

RISER: Opportunities of Mobile Access to Trans-European Resident Registers

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Abstract: *The Registry Information Service on European Residents (RISER) offers access to official address information of several EU Member States. Thus the eGovernment service RISER makes available one of the most frequented services of the public administration in a Trans-European scope. Today companies and citizens desiring information from a foreign civil registration office still face a complex situation of responsibilities, idiosyncratic requirements and language barriers. RISER is changing this by setting-up and operating a central Internet Service for collecting inquiries, distributing them to the responsible authorities and delivering the results to the customer. RISER is about to extend its service portfolio by adding **mGovernment** facilities: This article explains the process improvement potential offered to e.g. Public Transportation Companies by an innovative **RISER mGovernment Service**.*

1. Introduction

To run a business successfully a good relationship to the customer is essential. But do you really know your customer? Are you billing the correct address? Lost invoices can cost companies large amounts in lost revenues. Current methods for address validation are manual and costly. The most common and reliable way to verify address information of customers is to inquire into public registers (local or national residence files storing citizens' registered current addresses).

On the national level this kind of inquiry is traditionally one of the most frequented service of public administration. Recent studies indicate that the markets for Germany and Austria receive approximately 27 million and 950.000 inquiries respectively from companies and citizens into official registers per year.

With an increasing linking-up of economies in the European Single Market the demand on pan-European inquiries for address validation is growing rapidly. The Registry Information Service on European Residents (<http://www.riser.eu.com>) is starting to meet this demand and provide companies and citizens with official address information within a Trans-European scope. The project RISER is being funded by the eTen Programme of the European Commission.

Currently address information can be gathered in the different EU-Member States at national or local level only. The conditions to access these official registers are stipulated by national jurisdiction. Thus companies and citizens trying to gather information from a foreign civil registration office face a complex situation of responsibilities, idiosyncratic requirements and language barriers. RISER is changing this by offering a central Internet Service for collecting inquiries, distributing them (without the customer being bothered by this) to the responsible authorities and delivering the results to the customer (see Figure 1). This makes RISER unique.

RISER provides easy access to public registers via secure Internet (accessible by ordinary Internet browsers), speeds-up the process and makes the information of each connected register available throughout the European Market.

At present (2005) Germany, Austria, Ireland and Poland are participating in the RISER-Network. The pilot-trials covering Austria and Germany have commenced in late 2004. To reach these ambitious objectives the main RISER challenge is to interoperate organisationally, technically and – most importantly – semantically with the stakeholders in the field of civil registration of the EU Member States involved in the project.

On the RISER agenda the introduction of Mobile eGovernment Services into the portfolio plays a prominent role for the near future. This paper gives an outline of the opportunities lurking in this innovative field.

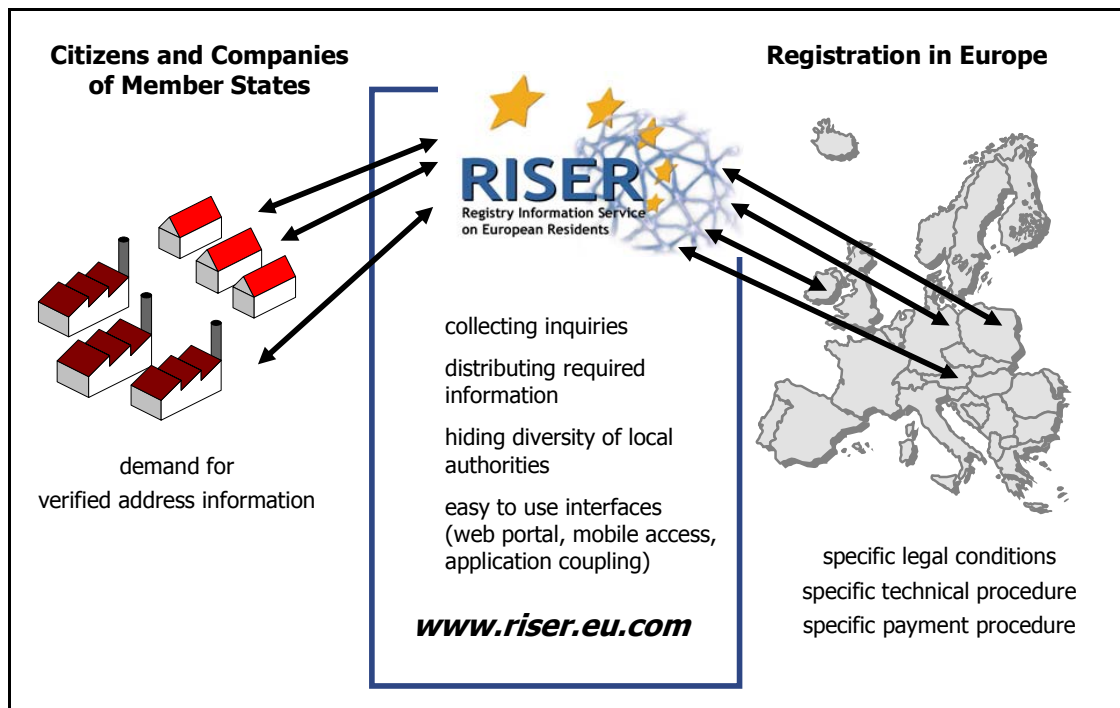


Figure 1: Basic Concept of RISER

2. Structure of the RISER Service

The central idea of RISER is to be a junction between customers desiring and suppliers offering official address information. To the customer RISER offers unified access to a service accepting orders targetting the variety of different authorities in the Member States. RISER shields the intricacies of these different local services (intricacies in terms of language, of payment procedures, of idiosyncratic service rules, of legal preconditions etc.) from the customer. So RISER is modelled on the concept of a One Stop Government Service.

On the supplier-side, RISER gathers the required data by procuring them from the appropriate authorities in the EU Member States. Relationships to suppliers are complex and heterogeneous and RISER has to adapt to this. In the course of the advancement of standardised business processes and interfaces RISER will increasingly profit from a simplified and unified supply infrastructure.

German data supply: Nearly all EU Member States' local or regional authorities keep civil registries on their population. With more than 6.000 local authorities responsible for civil registration, the German situation is the most complex one in Europe. Here several private or public portals are emerging on a regional level providing official address information for e.g. Bavaria or the city of Hamburg. These portals are mostly stand-alone and are not connected to portals in other states. The regional portals in Germany are important partners for RISER, because they can be used as intermediaries. Cooperation between RISER and these state portals provides a Win/Win-scenario.

Austria and Poland keep centralised national population registers. On the organisational level this simplifies the implementation of the RISER service in these countries significantly. The databases are run by the respective Ministry of Interior and are controlled by a central department providing official address information. For Austria the existing technical framework of the Central Residents Register (CRR) is highly advanced and therefore favourable to connect the RISER service. In Austria and Poland companies who are looking for access to the CRR have to apply for permission with the Ministry of Interior. In Poland the inquiry into the PESEL register has to include a justified legal interest why the data is requested.

Ireland still lacking a population register on local or central level can offer to RISER content from its Electoral Registers as an alternative source of official address information. In the future RISER be able to gather the necessary data from further sources like the Public Service Broker (PSB) currently being set up. The PBS project attempts to centralise access to all Irish government service through a single portal that will be supported by unified Public Service Identity data set.

The analysis of the registration processes in all the EU-Member States showed three main groups. The first - including countries like Germany, Austria, Denmark, Sweden and Finland - is running adequate registration facilities enabling access for private entities (like RISER and the RISER-customers) in terms of technical access and legal preconditions.

The second group comprises Member States like Poland, the Netherlands, Estonia, Spain and Portugal where adequate registration processes are available but the access to the registers is legally restricted (only companies running a business requiring official address validation for some good reason are granted access to the population registers).

Ireland, Great Britain and France belong to the third group where - lacking population registers - other sources of address data have to be evaluated for the time being.

3. Case Study of a RISER mGovernment Service: Mobile Address Validation Service for Public Transportation

By using a case study I will now illustrate the benefits of a RISER Service accessible by customers on the basis of mobile devices like smart phones or pocket PCs. The consecutive section on RISER service architecture explains the easy incorporation of a mobility solution into the existing service.

A - The Problem:

In the field of public transportation a very special issue is causing expensive procedures and delay in the daily routine of transportation staff: It is the issue of passengers encountered in the underground or the bus lacking a valid transport ticket (cf. Fig. 2).

The problem arises each time the passenger lacking a ticket is lacking valid identification documents as well. In these cases it is impossible for conductor staff to register the person's identity in order to store it for future reference and later to bill the due penalty to the person's legally valid address.

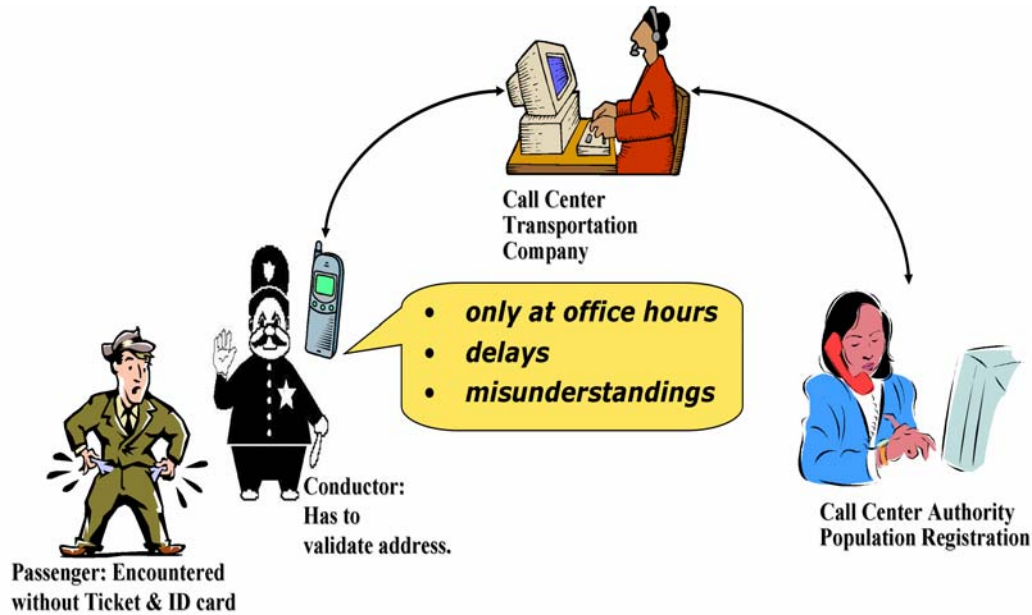


Figure 2: Lengthy procedure in Public Transportation: Address Validation of Passengers

In such cases the challenge to validate the person's identity is dealt with as follows (conventional procedure):

The conductor communicates the passenger's name and the presumed address of residence (the one the passenger has specified) by phone to the office of the transportation company (call center). The transportation call center calls the local authority responsible for population registration to check the person data specified.

The conductor is called back to inform him about the confirmation results:

If the passenger's residence specification could be confirmed, the person is granted to continue his trip (by bus or underground). The person will later get the bill by mail to the confirmed address. If the passenger's residence could not be confirmed (this means: if he couldn't offer an officially registered address), security personnel (police) is called to verify the person's identity some other way not under consideration here.

The procedure described is difficult and costly:

It works only with selected population registers: Communication with the call center of an authority as described can cover just the one (typically: local) population register in charge of the call center. In countries with decentralised structures in population registration this means that in many cases address validation will not be possible

It works only at the hours during which both of the two call centers are doing service

The conductor has to wait at the phone until call center personnel is available (the call center has to be staffed sufficiently).

At any other hours the security personnel has to be asked to come to the scene anyway, which would cause hours delay for the transportation staff and trouble with frustrated passengers

Due to the use of a communication chain (conductor - call center 1 - call center 2), the process is vulnerable to misunderstandings and loss of information, which again causes delay

B - The Solution: the RISER mGovernment Service

To improve the procedure we should

- Get rid of the temporal limits → Enable a 7 X 24 - Service.
- Get rid of the communication chain → Enable direct access to the source.

Both these conditions are satisfied by an eGovernment service offering 7 X 24 and direct electronic access to the respective population registers. Because the access has to be available to the conductor in public transportation it has to be a Mobile eGovernment Service.

Thus we come to the picture of a RISER mGovernment Service. The economic benefit of such a service has already been confirmed by RISER talks with one of the largest public transportation providers in Germany.

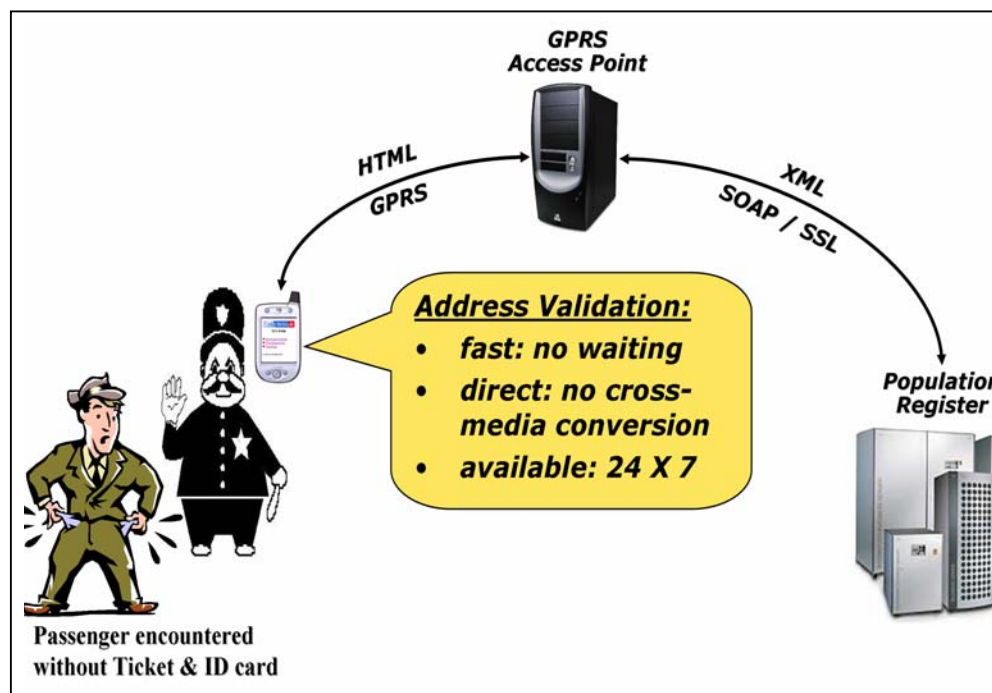


Figure 3: Address Validation of Passengers by direct mobile access to official registers

The RISER mGov Service has the virtues of sparing the customer's users the timely restrictions and the waiting time caused by the call center providing direct access to the desired population register data, without the need for any agents to act as intermediaries providing the access independent of spatial restrictions: Accessible via mobile devices it can be accessed anywhere where Internet connection is available for such telecommunication devices.

In addition to that the RISER mGov Service will add the virtue of offering the service not just for special registers one by one, but at an integrated scale spanning municipalities, regions and countries.

4. Architecture & Components

The RISER solution is constructed as a combination of largely independent components. The technical architecture (cf. Fig. 4) combines

- an order management system for central processing
- a layer of external adapters (plus routing mechanism, plus directory service) for connecting to the external world
- accounting & billing devices for support of the relevant business processes.

The order management stores customer orders for processing, keeps track of the degree of order completion and cares for making results available to the customer.

The routing service sorts inquiries into packages, routes these packages to different data suppliers (registry authorities / population registers), collects the inquiry results and delivers them to the order management for reassembly.

Protocol and domain adapters take care of the proper connections to various systems of the supply infrastructure. They have to provide for all the technical, syntactical and semantical conversions needed to interoperate with these heterogeneous systems. Here issues of interoperability are dealt with in compliance with the guidelines of the European Interoperability Framework (EIF).

A directory service is needed to identify suppliers responsible for order items under consideration. It supplies addresses and interface standards for transport mechanisms as well as rules for data conversion.

An accounting service keeps track of all data needed for invoicing and payment. It is responsible for generation of the variety of accounting reports needed.

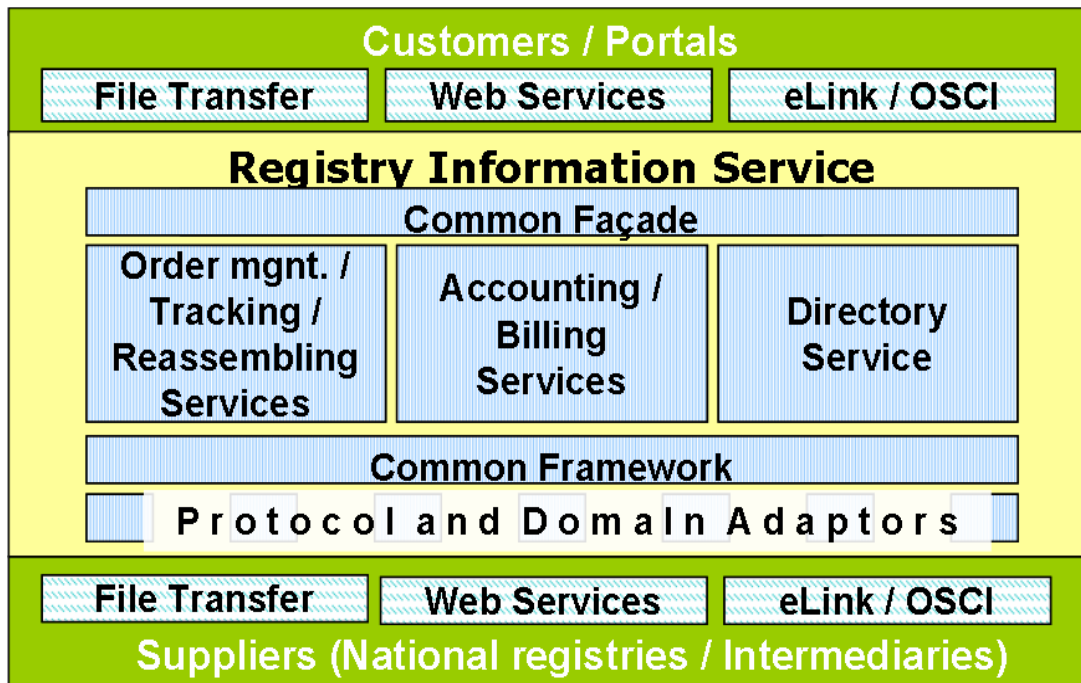


Figure 4: Architecture of the RISER Solution

All individually implemented parts of the RISER application are built utilizing the Java 2 Framework. On top of that, the system uses Internet technology (SOAP via HTTP, SSL-encryption, SCP) widely adopted. Data is stored as far as necessary in a relational database. The application does not depend on a specific database product. Open source products are used as the web middleware and database systems.

The purpose of the user portal is to provide means for access by customers for placing orders. It is designed to serve the various user and customer requirements:

Orders may be delivered by the user to the system one-by-one. Web forms are offered for this purpose accounting for differences in service semantics correlated to the specific legal conditions in the different RISER partner countries.

As an alternative, bulk orders can be delivered by upload of a text file (in comma separated value format) previously exported by the customer's application.

In addition to that Web Service coupling with customer systems is currently (June 2005) subjected to test by pilot customers. Via this mechanism orders can be uploaded and results downloaded without user interaction. A facility of immediate result delivery (push) is implemented as well. Soon the user portal will be provided with the possibility of access by mobile Internet browsers. This will add mGovernment use to RISER.

5. Privacy and data security

It is of highest importance for RISER to conform to data security requirements and to protect the data from unauthorised access. This was also the basic condition for funding by the European Commission. Therefore, RISER conforms to the legal regulations on data and privacy protection in the Member States as well as to the corresponding European directives 94/46/EC and 2002/58/EC. In particular, RISER does not intend to establish its own database of personal data concerning European residents.

Supervision concerning these issues is covered by the Independent Centre for Privacy Protection, an influential institution in the field of data security and data protection in Germany (www.datenschutzzentrum.de).

To prevent unauthorized access to the personal data processed by RISER the system is geared towards the German standard for secure data communication in eGovernment OSCI-Transport (www.osci.de). In particular RISER will soon implement IDA-eLINK, the European solution for secure data exchange between public administrations, developed within the EU Commission's IDA programme. eLink is based, in essential parts, on OSCI-Transport.

6. How the Project Started

The inspiration for RISER emerged at a local level. PSI AG, a leading software provider and the Berlin authority for civil registration (Landeseinwohneramt Berlin) jointly developed a registry information service for the state of Berlin. This platform started operation in December 2003 and offers access to 5 million resident data records. The Berlin platform is used mainly by state authorities like fiscal authorities, police and courts. In December 2003 the first private user (Public Transport Berlin) got access to the platform submitting 85.000 inquiries per year.

Taking the potential of the European Single Market into account, the feasibility of a registry information service with a European scope was reviewed. As Germany has the most complex structure in civil registration in comparison to other European countries, the Berlin platform already covered the main technical and organisational challenges of a Pan-European RISER service.

In 2003 an international consortium comprising companies, research establishments and authorities from Germany, Austria, Poland and Ireland proposed piloting of the RISER Service to the EU eTEN-Programme. This cost-sharing programme aims to facilitate set-up and operation of

Trans-European eServices. The European Commission accepted the proposal for a market validation of the RISER service and the project started in March 2004. Following the conclusion of market analysis, pilot-trials have commenced between Germany and Austria in September 2004. Presently (2005) the pilot-trials are being evaluated in order to adapt the performance of the RISER service closer to the needs of customers and suppliers.