

## **INSPIRE and eReporting: building a SEIS for air quality data – a case from Belgium**

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### **Abstract** (max 2 pages)

In an ideal world administrations would not have to report the same data, aggregated slightly differently multiple times. In an ideal world the data being reported (to e.g. the European Commission) would correspond fully with the data being communicated to the general public. In an ideal world all data being made publicly available by authorities would be published making use of transparent standards, maximising interoperability and hence enhancing its usefulness to the public enormously.

Thanks to the revision of the Implementing Provisions for Reporting (IPR - 2011/850/EU) under the Air Quality directive (2008/50/EC), it is possible to develop a “Shared Environmental Information System (SEIS)” (cf COM/2008/0046 final & SWD/2013/18 final) for air quality data. Together with finalising the guidelines for reporting under this new IPR, an XML-schema with a nested structure was developed through a pilot project involving several member states under the coordination of the European Environment Agency (EEA). With this, it has become feasible to nest different (INSPIRE)-services into the final national report, which will be transmitted/harvested as XML after the necessary validation and official approval procedures have been completed.

The Belgian Interregional Environment Agency (IRCEL – CELINE) has been very actively participating in the process of developing this new eReporting and already has made significant progress to comply with the new IPR by the end of 2013. Several fundamental changes to the in-house ICT-infrastructure where necessary, but where also very much desirable to improve the way air quality data is made publicly available for other purposes too.

This presentation explores the issues involved from a member state perspective of setting up a “Service Oriented Architecture (SOA)” which can host both reporting services and services adapted to informing the public continuously on the state of their environment. Setting up services which all make use of the same data, adapted for different audiences or combined for different purposes, does not only facilitate better coherence and better accessibility, but potentially (after making the initial investment of setting up the necessary infrastructure) can significantly decrease the reporting burden

on public administrations across Europe.

Starting with a schematic overview of the data-flows connected to air quality data in Belgium, the presentation gives an overview of the gradual overhaul of the in house ICT-infrastructure at the Belgian Interregional Environment Agency (IRCEL – CELINE), anticipating developments concerning INSPIRE and the development of a SEIS. After the development of a normalised, “spatially aware” PostGreSQL/PostGIS database and the migration of historical data from a sequential C-ISAM database, it was possible to set-up a modern “Service Oriented Architecture (SOA)” in a virtualised environment (partially developed within the Life-project ATMOSYS). This SOA is hosting multiple services for multiple purposes, but most importantly, significant progress has been made to fulfil most of the seven SEIS principles. The lacking piece in the puzzle is the “reporting service”.

The eENVplus project (financed by DG Connect) started on the 1<sup>st</sup> of January 2013 and has a duration of 3 years. The consortium of the project consists of both public administrations and private companies specialised in disseminating geo-spatial information and customising/developing/maintaining open source systems compatible with the standards used in different governmental ICT-infrastructure. One of the pilot applications within the eENVplus project is the development of a “reporting service” which fits both the Belgian (IRCEL-CELINE) and the Italian (ISPRA) situations. This reporting service could potentially be adapted to most other reporting obligations in the other environmental themes.

By the time of the INSPIRE-conference 2013, the reporting service will not be fully operational, but we will be able to demonstrate most key functionalities. A thorough analysis of all the technical requirements of such a service will however be fully presentable by then. This will permit a useful reflection on the progress made and give a comprehensive overview of what still needs to be done to be ready by the end of 2013.

The presentation is directed at primarily two groups: (1) individuals working for public administrations who want to anticipate pending changes concerning eReporting (cf INSPIRE and SEIS) and (2) individuals working for private companies who specialise in supporting governments during implementation of (geographic) data management.

The INSPIRE-process has already had a positive impact on activity within several open source communities. The biggest benefit of making use of open source software which uses transparent standards for setting up INSPIRE-services is that there are no limits to the customisations which can be applied. There is generally also a better interoperability of the data being produced by these open source services, which makes it much easier to replace or improve parts of the total system.

The lessons learnt within the air quality community in general and specifically from a member state trying to implement the developed framework are of relevance for other environmental themes too.