

Assistenzstelle Datenharmonisierung

Aktivitäten der Assistenzstelle im Rahmen der Datenharmonisierung

Grillmayer Roland






13.12.2016, Wien

Aktivitäten

■ Workshops





- 19.04.2016 – Workshop Länder
- 05.09.2016 – Workshop MA Wien
- 14.12.2016 – Hands on Session INSPIRE Workshop




Inhalte Workshops

- Bundesländer Workshop
 - Erfahrungsaustausch Datenharmonisierung
 - Praktische Umsetzung Protected Sites
 - HALE 
 - Erzeugung eines Predefined Dataset 
 - Validierung Datensatz Schematon (Oxygene) 
 - Demo Konfiguration INSPIRE Download Service für PS
 - Geoserver  

Inhalte Workshops

■ MA Wien Workshop

- Erfahrungsaustausch Datenharmonisierung
- Praktische Umsetzung Protected Sites
 - HALE 
 - FME 
 - Erzeugen Predefind Dataset 
 - Validierung Schematron (Oxygene) 

- Demonstration Konfiguration INSPIRE Download Service für PS
 - Geoserver  
 - Deegree INSPIRE NODE - Workflow 
 - Konzept – noch nicht lauffähig für DS Version 4.0
 - Weitere Informationen siehe:
<http://wiki.deegree.org/deegreeWiki/InspireNode>

Inhalte Workshops

■ INSPIRE Workshop (morgen)

- Praktische Umsetzung Protected Site
 - HALE 
 - Einbinden der Registry in den Harmonisierungsprozess 
 - Validieren mit der Testversion des ETL Webportals 

- Praktische Umsetzung Land Use (Demonstration)
 - Skizzieren der Unterschiede zu PS 
 - Exponieren Download-Service (Geoserver) 

- Diskussion
 - Thematische Ausrichtung der Assistenzstelle Themenbereich Datenharmonisierung 2017
 - Priorisierung der nächsten Arbeitsschwerpunkte

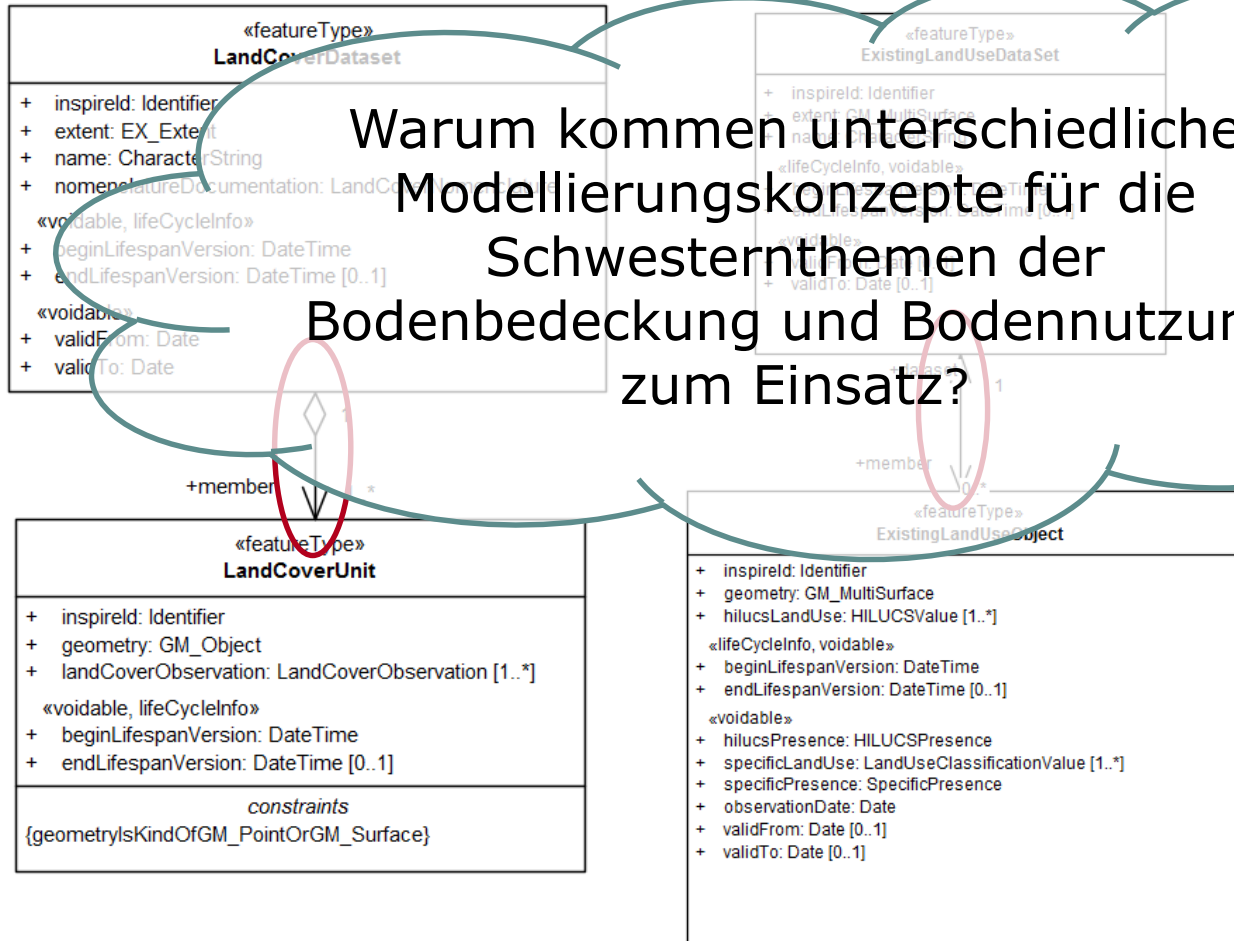
Sonstige Aktivitäten

- **ISO Plenary**
 - Tromsö (13.06-17.06.2016)
 - Redlands (28.11-2.12.2016)

- **AGIT**
 - Freiheitsgrade in der UML/GML basierten Geodatenmodellierung und deren Auswirkungen auf die Harmonisierung von INSPIRE Datensätzen
www.grillmayer.eu

..unnötige Verkomplizierung eines ohnehin schon komplexen Prozesses

Warum kommen unterschiedliche Modellierungskonzepte für die Schwesternthemen der Bodenbedeckung und Bodennutzung zum Einsatz?



Auswirkungen auf das Encoding

- UML abgeleitetes GML Schema
 - *Assoziationen* werden immer über Links (xlink) etabliert
 - Assoziation in diesem Fall beide Richtungen navigierbar (Gekennzeichnet durch Rollenname & Peilsymbol)

```

▼ <gml:featureMember>
  ▶ <el:ExistingLandUseDataSet gml:id="idS2005">...</el:ExistingLandUseDataSet> ←
  </gml:featureMember>
▼ <gml:featureMember>
  ▼ <el:ExistingLandUseObject gml:id="id118b6d92-8083-4a61-b0fb-7b89069d16d2">
    ▶ <el:inspireId>...</el:inspireId>
    <el:beginLifespanVersion>2015-05-21T15:19:08</el:beginLifespanVersion>
    ▶ <el:geometry>...</el:geometry>
    <el:hilucsLandUse xlink:href="http://inspire.ec.europa.eu/codelist/HILUCSValue/4_1_TransportNetworks"/>
    <el:hilucsPresence xsi:nil="true"/>
    <el:specificLandUse xsi:nil="true"/>
    <el:specificPresence xsi:nil="true"/>
    <el:observationDate>2011-08-01</el:observationDate>
    <el:validFrom>2005-01-01</el:validFrom>
    <el:validTo>2008-12-31</el:validTo>
    <el:dataset xlink:href="idS2005"/> ←
  </el:ExistingLandUseObject>
  </gml:featureMember>
    
```

Etablierung der Assoziation via
 <el:dataset xlink href=idS2005"/>


```
▼<gml:boundedBy>
  ▼<gml:Envelope srsName="EPSG:3042" srsDimension="2">
    <gml:lowerCorner>860648.69 5426007.469</gml:lowerCorner>
    <gml:upperCorner>878212.243 5429200.77</gml:upperCorner>
  </gml:Envelope>
</gml:boundedBy>
▼<gml:featureMembers>
  ▼<lcv:LandCoverDataset gml:id="FR001L1">
    <gml:metaDataProperty xlink:href="http://144.76.207.166:8080/geonetwork/srv/ger/xml.metadata.get">
    </gml:metaDataProperty>
    ▶<lcv:inspireId>...</lcv:inspireId>
    <lcv:beginLifespanVersion>2015-05-15T11:22:45+01:00</lcv:beginLifespanVersion>
    <lcv:endlifespanVersion xsi:nil="true" nilReason="unpopulated"/>
    ▶<lcv:extent>...</lcv:extent>
    <lcv:name>Urban Atlas 2012 - Paris</lcv:name>
    ▶<lcv:nomenclatureDocumentation>...</lcv:nomenclatureDocumentation>
    <lcv:validFrom>2012-01-01</lcv:validFrom>
    <lcv:validTo>2017-12-31</lcv:validTo>
    ▼<lcv:member>
      ▼<lcv:LandCoverUnit gml:id="FR001L1-17192">
        ▼<lcv:inspireId>
          ▶<base:Identifier>...</base:Identifier>
        </lcv:inspireId>
        <lcv:beginLifespanVersion>2015-05-15T11:22:43</lcv:beginLifespanVersion>
        ▶<lcv:geometry>...</lcv:geometry>
        ▼<lcv:landCoverObservation>
          ▼<lcv:LandCoverObservation>
            <lcv:class xlink:href="http://dd.eionet.europa.eu/vocabulary/landcover/UA2012/11100"/>
            ▶<lcv:mosaic>...</lcv:mosaic>
            <lcv:observationDate>2012-01-01T00:00:00</lcv:observationDate>
          </lcv:LandCoverObservation>
        </lcv:landCoverObservation>
      </lcv:LandCoverUnit>
    </lcv:member>
    ▶<lcv:member>...</lcv:member>
    ▶<lcv:member>...</lcv:member>
  </lcv:LandCoverDataset>
</gml:featureMembers>
</gml:FeatureCollection>
```

Klare Richtlinie

■ Encoding for Spatial Dataset (INSPIRE Dokument D2.7)



INSPIRE
Infrastructure for Spatial Information in Europe

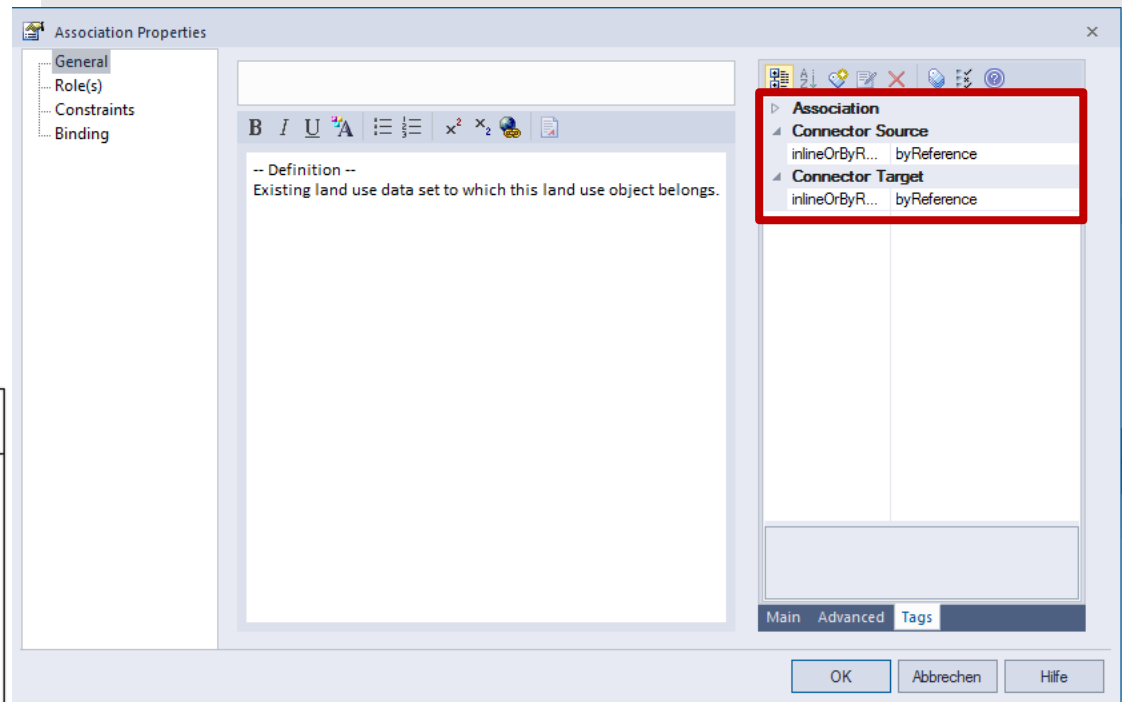
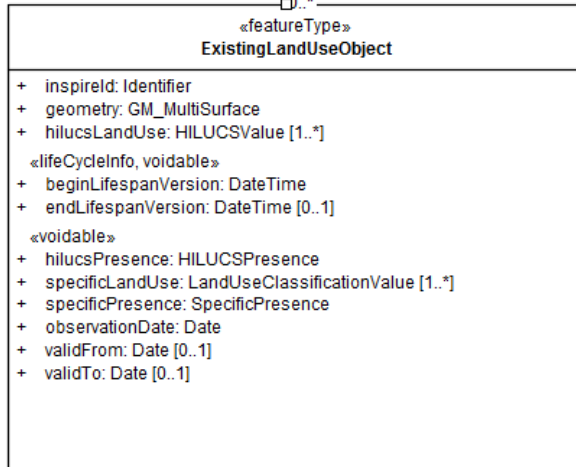
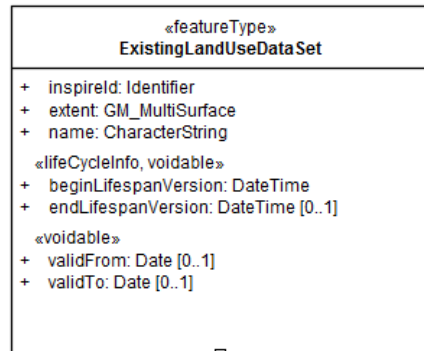
Drafting Team "Data Specifications" Guidelines for the encoding of spatial data

Title	D2.7: Guidelines for the encoding of spatial data, Version 2.0
Creator	INSPIRE Drafting Team "Data Specifications"
Date	2008-06-27
Subject	Guidelines for the encoding of spatial data
Publisher	INSPIRE Drafting Team "Data Specifications"
Type	Text
Description	Draft of the guidelines for the encoding of spatial data
Contributor	Members of the INSPIRE Drafting Team "Data Specifications"
Format	Adobe (pdf)
Source	
Rights	Open access; comments limited to registered SDICs and LMOs
Identifier	Inspire_dataspec_D2.7_v2.0.pdf
Language	En
Relation	n/a
Coverage	Project duration

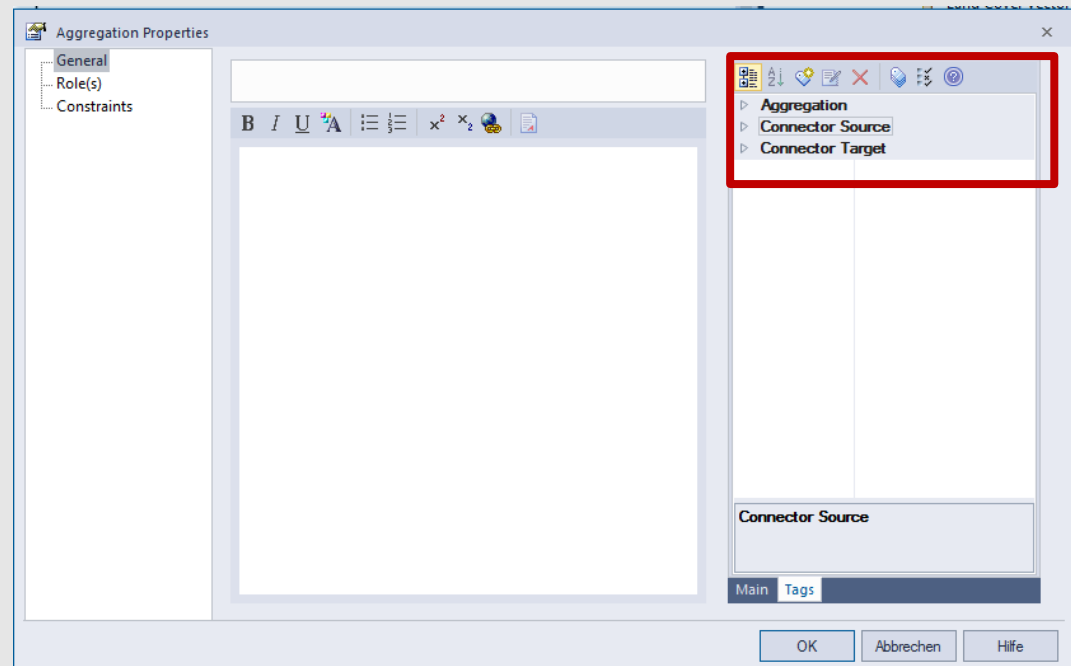
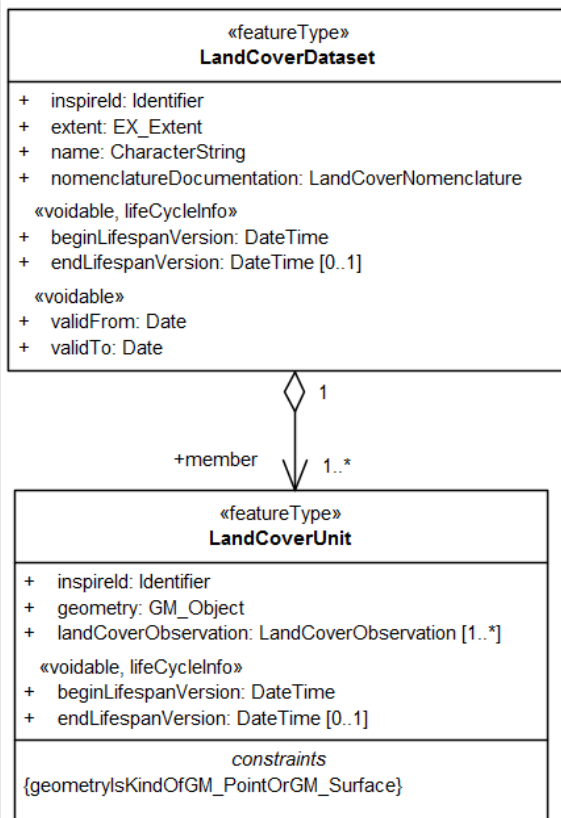
Recommendation 7 All navigable feature association roles should be assigned a tagged value "inlineOrByReference" with the value "byReference".

NOTE 2 The result of this particular recommendation is that features are not embedded in other features in XML documents but that they are all first level objects in a feature collection. An example where this recommendation would in general be ignored are complex spatial objects that own their parts.

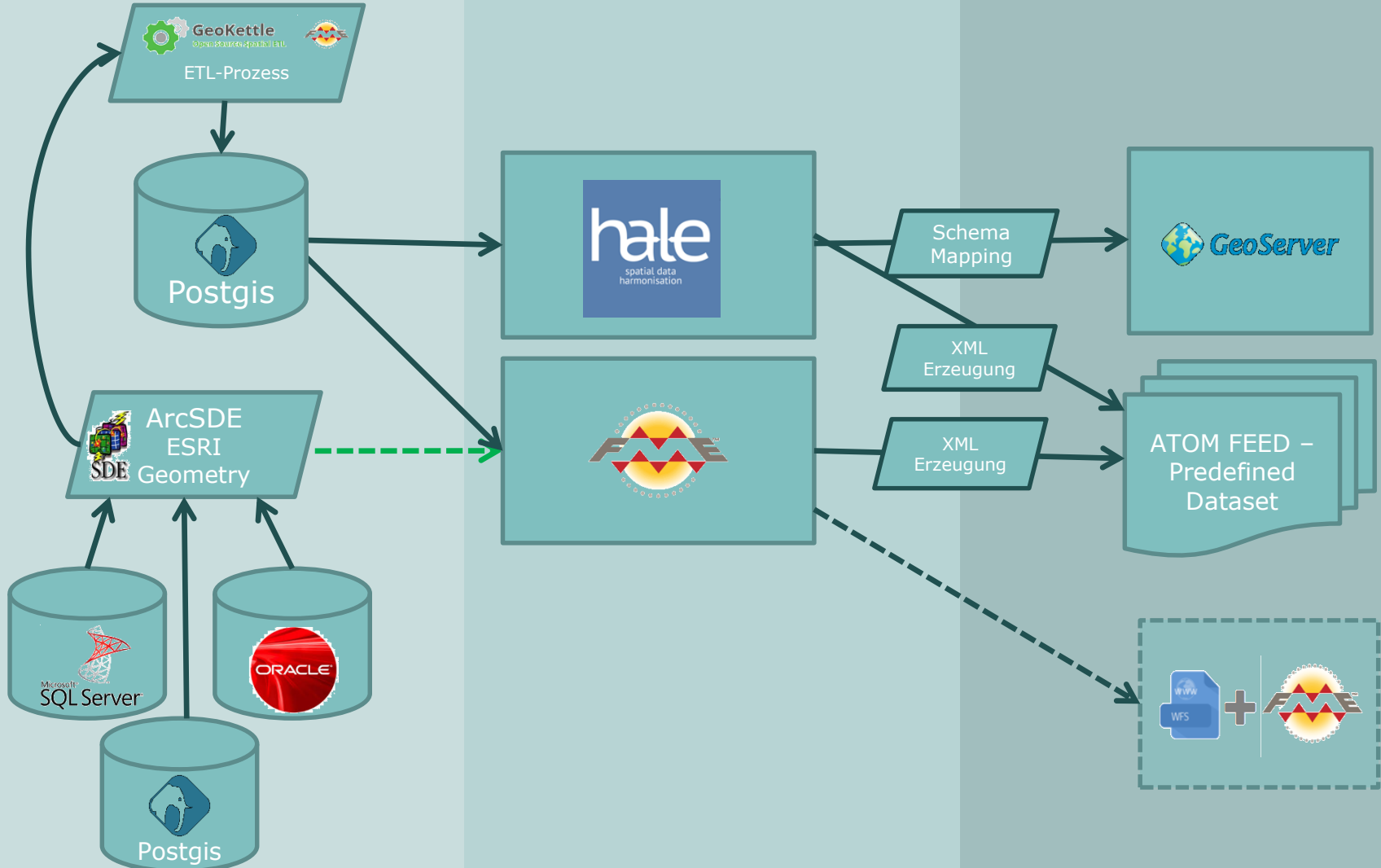
Tagges value inlineOrByReference Land Use



Tagges value inlineOrByReference Land Cover



Mögliche INSPIRE Umsetzungsszenarien (erprobt)



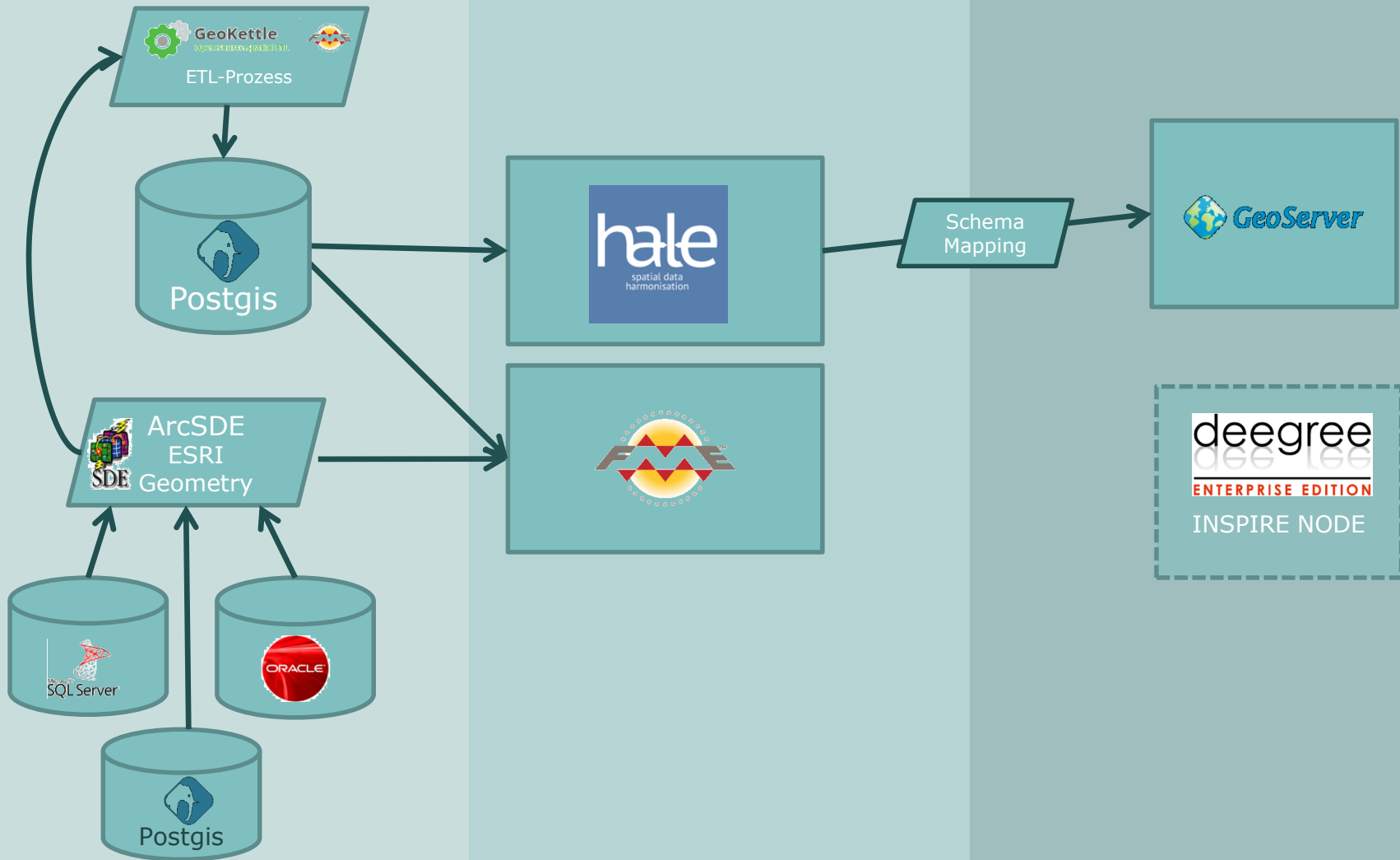
Datenhaltung / ETL Prozess

Harmonisierung / Transformation

Dissemination

INSPIRE Umsetzungsszenarien – Variante Deegree

INSPIRE Node (noch nicht getestet)



Datenhaltung / ETL Prozess

Harmonisierung / Transformation

Dissemination

Deegree's INSPIRE Node (Input Christian Ansoerge?)

2016 Study on Inspire Services

[Zip download](#)

This folder contains the results of a EEA study (in cooperation with KU Leuven, Epsilon Italia and WeTransform). The scope of the study was to test the feasibility of providing 3 different types of datasets by 3 different software products as INSPIRE WMS and WFS service. The INSPIRE network services which could be set up are further tested for their conformity and response times.

Three types of datasets were tested:

- Corine Land Cover Vector 2006 (high number of features, low feature complexity)
- Biogeographical Regions (low number of features, high feature complexity)
- CDDA (Extended data model based on INSPIRE Protected Sites)

Three different software had been tested to provide the datasets via WMS and WFS

- Deegree
- Geoserver
- ArcGIS for INSPIRE

The documentation on this site assumes the reader is familiar with the basic geographical protocols used extensively in GIS applications, such as WMS (Web Map Service) and WFS (Web Feature Service) as well as with the technical implementation of the INSPIRE Directive.

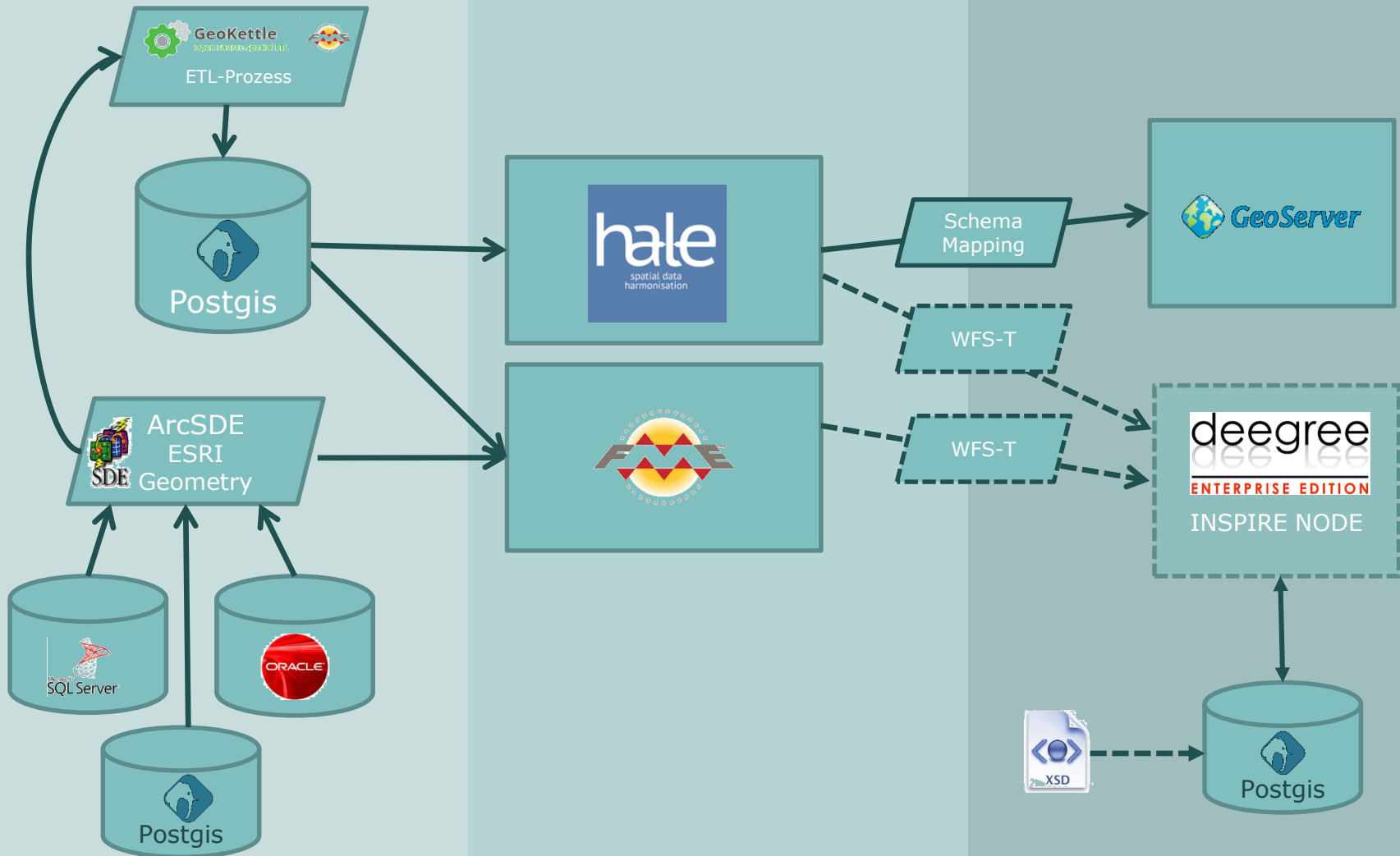
[Go to parent](#)

[Request membership](#)

Type	Title	Restrictions	Owner	Modification date and time	File size	Edit
	2016_INSPIRE_Services_BGR_Deegree_Geoserver ↓		Christian Ansoerge	22/09/2016, 11:33	1 MB	
	2016_INSPIRE_Services_CDDA_Deegree ↓		Christian Ansoerge	22/09/2016, 11:34	1 MB	
	2016_INSPIRE_Services_CDDA_Geoserver ↓		Christian Ansoerge	22/09/2016, 12:10	762 KB	
	2016_INSPIRE_Services_CDDA_dataTransformation ↓		Christian Ansoerge	22/09/2016, 12:10	826 KB	
	2016_INSPIRE_Services_CLC_ArcGIS ↓		Christian Ansoerge	22/09/2016, 11:34	1 MB	
	2016_INSPIRE_Services_CLC_Deegree_Geoserver ↓		Christian Ansoerge	22/09/2016, 11:35	2 MB	
	2016_INSPIRE_Services_Testing ↓		Christian Ansoerge	22/09/2016, 11:35	1 MB	

Quelle: <http://projects.eionet.europa.eu/eea-inspire-activities/library/2016-study-inspire-services>

Mögliche INSPIRE Umsetzungsszenarien – Variante Deegree INSPIRE Node



Datenhaltung / ETL Prozess

Harmonisierung / Transformation

Dissemination

Neuigkeiten HALE

■ Version 3.1 ab 16.12.2016 verfügbar

- Anbindung 3.1.0 MS SQL Server vorhanden
- Finanziert durch die deutsche Marine Dateninfrastruktur / Bundesanstalt für Wasser (BWA) sowie das Bundesamt für Seeschifffahrt und Hydrographie (BSH)

■ Version 3.2 – Release Veröffentlichung?

- Finanziert Landesamt für Digitalisierung, Breitband und Vermessung
- Implementierung weiterer HALE Funktionen für die Harmonisierung von ANNEX III Themen

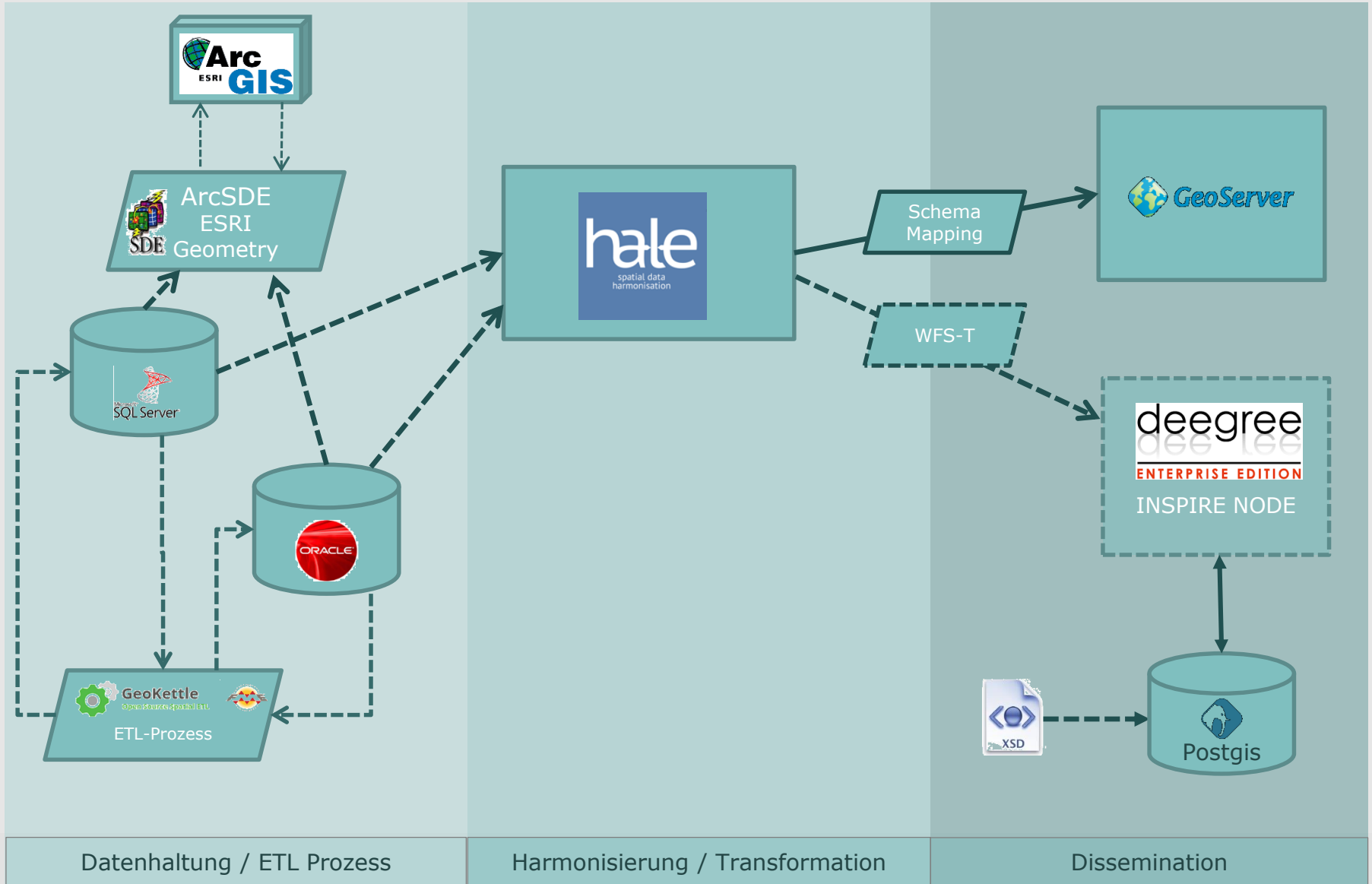
■ News für Oracle User (MA Wien)

- Hale pro Plugin
- Verfügbar mit HALE Support Subscription
- Lizenzen in Ausnahmefällen verfügbar (für named user, named sever, named application)
- Lizenzkosten 750 – 2500 Euro

■ Anfrage (Torsten Reiz –weTransform)

- Entwicklung Unterstützung ESRI Geometry
- Ca. 20.000 Euro
- Wird aber nicht empfohlen da ESRI die SDE nicht mehr weiterentwickeln wird








Mögliche INSPIRE Umsetzungsszenarien – ArcGIS/SDE-User



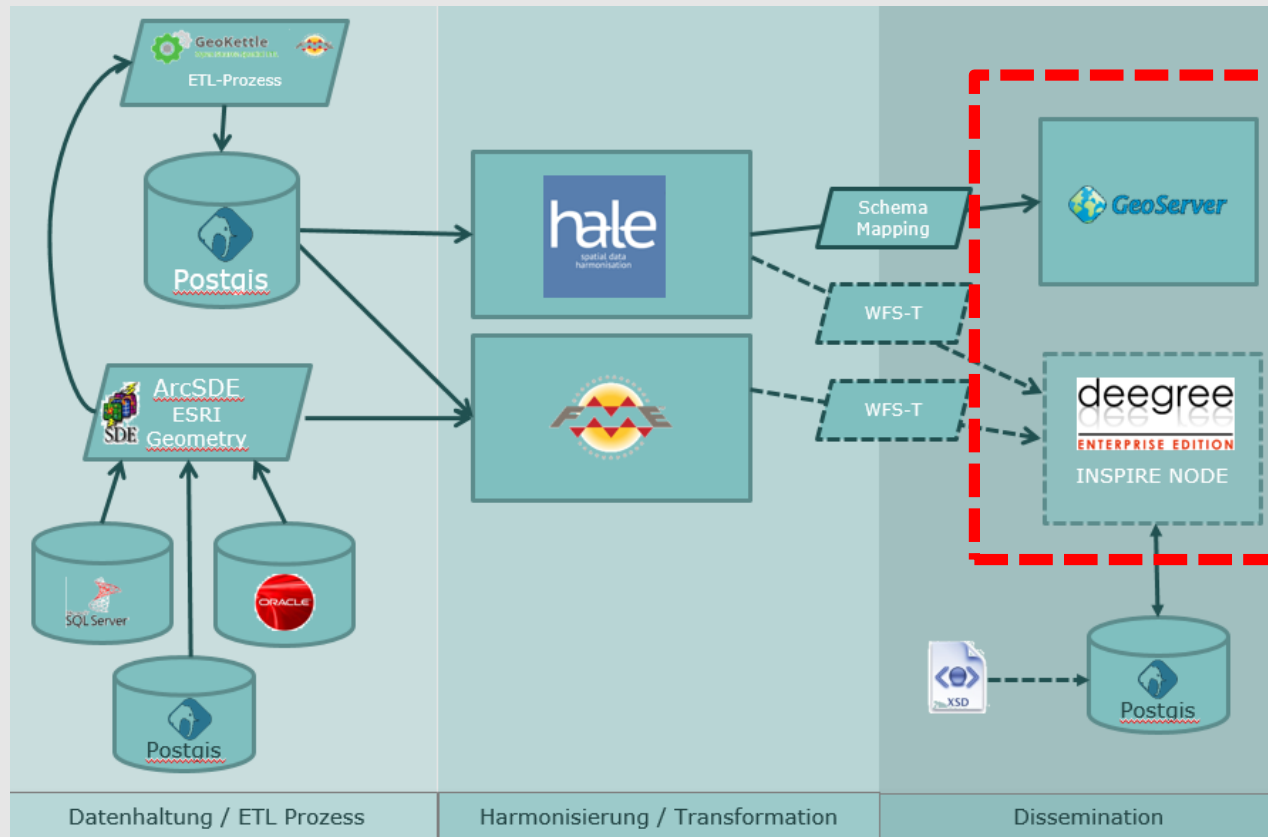
Conclusio: Werkzeuge & Tool

■ Werkzeuge für die Transformation

■ HALE und FME

- Gleichwertige 
- Bisher keine Limitierungen feststellbar, alle Datenspezifikationen umsetzbar 
- Skalierbarkeit 
 - FME -Modelloptimierung, Expertise benötigt 
 - HALE – Größter Datensatz 500.000 Polygonen – ohne Probleme 
 - Durch die überschaubare Anzahl an HALE Funktionen sind die Freiheitsgrade hinsichtlich der Umsetzung der Transformationsmodelle eingeschränkt 
 - Vereinfachungen durch vorgeschaltete ETL Prozesse ,möglich und bei großen Datensätzen sinnvoll 

Conclusio: Werkzeuge & Tool



Colclusio: Werkzeuge & Tool

■ Netzwerkdienste

■ Geoserver vs. INSPIRE Node (Deegree)

■ Geoserver

- In Zusammenspiel mit HALE (Schema Mapping) sehr fehleranfällig
- Obwohl im HALE die Transformation als gültig validiert wird, ist ein fehlerfreier Upload auf den Geoserver nicht möglich bzw. erfolgt ein nicht korrektes Encoding
- Händisches editieren der Mapping-Dateien (noch) erforderlich
- Bisher Fokus auf Umsetzung/Encoding der verschiedenen DS
 - PS, LU, LC → Mindestanforderungen waren umsetzbar (soweit Validierungsregeln verfügbar waren)
- Validierung Download-Services und Viewing-Services ausständig!!



Conclusio: Werkzeuge & Tool

■ Netzwerkdienste

■ Geoserver vs. INSPIRE Node (Deegree)

■ Deegree – INSPIRE Node

- Eventuell bessere Variante in Zusammenspiel mit HALE
- Kombination wird immer wieder favorisiert
 - IGN ([Instituto Geográfico Nacional](#))
 - Bayern (Landesamt für Digitalisierung, Breitband und Vermessung)
 -
- Expertise in Österreich fehlt
- Validierung Download-Services und Viewing-Services ausständig!!

Fragen

- Welche Technologien / Umsetzungsvarianten sollen im Rahmen der Assistenzstelle 2017 priorisiert werden
 - Deegree INSPIRE Node?
 - FME-Workfow in Kombination mit Deegree INSPIRE Node?
 - HALE-Workflow in Kombination mit Deegree INSPIRE Node?
 - SDE – MSSQL-Server Anbindung HALE?
 - SDE – Oracle Anbindung HALE?
 - Priorisierung der Datenspezifikationen für die eine Harmonisierung erarbeitet werden soll
 - Aktuelle / dringende Fragen für die ein Abklärungsbedarf gegeben ist

Ausblick Hands on Session morgen

HANDS ON SESSION DATENHARMONISIERUNG

Harmonisierung und Validierung der
österreichischen Schutzgebiete entsprechende der
DS für Protected Sites

Demonstration Datenharmonisierung Land Use
inklusive exponieren als Download-Service
(Geoserver)

Organisatorisches

■ Voraussetzungen

- Oracle Virtual Box / 6GB Arbeitsspeicher / 64bit-Virtualisierung freigeschalten
- Image (Windows 2012 Server) wird zur Verfügung gestellt
- Heute auf Rechner transferieren
- Gasterweiterungen installieren & testen.....

Use Case – PS-VO

INSPIRE_Workshop [wird ausgeführt] - Oracle VM VirtualBox

HUMBOLDT Alignment Editor 3.0.0 - PS Tirol - valide - Workshop Wien - C:\Users\Administrator\Desktop\CDDA\Alignment\Vorarlberg_Wien_Workshop.hale

File Transformation Edit Map Window Help

Map

Source Data

ps_vo_3035	1	2
iucn_url	http://inspire.ec.europa.eu/codeli	http://inspire.ec.europa.eu/codeli
iucncat	IV	IV
kat	NSG	NSG
kat_name	Naturschutzgebiet	Naturschutzgebiet
kat_sub	no value	no value
name_licen	Land Vorarlberg ? data.vorarlberg.	Land Vorarlberg ? data.vorarlberg.

Transformed Data

ProtectedSite	1	2
designat	+	+
actua	no value	no value
arcro	no value	no value
href	http://registry.inspire.gv.at/codelist/AustrianNatureProtectionSchema/NSG	http://registry.inspire.gv.at
nilRe	no value	no value
owns	no value	no value

272M of 326M

Windows aktivieren
 Mithilfe Sie zu den Einstellungen, um Windows zu

USE CASE – PS VO - INSPIRE AT Registry

■ Validierung & Debugging

ETF Test Report

52.57.125.3/etf-webapp/testruns/7d06efad-7df4-40dc-8fd3-5ff38865cee5;jsessionid=qjfwhcra5s441kzlmgsigaw9

Wien-Workshop: Testlauf vom 12.12.2016 - 12:05
mit Testprojekt 'Conformance class: Information accessibility, Protected Sites'

Status Failed
Duration 1.491 s

	Total	Skipped	Failed	Warnings	Manual	Show
Test suites	3	0	1	0	0	<input checked="" type="radio"/> All
Test cases	3	0	1	0	0	<input type="radio"/> Only failed
Assertions	5	0	1	0	0	<input type="radio"/> Only manual

Level of detail

- All details
- Less information
- Simplified

- + Conformance class: INSPIRE GML encoding 1
- + Conformance class: Information accessibility, General requirements Failed: 1 / 1
- + Conformance class: Information accessibility, Protected Sites 1

Report generated by ETF

Report generated by ETF

USE CASE – PS VO – GML im Praxis-Test

- Zugriff (Nutzung von qGIS-Plugins (WFS2.0 / Load Complex GML / Complex GML Info.....))

The screenshot displays the QGIS 2.18.1 interface with a web browser window open to the Austrian INSPIRE Registry. The browser window shows the URL `registry.inspire.gv.at/codelist/AustrianNatureProtectionSchema/BP`. The page content includes the INSPIRE logo, navigation links, and details for the 'Biosphärenpark' category. A red box highlights the GML and WFS2.0 icons in the QGIS toolbar.

Austrian INSPIRE Registry

Austrian INSPIRE Registry > Codelisten Register > Schutzgebietskategorien > Biosphärenpark

Biosphärenpark

Suche...

ID:
<http://registry.inspire.gv.at/codelist/AustrianNatureProtectionSchema/BP>

Diese Version:
<http://registry.inspire.gv.at/codelist/AustrianNatureProtectionSchema/BP:1>

Letzte Version:
<http://registry.inspire.gv.at/codelist/AustrianNatureProtectionSchema/BP>

Name:
Biosphärenpark

Definition:
 LGBl. Kärnten 55/1983: § 19 (K-NBG); LgBl. NÖ 5760-0: § 1 (NÖ BP WW Gesetz); LGBl. Vorarlberg 22/1997 § 27; LGBl. Wien 47/2006: § 3 (W BPG);

Beschreibung:
 W, NÖ, K

Use Case – Datenharmonisierung LU-Tirol

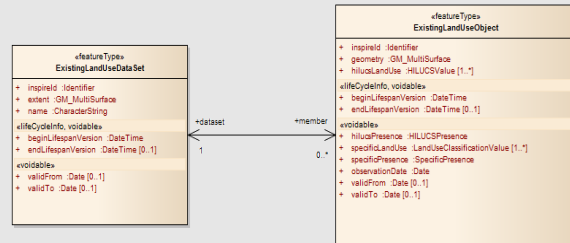
The screenshot shows the QGIS interface with a map of a city area overlaid with yellow land use boundaries. The metadata table on the right displays the following data:

Objekt	Wert
workshop_wien ExistingLandUseObject	
namespace	AT.0024.LU.ELU.2013
(abgeleitet)	
(Aktionen)	
gml_id	_0dfd88d4-cdb7-4591-bbb2-6...
localId	luo_5694
namespace	AT.0024.LU.ELU.2013
beginLifespanVersion	2015-11-01T23:00:00Z
orderedList_href	(1;...)
specificLandUse_nil	1
specificValue_remoteSchema	https://sites.google.com/view/lan
specificValue_href	https://sites.google.com/view/lan
percentage	100
observationDate	2013-01-01+01:00
validFrom	2013-01-01+01:00
dataset_href	http://localhost:8080/geoserver/

At the bottom of the interface, the status bar shows: Koordinate 1306482,6004537, Maßstab 1:25 188, Vergrößerung 100%, Drehung 0,0, and EPSG:3857 (SRP).

232965 - Objekte

Use Case – Datenharmonisierung LU-Tirol



1	Type	Attribute Association role Constraint	complex type	Attribute Association role Constraint documentation	Values/ Enumerations	Multiplicity	Voidable/ Non-voidable	Type	Documentation /Example VALUE
5		namespace	namespace	Namespace uniquely identifying the data source of the spatial object.	CharacterString	1		const	AT.0024.LU.ELU.2013
6		version Id	version Id	The identifier of the particular version of the spatial object, with a maximum length of 25 characters. If the specification of a spatial Date and time at which this version of the spatial object was inserted or changed in the spatial data set.	CharacterString	0..1	lifeCycleInfo	const	2013-11-02T00:00:00+01:00
7		begin Lifespan Version	begin Lifespan Version	Date and time at which this version of the spatial object was inserted or retired in the spatial data set.	DateTime	1	lifeCycleInfo		
8		end Lifespan Version	end Lifespan Version	Date and time at which this version of the spatial object was superseded or retired in the spatial data set.	DateTime	0..1	lifeCycleInfo		
9		geometry	geometry	Geometric representation of spatial area covered by this spatial object.	GM_MultiSurface	1			von Geometrie in UTM 32
10		hilucs Land Use	hilucs Land Use	Land use HILUCS classes that are present in this existing land use object.	HILUCSValue	1..*		[HILUCS_1]	3_1_3_AccommodationAndFood
11		hilucs Presence	hilucs Presence	Actual presence of a land use category according to HILUCS within the object.	HILUCSPresenca	1	voidable		http://inspire.ec.europa.eu/code/
12		ordered List	ordered List		HILUCSValue	1..*		[HILUCS_1]	[HILUCS_2], [HILUCS_3]
13		percentage List	percentage List	Percentage of land use object that is covered by this specific presence.	HILUCSPercentage	1..*			
14		hilucs Value	hilucs Value	HILUCS category for this HILUCS percentage.	HILUCSValue	1			
15		percentage	percentage	Percentage of land use object that is covered by this specific presence.	Integer	1			
16		specific Land Use	specific Land Use	Land Use Category according to the nomenclature specific to this data set.	LandUseClassificationValue	1..*	voidable	[regionalLU]	Sport und Erholung: Campingplatz
17		02.11.2015 23:59	02.11.2015 23:59	Actual presence of a land use category within the object.	SpecificPresence	1	voidable		?? EXCEL-file als REGISTRY??
18		ordered List	ordered List		LandUseClassificationValue	1..*			
19		percentage List	percentage List	Percentage of land use object that is covered by a specific presence.	SpecificPercentage	1..*			
20		specific Value	specific Value	specific value category for this specific percentage.	LandUseClassificationValue	1		[regionalLU]	Sport und Erholung: Campingplatz
21		percentage	percentage	Percentage of land use object that is covered by a specific presence.	Integer	1		const	100
22		observation Date	observation Date	The observation date associated to a description.	Date	1	voidable	const	2013-01-01
23		valid From	valid From	The time when the phenomenon started to exist in the real world.	Date	0..1	voidable	const	2013-01-01
24		valid To	valid To	The time from which the phenomenon no longer exists in the real world.	Date	0..1	voidable		

1	Type	Attribute Association role Constraint	complex type	Attribute Association role Constraint documentation	Values/ Enumerations	Multiplicity	Voidable/ Non-voidable	Type	Documentation /Example VALUE
5		namespace	namespace	Namespace uniquely identifying the data source of the spatial object.	CharacterString	1		const	AT.0024.LU.ELU.2013
6		version Id	version Id	The identifier of the particular version of the spatial object, with a maximum length of 25 characters. If the specification of a spatial Date and time at which this version of the spatial object was inserted or changed in the spatial data set.	CharacterString	0..1	lifeCycleInfo	const	2013-11-02T00:00:00+01:00
7		begin Lifespan Version	begin Lifespan Version	Date and time at which this version of the spatial object was inserted or retired in the spatial data set.	DateTime	1	lifeCycleInfo		
8		end Lifespan Version	end Lifespan Version	Date and time at which this version of the spatial object was superseded or retired in the spatial data set.	DateTime	0..1	lifeCycleInfo		
9		geometry	geometry	Geometric representation of spatial area covered by this spatial object.	GM_MultiSurface	1			von Geometrie in UTM 32
10		hilucs Land Use	hilucs Land Use	Land use HILUCS classes that are present in this existing land use object.	HILUCSValue	1..*		[HILUCS_1]	3_1_3_AccommodationAndFood
11		hilucs Presence	hilucs Presence	Actual presence of a land use category according to HILUCS within the object.	HILUCSPresenca	1	voidable		http://inspire.ec.europa.eu/code/
12		ordered List	ordered List		HILUCSValue	1..*		[HILUCS_1]	[HILUCS_2], [HILUCS_3]
13		percentage List	percentage List	Percentage of land use object that is covered by this specific presence.	HILUCSPercentage	1..*			
14		hilucs Value	hilucs Value	HILUCS category for this HILUCS percentage.	HILUCSValue	1			
15		percentage	percentage	Percentage of land use object that is covered by this specific presence.	Integer	1			
16		specific Land Use	specific Land Use	Land Use Category according to the nomenclature specific to this data set.	LandUseClassificationValue	1..*	voidable	[regionalLU]	Sport und Erholung: Campingplatz
17		02.11.2015 23:59	02.11.2015 23:59	Actual presence of a land use category within the object.	SpecificPresence	1	voidable		?? EXCEL-file als REGISTRY??
18		ordered List	ordered List		LandUseClassificationValue	1..*			
19		percentage List	percentage List	Percentage of land use object that is covered by a specific presence.	SpecificPercentage	1..*			
20		specific Value	specific Value	specific value category for this specific percentage.	LandUseClassificationValue	1		[regionalLU]	Sport und Erholung: Campingplatz
21		percentage	percentage	Percentage of land use object that is covered by a specific presence.	Integer	1		const	100
22		observation Date	observation Date	The observation date associated to a description.	Date	1	voidable	const	2013-01-01
23		valid From	valid From	The time when the phenomenon started to exist in the real world.	Date	0..1	voidable	const	2013-01-01
24		valid To	valid To	The time from which the phenomenon no longer exists in the real world.	Date	0..1	voidable		

Use Case – Datenharmonisierung LU-Tirol

The screenshot displays the HUMBOLDT Alignment Editor 3.0.0 interface. The main workspace is divided into several panels:

- Schema Explorer:** Shows two schemas side-by-side. The 'Source' schema is 'lu_unit' and the 'Target' schema is 'ExistingLandUseObject'. Both have a 'type filter text' field. The 'lu_unit' schema includes properties like 'validTo', 'bezirknr', 'geom', and 'id'. The 'ExistingLandUseObject' schema includes 'location', 'dataset', 'geometry', and 'id'.
- Alignment:** A central diagram showing the mapping between the two schemas. It features nodes for 'lu_unit' and 'ExistingLandUseObject' with various transformation rules like 'Retype', 'Rename', 'Assign', and 'Formatted string' connecting them.
- Error Log:** Located at the bottom left, it shows a 'Workspace Log' with messages such as 'Instance transformation - Completed, but with errors' and 'Conversion according to target property failed, using value as is. (85 times)'. A 'Failed' entry for 'App-Schema REST export' is also visible.
- Type hierarchy / Functions:** Located at the bottom right, it shows a list of operations with timestamps, including 'App-Schema REST export', 'Instance validation', and 'Instance transformation'.

```

    <?xml version="1.0" encoding="UTF-8" ?>
    <luom:SpecificPercentage>
      <luom:specificValue xlink:href="https://sites.google.com/view/landnutzungsklassen-tirol/Grünland"
        gml:remoteSchema="https://sites.google.com/view/landnutzungsklassen-tirol"/>
      <luom:percentage>100</luom:percentage>
    </luom:SpecificPercentage>
  
```

Schema Mapping Geoserver

```

http://www.opengis.net/gml/3.2 http://localhost:8080/geoserver/schemas/gml/3.2.1/gml.xsd"
<wfs:member>
  <elu:ExistingLandUseObject gml:id="luu_1">
    <elu:inspireId>
      <base:Identifier>
        <base:localId>luo_1</base:localId>
        <base:namespace>AT.0024.LU.ELU.2013</base:namespace>
      </base:Identifier>
    </elu:inspireId>
    <elu:beginLifespanVersion>2015-11-01T23:00:00Z</elu:beginLifespanVersion>
  </elu:geometry>
  <gml:MultiSurface srsDimension="2" srsName="urn:ogc:def:crs:EPSG::3044">
    <gml:surfaceMember>
      <gml:Polygon srsDimension="2">
        <gml:exterior>
          <gml:LinearRing>
            <gml:posList>
              5233986.242255006 678249.9057607441 5233871.88725137 678238.2747027708 5233863.885041785 678237.4607192926
              5233857.490427875 678236.8103099106 5233850.759885238 678229.6379732478 5233846.3533281 678220.4543134016
              5233837.905439166 678212.3159355188 5233839.854942556 678209.4428763154 5233843.398697126 678204.2203733339
              5233857.20463019 678209.190392093 5233872.9173234925 678211.5944011051 5233891.119131097 678207.4226913048
              5233902.090503661 678198.1242271963 5233911.720844217 678187.0186273404 5233917.438465692 678174.5999696814
              5233927.814162751 678138.7001597132 5233932.123654314 678139.0411647097 5233931.887916397 678136.3366451561
              5233955.553700979 678122.9092054057 5233962.802768648 678095.3730392986 5233995.45153307 678098.0392679281
              5233991.6094287345 678126.3906257681 5233990.332478075 678143.6497023338 5233989.447683118 678161.4594946416
              5233988.570063217 678179.1218562399 5233988.314737576 678197.2429863584 5233988.218042881 678204.1093432327
              5233987.932580967 678228.895679973 5233986.242255006 678249.9057607441
            </gml:posList>
          </gml:LinearRing>
        </gml:exterior>
      </gml:Polygon>
    </gml:surfaceMember>
  </gml:MultiSurface>
</wfs:member>
    
```


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Workshop INSPIRE Datenharmonisierung

Wien ■ 19.April 2016