# Best Practice: Standards for Geospatial Data

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This version
http://www.w3.org/2013/share-psi/bp/sgd-20160725/
Latest version
http://www.w3.org/2013/share-psi/bp/sgd/
Previous version
http://www.w3.org/2013/share-psi/bp/sgd-20160610/

This is one of a set of Best Practices for implementing the (Revised) PSI Directive developed by the Share-PSI 2.0 Thematic Network.



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# Outline

Public administration bodies need to work together with architecture, engineering, and construction firms as well as building owners, brokers, component vendors, operators, insurers, inspectors, tenants, finance companies, fire departments, health and social services and more. For almost all Public Sector Information (PSI), location is critical. Therefore it is essential that location/geospatial data is shared in a way most likely to be re-usable by partner organisations - and that means adhering to standards. Most standards relevant to geospatial data are developed by the Open Geospatial Consortium (OGC).

### Links to the Revised PSI Directive

Platforms, Techniques, Formats, Re-use, Discoverability

### Challenge

The overall challenge is to ensure that information from different sources that relate to the same location can be used together. This is particularly challenging because 'location' can be defined by many different means: name (in different languages and/or with different abbreviations), coordinates, boundaries, administrative district names, NUTS code, floor plans, points, centroids, polygons, rasters, subway maps, bus stops, timeseries, left/right directions etc. The goal is to make all this data available as open data, following open standards and open data models. Precision, uncertainty, provenance, rights and access control are often factors. Given all of this complexity, developing software that involves location data can be difficult. The requirement to make location data and location services sharable, re-usable and interoperable makes the task even more challenging.

Another important challenge is that Web technologies are evolving, so OGC standards and location information architectures also need to evolve.

### Solution

By applying standards, particularly those developed by the OGC, public sector geo-/ and location information can be provided in an efficient and interoperable way to many other data sets and processing or visualisation components. OGC and ISO standards such as Web Feature Service WFS, WMS, GML, IndoorGML, CityGML and SOS ensure standardised access to all public sector information with spatial characteristics. Some (IndoorGML, in particular) are new, but most of these standards have been used for years by public sector organizations around the world. They are essential components for PSI architectures.

The Spatial Data on the Web Working Group is a joint undertaking by both OGC and W3C to make spatial data interoperate readily with more general data available on the Web. It operates in collaboration with a parallel group in W3C of the same name, with overlapping membership. Further information on the membership arrangements for the groups can be found in the charter. On 19 January 2016 the W3C and OGC Spatial Data on the Web Working Group published the First Public Working Draft of its Best Practices document for Spatial Data on the Web. This is a concerted attempt to bring together techniques used by the geospatial industry and Web technologists, especially those making use of Linked Data techniques. Typical use cases include environmental and cartographic data, transport and administrative data. Although clearly a lot remains to be done, the editors seek to illustrate the full scope of the best practices.

### Why is this a Best Practice?

By using OGC standards to publish public sector information with spatial characteristics, it becomes much easier to integrate this information with other data sets that are served at similar interfaces. Data becomes discoverable using standardised catalogues and can be used as part of initiatives such as INSPIRE, the European Spatial Data infrastructure. This best practice (and the many best practices that have been developed and adopted by the OGC Technical Committee) are best practices that describe the best ways to implement OGC standards.

Most of valuable public sector information has spatial components to it. In order to make maximal use of this data, it should be made available through standardised interfaces following standardised formats. Using open standards from OGC, W3C and others ensures a very high level of interoperability, paving the way to new businesses and further commercialisation.

### How do I implement this Best Practice?

This best practice is based on OGC technologies and also W3C technologies, so the way to begin, is by learning about those technologies.

## Where has this best practice been implemented?

OGC standards are widely implemented throughout the world and form the basis of many critical industries and government activities. See for example, Helsink Region Inforshare, and the Czech implementation of the INSPIRE Directive

## References


- Timişoara Workshop Session: Free Our Maps (PDF)
- Berlin Workshop: Location Track

# Local Guidance

This Best Practice is cited by, or is consistent with, the advice given within the following guides:

- (Belgium) Open Data Handleiding Open Data Handbook
- (Finland) Helsinki Region Infoshare
- (Finland) Avoimen Datan Opas Open Data Guide
- (Germany) Open Government Data Deutschland
- (Greece) Εφαρμογή των διατάξεων του Κεφαλαίου Α' του ν. 4305/2014 (ΦΕΚ 237/Α΄) Guidelines on the implementation of open data policy and l. 4305/2014
- (International) Using Open Public Sector Information
- (International) Open Data Handbook, Solutions Bank
- (Ireland) Guide for publishers
- (Italy) Linee Guida Nazionali per la Valorizzazione del Patrimonio Informativo Pubblico National Development Guidelines for Public Sector Information
- (Lithuania) Viešojo Sektoriaus Informacijos platinimo gerosios praktikos Best Practices for Sharing Public Sector Information
- (Luxembourg) Recommandations pour l'ouverture des données publiques Recommendations for opening data
- (Portugal) Guia Dados Abertos - AMA | Dados.gov Open Data Guide
- (Serbia) Open Data Handbook
- (Slovenia) Priročnik za odpiranje podatkov javnega sektorja Manual for the opening of public sector information
- (Spain) Guía de aplicación de la Norma Técnica de Interoperabilidad de reutilización de recursos de información Application Guide for Technical Interoperability Standard on PSI re-use
- (UK) Open Data Resource Pack
- (UK) Birmingham and West Midlands Localised Guide for Open Data

# Contact Info

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# Related Best Practices

- Use machine-readable standardized data formats
- Use a trusted serialisation format for preserved data dumps
- Provide data in multiple formats
- Reuse vocabularies

# Issue Tracker

Any matters arising from this BP, including implementation experience, lessons learnt, places where it has been implemented or guides that cite this BP can be recorded and discussed on the project's GitHub repository