

Interoperability Data for Bulgaria, 2012

1. Interoperability as a strategic goal	
1.1. Strategic Priority on Interoperability	Yes
<p>The Concept of eGovernment in Bulgaria 2010-2015, one of the main pillars of Bulgaria's contemporary eGovernment strategy (yet a document of no independent legal significance), suggests the use of ICT in order to provide among others quality electronic administrative services, ensure information security management, and achieve interoperability at a national and European level [1].</p> <p>Additionally, the eGovernment Act, i.e. the Law on Electronic Government, in force since 2008, requires by its very nature inter-institutional cooperation, while it makes explicit reference to the notion of interoperability, with the view to promote it further: the main goal is to integrate the National Information Systems to those of the EU Member States [1, 2]. Furthermore, the Operational Programme "Administrative Capacity" 2007-2013 identifies the lack of interoperability, of unified standards and rules for handling e-documents as a major problem in the implementation of e-government and defines "standard information and communication environment and interoperability" as a sub-priority of the priority axis III on "Quality Administrative Service Delivery and eGovernance Development" [3].</p> <p>Finally, general interoperability guidelines are defined in the Bulgarian National Interoperability Framework for Governmental information Systems (6/2006) and the Ordinance on the General Requirements for Interoperability and Information Security (11/2008) [4].</p> <p style="text-align: right;">[1, 2, 3, 4]</p>	
1.2. National Interoperability Strategy Status	Not planned (2011)
2. National Interoperability Frameworks	
2.1. National Interoperability Framework Status	
2.1.1. Title	Bulgarian National Interoperability Framework for Governmental Information Systems [4, 5]
2.1.2. Version	<i>Not applicable</i>
2.1.3. Release Date	28 June 2006 (2011)
2.1.4. Focus / Scope	Governance, Implementation, Operation [4]
2.1.5. Audience	Government sector (2011)
2.1.6. Status	Published
<p>The Bulgarian NIF aims to standardize the exchange of information between parts of government to enable the creation of complex eServices, facing citizens, businesses and other organizations [5]. It includes the establishment of a Register of Standards, the establishment of an Information Units Register and an E-services Register [2, 3], as well as an Instruction on the procedures and conditions for the certification of institutional information systems in accordance with the European standards [3].</p> <p style="text-align: right;">[2, 3, 5]</p>	
2.1.7. Responsible Agency	Ministry of Transport, Information Technology and Communications (MTITC) [6]
2.2. Compatibility of National Interoperability Framework with the European Interoperability Framework	Yes

The Bulgarian NIF has been developed in compliance with the “European Interoperability Framework for pan-European e-Government Services” - version 1.0, published in November 2004, in order to guarantee that Bulgaria meets the requirements for integration of EU member states national systems to enable trans-border electronic services.

[1, 3]

3. Interoperability Projects and Activities

3.1. Number of interoperability-related projects of local or national scope

Moderate

National-Public Administration Portal:

- **Central eGovernment portal of Bulgaria**, aimed to serve as a single entry point (one-stop-shop) to information and transactional public services, organized according to life-events, along with an integrated web platform made accessible through it and providing 13 municipal and central government services online (www.egov.bg) [1, 7, 8]
- **ePayment Gateway project** (officially entitled “Elaboration of an environment ensuring electronic payments in the process of providing online administrative services” and also part of the integrated eGovernment system), providing a single web environment, that enables citizens and legal entities to settle online their payments to the central, regional and local Administration via the Bulgarian eGovernment portal and the regional/local Administration’s web pages (<https://pay.egov.bg/main/>) [1].

E-Government Backbone:

- **Centralised integration system of the e-government**, serving as the integration environment for the existing information systems in the state administration and as the basis for a common document exchange environment [1, 3].
- **NAMDA** (National Network of the Public Administration), the backbone of the communication system of the Public Administration till 2007, now planned to be merged with ESM (National Electronic Communication Network), as both are to constitute the backbone for the implementation of the provisions for digital transmission needs of public institutions [1].
- **eGovernment control technical centre**, to provide services throughout the entire country in order to help bring all Bulgarian municipalities into one interrelated system [1].
- **eOn-line**, integrating existing systems and database contents of regional administrations and providing an easy and secure way for transfer of their services through internet, allowing thus regional administrations to better organize their work faster communicate with citizens and businesses [10].

Research & Education Network: EU-Funded

Environmental Geoportal: EU-Funded

Marine Data Management Infrastructure: EU-Funded

Legislation & e-Justice System:

- Project on **integrating the Ministry of Justice and the courts** through **DocuWare**, a document management system, so that all locations can access one central document pool [1].

e-Health System:

- **National Health Portal** (www.zdravenportal.bg), integrated with eLAKs (electronic personal ambulatory books) – a personal web-based health database, available at any time and any place - and providing up-to-date and accurate health information, registers of all health professionals, hospitals, pharmacies, medical services, health forms, etc. It integrates the healthcare sector through Internet and enables citizens and health professionals to exchange information effectively regardless of their physical location [1].
- **Smart cards**, complying with the European standards of the Identification Authentication Signature (IAS), to secure access to personal electronic health records, the complete electronic archives of the patients' medical history [1].

e-Tax Portal & Infrastructure: -

Other projects:

- **ESOED** (Unified Environment for eDocuments Exchange), the national Bulgarian secure communications infrastructure allowing the transport and transformation of electronic request/response documents within the frame of eServices provision [5].
- **e-Region system**, integrating the local and regional level information systems [1, 3].
- **Online commercial register for company eRegistration**, a single portal enabling the establishment, organization, restructuring and liquidation of a company, and passing the information on to the relevant institutions, thus easing the obligations of the company itself (<http://www.brra.bg/>) [1].
- **eProcurement Infrastructure**, comprising a Web-based Public Procurement Register, containing information that covers the entire lifecycle of a public procurement procedure (from the preliminary notice to the announcement of the contract award), an **eSender** application, allowing the automatic forwarding of tenders to the Official Journal of the European Union, and a **Small Scale Electronic Procurement System**, enabling online submission of small scale tenders [1].
- **RRObserver**, an application for monitoring the progress of various regulatory procedures, including licenses, registrations, permits etc. in the town of Sopot. The application integrates seamlessly existing document management systems, upgrades them and uses their data to check whether administrations are completing procedures within the statutory deadlines [1, 9].
- **Biometric Passports**, the first new generation combined paper and electronic travel documents that contain biometric data (e.g. facial, fingerprint and iris recognition), enabling Bulgarian citizens to carry passports that meet all international standards [1].
- **Personal ID cards**, carrying biometric information and a unique digital certificate, aimed to improve security and speed up procedures at customs' controls and with the view for their use to be further extended, to make it a general access document, enabling online voting, payment of insurance and taxes, updating of health records and registration of property and cars [1].
- **Development of the administrative services by electronic means**, through which the Bulgarian Council for Administrative Reform approves a list of registers of governmental administrative services that will be digitized [1].
- **Identity management system (IDM)**, a register for the electronic identity (e-Identity) of the users of government services will be created within the framework of this project. This register intends to realize the principle of one-time data collection by public administrations and its use by multiple authorities, thus simplifying the delivery of online administrative services [1].
- **Interoperability of Information Systems portal**, created with the view to promote e-Government interoperability, thus enabling information systems to process, store and share electronic documents and data using common technology standards and processes. The portal maintains a database of documents and materials, related to interoperability and is designed for developers of information systems and specialists in the field of information technology [1].

[1, 3, 5, 7, 8, 9, 10]

3.2. Number of EU-funded interoperability-related projects

Moderate

3.2.1. Indicative projects

- **AsIsKnown** (A Semantic-based KNOWledge flow system for the European home textiles industry, April 2006 – March 2009) project to promote collaboration within the home textiles industry (<http://www.asisknown.org/>) [11].
- **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>) [12].
- **SeaDataNet** (Pan-European Infrastructure for Ocean and Marine Data Management, April 2006 – March 2011), aiming to develop an efficient distributed Pan-European Marine Data Management Infrastructure for managing large and diverse marine research data sets, and to network the existing professional data centers of 35 countries, active in data collection, and provide integrated databases of standardized quality on-line (<http://www.seadatanet.org/>) [13].
- **SeaDataNet II** (Pan-European infrastructure for ocean and marine data management, Oct 2011- Sept 2015) aiming to upgrade the present SeaDataNet infrastructure into an operationally robust and state-of-the-art Pan-European infrastructure for providing up-to-date and high quality access to ocean and marine metadata, data and data products originating from data acquisition activities by all engaged coastal states, by setting, adopting and promoting common data management standards and by realising technical and semantic interoperability with other relevant data management systems and initiatives on behalf of science, environmental management, policy making, and economy (<http://www.seadatanet.org/>) [14].
- **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/>) [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].
- **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/>) [17].
- **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/>) [18].

- **MOLTO** (Multilingual On-Line Translation, March 2010 – February 2013), to develop the technology required for translating texts between multiple languages in real time with high quality, by using domain-specific semantic grammars and ontology-based interlinguas, and carrying out research on the two-way interoperability between ontology standards (OWL) and GF grammars to enable multilingual natural-language-based interaction with machine-readable knowledge, and the extension of rule-based translation by statistical methods to add robustness to the system. MOLTO technology is to be released as open-source libraries which can be plugged in to standard translation tools and web pages and thereby fit into standard workflows (<http://www.molto-project.eu/>) [19].
- **OASIS** (Open architecture for accessible services integration and standardization, Jan 2008 – Dec 2011), to introduce an innovative, Ontology-driven, Open Reference Architecture and Platform, which will enable and facilitate interoperability, seamless connectivity and sharing of content between different services and ontologies in all application domains relevant to applications for the elderly and beyond (<http://www.oasis-project.eu/>) [20].
- **MONDILEX** (Conceptual modeling of networking of centers for high-quality research in Slavic Lexicography and their digital resources, April 2008 – March 2010), aiming to design the conceptual scheme of a research infrastructure supporting the networking of centers for high-quality research in Slavic lexicography, fostering their scientific capacity and providing strategies for the coordination, unification and extension of their digital resources and the creation of new ones, in accordance with the recent advances in the field and the international standards, ensuring thereby their reusability and interoperability (<http://www.mondilex.org/>) [21].
- **GEO-SEAS** (Pan-european infrastructure for management of marine and ocean geological and geophysical data, May 2009 – Oct 2012), to effect a major and significant improvement in the overview and access to marine geological and geophysical data and data-products from national geological surveys and research institutes in Europe by upgrading and interconnecting their present infrastructures, and adopting the SeaDataNet interoperability principles, architecture and components wherever possible to avoid duplicative effort (<http://www.geo-seas.eu/>) [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].
- **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 [24].

[11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24]

4. National Interoperability Practices

4.1. Number of Interoperability Cases with Good Practice Label		Low
<ul style="list-style-type: none"> - Integrated web platform, providing 13 municipal and central government services online, accessible at http://portal.egov.bg. 		[1, 8]
4.2. Best Interoperability Practice		
4.2.1. Title	Integrated web platform (2011)	
4.2.2. Description		

Integrated web platform , providing 13 municipal and central government services online, accessible at http://portal.egov.bg .	[1, 8]
4.2.3. Status	
Testing phase started on 1 February 2010.	[1]
4.2.4. Indicative interoperability aspects covered	
(Unknown – Implementation details are not available)	(2011)
4.2.5. Impact	
<i>Benefits - Reusable Components – Patterns:</i>	
<ul style="list-style-type: none"> - Single place to access the public eServices of all levels of government. - Data provided by several Public Administrations featured in a unified manner. - Joining of more public authorities on the platform, thanks to which citizens will not need to submit the same documents several times - The platform demonstrates an example of how integrated eServices should work in practice. 	

5. e-Government Interoperability	
5.1. Interoperability Level of core e-Government services to citizens / businesses	70.0% (2010) [26]
5.2. Connected Government Status	0.0% (2008) [27]

6. e-Business Interoperability	
6.1. Intra-organizational Integration Level	47.0% [25]
6.2. Cross-organization Integration Level	55.0% [25]
6.3. Cross-organization Application-to-Application Integration Level	35.0% [25]
6.4. e-Invoicing Status	29.0% [25]
6.5. B2B Data Standards Usage	
6.5.1. EDI-based standards	<i>Not available</i>
6.5.2. XML-based standards	<i>Not available</i>
6.5.3. Proprietary standards	<i>Not available</i>
6.5.4. other technical standards	<i>Not available</i>
6.6. Interoperability Awareness	
6.6.1. Within their sector	<i>Not available</i>
6.6.2. Between sectors	<i>Not available</i>
6.6.3. For producing or providing products and services	<i>Not available</i>

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