Brønnøysundregistrene

SERES metadata repository

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History

- The Brønnøysund Register Center has been tasked by the Norwegian Government to:

  - **Reduce the reporting complexity and reporting burden** between Governmental agencies, between these agencies and the public, and between these agencies and the public

  - Promote reuse of reports and reported data, and prevent redundant reporting

- The Brønnøysund Register Center has undertaken the responsibility to administer and support the national HUB for electronic data collection - Altinn - with metadata

- Emerging trends and future needs challenge the structure and scalability of the existing metadata regime.

Project Objectives and Constraints

- SERES shall without interrupts guarantee the continuation of ongoing public productions, and the future development of new services

- SERES shall deliver best practice, methods and tools for the modeling, administration and use of metadata in support of collaboration and interoperability

- SERES shall reintroduce metadata and administrative support functions needed by the Brønnøysund Register Center, for them to successfully comply with Governmental laws and regulations describing their mission.

Report to the Storting 17/06-07
- *an information society for all*

The need for standardized access services with a semantic character

"For å komme fram til semantiske standardar er det behov for omfattande avklaringar mellom offentlege verksemder."

"Det skal etablerast ein felles tilnærmingsmåte og metodikk som bidrar til at offentleg sektor på ein systematisk måte kan komme fram til harmoniserte og standardiserte datadefinisjonar."

"Standardiserte datadefinisjonar bør samlast og systematiserast på ein heilskapeleg måte. Dette vil sikre betre kunnskap om og oversikt over kva opplysningar som finst og som eventuelt kan gjenbrukast."

"Elektronisk samhandling and utvikling av elektroniske tenester aukar behovet for ein meir standardisert tilgang som både er av teknisk og omgrepsmessig karakter."

Office of the Auditor General of Norway, 2008
- on coordination of data definitions

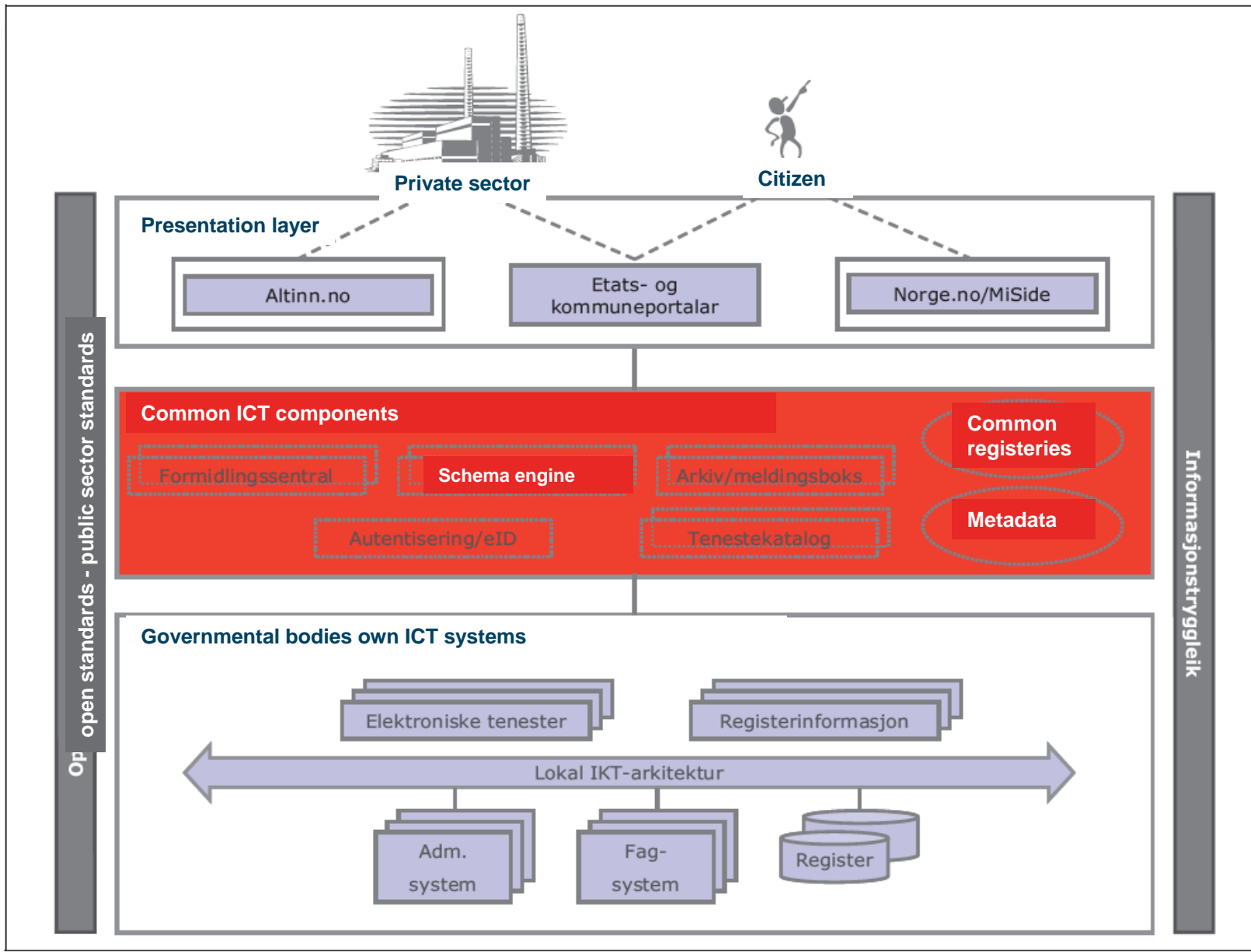### The need for enabling interoperability between systems

"Nærmere 30 prosent mener at manglende oversikt over datadefinisjoner er begrensende i dette arbeidet."

"Nesten 40 prosent av virksomhetene mener at mangelfull samordning av datadefinisjoner hindrer elektronisk informasjonsutveksling"

Dokument nr. 3-serien

R
Riksrevisjonen

Riksrevisjonens undersøkelse av elektronisk informasjonsutveksling og tjenesteutvikling i offentlig sektor

Dokument nr. 3:12 (2007–2008)

"For at dette skal kunne skje, må datakilder som allerede eksisterer i forvaltningen, identifiseres og tilrettelegges for utveksling, gjennom blant annet datadefinisjoner."
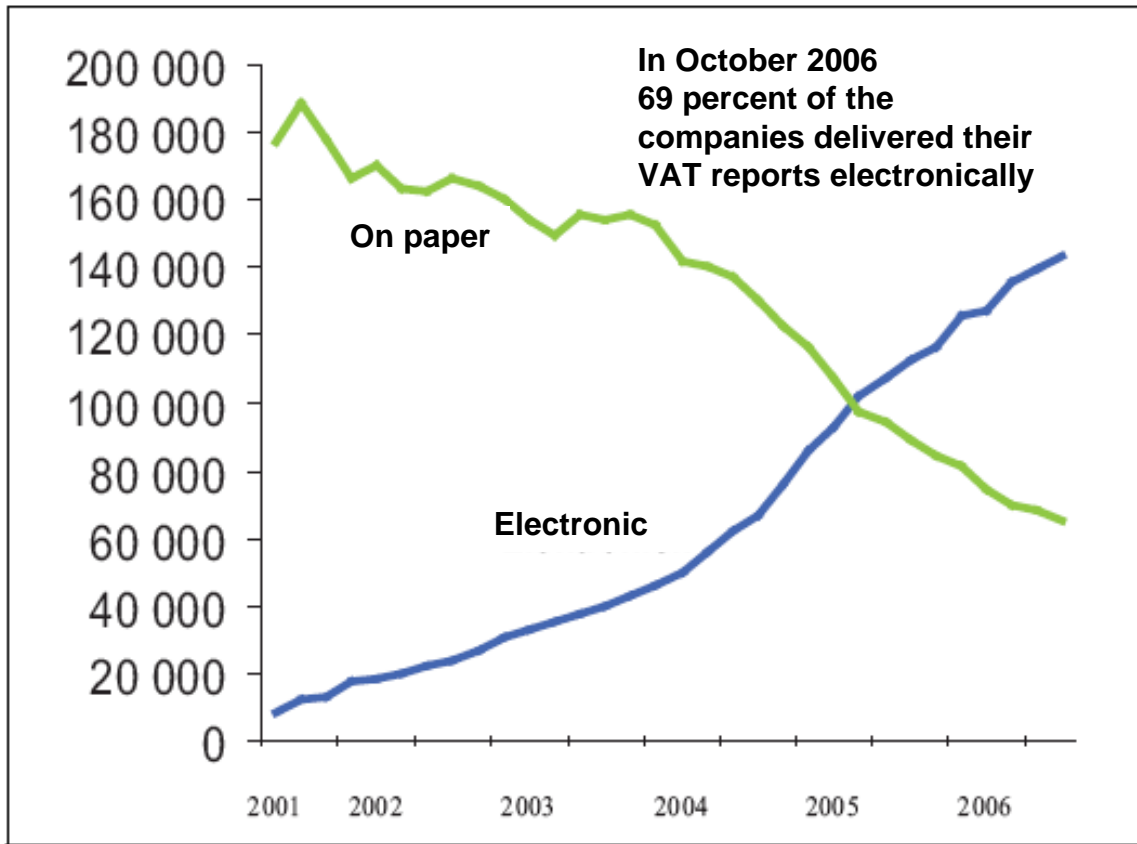
"Gjenbruk av elektroniske data vil bedre både datakvaliteten i forbindelse med saksbehandlingen og hindre at privatpersoner og næringsliv må rapportere de samme opplysningene flere ganger."

5 666   577   -7 285   18   4 588 315   6 554   735 394   216   2 577 634   492

Private sector

Citizen

Presentation layer

| Altinn.no | Etats- og kommuneportalar | Norge.no/MiSide |

Common ICT components

Formidlingssentral

Schema engine

Arkiv/meldingsboks

Autentisering/eID

Tenestekatalog

Common registeries

Metadata

Governmental bodies own ICT systems

Elektroniske tenester

Registerinformasjon

Lokal IKT-arkitektur

Adm. system

Fag- system

Register

Op open standards - public sector standards

Informasjonstryggleik

From Report to the Storting 17/06-07 - *an information society for all*

Electronic forms

In October 2006 69 percent of the companies delivered their VAT reports electronically

On paper

Electronic

With the introduction of Altinn (2004) the data definitions/fields has increased from 8.000 to more than 26.000.

from Report to the Storting on - on standardized data representations 17/06-07

Objective of the repository project

- Central part of the infrastructure for management of forms and schemas and a basis for developing semantic descriptions
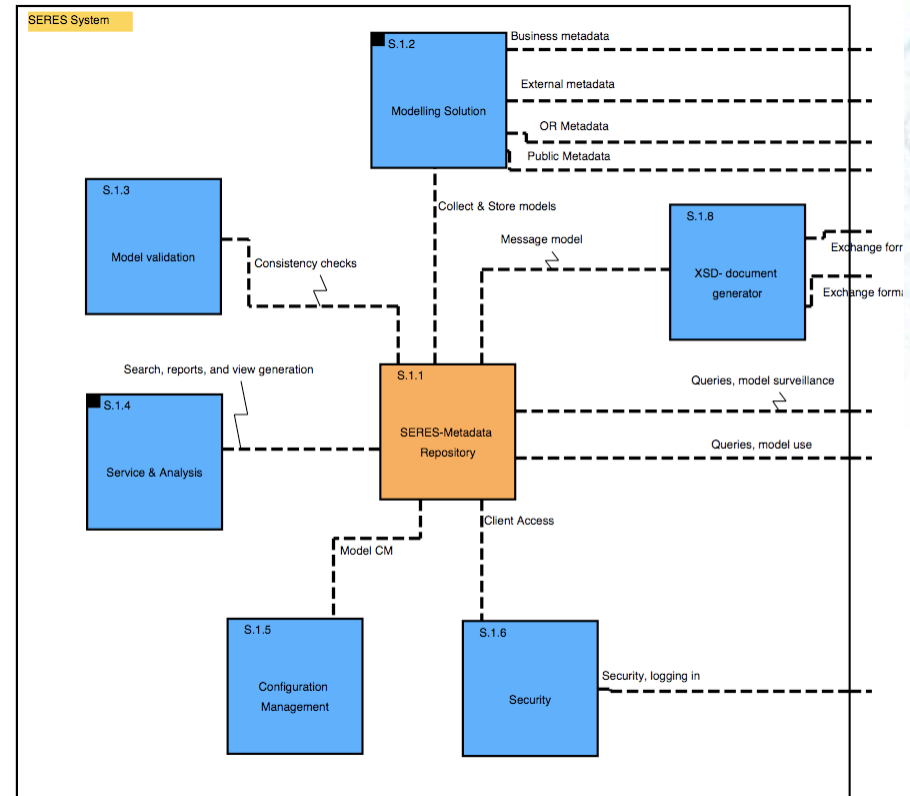
A revolution or an evolutionary approach?

- Creating an **operational system** we don't have the luxury of abandoning existing juristictions, data and solutions

- **A top-down approach**
  - correct semantical description of a subject area
  - risk of "forgetting" important areas and has a slow time-to-market.

- **An evolutionary approach**
  - cover and uncover what is actually transferred on the wire
  - the risk of not being able to draw the dots.
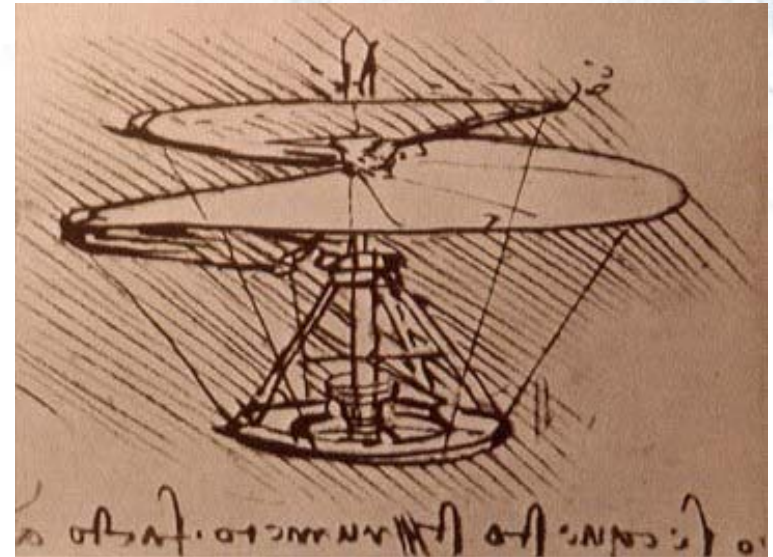
What do we aim for?

- a regime where we can **create and manage forms** from reusable structures, and

- **a dictionary with definitions** for each concept used - and connected to use.

Brønnøysundregistrene

What is meant by a birth place?

Were you lived when you were born?

eller

Or where you were born?

Fra "Utredning om metadatasatsning", Br.reg 2008

What is meant by

"ArbeidsgiveravgiftRefusjonBruttoSpesifisert-datadef-28108"

(defintion in context)
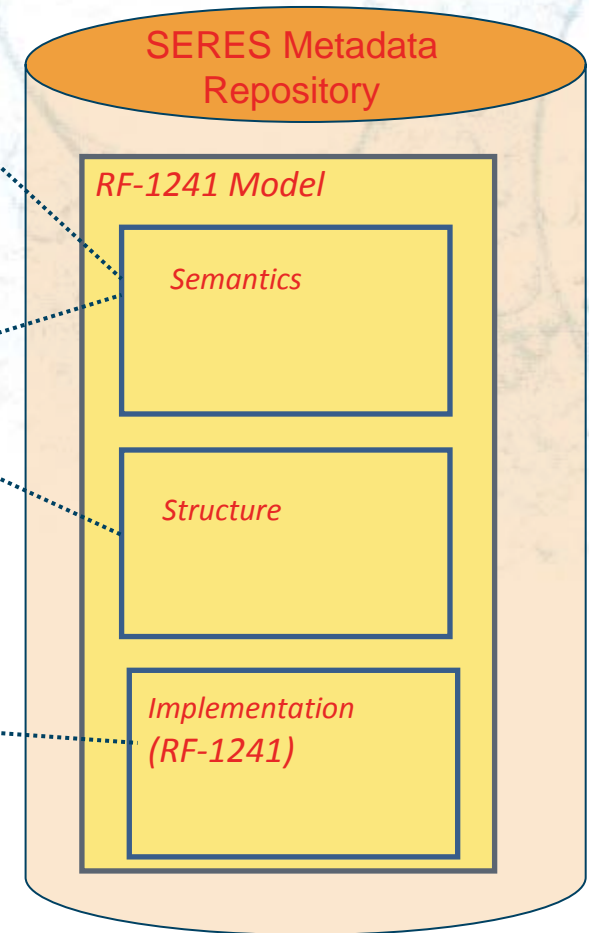
Interoperability

Organizational Interoperability

(model and coordinate business processes, consistent with internal goals make services easy availiable and user friendly)

Semantic Interoperability

(ensure a precise and common meaning of the information for all parties)

Tecnical interoperability

(technical solutions to link systems
- Web Services and SOA)

SERES Metadata Repository

RF-1241 Model

Semantics

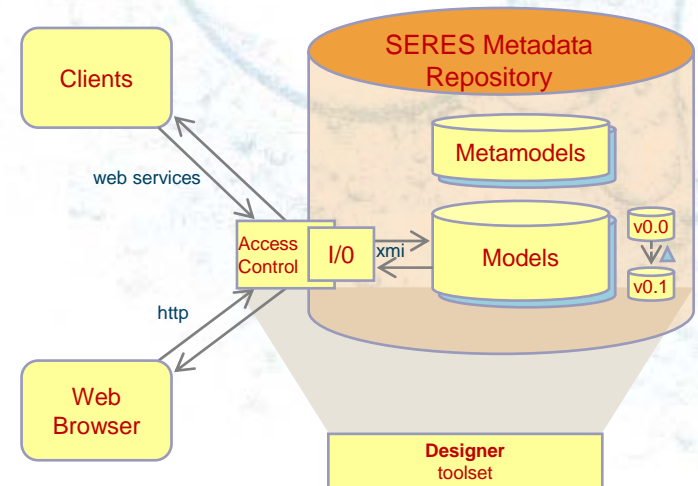*Structure*

Implementation (RF-1241)

Kilde: Norstella, EU: European Introperability Framework

Where are we today with regards to the repository?

- Established a meta model for the information in the store divided into *implementation*, *structure* and *semantic* layers

- Profile for the UML modelling tool

- Import routines that enables reuse and configuration management

- Bootstrapped roles and workflow based on an operational concept (in progress)

- Started importing schemas/models

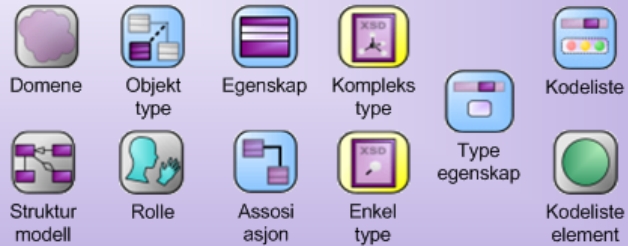- *More than 1000 XSD schemas to be harvested, re-modeled and imported*

Clients

web services

Access Control | I/0 | xmi

http

Web Browser

SERES Metadata Repository

Metamodels

Models

v0.0

v0.1

Designer toolset

adaptive

Home Page   Reports

Role   Welcome David Norheim Logout

| Seres Read Only Role |
| ✓ Seres Edit Role |
| Administrator |

Integrator   RAM

Exact Match   Text Match

Processes   Create Item   Navigation Maps

Item Type: ⌄   Advanced

Menu

Application Detail	Summary Reporting	Workflow

Workspace: **SERES RF-1241 Workspace** Change

Home Page   Reports

Integrator   RAM

Role: Seres Edit Role

Welcome David Norheim Logout

Exact Match   Text Match

Processes   Create Item   Navigation Maps

Item Type: Advanced

Menu

Application Detail	Summary Repor

Assosiasjon

Begrep

Begrepskategori

Begrepsmodell

Beskrivelse

Dataegenskap

Dataegenskapstype

Datamodell

Dataobjekttype

Dokumentasjon

Domene

Egenskap

Egenskapstype

Ekstremverdi

Elementkategori

Enkeltype

EnveisSemantiskRelasjon

Logged in : 19-May-2009 10:52:09 CEST

9 10:52:34 CEST

Home Page   Reports

Integrator   RAM

Role: Seres Edit Role

Welcome David Norheim Logout

Exact Match   Text Match

Item Type: ◯ Begrep   Advanced

Processes   ◯ Create Item   🌐 Navigation Maps

Menu

Application Detail	Summary Reporting	Workflow

adaptive

Workspace: **SERES RF-1241 Workspace** Change

🏠 Home Page   📊 Reports   👑 Role: [Seres Edit Role ▾]   Welcome David Norheim Logout

🧩 Integrator   💿 RAM

🔍 [   ] [Exact Match] [Text Match]

📝 Processes   ⚪ Create Item   🌐 Navigation Maps

Item Type: [▾]   Advanced

Search Results

Refine search   New search

Sort order: [Not Sorted ▾]

Showing 1-10 of 38 Items matching "Item Type[Begrep]"

<<Previous   1 - **2** - 3 - 4   >>Next

Items

Oppgave

Creation Time	May 8, 2009 5:02:44 PM
Modification Time	May 8, 2009 5:02:44 PM
Store Name	SemantikkStore
Version	0.0

System Classification

Item Type	Begrep [Filter]
Class	SERESrepository.A_Semantikknivå.Begrep [Filter]

BetalerAntall

Creation Time	May 8, 2009 5:02:44 PM
Modification Time	May 8, 2009 5:02:44 PM
Store Name	SemantikkStore
Version	0.0

System Classification

Item Type	Begrep [Filter]
Class	SERESrepository.A_Semantikknivå.Begrep [Filter]

BetalerAdresse

Creation Time	May 8, 2009 5:02:44 PM
Modification Time	May 13, 2009 10:50:30 AM
Store Name	SemantikkStore
Version	0.0

System Classification

Item Type	Begrep [Filter]
Class	SERESrepository.A_Semantikknivå.Begrep [Filter]

Creation Time	May 8, 2009 5:02:45 PM
Modification Time	May 8, 2009 5:02:45 PM

Workspace: **SERES RF-1241 Workspace** Change

Home Page Reports

Integrator RAM

Role: Seres Edit Role

Welcome David Norheim Logout

Exact Match Text Match

Item Type: Advanced

Processes Create Item Navigation Maps

Model	Manage

Summary Model: Begrep Full View

PDF SVG Creation

Store: SemantikkStore

Begrep **Oppgave**

Overview

Definisjon:	
Guid:	http://skd.org/definitions/Oppgave
Creation Time: 08-May-2009 17:02:44 CEST	Modification Time: 08-May-2009 17:02:44 CEST

Begrepsmodell
Add/Replace   Create   View Graphic

Name

Begrepsdefinisjon

Begrepskategori
Create   Modify   View Graphic

Name

Autogenererte begreper fra import

Modellelement
Create   Modify   View Graphic

None

Kodelisteelement
Create   Modify   View Graphic

None

Toveis Semantisk Relasjon
Create   Modify   View Graphic

None

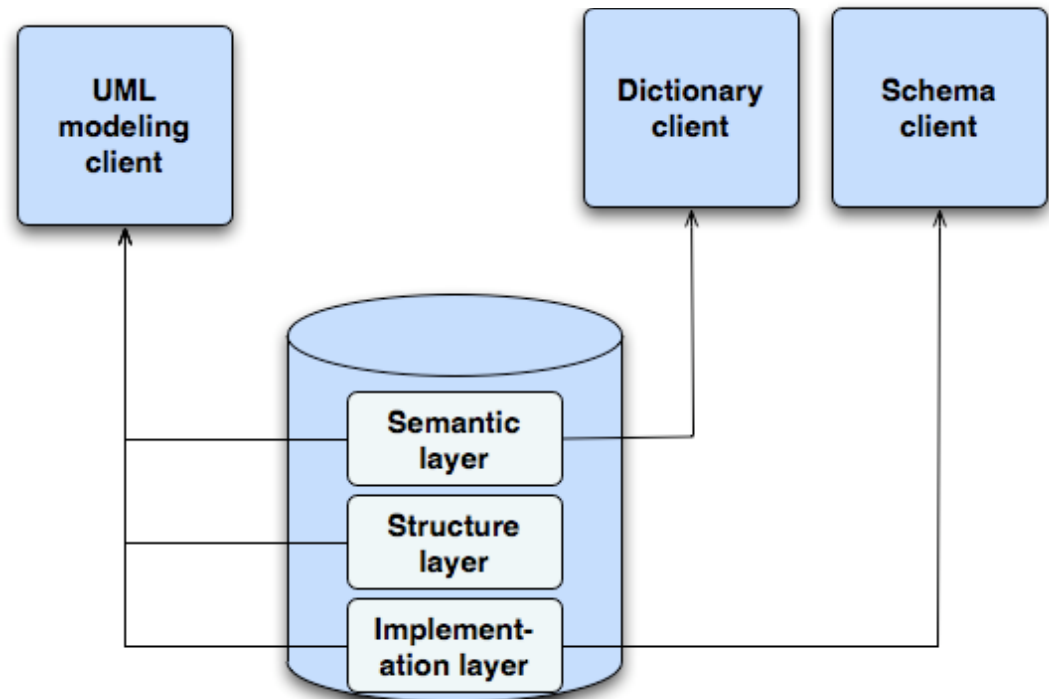### Semantisk Relasjon
Create   Modify   View Graphic

None

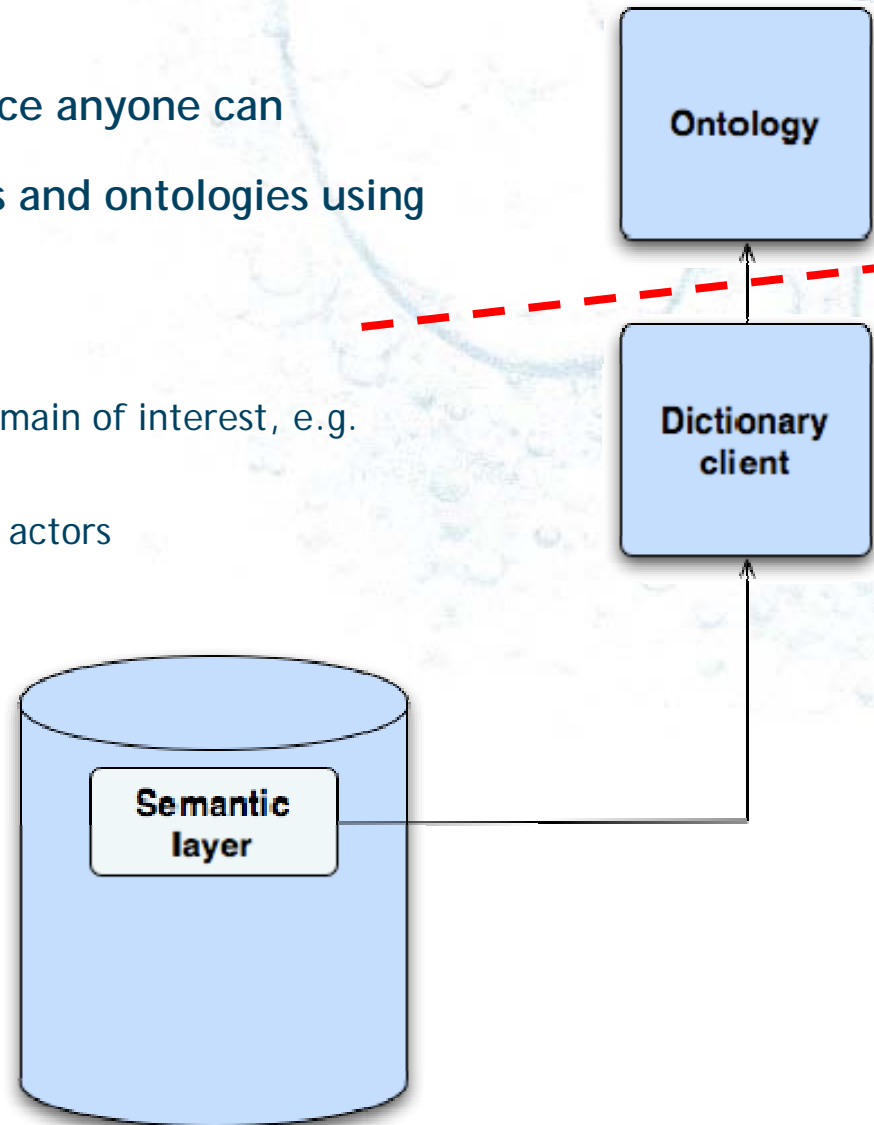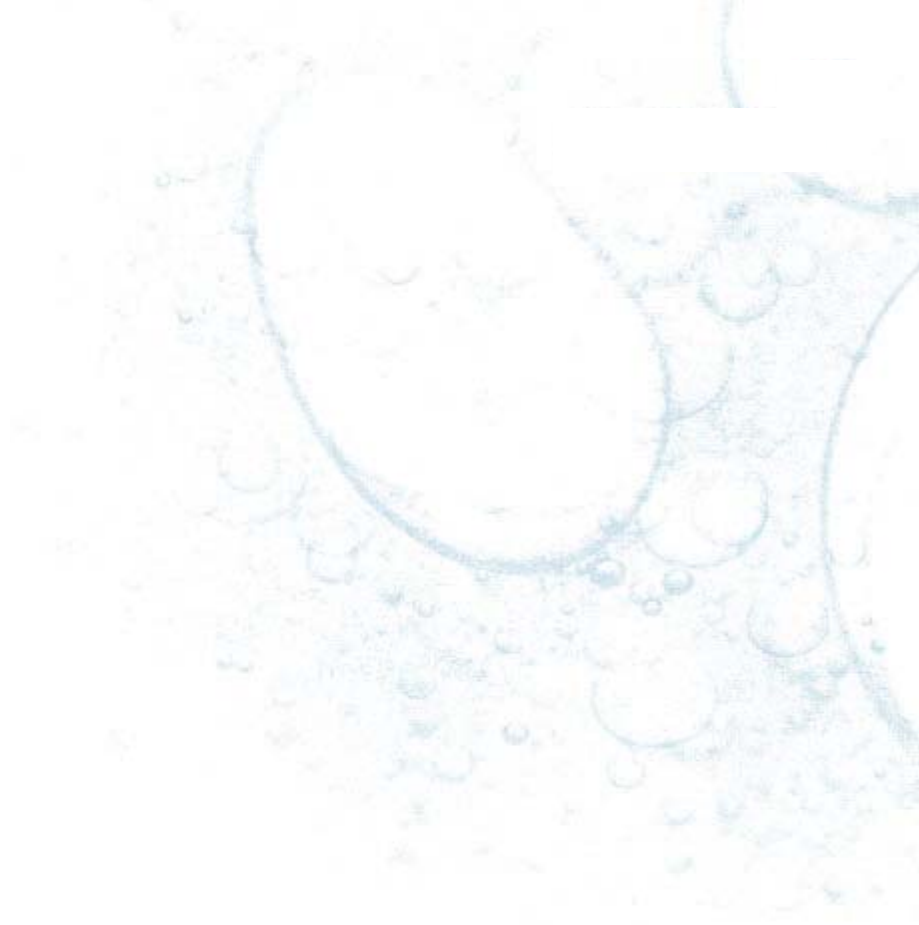# Into the near future...

- For the first time we can provide concepts and their definitions used in the public sector

- Using URIs with a name resolution service which will return appropriate stubs for various knowledge representation formats (e.g. text, html, rdf etc.)

Into the longer future...

- **With this open infrastructure in place anyone can innovate on creating services and ontologies using public definitions.**

- **Some potential uses**
  - create an ontology for a particular domain of interest, e.g. research funding schemes
  - long lasting workflows, where several actors collaborates (see Semicolon project)
  - Exposure of definitions will allow lawmakers to see what concepts are defined and used (ref. Prof. Schartum) (see Semantic MyPage presentation)
  - Unplanned collaboration

Ontology

Dictionary client

Semantic layer

Thank you!