

# NETWORKING ON THE INTERNET – A PILOT IS “GOING EUROPE”

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## ABSTRACT

The Internet is the backbone for traveller and traffic information services all over the world. Most of them are based on Internet platforms providing information for various target groups and transport purposes. As a part of the European ITS-programme EasyWay the project VIKING (partners: Sweden, Denmark, Finland, Norway, Northern Germany) pursues the vision to connect existing Internet portals and services to each other without creating centralised meta-platforms.

Using advanced Internet technologies a distributed information system has been developed. Its main objectives are

- to make information from other portals and services available on regional/national websites by a deep-linking system managed by automated update routines with individual selection content to be published.
- to create an open system that can be used bi-directionally and by all interested services irrespective of their national/regional affiliation.

This is a networking strategy to overcome limitations resulting from the mainly national or regional focus of internet platforms and to foster the distribution of information for long distance and cross-border transport. In the result the system allows travellers to conveniently access Internet based information services via a local information portal.

The VIKING pilot will be extended step-by-step towards a European network of connected services. Test operation has been successfully completed and the pilot is ready for "going Europe" now.

## STARTING POINT AND MAIN OBJECTIVES

Around the turn of the millennium, the five European countries (Sweden, Denmark, Finland, Norway and Northern Germany) have launched a joint Internet Information Service for Northern Europe called "Travel and Transport Information Service" (TTIS), focusing on information for long distance journeys, cross-border traffic and travelling in the neighbouring countries. At that time there were good reasons (and no alternatives) to offering the service in the format of a centralised, common Internet platform. TTIS linked the users to information providers from each area, using a clear structure, partly map based, for all modes of traffic and all target groups, multi-lingual, free of charge, without advertisement and neutral to operators.

Facing both the rapid development of Internet and information technologies and today's advanced status of traffic and traveller information distributed via different media channels, the partners have reconsidered the idea providing information through a centralised portal at the international level. At present – also due to European programmes such as TEMPO – a multitude of traffic information portals exist on regional, and national level. A joint portal offered for the end-user and covering large areas has to deal with many difficulties (e.g. language barriers, access to information, marketing, high maintenance costs).

The project partners have therefore developed a system based on the idea of distributed information systems. Following a pre-study carried out in 2008, a new pilot project has been launched. The aim is to develop and test a solution that enables national Internet portals to embed information from neighbouring areas or countries in their domestic web portals.

The pilot has been developed within the scope of EasyWay, a programme for Europe-wide ITS deployment on the main Trans-European Road Network (TERN) corridors. The work is based on experiences with both the development/maintenance of individual web solutions and 10 years operation of a joint - multi-national - Internet platform.

The new system makes information stored on other websites directly accessible for the users of a participating web portal. The information is mutually accessible so that a Swedish portal will e.g. make the current road status in Sweden available to all partners while also being able to publish information from other partners e.g. on the situation on the neighbouring Danish network which will be received via the new system.

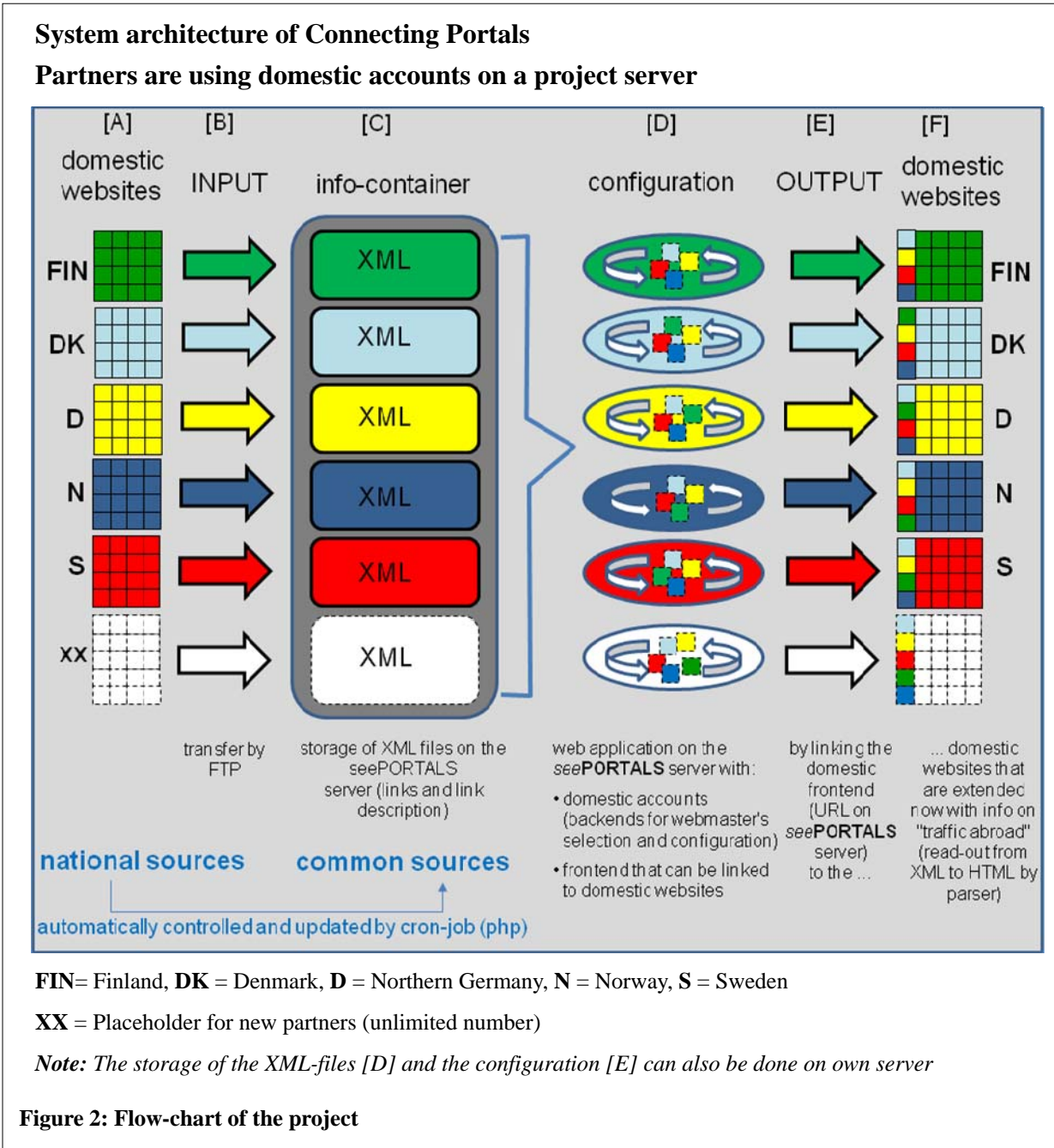
## PILOT APPLICATION IS RUNNING

The networking partners are connected to each other using the innovative web application "seePORTALS". This application can be downloaded from a dedicated website together with technical tools and and exhaustive documentation ([www.seeportals.eu](http://www.seeportals.eu)). A simple setup routine is used.



After installation, the system provides a convenient interface for the administration of the system (selection of countries to be connected and content to be displayed). All participating partners are asked not only to make use of the information offered by others but also to provide information from their own service to be displayed by partners on their information portals (bi-directional approach).

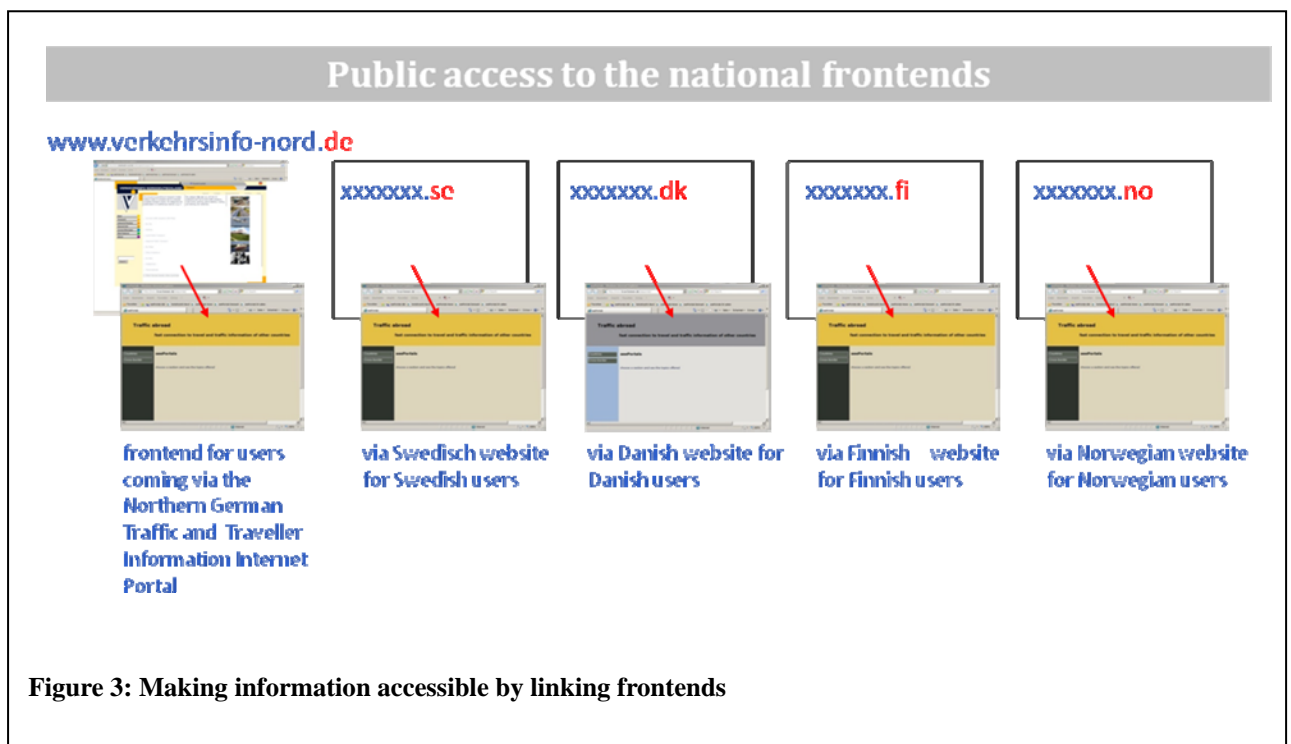
Having successfully tested the installation routines of the application on the servers of the pilot partners a simplified solution has been developed in summer 2010 that eases the technical handling of the system (which is inherent to every installation work): On a special server an unlimited number of applications have been prepared for instant usage. All interested partners can now ask the German project management for an account on this server. Having received account data new partners get immediate access to all connected partners and the complete information pool. The instructions on "how to format" information that shall be put into the pool as own contribution from the joining partner are the same in both models.



On the national level there are many internet information services. Figure 2 lists the participating countries under [A]. New participants (in this case indicated by the placeholder "xx") access data by their own account. The information pool of the existing partners [C] is instantaneously accessible. In case that all offered information should be published, a frontend (for end users) can directly be linked by URL. The backend for webmasters enables them to select information to be published (number of sites, types of information), i.e. each partner can make his own configuration [D]. In this case the same URL is linking a "filtered" information pool, configured by the participant himself, stored in a dedicated database.

Information from the own country or region can be put into the pool by creating RSS-feeds. For this RSS-builder software will be used. The RSS-feeds (xml-files) contain short link descriptions and the links to websites (existing services) that shall be included in the pool. The files are transferred by FTP (File Transfer Protocol) to the "seePORTALS" server [B]. Each partner is responsible for keeping the input he has given to the pool up-to-date and because it is the information source for the other partners. In case of changes, the databases of all connected partners are updated automatically. This is controlled by a job-controlling program ("cron-job") initialized by a PHP-script.

In the end, all participants are extending their domestic web services by making information on "traffic abroad" accessible for their users [F] in structured format.



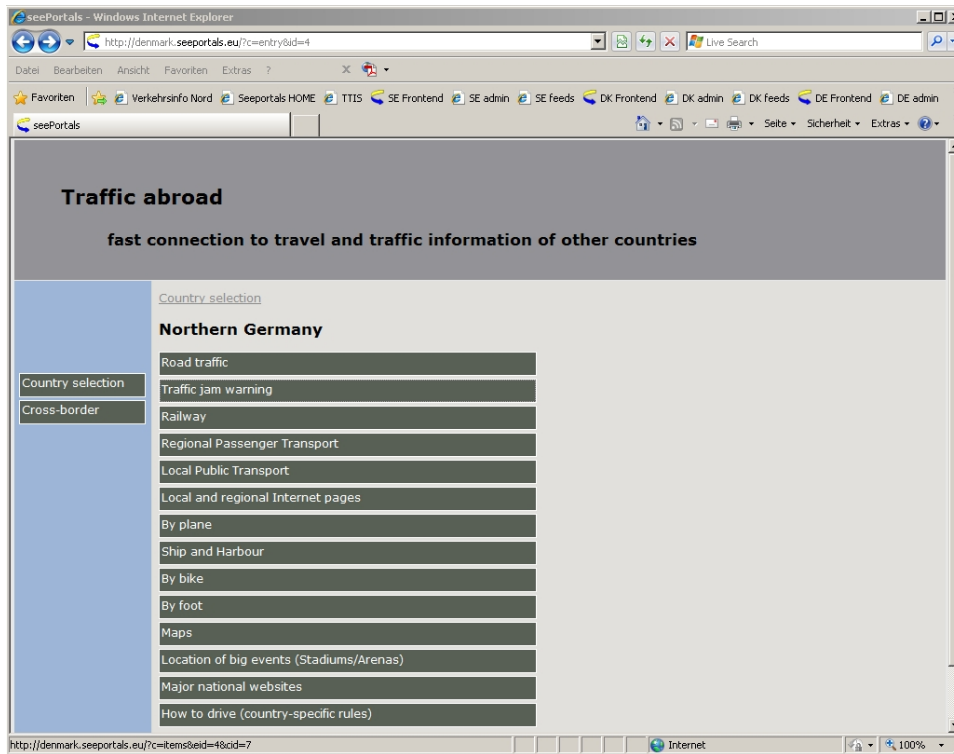


Figure 4: Selection lists of the Danish frontend showing information on Northern Germany

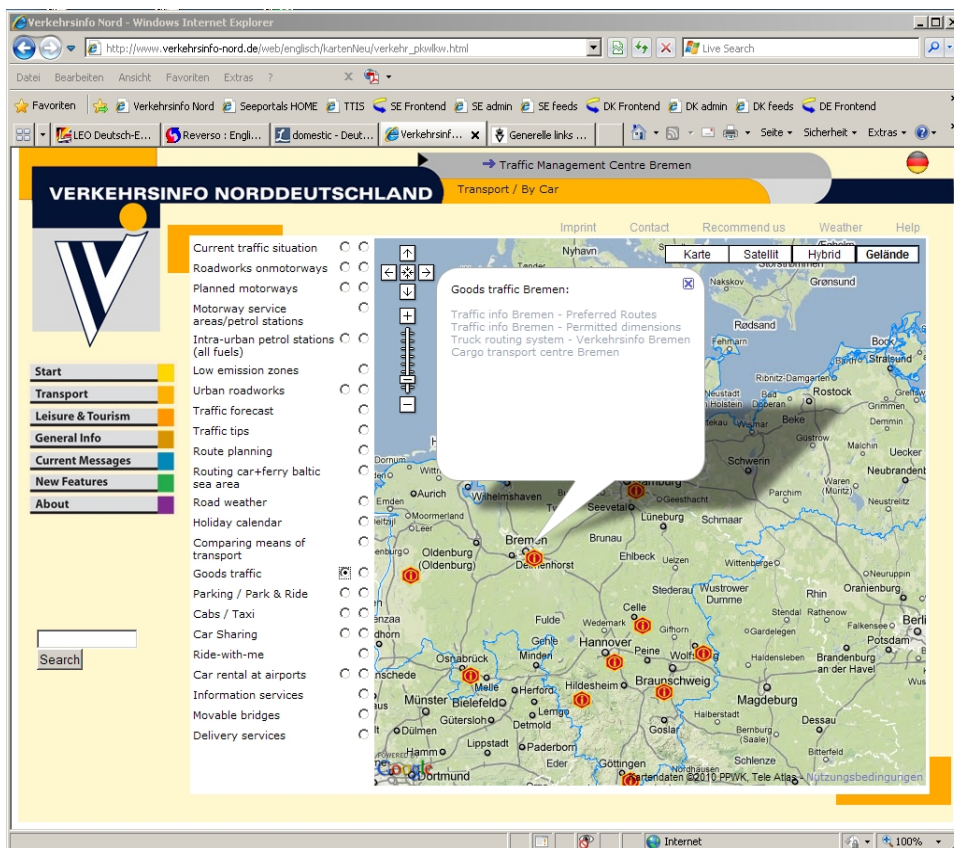


Figure 5: The result – the queried information is directly accessible

## RESULTS AT A GLANCE

By autumn 2010, significant progress in the project development has been achieved. The following bullet points summarise the results as of beginning of October 2010:

- The software development needed for new countries to participate in the project has been completed.
- The five VIKING countries have interconnected their domestic traffic information portals offering access to information from abroad. This makes it possible for interested parties to try the look and feel of the system and to see it working.
- A server has been put into operation on which new partners can get a quick and easy to use test environment for testing the frontend and for configuration of the system. Starting the operation for individual test environments requires only activation by the project management. This test environment can also be turned into a lasting solution by request.
- A web platform has been developed that offers information on the project, software and tools, guidelines, help files and current updates ([www.seeportals.eu](http://www.seeportals.eu)).
- In spring 2011, a workshop will be held Germany addressing interested countries and service providers. Participants shall get in contact with the new system. The event is planned as important part of the acquisition strategy that will be started in late summer 2010 aiming at extending the pilot.
- In autumn 2010 the VIKING countries have closed down their joint internet platform ("Traveller and Traffic Information Service for Northern Europe"). Reaching this point has made evident that the implementation of the new system has reached the goal of replacing the traditional portal by introducing a distributed system.

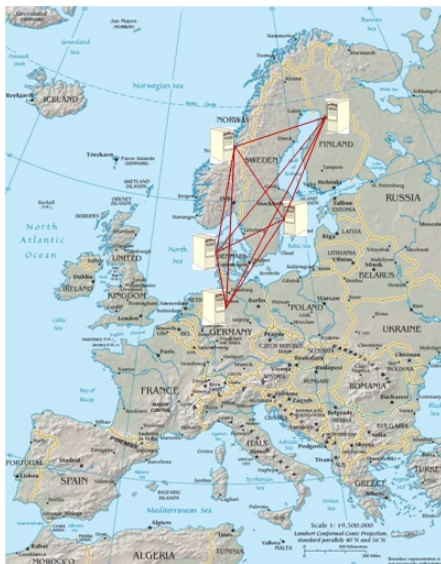
## PAN-EUROPEAN PERSPECTIVE

Starting 2011 the project will be gradually extended by connecting new partners in Europe. The evolution from pilot to service will be implemented step-by-step: Each new network partner can be seen as a perceivable progress. New candidates need to download the "Starter Kit" from the website mentioned above or can use the prepared applications on the project server (see figure 1). Having created information input from the joining country as contribution to the "pool" (following some simple rules to make it available for the networking) new partners can start participating.

The system meets the requirements of a European Core Services in the field of traveller information services (TIS) proposed to be implemented within the EasyWay programme. It has the following advantages:

- users can access the information using their preferred site.
- a harmonized way to access other European TIS sites will be introduced.
- a harmonized presentation of information will be stimulated.
- it is a simple and cheap first step to achieve cross-border and multi-modal services.
- the solution is scalable: number of sites, types of information, new stakeholders can participate (public and private).

In this way the project contributes directly to the main slogan of the EasyWay programme: "Linking Europe in a harmonized way".



The pilot area (Denmark, Sweden, Finland, Norway and Northern Germany)



The perspective: extending the pilot to a Pan-European service

## REFERENCES

- (1) Schäfer-Breede, K., "Connecting Traveller and Traffic Information Internet Services", Highlights of the EasyWay programme, published at the EasyWay Annual Forum 2009, Vienna
- (2) [www.seeportals.eu](http://www.seeportals.eu), hosted by Büro für Verkehrsökologie, Bremen (K. Schäfer-Breede)
- (3) [www.travel-and-transport.com](http://www.travel-and-transport.com), URL of the previous joint VIKING platform, linking the new distributed system now