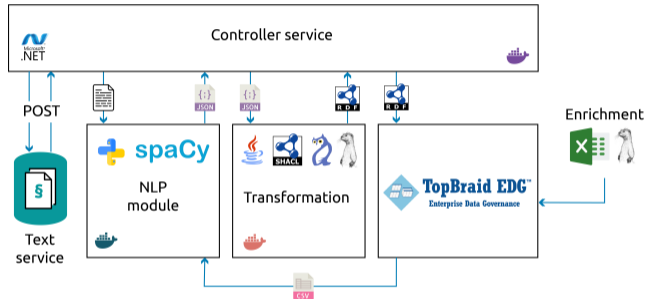


Graph enrichment with OTTR at the Norwegian Maritime Authority



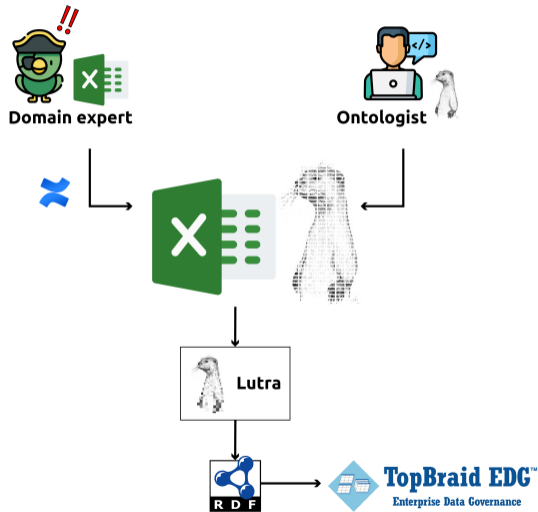
Veronika Heimsbakk

OTTR at the Norwegian Maritime Authority



- > Translating *code systems* into RDF.
- > A tool for domain experts.
- > Collaborative spreadsheets.

Workflow



Code systems at the NMA

3851	Meldingstype		
3852	Code	Norwegian	English
3853	ALT	Altinn	Altinn
3854			
3855	Meldingsvarslingstyper		
3856	Code	Norwegian	English
3857	EMAIL	e-post	E-mail
3858	SMS	SMS	SMS
3859			
3860	Meldingsvedleggstype		
3861	Code	Norwegian	English
3862	ALR	Svar brev refusjonssøknad	Answer letter reimbursement application
3863	CRA	CRA meldingstype	CRA message type
3864	VARSEL	Varsling for utgående sertifikater	Notification for expiring certificates
3865			
3866	MerverdiavgiftSats		
3867	Code	Norwegian	English
3868	MVA	25	25
3869			
3870	Miljøskadetype		
3871	Code	Norwegian	English
3872	1	Bunkersolje	Bunker oil
3873	1.1	Tungolje	Heavy fuel oil
3874	1.2	Diesel	Diesel fuel oil

stOTTR Template

```
o-sdir:Drawing[
  ! ?drawing,
  ?subject,
  ?projectCode,
  ! ?labelNo,
  ?description,
  ? ?labelEn
] :: {
  o-rdf:Type(?drawing, sdir:Document),
  o-rdf:Type(?drawing, owl:Class),
  ottr:Triple(?drawing, sdir:subject, ?subject),
  o-rdf:Type(?subject, owl:Class),
  ottr:Triple(?drawing, sdir:projectCode, ?projectCode),
  o-rdf:Type(?projectCode, sdir:ProjectCode),
  o-rdfs:Label(?drawing, ?labelNo),
  o-rdfs:Label(?drawing, ?labelEn),
  ottr:Triple(?drawing, rdfs:comment, ?description)
} .
```

OTTR output

```
sdir:FireControlPlan a owl:Class , sdir:Document ;
  rdfs:comment      "All dokumentasjon skal være ..."@no ;
  rdfs:label        "Brannkontrollplan"@no ,
                  "Fixed fire - extinguishing system accommodation"@en ;
  sdir:projectCode  sdir:ProjectCodeB11 ;
  sdir:subject      sdir:FireExtinction .
```

- › sdir:ProjectCodeB11 and sdir:FireExtinction already exists in our knowledge graph.
- › SPARQL query stored in library to check for resources without description.

Melt the data!

The screenshot shows the 'Import RDF File' page in the TopBraid EDG application. The header includes the logo 'TopBraid EDG Enterprise Data Governance' and navigation icons. A secondary navigation bar contains 'Ontology', 'Dashboard', 'Settings', 'Users', 'Import', 'Transform', 'Export', 'Reports', 'Workflows', 'Tasks', and 'Comments'. A vertical sidebar on the left contains various tool icons. The main content area is titled 'Import RDF File' and contains the following elements:

- Text: 'Select an RDF file to be added to the current Ontology.'
- File selection: A 'Choose File' button and the text 'No file chosen'.
- Format selection: A 'Format' section with radio buttons for:
 - Turtle (.ttl) or N-Triple (.nt)
 - Turtle+ (.tulp)
 - JSON-LD (.jsonld)
 - RDF/XML (.rdf)
- Compression note: 'The compression formats ZIP (.zip), gzip (.ttl.gz etc) and bzip2 (.ttl.bz2 etc) are supported. Only the first file in a ZIP archive will be imported.'
- Options section with checkboxes:
 - Record each new triple in change history
Not recommended for large files.
 - Direct streaming import into production copy
No clean up, change history or side effects will be applied. Cannot be combined with the other options. *For managers only, with care.*
 - Perform constraint validation only
No changes will be applied. Existing and new triples will be validated together, against any available SHACL shapes.
- 'Finish' button

Pros & Cons

- + Easy to serialize chunks of data.
- + Recognizable tools for domain experts.
- + tabOTTR syntax for domain experts.

- Difficult to automate.
- Support of few file formats.
- Documentation somewhat hard to read.

Some Feedback on OTTR at the Knowledge Graph Conference

- > "Wow this is AMAZING non-coders can get their data onto the Semantic Web in minutes"
- > "Agree that this is fantastic. I've been using an Protege plugin to do this but this seems much better."
- > "I get data in spreadsheets that I have to pull in or people have to manually pull it in (using WebProtege)."
- > "The Gazillion Dollar Question: does Lutra run on Spark?"
- > "I found a Python library for OTTR. Do you know if the OTTR authors have contributed to it?
<https://pypi.org/project/ottr/>"

`https://github.com/veleda/ottr-masterclass`