

Interoperability Data for Hungary, 2012

1. Interoperability as a strategic goal	
1.1. Strategic Priority on Interoperability	Yes (2011)
<p>Even though Hungary has not published a National Interoperability Strategy, the <i>Hungarian e-Public Administration 2010 Strategy</i> gives clearly priority to interoperability. More specifically, the Strategy proposes to update service processes, enhance the interoperability of back-office systems, and standardise related data and technology, in order to enable a transition from isolated services, based on outdated systems, to a system of shared services that build on sectoral subsystems, which covers the entire public administration domain [1, 2]. Additionally, it foresees an “<i>Interoperability Comprehensive Programme</i>”, targeting the establishment of public administration services that are organised around the needs of citizens and enterprises, the implementation the of the ‘state, as service provider’ model, as well as the improvement of efficiency through the simplification of administration processes and by taking advantage of the possibilities afforded by interoperability [2].</p> <p>Special attention to interoperability is also paid in the <i>Electronic Administration Operational Programme 2007-2013</i> [3].</p> <p style="text-align: right;">(2011) [39, 40, 41]</p>	
1.2. National Interoperability Strategy Status	Not planned (2011)
2. National Interoperability Frameworks	
2.1. National Interoperability Framework Status	
2.1.1. Title	Hungarian National Interoperability Framework (HNIF) [39]
2.1.2. Version	1st version (2011) [39]
2.1.3. Release Date	March 2009 (2011) [39]
2.1.4. Focus / Scope	Implementation, Operation (2011) [42]
<p>In light of the e-Public Administration 2010 Strategy, the main objective of the HNIF is to define standards, requirements and regulations which guarantee the solid technical-semantic, monitoring, project management, IT security and application development methodology platform for the expansion and operation of electronic public administration. Fulfillment of this aim shall guarantee an interoperable, secure and up-to-date electronic public administration system, as a result of the development of independently launched departmental and local governmental subsystems [1].</p> <p>The HNIF consists of the following components:</p> <ul style="list-style-type: none"> - Elaboration of process-describing methodology and toolkit; - Definition of technical and semantic interoperability requirements; - Definition of application-dependent IT security requirements; - Development of a methodology and application development framework; - Creation of the maintenance system for a standard repository; - Elaboration of project management methodology and professional monitoring. <p style="text-align: right;">(2011) [39]</p>	
2.1.5. Audience	Government sector (2011) [39]
2.1.6. Status	Published (2011)
<p>The HNIF was published as a recommendation and the government passed a decree about its compulsory use for electronic service providers.</p>	

(2011) [39]	
2.1.7. Responsible Agency	Public Administration IT Committee (2011) [39]
<p>Members of the Public Administration IT Committee have the authority to make proposals for further development of the framework, while a subcommittee of the former deals with the maintenance of the HNIF documents (standards, requirements etc.).</p> <p style="text-align: right;">(2011)</p>	
2.2. Compatibility of National Interoperability Framework with the European Interoperability Framework	<i>Not available</i>
<p>Unknown (Explicit information on the compatibility of the Hungarian National Interoperability Framework with the EIF is not available, yet it is claimed that Hungary takes into account and integrates the results of the EC initiated process of reviewing the EIF, while there is the perspective of publishing a catalogue of standards, conforming to the relevant EU standards.)</p> <p style="text-align: right;">(2011) [40]</p>	

3. Interoperability Projects and Activities

3.1. Number of interoperability-related projects of local or national scope	Moderate
<p>National-Public Administration Portal:</p> <ul style="list-style-type: none"> - Hungary's eGovernment portal (Magyarország.hu, launched in Sep 2003), being at the same time an institutional portal and a services platform through the transactional gateway, called 'Client Gate', which constitutes a central identification solution for the identification of citizens for electronic transactions with public authorities. The portal generates and summarizes contents from 46 government sites and provides a unified appearance of services and administrative procedures (http://www.magyarorszag.hu/) [1]. - Client Gate (along with its updated version, Client Gate II), the unified electronic client access and identification system (operational since April 2005), accessible via the Hungarian e-Government portal, serving as the gateway that allows users to securely identify themselves online and gain access to any transactional government service available even without electronic signature. The Client Gate embodies the notion of one-stop-gov [1, 2]. <p>E-Government Backbone:</p> <ul style="list-style-type: none"> - EKG (Electronic Government Backbone, launched in 2004), a secure and extensive country-wide broadband network, forming the basic infrastructure of electronic government in Hungary and supporting data communication, internet access, electronic mail and government intranet services, while also providing connection to the EU's TESTA network [1]. <p><i>It is noted that the Electronic Government Backbone (EKG), the Government Portal Magyarország.hu, and the "Client Gate" portal compose the Central Electronic Service Provisioning System, which forms the basis for the integration of eAdministration and the Government Customer Contact Centre, targeting the proper and thorough-going information of citizens and businesses for the sake of effective and quick dealings with public administrations [1].</i></p> <p>Research & Education Network:</p>	

- **Hungarian eGovernment Knowledge Portal** (available in a pilot version since 2010), aiming at providing and making available the information and knowledge bases relating to eGovernment that already exist in the central and local institutions of the Public Administration, while also providing e-learning interactive services (<http://www.etudasportal.gov.hu>) [1].

Environmental Geoportal: EU-Funded

Marine Data Management Infrastructure: -

Legislation & e-Justice System: EU-Funded

e-Health System: EU-Funded

e-Tax Portal & Infrastructure:

- Income taxes: full online income tax declaration (www.magyarorszag.hu, www.apeh.hu, www.pm.gov.hu), as a service offered through Hungary's eGovernment portal [1, 3].

Other projects:

- **EVIG**, Hungary's Individual Entrepreneur Registry (operational since Nov 2000), providing information about entrepreneurs to public authorities for the purpose of delivering public services through interconnecting several public sector databases, based on a common communication protocol and a system interface [4].
- **Project of "Implementing the Directive on services in the internal market 2006/123/EC"** (Service Directive) to support the necessary IT developments for the creation of one-stop-shops and to fulfill the requirements of service providing activities from any of the EU member states to another in an electronic way (2009) [1].
- **Unified ePayment system** (July 2009) to enable the online fulfillment of the citizens' financial obligations towards the Administration [1].
- Project of the establishment of an **electronic contact** between the Hungarian Customs and Finance Guard authorities and the introduction of "**one-window**" **management of affairs** (2009) [1].
- **ECS/AES** (Export Controlling System/Automated Export System, July 2007), to facilitate on-line electronic communication between producers, customs authorities and government organizations, streamlining customs procedures and making them more secure [1].
- **TakarNet24** project (March 2009), to digitize and make accessible on the internet all title deed data and to provide the ground for Hungary's uniform land registration system, now one of the most important databases of the country [1].
- "**KÖKIR**", a software system introduced by the National Transport Authority (July 2009), in order to allow all the control centres taking part in vehicle technical controls, to gain access to an IT system, managing united, closed and secure data. The system is accessed by almost 1000 bodies [1].
- **ePublic Administration Framework System** project (2009), with the aim to determine the standards, requirements and regulations covering unified technical, semantic and IT-security aspects, methodological application development and project management, as well as the monitoring of the platform for the development and operation of eGovernment, in order to guarantee that the development of independent sectoral and municipal sub-systems will result in the establishment of an interoperable, safe and modern eGovernment [1, 3].
- **IKeR**, an integrated eAdministration information system (operational since Jan 2007), deployed in special regions of Hungary, with the aim to enable both the authorities and their clients to manage authority procedures that belong to the scope of local administration via electronic means, from the moment of submitting an application online to the moment of the ultimate decision approval, by integrating activities of different organizational units (<http://www.e-tarsulas.hu/tarsulas/>) [5].

3.2. Number of EU-funded interoperability-related projects	High
3.2.1. Indicative projects	
<ul style="list-style-type: none"> - COIN (Collaboration and interoperability for networked enterprises, Jan 2008 – Dec 2011), aiming to study, design, develop and prototype an open, self-adaptive, generic ICT integrated solution to support the above 2020 vision of Enterprise collaboration and Interoperability services becoming an invisible, pervasive and self-adaptive knowledge and business utility at disposal of the European networked enterprises from any industrial sector and domain in order to rapidly set-up, efficiently manage and effectively operate different forms of business collaborations, from the most traditional supply chains to the most advanced and dynamic business ecosystems (http://www.coin-ip.eu/) [6]. - e-CODEX (e-Justice Communication via Online Data Exchange, Dec 2010 – Nov 2013), to design a fully technically interoperable European e-Justice system (building on the national solutions to develop a pan-European interoperability layer) with the goal to improve the cross-border access of citizens and businesses to legal means in Europe as well as to improve communication, data exchange and interoperability between legal authorities within the EU (http://www.ecodex.eu/) [7]. - CLARIN (Common language resources and technology infrastructure, Jan 2008 – June 2011), with the goal to develop and operate a shared distributed infrastructure, making available language resources and technology to the humanities and social sciences research communities, based on data and interoperability standards (http://www.clarin.eu/external/) [8]. - EGEE-III (Enabling grids for e-science III, May 2008 – April 2010), to expand, optimize and simplify the use of Europe's largest production Grid by continuous operation of the infrastructure, support for more user communities, and addition of further computational and data resources, and prepare the migration of the existing Grid from a project-based model to a sustainable federated infrastructure based on National Grid Initiatives. By strengthening interoperable, open source middleware, EGEE-III will actively contribute to Grid standards and will ensure that the European Grid does not fragment into incompatible infrastructures of varying maturity, but constitutes a world class, coherent and reliable infrastructure (http://www.eu-egee.org/) [9]. - EMPOWER (A semantic service-oriented private adaptation layer enabling the next generation, interoperable and easy-to-integrate software products of European software smes, May 2009- April 2011), proposing an innovative framework and the enabling technologies that will allow the European Software SMEs to create their next generation, loosely-coupled, interoperable and easy-to-integrate Commercial-off-the-Shelf software products (http://empower-project.eu/) [10]. - PEPPOL (Pan-European Public Procurement On-Line, May 2008 – Oct 2011), aiming to implement common standards and a pan-European interoperational environment, built upon national systems and infrastructures, to enable EU-wide public eProcurement, so that any company and in particular SMEs can communicate electronically with any European governmental institution for the entire procurement process (http://www.peppol.eu/) [11]. - RISER (Registry Information Service on European Residents, March 2003-March 2009) project to set up a trans-European eGovernment web service as a Single-Point-of-Access for companies and administrations from across Europe to official civil registry information (http://www.riser.eu.com) [12]. - NATURE-SDIplus (Best Practice Network for SDI in Nature, Oct 2008 - July 2011), aiming to improve harmonization of national datasets on nature conservation and make them more interoperable, accessible and exploitable, by developing the NATURE-SDIplus geoportal, to permit recovery of metadata, data and services, and involving stakeholders, data and best practices sharing (http://www.nature-sdi.eu/) [13]. 	

- **ESDIN** (European Spatial Data Infrastructure with a Best Practice Network, Sep 2008 – Feb 2011), a collaboration network between mapping and cadastral agencies, academic institutions and technology providers, aiming to put into practice the INSPIRE Directive towards the implementation and usage of interoperable geographical data by Spatially-enabled Societies (<http://www.esdin.eu>) [14].
- **OGE** (OneGeology-Europe, Sep 2008 – Aug 2010) on the development and deployment of a nascent international interchange standard for geology, GeoSciML, enabling the sharing of data within and beyond the geological community, and facilitating thus the re-use of geological data by a wide spectrum of public and private sector users, while addressing licensing and multilingual aspects of access, and moving geological knowledge closer to the end user where it has greater societal impact. The project has brought together a web-accessible, interoperable geological spatial dataset for the whole of Europe at 1:1 million scale based on existing data held by the pan-European Geological Surveys (<http://onegeology-europe.org/home>) [15].
- **Plan4all** (Plan4all geoportal, May 2009 - ongoing) focusing on the harmonization of spatial planning data and metadata according to the principles of the INSPIRE Directive (<http://www.plan4all.eu/>) [16].
- **D4Science-II** (D4Science-II Data Infrastructures Ecosystem for Science, Oct 2009 – Sep 2011), being the continuation of the DILIGENT and D4Science-II projects, to develop technology for enabling interoperation of diverse data e-Infrastructures that are currently running autonomously, creating thereby the core of a pan-European e-Infrastructure research ecosystem (<http://www.d4science.eu/>) [17, 18].
- **EMI** (European Middleware Initiative, May 2010 – April 2013), to deliver a consolidated set of middleware components for deployment in EGI, PRACE and other DCIs, extend the interoperability between grids and other computing infrastructures, strengthen the reliability of the services, and establish a sustainable model to maintain and evolve the middleware, fulfilling the requirements of the user communities (<http://www.eu-emi.eu/>) [19].
- **SHIWA** (SHaring Interoperable Workflows for large-scale scientific simulations on Available DCIs, July 2010 – June 2012), aiming to leverage existing solutions and enable cross- and inter-workflow exploitation of Distributed Computing Infrastructures (DCIs), by applying both coarse- and fine-grained strategies, and developing the SHIWA Simulation Platform to offer users production-level services supporting workflow interoperability (<http://www.shiwa-workflow.eu/>) [20].
- **PenalNet** (secure e-communication in Criminal Law Practice, Jan 2008 – Jan 2010), constituting the first European network for secure, fluent and efficient e-communication intended for criminal lawyers, supported by a digital certificate-based platform, wherein EU criminal lawyers may register and communicate securely, which helps strengthen the cross-border confidence and guarantees identification, confidentiality, integrity and non-repudiation. PenalNet is aligned with the European Interoperability Framework for Paneuropean e-government services that sets the standards needed so that public administrations, enterprises and citizens can interact across borders, in a pan-European context (<http://www.penalnet.eu/>) [21].
- **ELIXIR** (European life-science infrastructure for biological information, Nov 2007 – Dec 2011), with the mission to produce a memorandum or memoranda of understanding between organizations (government agencies, research councils, funding bodies and scientific organizations) within the member states, and construct and operate a world class and globally positioned European infrastructure for the management and integration of information in the life sciences (<http://www.elixir-europe.org/>) [22].
- **FUSION** (Business process fusion based on Semantically-enabled Service-oriented Business Applications, Feb 2006 – July 2008) project aiming to promote efficient business collaboration and interconnection between enterprises (including SMEs) by developing a framework and innovative technologies for the semantic fusion of heterogeneous service-oriented business applications (<http://www.fusionweb.org/>) [23].

- **NETC@RDS** project (June 2007 -) on the deployment of an online service for the “electronification” of the European Health Insurance Card (EHIC) in 16 EFTA/EU countries and a trans-European interoperable infrastructure (<http://www.netcards-project.com>) [24].
- **eMARKS** project (Sep 2007 – Feb 2009), to optimize the protection of trademarks through image-based searches of trademarks or industrial designs kept by Industrial Property offices to provide among others a new interoperability standard for the harmonization of Intellectual Property Office data collections (<http://emarks.iisa-innov.com/>) [25].
- **EUROCET** (European Registry for Organs, Tissues and Cells, Sep 2005 – Feb 2007) project, aiming to set up a registry for data collection on organ, tissue and cell donation and transplantation activity shared by old and new Member States and to guarantee among others the harmonization of the terminology used and the use of common glossaries (<http://www.eurocet.org/>) [26].
- **AsIsKnown** (A Semantic-based KNOWledge flow system for the European home textiles industry) project to promote collaboration within the home textiles industry (<http://www.asisknown.org/>) [27].
- **SAKE** (Semantic-enabled Agile Knowledge-based eGovernment, April 2006 – March 2009) project to facilitate knowledge management (knowledge personalization, proactivity and transferring as well as integration of structured and unstructured data) in the public sector (<http://www.sake-project.org/>) [28].
- **JUMAS** (Judicial management by digital libraries semantics, Feb 2008 – Jan 2011), with the aim to automate the transcription process and provide effective information retrieval tools on multimedia libraries in the judicial sector, through the development of an advanced knowledge management system, enabling collection, enrichment and sharing of multimedia documents annotated with embedded semantics, and based on SOA to allow scalability, interoperability and modularity (<http://www.jumasproject.eu/>) [29].
- **EULER** (EUropean software defined radio for wireless in joint security operations, March 2009 – Feb 2012), aimed at defining and actually demonstrating how the benefits of SDR (software defined radio) can be leveraged in order to drastically enhance interoperability and fast deployment in case of crisis, needed to be jointly resolved, while contributing to SDR standardisation (<http://www.euler-project.eu/>) [30].
- **eRepresentative** (A virtual desktop for the mobile European elected officials, Feb 2006 – May 2008), for creating a virtual desktop for mobile devices, to support elected representatives in the legislative process, and mainly the scrutiny of legislation through relevant committees, by enabling seamless use of desktop with Parliaments' current systems, personalised interaction with, and integration of, relevant information, and collaboration on legislative documents while meeting needs for integrity, authenticity and privacy (<http://www.erepresentative.org/>) [31].
- **NET-EUCEN** (European Network for Enhanced User Centricity in eGovernment, April 2010 -) to create, animate and manage a working network of stakeholders in the Governance, User Centricity and Policy Modelling domains belonging to all European countries, and covering the whole range of Services for Users (S4U), and with the aim, among others, to identify opportunities for interoperability and standardization in the aforementioned domains, raise awareness, and provide guidelines and recommendations (<http://www.net-eucen.org/>) [32].
- **Organic.Edunet** (Oct 2007 – Sep 2010), a multilingual federation of learning repositories with quality content for promoting awareness and education of the European youth about Organic Agriculture and Agroecology. Organic.Edunet has focused on achieving interoperability between the digital collections of OA and Agroecology content that producers in various EU countries have developed, as well as on facilitating access, publication, search, retrieval and use of this content in multilingual learning contexts through a single European reference point (<http://www.organic-edunet.eu>) [33].

- **JUDAICA Europeana** (Jewish Urban Digital European Integrated Cultural Archive, Jan 2010 – Dec 2011), a project and a growing network of heritage institutions, which will bring Jewish collections to Europeana - a portal of Europe's museums, archives and libraries, by identifying, digitizing and aggregating content documenting the Jewish presence and heritage in the cities of Europe, while ensuring conformance with the interoperability requirements of Europeana, and developing knowledge management tools to allow indexing, retrieval and re-use of the aggregated content (<http://www.judaica-europeana.eu/>) [34].
 - **GS Soil** (Assessment and strategic development of INSPIRE compliant Geodata-Services for European Soil Data, June 2009 - May 2012), contributing to the harmonization and provision of interoperable soil geodata in Europe. The project's web portal (<http://gssoil-portal.eu/>) provides information, data management tools and links to data sources. Examples are the soil specific multilingual thesaurus, a metadata editor and catalogue service, provision of WMS and prototype WFS [35].
 - **OSR – Open Science Resources** (June 2009 – June 2012), this project proposes an innovative solution for metadata handling of digital science education objects that are available at the web repositories of science centres, museums and other organizations (<http://www.openscienceresources.eu/>) [36].
 - **BHL-Europe** (Biodiversity Heritage Library for Europe), which aims to make Europe's biodiversity information available to everyone by improving the interoperability of European biodiversity digital libraries (<http://www.bhl-europe.eu/en>) [37].
- [6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25, 26, 27, 28, 29, 30, 31, 32, 33, 34, 35, 36, 37]

4. National Interoperability Practices

4.1. Number of Interoperability Cases with Good Practice Label

Low

- **Client Gate** (along with its updated version, **Client Gate II**), the unified electronic client access and identification system (operational since April 2005), accessible via the Hungarian e-Government portal, serving as the gateway that allows users to securely identify themselves online and gain access to any transactional government service available even without electronic signature. The Client Gate embodies the notion of one-stop-gov [1, 2].
(ePractice Good Practice Label 2007)
- Simplified online company registration procedure (July 2008), reducing the time required to have a new company registered to one hour (<http://ceginformacioszolgalat.irm.gov.hu/>) [1, 3].
- Income taxes: full online income tax declaration (<http://www.magyarorszag.hu>, <http://www.afeh.hu>, <http://www.pm.gov.hu>) [1, 3].

[1, 2, 3]

4.2. Best Interoperability Practice

4.2.1. Title

Client Gate (along with its updated version, Client Gate II) (2011)

4.2.2. Description

Client Gate (along with its updated version, **Client Gate II**), the unified electronic client access and identification system (operational since April 2005), accessible via the Hungarian e-Government portal, serving as the gateway that allows users to securely identify themselves online and gain access to any transactional government service available even without electronic signature. The Client Gate embodies the notion of one-stop-gov.
(ePractice Good Practice Label 2007)

[1, 2]

4.2.3. Status	
Operational since 2005.	(2011)
4.2.4. Indicative interoperability aspects covered	
<ul style="list-style-type: none"> - Authentication - Identification - Service Portals 	(2011)
4.2.5. Impact	
<i>Benefits - Reusable Components – Patterns:</i>	
<ul style="list-style-type: none"> - The Client Gate allows users to securely identify themselves online and gain access to any transactional government service available even without electronic signature. - Public e-services are concentrated at one place, embodying the notion of the so-called One Stop Government. - Public standardized interface description is available to help public service providers to join easily. - According to expert estimations, an average firm (which is obliged by law to transfer its tax returns electronically) has to submit around 25 tax returns per year. Counting with an average cost of HUF 250 (approx. EUR 1) per obtaining a form and another HUF 250 per sending a form, an average firm saves HUF 12,500 (approx. EUR 50) a year by doing its tax returns electronically through the Client Gate. Regarding all corporations and unincorporated enterprises, total savings may amount to HUF 14.8 billion (approx. EUR 59 million). - The use of Client Gate is compulsory for central government, and local governments are also encouraged to join in order to avoid the development of parallel and non-interoperable users' identification systems. 	
<i>Lessons Learnt:</i>	
<ul style="list-style-type: none"> - Availability of the Client Gate has enabled fast take-up of fully interactive online administrative transactions by citizens without electronic signatures. - The government sponsored Client Gate allowed and encouraged public service providers and local authorities to create e-services using this ID system free of charge. - A common ID infrastructure is a sound foundation for a true one-stop shop government, involving even different levels of the public administration, i.e. central and local authorities. 	
(2011)	

5. e-Government Interoperability	
5.1. Interoperability Level of core e-Government services to citizens / businesses	66.0% (2010) [43]
5.2. Connected Government Status	3.3% (2008) [44]

6. e-Business Interoperability	
6.1. Intra-organizational Integration Level	39.0% [38]
6.2. Cross-organization Integration Level	67.0% [38]
6.3. Cross-organization Application-to-Application Integration Level	12.0% [38]
6.4. e-Invoicing Status	8.0% [38]

6.5. B2B Data Standards Usage	
6.5.1. EDI-based standards	3.0% (2006) [45]
6.5.2. XML-based standards	2.0% (2006) [45]
6.5.3. Proprietary standards	10.0% (2006) [45]
6.5.4. other technical standards	3.0% (2006) [45]
6.6. Interoperability Awareness	
6.6.1. Within their sector	9.0% (2006) [45]
6.6.2. Between sectors	6.0% (2006) [45]
6.6.3. For producing or providing products and services	11.0% (2006) [45]

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