Use of GML by the German Mapping and Cadastral Agencies

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1 Nation (Federation) with parliament (legislature), administration (executive authority), judicial power

16 States each with parliament (legislature), administration (executive authority), judicial power

~14,000 Municipalities with many rights of self-government

10,000 to 20,000 Georessources (services)
The AAA Application Schema

ALK
Automated Real Estate Map

ALB
Automated Real Estate Register

ATKIS
Official Topographic and Cartographic Information System

AFIS-ALKIS-ATKIS Application Schema (GeoInfoDok)

Geodetic Reference Points
Use of GML – Context
The Framework for AAA

GI-standards

AAA implementation started in 2005

SDI Germany

The AAA specification is the basis for other thematic information systems as part of the SDI Germany

GI-specifications
A GML application schema (NAS) is used to represent the cadastral, topographic and geodetic data of the AAA application schema since 2002.

- Current version uses GML 3.2 (ISO 19136)
- Extended by other GML application schemas
- Profile:
  - Features
  - Frequent use of data types and feature associations
  - Constructed from AAA application schema (conforms to ISO 19109) using standardised encoding rule
- Spatial geometry
  - Curve interpolation: linear, arcs, cubic splines
  - Surface interpolation: planar
  - so far 2D, next version will include 3D solids
- Coordinate reference systems
- Code list dictionaries
- Lineage and quality metadata (from ISO/TS 19139)
Use of GML

- The NAS is at this time mainly used to support internal processes of the agencies
  - Data editing and updating
  - Providing differential updates
  - Derivation of products (maps, certificates, reports, etc.)
- Lack of software tools initially was an issue, but by now the software products supporting the GeoInfoDok support the NAS
- Currently no need or interest to move to another major version of GML (benefits unclear, significant effort)
• Recent activities now focus on providing the data to users in SDIs
• As GML 3.2 is used by the NAS (and likely will continue to be used), preference would be to use the same version for publishing the data in SDIs
  • Alignment with INSPIRE is relevant here, too
• Lack of out-of-the-box support by applications used by users / customers is an issue
• Low interest in a new major version unless there is clear indication that this will improve significantly