



INSPIRE Spatial Data on the Web – building a user-friendly ‘webby’ SDI

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Agenda

Objective of this presentation:

- Apply insights from our white paper on Geo-standards to INSPIRE

Structure

- Triggers / objective white paper
- Overview white paper
- Apply to INSPIRE:
a web-friendly SDI – make it work!



The screenshot shows the 'White paper Geo-standards' document page. On the left is a 'TABLE OF CONTENTS' with a vertical 'Geonovum Document' label. The table lists sections from 1. Introduction to 4. Discussion. The main content area on the right includes the title 'White paper Geo-standards', the version 'Final version', the date '15 maart 2018', and a list of editors and participants. It also features a Creative Commons license (CC BY-ND 3.0) and an 'Abstract' section.

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White paper Geo-standards
Final version

Geonovum Document 15 maart 2018

Latest editor's draft:
<https://geonovum.github.io/whitepaper-standaarden/>

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Participate:
[GitHub: Geonovum/whitepaper-standaarden](#)
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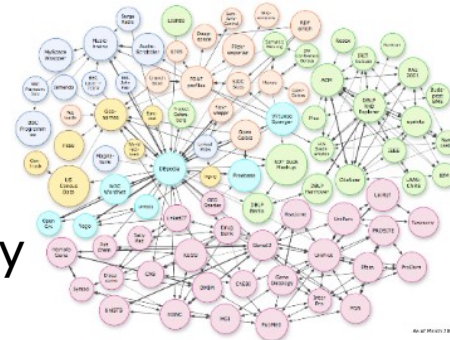
Abstract

In this white paper we look back over ten years of developing and managing standards. We focus explicitly on the set Geostandards as listed on the Comply or Explain list of the Standardisation Forum. This set of geo standards acts as backbone of the Dutch Spatial Data Infrastructure. In this white paper we identify an number of

(White paper available at <https://tinyurl.com/GNMwp> (in English))

1. Background white paper

- **Trigger:** 10 years Geonovum = 10 years developing & managing geo-standards
- **Result:** mature set of standards, backbone of Dutch SDI
- **However:** SDI remains work in progress, due to
 - evolving technology
 - changing demands from society
 - Web of data



Open data
is about
MORE
THAN
DISCLOSURE
it must be
Fair

- Findable
- Accessible
- Interoperable
- Reusable



1. Background white paper

So we have both:

- A mature SDI, with many users and many applications
- Evolving technology, evolving user requirements

Hence our central question:

To what extent have innovations and developments become so mature, that they (should) have an impact on the standards that act as the backbone of the Dutch SDI?



2. Overview white paper

- **Backbone Dutch SDI** - set Geo-standards:
 - semantics: NEN3610 ~ 'mother of all semantic models'
 - exchange: GML
 - publish: profiles on WMS and WFS
 - find & bind: profiles on ISO19115 / 19119 + CSW
- **Trends:**
 - more 3D, more sensors, more Linked Data, more users → Geo4web, more channels → rise of the platform



2. Overview white paper

Impact on standards (1):

- *semantics* – more linked data (increase ‘linkability’)
- *exchange format* – our criteria:
 - geometry types: Simple Feature profile + arcs
 - 3D support: solids
 - multiple CRS
 - schema to capture semantic structure

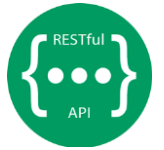


Only GML meets all criteria - lighter exchange standards (e.g. GeoJSON, GeoPackage, Vector Tiles) will work for subset of use cases

2. Overview white paper

Impact on standards (2):

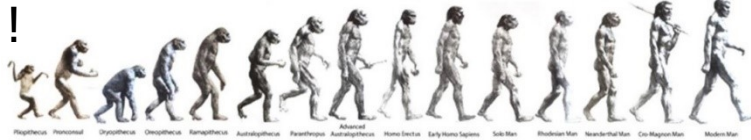
- publish data – largest impact foreseen:
 - REST convenience APIs: follow Data on the Web BP
 - Evolution of OGC standards: RESTful versions including lighter encodings such as GeoJSON besides GML
 - download facilities in SDI: explore GeoPackage (for 2D)
 - 3D: 3D portrayal services, 3D Tiling / i3S. CityGML / CityJSON.
- find & bind: ISO (INSPIRE) remains dominant, however alignment of DCAT, ISO, CKAN and INSPIRE is needed.



3. Web-friendly SDI – make it work!

Current SDI is mature, but needs continuous development:

- Evolution, not revolution!



We need INSPIRE to:

- apply linked data principles to the semantic models
- provide RESTful versions of the current services (alongside existing versions)
- specify alternative, lighter encodings to be used alongside GML
- seek further alignment of DCAT, ISO, CKAN and INSPIRE metadata.



3. Web-friendly SDI – make it work!

We will contribute (*ideas for 2019*):

- *SensorThingsAPI for INSPIRE:*
 - at least: implement in PDOK with INSPIRE data
 - possible extensions: more data providers, more implementations, OSGeo NL involvement (hackathon)
- *WFS 3.0 for INSPIRE:*
 - at least: implement WFS 3.0 core in PDOK with INSPIRE data
 - possible extensions: experiment with WFS 3.0 extensions, more implementations, OSGeo NL involvement (hackathon)



Final remark / final warning

- We all should be in a hurry to build a web-friendly SDI!
- The web will not wait for us:

Last Friday we discovered the SpatioTemporal Asset Catalog (STAC) specification:

<https://github.com/radiantearth/stac-spec>

STAC "aims to standardize the way geospatial assets are exposed online and queried."

No formal link with e.g. OGC or W3C, but parties like Google are involved!

Thank you!

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