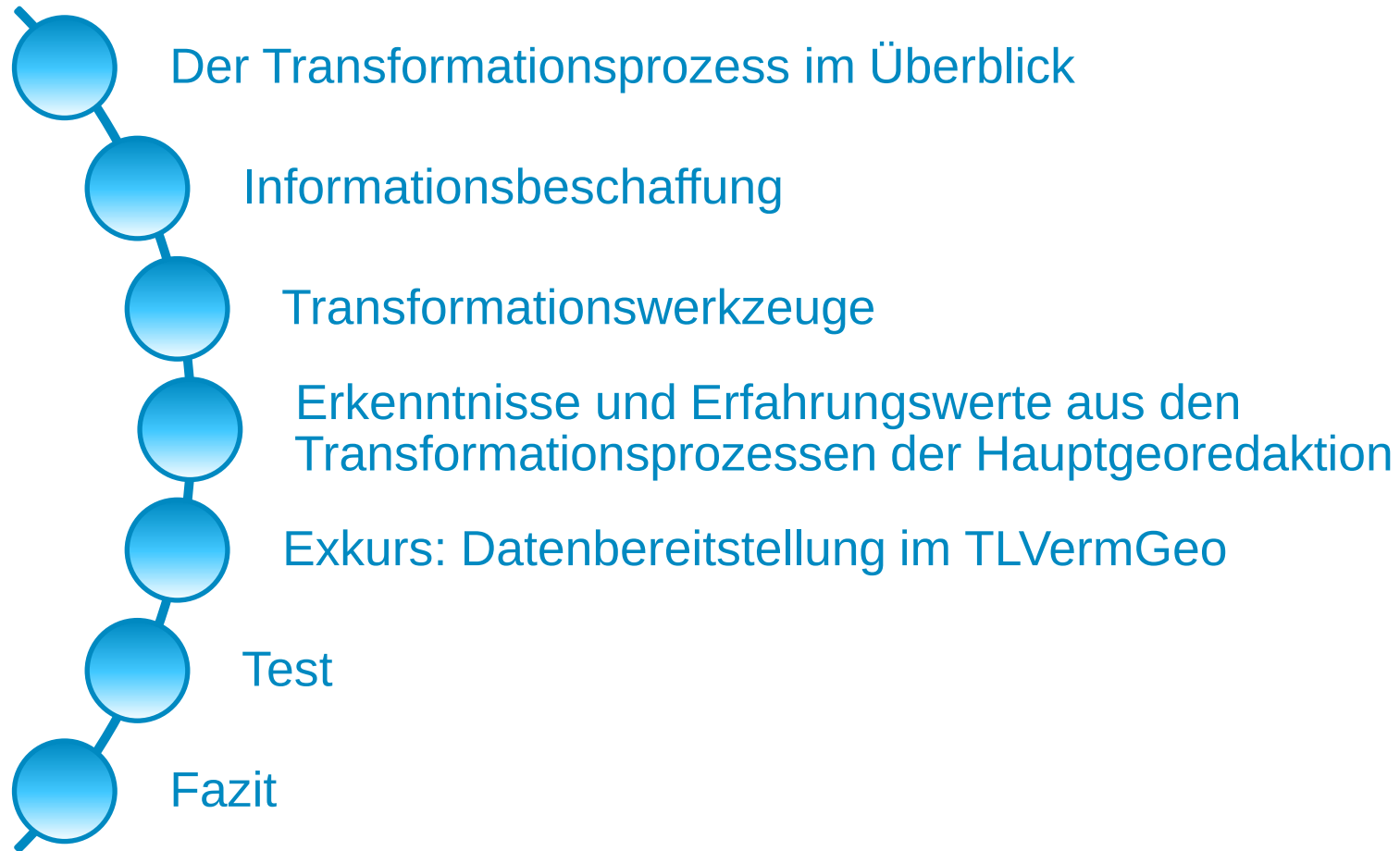
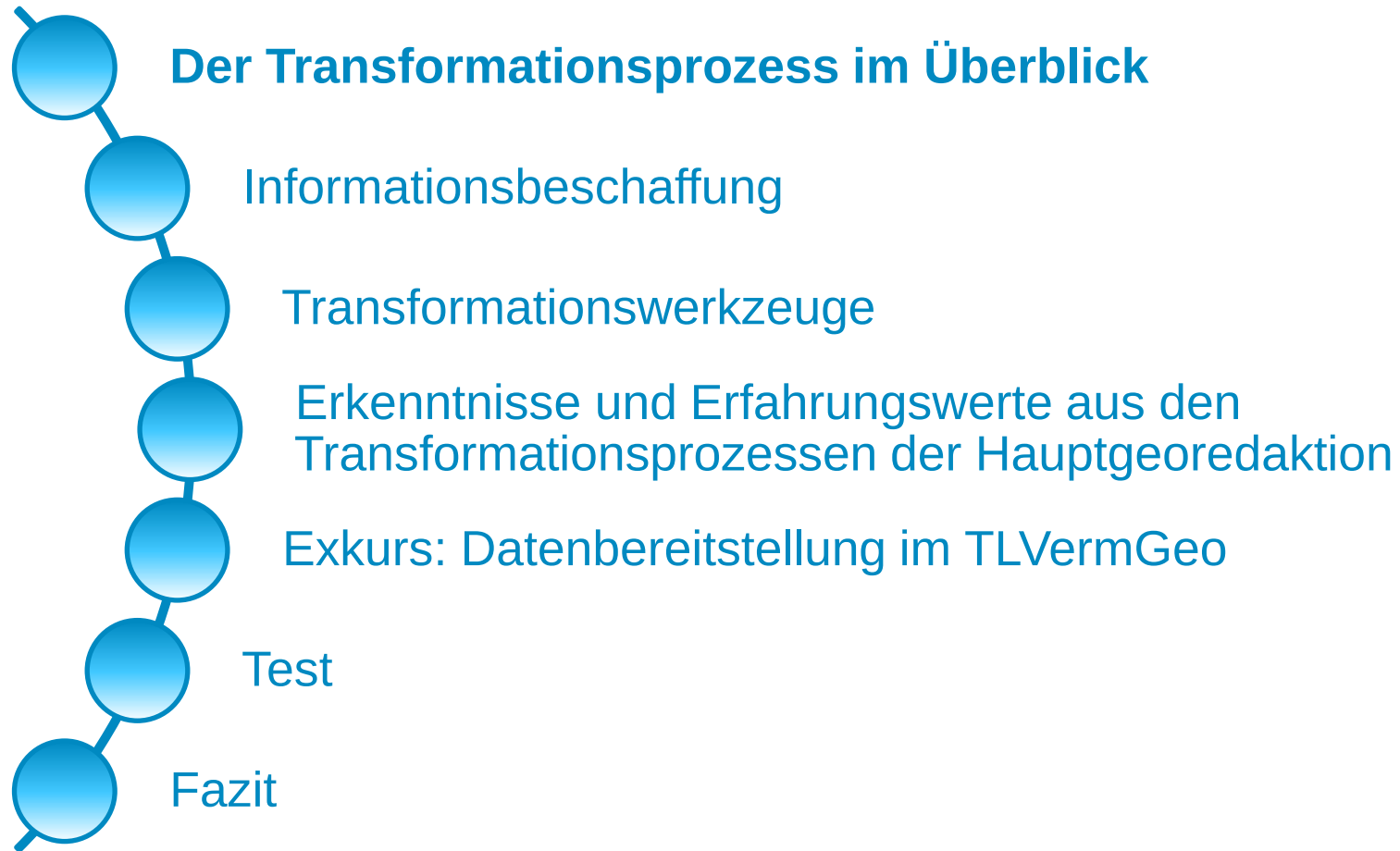


11. Thüringer GIS-Forum

Datentransformation ins INSPIRE-Datenmodell

Maurice Jäger
TLVermGeo, Entwicklung Geoinformationssysteme





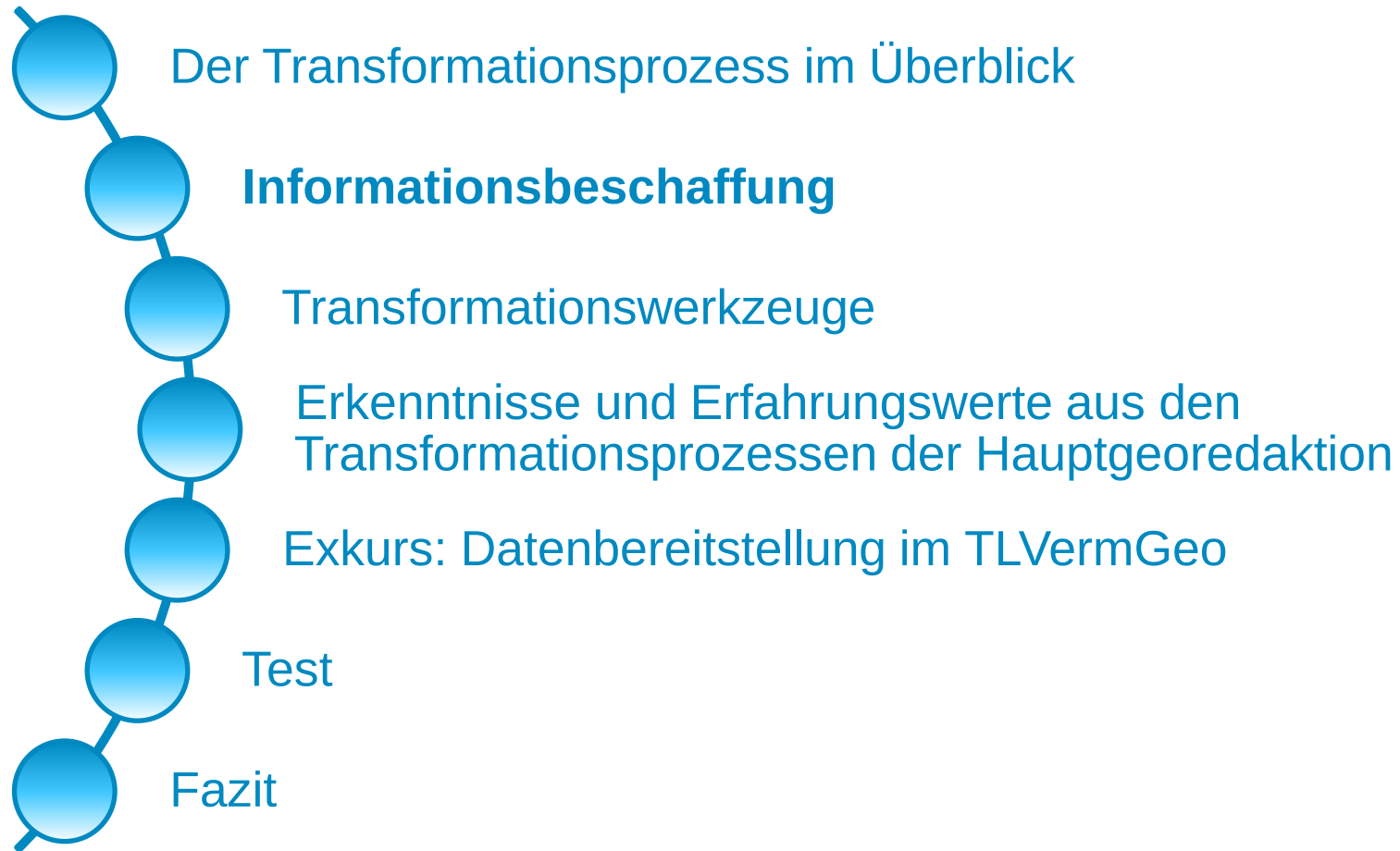
Prozessart:

Spatial **E**xtract, **T**ransform, **L**oad (Spatial **ETL**) bzw.
Geospatial **T**ransform and **L**oad (**GTL**)



abstrakter Prozess im TLVermGeo





Welche Informationen werden für INSPIRE Transformationen benötigt?

- INSPIRE Data Specification
 - Technical Guidelines
 - Data Models (web- oder toolbasierte Darstellung)
 - Data Schema
- Dokumentation der Quelldatenbestände

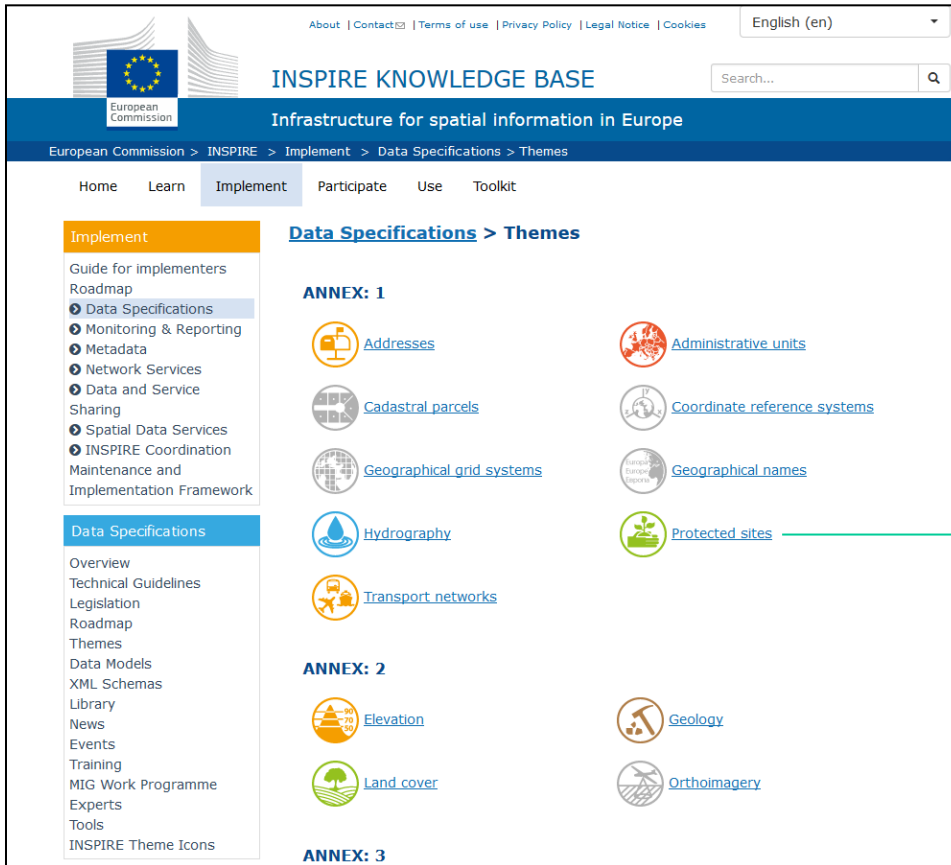
Optional:

- INSPIRE Steckbriefe der GDI-DE
- Dokumentation des eingesetzten Transformationswerkzeugs
- Templates / Alignments

Datentransformation in das INSPIRE-Datenmodell

Informationsbeschaffung

INSPIRE Data Specification



The screenshot shows the INSPIRE Knowledge Base website. The header includes the European Commission logo, navigation links (About, Contact, Terms of use, Privacy Policy, Legal Notice, Cookies), and a language selector set to English (en). The main navigation bar contains links for Home, Learn, Implement, Participate, Use, and Toolkit. The 'Implement' section is active, showing a sidebar with links to various implementation resources. The main content area is titled 'Data Specifications > Themes' and displays a grid of icons representing different data themes. A green arrow points from the 'Protected sites' icon in this grid to a detailed view of the 'Protected sites' theme on the right.

INSPIRE KNOWLEDGE BASE
Infrastructure for spatial information in Europe

European Commission > INSPIRE > Implement > Data Specifications > Themes

Home Learn **Implement** Participate Use Toolkit

Implement

- Guide for implementers
- Roadmap
- Data Specifications**
- Monitoring & Reporting
- Metadata
- Network Services
- Data and Service Sharing
- Spatial Data Services
- INSPIRE Coordination Maintenance and Implementation Framework

Data Specifications

- Overview
- Technical Guidelines
- Legislation
- Roadmap
- Themes
- Data Models
- XML Schemas
- Library
- News
- Events
- Training
- MIG Work Programme
- Experts
- Tools
- INSPIRE Theme Icons

Data Specifications > Themes

ANNEX: 1

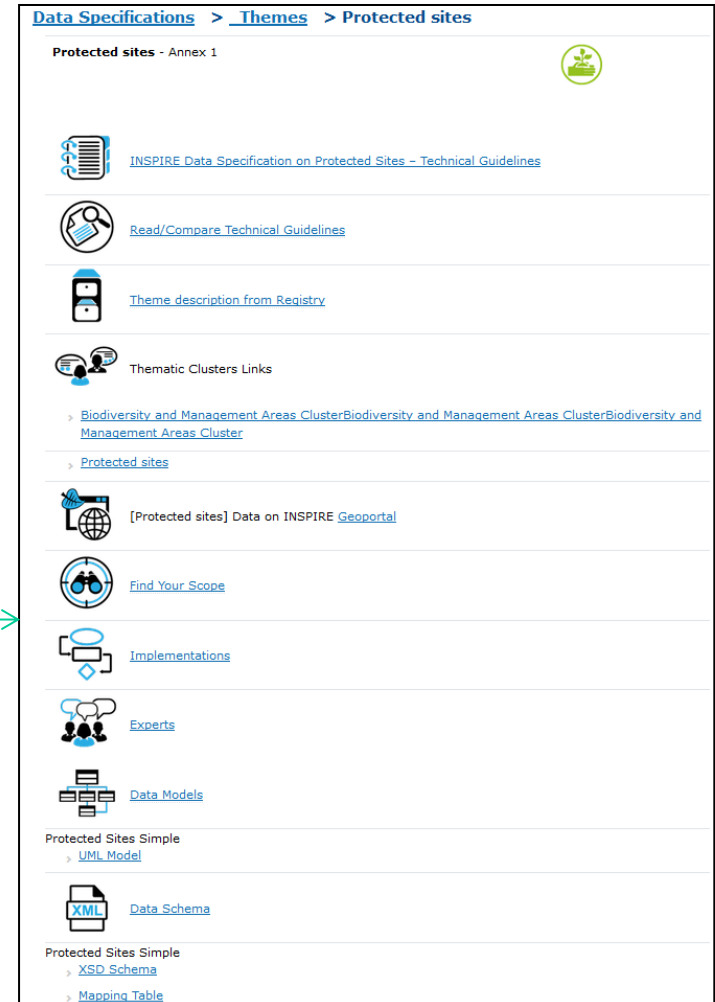
- Addresses
- Cadastral parcels
- Geographical grid systems
- Hydrography
- Transport networks

ANNEX: 2

- Elevation
- Land cover

ANNEX: 3

- Administrative units
- Coordinate reference systems
- Geographical names
- Protected sites
- Geology
- Orthoimagery



The screenshot shows the 'Protected sites - Annex 1' page. The breadcrumb trail is 'Data Specifications > Themes > Protected sites'. The page title is 'Protected sites - Annex 1'. The main content area lists various resources related to protected sites, including technical guidelines, thematic clusters, and data on INSPIRE Geoportal. A green arrow points from the 'Protected sites' icon in the left sidebar to this page.

Data Specifications > Themes > Protected sites

Protected sites - Annex 1

- [INSPIRE Data Specification on Protected Sites - Technical Guidelines](#)
- [Read/Compare Technical Guidelines](#)
- [Theme description from Registry](#)
- [Thematic Clusters Links](#)
 - [Biodiversity and Management Areas Cluster](#)
 - [Biodiversity and Management Areas Cluster](#)
 - [Biodiversity and Management Areas Cluster](#)
 - [Protected sites](#)
- [\[Protected sites\] Data on INSPIRE Geoportal](#)
- [Find Your Scope](#)
- [Implementations](#)
- [Experts](#)
- [Data Models](#)
- [Protected Sites Simple](#)
 - [UML Model](#)
- [Data Schema](#)
- [Protected Sites Simple](#)
 - [XSD Schema](#)
 - [Mapping Table](#)

Technical Guidelines

- Data content and structure
 - Datenstrukturen
 - Objektarten
- Data Quality
- Data capture
- Portrayal



INSPIRE
Infrastructure for Spatial Information in Europe

D2.8.I.8 Data Specification on Hydrography – Technical Guidelines

Title	D2.8.I.8 Data Specification on <i>Hydrography</i> – Technical Guidelines
Creator	INSPIRE Thematic Working Group <i>Hydrography</i>
Date	2014-04-17
Subject	INSPIRE Data Specification for the spatial data theme <i>Hydrography</i>
Publisher	European Commission Joint Research Centre
Type	Text
Description	This document describes the INSPIRE Data Specification for the spatial data theme <i>Hydrography</i>
Contributor	Members of the INSPIRE Thematic Working Group <i>Hydrography</i>
Format	Portable Document Format (pdf)
Source	
Rights	Public
Identifier	D2.8.I.8_v3.1
Language	En
Relation	Directive 2007/2/EC of the European Parliament and of the Council of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE)
Coverage	Project duration

Datentransformation in das INSPIRE-Datenmodell

Informationsbeschaffung

5.5.2 Feature catalogue

Feature catalogue metadata

Application Schema	INSPIRE Application Schema Hydro - Physical Waters
Version number	3.0

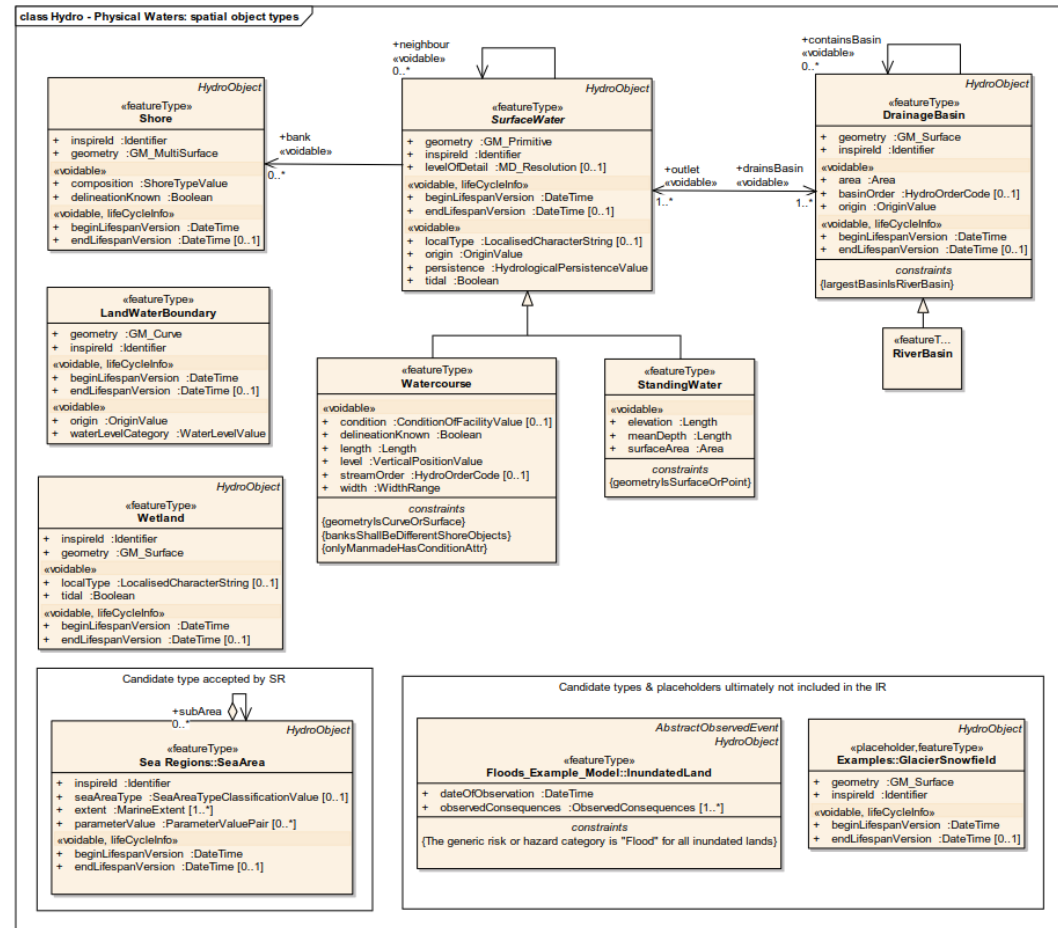
Types defined in the feature catalogue

Type	Package	Stereotypes
Crossing	Hydro - Physical Waters	«featureType»
CrossingTypeValue	Hydro - Physical Waters	«codeList»
DamOrWeir	Hydro - Physical Waters	«featureType»
DrainageBasin	Hydro - Physical Waters	«featureType»
Embankment	Hydro - Physical Waters	«featureType»
Falls	Hydro - Physical Waters	«featureType»
FluvialPoint	Hydro - Physical Waters	«featureType»
Ford	Hydro - Physical Waters	«featureType»
HydroOrderCode	Hydro - Physical Waters	«dataType»
HydroPointOfInterest	Hydro - Physical Waters	«featureType»
HydrologicalPersistenceValue	Hydro - Physical Waters	«codeList»
LandWaterBoundary	Hydro - Physical Waters	«featureType»
Lock	Hydro - Physical Waters	«featureType»
ManMadeObject	Hydro - Physical Waters	«featureType»
Rapids	Hydro - Physical Waters	«featureType»
RiverBasin	Hydro - Physical Waters	«featureType»
Shore	Hydro - Physical Waters	«featureType»
ShoreTypeValue	Hydro - Physical Waters	«codeList»
ShorelineConstruction	Hydro - Physical Waters	«featureType»
Sluice	Hydro - Physical Waters	«featureType»
StandingWater	Hydro - Physical Waters	«featureType»
SurfaceWater	Hydro - Physical Waters	«featureType»
WaterLevelValue	Hydro - Physical Waters	«codeList»
Watercourse	Hydro - Physical Waters	«featureType»
Wetland	Hydro - Physical Waters	«featureType»
WidthRange	Hydro - Physical Waters	«dataType»

5.5.2.1. Spatial object types

5.5.2.1.1. Crossing

Subtype of:	ManMadeObject
Definition:	A man-made object allowing the passage of water above or below an obstacle.
Description:	EXAMPLE Aqueduct, bridge, culvert, siphon.
Stereotypes:	«featureType»
Attribute: type	
Value type:	CrossingTypeValue
Definition:	The type of physical crossing.
Multiplicity:	1
Stereotypes:	«voidable»



Datentransformation in das INSPIRE-Datenmodell

Informationsbeschaffung

11 Portrayal

11.1 Layers to be provided by INSPIRE view services

Layer Name	Layer Title	Spatial object type(s)	Keywords
HY.PhysicalWaters.Waterbodies	Waterbody	Watercourse, StandingWater	Watercourse, River, Lake, Reservoir
HY.PhysicalWaters.LandWaterBoundary	Land water boundary	LandWaterBoundary	Coastline, Shoreline
HY.PhysicalWaters.Catchments	Catchment	DrainageBasin, RiverBasin	Basin, Catchment area, Drainage basin
HY.Network	Hydrographic network	HydroNode, WatercourseLink	Hydrographic network,
HY.PhysicalWaters.HydroPointOfInterest	Hydro Point of Interest	Rapids, Falls	Rapids, Falls, Cascade
HY.PhysicalWaters.ManMadeObject	Man-made Object	Crossing, DamOrWeir, Embankment, Sluice, Lock, Ford, ShorelineConstruction	Bridge, Aqueduct, Dam, Weir, Lock, Ford, Dick
HY.PhysicalWaters.Wetland	Wetlands	Wetland	
HY.PhysicalWaters.Shore	Shores	Shore	

11.1.1 Layers organisation

None.

11.2.3 Styles for the layer HY.PhysicalWaters.Catchments

Style Name	HY.PhysicalWaters.Catchments.Default
Default Style	Yes
Style Title	Drainage Basin default style
Style Abstract	Drainage basins are portrayed by no filled polygons with a solid blue (#0066FF) border with stroke width of 4 pixel the RiverBasin features and with stroke width of 2 pixel the DrainageBasin ones.
Symbology	<pre> <sld:NamedLayer> <se:Name>HY.PhysicalWaters.Catchments</se:Name> <sld:UserStyle> <se:Name>HY.PhysicalWaters.Catchments.Default</se:Name> <sld:IsDefault>1</sld:IsDefault> <se:FeatureTypeStyle version="1.1.0"> <se:Description> <se:Title>Catchments default style</se:Title> <se:Abstract>Drainage Basin areas are portrayed by no filled polygons with a solid blue (#0066FF) border with stroke width of 4 pixel the RiverBasin features and with stroke width of 2 pixel the DrainageBasin ones.</se:Abstract> <se:Description> <se:FeatureTypeName>PhysicalWaters.DrainageBasin</se:FeatureTypeName> </se:Description> <se:Rule> <se:PolygonSymbolizer> <se:Geometry> <ogc:PropertyName>geometry</ogc:PropertyName> </se:Geometry> <se:Stroke> <se:SvgParameter name="stroke">#0066FF</se:SvgParameter> <se:SvgParameter name="stroke-width">2</se:SvgParameter> </se:Stroke> </se:PolygonSymbolizer> </se:Rule> <se:FeatureTypeName>PhysicalWaters.RiverBasin</se:FeatureTypeName> <se:Rule> <se:PolygonSymbolizer> <se:Geometry> <ogc:PropertyName>geometry</ogc:PropertyName> </se:Geometry> <se:Stroke> <se:SvgParameter name="stroke">#0066FF</se:SvgParameter> <se:SvgParameter name="stroke-width">4</se:SvgParameter> </se:Stroke> </se:PolygonSymbolizer> </se:Rule> </se:FeatureTypeStyle> </sld:UserStyle> </sld:NamedLayer> </pre>
Minimum & maximum scales	No scale limits
Example	DrainageBasin  RiverBasin 

Steckbriefe der GDI-DE zu den INSPIRE-Themen

- deutschsprachige Kurzfassung
- z.T. Übersetzungen zu den Objektarten
- zusätzliche Erläuterungen und Hilfen



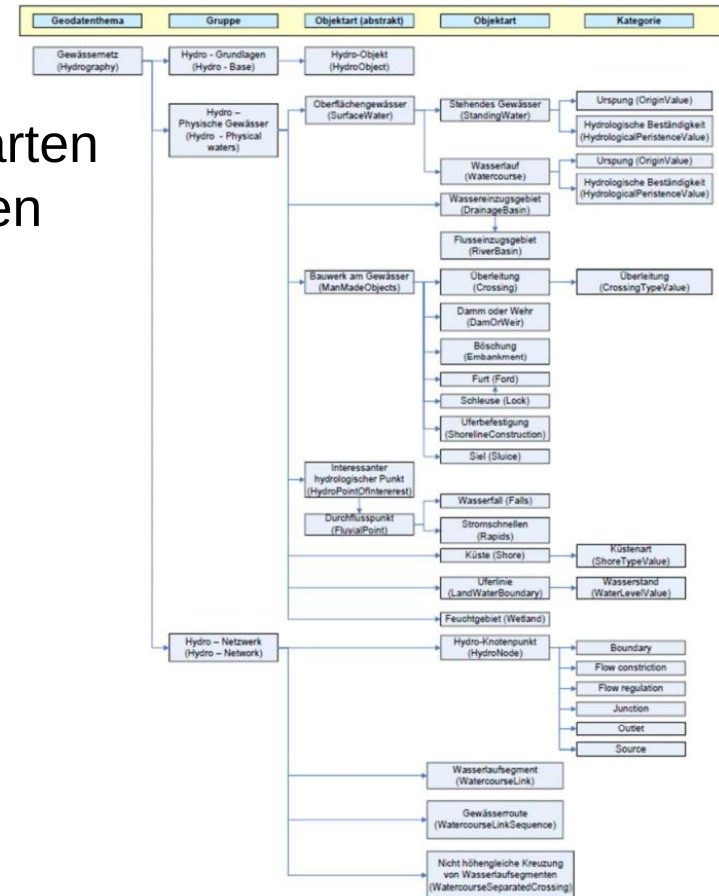
Abbildung 1: Ausgewählte Elemente der physisch vorhandenen Gewässer und verbundene Objekte

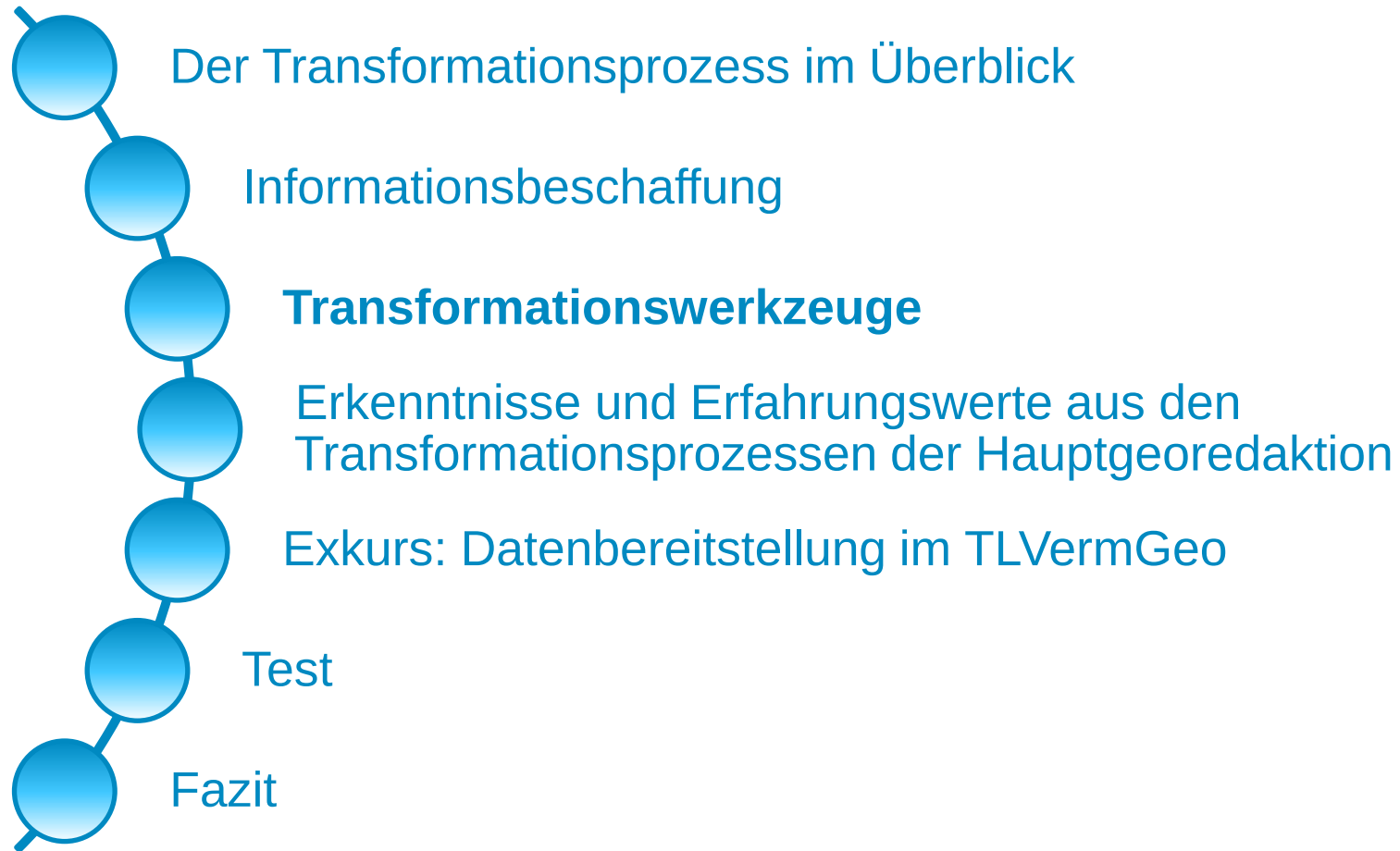


Objekte sind als assoziierte Objekte der Objektart „DamOrWeir“ zugeordnet



Objekte sind entfallen bzw. anderen INSPIRE Themen zugeordnet worden





Beispiele für Spatial ETL Tools

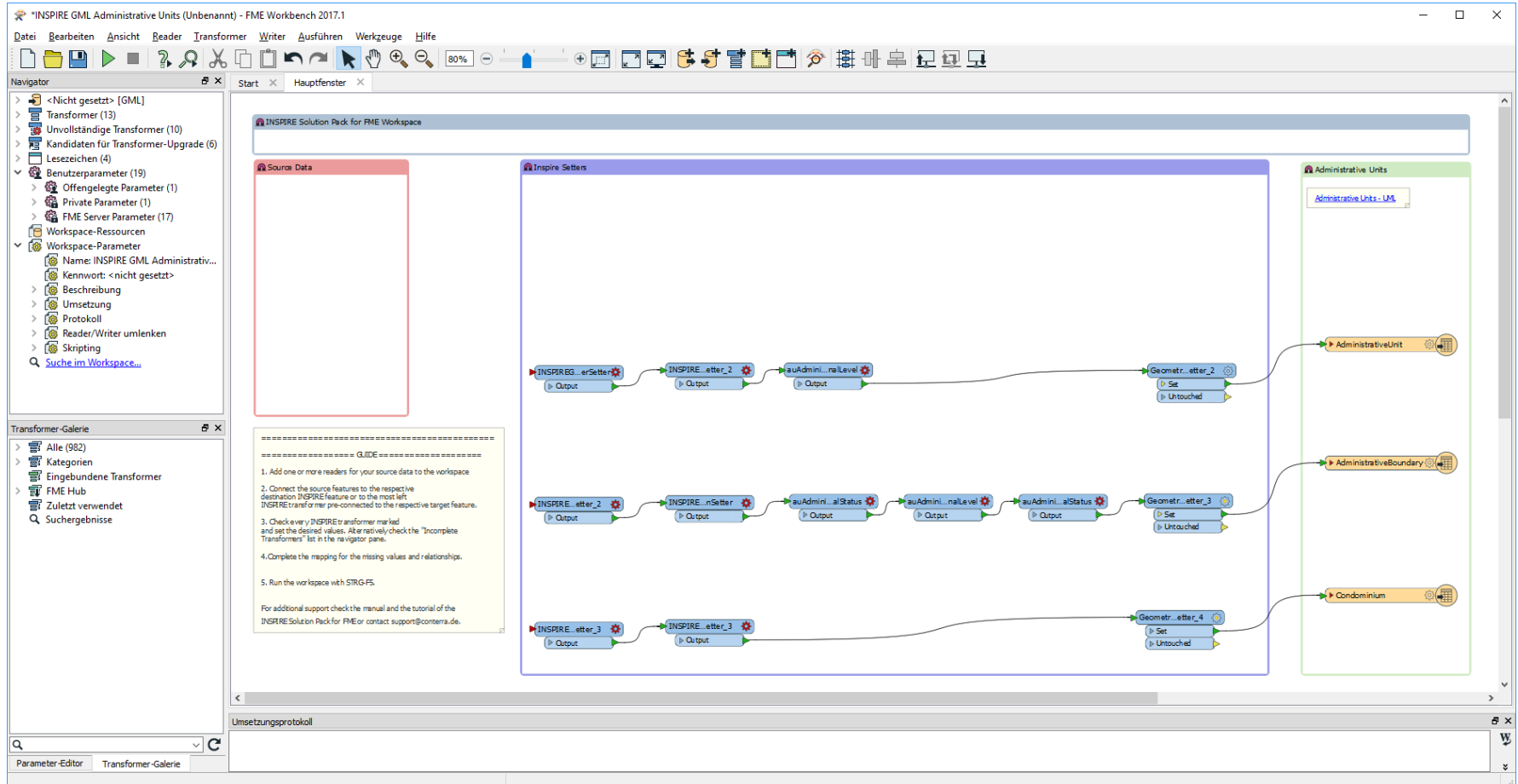


ArcGIS® 10.6



Datentransformation in das INSPIRE-Datenmodell Transformationswerkzeuge

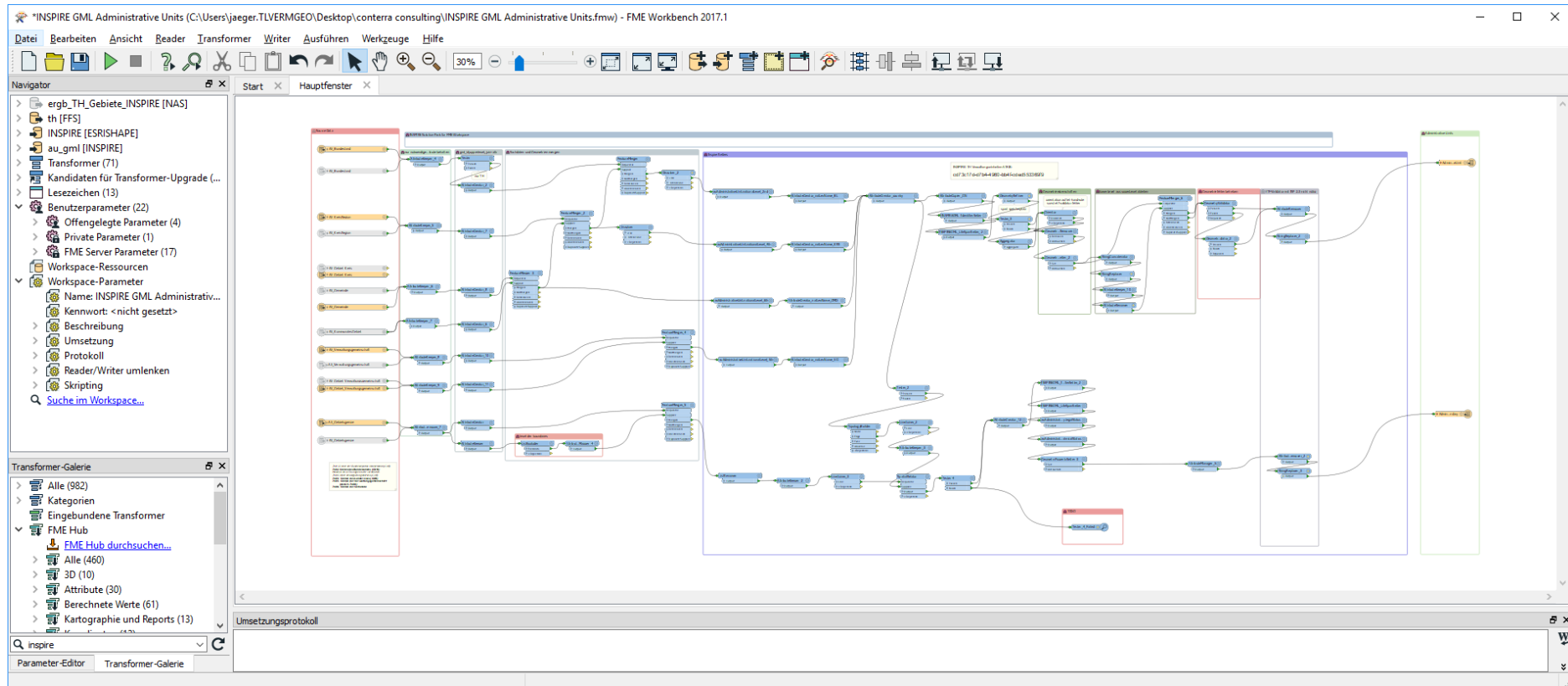
FME Workbench mit INSPIRE Solution Pack



Datentransformation in das INSPIRE-Datenmodell

Transformationswerkzeuge

FME Workbench mit INSPIRE Solution Pack





Mapping Dokumentation (HTML+SVG)



2018-04-10_TN-W MJA Deutsch ▾

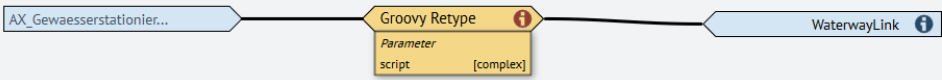
v3.3.1 Zuletzt geändert am 10.04.2018

Nach Abbildung von Objektarten filtern:

AX_Gewaesserstationierungsachse zu WaterwayLink ▾

Suche 🔍

AX_Gewaesserstationierungsachse zu WaterwayLink



```
graph LR; A[AX_Gewaesserstationierungsachse] --> B[Groovy Retype]; B --> C[WaterwayLink];
```

Erstellt ein *WaterwayLink* Objekt für jedes *AX_Gewaesserstationierungsachse* Objekt in den Quell-Daten.

Bevor die Attribut-Transformationen ausgeführt werden wird das Ziel-Objekt mit dem folgenden Groovy-Skript befüllt:

[Skript anzeigen ▾](#)

Bemerkungen

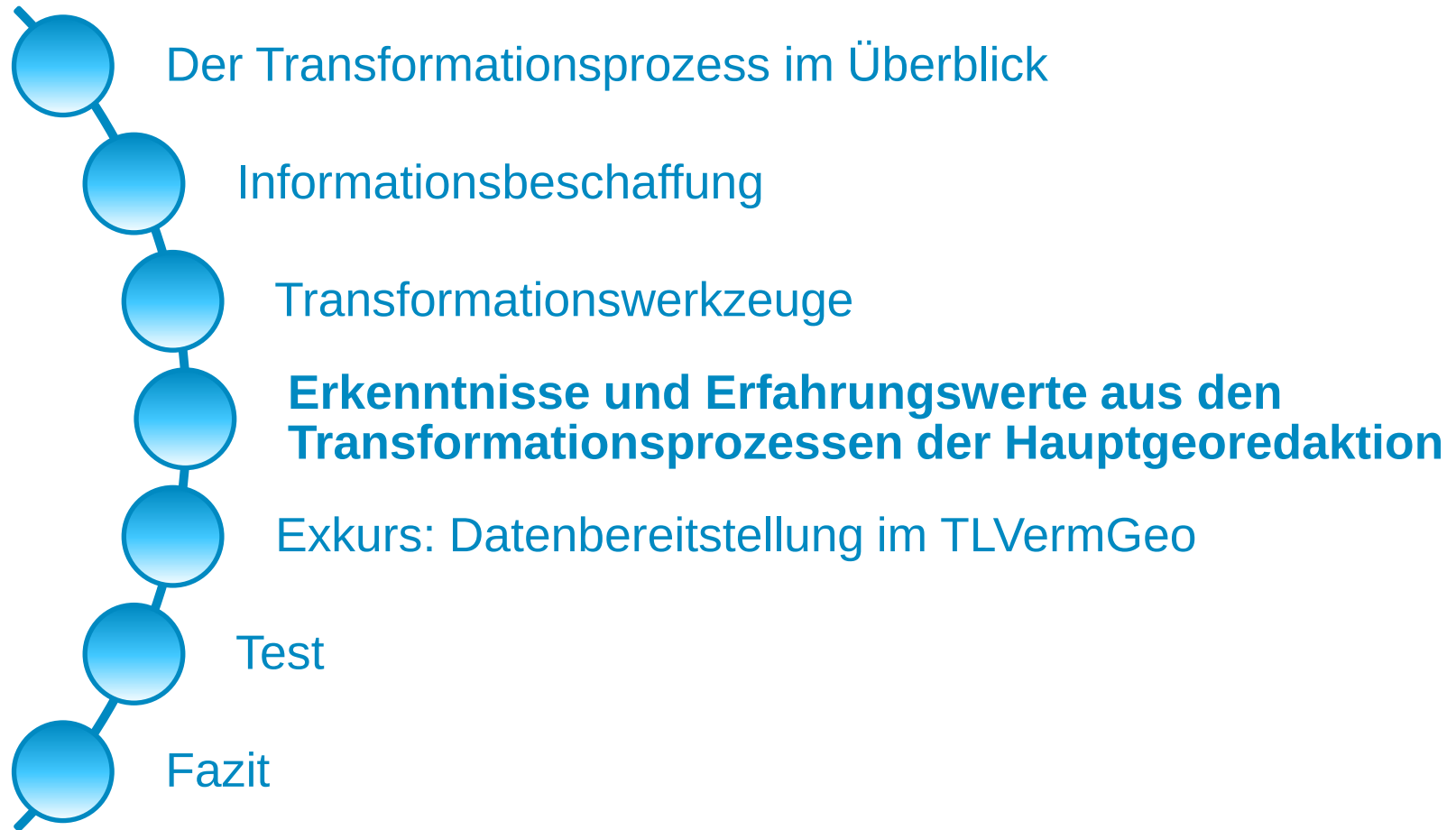
Erstellt einen *WaterwayLink* zu einer *AX_Gewaesserstationierungsachse*.

Der erstellte *WaterwayLink* wird dem Index von Netzwerk-Elementen hinzugefügt.

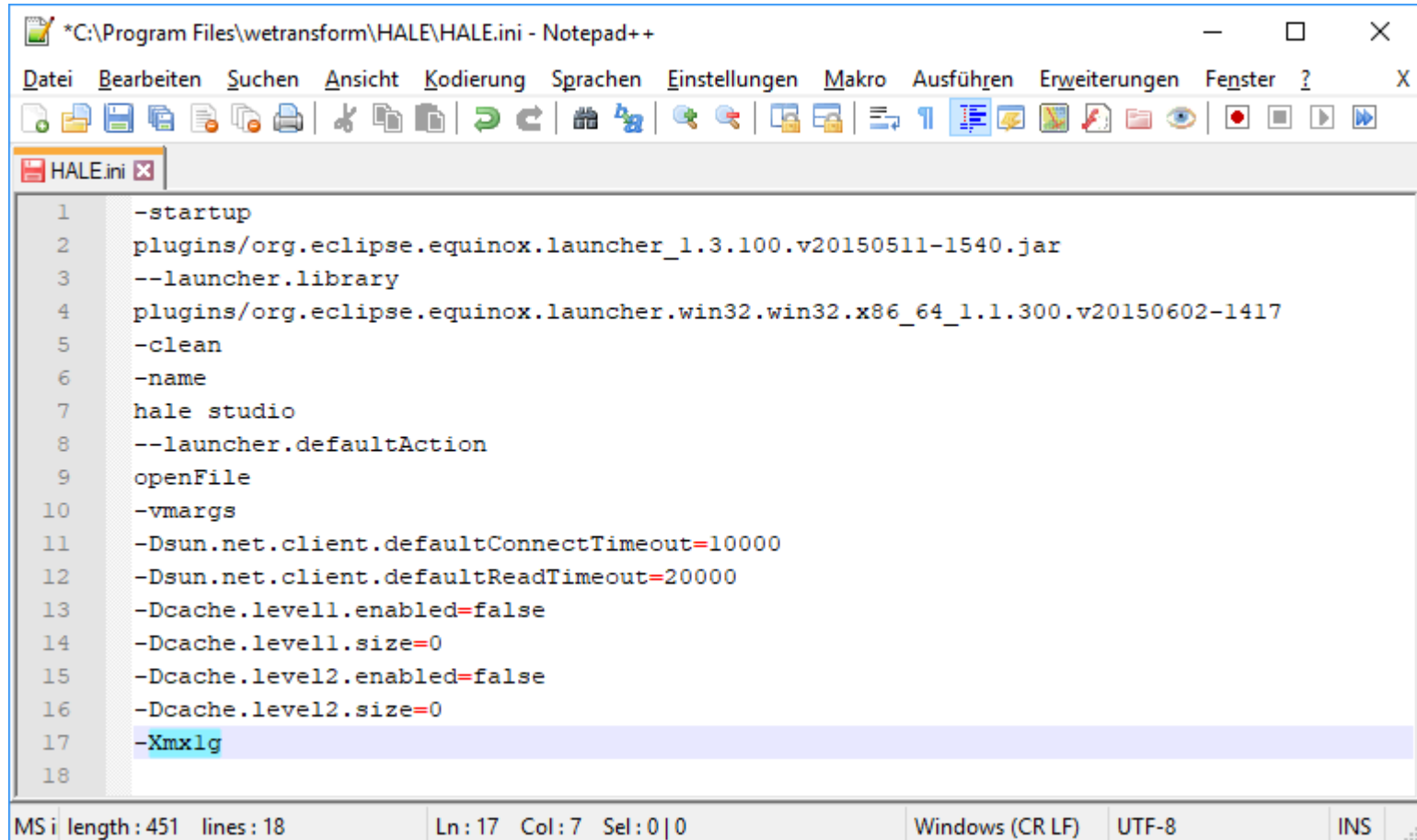
Achtung: Hier werden aktuell zu viele *WaterwayLink* s gebildet. Denn über die *Gewaesserstationierungsachse* werden sowohl schiffbare als auch nicht schiffbare Linien betrachtet. Eigentlich müssten die nicht schiffbaren herausgefiltert werden. Dies könnte über eine geometrische Verschneidung mit dem flächenförmigen *AX_Kanal* bzw. *AX_Wasserlauf* geschehen.

Vorschlag: Filterung später (wenn die Funktion in HALE implementiert ist) umsetzen. Bis dahin alle *Gewaesserstationierungsachsen* zu *WaterwayLinks* übernehmen.

- Klartextbeschreibungen zu jeder Transformation
- Möglichkeit der Filterung
- mehrsprachige Ausgabe (DE/EN)
- integrierte Darstellung verwendeter Groovy-Skripte
- integrierte Suchfunktion

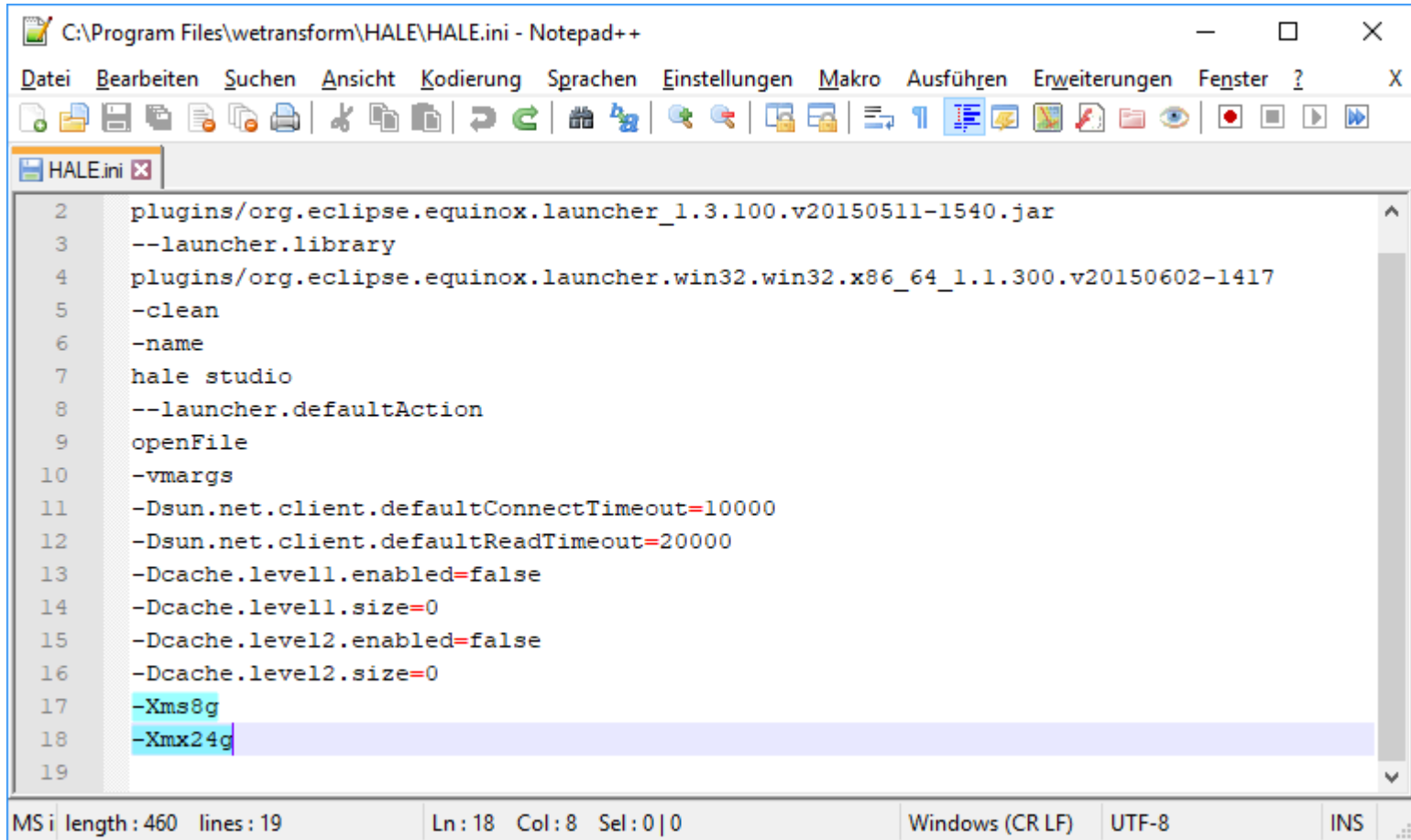


Beispiel 1: Initiale Konfiguration von hale studio



```
*C:\Program Files\wettransform\HALE\HALE.ini - Notepad++
Datei Bearbeiten Suchen Ansicht Kodierung Sprachen Einstellungen Makro Ausführen Erweiterungen Fenster ? X
HALE.ini x
1 -startup
2 plugins/org.eclipse.equinox.launcher_1.3.100.v20150511-1540.jar
3 --launcher.library
4 plugins/org.eclipse.equinox.launcher.win32.win32.x86_64_1.1.300.v20150602-1417
5 -clean
6 -name
7 hale studio
8 --launcher.defaultAction
9 openFile
10 -vmargs
11 -Dsun.net.client.defaultConnectTimeout=10000
12 -Dsun.net.client.defaultReadTimeout=20000
13 -Dcache.level1.enabled=false
14 -Dcache.level1.size=0
15 -Dcache.level2.enabled=false
16 -Dcache.level2.size=0
17 -Xmx1g
18
MSI length: 451 lines: 18 Ln: 17 Col: 7 Sel: 0|0 Windows (CR LF) UTF-8 INS
```

Beispiel 1: Initiale Konfiguration von hale studio

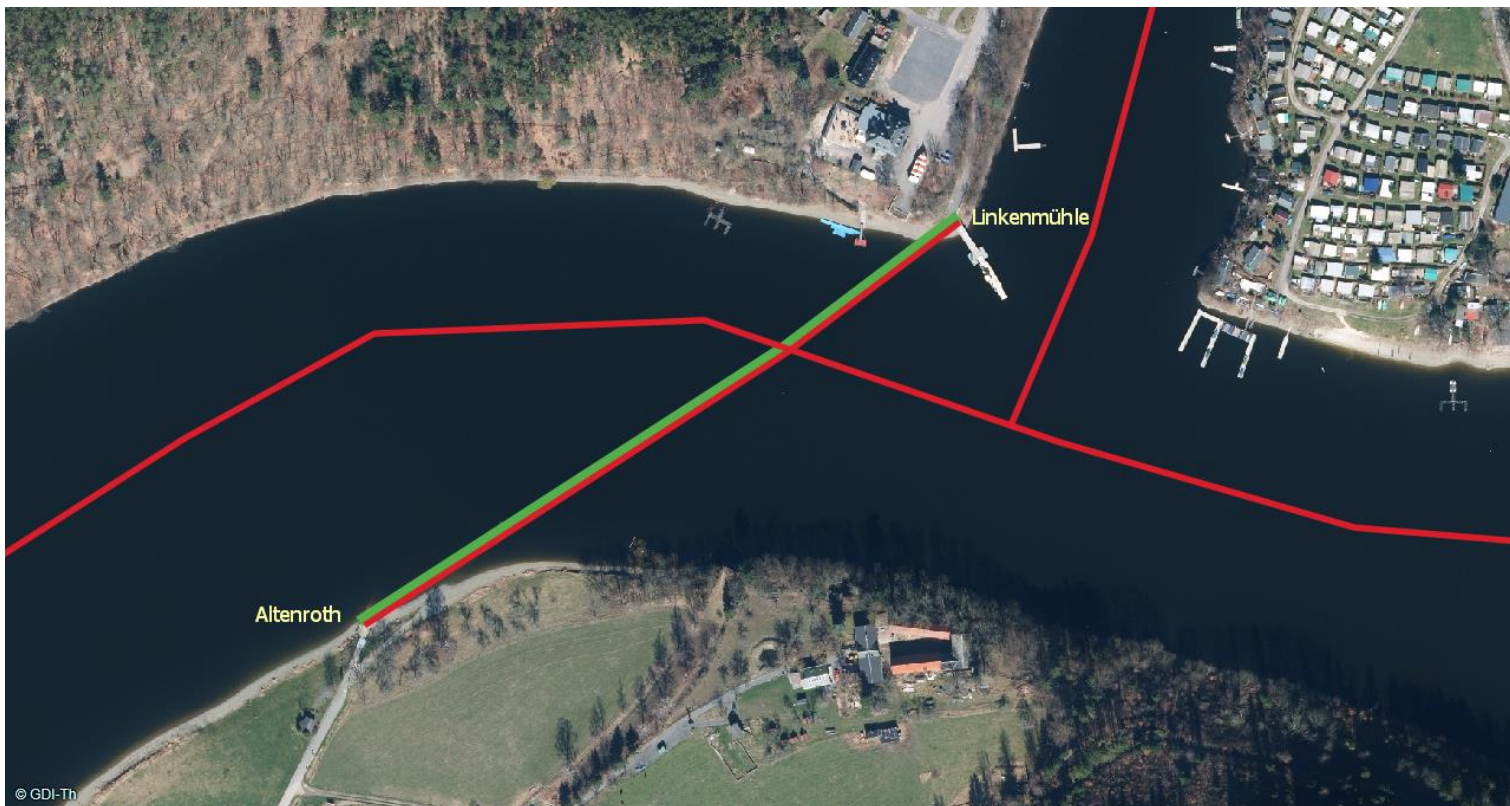


```
C:\Program Files\wetransform\HALE\HALE.ini - Notepad++
Datei Bearbeiten Suchen Ansicht Kodierung Sprachen Einstellungen Makro Ausführen Erweiterungen Fenster ? X

HALE.ini x
2 plugins/org.eclipse.equinox.launcher_1.3.100.v20150511-1540.jar
3 --launcher.library
4 plugins/org.eclipse.equinox.launcher.win32.win32.x86_64_1.1.300.v20150602-1417
5 -clean
6 -name
7 hale studio
8 --launcher.defaultAction
9 openFile
10 -vmargs
11 -Dsun.net.client.defaultConnectTimeout=10000
12 -Dsun.net.client.defaultReadTimeout=20000
13 -Dcache.level1.enabled=false
14 -Dcache.level1.size=0
15 -Dcache.level2.enabled=false
16 -Dcache.level2.size=0
17 -Xms8g
18 -Xmx24g
19

MSI length: 460 lines: 19 Ln: 18 Col: 8 Sel: 0|0 Windows (CR LF) UTF-8 INS
```

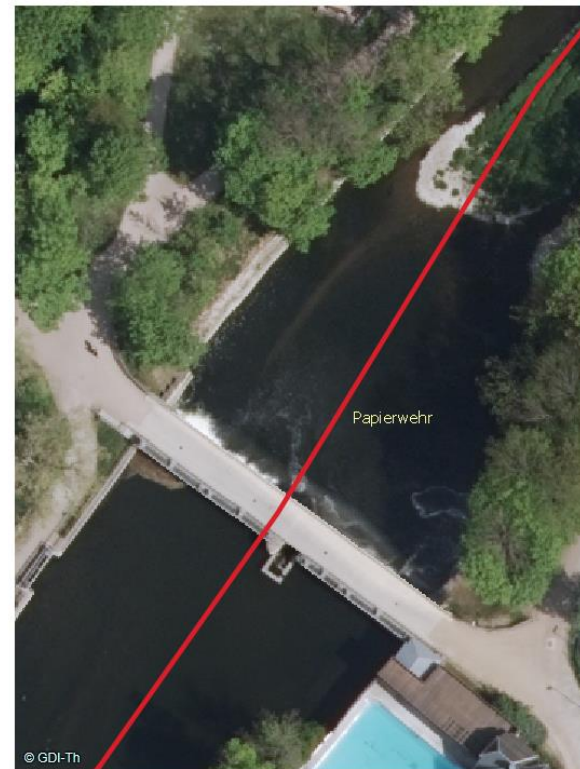
Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



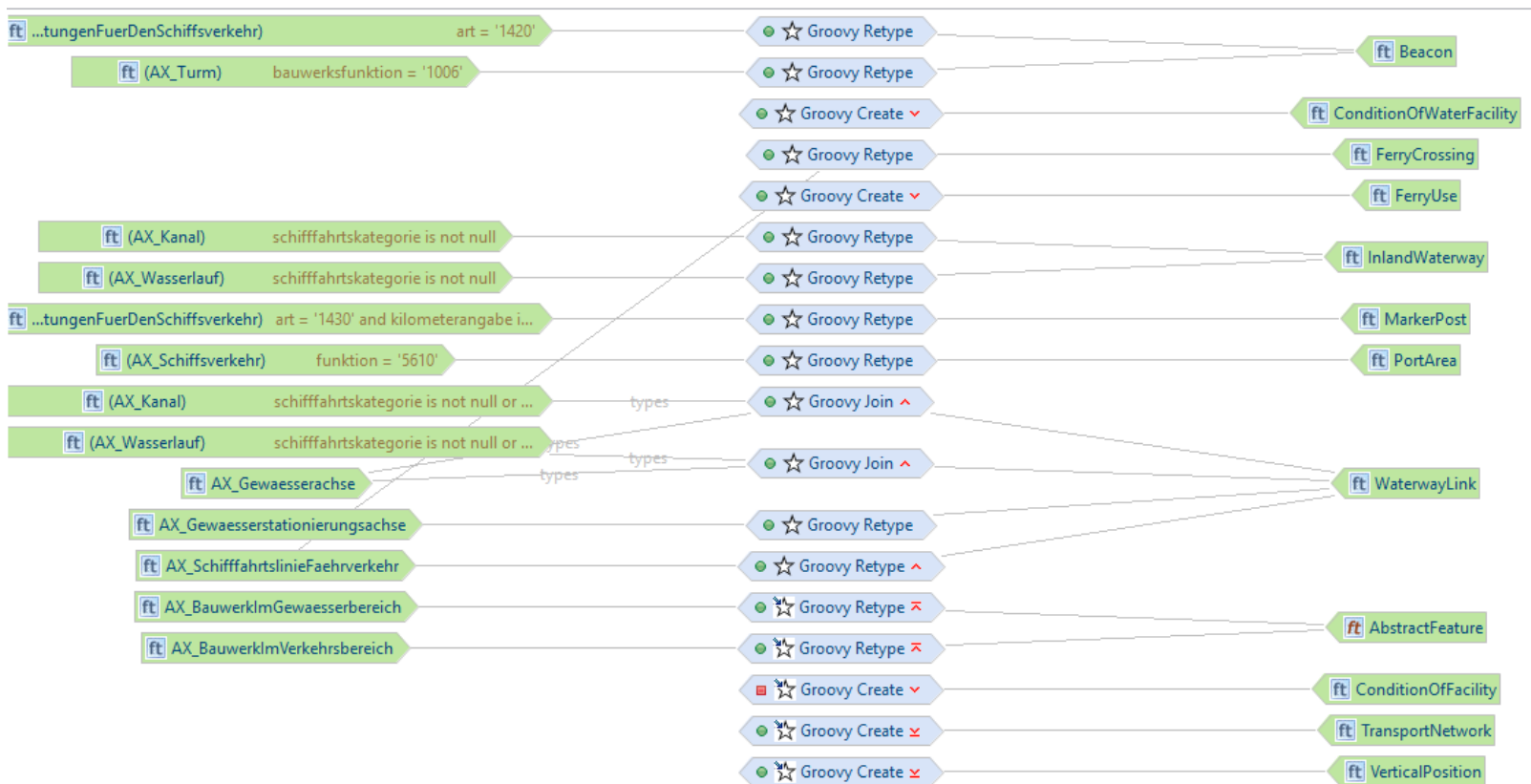
Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



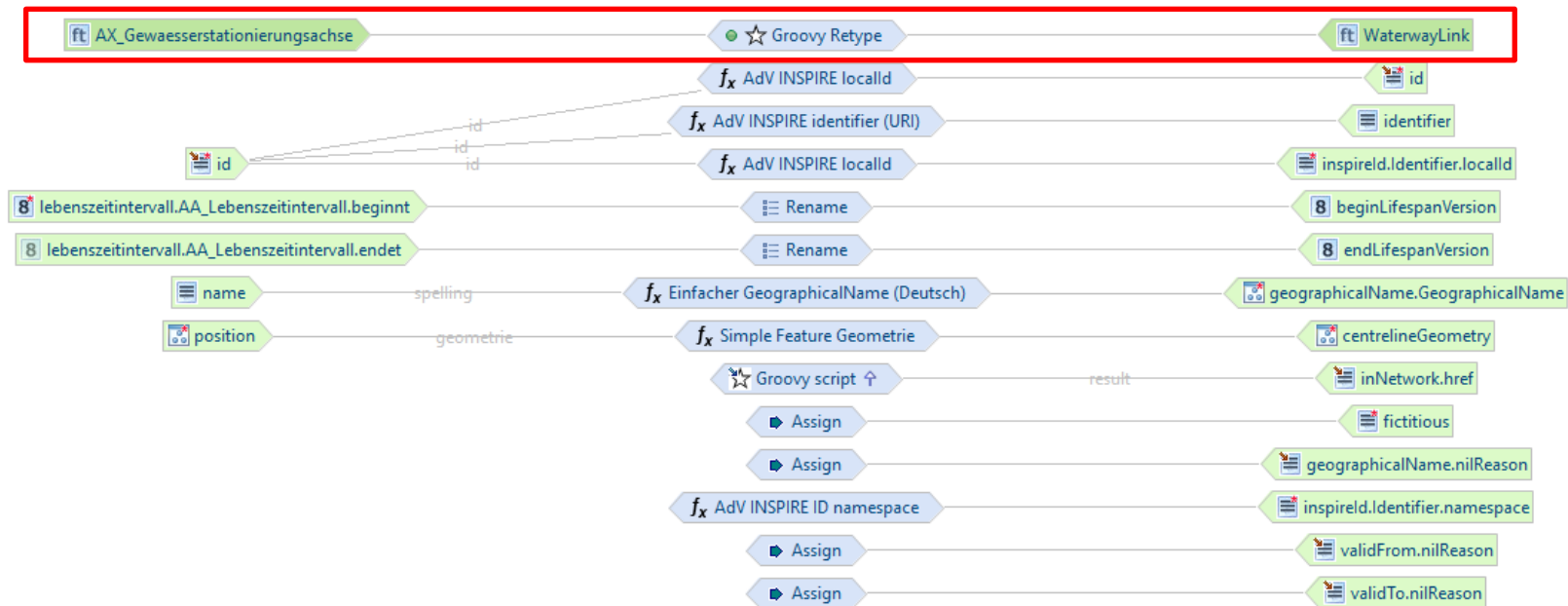
Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



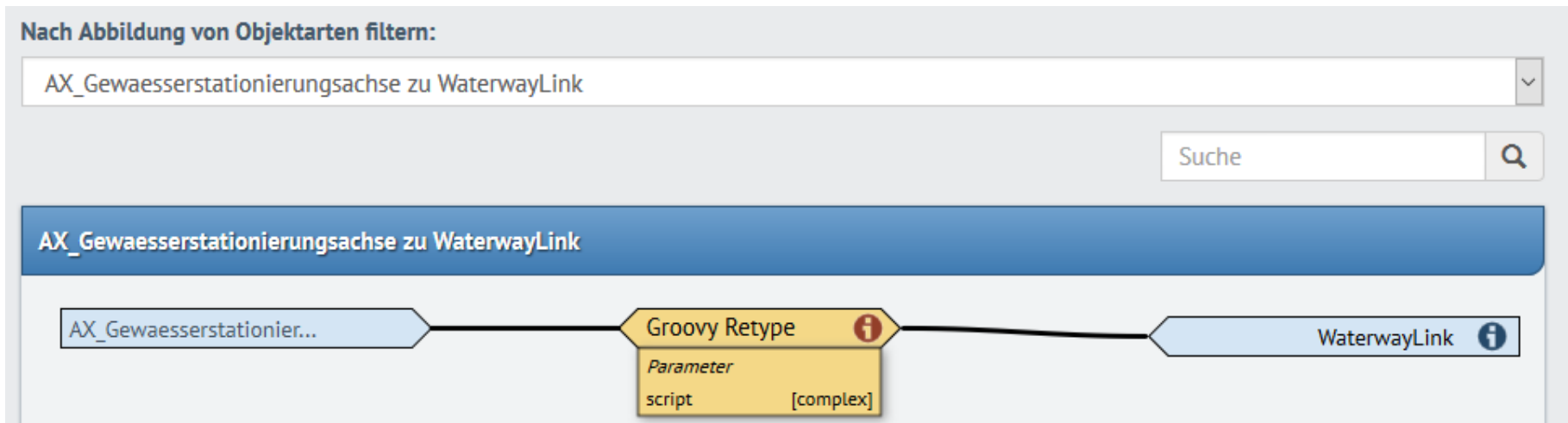
Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



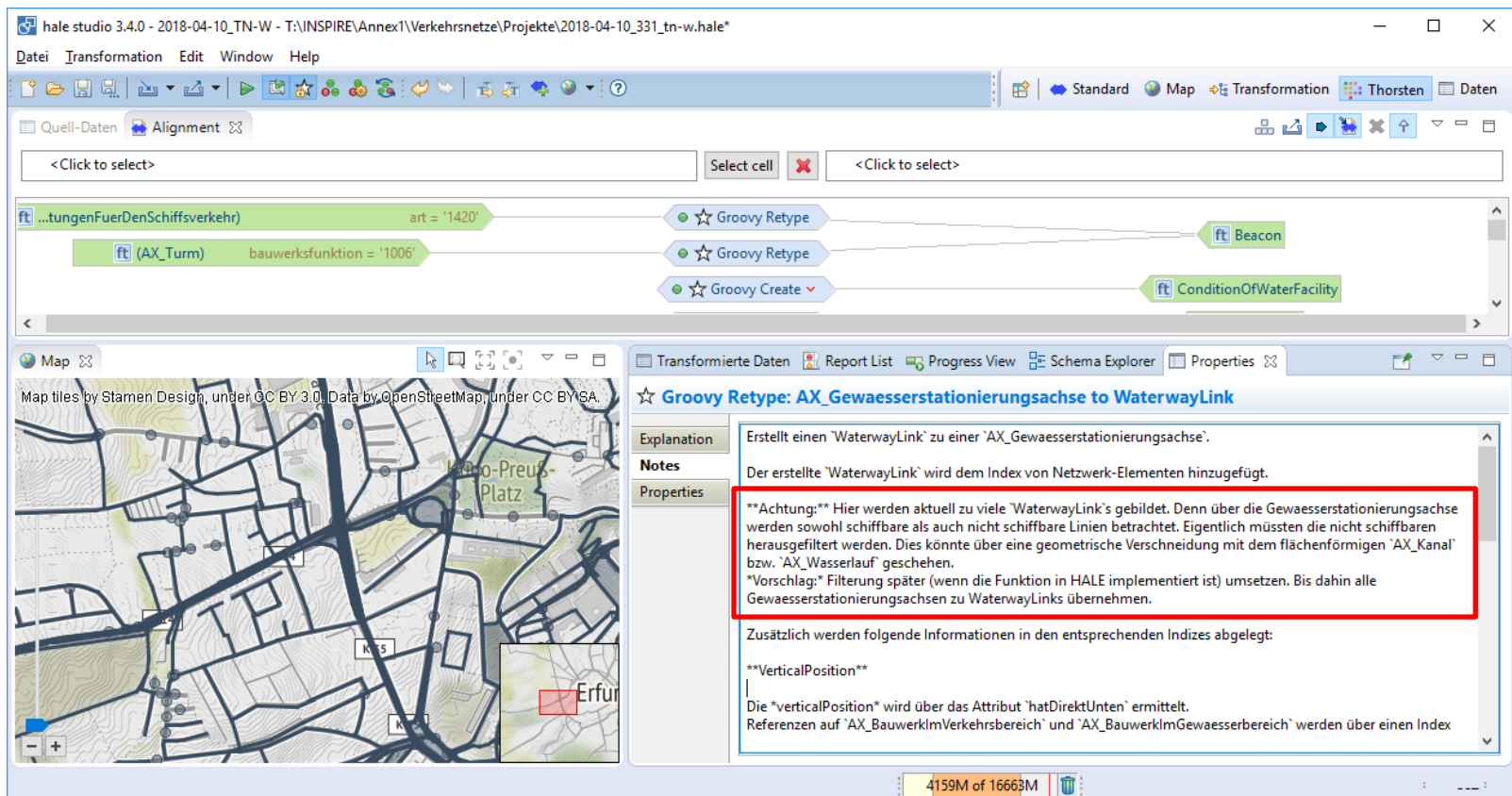
Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



Achtung: Hier werden aktuell zu viele `WaterwayLink`s gebildet. Denn über die `Gewaesserstationierungsachse` werden sowohl schiffbare als auch nicht schiffbare Linien betrachtet. Eigentlich müssten die nicht schiffbaren herausgefiltert werden. Dies könnte über eine geometrische Verschneidung mit dem flächenförmigen `AX_Kanal` bzw. `AX_Wasserlauf` geschehen.

Vorschlag: Filterung später (wenn die Funktion in HALE implementiert ist) umsetzen. Bis dahin alle `Gewaesserstationierungsachsen` zu `WaterwayLinks` übernehmen.

Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



The screenshot displays the hale studio 3.4.0 interface. The top menu bar includes 'Datei', 'Transformation', 'Edit', 'Window', and 'Help'. The toolbar contains various icons for file operations, transformation, and map viewing. The main workspace is divided into several panes:

- Quell-Daten**: Shows the source data 'tungenFuerDenSchiffsverkehr' with attributes 'art = '1420'' and 'ft (AX_Turm) bauwerksfunktion = '1006''.
- Alignment**: Displays a sequence of transformation steps: 'Groovy Retype' (twice) and 'Groovy Create'. The final output is 'ft Beacon' and 'ft ConditionOfWaterFacility'.
- Map**: A map view showing the spatial context of the data, with a red box highlighting a specific area near 'Erfurt'.
- Transformierte Daten**: A pane showing the transformed data, including a 'Report List', 'Progress View', 'Schema Explorer', and 'Properties'.

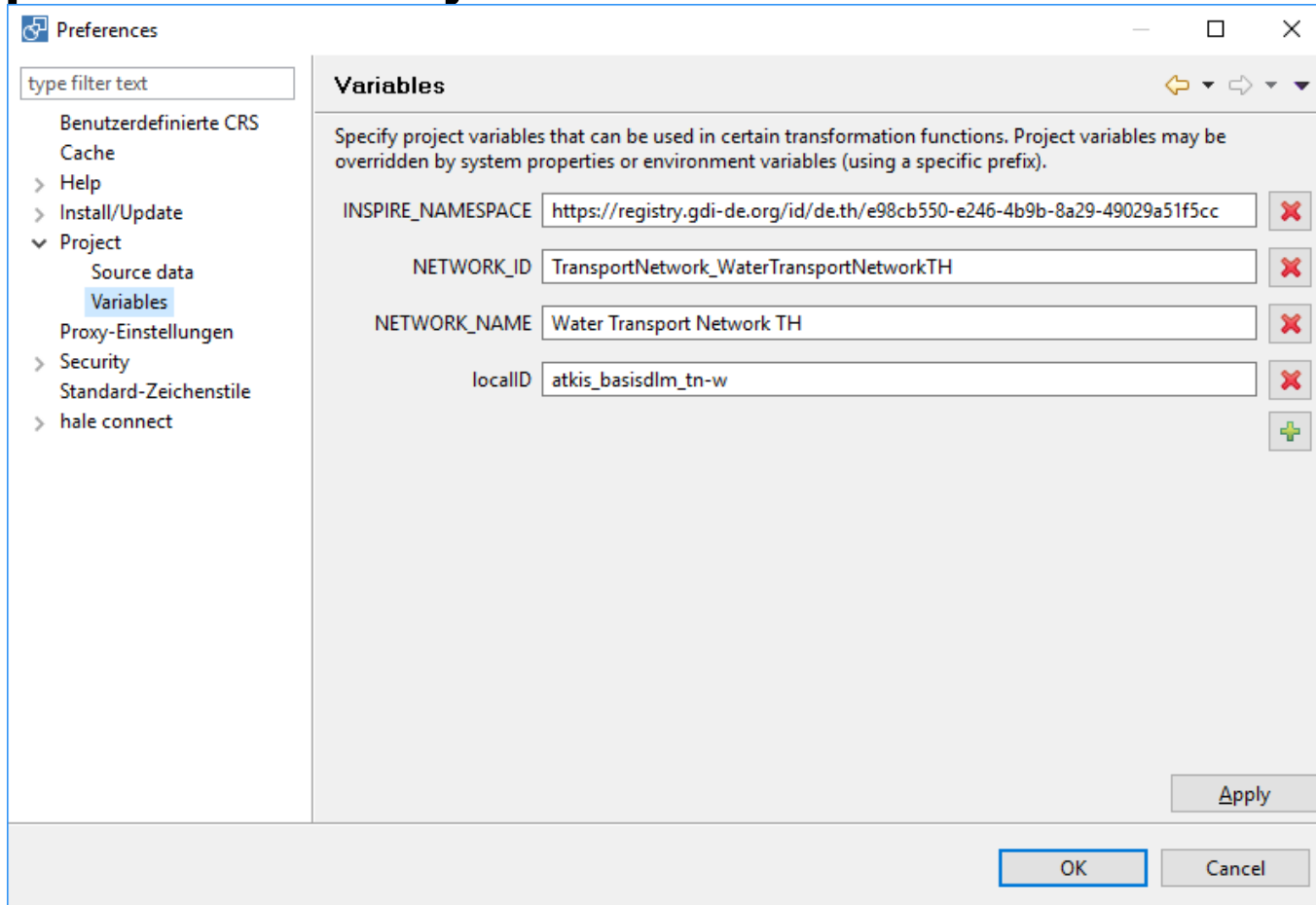
The 'Properties' pane for the transformation 'Groovy Retype: AX_Gewässerstationierungssache to WaterwayLink' is expanded, showing the following details:

- Explanation**: 'Erstellt einen 'WaterwayLink' zu einer 'AX_Gewässerstationierungssache'.'
- Notes**: 'Der erstellte 'WaterwayLink' wird dem Index von Netzwerk-Elementen hinzugefügt.'
- Properties**: A red box highlights a warning: '**Achtung:** Hier werden aktuell zu viele 'WaterwayLink's gebildet. Denn über die Gewässerstationierungssache werden sowohl schiffbare als auch nicht schiffbare Linien betrachtet. Eigentlich müssten die nicht schiffbaren herausgefiltert werden. Dies könnte über eine geometrische Verschneidung mit dem flächenförmigen 'AX_Kanal' bzw. 'AX_Wasserlauf' geschehen. *Vorschlag:* Filterung später (wenn die Funktion in HALE implementiert ist) umsetzen. Bis dahin alle Gewässerstationierungssachen zu WaterwayLinks übernehmen.'
- Additional Information**: 'Zusätzlich werden folgende Informationen in den entsprechenden Indizes abgelegt: **VerticalPosition** Die 'verticalPosition' wird über das Attribut 'hatDirektUnten' ermittelt. Referenzen auf 'AX_BauwerkImVerkehrsbereich' und 'AX_BauwerkImGewässerbereich' werden über einen Index'.

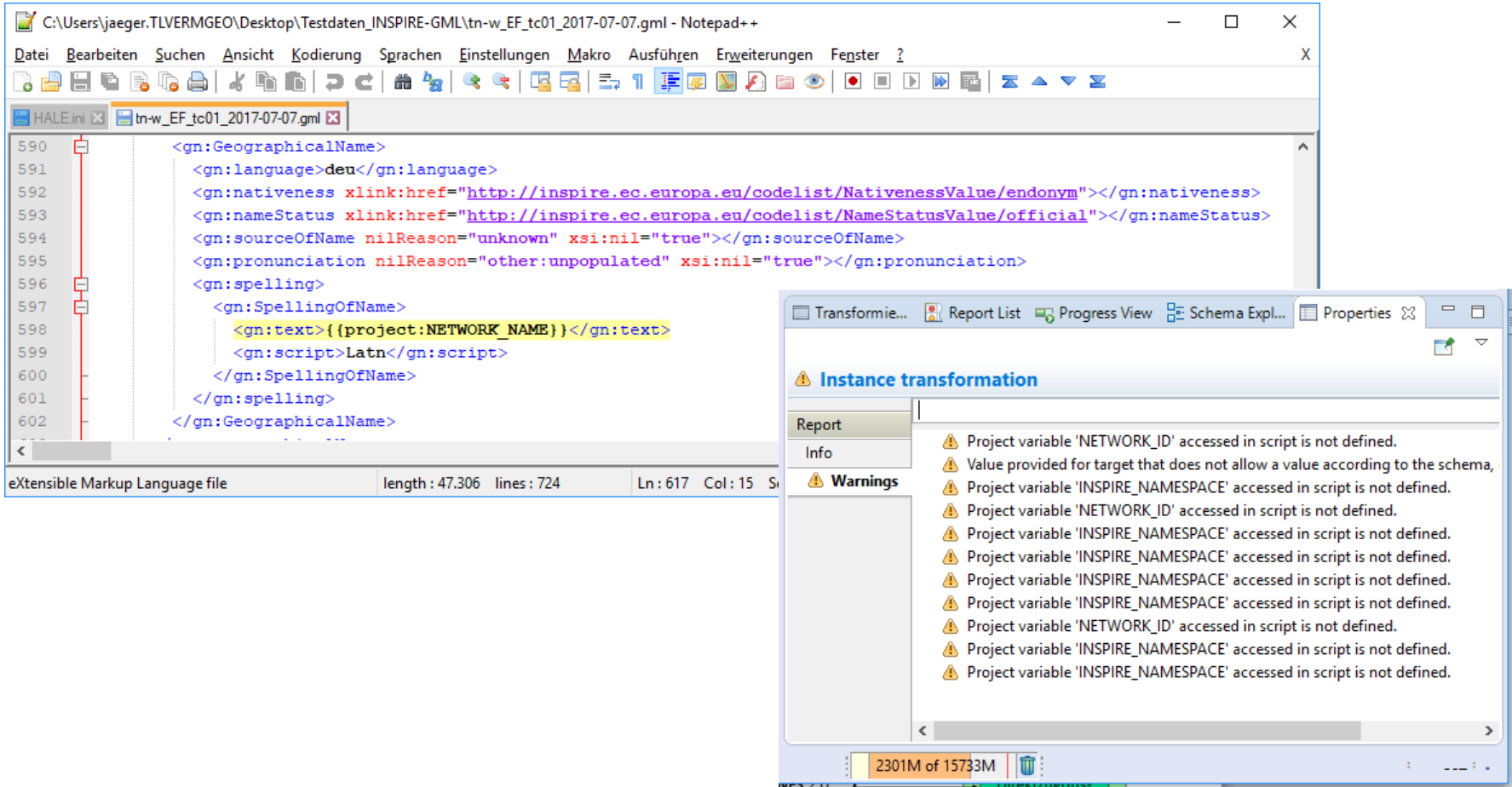
Beispiel 2: Unscharfe Definition von Transformationsschritten in den hale Alignments



Beispiel 3: hale Projektvariablen



Beispiel 3: hale Projektvariablen

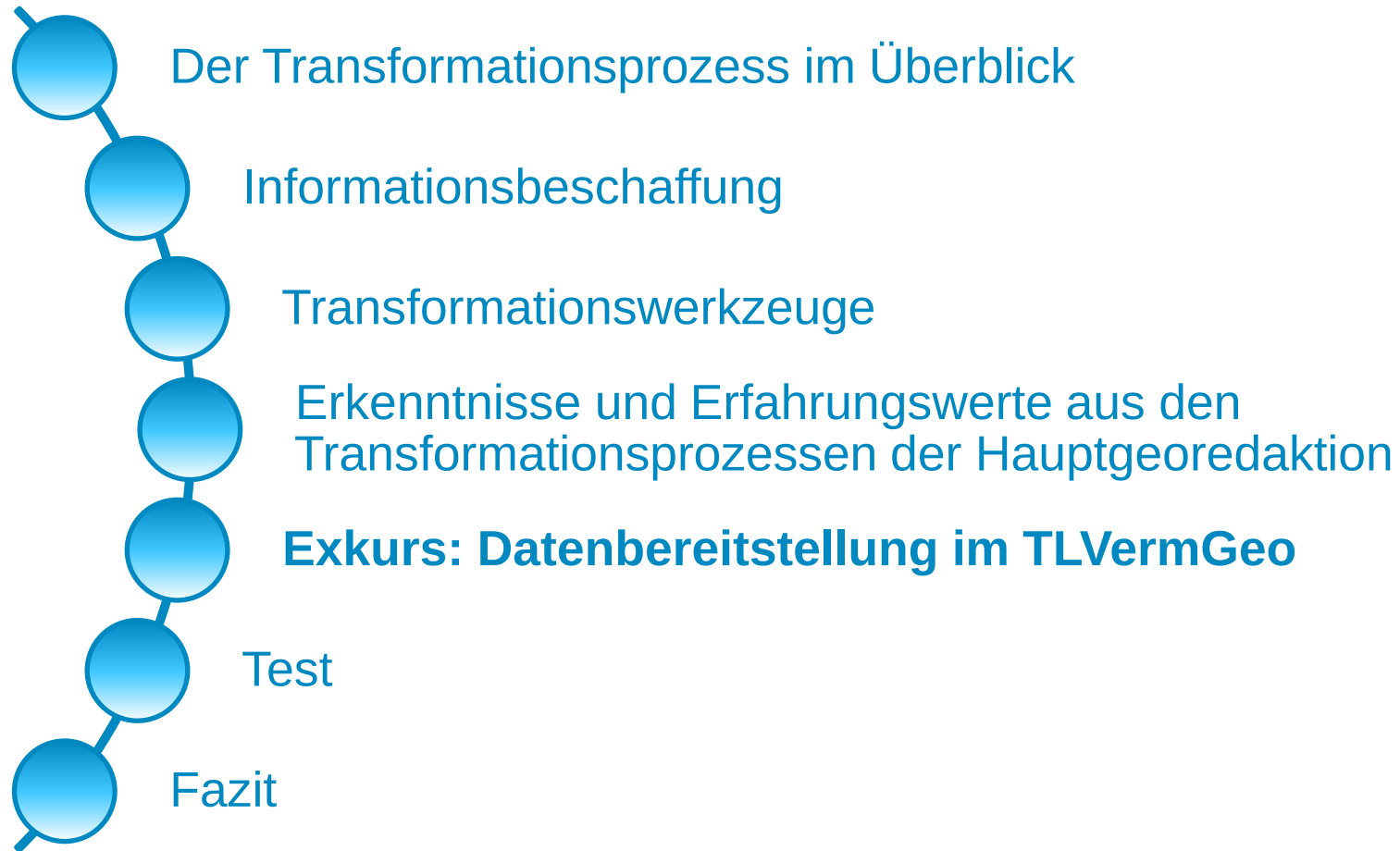


The screenshot shows a Notepad++ window editing a GML file. The code defines a `<gn:GeographicalName>` element with various attributes and a `<gn:spelling>` child element. The `<gn:spelling>` element contains a `<gn:SpellingOfName>` element, which in turn contains a `<gn:text>` element with the value `{{project:NETWORK_NAME}}` and a `<gn:script>` element with the value `Latn`.

Below the code editor, a status bar indicates the file is an eXtensible Markup Language file, with a length of 47.306, 724 lines, and the cursor is at line 617, column 15.

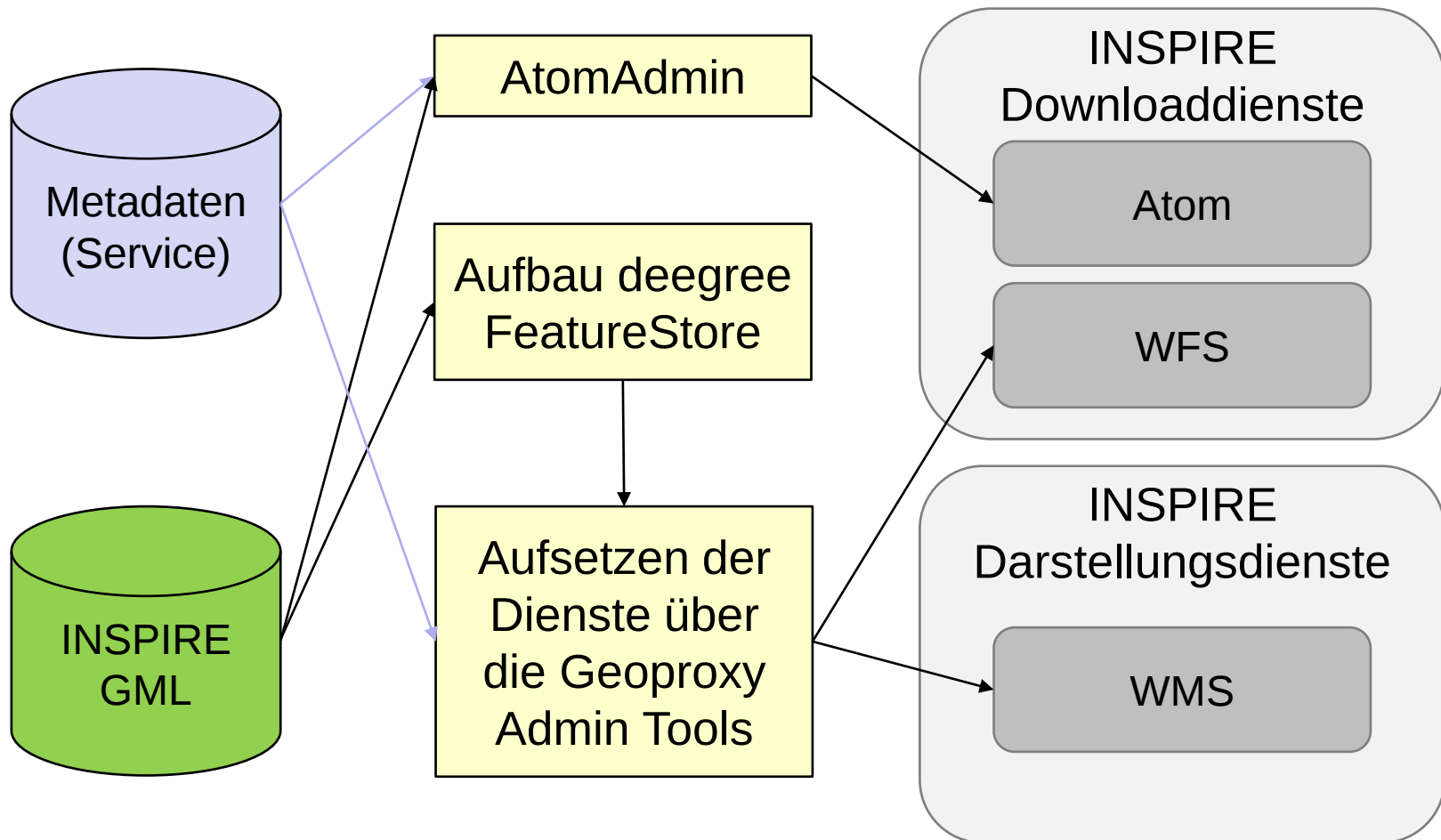
Overlaid on the bottom right is a window titled "Instance transformation". It displays a "Report" tab with a "Warnings" section. The warnings list several issues:

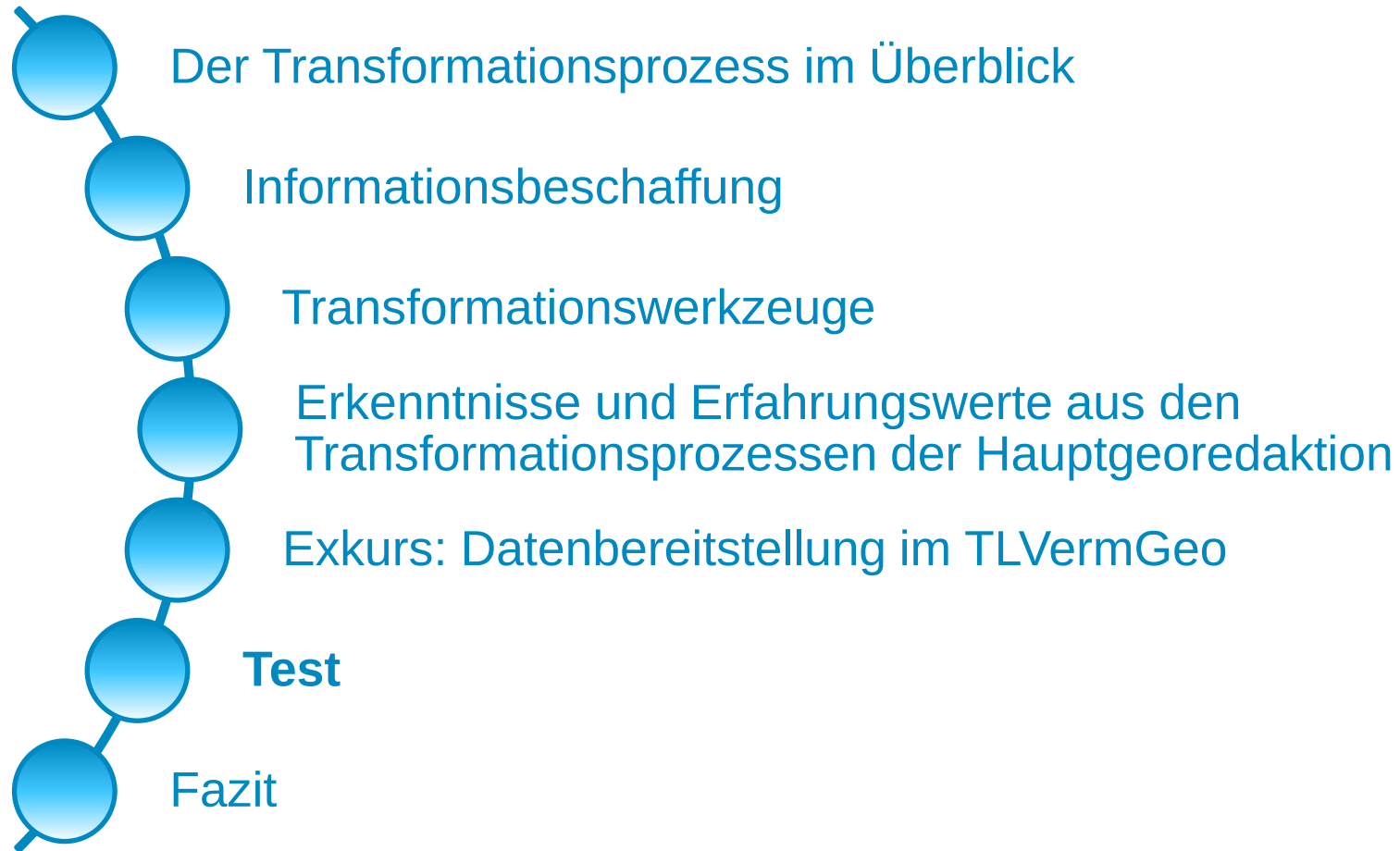
- Project variable 'NETWORK_ID' accessed in script is not defined.
- Value provided for target that does not allow a value according to the schema.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.
- Project variable 'NETWORK_ID' accessed in script is not defined.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.
- Project variable 'INSPIRE_NAMESPACE' accessed in script is not defined.



Datentransformation in das INSPIRE-Datenmodell

Exkurs: Datenbereitstellung im TLVermGeo





Tools:

- **GDI-DE Testsuite**
- **INSPIRE Validator**
- **Geoproxy Admintool „LoaderControl“**
- **SoapUI**
- **GIS Clients (ArcGIS, QGIS)**

testsuite.gdi-de.org

GDI-DE Testsuite

Handbuch (german)

Mein Konto

- Abmelden
- Kontodaten ändern

Testsuite

- Startseite
- Testmanagement
- Testberichte
- Testsuite API

Testmanagement Hilfe

Suche

Suchbegriffe:

Testklasse: <Alle Testklassen>

Ergebnis: ☒ ☒ ☒ ☒ ☒ ☒ ☒ Neu

Suchen...

übersicht

ID	Status	Name	Description	Downloaddienste	Download Services	INSPIRE Download Service Atom Implementation	Bereit
1	✓	Gewässer RU Schulung	Downloadaddienste Download Services: INSPIRE Download Service Atom Implementation				Bereit
2	✓	INSPIRE AtomFeed Adressen PU	Downloadaddienste Download Services: INSPIRE Download Service Atom Implementation				Bereit
3	✓	INSPIRE AtomFeed Adressen RU	Downloadaddienste Download Services: INSPIRE Download Service Atom Implementation				Bereit
4	✓	INSPIRE AtomFeed CP PU	Downloadaddienste Download Services: INSPIRE Download Service Atom Implementation				Bereit
5	✓	INSPIRE AtomFeed CP RU	Downloadaddienste Download Services: INSPIRE Download Service Atom Implementation				Bereit

+ Neuen Test anlegen...

Details Ergebnisse

Name: INSPIRE AtomFeed Adressen PU

Beschreibung: INSPIRE AtomFeed AD

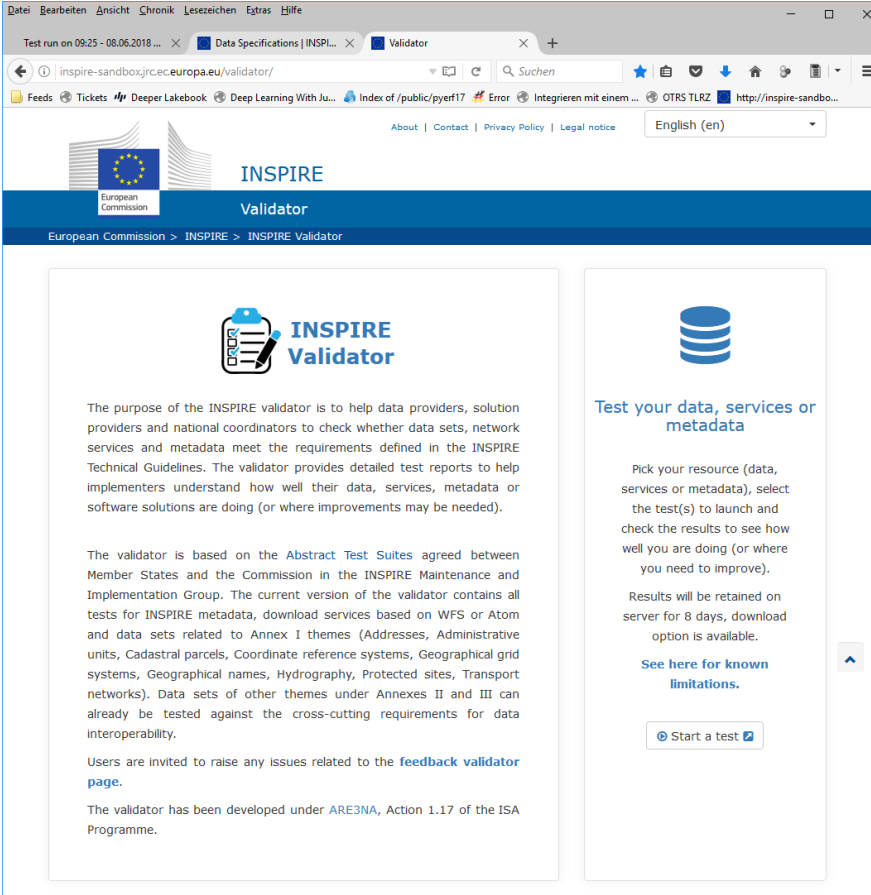
Testklasse: Downloaddienste | Download Services: INSPIRE Download Service Atom Implementation

Konformitätsklassen: Download Service: INSPIRE Recommendations - Predefined Atom, Download Service: INSPIRE Requirements - Predefined Atom

Datentransformation in das INSPIRE-Datenmodell

Test

INSPIRE Validator



The screenshot shows the homepage of the INSPIRE Validator. The header includes the European Commission logo and the text 'INSPIRE Validator'. The main content area is divided into two columns. The left column contains a description of the validator's purpose and its basis on the Abstract Test Suites. The right column contains a 'Test your data, services or metadata' section with a 'Start a test' button.

INSPIRE Validator

The purpose of the INSPIRE validator is to help data providers, solution providers and national coordinators to check whether data sets, network services and metadata meet the requirements defined in the INSPIRE Technical Guidelines. The validator provides detailed test reports to help implementers understand how well their data, services, metadata or software solutions are doing (or where improvements may be needed).

The validator is based on the **Abstract Test Suites** agreed between Member States and the Commission in the INSPIRE Maintenance and Implementation Group. The current version of the validator contains all tests for INSPIRE metadata, download services based on WFS or Atom and data sets related to Annex I themes (Addresses, Administrative units, Cadastral parcels, Coordinate reference systems, Geographical grid systems, Geographical names, Hydrography, Protected sites, Transport networks). Data sets of other themes under Annexes II and III can already be tested against the cross-cutting requirements for data interoperability.

Users are invited to raise any issues related to the [feedback validator page](#).

The validator has been developed under **ARE3NA**, Action 1.17 of the ISA Programme.

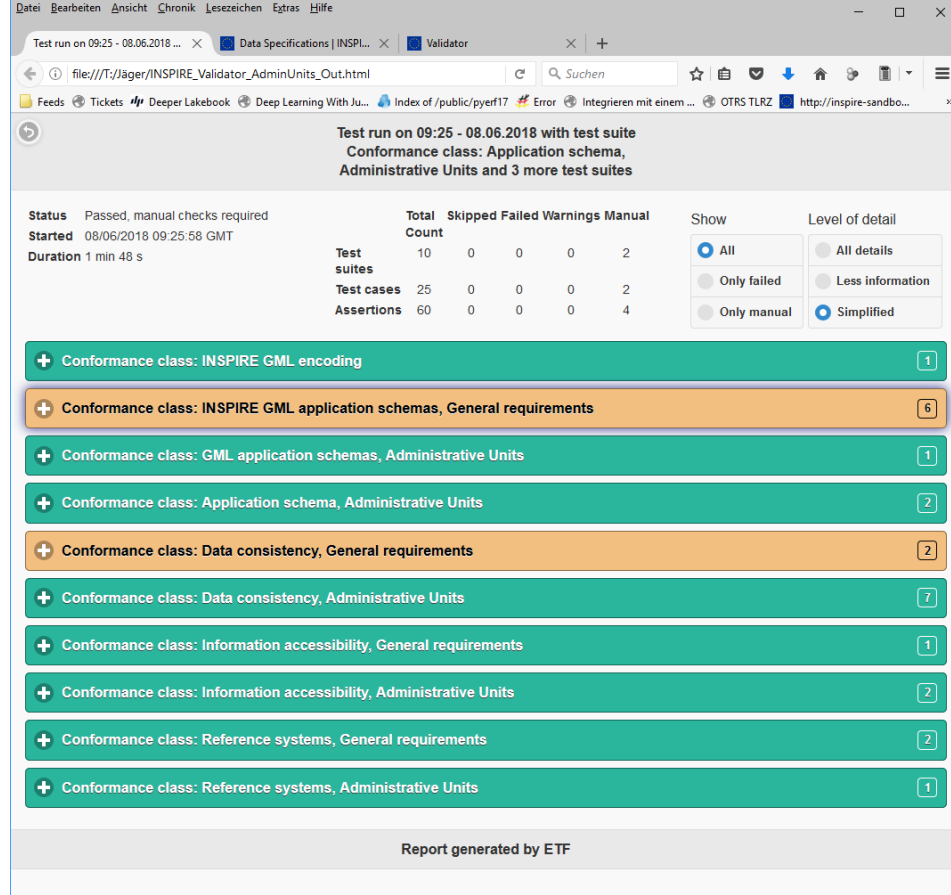
Test your data, services or metadata

Pick your resource (data, services or metadata), select the test(s) to launch and check the results to see how well you are doing (or where you need to improve).

Results will be retained on server for 8 days, download option is available.

[See here for known limitations.](#)

[Start a test](#)



The screenshot shows the test results page of the INSPIRE Validator. The header includes the text 'Test run on 09:25 - 08.06.2018 with test suite Conformance class: Application schema, Administrative Units and 3 more test suites'. Below this is a table showing the status of the test run, including the number of test suites, test cases, and assertions. The table also includes a 'Show' column with radio buttons for 'All', 'Only failed', and 'Only manual'. The 'Level of detail' column has radio buttons for 'All details', 'Less information', and 'Simplified'. Below the table is a list of conformance classes with their respective counts.

Test run on 09:25 - 08.06.2018 with test suite Conformance class: Application schema, Administrative Units and 3 more test suites

Status	Passed, manual checks required	Total Count	Skipped	Failed	Warnings	Manual
Started	08/06/2018 09:25:58 GMT					
Duration	1 min 48 s					
Test suites		10	0	0	0	2
Test cases		25	0	0	0	2
Assertions		60	0	0	0	4

Conformance class: INSPIRE GML encoding 1

Conformance class: INSPIRE GML application schemas, General requirements 6

Conformance class: GML application schemas, Administrative Units 1

Conformance class: Application schema, Administrative Units 2

Conformance class: Data consistency, General requirements 2

Conformance class: Data consistency, Administrative Units 7

Conformance class: Information accessibility, General requirements 1

Conformance class: Information accessibility, Administrative Units 2

Conformance class: Reference systems, General requirements 2

Conformance class: Reference systems, Administrative Units 1

Report generated by ETF

SoapUI

SoapUI 5.4.0

File Project Suite Case Step Tools Desktop Help

Empty SOAP REST Import Save All Forum Trial Preferences Proxy

Search Forum Online Help

Navigator

- TestSuite RU TN-A GetFeature
 - Test Steps (27)
 - GetFeature AerodromeArea
 - GetFeature AerodromeCategory
 - [Leer]GetFeature AerodromeNode
 - GetFeature AerodromeType
 - [Leer]GetFeature AerodromeType AirLinkSequence
 - [Leer]GetFeature AirRoute
 - [Leer]GetFeature AirRouteLink
 - [Leer]GetFeature AirspaceArea
 - GetFeature ApronArea
 - GetFeature ConditionOfAirFacility
 - [Leer]GetFeature DesignatedPoint
 - [Leer]GetFeature ElementLength
 - [Leer]GetFeature ElementWidth
 - [Leer]GetFeature FieldElevation
 - [Leer]GetFeature InstrumentApproachProcedure
 - [Leer]GetFeature LowerAltitudeLimit
 - [Leer]GetFeature Navaid
 - [Leer]GetFeature ProcedureLink
 - GetFeature RunwayArea
 - [Leer]GetFeature RunwayCentrelinePoint
 - [Leer]GetFeature StandardInstrumentArrival
 - [Leer]GetFeature StandardInstrumentDeparture
 - GetFeature SurfaceComposition
 - GetFeature TaxiwayArea
 - [Leer]GetFeature TouchDownLiftOff
 - [Leer]GetFeature UpperAltitudeLimit
 - [Leer]GetFeature UseRestriction
 - Load Tests (1)
 - LoadTest 1

LoadTest Properties

Property	Value
Name	LoadTest 1
Description	

Properties

LoadTest 1

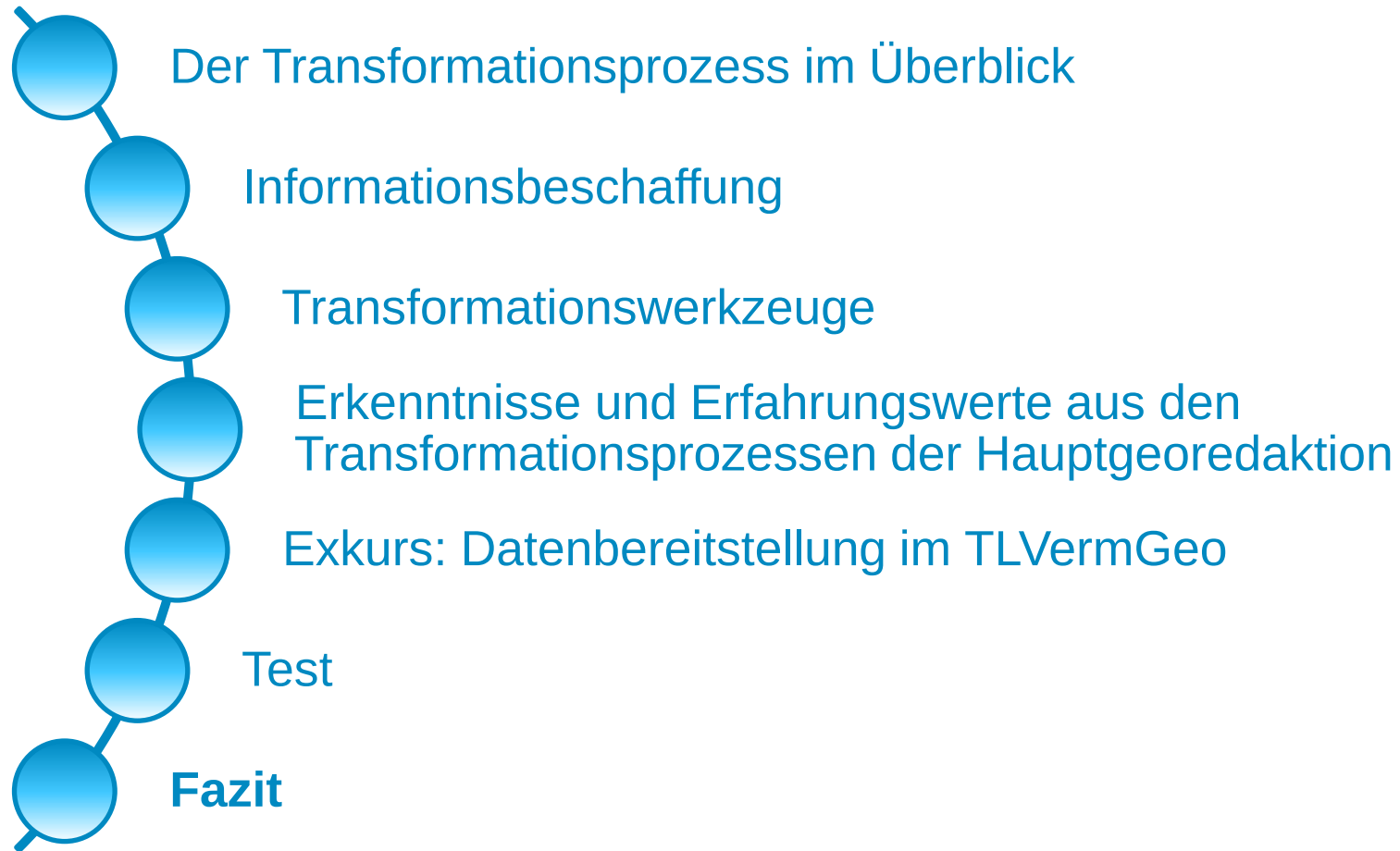
Threads: 5 Strategy Simple Test Delay 1000 Random 0.5 Limit: 60 Seconds 100%

Test Step	min	max	avg	last	cnt	tps	bytes	bps	err	rat
GetFeature AerodromeArea	191	1033	337,27	201	72	1,19	11613600	192351	0	0
GetFeature AerodromeCategory	54	2386	153,98	78	72	1,19	2016360	33396	0	0
[Leer]GetFeature AerodromeNode	31	2291	150,62	43	72	1,19	77544	1284	0	0
GetFeature AerodromeType	59	2141	159,98	71	72	1,19	2094696	34693	0	0
[Leer]GetFeature AerodromeType AirLinkSequence	35	2116	95,29	55	72	1,19	77688	1286	0	0
[Leer]GetFeature AirRoute	31	1131	98,05	42	72	1,19	77184	1278	0	0
[Leer]GetFeature AirRouteLink	34	1276	96,93	207	72	1,19	77184	1278	0	0
[Leer]GetFeature AirspaceArea	36	1253	112,23	58	72	1,19	77472	1283	0	0
GetFeature ApronArea	61	1297	136,79	73	72	1,19	2899872	48029	0	0
GetFeature ConditionOfAirFacility	62	579	125,01	81	72	1,19	2023200	33509	0	0
[Leer]GetFeature DesignatedPoint	35	1055	101,06	39	72	1,19	77688	1286	0	0
[Leer]GetFeature ElementLength	34	1014	84,09	54	72	1,19	77544	1284	0	0
[Leer]GetFeature ElementWidth	33	1274	121,19	39	72	1,19	77472	1283	0	0
[Leer]GetFeature FieldElevation	35	848	68,91	47	72	1,19	77616	1285	0	0
[Leer]GetFeature InstrumentApproachProcedure	33	1114	118,25	68	72	1,19	78552	1301	0	0
[Leer]GetFeature LowerAltitudeLimit	33	1244	177,26	49	72	1,19	77904	1290	0	0
[Leer]GetFeature Navaid	35	954	94,58	41	72	1,19	77040	1275	0	0
[Leer]GetFeature ProcedureLink	31	1014	99,5	40	72	1,19	77544	1284	0	0
GetFeature RunwayArea	69	1296	165,66	82	72	1,19	3513024	58184	0	0
[Leer]GetFeature RunwayCentrelinePoint	35	948	77,56	40	72	1,19	78120	1293	0	0
[Leer]GetFeature StandardInstrumentArrival	33	900	80,25	38	72	1,19	78408	1298	0	0
[Leer]GetFeature StandardInstrumentDeparture	36	853	79,76	43	72	1,19	78552	1301	0	0
GetFeature SurfaceComposition	59	1044	139,06	77	72	1,19	2011176	33310	0	0
GetFeature TaxiwayArea	69	307	127,13	105	72	1,19	4465080	73953	0	0
[Leer]GetFeature TouchDownLiftOff	35	583	80,02	38	72	1,19	77760	1287	0	0
[Leer]GetFeature UpperAltitudeLimit	33	972	77,76	38	72	1,19	77904	1290	0	0
[Leer]GetFeature UseRestriction	34	1078	111,66	36	72	1,19	77616	1285	0	0
Test Case:	1266	32001	3.269,98	1783	72	1,19	32113800	531887	0	0

Show Types: - All - Show Steps: - All -

time	type	step	message
2018-06-13 17:02:47.183	Message		LoadTest started at Wed Jun 13 17:02:47 CEST 2018
2018-06-13 17:03:47.519	Message		LoadTest ended at Wed Jun 13 17:03:47 CEST 2018

SoapUI log http log jetty log error log wsrm log memory log



Fazit

Zur Durchführung von Transformationen in das INSPIRE Datenmodell sind grundsätzlich **geeignete Werkzeuge** und Hilfsmittel verfügbar. Durch die stetige Weiterentwicklung und Fehlerbereinigung entsteht insbesondere bei den Tools, Templates und Alignments eine sehr **hohe Dynamik**.

Die Bedienung der Transformationswerkzeuge ist nicht trivial. Es ist ein **hoher Einarbeitungsaufwand** erforderlich. Zudem ist ein tiefgreifendes Modellverständnis und ein Verständnis der Transformationsprozesse von elementarer Bedeutung.

Bei großen Datenmengen oder strukturell komplexen Datenbeständen sind die **Transformationen zeitaufwändig**. Vorbereitung, Durchführung der Transformationen sowie auch die Qualitätssicherung der generierten Datenbestände binden massiv Ressourcen.

Wo immer es möglich ist, sollten daher **Synergieeffekte** genutzt werden. Dies ist z.B. durch die Kooperation auf kommunaler Ebene oder bei thematisch und inhaltlich vergleichbaren Themenfeldern möglich. Die größten Mehrwerte lassen sich bei **Kooperationen** erzielen, wenn im Vorfeld der Transformationen eine Datenkonsolidierung durchgeführt und elementare Rahmenbedingungen vereinheitlicht werden.

Bei einer Ersterfassung relevanter Datenbestände sollte geprüft werden, ob eine **direkte, INSPIRE-konforme Erfassung** im entsprechenden Modell möglich ist. In diesem Fall entsteht kein Transformationsaufwand.

**Vielen Dank für
Ihre Aufmerksamkeit!**

Maurice Jäger
TLVermGeo, Entwicklung Geoinformationssysteme