Interoperability Data for Croatia, 2012

1. Interoperability as a strategic goal

1.1. Strategic Priority on Interoperability	Yes

The development of the Croatian Interoperability Framework represents one of the priorities of the Strategy for the Development of Electronic Government in the Republic of Croatia for the period 2009 – 2012 [1]. The Framework sets forth guidelines by which inter-alignment of state government bodies' information systems will be carried out, and which are seen by the Central State Administrative Office for e-Croatia as a key factor within the implementation of the Strategy for the development of eGovernment [1]. Additionally, as a result of the approval of the aforementioned strategy at the beginning of 2009, a comprehensive program is under way with the goal of government transformation in the direction of a nationwide user-centric government-as-whole concept, involving the deployment of cross-administration user-centric services [1].
It is also remarkable that on 11 February 2011, the Republic of Croatia signed a Memorandum of Understanding with the EU to join the Interoperability Solutions for European Public Administrations (ISA) Programme, which facilitates cross-border and cross-sector interaction between European public Administrations, and whose priorities are based on the recently adopted European Interoperability Strategy and the European Interoperability Framework. By joining the ISA programme, Croatia will become familiar with EU policies in the field of interoperability [2].

[1, 2]

1.2. National Interoperability Strategy Status	Not planned *(2011)*

2. National Interoperability Frameworks

2.1. National Interoperability Framework Status

2.1.1. Title	Croatian Interoperability Framework [1, 2, 3]
2.1.2. Version	1st version *(2011)*
2.1.3. Release Date	24 June 2010 [2]
2.1.4. Focus / Scope	Unknown *(2011)*
2.1.5. Audience	Government sector *(2011)*
2.1.6. Status	Published [2]

The Croatian Interoperability Framework aims at enabling the separate information systems of state government bodies to be connected to the government network, improving thereby process management and data exchange amongst state government bodies and simpler and faster public service delivery [1, 2]. The Framework offers recommendations for both central and local administration and its adoption is obligatory within all ICT administration projects [1].

[1, 2]

2.1.7. Responsible Agency	Central State Administrative Office for e-Croatia (http://www.e-hrvatska.hr/sdu/en/e-hrv.html)

The Central State Administrative Office for e-Croatia plans to become a central place for discussions about interoperability issues and to support further maintenance and preparation of the future versions of the Croatian Interoperability Framework which will also involve experience gathered through the implementation.

[1]

2.2. Compatibility of National Interoperability Framework with the European Interoperability Framework	Yes

The Croatian Interoperability Framework uses and is fully in compliance with the European Interoperability Strategy and European Interoperability Framework as references.

[1, 3]

3. Interoperability Projects and Activities

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

National-Public Administration Portal:

- **"Moja uprava"** (My Administration Portal, 2007), a state administration portal providing in a user-friendly manner complete and reliable information on public services, intended for citizens and entrepreneurship, and evolving into one point of contact between Government and citizens (http://www.mojauprava.hr). The portal in its current status constitutes the first step in the building of unified synergy platform for integration of the overall Croatian public government system which is to happen in the following years [2, 4, 5].

E-Government Backbone:

- **HITRO.HR programme** (**HITRONet Network**, the Information-Communication Network for State Administration and **HITRO.HR portal**, 2007), representing the basic infrastructure for further development of electronic services and enabling connection and better communication among the bodies of public administrations (http://www.hitro.hr). The final objective of the programme is to interconnect all state-administrative IT resources through a safe broadband infrastructure and to enable one-stop-shop access to information and public administration services through a variety of communication channels (on-line, mobile, phone and face-to-face) [2, 5, 6]. Using smart cards and digital signatures, clients have access to several services (indicatively):
  1. Company Registration.
  2. ePension for online registration of employees' contributions.
  3. eHZZO (eHealth), electronic initiation of the procedure for determining the status of the insured person in the compulsory health insurance system.
  4. eKATASTAR (eCadastre), as a browser providing insight via the internet into the central cadastre database of Croatia which incorporates all cadastral offices (Nov 2005).
  5. eREGOS (Central Registry of Insured Persons) for electronic submission of the R-Sm form (Nov 2005).
  6. ePDV (eVAT) for electronic payment of value added tax (Jan 2006).
  7. eOrbt (eCraft), enabling instant registration of the craft via the internet (July 2006).
  8. eCorner, enabling entrepreneurs to obtain information on IT services which are available to all businesses in Croatia (June 2007).

  Since June 2009 HITRO.HR portal is connected with the sTESTA (secured Trans European Services for Telematics between Administrations) network which enables safe data exchange among bodies of EU state government, and among non-member states which have signed individual accession agreements. Services implemented on sTESTA network in Croatia include TACHONET (July 2009), a network for data exchange on tachograph cards, and CECIS, the Common Emergency Communication and Information System (Feb. 2010), facilitating the exchange of information on natural and technical disasters among the responsible authorities at European level [2].

Research & Education Network:

- **E-Islands**: Connecting Schools and Providing Quality Education to Islands, The e-Islands project connects schools on Croatian islands with the mainland and is part of the Connected Schools initiative using the Croatian Academic and Research Network (CARNet). The e-Islands project helps teachers to give virtual lectures to pupils using video and multimedia equipment over the IP network (http://www.carnet.hr/, Portal for Schools http://www.skole.hr/) [15].

Environmental Geoportal:

- **Multipurpose Spatial Information System,** linking basic spatial databases, maintained by the Croatian State Geodetic Directorate, into a unique information system [2].

Marine Data Management Infrastructure:

- **IMIS** (Integrated Maritime Information System) to reengineer and thereby expedite business processes at the Ministry of Sea, Tourism, Transport and Development (since 2009 Ministry of the Sea, Transport and Infrastructure), and to provide through its e-Charter subsystem (2005) a one-stop shop, enabling all legal and natural entities who are in the business of renting yachts and boats to register prior to putting out to sea, their crew and passengers, using smart cards and a digital certificate, and to prevent illegal chartering (http://ecrew.pomorstvo.hr/) [2, 8, 9, 11].

Legislation & e-Justice System:

- **eSpis** (eFile) project (ICMS – Integrated Court and Case Management System, June 2007) to enable the management of court cases, including the possibility to track judicial cases at all phases of the judicial process, interconnect all judicial institutions and in one network and on the internet, and improve the efficiency of the judicial system [2, 5].
- **eCourt Registry** project, providing insight into the Court registry (already implemented since 1995) and enabling, through automation of certain administrative and accounting judicial operations and access to criminal and minor offence records, simpler registration of business subjects (full online company registration) and simpler access to court registry data [2, 5].
- **Judges Web** (2007), an interactive web service providing access to information on all Croatian courts, judges, lawyers, court experts and judicial practice, in order to render the judicial system more transparent and to provide a helpful tool for all parties in the judicial system (http://www.sudacka-mreza.hr/) [2].
- **eBulletin board and Court Networking** project (2005), to develop a single intranet and internet network for judicial bodies in order to enable the exchange of documents and information within the judiciary [2].
- **ECDL Project on the Improvement of Court Management in Croatia** (January 2009), the project's aim is to improve the operation and functioning of the Croatian judicial system and thus to contribute to the rule of law (http://www.mvep.hr/ei/download/2010/02/19/nppeu2009-ENGLESKI.pdf) [16].

e-Health System:

- **E-Health Croatia,** projects on the establishment (Feb. 2007) and the upgrading ("Paperless Practice", June 2010) of the integrated information system of primary healthcare (integrating practices, laboratories and pharmacies), to streamline the healthcare system, reduce costs, enable safe electronic data exchange among the entities involved, and provide thereby better quality of service to citizens and higher level of transparency [2].

e-Tax Portal & Infrastructure:

- **Support Croatia's Tax Administration** to organize its national vat information system, in order to create the preconditions for interfacing the European Vat Information Exchange System (VIES), enabling the exchange of information between EU countries in the VAT field to support the fight against fraud [14].

Other projects:

- **Project of assigning a permanent identification number (OIB) to every citizen and legal entity** (May 2008 – Jan 2009) as a unique and obligatory identifier in the whole Croatian public administration system and implementing the appropriate, efficient interoperability system and communication infrastructure, enabling process and data interoperability among registration institutions (http://www.oib.hr/) [7, 8, 9].
- **ARHiNET** project (Aug. 2006 – Oct. 2006), to establish a unique national integrated information and documentation system that comprises all processes concerning the activities of archival institutions and facilitates data exchange among the latter, and to enable standardisation and increasing quality of provision and services in archives (http://arhinet.arhiv.hr/) [8, 10].
- **eCustoms** projects, including the "NCTS Implementation - Upgrade of the National Transit Application" (2005-2008), to achieve full compatibility and interoperability of the Croatian Customs with respective EU IT systems (i.e. the New Computerised Transit System - NCTS), by implementing an NCTS-compatible automated transit system (http://www.carina.hr/Pocetna/index2.aspx) [2, 12].
- **CROinvest internet portal** of the Trade and Investment Promotion Agency of the Republic of Croatia, designed to gather all the necessary data regarding investment climate in the country from multiple sources with different underlying platforms and technologies and to serve as a central source of information (one stop shop) for domestic and foreign investors (http://www.croinvest.org/) [13].
- Pilot project of the **integrated authentication and authorisation system** [8].
- **eBusiness** project, based on the Strategy for eBusiness Development 2007-2010 and focused – besides resolving general legal obstacles (regulations related to eCommerce, eDocuments, eSignature, data protection, security, etc.) - on interoperability, the enactment of relevant standards, models and norms related to eBusiness and on setting up eProcurement systems [5].
- **SPEUP** (Standard Electronic Records Management Project, 2010), as part of the **eOffice** project, to facilitate the introduction of electronic records management in all state administration bodies by upgrading and gradually interconnecting the existing solutions of state administration bodies into a functional system [2, 5].
- **Central Database Registry on personal Data** (2005), where data from local databases is replicated and stored in digital form [2].
- **Digital Land Registry Database** (2005), a unified body of data enabling access to databases of 87 courts and registered land certificates delivery through the internet [2, 5].
- **Intra-governmental infrastructure** to automate cabinet work by equipping the ministers' computers with software interfacing with government departments' back-end systems through a virtual private network and allowing them to retrieve and exchange documents [2].
- **Croatian Internet Exchange (CIX)**, the Croatian national centre for Internet traffic exchange located in the University Computing Centre (SRCE) and available to all ISPs in the Republic of Croatia, whether for commercial and non-commercial or private networks. The CIX service primarily provides economical exchange of traffic between Croatian ISPs and private networks, and in this way bypasses expensive international IP links (http://www.cix.hr, http://www.SRCE.hr) [15].

[2, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16]

3.2. Number of EU-funded interoperability-related projects	Low *(2011)*

3.2.1. Indicative projects

- **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/) [15].
- **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/) [16].
- **CALLIOPE** ("CALL for InterOPErability") project, aiming to promote an effective uptake of and advance eHealth interoperability (http://www.calliope-network.eu/) [17].
- **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/) [18].
- **EECS** (European education connectivity solution, June 2009 – May 2011) project bringing together three European SMEs and three academic researchers, in order to develop a prototype campus card management system that will serve the unique needs and requirements of European Higher Education Institutions. EECS will recommend standards for campus card systems to the ISO and will build the prototype to the recommended standards in order to facilitate interoperability between campus card management systems across Europe. The EECS project will give the participating SMEs access to trans-European research and development, which will deliver an interoperable card management system. (http://www.eecscard.eu/) [19].

(2011) [18, 19, 20, 21, 22]

4. National Interoperability Practices

4.1. Number of Interoperability Cases with Good Practice Label	Low

- **HITRO.HR programme** (**HITRONet Network**, the Information-Communication Network for State Administration and **HITRO.HR portal**, 2007), representing the basic infrastructure for further development of electronic services and enabling connection and better communication among the bodies of public administrations (http://www.hitro.hr). The final objective of the programme is to interconnect all state-administrative IT resources through a safe broadband infrastructure and to enable one-stop-shop access to information and public administration services through a variety of communication channels (on-line, mobile, phone and face-to-face) [2, 5, 6]. Using smart cards and digital signatures, clients have access to several services (indicatively):
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  (ePractice Good Practice Label 2009)
- **ARHiNET** project (Aug. 2006 – Oct. 2006), to establish a unique national integrated information and documentation system that comprises all processes concerning the activities of archival institutions and facilitates data exchange among the latter, and to enable standardisation and increasing quality of provision and services in archives (http://arhinet.arhiv.hr/) [8, 10].
  (ePractice Good Practice Label 2009)
- **IMIS** (Integrated Maritime Information System) to reengineer and thereby expedite business processes at the Ministry of Sea, Tourism, Transport and Development (since 2009 Ministry of the Sea, Transport and Infrastructure), and to provide through its e-Charter subsystem (2005) a one-stop shop, enabling all legal and natural entities who are in the business of renting yachts and boats to register prior to putting out to sea, their crew and passengers, using smart cards and a digital certificate, and to prevent illegal chartering (http://ecrew.pomorstvo.hr/) [2, 8, 9, 11].
  (ePractice Good Practice Label 2009)
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  (Capgemini Best Practice)

[2, 5, 6, 8, 9, 10, 11, 12]

4.2. Best Interoperability Practice	
4.2.1. Title	HITRO.HR – Croatian One-Stop-Shop in Improving Administrative Efficiency *(2011)*

4.2.2. Description

HITRO.HR programme (**HITRONet Network**, the Information-Communication Network for State Administration and **HITRO.HR portal, 2007**), representing the basic infrastructure for further development of electronic services and enabling connection and better communication among the bodies of public administrations (http://www.hitro.hr). The final objective of the programme is to interconnect all state-administrative IT resources through a safe broadband infrastructure and to enable one-stop-shop access to information and public administration services through a variety of communication channels (on-line, mobile, phone and face-to-face) [2, 5, 6]. Using smart cards and digital signatures, clients have access to several services (indicatively):

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(ePractice Good Practice Label 2009)

[2, 5, 6]

4.2.3. Status

Operational since May 2005.

[6]

4.2.4. Indicative interoperability aspects covered

- Interoperability Standards
- Service-oriented Architectures
- Business Process Management
  (Modelling, Reengineering and Integration)
- Information Exchange
- Service Portals
- Authentication and Security
  (Authentication, Identification and Encryption)
- Legal and Business Rules
- Business Models Best Practices

(2011)

4.2.5. Impact

Benefits - Reusable Components – Patterns:

- One-stop-shop based services in the processes of starting a business (company, craft) and filing on line applications for the health and pension insurance and taxes. On the HITRO.HR counters (currently on 61 locations) it is possible to establish a Limited Liability Company or a Craft Business in an easier and quicker manner. Prior to launching HITRO.HR the process of registration was at least 40 days and 9 institutions were included. HITRO.HR decreased whole process just to 24 hours and 3 relevant institutions, fully electronically connected. HITRO.HR also provides e-services that are available from office or home, 24 hours/day. Using FINA e-card and digital signature, clients have access to different services relevant for the business operations as e-Regos, e-Cadastre, e-Pension, e-Craft and e-Health. Significant savings in time and finances for business subjects have been made.
- HITRO.HR is a link for the clients, and collects/handles client's documents as a channel between the client and State bodies.
- Public administration services are provided through a variety of communication channels (on-line, mobile, phone and face-to-face).
- HITRO.HR has an orientation towards the clients' individual needs and the transparency of procedures (the client has an insight in every stage of the procedure and is aware of the status of his request during the whole process) and puts clients ahead of procedures.
- Through HITRO.HR it was the first time ever in Croatia that an "administrative body" calls upon client and addresses the client by phone, e-mail, sms etc. in order to give message about the status of their applications as well as the notice if there is any extra documentation needed for the process.
- At the Corporate Registers Forum 2009 in the "World class Indicators" report presented by the Companies office of UK HITRO.HR service was pronounced a "top performer" in the area of company registration, usage and application of electronic solutions among 42 countries from Europe, Africa, Asia and Oceania.
- Removal of many administrative barriers, time savings through faster procedures, less personal visit to different institutions, less paperwork, availability of all information/forms/payments at one place, clear and understandable procedures, transparency and professionalism of the employees are further benefits that have resulted.

Lessons Learnt – Success Factors:

- Prior to starting a radical administration reform, and as early as possible, it is necessary to ensure as wide as possible consensus on the basic principles of the reform within the Government and competent institutions. Sustained vision of the reform will only be implemented if this consensus is achieved at the very beginning.
- Since reform involves competencies of several ministries, it is necessary for the Government to establish an inter-ministerial body to follow up and coordinate the overall reform and to ensure consistency in the regulations and in the implementation of the Action plan for the reform. This helps to ensure that Government departments avoid introducing duplicated or superfluous forms and/or contact points in the reform of the procedures. All involved will have the broader picture and the higher level of the interoperability would be introduced among stakeholders, hopefully resulting with integrated services across governmental bodies.
- There is definitely need to use IT and databases as much as possible for the transmission and authentication of information submitted and/or the exchange of information between public authorities. Within those reforms standards must be followed but not as a bottleneck for the use of new technologies, such as advanced digital signature use and the use of digital documents instead of paper ones, but as a "gate opener" to the new perspective of business solutions.

- Simplicity, open approach and adaptability should constitute the key factors of reform efforts. Simplicity so as to attract the general public into the use of new services, open approach to understanding the current needs of the public and to introducing new and innovative technologies and adaptability of new services so as to replace the old “procedures”.

(2011)

5. e-Government Interoperability	
5.1. Interoperability Level of core e-Government services to citizens / businesses	65.0% *(2010)* [23]
5.2. Connected Government Status	2.3% *(2008)* [24]

6. e-Business Interoperability	
6.1. Intra-organizational Integration Level	54.0% [17]
6.2. Cross-organization Integration Level	40.0% [17]
6.3. Cross-organization Application-to-Application Integration Level	48.0% [17]
6.4. e-Invoicing Status	23.0% [17]
6.5. B2B Data Standards Usage	
6.5.1. EDI-based standards	*Not available*
6.5.2. XML-based standards	*Not available*
6.5.3. Proprietary standards	*Not available*
6.5.4. other technical standards	*Not available*
6.6. Interoperability Awareness	
6.6.1. Within their sector	*Not available*
6.6.2. Between sectors	*Not available*
6.6.3. For producing or providing products and services	*Not available*

References

1. ePractice.eu Factsheets: Croatia Interoperability Factsheet. Retrieved from http://www.epractice.eu/files/Croatia.pdf.
2. ePractice.eu. (2012). “eGovernment factsheets: eGovernment in Croatia”, Edition 10.0, January 2012. Retrieved from http://www.epractice.eu/files/eGovernmentCroatia.pdf.
3. Information Systems and Information Technologies Support Agency. “Croatian Interoperability Framework” Retrieved from http://www.apis-it.hr/en/solutions.html#07.
4. ePractice.eu Cases: Croatian Web portal: My Administration. Retrieved from http://www.epractice.eu/en/cases/mojauprava (Last Edited Date: 30 June 2008).
5. UNDP (2010). “eGovernance and ICT Usage Report for South East Europe”, 2nd Edition. Sarajevo 2010. Retrieved from link.
6. ePractice.eu Cases: HITRO.HR - Croatian One Stop Shop. Retrieved from http://www.epractice.eu/en/cases/hitrohr (Last Edited Date: 30 November 2009).
7. ePractice.eu Cases: OIB – Personal Identification Number in Croatia. Retrieved from http://www.epractice.eu/en/cases/oib (Last Edited Date: 04 January 2010).
8. Capgemini. (2009). “Smarter, Faster, Better eGovernment”, 8th Benchmark Measurement, November 2009. Retrieved from link.
9. Capgemini. (2010). “Digitizing Public Services in Europe: Putting ambition into action” (9th Measurement, December 2010). Retrieved from link.
10. ePractice.eu Cases: Archival Information System. Retrieved from http://www.epractice.eu/en/cases/arhinet (Last Edited Date: 30 November 2009).
11. ePractice.eu Cases: IMIS (Integrated Maritime Information System). Retrieved from http://www.epractice.eu/en/cases/echarter. (Last Edited Date: 30 November 2009).
12. ePractice.eu Cases: NCTS Implementation - Upgrade of the National Transit Application. Retrieved from http://www.epractice.eu/en/cases/ecustoms (Last Edited Date: 29 June 2008).
13. ePractice.eu Cases: Investment Portal of the Republic of Croatia. Retrieved from http://www.epractice.eu/en/cases/croinvest (Last Edited Date: 15 December 2009).
14. European Commission – Enlargement: Tackle fiscal fraud by exchanging information on VAT. Retrieved from link (Date of last update: 21.03.2008).
15. United Nations Development Programme. (2011). “Best Practice Compendium In Implementing the e-See Agenda + 2011”. Retrieved from http://www.undp.ba/upload/publications/Best%20Practice%20Compendium.pdf
16. ePractice.eu Cases: ECDL improves Court Management in Croatia. Retrieved from http://www.epractice.eu/en/cases/ecdlforcourtscroatia (Last Edited Date: 03 February 2012).
17. European Commission – Eurostat: Information society statistics, Policy indicators. Retrieved from http://epp.eurostat.ec.europa.eu/.
18. European Commision – CORDIS: SeaDataNet - A Pan-European Infrastructure Fof Ocean And Marine Data Management. Retrieved from link (Update Date: 2011-03-31).
19. European Commission - CORDIS: Common language resources and technology infrastructure (CLARIN). Retrieved from link (Update Date: 2011-07-22).
20. ePractice.eu Cases: CALL for InterOPErability. Retrieved from http://www.epractice.eu/en/cases/calliope (Last Edited Date: 09 November 2009).
21. European Commission - CORDIS: Enabling grids for e-science III (EGEE-III). Retrieved from link (Update Date: 2011-07-19).

22. European Commission - CORDIS: European education connectivity solution (EECS). Retrieved from link (Update Date: 2011-11-25).
23. Capgemini. (2010). “Digitizing Public Services in Europe: Putting ambition into action” (9th Measurement, December 2010). Retrieved from link.
24. United Nations. (2008). “eGovernment Survey 2008: From eGovernment to Connected Governance”, New York 2008. Retrieved from link.