

Interoperability Data for Cyprus, 2012

1. Interoperability as a strategic goal	
1.1. Strategic Priority on Interoperability	Yes
<p>Currently, an overall policy on interoperability has not been officially established, however it is embedded in the Cyprus Information Systems Strategy [1]. In fact, the revised Government Information Systems Strategy, already approved by the Council of Ministers, includes among others an update on the procedures and standards used for its implementation, a government security policy and the plan of preparing a National e-Government Interoperability Framework (based on the contents of the EIF) [1, 2]. Additionally, there is an e-Government Architectural Framework that is institutionalized to provide national institutions support for interconnectivity and interoperability and ensure successful implementation of e-Government [1]. On 8 February 2012, the Council of Ministers approved the Digital Strategy for Cyprus. The Digital Strategy is a comprehensive plan for the period 2012-2020 and adopts a holistic approach for the development of the information society in Cyprus, including actions aiming at a 'paperless' government and at improving supply and demand for eGovernment services [2].</p> <p style="text-align: right;">[1, 2]</p>	
1.2. National Interoperability Strategy Status	Not planned (2011)
2. National Interoperability Frameworks	
2.1. National Interoperability Framework Status	
2.1.1. Title	<i>Not applicable</i>
2.1.2. Version	<i>Not applicable</i>
2.1.3. Release Date	<i>Not applicable</i>
2.1.4. Focus / Scope	Unknown (2011)
2.1.5. Audience	Government sector (2011)
2.1.6. Status	Planned [2, 3]
2.1.7. Responsible Agency	Department of Information Technology Services, Ministry of Finance (http://www.mof.gov.cy/mof/dits/dits.nsf/) (2011)
2.2. Compatibility of National Interoperability Framework with the European Interoperability Framework	<i>Not applicable</i>
<p>It is claimed that Cyprus National e-Government Interoperability Framework will be prepared based on the guidance provided by the European Interoperability Framework (EIF).</p> <p style="text-align: right;">[1, 2]</p>	
3. Interoperability Projects and Activities	
3.1. Number of interoperability-related projects of local or national scope	Moderate
National-Public Administration Portal:	

- The **Government portal** (front-end), acting as an institutional website and as a singly entry point to information a services, based on the life-event cycle (www.cyprus.gov.cy), along with the **Government Secure Gateway** providing the core architecture (middleware tier) to enable e-government service delivery and G2G, G2B, G2C transactions in a secure and interoperable manner, and connecting the government back-end information systems using open interoperability standards that ensure seamless integration with all agency services and technology platforms [2].

E-Government Backbone:

- **The Government Data Network (GDN)**, interconnecting all government information systems/organizations and enabling information exchange through web workflow technologies, and the **Government Internet Node (GIN)** serving as the gateway between government information systems and the public network [2].

Research & Education Network: EU-Funded

Environmental Geoportal:

- **The Cyprus Pollutant Release and Transfer Register (PRTR)**, (March 2011) is a publicly accessible electronic database that provides key environmental data from industrial facilities operating in Cyprus. More specifically, the PRTR enables the public to have access to environmental information concerning the annual amounts of pollutant releases to air, water and land, as well as off-site transfers of waste and of pollutants in waste water from several facilities operating in Cyprus [2].

Marine Data Management Infrastructure: EU-Funded

Legislation & e-Justice System: -

e-Health System:

- **Integrated Health Care System** project [2].

e-Tax Portal & Infrastructure:

- TaxisNet system, allowing taxpayers – natural persons and companies, holding a Taxpayer's Identification Number - to submit income tax returns electronically (<https://taxisnet.mof.gov.cy/>) [2].

Other projects:

- **CyePS** (Cyprus eProcurement System), a state-of-the-art, secure, transparent, reliable and interoperable web-based platform for the conduction of procurement competitions and announcement of award results, also awarded the Good Practice Label by e-Practice in 2009 (<http://www.eprocurement.gov.cy>) [2, 4].
- **eOAS** (eOffice Automation System), a web-enabled, platform independent system, supporting enterprise-wide record and document management as well as work-flow, work-groups, security and access control, and providing thereby the benefits of a paperless office, enforcing existing rules and regulations, improving productivity, speeding communication between office workers and reducing operational costs [2, 6].
- Project on the introduction of **electronic identification/authentication** (eID, smart cards) for cross-border seamless access to public services [2].
- **e-Filing** project to allow complete online company registration (co-financed by the European Regional Development Fund of the European Union, <http://www.mcit.gov.cy/mcit/drcor/drcor.nsf/>) [2].
- **Social Insurance web-enabled information system**, allowing the payment of social contributions for employees or self-employed through the internet using the “direct debit” payment method (<https://www.pay.sid.mlsi.gov.cy/>) [2].

- **Citizen Service Centers** project to establish an alternative channel for one-stop-shop, efficient and effective service provision to citizens (also awarded the Cyprus Innovation Award for the Public Sector in June 2009) and with the perspective to be expanded with the establishment of a Mobile Citizen Centre [2, 5].

[2, 4, 5, 6]

3.2. Number of EU-funded interoperability-related projects

Moderate

3.2.1. Indicative projects

- **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/>) [7].
- **GENESIS** (“Enterprise Application Interoperability via Internet-Integration for SMEs, Governmental Organisations and Intermediaries in the New European Union”) addressing the interoperability issues that hinder electronic transactions among enterprises and organizations today and focusing on the research, development and pilot application of the needed methodologies, infrastructure and software components that will allow the typical, usually small and medium European enterprise to conduct business transactions over the internet (<http://www.genesis-ist.eu/>) [8].
- **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/>) [9].
- **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/>) [10].
- **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/>) [11].
- **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/>) [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].
- **CHRONIOUS** (Chronic disease management platform, Feb 2008 – Jan 2012), aimed at defining an open platform to manage and monitor patients with chronic diseases during their daily life with the help of wearable devices, simple, customized and adaptive interfaces and exploitation of HL7 standards to ensure interoperability with legacy healthcare systems (<http://www.chronious.eu/>) [14].
- **DIEGO** (Digital Inclusive e-Government, April 2010 – March 2012), aiming to offer to any European Public Authority a full e-accessibility front-end for e-Government services, highly scalable and affordable, supported by i) a new "user-centric" and accessible service provision model for transforming pre-existing services, removing their ICT barriers (eExclusion), or creating new ones "from scratch" which will have an inclusive character from the beginning, and ii) a "highly scalable deployment model", based on a SaaS approach and widely accepted web services standards to guarantee interoperability with any back-office and affordability of the implementation (<http://www.diego-project.eu/>) [2, 15].
- **ASSETS** (Advanced Service Search and Enhancing Technological Solutions for the European Digital Library), a two year project, which aims to improve the usability of Europeana by developing, implementing and deploying software services focused on search, browsing and interfaces. ASSETS also strives to make more digital items available on Europeana by involving content providers across different cultural environments (<http://www.assets4europeana.eu/>) [18].

[2, 7, 8, 9, 10, 11, 12, 13, 14, 15, 18]

4. National Interoperability Practices

4.1. Number of Interoperability Cases with Good Practice Label

Low

- **CyePS** (Cyprus eProcurement System), a state-of-the-art, secure, transparent, reliable and interoperable web-based platform for the conduction of procurement competitions and announcement of award results (<http://www.eprocurement.gov.cy/>) [2, 4, 16].
- **Citizen Service Centers** project to establish an alternative channel for one-stop-shop, efficient and effective service provision to citizens (also awarded the Cyprus Innovation Award for the Public Sector in June 2009) and with the perspective to be expanded with the establishment of a Mobile Citizen Centre [2, 5, 17].
- **eOAS** (eOffice Automation System), a web-enabled, platform independent system, supporting enterprise-wide record and document management as well as work-flow, work-groups, security and access control, and providing thereby the benefits of a paperless office, enforcing existing rules and regulations, improving productivity, speeding communication between office workers and reducing operational costs [2, 6, 17].

[2, 4, 5, 6, 16, 17]

4.2. Best Interoperability Practice

4.2.1. Title

CyePS (Cyprus eProcurement System) (2011)

4.2.2. Description

CyePS (Cyprus eProcurement System), a state-of-the-art, secure, transparent, reliable and interoperable web-based platform, comprising eNotification, eTendering, eAwarding and eAuctions, eCatalogues and eOrdering, and eStatistics modules, and providing thereby advanced functionality for all procurement phases (<http://www.eprocurement.gov.cy/>).

[2, 4, 16]

4.2.3. Status
Live since November 2009 (in pilot operation since June 2009) (2011)
4.2.4. Indicative interoperability aspects covered
<ul style="list-style-type: none"> - Interoperability Standards - Legal and Business Rules Modeling, Execution and Management - Security and Authentication - Information Management (2011)
4.2.5. Impact
<p><i>Benefits - Reusable Components – Patterns:</i></p> <ul style="list-style-type: none"> - High quality of adherence to the legal environment: transparency, compliance and convergence with the EC directives. - Interoperability: tools and services, based on Open Source Software (OSS) and use of Open Standards. Interface with EU Official Journal and the Cyprus Official Gazette. Support of UBL standard for e-Catalogues and e-Orders. - State-of-the-Art technical infrastructure that enables equal treatment, non-discrimination, transparency and security and contains specialized security equipment and no single-point-of-failure. - Increased productivity and reduction of required resources. - Better management of information: data entry errors and repetition of information are reduced, providing highly detailed and easily accessible data through electronic documents, as well as advanced searching and auditing facilities that enable the expansion of management reporting, monitoring, financial analysis and forecasting capabilities. - Transparency through wider market participation and easier access, increased competition levels and lower costs for public administrations. - Faster procurement through better efficiency: the procurement cycle is reduced due to capability to re-use previous competition information, electronic completion of notices and automated evaluation. - Reduction of off-contract buying: low-value purchases are possible to be achieved through Framework Agreements and e-Catalogues. All public sector purchases can be traced within the system. - Transparency in monitoring public expenditure information: public can easily access and "have a say" in public sector purchases. - Automated evaluation mechanism in the e-Awarding module, where tenders can be fully evaluated by the system provided that they comply with pre-defined tender templates. - The system operates as a portal that can accommodate the needs of any Contracting Authority (CA), as such could be used by non-domestic CAs. - NO geographic limitation as regards the use the system by Economic Operators. <p><i>Lessons Learnt:</i></p>

- The technical specifications for the project have been based to a large extent to the Functional Requirements on Public Procurement documents disseminated by the EC in 2004. As such, these documents have not only provided a good starting point for the specifications of the e-Procurement system in Cyprus, but also proved that similar initiatives by the EC can significantly assist Member States in designing ICT systems in line with EC Directives/Regulations. Additionally, since, it is of paramount importance to correctly assess and take into consideration, the environment within which every ICT system will be put in operation, stakeholders identified in the Public Procurement cycle in Cyprus have been early involved in the process to shape the requirements to fit the case of Cyprus. In brief, during the project, it has been confirmed that the majority of rules/regulations described in the EC Directives (2004/17/EC and 2004/18/EC regulating Public Procurement procedures in the European Countries) can be implemented in an ICT system that controls and guides users on the procedures/actions to be performed for conducting public procurement competitions, without sacrificing each member state specificities that would have a negative impact on the final outcome.
- Furthermore, it has been made clear that in order for an electronic system to be fast and widely adopted by the public procurement community, effort should be dedicated in aspects related to change management, promotion and dissemination of results. These aspects play a major role for building trust and getting end-users (Contracting Authority users and Economic Operator users) familiarized to the concepts of electronic public procurement.
- The introduction, application and deployment of eProcurement (as is the case with any other ICT system) forms a constantly evolving and adopting living entity. Maintaining an eProcurement System up to date, efficient and effective is an ongoing task that requires continuous monitoring, testing and adjusting. Listening to the end users is imperative and trying to keep everybody satisfied might prove a difficult undertaking.

(2011)

5. e-Government Interoperability

5.1. Interoperability Level of core e-Government services to citizens / businesses	55.0% (2010) [20]
5.2. Connected Government Status	1.4% (2008) [21]

6. e-Business Interoperability

6.1. Intra-organizational Integration Level	58.0% [19]
6.2. Cross-organization Integration Level	24.0% [19]
6.3. Cross-organization Application-to-Application Integration Level	16.0% [19]
6.4. e-Invoicing Status	10.0% [19]
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>

 **Interoperability Barometer**

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