

Bavarian Agency for Surveying and Geoinformation

AAA - The contribution of the AdV in an increasing European Spatial Data Infrastructure - the German Way

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FIG TS59 – AdV Session

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Current situation in Europe

No spatial data infrastructure

- Data policy restrictions
 - pricing, copyright, access rights, liability
- Lack of co-ordination
 - across borders
 - between levels of government
- Lack of standards and interoperability
 - incompatible data models
 - incompatible metadata systems
 - fragmented information
- Lack of...
 - EU has issued a series of different standards and quality...

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Framework for AAA

GI-standards: ISO, OGC, SDI Germany, GDI-DI

GI-specifications: INSPIRE

AAA implementation started in 2005

Infrastructure for Spatial Information in Europe INSPIRE

The aim is the a harmonised framework directive for implementation of a European spatial data infrastructure (ESDI)

3

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The German Way

ALK: Automated Real EstateMap

ALB: Automated Real EstateRegister

ATKIS: Official Topographic and Cartographic Information System

Geodetic Reference Points

AFIS-ALKIS-ATKIS Application Schema

4

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Requirements for a ESDI

A European spatial data infrastructure basically needs (strategic view)

- Harmonized geodetic reference
- Metadata for discovery of existing data
- Harmonized geodata and geo-services
- Bundle geodata and geo-services within one European portal
- Handle access rights and licensing policies for all users
- Controlling and monitoring of the implementation within the EU member states
- Methodology for building up a ESDI (considering process, consensus process, decision making etc.)
- Keep data where it is collected and maintained and make it accessible for other using geo-web services (WMS, WFS etc.)

All these issues are addressed by the INSPIRE framework directive and the implementation rules

5

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Contribution of the AAA Model to the European SDI

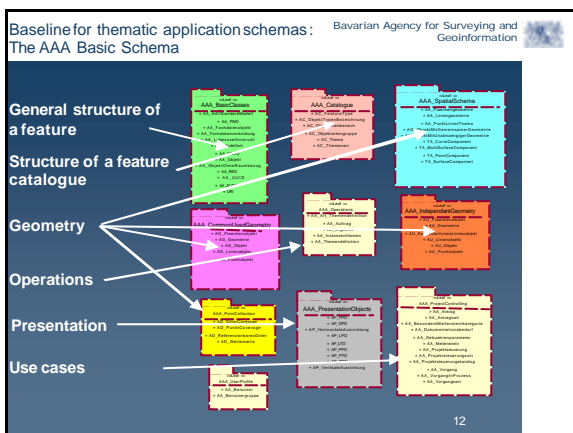
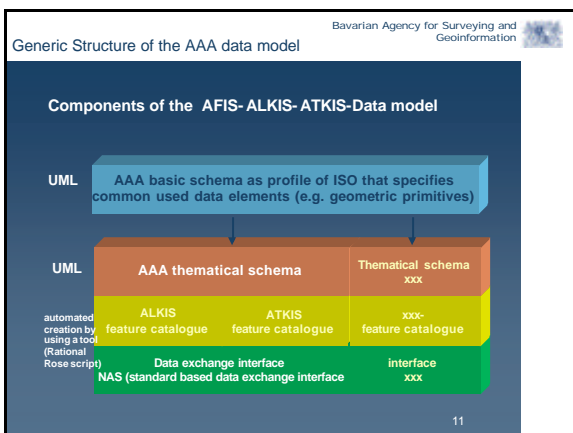
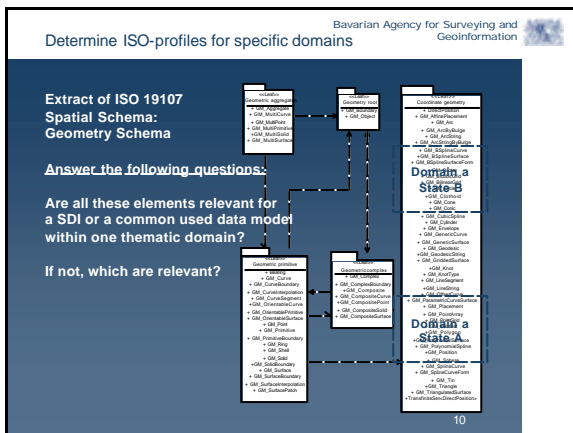
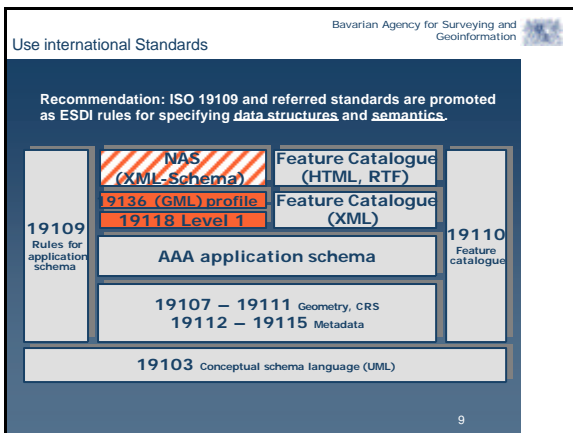
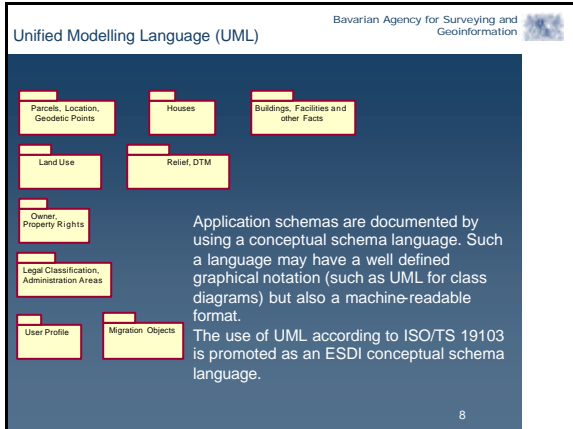
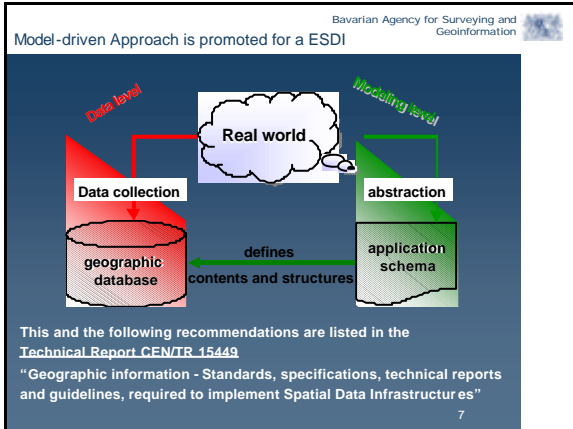
Preconditions for a SDI (data modelling view)

- Model-driven approach for describing the data
- Semantic harmonization of the existing data as far as possible and sufficient (feature catalogues)
- Application of the ISO standards for data modelling and encoding
- Implementation of metadata information systems for discovery and access to the data

AAA data model

- Implementation of interoperable web services for data access distribution (ISO, OGC)
- Operational issues (registries etc.)
- Legal issues (data sharing, IPR etc.)
- Pricing

6



Data about data: Metadata

Metadata provides information about data on different levels: from complete datasets to data of single features.

AdV discovery metadata

Metadata may be stored in a catalogue referring to a dataset or specific product

Feature metadata using also ISO 19109

- Metadata attributes
- Quality elements

AdV Typen	
AK 2007/08	
✓	Verkehr [2-1] AK 31 Linien_Punktm
✓	Geoinformation [2-1] ISO_RasterformalPositionalAccuracy
✓	Geoinformation [2-1] AK_Geoinformation_Punktm
✓	Verkehrsmittel [2-1] AK_Verkehrsmittel_Punktm
✓	Geoinformation [2-1] Isoformal

AdV Web Services

- All web services are implemented under consideration of the activities of SDI-Germany.
- AdV defined a profile of the Web Map Server specification, determine some further definitions to fill degrees of freedom, e.g.:
 - CRS
 - Raster format
 - etc.
- A WFS-G (Gazateer service) will be implemented for providing coordinates for buildings
- A catalogue service for discovering and harvesting metadata will be implemented based on eBRIM or CSW DE profile
- For operational implementation of the SDI Germany a registry will be applied

Conclusions

- The AAA data model with the basic schema offers a thematic-independent and generic model framework that can be a baseline for modelling of other thematic domain data models. That will help to standardise the geoinformation in Germany.
- The AdV offers support by using the UML tools for defining the data model and deriving the data exchange interface. Specific guidelines have been published on the AdV home page. The AdV guarantees maintenance at least until 2012.
- A SDI for geoinformation (not just geodata) needs an exact and transparent definition of the sharable data. Therefore the same methodology as defined with the AAA data model can be used.
- The success of the AAA data model bases on the consequent use of international GI standards from ISO.
- INSPIRE is going to implement a similar modelling methodology based on ISO standards. So the "German way" possibly could also be a European way.

For more information see
www.adv-online.de

Questions?