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**COMMUNICATION FROM THE COMMISSION TO THE EUROPEAN
PARLIAMENT, THE COUNCIL, THE EUROPEAN ECONOMIC AND SOCIAL
COMMITTEE AND THE COMMITTEE OF THE REGIONS**

Towards interoperability for European public services

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1. INTRODUCTION

1.1. Context

Action on interoperability is essential to maximise the social and economic potential of information and communication technologies (ICT). This need was identified in the Digital Agenda for Europe¹, one of the flagship initiatives of the Europe 2020 Strategy. The Digital Agenda can only take off if interoperability based on standards and open platforms is ensured.

Europe could do much more to address some of its most acute societal challenges by realising the potential of ICT. That is why the Digital Agenda stresses the need for European public administrations to provide efficient, effective cross-border eGovernment services. Close collaboration, streamlined cross-border processes and trusted information exchange, based on interoperable ICT infrastructures and systems, are needed to achieve this.

This Communication introduces the **European Interoperability Strategy** (EIS) and the **European Interoperability Framework** (EIF) for European public services, two key elements in the Digital Agenda. Together, they promote interoperability among public administrations.

1.2. Challenges

Member States setting up ICT-supported national public services need to be more aware of the risk of creating new electronic barriers if they opt for solutions that are not interoperable. Such so-called ebarriers fragment the internal market and hinder it from functioning properly. Member States and the Commission should step up their efforts to avoid this.

The European single market relies on cross-border public services that support the implementation of EU policies and help to tackle internal market bottlenecks and missing links, as mentioned in the Commission work programme 2010². Such European public services³ are increasingly delivered by electronic means.

More and more citizens and businesses are making use of the European single market's freedoms, extending their work or leisure activities beyond the borders of their respective countries.

Without ICT-supported European public services and collaboration among public administrations, citizens are obliged to contact, or even to travel to, public administrations abroad to deliver or collect information or documents they need to work, study or travel within the EU. The same applies to businesses that want to establish themselves in more than one Member State.

¹ COM(2010) 245 — A Digital Agenda for Europe — (see: http://ec.europa.eu/information_society/digital-agenda/index_en.htm).

² COM(2010) 135 Commission Work Programme 2010 — Time to act (see: http://ec.europa.eu/atwork/programmes/index_en.htm).

³ European public services are cross-border public sector services supplied by public administrations, either to one another or to European businesses and citizens.

Delivering European public services to European citizens and businesses will be difficult, if not impossible, without interoperability among European public administrations⁴.

The disparate legal landscape across Member States often prevents cross-border exchanges of information between Member State administrations. When such exchanges are allowed, the legal validity of information must be maintained across borders, and data protection legislation in both originating and receiving countries must be respected.

There is a need to align business processes when public administrations establish European public services to achieve mutually agreed goals.

Lack of agreement and guidance on the meaning and format of information to be exchanged between Member States is another stumbling block. Semantic interoperability is jeopardised by different interpretations of the information exchanged between people, applications and administrations.

Multilingualism is another challenge when exchanging information or when businesses and citizens want to approach public administrations in other Member States.

Cross-border interoperability currently also lacks common infrastructures, architectures and technical guidelines that could foster the development of European public services by providing a solid technical basis and avoiding duplication of efforts.

That is why enhanced interoperability at legal, organisational, semantic and technical level should progressively lead to the creation of a sustainable ecosystem. This would facilitate the effective and efficient creation of new European public services.

Many public administrations in the Member States are already taking steps to improve interoperability at national, regional and local levels, but unless Member States and the Commission act together, interoperability at EU level will lag behind.

European public services will often be the result of aggregating existing ‘basic public services’⁵ provided at various levels of government within Member States. Setting up European public services will only be feasible if those basic public services are designed with interoperability requirements in mind.

2. FOUNDATIONS

2.1. Political support

Interoperability has received high political visibility recently, especially during biennial conferences on eGovernment. Declarations on eGovernment agreed under the Belgian, United Kingdom and Portuguese Presidencies all called for interoperability. The eGovernment

⁴ In the context of European public service delivery, interoperability means ‘the ability of disparate and diverse organisations to interact towards mutually beneficial and agreed common goals, involving the sharing of information and knowledge between the organisations, through the business processes they support, by means of the exchange of data between their respective ICT systems’ (definition taken from the European Interoperability Framework).

⁵ Basic public services are the most fundamental service components from which more complex public services are built.

Action Plan 2006-2010⁶ also sought to ensure that eGovernment at national level does not lead to new barriers within the single market because of fragmentation and lack of interoperability.

More recently, in the Malmö Ministerial Declaration of 18 November 2009⁷, ministers responsible for eGovernment policy agreed to improve the trustworthiness, security and interoperability of eGovernment services and systems within the single market. They agreed to align their national interoperability frameworks with applicable European frameworks and invited the Commission to identify gaps in cross-border interoperability and mutual recognition, as well as intensifying activities on key enablers. Moreover, Member States recognised that better public services need to be delivered with fewer resources, and that the potential of eGovernment can be boosted by promoting a culture of collaboration and by improving the conditions for interoperability in European public administrations.

2.2. Achievements so far

The Commission acts as a driver, fostering modernisation of public services throughout Europe, particularly through the Digital Agenda for Europe and the European eGovernment action plan 2011-2015⁸.

In 2006, the Commission issued a Communication on Interoperability for Pan-European eGovernment Services that led to significant results. These were achieved mainly through the Interoperable Delivery of European eGovernment Services to public Administrations, Businesses and Citizens (IDABC)⁹ and ICT Policy Support Programme (ICT-PSP)¹⁰ programmes.

The IDABC programme has made important contributions to ensuring interoperability in support of electronic information exchange among European public administrations, with positive spill-over effects for the single market. The final evaluation¹¹ of the IDABC programme concluded that a coordinated approach can contribute to delivering faster, better-quality results, and to meeting EU legislative requirements and policy objectives, by means of common, shared solutions devised and operated in cooperation with Member States. The Interoperability Solutions for European Public Administrations (ISA) programme¹², which succeeds the IDABC programme that came to an end in 2009, lays even more emphasis on the relevance of interoperability and collaboration to implement EU legislation successfully.

⁶ COM (2006) 173 — i2010 eGovernment Action Plan: Accelerating eGovernment in Europe for the Benefit of All.

⁷ <http://www.egov2009.se/wp-content/uploads/Ministerial-Declaration-on-eGovernment.pdf>.

⁸ The European eGovernment action plan 2011-2015 is presently being established by the Commission as reaction to the Malmö Ministerial Declaration.

⁹ Decision No 2004/387/EC of the European Parliament and of the Council of 21 April 2004 establishing a programme on interoperable delivery of Pan-European eGovernment services to public administrations, businesses and citizens (IDABC) — OJ L 144, 30.04.2004, p. 62 (Decision located in OJ L 181, 18.05.2004, p. 25).

¹⁰ The ICT-PSP programme is part of the Competitiveness and Innovation Programme (CIP), decision No 1639/2006/EC of the European Parliament and of the Council of 24 October 2006 establishing a Competitiveness and Innovation Framework Programme (2007 to 2013) — OJ L 310, 09.11.2006, p. 15.

¹¹ COM (2009) 247 — Final evaluation of the implementation of the IDABC programme.

¹² Decision No 922/2009/EC of the European Parliament and of the Council of 16 September 2009 on establishing a programme on interoperability solutions for European public administrations (ISA) — OJ L 260, 03.10.2009, p. 11.

The CIP ICT-PSP provides support for the take-up and use of ICT, and contributes to creating better ICT-based public services. Both public and private organisations are taking part in pilot actions, validating EU-wide interoperability among national systems.

Member States are actively participating in the ISA and CIP ICT-PSP programmes, while simultaneously achieving significant results within their own countries.

Likewise, the Commission has taken action internally, mainly through the eCommission initiative¹³, in which interoperability is seen as essential for transforming the organisation.

2.3. Sectoral initiatives

EU initiatives in many sectors have also stressed the importance of interoperability.

Regarding the **internal market**, the Services Directive 2006/123/EC¹⁴ obliges Member States to offer service providers the possibility of completing electronically and across borders all procedures and formalities needed to provide a service outside their home country. Interoperability of eIdentification, eSignatures and eDocuments is essential to enable electronic cross-border procedures to function seamlessly.

Regarding the **environment**, the INSPIRE Directive 2007/2/EC¹⁵ establishes an infrastructure for spatial information in Europe for the purposes of EU environmental policies and policies or activities which may have an impact on the environment. To ensure that the spatial data and services are accessible in the Community and cross border context in an interoperable way, the Directive requires that technical implementing rules are adopted for the elements necessary for the interoperability of the infrastructure: metadata¹⁶, interoperability of spatial data and services, network services¹⁷, data and service sharing¹⁸ and monitoring and reporting¹⁹ and National Infrastructures are adapted accordingly.

Regarding **justice and home affairs**, the Commission has stressed²⁰ the benefits of improved effectiveness, enhanced interoperability and synergies among European databases such as the Visa Information System (VIS), the Schengen Information System (SIS), and European Dactyloscopy system (Eurodac). The management of more complex information such as biometrics poses more challenges in interoperability and usability for European databases and associated IT systems.

Regarding **customs, taxation and excise duties**, the Commission coordinates and manages operational activities relying on trans-European IT systems spanning all Member States. They support interoperable business systems implemented and operated by national administrations and the Commission.

¹³ Decision C(2005) 4473, 23.11.2005 on e-Commission 2006-2010: enabling efficiency and transparency. A new plan for the period 2011-2015 is presently being established by the Commission.

¹⁴ Directive 2006/123/EC of 12 December 2006 on services in the internal market — OJ L 376 of 27.12.2006.

¹⁵ Directive 2007/2/EC of 14 March 2007 establishing an Infrastructure for Spatial Information in the European Community (INSPIRE) — OJ L 108/1 of 25.04.2007.

¹⁶ Regulation (EC) No 1205/2008, OJ L 326, 4.12.2008, p. 12.

¹⁷ Regulation (EC) No 976/2009, OJ L 274, 20.10.2009, p. 9.

¹⁸ Regulation (EU) No 268/2010, OJ L 83, 30.3.2010, p. 8.

¹⁹ Decision No 2009/442/EC, OJ L 148, 11.6.2009, p. 18.

²⁰ COM (2005) 597 final on improved effectiveness, enhanced interoperability and synergies among European databases in the area of Justice and Home Affairs.

As a result of such political initiatives and sectoral experiences, interoperability is recognised as crucial for effective, efficient delivery of European public services fostering and reinforcing the internal market. The successful development and implementation of global and sectoral strategies, legal frameworks, guidelines, services and tools, and the solutions put in place to address the four levels of interoperability are a crucial asset to be taken into account and build upon. For public administrations, interoperability brings benefits such as cooperation. It facilitates the exchange, sharing and reuse of information, thus improving the delivery of European public services to citizens and business, reducing costs and preventing duplication of efforts.

3. PROPOSED ACTIONS

3.1. Recent developments: a Strategy and a Framework for interoperability

Building on work already done, the Commission has worked closely with high-level Member States' representatives on a **European Interoperability Strategy** for European public services (EIS, cf. annex 1). Based on a joint vision, this sets out a common, coherent approach to interoperability. The agreed vision is that by 2015, interoperability will have significantly fostered European public service delivery through:

- appropriate governance organisation and processes in line with European Union policies and objectives;
- trusted information exchange enabled by commonly agreed, cohesive and coordinated interoperability initiatives, including completion of the legal environment, development of interoperability frameworks, and agreements on interoperability standards and rules.

To achieve this, activities at EU and Member State level should be coordinated. In addition, interoperability governance at EU level should be established.

The EIS provides direction and sets priorities for actions needed to improve interaction, exchange and cooperation among European public administrations across borders and across sectors when establishing European public services.

The strategy clusters future interoperability activities under three headings:

- Trusted information exchange;
- Interoperability architecture;
- Assessment of the ICT implications of new EU legislation.

These activities are to be supported by accompanying measures on awareness-raising and sharing of best practice.

At the same time, the Commission, after extensive consultation with Member States and other stakeholders, has drawn up a **European Interoperability Framework** for European public services (EIF, cf. annex 2).

An interoperability framework is an agreed approach to interoperability for organisations that want to collaborate to provide joint delivery of public services. Within its scope of

applicability, it specifies common elements such as vocabulary, concepts, principles, policies, guidelines, recommendations, standards, specifications and practices.

The EIF provides guidance to European public administrations as regards the definition, design and implementation of European public services. It introduces:

- 12 underlying principles summarising the expectations of public administrations, business and citizens regarding the delivery of public services;
- a conceptual model for public services, structuring the design of European public services and highlighting why and where interoperability is necessary;
- four levels of interoperability: legal, organisational, semantic and technical;
- the concept of interoperability agreements, based on standards and open platforms.

Finally, the EIF stresses the importance of interoperability governance and the need for coordination across administrative levels.

The EIF introduces a conceptual model for developing European public services. It presents a building block approach to constructing them, allowing service components to be interconnected, and promoting the reuse of information, concepts, patterns, solutions, and specifications in Member States and at European level.

Together, the EIS and the EIF are the basis for future activities intended to improve interoperability for delivering European public services. A cross-border interoperability strategy and associated framework have never been attempted on such a scale before, so it will be crucial to involve all stakeholders to ensure success.

To help realise the full potential of the digital single market, Member States and the Commission must act together to implement the EIS, taking into account the EIF, in Digital Agenda actions.

The EIS and the EIF will be maintained under the ISA Programme and kept in line with the results of other relevant Digital Agenda actions on interoperability and standards such as the ones on the reform of rules on implementation of ICT standards in Europe to allow use of certain ICT fora and consortia standards, on issuing guidelines on essential intellectual property rights and licensing conditions in standard-setting, including for ex-ante disclosure, and on providing guidance on the link between ICT standardisation and public procurement to help public authorities to use standards to promote efficiency and reduce lock-in.

In parallel, the Commission is preparing the eCommission 2011-2015 initiative. Its overarching objective is to evolve from today's Integrated Commission to tomorrow's Transformed Commission. This implies that public services:

- will be built from the viewpoint of external and internal users and no longer be based on an organisation's structure;
- will completely automate end-to-end processes crossing organisational boundaries;
- will share information in transparency among services and allow groups to collaborate and share knowledge and expertise.

This definition of a Transformed Commission shows that interoperability is important for the eCommission 2011-2015 initiative, and it will be one of the guiding principles for implementing it.

3.2. Planned actions

The Commission will implement the EIS through the ISA programme and through activities planned in the CIP ICT-PSP programme.

The ISA rolling work programme is drawn up by the Commission after consulting the Member States represented in the ISA Management Committee. The first ISA work programme was adopted by the Commission on 30 June 2010²¹ and will be revised once a year to reflect changes in policies or priorities. The Commission implements the ISA work programme via public procurement procedures.

The CIP ICT-PSP annual work programme is likewise drawn up by the Commission after consulting the Member States represented in the CIP Management Committee. This work programme is implemented via calls for proposals. The CIP ICT-PSP programme supports a multitude of policy areas, but a number of its large-scale projects are directly linked to improving interoperability for delivering European public services.

Member State administrations and Commission services are encouraged to take the EIF into account in all activities related to setting up European public services. The EIF should also be taken into account when public administrations set up similar frameworks at national, regional or local level, or within a specific sector.

Member States agreed, through the Ministerial Declaration on eGovernment approved in Malmö, Sweden on 18 November 2009, to align their national interoperability frameworks with applicable European frameworks by 2013. Therefore, the Commission now invites the Member States to align their national interoperability strategies with the EIS and their national interoperability frameworks with the EIF.

In order to lead by example, the Commission will align its internal interoperability strategy with the EIS and use the EIF as guidance whenever ICT systems are developed to support EU legislation.

Implementing the EIS

Interoperability support activities are clustered under three headings. The main activities are:

Trusted Information Exchange:

Member States taking part in large-scale pilots supported by the CIP ICT-PSP programme are gaining experience in cross-border interactions. Other Member States are invited to join existing pilots, and new pilots are being proposed. The first large-scale pilots will end in 2011. Reflections are already underway on how best to give further support to the results, and on how the ISA programme can help to convert results into operational services. Where relevant, the Commission takes part in ongoing pilots, such as those on eProcurement and on

²¹ http://ec.europa.eu/isa/workprogramme/doc/isa_work_programme.pdf.

interoperable eIdentities. This ensures that the Commission's infrastructure is interoperable with the results of these pilots.

Interoperability Architecture:

The Commission will work with the Member States towards a common vision for a European interoperability architecture and, if needed, will support such architecture by setting up common infrastructures and by developing common services.

Assessment of the ICT implications of new EU legislation:

The Commission is developing a method that could be used in preparing legislative acts with a view to achieving a better understanding of how ICT can support the effective and efficient implementation of such legislation.

Taking the EIF into account

The EIF should be taken into account when public administrations set up European public services and during the development of ICT systems to support the implementation of EU policy. The framework should also be considered at any level of government when implementing public services that might become part of European public services in future.

As the European and national interoperability frameworks are complementary, the European Commission will continue supporting, in the framework of the ISA programme, the National Interoperability Framework Observatory (NIFO). The main objective of this is to provide information about national interoperability frameworks to allow public administrations to share experiences and knowledge about such frameworks.

SUMMARY: ACTION ON EUROPEAN INTEROPERABILITY

Implementing the Strategy, taking into account the Framework

The Commission will:

- implement the EIS through appropriate instruments such as the ISA programme and the CIP ICT-PSP programme, in close cooperation with Member States and other stakeholders;
- align its internal interoperability strategy with the EIS through the eCommission initiative;
- ensure that the EIF is applied when implementing new legislation and establishing new European public services;
- ensure the governance of the EIS and related global and sectoral interoperability activities, in close coordination with Member States.

Member States should:

- align national interoperability strategies with the EIS and national initiatives and actions with corresponding initiatives and actions at EU level;
- work with each other and with the Commission on implementing the EIS, while monitoring the progress and impact of related actions at national level;

- align their national interoperability frameworks with the EIF;
- take into account the European dimension at an early stage in the development of any public service that might become part of European public services in future;
- contribute to the governance of the EIS and related interoperability activities.