

# What About Metadata? An FME Server Based Approach



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# Agenda

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- Introduction
- Motivation
- Architecture
- Workflow
- Outlook
- Questions

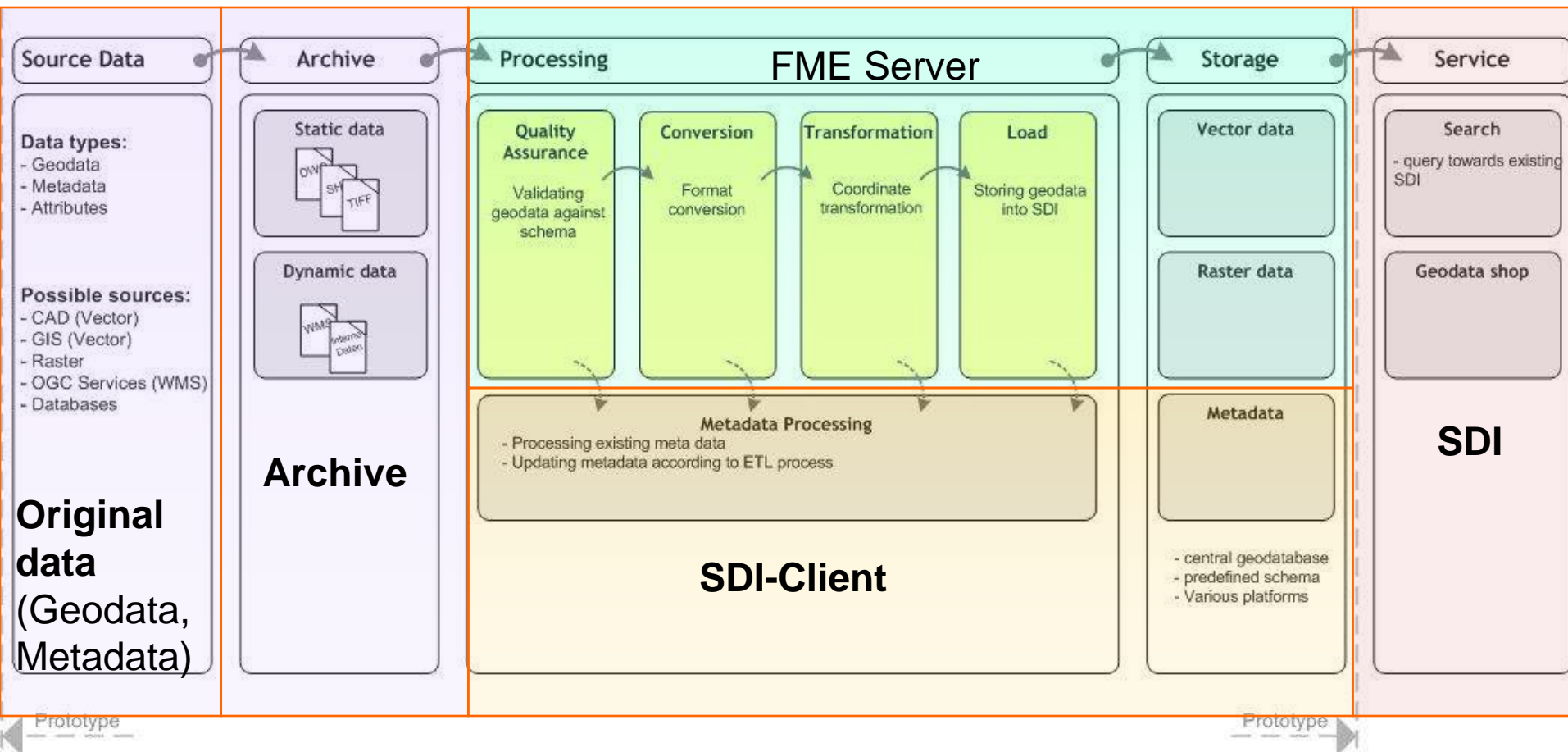
- Research project in cooperation with
  - Austrian Federal Railways
  - IQSoft
  - Technical University of Vienna
- To develop a feasibility study focusing on flexible geodata/metadata integration on basis of an existing Spatial Data Infrastructure (SDI)



- On demand emergency maps were inconsistent because of...
  - Missing Metadata
  - Different projection parameters
  - Geodata errors
- Resulting in cost-intensive data capture and increased management time
- Search for a transparent and quality assured data integration process

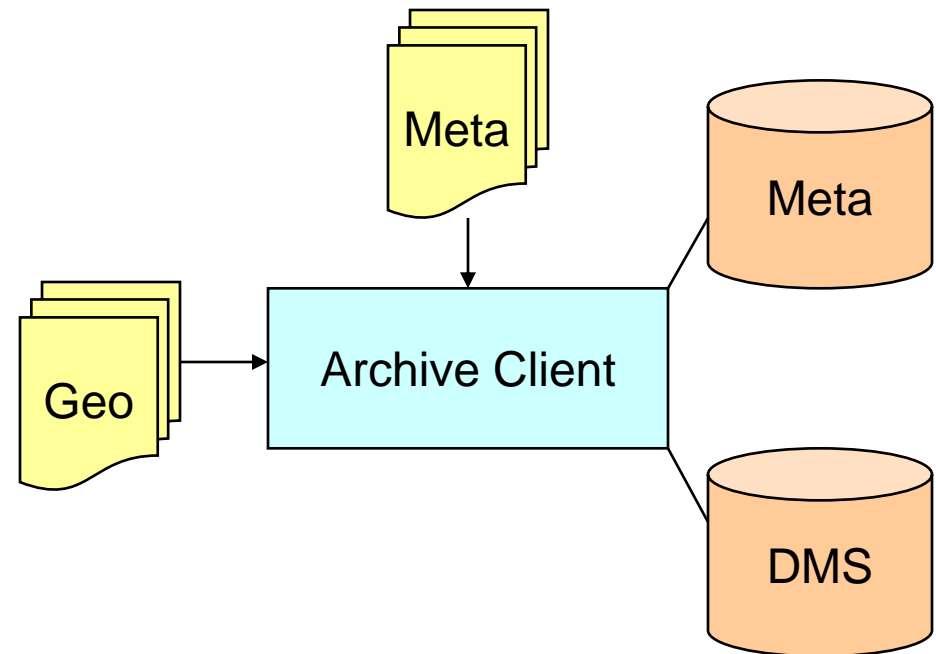
- Goal -> Integration of various geodata formats into an existing SDI
  - Structured geodata archive and metadata storage
  - Quality assured imports
  - Processing metadata
  - Homogenous storage in different coordinate systems
  - Format independent service-oriented exports

# Architecture



- Evaluation of existing standards
  - Adopted Metadata list from ISO 19115 from user's perspective (not 1:1)
- Metadata input:
  - Copying existing Metadata for archived geodata deliveries
  - GUI in archive client for newly captured geodata
- -> Establishing a well-defined base for passing on metadata to the following components

- Archive consists of 3 components:
  - DMS
    - Open Source Software Alfresco
  - Metadata manager
    - Relational database
  - Archive client
    - C# application



- Providing a GUI for users for map creation
  - Searching in archive by metadata or extent
  - Creating standardized products/maps
    - Control of FME Server processes
    - Control of Metadata information and storage
  - Logging all actions for users as well as for SDI information manager

- Extract data from archive
  - Processing controlled by data type
  - Communication reports to SDI-Client
  - Load/Transform data into
    - ORACLE 11g (vector, raster)
    - PDF
    - SHP
- 
1. Quality assurance
  2. Conversion
  3. Coordinate systems
  4. Multi Writer



- Processing
  - Quality assurance
    - Dataset organization
    - Classification
    - Geometry
    - Attributes
    - Visualization
    - Context
    - Others

## **Dataset name**

**Dataset existence (pairs of)**

**Dataset format & version**

**Topology criteria**

**closed network**

**polylines vs. polygons**

**Geometric criteria like**

**self intersection**

**zero length lines**

**colinear points of arcs**

**insufficient number of points**

**Visualization (color, line type...)**

**Attribute existence**

**Attribute names**

**Attribute value domains**

**Point on Area Overlay**

**Area on Point**

**Min/Max number of elements**

- Processing
  - Conversion
    - CAD/GIS -> ORACLE 11g
    - Raster -> ORACLE 11g Georaster
  - Coordinate systems
    - Defining grid shifts for Austria
    - Original, ETRS89 UTM32, ETRS89 Lambert
  - Multi Writer
    - Storing the datasets in all 3 coordinate systems
    - Creating txt-reports for SDI-Client

# Workflow 1 - Metadata

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## Archiv-Code und Attributierung



Archiv-Code

PHIL-Lieferung

Attributgruppen Liste

ALS Trajektorie als Linie  
ISO\_19115  
Laserscan Lieferung



Gewählte Attributgruppen

ISO\_19115

Daten zu gewählten Gruppen  
eingeben

Attribute Liste

Name des Lieferobjekts  
Beschreibung des Lieferobjekts  
Eigentümer der Daten  
Entstehungsdatum des Lieferobj  
Lieferant des Lieferobjekts  
Einbringer des Lieferobjekts  
Einbringungsdatum des Lieferobj  
Nutzungsberechtigter des Liefer  
Art des Lieferobjekts  
Format des Lieferobjekts

Metadaten Eingabe

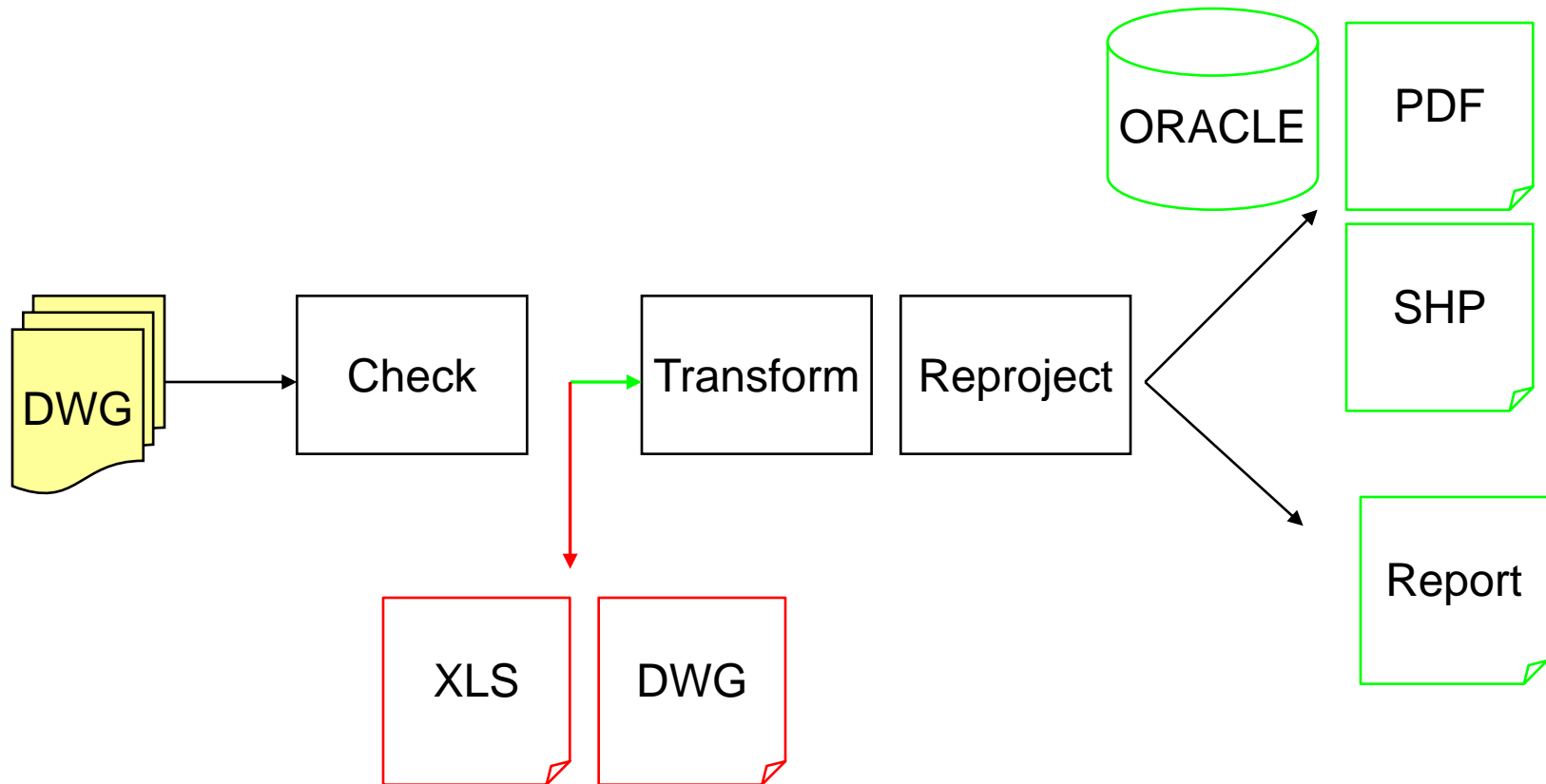
Gruppe	Attribut	Wert
ISO_19115	Name des Lieferobjekts	
ISO_19115	Beschreibung des Lieferobjekts	
ISO_19115	Eigentümer der Daten	Type: Datum, Formate: dd.mm.yyyy
ISO_19115	Entstehungsdatum des Lieferobjekts	
ISO_19115	Lieferant des Lieferobjekts	
ISO_19115	Einbringer des Lieferobjekts	
ISO_19115	Einbringungsdatum des Lieferobjekts	
ISO_19115	Nutzungsberechtigter des Lieferobjekts	
ISO_19115	Art des Lieferobjekts	
ISO_19115	Format des Lieferobjekts	

Abbrechen

Speichern

# Workflow 2 – FME Processing

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- Add Geoshop connection for the distribution of standardized products
  - Intelligent search for geoproducts
    1. Textual search for Metainformation
    2. Graphical search
  - E-Commerce integration and clearing system
- Include grid shifts for ETRS89 projections

- Integrating Metadata into the spatial ETL process
  - Automated import and update of standardized Metadata formats (ISO, INSPIRE...)
- Reprojecting height information
- Improving security on the FME Server side
- Redesign and better documentation of SchemaMapper

# Thank You!

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- Questions?
- For more information
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  - axmann geoinformation: [www.axmann.at](http://www.axmann.at)