MANAGING RISK DNV

ESIS Norge

A nation's presence on the Semantic Web

Semantic Days Tutorial 31. may 2010

Per Myrseth (Semicolon)

Robert H.P. Engels (Sesam4)

Why are we here?

*Promote **common information design principles** on the internet!*

Represent everything as objects

*and **provide (defined!) relations** between objects*

Open enterprise/ gov data

National enterprise master data

Statistical data

WP leader Semicolon – semantics

Open public/social data

LOD central in global/European Cultural Heritage

LOD bringing together public information and information by the public

Enabling you to join LOD!

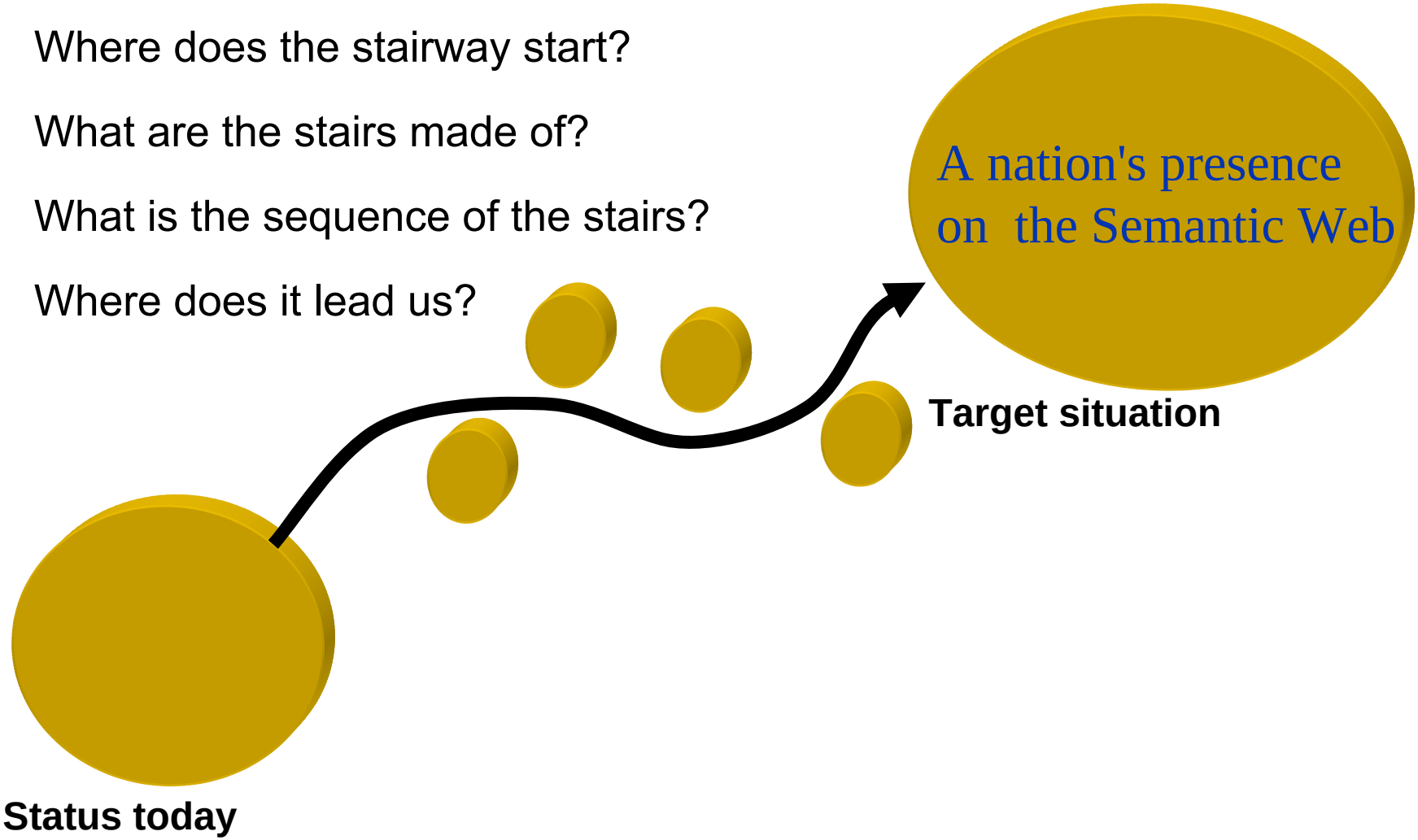
Project leader SESAM4

Chairman DND FG semantic web

The stairway to heaven

(not Led Zeppelin this time)

- Where does the stairway start?
- What are the stairs made of?
- What is the sequence of the stairs?
- Where does it lead us?



Public sectors big hairy goals and the effect of using LOD

Public sector goal is to be **open**, **transparent, accountable, accessible, user-friendly, efficient, effective** and **service-oriented**.

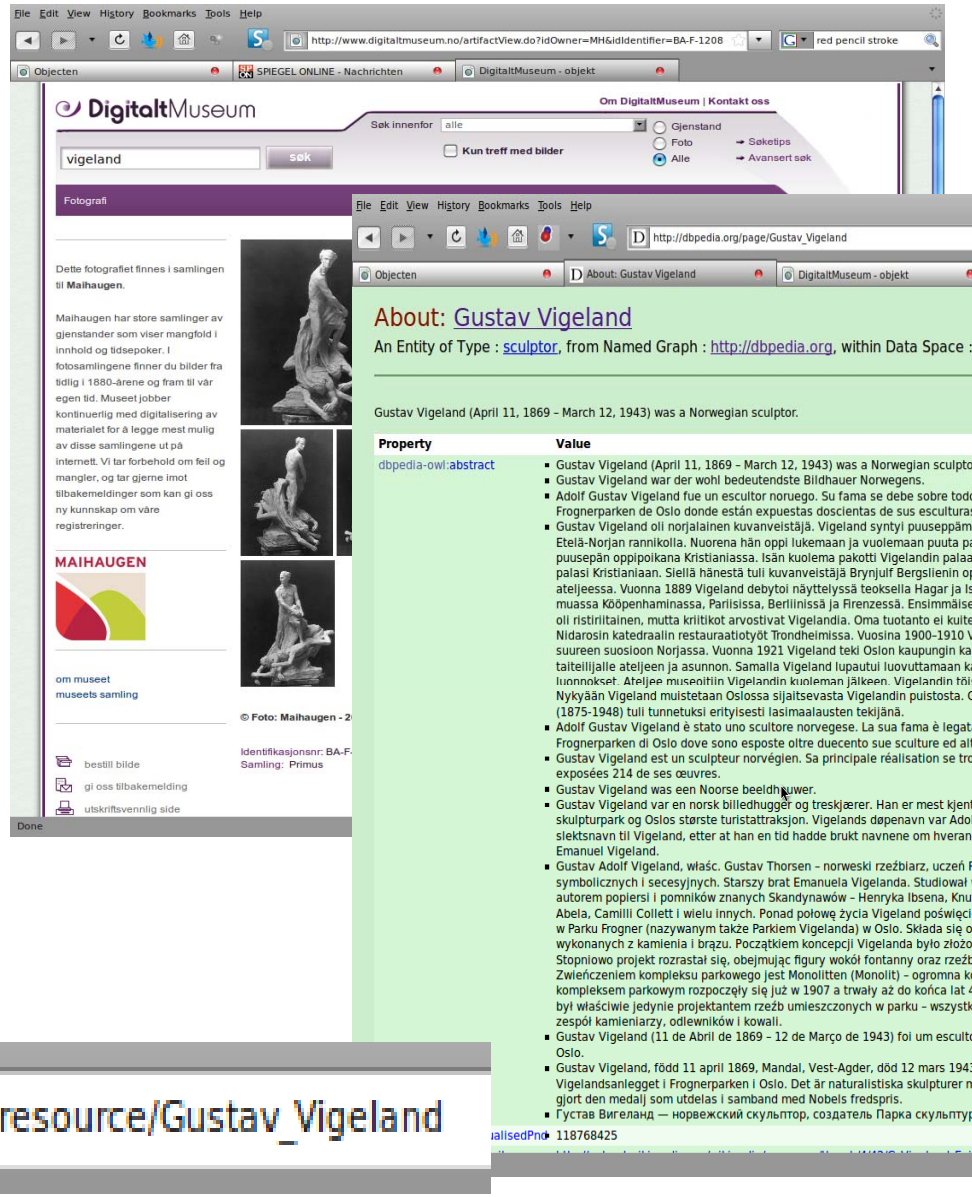
The anticipated effect of Linked open data:

- Will **open** up PSI for innovation and makes public sector more **transparent** and **accountable**
- Utilize the internet as an infrastructure for **access** and scalability
- Enables more and cheaper **user-friendly** eGov services
  - Give the information back to the people
- Enables public sector to remove silos, lower integration cost and become more **efficient** and **effective**.
- Is a prerequisite in a **service oriented** public sector

Status today

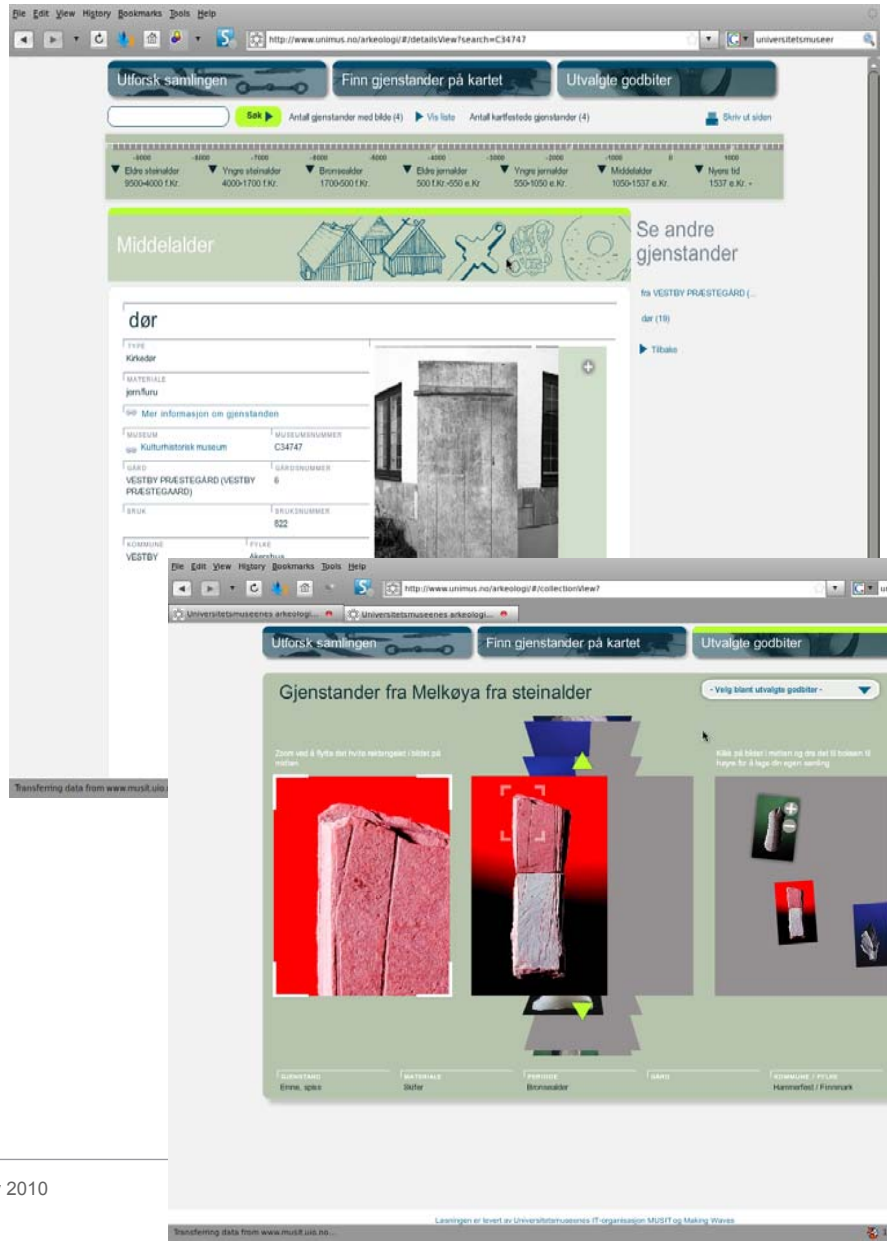
Current Best Practice – examples from CH

- Collection of Norwegian Musea
- Digital representations of Cultural Heritage
  - Grieg, Vigeland, Munch, etc
- No globally identifiable objects
  - No explicit URI, but search on URN (internal foreign key) possible
  - *http://www.digitaltmuseum.no/artifactView.do?image=&imageIndex=0&idOwner=MH&idIdentifier=PMF.7.0.01452&pageNo=1&noOnPage=12&noInResult=1&owner=&criteria=PMF.7.0.01452&searchObjectType=Unknown&onlyWithPictures=&lastPageNo=&filterCriterias=*
- Centered around works of art
- Positive:
  - Merging of collections from different sources
  - Artworks as objects with characteristics
- Negative:
  - No global identifiers
  - No relationships → navigation through unfocussed search in text strings
  - No automated access possible (no merging of sources) → why would you like to do that?

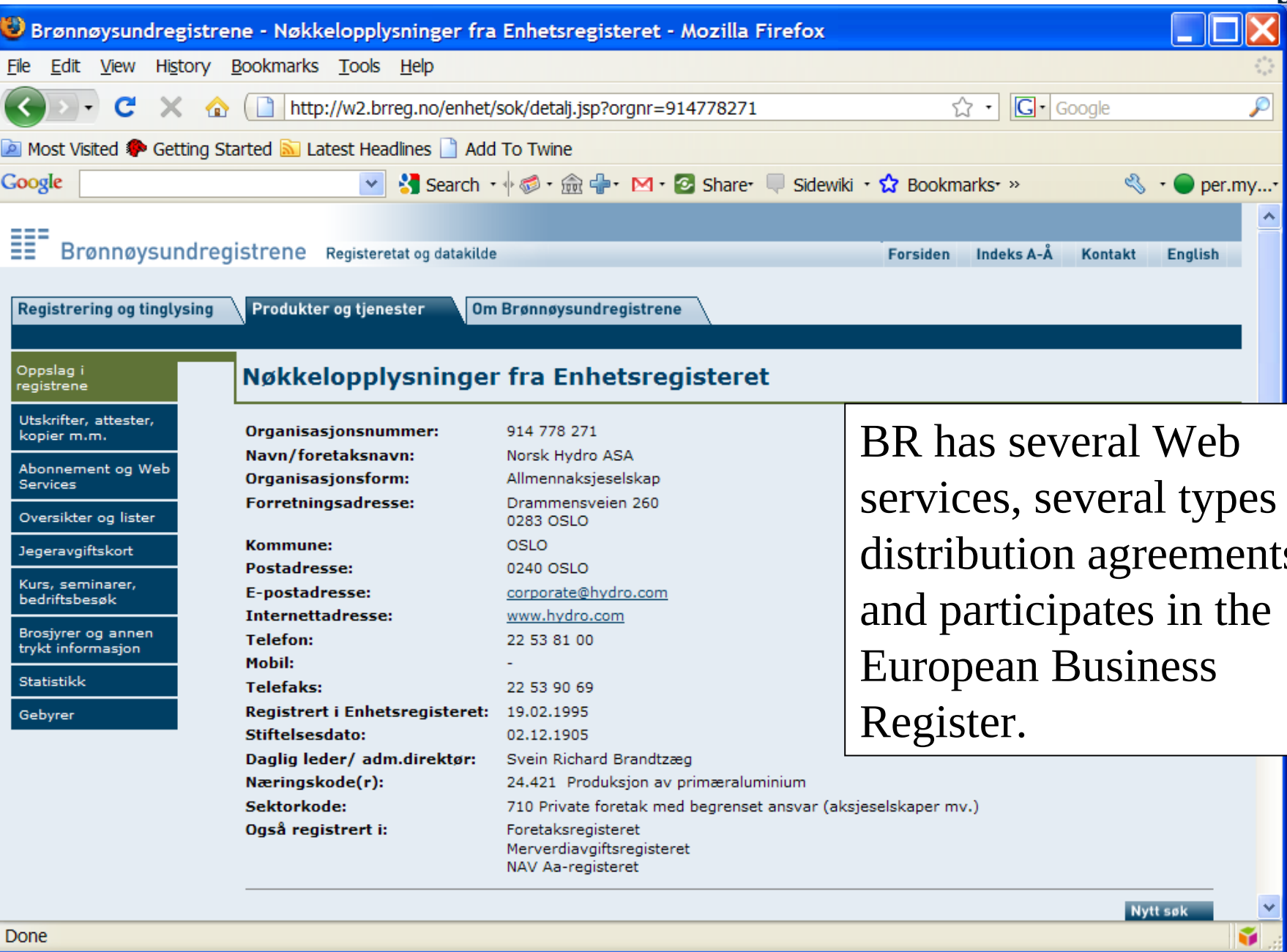


Current Best Practice – examples from CH

- Collection of Norwegian Archeological Objects
- Digital representations of Cultural Heritage
  - Doors, tools, objects from diverse epocs
- No identifiable objects
  - No explicit URI, but search on URN (internal foreign key)
- Centered around objects
- Positive:
  - Merging of collections from different sources
  - Nice flash-based interactive user interface
- Negative:
  - No globally identifiable objects (URI)
  - No publishing of metadata according to standards (f.ex DC)
  - Metadata not object-based → navigation through unfocussed search in text strings
  - No automated access possible (no merging of sources)



BRs Register of Business Enterprises



BR has several Web services, several types of distribution agreements and participates in the European Business Register.

PROFF
Innsikt gir bedre beslutninger

Firmasøk / bransjesøk | Rollesøk | Finn oppdrag og anbud | Lag lister

norsk hydro

SØK

Detaljert søk

Norsk Hydro ASA

Org nr 914 778 271

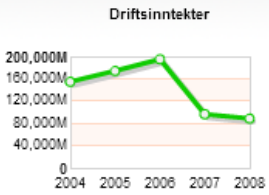
Firmainformasjon | Regnskapstall | Roller og kunngjøringer | Bedriftssammenligning | Nyheter

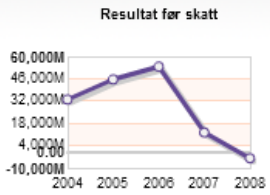
Kontaktinformasjon

Regnskapstall - Viser regnskapstall for hovedkontor

RESULTATREGNSKAP	2008	2007
Sum driftsinntekter	88 593 000	96 409 000
Driftsresultat	1 194 000	9 024 000
Resultat før skatt	-3 832 000	12 232 000
Sum eiendeler	95 156 000	92 044 000
Egenkapitalandel i %	56,9%	59,8%

Tall i hele tusen. Valutakode: NOK





Vis alle regnskapstall

Offisiell foretaksinformasjon - Viser informasjon for hovedkontor

Juridisk navn: NORSK HYDRO ASA
Org nr: 914 778 271
Antall ansatte: 896-900
Stiftelsesdato: 02.12.1905
Aksjekapital: 1 361 641 011,-
Adresse:

Datterselskaper
Hydro Aluminium AS
Securus Industrier AS
Norsk Hydro Plastic Pipe AS
Assistco AS
Norsk Hydros Handelsselskap AS
Kundeøkonomi AS
Norsk Hydro Produksjon AS
Grenland Industriutvikling AS
Industriforsikring AS
Hydro Kapitalforvaltning AS
Norsk Hydro Kraft Oy

Tjenester

Send firmaprofil til e-post
Skriv ut firmaprofil
Lagre visittkort

Fagområder/bransjer

Bransje:
Ukjent bransjetilknytning

NACE-bransje:
24.421 Produksjon av primæraluminium

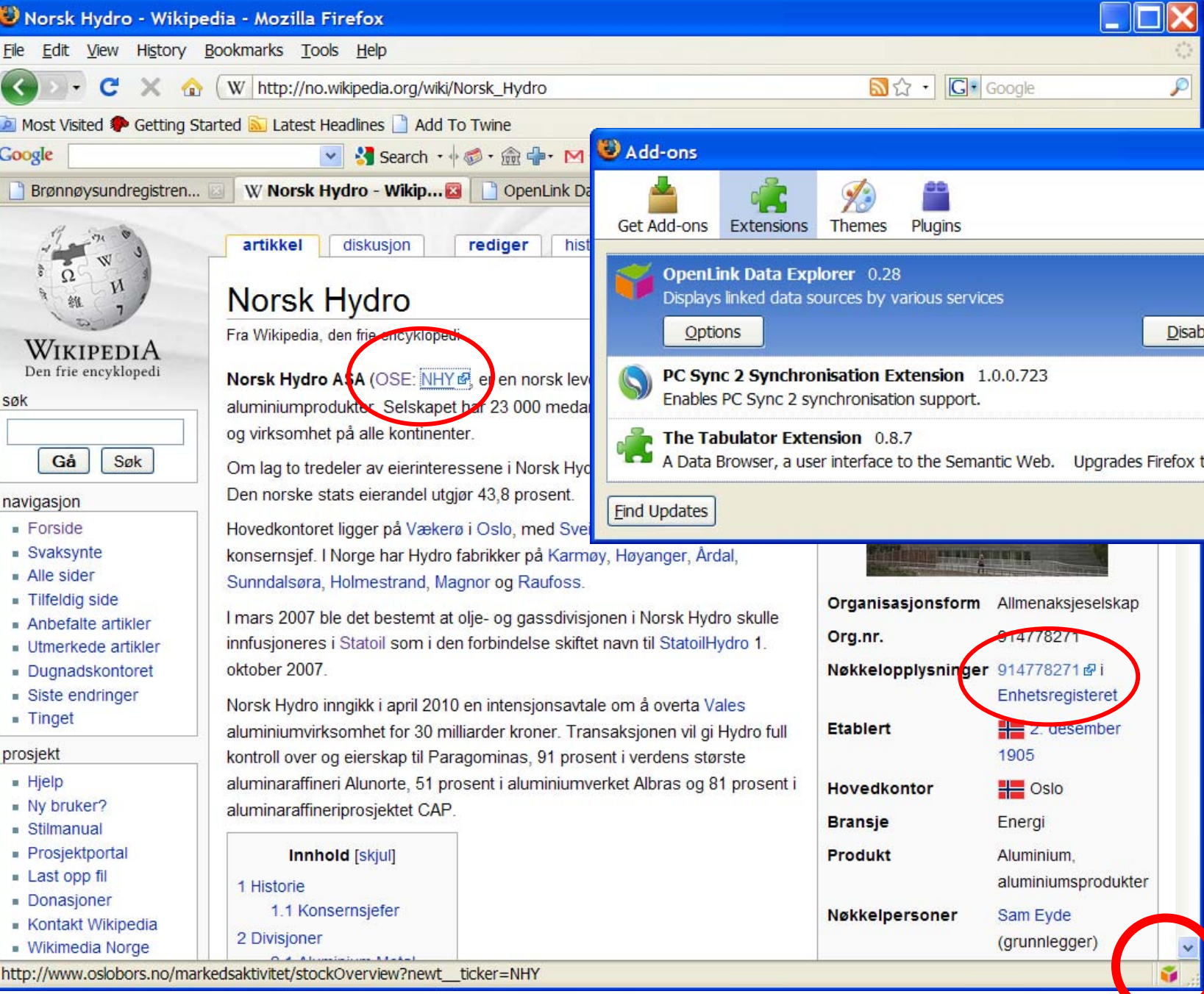
Ledelse/styre/eiere

Daglig leder
Svein Richard Brandtzæg (f 1957)

Styrets leder
Terje Vareberg (f 1948)

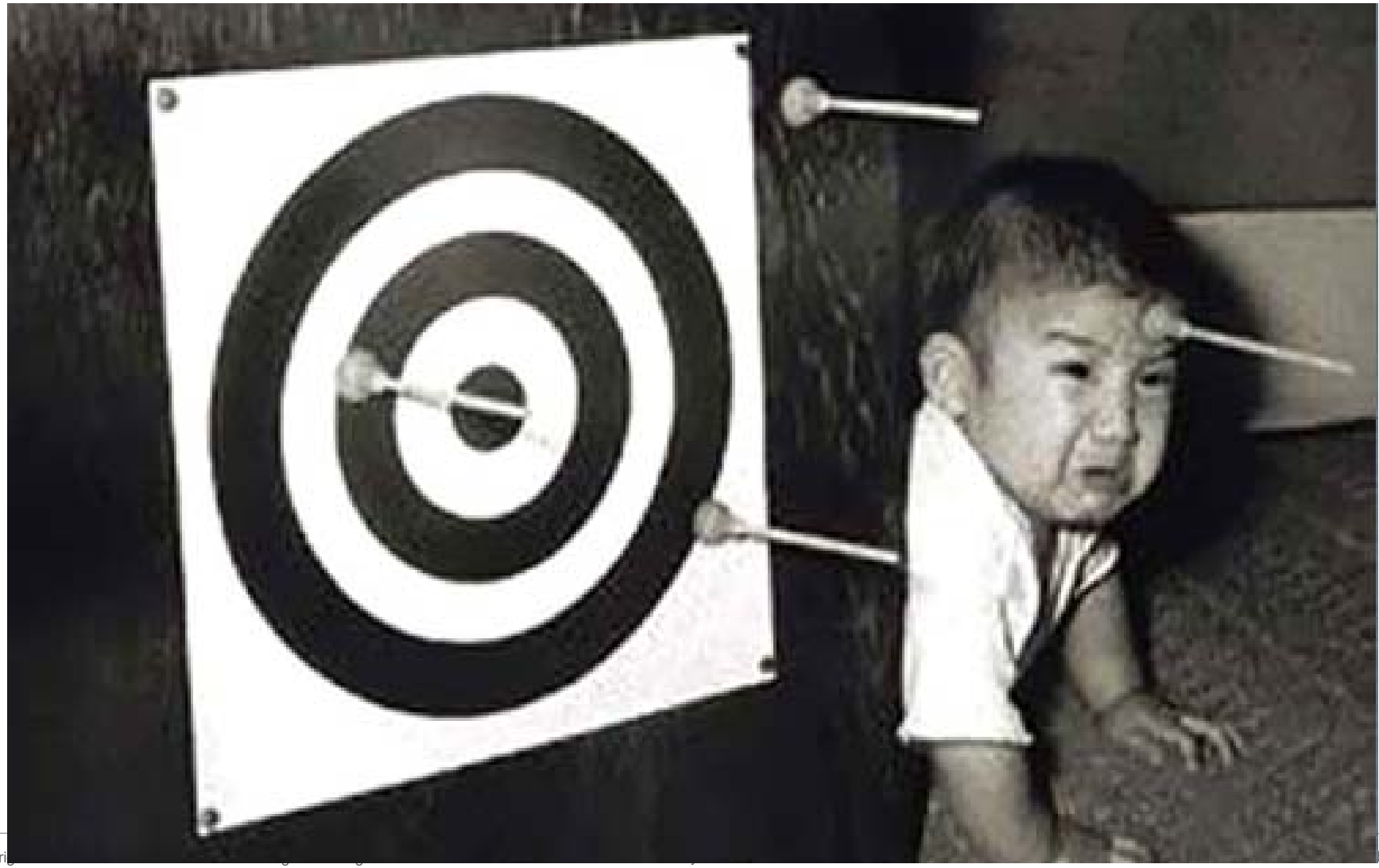
Bestill mer info

Norsk Hydro ASA
Regnskap 2008 kr 50,00
Full firmarapport kr 90,00

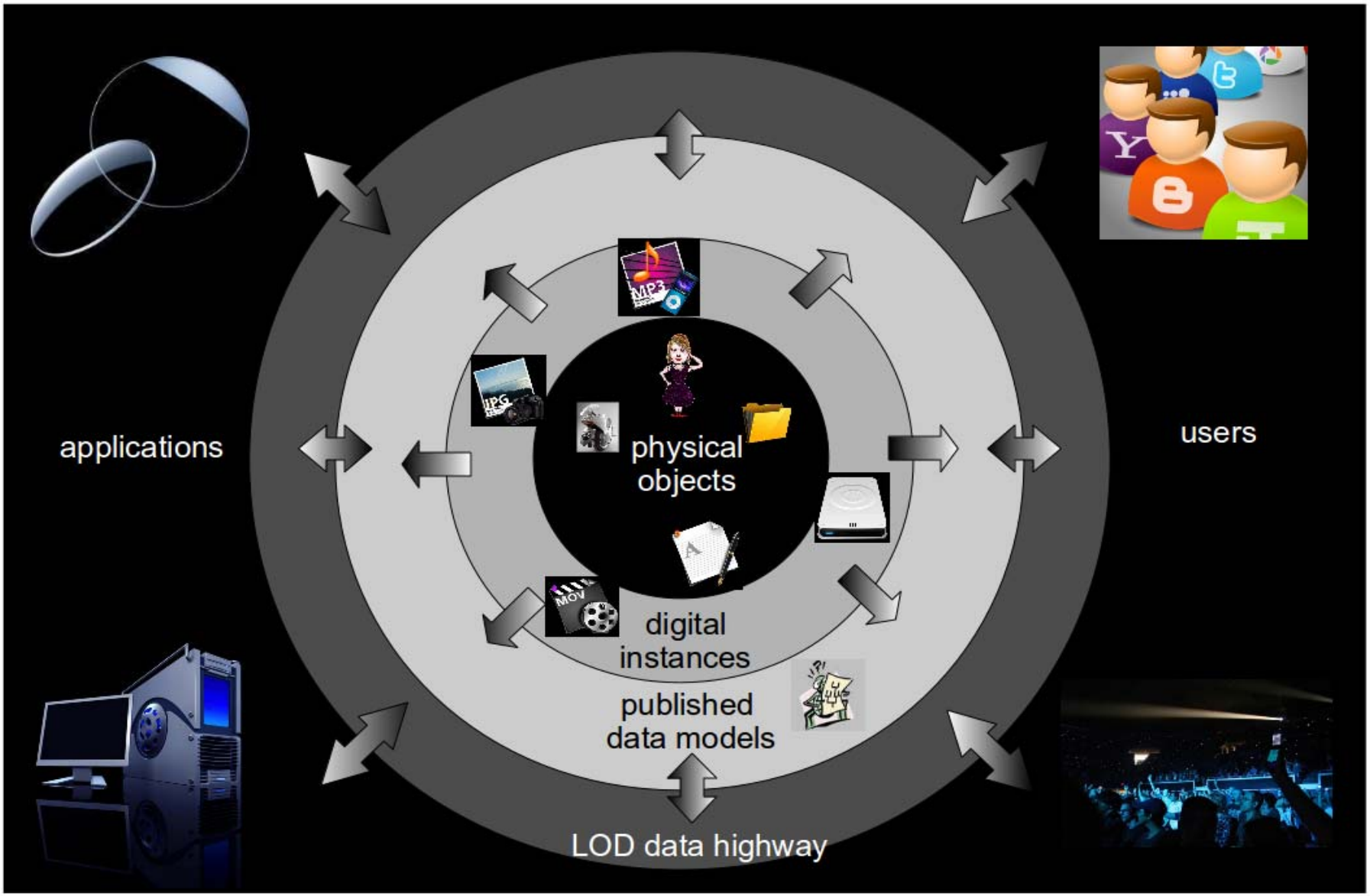

Norsk Hydro - Wikipedia - Mozilla Firefox
File Edit View History Bookmarks Tools Help
http://no.wikipedia.org/wiki/Norsk_Hydro
Most Visited Getting Started Latest Headlines Add To Twine
Brønnøysundregistren...
Norsk Hydro - Wikip...
OpenLink Da
WIKIPEDIA
Den frie encyklopedi
søk
Gå
Søk
navigasjon
Forside
Svaksynte
Alle sider
Tilfeldig side
Anbefalte artikler
Utmerkede artikler
Dugnadskontoret
Siste endringer
Tinget
prosjekt
Hjelp
Ny bruker?
Stilmanual
Prosjektportal
Last opp fil
Donasjoner
Kontakt Wikipedia
Wikimedia Norge
artikkel
diskusjon
rediger
Norsk Hydro
Fra Wikipedia, den frie encyklopedi
Norsk Hydro ASA (OSE: NHY) er en norsk leve
aluminiumprodukter. Selskapet har 23 000 medar
og virksomhet på alle kontinenter.
Om lag to tredeler av eierinteressene i Norsk Hyd
Den norske stats eierandel utgjør 43,8 prosent.
Hovedkontoret ligger på Vækerø i Oslo, med Svei
konsernsjef. I Norge har Hydro fabrikker på Karmøy, Høyanger, Årdal,
Sunndalsøra, Holmestrand, Magnor og Raufoss.
I mars 2007 ble det bestemt at olje- og gassdivisjonen i Norsk Hydro skulle
innfusjoneres i Statoil som i den forbindelse skiftet navn til StatoilHydro 1.
oktober 2007.
Norsk Hydro inngikk i april 2010 en intensjonsavtale om å overta Vales
aluminiumvirksomhet for 30 milliarder kroner. Transaksjonen vil gi Hydro full
kontroll over og eierskap til Paragominas, 91 prosent i verdens største
aluminaraffineri Alunorte, 51 prosent i aluminiumverket Albras og 81 prosent i
aluminaraffineriprosjektet CAP.
Innhold [skjul]
1 Historie
1.1 Konsernsjefer
2 Divisjoner
Organisasjonsform Allmenaksjeselskap
Org.nr. 914778271
Nøkkelopplysninger 914778271 i Enhetsregisteret
Etablert 2. desember 1905
Hovedkontor Oslo
Bransje Energi
Produkt Aluminium, aluminiumsprodukter
Nøkkelpersoner Sam Eyde (grunnlegger)
http://www.oslobors.no/markedsaktivitet/stockOverview?newt__ticker=NHY
Add-ons
Get Add-ons
Extensions
Themes
Plugins
OpenLink Data Explorer 0.28
Displays linked data sources by various services
Options
Disable
Uninstall
PC Sync 2 Synchronisation Extension 1.0.0.723
Enables PC Sync 2 synchronisation support.
The Tabulator Extension 0.8.7
A Data Browser, a user interface to the Semantic Web. Upgrades Firefox to be able to handl...
Find Updates
Close

Dbpedia:
http://dbpedia.org/resource/Norsk_Hydro

Target situation



Open Information Architecture with UPI/URI



Brønnøysundregistrene Semicolonprosjektet enklere tilgang offentlige data - Mozilla Firefox

File Edit View History Bookmarks Tools Help

http://www.brreg.no/nyheter/2010/05/semicolon_tilgang_data.html

Most Visited Getting Started Latest Headlines Add To Twine

Google Search Share Sidewiki Bookmarks Translate AutoFill per.my...

Brønnøysundregistrene Registeretat og datakilde

Forsiden Indeks A-Å Kontakt English

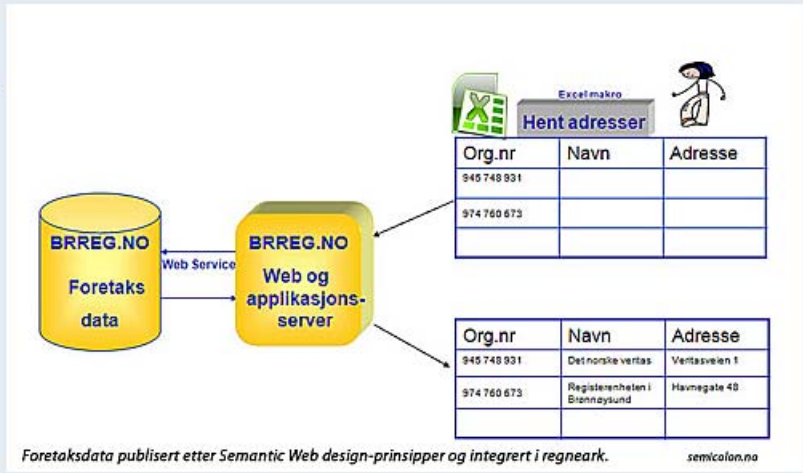
Registrering og tinglysing | Produkter og tjenester | Om Brønnøysundregistrene

Enklere tilgang til offentlige data

(31.05.2010) For å gjøre åpne offentlige data lettere tilgjengelige prøver Brønnøysundregistrene ut ny og brukervennlig teknologi.

Brønnøysundregistrene har i mange år distribuert innholdet fra Foretaksregisteret i digital form, men ønsker nå å prøve ut nye metoder for å gjøre disse dataene lettere tilgjengelige. Fornyings-, administrasjons- og kirkedepartementet satser på at åpne offentlige data skal bli lettere å få tak i. I tråd med dette prøver nå Brønnøysundregistrene ut semantiske teknologier for å levere ut data. Brønnøysundregistrene er medarrangør for konferansen Semantic Days. Denne konferansen setter søkelyset på bruk av semantiske teknologier for forvaltning og distribuering av data.

Semicolonprosjektet, i samarbeid med Brønnøysundregistrene, har laget en løsning for utprøving av semantiske teknologier på foretaksdata. Brønnøysundregistrene ønsker tilbakemeldinger på hvordan semantiske teknologier best kan benyttes for å dekke flest mulige behov hos brukerne.



Foretaksdata publisert etter Semantic Web design-prinsipper og integrert i regneark.

Test løsningen

I praksis vil dette bety at et oppslag på internettadressen https://ws.brreg.no/lod/enhet/974760673 gir et utvalg data om foretaket med organisasjonsnummer 974760673. I dette eksempelet er Brønnøysundregistrenes eget organisasjonsnummer brukt, men tilsvarende adresser er satt opp for alle norske foretak. Data om den aktuelle enheten blir levert til brukeren i maskinlesbar form.

Regneark

Som et eksempel på hvordan denne tjenesten kan benyttes, har vi laget et regneark som ut fra en kolonne med organisasjonsnummer gjør oppslag mot Foretaksregisteret og fyller ut adresseinformasjon i celler på regnearket. På denne måten kan foretak holde adresselistene sine oppdatert, uten å bruke andre hjelpemidler enn et regneark og internett-tilgang. Vær oppmerksom på at løsningen er laget for testbruk og vil ha begrenset kapasitet.

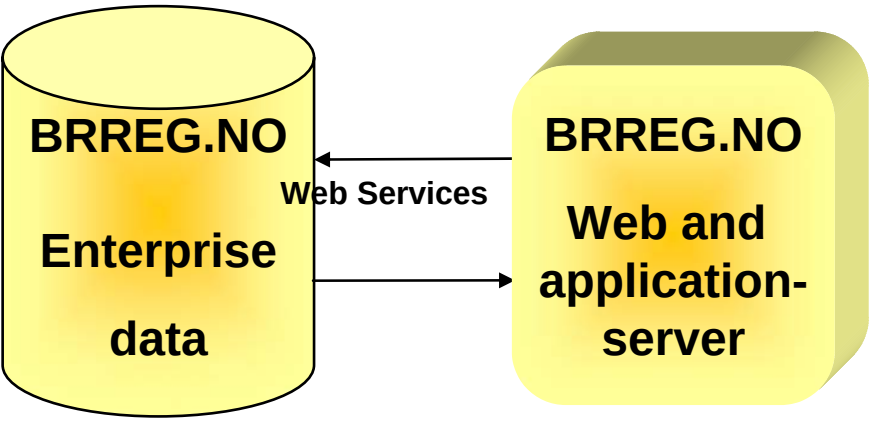
Nyhetsarkiv

- Enklere tilgang til offentlige data
- Momskompensasjon? Husk registrering i Frivilligregisteret
- Roser kurs i elektronisk dialog
- Kassevis med «askepost» til Brønnøysund
- Altinn trenger flere med spesialkompetanse
- Få plasser igjen på vår-kursene
- Ros etter kurs-serie hos Skatteetaten
- Semantic Days 2010: Ord er viktige

- Bostyrer – opptatt av effektivitet og lei av papirdokumenter?
- Altinn får medhald i Personvernnemnda
- Endring i registrering for merverdiavgift
- Enklere elektronisk dialog med arbeidsgivere
- Kurssenteret med innholdsrik kurs-vår
- Serbia tilgjengeleg via EBR
- Er du trygg mot identitetstyveri?

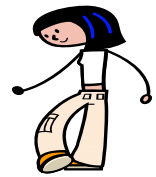
Done

BRs Register of Business Enterprises as LOD and integrated into excel



Excel macro

Get address



Org.nr	Name	Addre ss
945 748 931		
974 760 673		

Org.nr	Name	Addre ss
945 748 931	Det norske veritas	Veritasveien 1
974 760 673	Registerenheten i Brønnøysund	Havnegate 48

deliverable from www.semicolon.no, design and implementation by Per Myrseth, Martin Giese and Jørgen Stang

er.myrseth@dnv.com, martingi@ifi.uio.no, jorgen.stang@dnv.com.

How the server responds

Identifier for an Norwegian enterprise:

https://ws.brreg.no/lod/**enhet**/914778214

No data behind this URI, based on how you ask, it redirects to either:

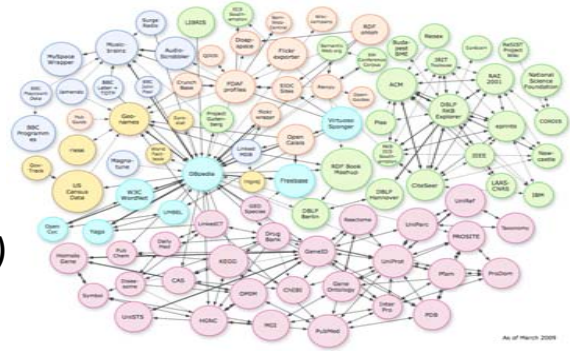
https://ws.brreg.no/lod/**page**/914778214 a html response

Or

https://ws.brreg.no/lod/**data**/914778214 a RDF response

What is requested ...

- Open up the national master data
- Greater efforts underway to get arid of information silos
  - *Triggered by newly gained ease of information sharing*
  - *Triggered by increasing availability of valuable information on the net*
- Getting aligned (inter-)nationally....
  - *Cultural heritage (collections and information)*
  - *Private domains (health, finance, publishing)*
  - *Governmental data (statistics, information, interaction)*



- ..... through the use of open standards!
  - *World Wide Web consortium: HTTP, XML, RDF, RDFS OWL*
- Governments take up the challenge
  - *Library of Congress → use of semantic standards to open up information*
  - *data.gov.uk → portal + entry to national data*
  - *Digitaal Erfgoed Nederland → "de Basis"*

… and how to deliver that

- Help needed!
  - *Competence*
  - *Insight*
- Initiatives to ensure interoperability and avoid high “trail-and-error” costs
  - *Builds upon experiences with many different sources*
  - *Minimal requirements in order to align future initiatives*
    - source/organisation internal:
      - Objects must have URI
      - Relations between objects are required
      - Web service using *information access standards* like SPARQL for automated access
    - Between sources/organisations
      - Relations within a graph/model are common, but linking to other graphs is required!
      - Means → reuse schemes/ontologies and instance data with all your might!

Open Data, how to find the sources

- Several national initiatives
- Several domains have thousands of data sets
- Who should maintain the trustworthy list of sources

Examples of sources:

- Data.norge.no a list of open sources
- ORIS, a Semicolon/ IFI initiative, semi automatic updates a list of sources in a structured portal
- Semantic web search engines, indexes the rdf sources found.

Relevant legislative topics for mashup providers based on open data

- Protecting own rights
  - Establish clear rights to reuse and publish others open data
  - Is there a need for limiting others ability to reuse/ miss-use my data?
- Protecting the rights of 3rd parties
  - Is there a need for limiting others ability to reuse my sub-vendors data and/ or my own proprietary data?
- Limiting own legal responsibility
  - Based on SLA, data quality, IPR violations etc.

Intellectual Property Rights for open data

Most jurisdictions recognize the following forms of IPR:

- Trade secret
- Trademark
- Patent
- Copyrights

For data openly accessible on the web it is no longer possible to claim trade secrets, trademark or patent protection of their data.

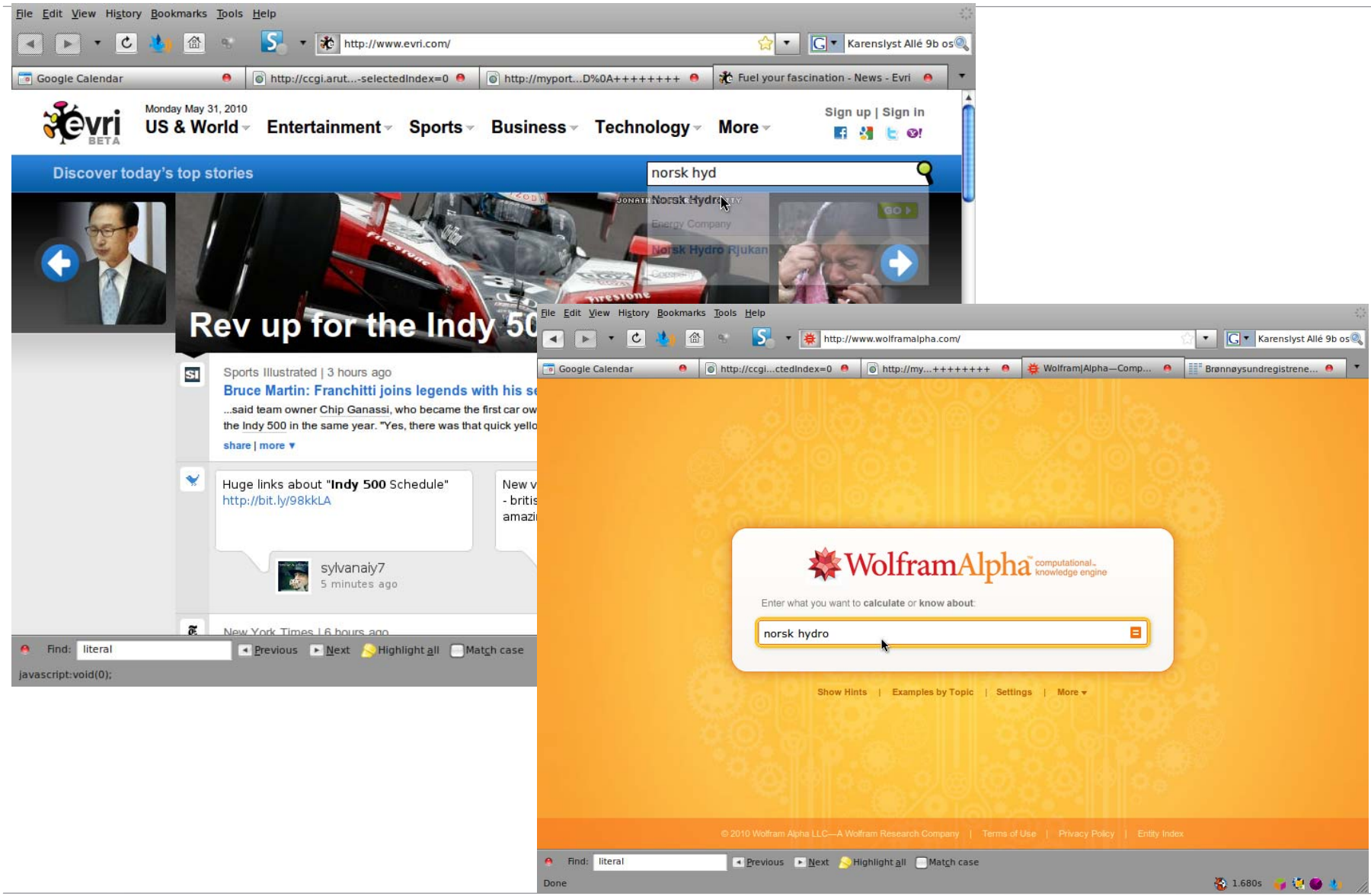
Internationally, quite uniform that one cannot claim copyright protection for individual entries of facts stored in a database.

1996, EU Introduced the database directive, to grant database creators a sui generis right towards unauthorized extraction of all or a substantial part of the database. Relevant if such extraction substantially harms the database creators investments.

1996-2004 US: six bills suggested to implement a US-database directive. Non of them has pas into laws.

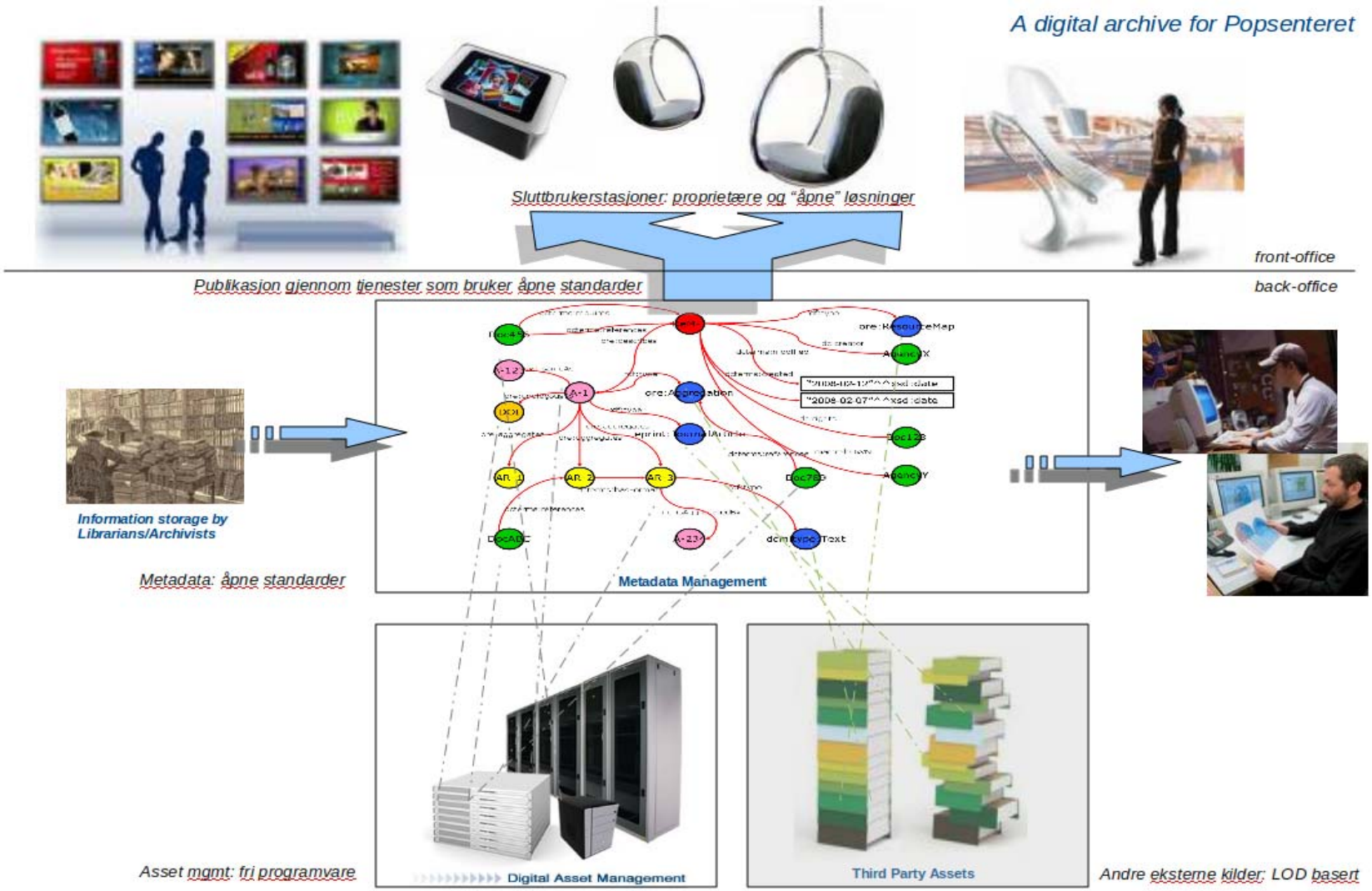
Some examples

Tools & Infrastructure that benefit from LOD

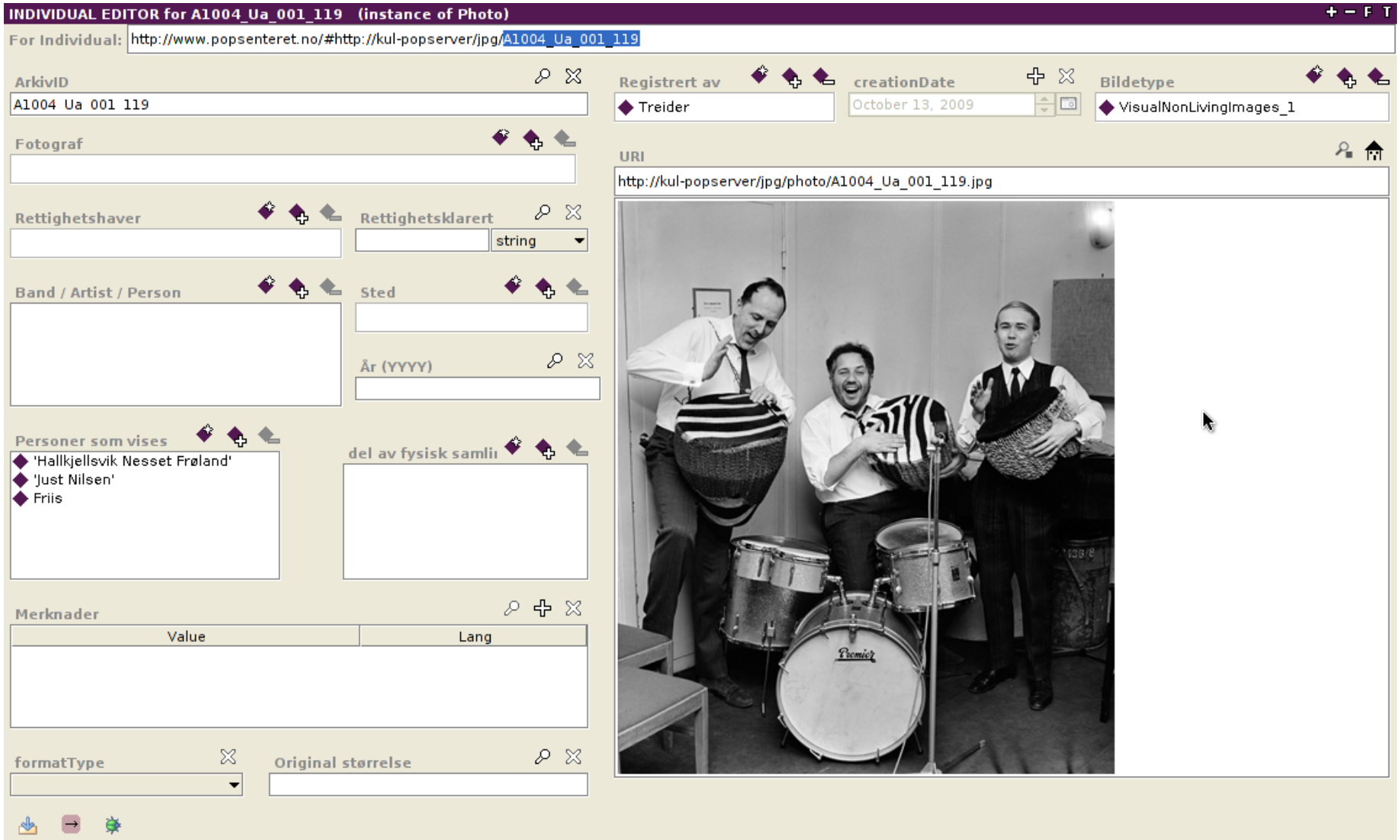


Example from Cultural Heritage sector

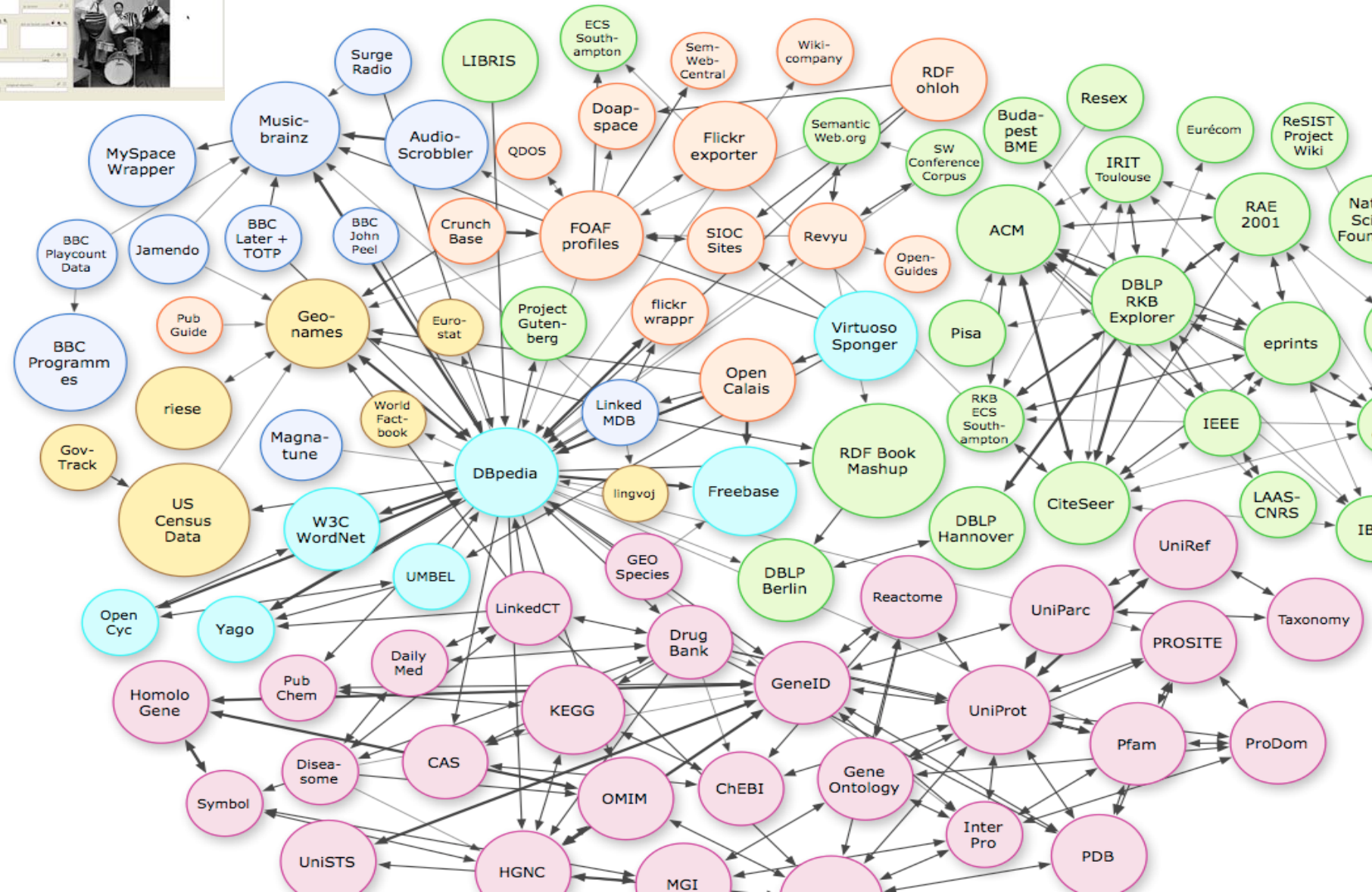
Example from Cultural Heritage sector



Closer look on a semantic solution



Why do we want this?



Summing up

Public sectors big hairy goals and the effect of using LOD

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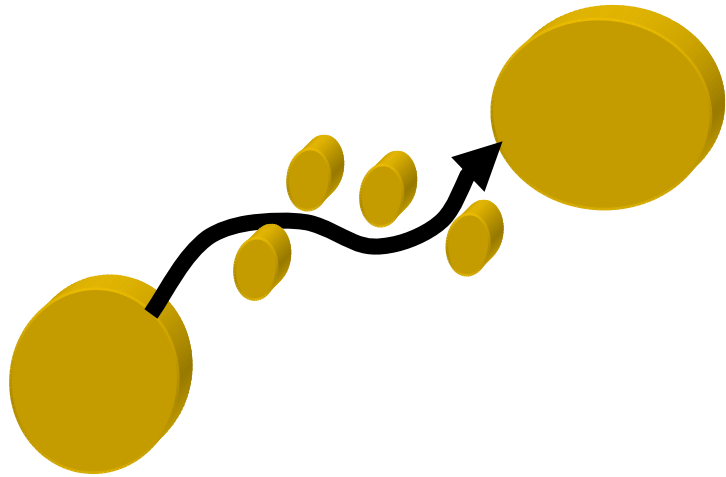
The anticipated effect of Linked open data:

- Will **open** up PSI for innovation and makes public sector more **transparent** and **accountable**
- Utilize the internet as an infrastructure for **access** and scalability
- Enables more and cheaper **user-friendly** eGov services
  - Give the information back to the people
- Enables public sector to remove silos, lower integration cost and become more **efficient** and **effective**.
- Is a prerequisite in a **service oriented** public sector

The stairs to a nation's presence on the Semantic Web

- Open access to **data**
  - Licenses, costs/ fees, IPR issues handled
  - Infrastructure for access and reuse that scales
- Open access to **metadata**/ meaning of data
  - Publish
  - Reuse
- Follow LOD **design principles**
  - Identifiers, Relations and aut. query facilities
- Open access to **provenance metadata**
  - Describtion of the life cycle of the data
  - Quality attributes of the data
- A **trusted rating** of who holds what data (registry)



Thanks for your attention

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Robert H.P. Engels (Sesam4)