



e-SENS White Paper

Electronic Simple European Networked Services

As personal and business mobility within the EU increases, cross-border digital public services are a key policy priority in the internal market. However, cross-border e-Government services are still few, since a number of challenges are faced, including semantic, organisational, legal and technical ones¹. Delivering cross-border services to European citizens and businesses would be difficult, if not impossible, without interoperability among European public administrations. Since cross-border services require a horizontal approach, they tend to run into more barriers than services provided on a national level.

e-SENS is a Large Scale Pilot (LSP) which aims to make it easier to provide cross-border digital public services in Europe through the development of generic and re-usable technical components for seamless electronic communication. The project strives to promote interoperability between public services in Europe based on existing solutions, in particular the results of the previous Large Scale Pilot² (LSP) projects: PEPPOL, e-CODEX, STORK, epSOS and SPOCS. The LSPs have already proven that providing cross-border digital public services can be made simpler. In numerous domains, technical building blocks have been developed and piloted to enable seamless cross-border services, and e-SENS consolidates, improves and extends the usage of these building blocks.

Thus the main objectives of the e-SENS project are:

- to consolidate the LSP building blocks;
- to ensure rollout, expansion and sustainability of LSP building blocks;
- to develop infrastructure for interoperable public services.

¹ The four levels of interoperability according to the European Interoperability Framework (EIF) for European public services, <http://ec.europa.eu/idabc/en/document/2319/5938.html>

² Projects developed and run under the [ICT Policy Support Programme](#)



Attainment of these objectives will unlock the potential of cross-border services and define standards to enable cross-border services, and will as a result:

- improve the overall efficiency and effectiveness of cross-border public services, leading to increased self-service for users in a complex environment;
- make it easier for national companies to do business abroad and make Member States more attractive places to settle and to do business (as regards start-up, fulfilling legal requirements, tendering for public contracts, etc.);
- help citizens when they cross borders, as well as helping foreign citizens to access, for example, healthcare and judicial systems abroad, improving their freedom to move to other countries.

The project follows several core phases, starting with the creation of an inventory of existing practices and solutions within countries and across the EU (stocktaking), definition of generic functional requirements for “Basic Cross-Sector Services”, development of specifications, operation and testing of the common solutions, piloting in selected operational scenarios, and – on the basis of these experiences – finalisation of the specifications in order to enable handover.

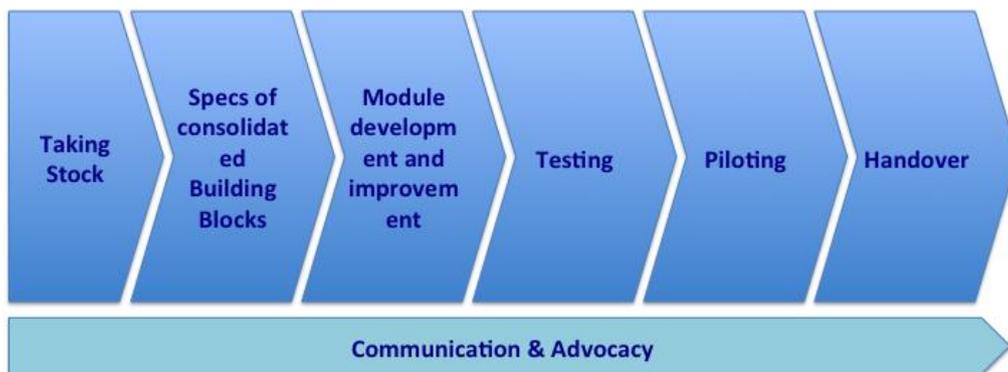


Figure 1: Project core phases



The project consortium includes over 100 entities: public authorities, academic and research institutions, private companies and standardisation bodies representing 22 European countries, including Norway and Turkey. Partners belong either to national consortia responsible for the coordination of national interests, or to the e-SENS.com entity, which brings in players from the private sector. The consortium is open to new partners dedicated to building the future Digital Single Market.

Project	Electronic Simple European Networked Services (e-SENS)
Project Coordinator	Ministry of Justice NRW, Germany
Participants	Austria, Czech Republic, Denmark, Estonia, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, The Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Turkey, United Kingdom, OpenPEPPOL, ETSI
Duration	48 months
Project budget	27 mln EUR (EU financing of 13,5 mln EUR)
Programme	ICT Policy Support Programme under the Competitiveness and Innovation Framework Programme (CIP)

Figure 2: Project details at a glance

❖ e-SENS interoperable infrastructure

The task of e-SENS is to make available a comprehensive set of building blocks for a sustainable European infrastructure for cross-sector services. The specifications that are being developed will contribute to the implementation of the European Interoperability Architecture for basic cross-border public services in Europe.

The project does not have the aim of exporting national solutions to the pan-EU level, but seeks to create a common pan-European set of standards that will embrace both national and sectoral diversity and facilitate interoperability. The use of open standard solutions is a benefit that can be easily exploited by public administrations. The pilot develops standards on the basis of European Union recommendations, the technological status quo within different public administrations, and the standards applied by relevant stakeholders. The use of open standards guarantees the freedom of public administrations and users to select their own technologies, applications and systems, increasing the overall functional operability of the pilot outputs.

The building blocks to be provided by the project will be modular and exchangeable in nature. The aim is to provide solutions that are suitable for integration into existing systems in EU Member States and Associated Countries where this offers high value. e-SENS focuses strongly on core areas such as e-ID, e-Documents, e-Delivery and e-Signature.

e-ID

The objective of the work of e-SENS in e-ID is to establish cross-border recognition and





e-identification validation that matches the requirements of e-Government applications in different domains. In this way, e-SENS can enable businesses, citizens and government employees to use the already widespread (national) identities in cross-border public and private services. The solution incorporates the know-how gained in STORK, developed to provide an infrastructure for cross-border use of government-endorsed electronic identities and exchange of attributes, including roles and mandates as needed by various online services.

e-Document

The e-Document building block is a container component used to wrap business content or documents for e-delivery. It supports different types of e-documents: structured, unstructured, images, binary sequences and others. The e-SENS e-Document approach is based on the results of previous LSP projects and incorporates pre-existing modules. The e-Document consolidated component is expected to address a number of different objectives: support for multiple payloads, e-signatures assigned to payloads, e-delivery routing information, and metadata describing payloads.

e-Delivery

The objective is to establish a common transport infrastructure suited to the requirements of cross-border communication between e-Government applications in different domains. In e-SENS, e-Delivery is based on the concept of a four-corner model, where end entities (corners one and four) exchange messages via gateway intermediaries (corners two and three). The infrastructure standardises communication between these intermediaries only. Communication between gateways and end entities may use e-SENS e-Delivery, but may also use a different solution.

e-Signature

Work in the area of e-Signature has the aim of establishing cross-border interoperable components for a secure authentication infrastructure in different domains. The e-Signature BB and its components follow legal and interoperability frameworks (EU e-Signature legislation and the EU e-Signature Standards Framework) and prove that real-life interoperability is possible. The ICT Architecture therefore incorporates the EU e-Signature Standards Framework as governing the specification. The e-SENS e-Signature block is based on and will support eIDAS Regulation as a policy basis.



❖ **Piloting – real-life testing of technical components**

The project aims to demonstrate that it is feasible, realistic and sustainable to deploy real-life ICT services within and among European countries. Therefore, the building blocks developed will be implemented in production pilot environments where actual transactions can take place among public administrations, or between them and European citizens and businesses, based on the technological building blocks. Four domains have been identified for intended piloting, although this list is open to expansion:

- e-health

Citizens travelling in another country will be able to receive treatment from healthcare professionals who can access the medical information they need from the patient's country of origin.

- e-justice

Piloting use cases will facilitate the resolution of legal issues across national borders, and in turn provide easier cross-border communication among courts and between courts and citizens in cases related to matrimonial matters.

- e-procurement

Piloting processes will enable every economic operator from any European country to take part in an electronic tender procedure in another country. Small and large businesses will be able to complete in just a few steps what is now a cumbersome process that largely excludes foreign suppliers from the majority of tender competitions within a given country.

- business lifecycle

Business owners who want to set up a branch or a subsidiary in another country, entrepreneurs interested in starting a new company, or professionals who plan to offer services in a country other than their own, will be able to submit documents and complete formalities online via Points of Single Contact³.

- citizens lifecycle and e-Agriculture

The overall goal of the domain is to set up a framework for different kinds of e-services relating to citizens in the EU Member States as well as assist farmers in accessing all digitally available services.

The e-SENS pilots are intended to contribute towards a set of important objectives, including:

- Facilitating the provision of services and covering real-life cases that offer an adequate number of transactions;
- Highlighting the usability of building blocks that have been developed by other large-scale pilots and initiatives in Europe;
- Covering the real needs of Member States as indicated in their action plans;

³ e-government portals for entrepreneurs active in the service sector. It has been a legal requirement to have a PSC in each EU country since December 2009, as set out in the [EU Services Directive](#).



- Accelerating the implementation of European policies involving public administration bodies, professional associations, and industry.

Sustainability of e-SENS solutions

e-SENS strives to pave the way for sustainability and long-term governance of the LSP results and their usage.

The e-SENS outputs will be the kernel of the future “core services platform” for cross-border delivery of e-Government services foreseen under the “Digital Services Infrastructure” defined in the regulation for implementing the Connecting Europe Facility⁴ (CEF).

The project is working on a proposal for the long-term consolidation of the building blocks that will embrace openness to future technologies and the will to achieve and sustain competitiveness.

In order to ensure long-term impact, the pilot’s outputs must be taken up and used by a large number of administrations in Europe. Therefore the project will stimulate countries to rapidly implement the given solutions, using the knowledge and experiences of other countries as stepping-stones towards accelerated implementation. To ensure the successful re-use of project outputs, all partners will undertake a common effort to ensure the following:

- use of Open Standards;
- technical re-usability;
- political willingness and commitment to re-use;
- awareness of the project and its results among stakeholders, and effective knowledge sharing;
- fostering of a competitive private sector.

⁴ <http://ec.europa.eu/digital-agenda/en/connecting-europe-facility>

