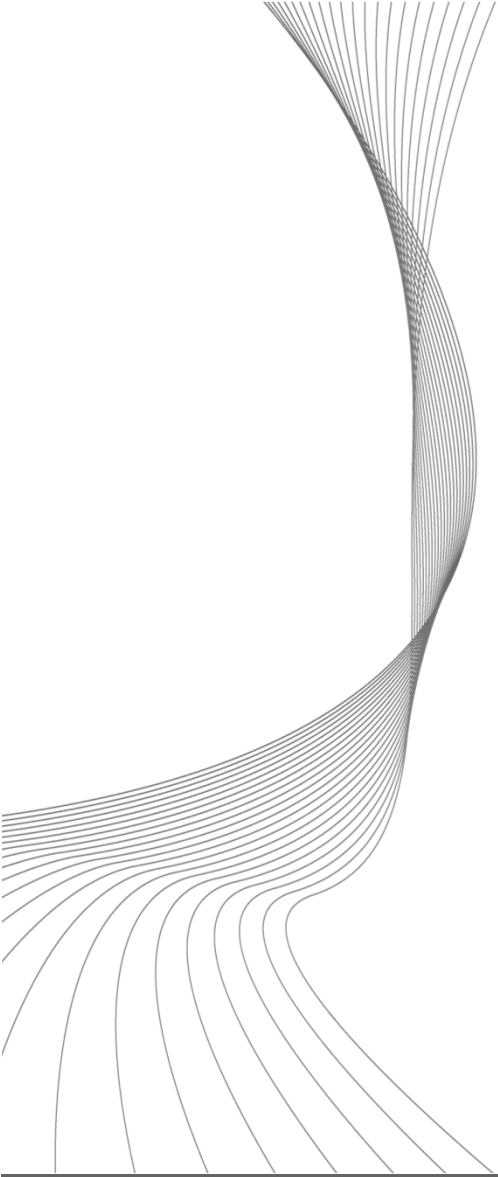
TripleStore Professional

High-end wiki ontology curation and Semantic Data Integration

- Integration of heterogeneous data silos and inferencing on this data
- High-end ontology engineering tools provided by OntoStudio
- Visual editing of complex rules and federated semantic queries



Overview

- 
- SMW⁺ in a nutshell
 - Why are semantic Wikis better?
 - Demo of SMW⁺
 - **Examples of use**
 - Where to get SMW⁺?

Who is using SMW⁺

- Some users¹ of SMW⁺:



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3M



**Worldwide Technology
R&D Informatics**

more at:

<http://smwforum.ontoprise.com/smwforum/index.php/Applications>

1) Reference users of SMW⁺ or the Halo extensions

Application areas of SMW⁺

- Enterprise Content Management

Technologies to manage an organization's unstructured information, e.g. content- and document management

- Integrated Collaboration Environment

Technologies where virtual teams do their work, e.g. project management.

- Business Intelligence 2.0

Easy-to-use BI systems to generate reports on enterprise data that can be shared and authored collaboratively.

Enterprise Content Management

- Technologies to manage an organization's unstructured information, e.g. content- and document management
- Example:

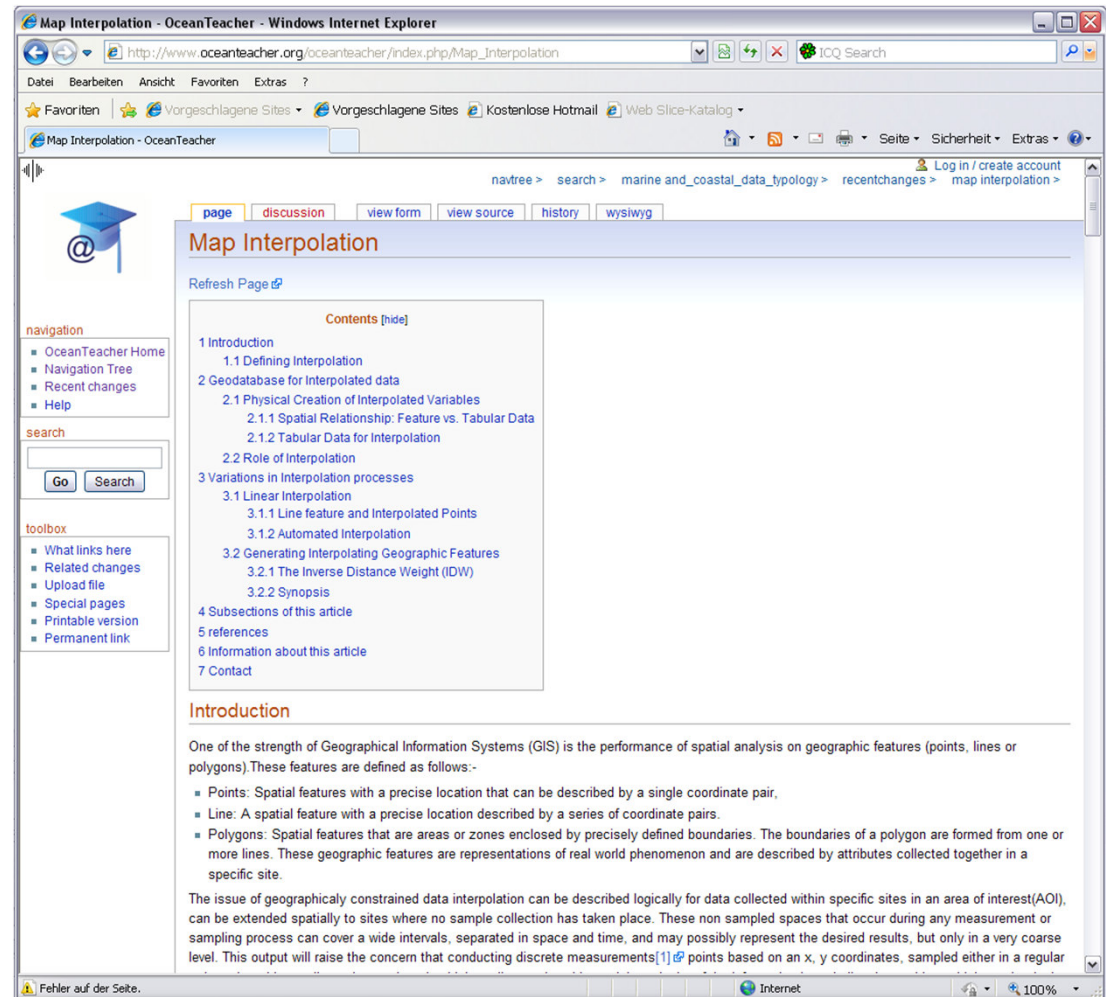


Example of use: Unesco/IOC

- online encyclopedia and training center about marine data and oceanic knowledge
- authors create teaching materials in private sections, and get them reviewed by editors before they are published
- target-appropriated presentation of learning contents based on semantic metadata



IOC



Use Case: PNNL

- wiki for storing, retrieving, reviewing and annotating documents
- collaborative environment for sharing and discussing these materials with team members
- integrated techniques to discover new, related information for social and traditional media
- integration with an NLP framework to automatically annotate contents

The screenshot displays the Pacific Northwest National Laboratory (PNNL) Intranet interface. The header includes the PNNL logo, navigation links (Intranet, LabWeb, Topic Index, SBMS, PNNL External), and a search bar. The main content area shows a document titled "Annotating Grading Scale for the Nuclear Posture Review" with a blue background. The document text discusses the U.S. Nuclear Posture Review and mentions Prof. Tom Sauer's contribution. Annotations are visible in the text, including "U.S. Nuclear Posture Review", "Tom Sauer", "Post-Existential Deterrence", "October 2009", "Journal of Strategic Studies", "Sauer", "France", "U.S.", "Russia", "China", "North Korea", "India", "Pakistan", "Japan", and "Germany". A sidebar on the left contains "Navigation" (Main Page, Announcements, Discussions, Recent Changes, Help) and "Toolbox" (What Links Here, Related Changes, Upload File, Special Pages, Browse Properties). A right sidebar shows "Annotations & Help" with a table of annotations and a "Don't forget to save your work!" message.

Annotations & Help
Annotations
Categories
SecurityPolicy
Properties
Create / Has part
Mentions
Organization
U.S. Nuclear Posture Review
Mentions
Person
Tom Sauer
Mentions
Organization
Post-Existential Deterrence
Mentions
Organization
October 2009
Mentions
Date
Journal of Strategic Studies
Mentions
Organization
Sauer
Mentions
Person
Sauer
Mentions
Person
Sauer
Mentions
Person
Sauer
Mentions
U.S.

Enterprise Content Management

- Benefit from using SMW+:
 1. Increased efficiency of content production by aggregating content using queries.
 2. Ontology of the domain leads to more adequate metadata (that goes beyond technical metadata and simple tags).
 3. Improved user experience by advanced navigation, exploration and search tools that are based on domain data.

Integrated Collaboration Environments

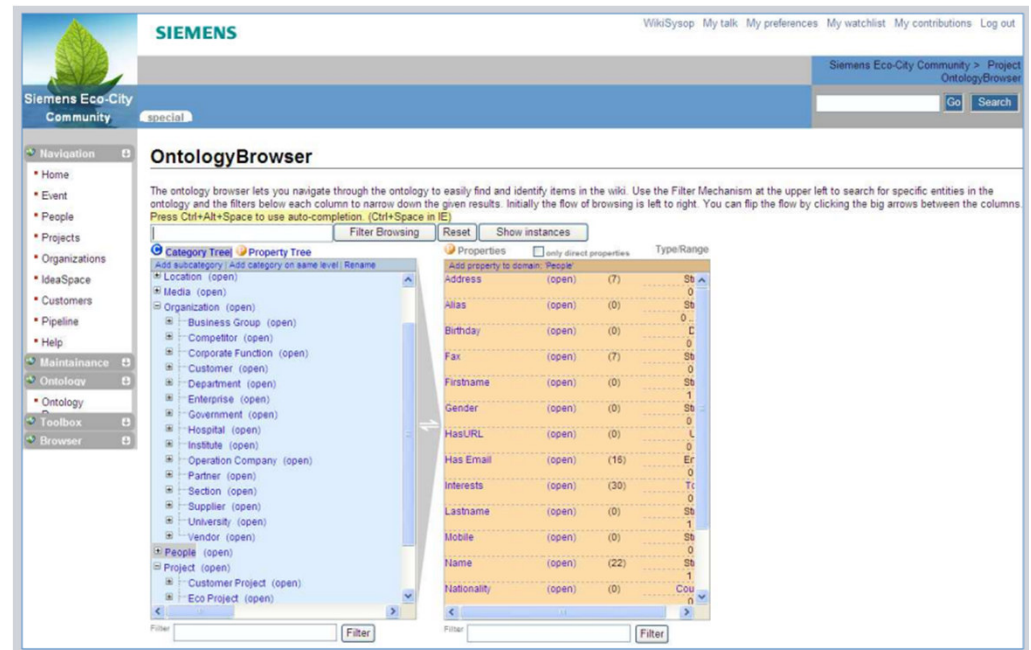
- Technologies where virtual teams do their work, e.g. project management.
- Example of use:

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Example of use: Siemens

- SMW⁺ as knowledge platform for Communities of Practice
- captures structured knowledge about projects, persons, topics, organizations etc.
- discover experts and related resources for a certain topic
- flexible navigation, semantic search and multiple entrance points
- dynamic aggregations (e.g. lists of projects)



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Example of use: Siemens

The image displays four screenshots of the Siemens Eco-City Community website, illustrating its use for project management and knowledge sharing. Red annotations highlight specific features and user interactions:

- Top Left Screenshot:** Shows the 'Project List' table. Red boxes highlight the 'Wu Qinghai' user profile in the 'Members' column and the 'Wu Qinghai' user profile in the 'Customer' column. A red arrow points from the user profile in the 'Members' column to the 'Wu Qinghai' user profile in the 'Customer' column.
- Top Right Screenshot:** Shows the 'Wu Qinghai' user profile. Red boxes highlight the 'Wu Qinghai' user profile and the 'Wu Qinghai' user profile. A red arrow points from the 'Wu Qinghai' user profile to the 'Wu Qinghai' user profile.
- Bottom Left Screenshot:** Shows the 'Category:Water' page. Red boxes highlight the 'Water' category and the 'Water' category. A red arrow points from the 'Water' category to the 'Water' category.
- Bottom Right Screenshot:** Shows the 'Category:Knowledge Management' page. Red boxes highlight the 'Knowledge Management' category and the 'Knowledge Management' category. A red arrow points from the 'Knowledge Management' category to the 'Knowledge Management' category.

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Use Case: Banca Romagna Cooperativa

- Business Process Reengineering project involving task surveys, analysis and process consolidation
- Conducting task surveys in SMW⁺ for collecting data and descriptions on tasks
- Tasks were described with properties (e.g. owner, duration, risk level) for selecting the most critical processes in a business impact analysis
- Dashboards providing dynamic views on the collected data based on semantic queries
- Further insights were gained by exporting and processing the data in MS Excel and MS Access for advanced statistical analysis (like clustering)
- Standardized procedures of the tasks were developed collaboratively in the wiki




The screenshot shows the Banca Romagna Cooperativa wiki interface. The header includes the BCC logo, the bank's name, and the BRC logo. A search bar is present. The main navigation bar contains links for 'Progetti', 'Progetto corrente', 'Il mio cruscotto', 'Articoli e dati', and 'Menu'. Below this, a breadcrumb trail reads: 'Statistiche e controlli o/c estinti > Search > AllPages > Filtro attività UO Filiali > Filtro attività'. The page title is 'Attività suddivise per tipo operatore'. The content lists the number of tasks assigned to various operator roles, with the count in red text:


Operatore	Numero schede
Addetto Cassa	1582
Addetto Clienti	352
Addetto Titoli/Clienti	219
Addetto ufficio	772
Coordinatore	135
Pers. di manovra	56
Resp. Area Direzionale	41
Resp. Area Territoriale	56
Resp. Ufficio	141
Resp. Filiale	374
Vice Filiale	297



Use Case: Banca Romagna Cooperativa



Banca Romagna Cooperativa



Search this wiki

Go

Search

Progetti

Progetto corrente

Il mio cruscotto

Articoli e dati

Menu BRC

Carico localizzazione immobili presso Sistema > Processo di gestione del credito - Istruttoria > ESAME E PARERE PRATICHE FIDO LIVELLO SUPERIORE > Preferences > ESAME E PARERE PRATICHE FIDO LIVELLO SUPERIORE

Page

Discussion

History

Edit

Info

Store

Attività

se posso permettermi: a volte necessita fare un passaggio verso il capo ufficio crediti per spiegare la dinamica della pratica, nel nostro contesto, soprattutto a titolo commerciale, noi capi area abbiamo i referenti certi, che sono il direttore ed il vice direttore vicario valzania, solitamente, dopo aver parlato con loro, mi sento tranquillo e concentrato, ho verificato che se non si attua questo passaggio (limitato a certe pratiche, si intende, non è generalizzato) a volte le pratiche possono subire talune fasi di stand by

Category: Attività

Identificativo attività

ESAME E PARERE PRATICHE FIDO LIVELLO SUPERIORE

Attività

Fidi - Istruttoria di Area standard

U.O. riferimento

Reso - Area Cesana Est

Operatore

Reso - Area Territoriale

Autore scheda

U3300362

Altri redattori

Informazioni fase 1

Tempo impiegato

3

Periodicità

settimane

Attività con rischio?

Alto

Motivazione Rischio

LA CONCESSIONE DI DENARO RAPPRESENTA UN RISCHIO X LA BANCA, L'ESAME DELLE PRATICHE, IN CONCERTO CON L'UFFICIO FIDI DI AREA, E' VOLTO SVILUPPARE A MONITORARE PREVENTIVAMENTE QUESTO RISCHIO

Disposizioni chiare?

Sì

Esempio/note?

Sì

Referente chiaro?

Sì

Riepilogo dati per seconda fase del censimento delle attività

Tipo attività

xx

Necessità visto?

xx

Archivio eletti?

No

U.O. di input

xx

U.O. di output

xx

Categorie

Fidi

Sotto categorie

Crediti_05_1

Norma di riferimento

xx

Modulo/contratto

xx

U.O. per supporto

xx

Punti di controllo

xx

Strumenti informatici

xx

Pratica completa

No

Descrizione completa

No

BIA a Riferimenti esterni

Processo BRC

01 Istruttoria

Processo BCI


xx

BIA - Efficienza


Valutazione_3_A

BIA - Economico

xx



Banca Romagna Cooperativa



Search

Progetti

Progetto corrente

Il mio cruscotto

Articoli e dati

Search > AllPages > Filtro attività UO Filiali > Filtro attività per tipo operatore >

Page

Discussion

Attività suddivise per rischio

Già presidiato 1319

Dettaglio [clicca qui](#)

Basso 1001


Dettaglio [clicca qui](#)

Medio 558


Dettaglio [clicca qui](#)

Alto 189

Dettaglio [clicca qui](#)



Banca Romagna Cooperativa



Search

Progetti

Progetto corrente

Il mio cruscotto

Articoli e dati

Search > AllPages > Filtro attività UO Filiali > Filtro attività per tipo operatore >

Page

Discussion

Attività suddivise per rischio

Già presidiato 1319

Dettaglio [clicca qui](#)

Basso 1001


Dettaglio [clicca qui](#)

Medio 558


Dettaglio [clicca qui](#)

Alto 189

Dettaglio [clicca qui](#)



Banca Romagna Cooperativa



Search

Progetti

Progetto corrente

Il mio cruscotto

Articoli e dati

Search > AllPages > Filtro attività UO Filiali > Filtro attività per tipo operatore >

Page

Discussion

Attività suddivise per rischio

Già presidiato 1319

Dettaglio [clicca qui](#)

Basso 1001

Dettaglio [clicca qui](#)

Medio 558

Dettaglio [clicca qui](#)

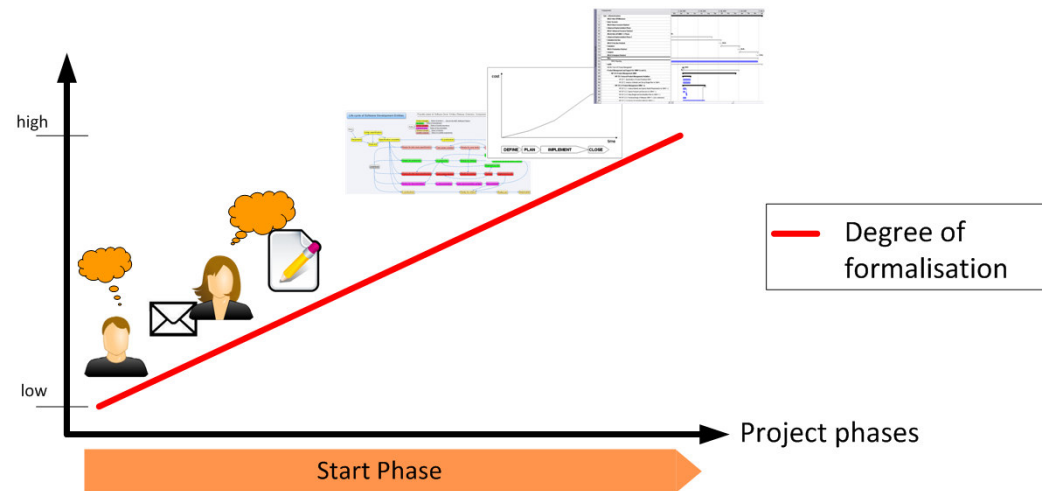
Alto 189

Dettaglio [clicca qui](#)

Integrated Collaboration Environments

- Benefit from using SMW+:
 1. Ontology of the domain leads to more adequate metadata (that goes beyond technical metadata and simple tags).
 2. Better support of the individual needs of project teams by flexible metadata creation.
 3. Better support of knowledge formalisation and consensus building processes

Knowledge formalisation

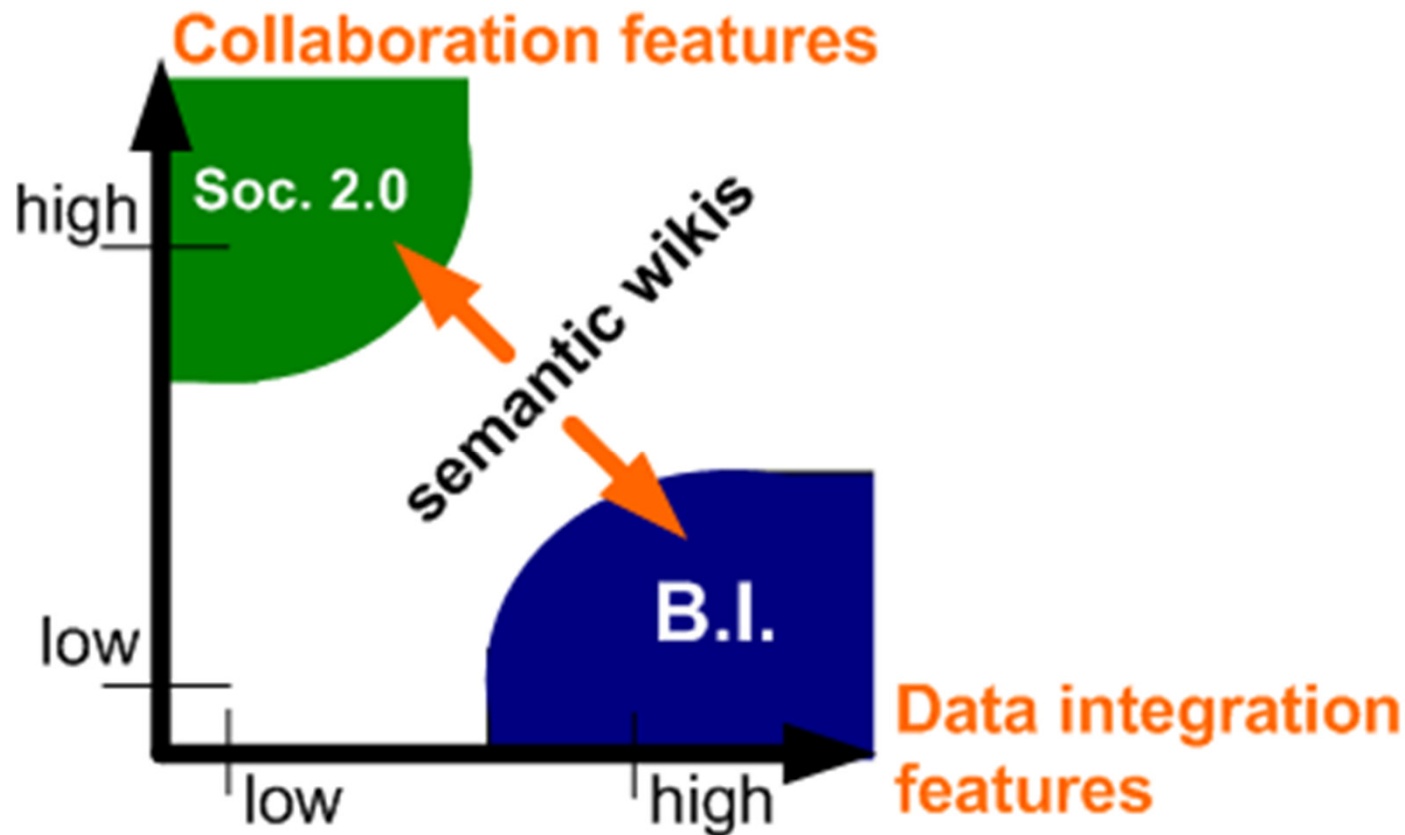


The start phase requires a Semantic Wiki supporting collaboration and incremental knowledge formalisation:

- Collection of initial project artifacts *Wikis are the perfect tool to collect and publish documents, write ups, emails etc*
- Accel consensus process in team *The Wiki-paradigm enables users to actively participate in a (community) consensus process.*
- Knowledge formalisation *Users tag data sitting in texts, transform data into process artifacts and process data within the Wiki.*

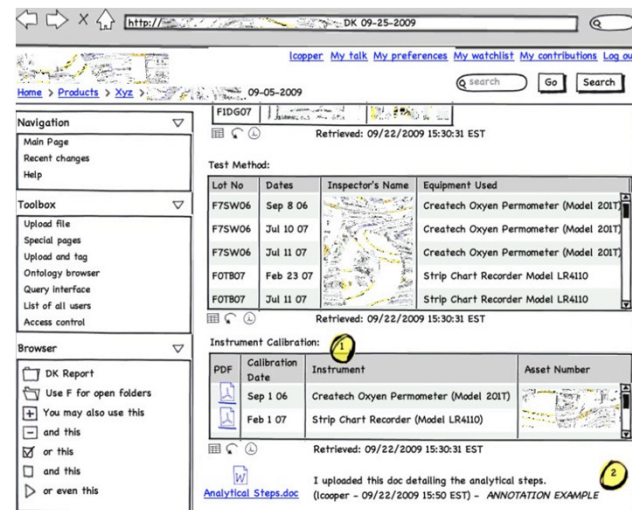
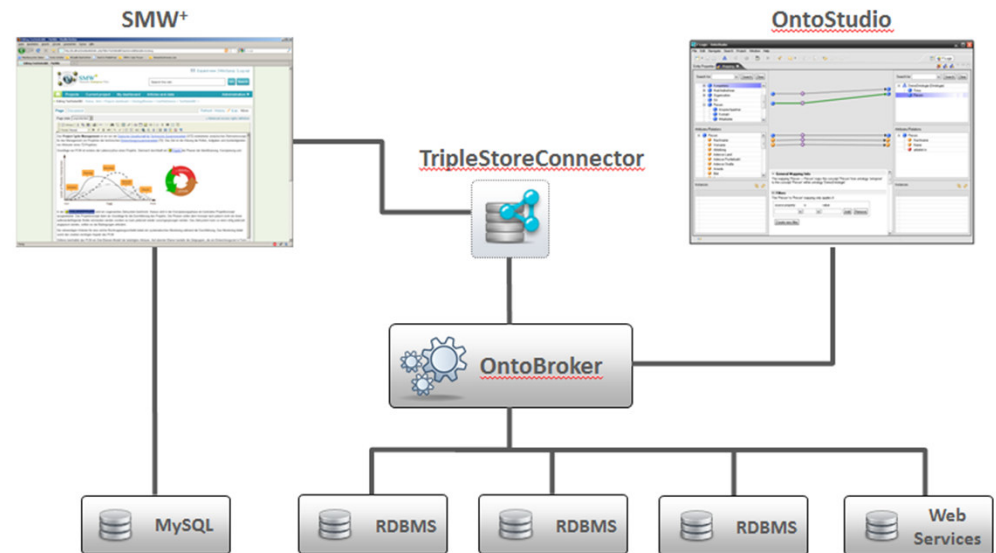
Business Intelligence 2.0

- Easy-to-use BI systems to generate reports on enterprise data that can be shared and authored collaboratively.



Example of use: Fortune 100 pharma company

- Internal self service portal for R&D staff
- Integration of DBs via OntoBroker (mapped into one ontology) containing information about production lots, ingredients of individual products, results from tolerance tests, etc.
- ability to track the genealogy of each brand
- generate reports for R&D via querying integrated databases
- usage of rules for inferring knowledge



Business Intelligence 2.0

- Benefit from using SMW+:
 1. *The wiki provides an integrated view on the data using a common ontology. Semantic queries enable dynamic, customized views.*
 2. *Legacy data can be complemented with socially curated data in the wiki. Data models of the integrated data can be extended easily in the wiki as needed.*
 3. *Legacy data, views on legacy data and socially curated data can be embedded into wiki articles. This helps teams to collaborate, discuss and built consensus on it.*

Overview

- SMW⁺ in a nutshell
- Why are semantic Wikis better?
- Demo of SMW⁺
- Examples of use
- **Where to get SMW⁺?**

Wrap up

- Wikis are indispensable tools.
- Semantic Wikis outpace traditional Wikis through the use of data
- SMW+ is a Semantic Enterprise Wiki that combines text and data.

Where to get SMW⁺



get your copy of SMW⁺ within 5 minutes!

Product home page: <http://www.smwplus.com>



Daniel Hansch

Email: hansch@ontoprise.de

Web: <http://www.ontoprise.com>