

ESDIN project delivers a world first in quality evaluation web services

EuroGeographics, as the co-ordinator of the ESDIN project, is pleased to announce what it believes to be an innovative and groundbreaking step for achieving geospatial data quality evaluation through semi-automated web services.

The European Spatial Data Infrastructure Network (ESDIN) is partly funded under the eContentplus programme of the European Union (EU). It is a best practice network that includes a number of National Mapping and Cadastre Agencies (NMCAs), academic institutes and technology providers. The work in ESDIN is closely related to the INSPIRE Directive, which aims to build a European Spatial Data Infrastructure (ESDI).

At the second ESDIN stakeholders and reference groups' meeting in Paris on 3rd February 2010, Antti Jakobsson, leader of the work package associated with metadata and quality, delivered a workshop entitled: Automation of Quality Assurance Processes – demonstration of the ESDIN quality “blocks”. During this session an overview was provided showing where and how quality terms apply in relation to quality assurance activities, stating that quality evaluation can be carried out at any point in a production flowline.

Mr Jakobsson describes what was presented in more detail:

“The objective of this work package is to define data quality reporting and metadata guidelines for large, medium and small scale topographic and administrative reference information. I have been working in the geospatial quality arena for more than 20 years and I am very excited by what we demonstrated at the meeting in Paris. Web services can now be used in an automated and semi-automated manner for quality control during production and quality evaluation post production. This approach will greatly help data users to evaluate usability and fitness for purpose using metadata information.”

This web service model for geospatial data quality can have a positive impact in several areas:

- It introduces a Quality Model that uses the same principles for all INSPIRE Annex I data themes, offering a guideline for INSPIRE implementation
- It is based on conformance levels that can be evaluated using semi-automated or automated procedures based on agreed and accepted ISO standards
- It provides Metadata Guidelines for both discovery and evaluation metadata
- It enables the automation of quality evaluation and conformance testing
- It takes accreditation principles and usability into account

In the ESDIN quality reference model (see Fig 1.) there is a groundbreaking approach for a data quality web service based on Quality Model guidelines. The Quality Model content makes extensive use of the internationally recognized ISO standards for quality, such as the identification of the data quality elements and sub elements (ISO 19113) and quality measures (ISO 19138). It is also valuable for the evaluation of the spatial data, (procedures according to ISO 19114) and the production and metadata recording process (ISO 19115 or quality report).

1Spatial, as one of the project participants, worked on the automatic conformance testing and quality assured data processing using Radius Studio. Dr Matt Beare from 1Spatial comments:

“We have known for a while that our geospatial data integration and quality control platform, Radius Studio, was ideal for this type of quality evaluation web service because of its object-oriented and rules-based approach. However, it wasn't until we worked with all the expert team members in the ESDIN project that we were afforded the opportunity to present it in this way. We believe iterative quality control is very important and with improvements in supporting technologies, such as grid and cloud computing, this approach is now very real.”

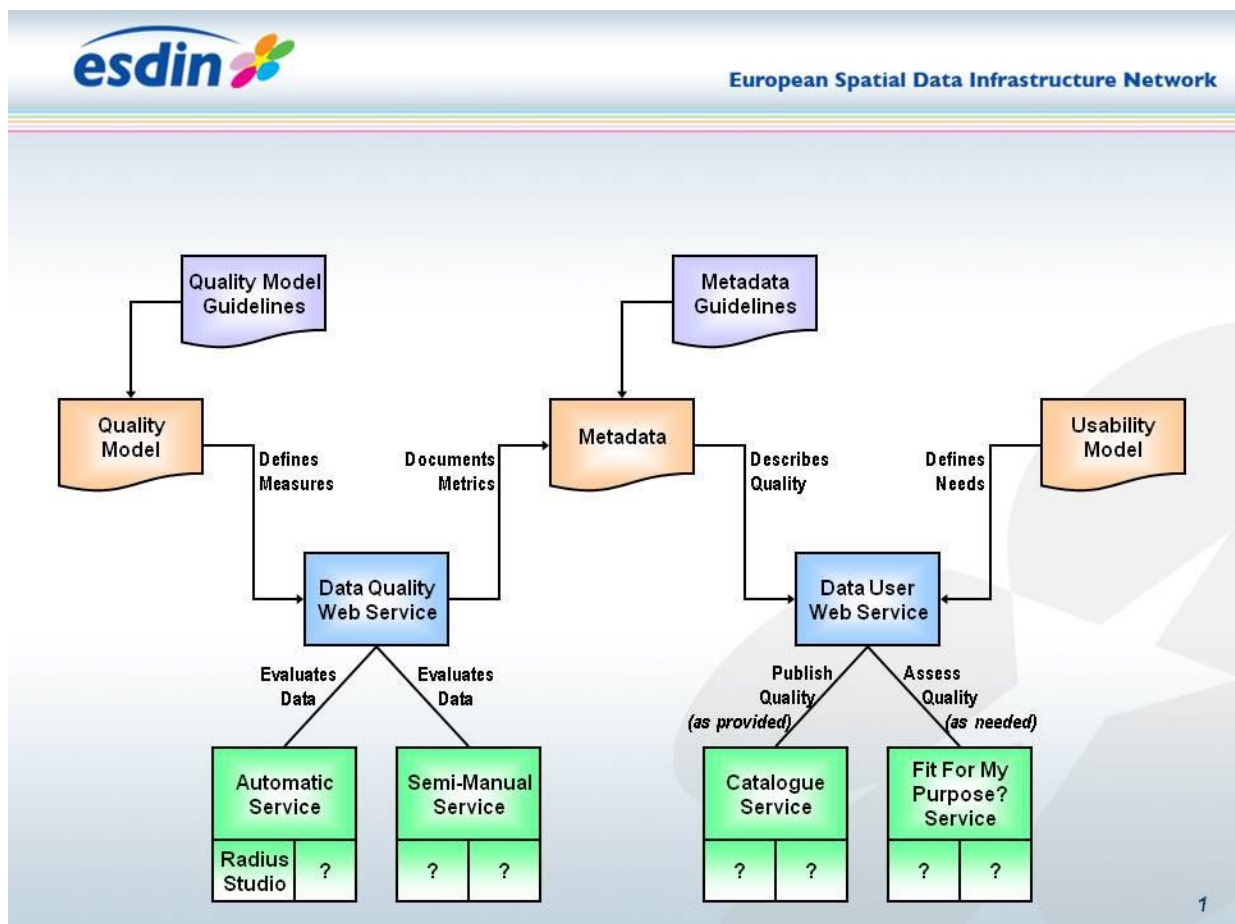
The Aalto University School of Science and Technology in Finland is another project participant and also worked on the semi-automated quality evaluation processes.

Professor Kirsi Virrantaus adds her views on this world first:

“We have been working on quality related research now for more than 10 years – with this experience we have been able to provide our latest research results to the project and we believe that the ESDIN project results are valuable for the GI community. Riikka Henriksson, who is preparing her doctoral thesis on the subject, has been the main researcher responsible for developing the web processing example in the project.”

ESDIN participants test the theory and practical implementation issues associated with the integration of National Spatial Data Infrastructure (NSDI) initiatives of the EU Member States. This covers a variety of data themes at a European level and addresses data management areas, such as interoperability, harmonisation, metadata and quality. Many of the project participants are members of EuroGeographics; the membership association and voice for more than 50 NMCAs from 43 European countries. It is project managing ESDIN, which runs from September 2008 until March 2011.

During the same period the INSPIRE process will produce a series of data specifications for a series of thematic areas, such as cadastral parcels, hydrography and transport networks. ESDIN will enable NMCAs at different levels of NSDI development to share knowledge and information relating to good practice for aggregating and sharing data across borders throughout the Europe. As well as addressing technical issues, ESDIN also covers business model development including pricing, licensing, intellectual property and digital rights management.



Notes to Editors

About EuroGeographics

EuroGeographics is the membership association and voice for the European national mapping and cadastral agencies. It brings together 52 members from 43 countries who invest around €1.5 billion in the development of geographical information each year and use cutting-edge technology to create, manage, maintain and make available authoritative national databases.

EuroGeographics provides a forum for sharing information and best practice and a platform for creating pan-European harmonised datasets. It is a powerful partner for European policy-decision makers and institutions and a reliable provider of authoritative geographic information for civil protection, risk management, enterprise, transport, housing, regional development and much more.

For further information about EuroGeographics, please visit www.eurogeographics.org or contact Executive Director, Dave Lovell +33 676 396 241 (mobile), email dave.lovell@eurogeographics.org

For further information about the ESDIN project, please visit www.esdin.eu or contact EuroGeographics Programme Manager Antti Jakobsson +33 607 104 232 (mobile), email antti.jakobsson@eurogeographics.org

1Spatial is one of the leading technology providers in ESDIN:
<http://www.1spatial.com>

Aalto University School of Science and Technology can be found at:
<http://www.aalto.fi>