COMPETITIVENESS AND INNOVATION FRAMEWORK PROGRAMME

ICT PSP call for proposals 2011

Project Acronym: **eEnviPer**

Project Number: **297358**

Project Type: **Pilot Type B**

Project Full Title: **A single multi-purpose SOA platform that delivers environmental permissions services through the cloud of e-Government services and applications**

ICT PSP Main Theme addressed: **4.1 - Towards a cloud of public services**

D6.2 Regulatory Impacts Report

Nature:	Report
Dissemination Level:	Public
Version #:	#1.3
Delivery Date:	30 July 2013
Deliverable Leader:	SAMPAS
Author(s):	M.Serdar Yümlü, Gonca Kara Demir, Orhan Erdoğan, Eser Karakaya
Status:	Final
Reviewed on	**30.07.2013**
Reviewed by:	**Machi Simeonidou, Grigoris Chatzikostas**

Abstract

This document provides the analysis for the regulatory framework and regulatory impacts for the design, deployment, testing and operating of eEnviPer platform which is a single multi-purpose SOA platform that delivers environmental permissions services through the cloud of e-Government services and applications. Regulatory Impact Report analyses possible regulatory issues in terms of the National Regulatory Frameworks of Environmental Permitting Regimes, Public Sector ICT Procurement, EU Regulations, Cloud Computing, Licensing Requirements, EU and National level Interoperability Requirements for each pilot country including Turkey, Greece, Serbia, Croatia and Italy. Also Regulatory Impact Report refers to national and EU level directives and articles that may be related to Environmental Impact Assessment (EIA) and Environmental Permits.

Document History

Version[1]	Issue Date	Stage[2]	Content and changes
#1.0	05 November 2012	Draft	1^{st}Release
#1.1	28 November 2012	Draft	2^{nd}Release incorporating input from partners
#1.2	30 November 2012	Final	Final version as reviewed by the Coordinator
#1.3	30 July 2013	Final	Final version with the piloting phase contributions and as reviewed by the Coordinator

List of participants:

No	Partner	Acronym	Country
1	DRAXIS ENVIRONMENTAL S.A.	DRAXIS	Greece
2	KRITI	CRETE	Greece
3	ARISTOTELIO PANEPISTIMIO THESSALONIKIS	AUTH	Greece
4	PLANETEK ITALIA SRL	Planetek	Italy
5	AGENZIA REGIONALE PER LA PROTEZIONE AMBIENTALE	Arpa Puglia	Italy
6	STELLA Consulting SPRL	STELLA	Belgium
7	Evrogeomatika d.o.o.	EGEO	Serbia
8	Municipality of Indjija	Indjija	Serbia
9	NIGDE BELEDIYESI	NIGDE	Turkey
10	Sampas Bilisim Ve Iletisim Sistemleri Sanayi Ve Ticaret A.S.	SAM	Turkey
11	OIKON DOO ZA PRIMIJENJENU EKOLOGIJU	Oikon	Croatia
12	Krapinsko-zagorska zupanija	KZZ	Croatia
13	MINISTRY OF ENVIRONMENT AND URBAN PLANNING	NCEDTR	Turkey

[1] Please use a new number for each new version of the deliverable. Add the date when this version was issued and list the items that have been added or changed. The 'what's new' column will help the reader in identifying the relevant changes. Don't forget to update the version number and date on the front page and the header.

[2] A deliverable can be in either of these stages: "draft" or "final". For each stage, several versions of a document can be issued. *Draft:* Work is being done on the contents. *Final*: All chapters have been completed.

Table of contents

Executive Summary

The aim of the eEnviPer platform is to provide a single multi-purpose SOA platform that delivers environmental permissions services through the cloud of e-Government services and applications.

Regulatory Impact Analysis is done according to the facts defined below:

- Operates as an e-Government service and/or an integration point for e-Government services
- Needs to be defined under a Regulatory Framework
- Related to Environmental Impact Assessment and Environmental Permits
- Requires and Adheres to Public Procurements Standards
- Issues related to Cloud Computing
- Licensing Requirements
- Interoperability Requirements & Compliance

The platform will be tested in five different European countries, namely Greece, Italy, Serbia, Croatia and Turkey. Each pilot country provided their regulatory frameworks and referred directives according to their deployment.

This document provides the analysis for the regulatory framework and regulatory impacts for the design, deployment, testing and operating of eEnviPer platform. Regulatory Impact Report analyses possible regulatory issues in the following topics:

- National Regulatory Frameworks of Environmental Permitting Regimes
- Public Sector ICT Procurement
    - EU Regulations
    - Cloud Computing
    - Licensing Requirements
- EU and National level Interoperability Requirements

Also Regulatory Impact Report refers to national and EU level directives and articles that may be related to Environmental Impact Assessment (EIA) and Environmental Permits.

1 Introduction

This document includes different levels of regulatory impact analysis of the eEnviPer platform starting from the design phase, to deployment, testing and operation on each pilot country.

The Report focuses upon the legal and regulatory issues that may directly impact the certification of the eEnviPer platform for exploitation in European Union. This analysis will serve as a critical input for the cloud platform to ensure that any certification requirements to allow the solution to go-to-market are considered during the design, deployment and testing phases. This regulatory impact analysis report also provides input to the target business models for exploitation including certification and liability protections.

First a desk research study has been conducted by each pilot country regarding their regulatory frameworks. All the structure of the report is based on a questionnaire prepared by the author. The questionnaire includes questions and inquiries about national regulations in each pilot country, their public sector ICT procurement approaches and directives, national practices, interoperability requirements both EU and National level and also compliance checking questions with European Interoperability Framework (EIF).

As this platform will be based on cloud computing, each pilot country is asked to provide their status of Cloud based solutions procurements and related regulations including cloud security, international cloud usage, data usage and licensing of the platform. This document also analyses the interoperability requirements from European Union perspective and National regulations.

This document is organized as follows: Section 2 gives the Regulatory Framework of Environmental Permitting Regimes and National Regulations in each pilot country. Section 3 provides detailed information and regulation analysis for ICT procurement for such a platform starting from EU regulations and delving into Cloud Computing and Public procurement, licensing requirements and giving detailed explanations for each pilot countries status in procurement. Section 4 is providing interoperability requirements and analyses the EU Interoperability Framework issues and National Interoperability requirements for eEnviPer platform in case of integration and data exchange requirements. Last section gives concluding remarks.

2 REGULATORY FRAMEWORK OF ENVIRONMENTAL PERMITTING REGIMES

In 1985, the Council of European Communities adopted a Directive on environmental impact assessment for private and public projects ("EIA Directive") (EC 1985). This Directive was subsequently amended in 1997 (EC 1997) in 2003 (EC 2003) and in 2009 (EC 2009)[3]. The initial Directive of 1985 and its three amendments have been codified by DIRECTIVE 2011/92/EU of 13 December 2011[4].

The EIA Directive is based on the principle that the best environmental policy consists of preventing the creation of pollution at the source, rather than trying to minimise or mitigate its effects later (principle of precaution). The EIA Directive has been the pioneer in EU legislation as regards access to information and public participation and inspired subsequent legislation both at the EU and international level (Aarhus Convention). The operation of its "democratic" procedures has helped to improve the acceptance by society for certain projects.

Environmental impact assessment (EIA) is a tool to implement a procedure to evaluate environmental effects of certain public and private projects. The term "environmental impact assessment" describes a procedure to be followed during the authorisation process of projects likely to have significant effects on the environment, by virtue, inter alia, of their nature, size and location.

The procedure is a means of drawing together, in a systematic way, an assessment of a project's likely significant environmental effects and identifies the direct and indirect environmental effects on the activities of the following factors: human beings, fauna, flora, soil, water, air, climate, landscape, material assets, cultural heritage and the interaction between those factors. This helps to ensure that the importance of the predicted effects, and the scope for reducing them, are properly understood by the public and the relevant competent authority before the latter makes its decision. Projects subject to EIA are enumerated in Annex I and Annex II of the Directive. These annexes include projects from the industrial sector but refer to infrastructure projects and agricultural projects, too[5].

[3] http://ec.europa.eu/environment/eia/eia-legalcontext.htm

[4] http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2012:026:0001:0021:EN:PDF

[5] IMPEL Project Practical Application of Better Regulation Principles in Improving the Efficiency and Effectiveness of Environmental Inspection Authorities Final Report, October 2009

Directive 97/11/EC brought the Directive in line with the UN ECE Espoo Convention on EIA in a Transboundary Context. The Directive of 1997 widened the scope of the EIA Directive by increasing the types of projects covered, and the number of projects requiring mandatory environmental impact assessment (Annex I). It also provided for new screening arrangements, including new screening criteria (at Annex III) for Annex II projects, and established minimum information requirements[6].

According to the amended Directive and the Espoo- Convention (UNECE 1991), transboundary consultation includes the affected public in the neighbouring countries, too.

Overall, the EIA Directive 97/11/EC introduced provisions that clarified, supplemented and improved the rules on the assessment procedure, in order to ensure that the Directive is applied in an increasingly harmonised and efficient manner.

Directive 2003/35/EC was seeking to align the provisions on public participation with the Aarhus Convention on public participation in decision-making and access to justice in environmental matters. It also introduced more detailed provisions as regards the public consultation process as well as the notion of the "public concerned" where ECOs are explicitly mentioned. In addition, there is a new article that deals with the issue of access to justice.

Directive 2009/31/EC amended the Annexes I and II of the EIA Directive, by adding projects related to the transport, capture and storage of carbon dioxide (CO2)[7].

It appears that the EIA process is having a notable effect on the number of project modifications. Improvements are not always as obvious because elements of a specific project are changed even before they are presented for public consultation. At least the planning process has been improved.

The principal benefits of an EIA are:

- the identification of key environmental issues,
- improvement of project design,
- higher standards of mitigation,
- better decision-making.

[6] http://ec.europa.eu/environment/eia/eia-legalcontext.htm

[7] http://ec.europa.eu/environment/eia/eia-legalcontext.htm

Additionally there have been cases where a well structured and managed EIA process led to savings in cost and time. It could also be claimed today that one additional success of EIA is its contribution to safeguarding the money of the European tax-payer. This has led the beneficiary Member States to take the necessary measures to comply with the EIA Directive. Special attention was also given to the pre-accession funds provided during enlargement, thereby contributing to integrating EIA into the decision making process of accession countries. Finally, the operation of EIAs has gradually formed a new generation of decision-makers. Both national authorities and developers are better able to integrate environmental consideration into their everyday planning.

2.1 NATIONAL REGULATORY FRAMEWORK FOR ENVIRONMENTAL PERMITTING REGIME

In the section above, we provide an overview to the EU regulations related to EIA. However, in this section we are aiming to get a better understanding of how pilot countries adopted and transposed these regulations into their National legislations and how are they applying the procedures. For this purpose, we asked each pilot the specific questions (Please see Annex-I, Section1 for questions).

2.1.1 Turkish Pilot

As in many other countries, in Turkey, importance of environmental issues has considerably increased in last decades. As a result, at that time, the main environmental issues were identified, some framework environmental policies drawn up and administrative structures to implement these policies were established.

Environment Law (published in the Official Gazette dated August 11, 1983 and numbered 18132)(Law No. 2872) is Turkey's first framework environmental legislation. It continues to provide a legal framework for many regulations scattered throughout Turkish legislation that seek to clarify and elaborate its intentions, including Environment Impact Assesment (“EIA”). The aim of the Environment Law is not only to prevent and eliminate environmental pollution, and also to ensure management of natural and historic assets and the land in such a way as to utilize its richness and preserve it for future generations.

EIA Regulation was first drafted and entered into effect on the date of February 7, 1993. The Regulation was amended and revised in various times on June 23, 1997, June 6, 2002, December 16, 2003 and July 17, 2008 and finally constituted as the present version.

According to the Turkish EIA Regulation, EIA refers to the studies to be carried out for the determination of the likely positive or negative impact that the projects will have on the environment; studying possible environmental protection measures relating to these projects in order to minimize negative effects; determining and assessing selected technological alternatives and locations; and monitoring and controlling the implementation of such projects.

Four annexes are attached to this regulation. Annex I consists of the list of activities for which EIA is mandatory. Annex II presents a list of activities requiring a preliminary EIA study. Annex III defines the general format of an EIA report, and finally Annex IV defines the general format of a preliminary EIA study report.

Annex-I (Large Scale Projects) applications are assessed by the Ministry[8] for Environmental Permits and Annex-II (Smaller Scale Projects) applications for Environment Impact Assessment is processed by the Provincial Environmental Directorates[9].

Environmental firms of engineers licenced by the Ministry is entitled to apply for the permits and licences, however the project owner/investor is also entitled to apply for Environmental Impact Assessment, while in practice licensed Environmental Firms/Engineers are preferred generally. Letter of Intention, Letter of Undertaking ("Taahhütname"), Proxy ("Vekaletname"), Project Presentation File (3 Copies, 2 CD), Bank Receipt ("Dekont") are the required documentation when applying to EIA. Letter of Undertaking, Proxy has to be original with wet signatures if it is the first application of the project owner/investor. If same owner/investor applies again for any other project, the copies of the mentioned documents are sufficient.

For the Environmental Permits, Ministry developed a web based application system. However, there is not any electronic application system yet for the Environmental Impact Assessment procedures. There is an on-going software development project to accept and process applications electronically.

[8] Prior to establishment of the Ministry of Environment and Forestry, a General Directorate of Environment has been founded under the Prime Ministry in 1978. In 1991, this organization was reorganized as the Ministry of Environment. In 2003, the Ministry of Environment has been united with the Ministry of Forestry. In 2011, the Ministry of Environment and Forestry was split into the Ministry of Environment and Urbanization and the Ministry of Forest and Water Affairs.

[9] Provincial directorates are the representatives of the Ministries in the provinces of Turkey. These offices are directly linked to the Ministries and form the first point of contact for the activities by carrying the authorization of the Ministries

With its goal to join the EU, Turkey has made commendable progress in updating and modernizing its environmental legislation. However, environmental concerns are not fully integrated into public decision-making and enforcement can be weak. There is also limited incentive to encourage Private Public Partnership (PPP) or Private Sector Participation (PSP) in environmental investment as well as in operations according to modern environmental management principles.

2.1.2 Greek Pilot

Greek Law 4014/2011 (Governmental Gazette Vol. A/ 209 / 21.09.2011), "Environmental permitting of projects and activities, regulation of arbitrary structures in coordination with the development of environmental balance and other issues of the Ministry of Environment" governs the EIA's in Greece.

The Law 4014/2011 is the last law regulating the processes of Environmental Permitting in Greece. The new law i) simplifies and rationalises the Environmental Permitting processes and reduces the necessary time, ii) reduces the number of projects and activities in need of an Environmental Impact Assessment, iii) establishes mandatory planned and unplanned inspections for ensuring the environmental protection, iii) imposes a 'Special Ecological Evaluation' for activities in a 'Natura 2000' region, iv) establishes the creation of electronic Environmental Record and regulates the issues concerning the electronic management of Environmental Permitting process.

Following the issuance of Law 4014/2011 in September 2011 which radically simplified the environmental licensing procedure for all kinds of activities and projects, two Ministerial Decisions were issued on April 2012 clarifying and regulating some particular issues necessary for the implementation of the aforementioned law. Ministerial Decision No 15277/2012 published on April 9, 2012 (Government Gazette Issue B, Vol. 1077) regulates the procedure for the incorporation into the general environmental license of the particular permits issued by forestry authorities for the realization of projects and activities in forests).

Furthermore, Joint Ministerial Decision No F.15/4187/266/2012 published on April 11, 2012 (Government Gazette Issue B, Vol. 1275), specifies the particular Standardised Environmental Commitments which processing activities classified to category B shall from now on comply with.

According to the Law 4014/2011, projects are listed in two broader categories. The first category (Category A) refers to projects that may cause significant adverse environmental impacts (categories A1 for strong adverse impacts and A2 for less strong impacts). The second category (Category B) refers to projects of non-adverse local environmental impacts.. The classification of projects in all categories is done according to the

provisions of a specific decision which is awaited shortly (Previously, this classification was regulated by Decision No.15393/2002, GG/1022/B/05.08.2002.)

Category A1 projects are permitted at the Ministry of Environment and category A2 projects at the respective Periphery.

Category B projects or activities are subject to Standard Environmental Commitments (SEC) which are issued by the competent authority issuing the operating permit for the facility following a statement of the Engineer or the Owner of the facility (art.8, L.4014/2011). Specifications for such SEC are expected to be issued before June 2012.

In addition to this, every new project and activity must, also, have the approval of the Archaeological Agency of the Ministry of Education and Religious Affairs, Culture and Sports, sited that the activity does not located or affect any archaeological site.

The approval of the Forest Agency is necessary for projects and activities located in forests, parks and groves.

The Legal Person / Entity (physical person, organisation, company) responsible for the proposed activity or project, must apply for environmental permits.

In regards to Greek Law 4014/2011, Annex II, the minimum requirements when applying for Environmental Permit are:

- Compliance with the allowed land uses in the area
- Detailed description of the position of the project or activity, of its design and technical characteristics. Moreover description of the main construction methods that will used and the nature and the quantities of the necessary materials. Finally, description of the types and quantities of residues and emissions to the water , atmosphere and soil, of noise, radiation and vibrations, that being expected during the construction and operation of the proposed project or activity.
- Description and evaluation of the alternative solutions and justification for the selection of the proposed solution.
- Description of the natural and human elements that may be seriously affected by the proposed activity, with emphasis in biodiversity, natural habitats, soil, water and atmosphere, climate conditions, architectural, cultural and archaeological heritage.
- Description, assessment and evaluation of the possible serious consequences that the proposed activity will impose on the environment, from the use of natural resources, the emission of pollutants and the disposal of wastes. Also, description of the total data and methods used for the prediction and the assessment of the possible consequences.

- Detailed description of the mitigation measures in order to avoid, reduce, restore and compensate the consequences of the proposed activity.
- Environmental Management Plan that will be used for safeguarding the effective protection of the environment. The Environmental Management Plan should include, at minimum:
- The environmental parameters, data and marks that will be monitored
- The methods, place, time and frequency of the monitoring program
- The appropriate measures ensuring the quality and reliability of the collected data
- The timetable for the update of the Environmental Impact Assessment (EIA) study.
- Summary of the non-technical information in the EIA study.

The signatures required in the Environmental Permits Procedures are:

- The EIA study must be signed by the corresponding author of the study
- The Legal Person / Entity, responsible for the proposed activity or project must sign the application for issuing the Environmental Permits.
- A qualified Engineer must sign for all the plans and designs in the EIA study.

As mentioned above, the projects and activities are divided in three categories (A1, A2, B). The procedures for issuing a permit, for each category are presented below:

- For projects and activities in Category A1 the procedure demands:
    1. Submission of EIA study to the appropriate authority (Ministry of the Environment).
    2. Evaluation of the typical completeness of the study by the authority, into 15 working days timeframe.
    3. Dispatch of the EIA study to relevant authorities and agencies (e.g. Archaeological Agency, Forestry Agency) and start of the public consultation within 2 working days from the completion of step 2.
    4. Gathering of the final decision of the Agencies and the remarks from the public consultation within 45 working days from the publication of the EIA study.
    5. Evaluation and weighting of decisions and public remarks from the appropriate authority, within 20 working days from the completion of previous step.
    6. Compilation of positive or negative decision from the appropriate authority, within 25 working days from the completion of step 5.
    7. Issue of Environmental Permit or rejection decision from the appropriate authority.

For projects and activities in Category A2 the procedure is similar with minor changes in the timeframe and the appropriate authorities. In particular:

1. Submission of EIA study to the appropriate authority (General Secretariat of the appropriate Decentralized Administration).
2. Evaluation of the typical completeness of the study by the authority, into 10 working days timeframe.
3. Dispatch of the EIA study to relevant authorities and agencies (e.g. Archaeological Agency, Forestry Agency) and start of the public consultation within 2 working days from the completion of step 2.
4. Gathering of the final decision of the Agencies and the remarks from the public consultation within 35 working days from the publication of the EIA study.
5. Evaluation and weighting of decisions and public remarks from the appropriate authority, within 20 working days from the completion of previous step.
6. Compilation of positive or negative decision from the appropriate authority, within 15 working days from the completion of step 5.
7. Issue of Environmental Permit or rejection decision from the appropriate authority.

The projects and activities in Category B do not need to provide an EIA study, but instead they must comply with Standard Environmental Compliances, according to the nature of the proposed activities.

The latest laws for environmental permitting and the operation of industries in Greece, all issued in 2011, are updated and enhance the sustainable development of industry: they are flexible, they have simplified permitting processes, they embrace Best Available Techniques for the prevention of impacts, they utilize private tools such as accreditation systems, they require regular audits and they allow levels of discretion to public authorities. However, the demand for a wet signature in some of the necessary documents could be a compliancy issue in the implementation of the eEnviPer solution. However Law 3979/2011 ‘For the e-governance’ in Article 13 states that the electronic documents edited by a public authority could have an advance e-signature which is based in recognized certificate and is created by secure software for creation of signatures. That signature has the same legal and proving power with the traditional hand signature.

The eEnviPer solution is adapted to the environmental permitting regulations of the Greek legislation, i.e. the Law 4014/2011 for the Environmental Permitting process and the delegated regulations issued thereafter.

2.1.3 Serbian Pilot

Law on Environmental Protection ("The Official Gazette of the Republic of Serbia", no. 135/04 and 36/09) sets forth the integral system of environmental protection comprising action plans, conditions and instruments for sustainable management and the preservation of natural balance, integrity, diversity and quality of natural values and conditions for survival of living beings, prevention, control, reduction and sanitation of all forms of pollution, promotion and utilization of products, processes, technologies and practices which have a less harmful effect on the environment, application of special codes of conduct in waste management from its generation point to its disposal, i.e. prevention or reduction of its generation, waste reuse and recycling, separation of secondary raw materials and utilization of waste as fuel, waste import, export and transit, establishment of an Environmental Protection Agency, staff training designed to upgrade knowledge and raise awareness, information access and participation of the public in the decision making process.

Law on Environmental Impact Assessment ("The Official Gazette of the RS", no. 135/04 and 36/09) prescribes the procedure with regard to the assessment of potentially significant environmental impacts of certain projects carried out by public or private enterprises, the content of study on environmental impact assessment, the liability of applicants for permits or approvals for development or reconstruction of buildings, the change of technologies, the capacity expansion, the discontinuation of operations and cancellation of projects which may have an important environmental impact or other interventions taking place in nature and the natural environment, as well as participation of the public in project development or approval.

There is also another regulation related to EIA , Law on Strategic Environmental Impact Assessment ("The Official Gazette of the RS", no. 135/04) which prescribes the relations between environmental protection policy and other departmental policies, which are currently being developed, as well as the development of new plans and programs in the field of physical and city planning or land utilization, agriculture, forestry, fisheries, hunting, power industry, other industrial sectors, transit, waste management, water management, telecommunications, tourism, natural habitat and wild flora and fauna preservation, establishing a framework for the adoption of future development projects.

Other national regulations related to Environmental Impact Assessment Procedures are as following:

- Decree on Establishing the List of Projects Subject to Impact Assessment and the List of Projects that May Require Environmental Impact Assessment ("OJ RS", No. 114/08)

- Rules on the Contents of the Request for the Need to Conduct an Environmental Impact Assessment and Contents of the Request for Determining the Scope and Contents of the Environmental Impact Assessment Study ("OJ RS", No. 69/05)
- Rules on the Contents of the Environmental Impact Assessment Study ("OJ RS", No. 69/05)
- Rules on the Procedure for Public Review, Presentation and Public Debate on the Environmental Impact Assessment Study ("OJ RS", No. 69/05)
- Rules on the Work of the Technical Committee for the Evaluation of the Environmental Assessment Impact Study ("OJ RS", No. 69/05)
- Rules on the Content, Layout and Procedure for Managing the Public Book on Environmental Impact Assessment Procedures Enforced and Decisions Adopted ("Official Journal RS", No. 69/05)

The authority responsible for carrying out the EIA can be the: Ministry of Environment or Provincial Secretariat for Environmental Protection ("for those projects for which the permit for project implementation is under the responsibility of the authority of the autonomous province"), and City or Municipality administration ("for those projects for which the permit for project implementation is under the responsibility of the local self-government authority". Therefore, in Serbian pilot, Municipality is in charge of issuing permits.

Projects which require or may require environmental permit are listed in the List of Projects Subject to Impact Assessment and the List of Projects that May Require Environmental Impact Assessment, provided in the Decree on Establishing the List of Projects Subject to Impact Assessment and the List of Projects that May Require Environmental Impact Assessment ("OJ RS", No. 114/08).

According to Serbian Law, required documents when applying for Environmental Permit are:

- Request for the Need to Conduct an Environmental Impact Assessment
- Questionnaire on location and project characteristics
- Urbanistic plan
- Concept design
- Graphic presentation of micro and macro location
- Approvals of other agencies and authorities, according to law
- Proof of payment of the administrative taxes
- Other data if requested by the authority

None of the documents requires wet signatures. However, as the current system is completely analogue and correspondence between the Investor and the Agency is done through direct contact and exchange of paper forms, national regulations demand that a copy of the data used in the process is also archived in analogue (paper) form.

By considering these, no major compliancy issues have been identified, since the eEnviPer solution has been built upon very clearly defined EIA procedure. However, it is still required by the regulations that all the documents must exist and be archived in paper form as well. It does not affect the investors/consultants much as the only document they are obliged to submit in paper form is the signed initial application. The rest of the communication between the stakeholders can be electronic, but the Public Authority is obliged to have printed copies of everything kept in dossiers as well as to maintain the registry book.

2.1.4 Croatian Pilot

EIA process is defined by the Environmental Protection Law (OG 110/07) and Regulation on EIA (OG 64/08, 67/09) with reference to the required steps according to the Ordinance on Appropriate Assessment of the Impact of Plans, Programs and Projects on the Ecological Network (OG 118/09), which are the competence of Ministry of Environmental and Nature Protection (MENP).

EIA procedure formally starts with the Application by the Developer to the MENP. Precondition for Application is that Certificate on compliance of the project with relevant physical plans is issued (form Ministry of Construction and Physical Planning or County offices) and that Pre-assessment on impact on Ecological Network (EN) is carried out (which results in Opinion of MENP whether Main Assessment within EIS is needed).

According to Regulation on information and participation of the public and public concerned in environmental matters (OG No. 64/08) the public is being informed on this Application on the MoEPPPC's web-site.

Advisory Committee for EIS evaluation is appointed by MENP within 10 days from the Application. It consists of members of state administrative bodies, County and/or Municipality representatives and experts in relevant fields for EIS evaluation (landscape, fauna, noise, meteorology, and cultural heritage).

The Advisory Committee is working in sessions and decides on the completeness and quality of the EIS and on the duration of the public inspection in the Counties and

Municipalities where the project is located (minimum 30 days). During this period a Non-Technical Summary as well as the information on dates and time of the public inspection is displayed on the MENP's web site.

The Developer, EIS consultant and Project Designer are present at the Committee sessions for project presentation and necessary clarifications as well as during the public debate.

After public inspection Advisory Committee reviews received comments and suggestions and decides on the responses prepared by the EIS consultant together with Project Designer and Developer.

The result of the Committee's work is the Opinion on acceptability including proposal of mitigation measures and program for environmental monitoring which is the basis for the Decision (Consent) on the environmental acceptability issued by the MENP as the final document of the EIA procedure.

In the case of necessity for determination of overriding public interest and compensatory measures for ecological network as a result of Main Assessment within EIA procedure, MENP shall adopt a conclusion on suspension of the EIA procedure until this issue is resolved.

Ministry of Environment and Nature Protection is in charge of issuing permits for more complex cases and respective counties for cases within their jurisdiction (as regulated by Regulation on EIA (OG 64/08, 67/09).

Any investor/applicant (person or company) that intends to develop new or change existing project that might have negative implications for the environment and/or the nature are entitled to apply for the environmental permits.

According to Croatian Law, required documents when applying for Environmental Permit are

- Permitting application with official forms
- EIS with Project description and relevant (depending on type of project) parts of spatial planning documentation, nature protection related documentation (ecological network impact,…) and supporting cartography
- Project Conceptual solution documentation (sometimes with details from Main design documentation)
- Approvals/permissions from other involved authorities (Croatian Waters, Croatian Forests, State Institute for Nature Protection,…)

- Receipt of payment of the administrative taxes
- Other data if requested by the authority

Current permitting system is based on personal communication and submittal of hardcopy documentation. Wet signature is compulsory for the permitting application forms.

Existing legislation does not allow electronic communication. Only basic information about permitting process and its positive or negative result is broadcasted through official portal. To enable eEnviPer solution usage, Croatian Government would need to change the Environment Protection law and all subsequent by-laws that regulate permitting process. In addition, cloud computing regulations should be defined and passed in Parliament, as we do not have such regulations in place.

2.1.5 Italian Pilot

The Legislative Decree of 3 April 2006, n. 152, called Environmental Regulations, is the reference Italian legislation on environmental permit. This decree contains rules on soil and water protection, waste management, contaminated sites remediation and rules on the reduction of atmospheric emissions. In particular, the decree legislates procedures for strategic environmental assessment, environmental impact assessment and Integrated Pollution Prevention and Control (IPPC).

The IPPC procedure is mainly based on the Legislative Decree no. 152/06. It defines environmental assessment process including rights and liabilities of stakeholders involved and penalties if the rules are violated, and details related to safeguard of rights of public participation to the administrative proceeding.

Art. no.29-quarter "Procedures for the IPPC issue" is particularly relevant for the electronic process. It explains the format and method of application. In addition, the article no.29-duodecies "Communication" states that "Competent authorities shall inform the Environment Ministry, annually, data on the applications received and permits issued" as well as "a report on non-compliance to IPPC requirements" and the art. no.29-terdecies "Exchange of information" states that "Competent authority shall submit to the Environment Ministry ,every three years, a communication on the application of this law and, in particular, the limit values of emission applied to the plants... ". "The Environment Ministry shall ensure the systematic informing the public about the work progress on the information exchange to promote a wider knowledge of best available techniques and their development”

In addition, Italian Legislative Decree no. 334 of 17 August 2009 (Implementation of Directive 96/82/EC), defines further monitoring rules related to control of major accident hazards (MAH) due to dangerous substances management; then, revised by the Legislative Decree no. 238 of 21 September 2005. It divides into two categories that have a risk degree correlated at amount and specific dangerous substances used in industrial processes. The decree lays down obligations to which operators are subject (Notification and Safety Report, for article no. 8) and Notification (for article no. 6). In reference to installation safety, decree provides analysis of organizational and risk control tools and implementing of accident preventing policy by adoption of safety management system

The Decree no. 152/06 differentiates between the IPPC procedure at national level (large combustion plants, integrated steel mills of the first merger, refineries, large chemical plants), for which the competent authority is the Environment Ministry, and the IPPC procedure at regional level for which is competent the authority designated by the regional law (may be the region or the province).

Instead, the MAH decree identifies as Competent Authority the Environment Ministry. In particular, the Environment Ministry carries out checks on plants classified as art. no.8 of decree no. 334/99 (pending the full transfer of responsibilities from State to Regions in accordance by article no. 72 of Legislative Decree no. 112/98) and Region carries out audits on safety management system (SMS) of industrial plants classified as art. no.6.

The IPPC procedure is required by operators of plants included listed in Annex VIII of the Decree no.152/06 (energetic activities, production and processing of metals, mineral products industry, chemical industry, waste management etc.).

The IPPC application shall contain the following information:

- Indication of the plant, the type, scope of its activities;
- The auxiliary raw materials, other substances and energy used in/or generated from the plant;
- The emission source;
- The status of site
- The type and extent of the plant's emissions in each environmental sector and identification of significant environment effects;
- The technology used and other techniques in use to prevent plant emissions or reduce them;
- Measures for prevention and recovery of waste;
- Measures planned to emissions monitor, self-control activities and control performed by environmental agencies
- Other measures to comply by IPPC guiding principles.

The Environment Ministry manages a framework tracking the IPPC applications but this system doesn't allow the management of a complete procedure: control and monitoring of plants subjected to both IPPC and MAH procedures.

The process implemented by electronic system has to be compliant with the procedure defined by the Italian Legislative Decree no. 152/06. Beside this, the electronic procedure nature requires compliance with the Italian Legislative Decree no. 82/05, called “Code of the Digital Public Administration”, and, in terms of system web access, it must be considered the Directive no. 08/09 of the Public Administration Ministry, which defines the “Guidelines for Public Administration Web Sites"

3 PUBLIC SECTOR ICT PROCUREMENT

3.1 EU REGULATIONS FOR PUBLIC PROCUREMENT OF ICT SYSTEMS

Over the years, public procurement has sometimes been used to accomplish a variety of policy objectives: to increase overall demand, stimulate economic activity and create employment; to protect domestic firms from foreign competition; to improve competitiveness among domestic firms by enticing 'national champions' to perform R&D activities; to remedy regional disparities; and to create jobs for marginal sections of the labour force[10].

The aim of the current EU policy on public procurement has been to create "free markets" where trade barriers have been eliminated and differences in regulations between the countries in the union evened out; i.e. objectives consistent with the over-all project of creating a common European framework for economic activity.

The regulation of public procurement in the EU exposes an economic and a legal approach to the integration of public markets. On the one hand, the economic approach aims at bringing aboutcompetitiveness in the relevant product and geographical markets, a more efficient use of public money and, ultimately, an improvement in both the value of taxpayer's money and the allocation of resources. The legal approach, on the other hand, sees public procurement as a necessary ingredient for the fulfilment of the Single Market[11].

The first EU legislation in the public procurement sphere date back to the 1970s. The initial focus was firmly on establishing disciplines to overcome entrenched fragmentation of national public procurement markets. Two Public Procurement Directives replacing the four 'old' Public Procurement Directives are:

-The Public Sector Directive: Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.

-The Utilities Directive: Directive 2004/17/EC coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors.

[10] http://cordis.europa.eu/innovation-policy/studies/full_study.pdf

[11] Cf., COM(85) 316 - White Paper from the Commission to the European Council on the completion of the Internal Market

The objectives of the Directives are to:

- take account of new technologies and changes in the economic environment, including liberalisations under way or set to take place in some of the activities covered by the Utilities Directive,
- make the current texts easier to understand so that contracts are awarded in complete conformity with the standards and the principles governing public procurement and so that suppliers and purchasers are in a better position to know their rights,
- make the public procurement regime more flexible by introducing new procedures.

After a consultation period, the European Commission released a Proposal for a Directive on Public Procurement. The text adopted in December 2011 will be under institutional negotiations over the year of 2012. The Proposal clearly states in its first recitals that public procurement in the EU should be "opened up to competition" and that the award of public contracts has to comply with EU principles such as equal treatment, non-discrimination and transparency.

The European Parliament adopted on the 25th of October 2011, as a reaction to the consultation launched by the Commission, a resolution on the modernisation of Public Procurement whereby it was recommended that a future revision of the current rules should ensure "transparency and the proper use of taxpayers' money" and that, in particular in the ICT sector, the new rules should "ensure the interoperability of different systems and avoid lock-in"[12].

The revision of the legislative framework of Public Procurement should reflect the principles and objectives of the Europe 2020 Agenda of economical growth, job creation, efficient management of public money and the set up of an European area of Innovation and Research.

Apart from the Directives, as part of Action 23 of the Digital Agenda[13], the European Commission developed a guidance on the link between ICT standardisation and public procurement to help public authorities to use standards to promote efficiency and reduce lock-in.

[12] OFE Procurement Monitoring Report 2012 - 1st Snapshot EU Member States practice of referring to specific trademarks when procuring for Computer Software Packages and Information Systems between the months of March to May 2012

[13] Action 23: Provide guidance on ICT standardisation and public procurement, Issue a Communication in 2011 to provide guidance on the link between ICT standardisation and public procurement to help public authorities use standards.

Three main deliverables have been produced as part of this study:

1) The overview of current public procurement practices concerning ICT in the EU[14]
2) Guidelines to help procurers buy ICT that is based on standards, including examples of best practice in ICT procurement at a national and EU level[15].
3) Impact assessment

In terms of ICT procurement, meeting the requirements contained in the Procurement Directives of equal treatment of all economic operators, transparent behaviour and nondiscrimination can be achieved by referring to national, European or international standards so that technical specifications of a tender do not mention a specific process or refer to a specific trade mark.

The rules governing the referencing of standards in public tenders, as expressed in the Procurement Directives, allow for the referencing of standards that are developed in the formally recognised SSOs, such as the international Standards Organisations ISO, IEC and ITO, and the European Standards Organisations (ESOs) CEN, CENELEC and ETSI, and the National Standards Bodies. The direct referencing of technical specifications developed in global fora and consortia is not currently provided for. This is a significant issue for ICT where a number of relevant technical specifications, in particular in areas such as the internet and the World Wide Web, are developed through these organisations[16].

Another development in EU standardisation policy is the 2010-2013 ICT Standardisation Work Programme[17] under which standards setting organisations are invited to initiate work supporting the development and implementation of standards in priority areas, such as eHealth; regulated medicinal products; eGovernment; RFID and eInclusion[18].

[14] http://cordis.europa.eu/fp7/ict/ssai/docs/study-action23/d2-finalreport-29feb2012.pdf

[15] http://cordis.europa.eu/fp7/ict/ssai/docs/study-action23/d3-guidelines-finaldraft2012-03-22.

[16] Guidelines for Public Procurement of ICT Goods and Services SMART 2011/0044 D2 – Overview of Procurement Practices Final Report, p.11, March 2012

[17] http://ec.europa.eu/enterprise/sectors/ict/files/ict-policies/2010 2013_ict_standardisation_work_programme_2nd_update_en.pdf

[18] Guidelines for Public Procurement of ICT Goods and Services SMART 2011/0044 D2 – Overview of Procurement Practices Final Report, p.11, March 2012

The Commission has also brought forward proposals on the access of suppliers from "third countries" to the EU public procurement market[19].

In addition to the regulations and guidelines mentioned above, the European Commission launched the Open Source Observatory and Repository (OSOR) in order to support the use of open source software in the European public sector. In March 2010 OSOR produced the *Guideline on public procurement of Open Source Software*[20], with a view to explaining how the public sector can acquire open source software, and why it should do so. This Guideline also makes recommendations on the use of open standards and general ICT procurement.

The Guideline is intended to encourage public authorities at any level (local, regional or national) to procure open source software, even in the absence of specific policies on the use of open source, by showing procurement officers, policymakers and IT managers how to procure open source solely following European procurement regulations.

During the piloting phase of the eEnviPer several issues have been identified regarding with the procurement of the eEnviPer platform in pilot countries. In Italy, it is reported that the main challenge would be the time that would elapse from the presentation of the solution to the actual possibility to offer it, as the administrative process, from the issue of the procurement request, the allocation of the budget, its approval, the publication of a tender, the consequent evaluation and actual start of the implementation, can be extremely long. In Turkey, Directores of Environment and Urbanism in each city are not authorized to procure the platform by themselves. The Ministry is allowed to provide central solutions for the problems of Environmental Impact Assessment (EIA) and environmental permits and licensing. The two identified issues in Turkey are: the procurement and the tendering process and the long time that it takes in the public sector tenders and the investment of the Ministry in finding e-solutions for EIA on their own as co-funded by the Ministry of Development. In Greece, no challenges have been faces with the procurement of the eEnviPer platform until piloting phases. In Serbia, all public procurements are regulated by Public Procurement Law (Official gazette of the RS 124/2012). The price of eEnviPer license qualifies it to the Low-Value Public Procurement Procedure, which applies to the procurement of goods, services or works of the same kind, whose estimated value, at the annual level, is lower than 3.000.000 dinars (c. 26.000 EUR) but greater than 400.000 dinars (c. 3.500 EUR).

The procedure implies that:

[19] http://www.scotland.gov.uk/Topics/Government/Procurement/policy/eureviewprocurement/countryaccess

[20] http://joinup.ec.europa.eu/sites/default/files/OSS-procurement-guideline%20-final.pdf

"Contracting authority in a low-value public procurement procedure invites at least three persons performing activities which are the procurement subject who, according to information obtained by contracting authority, are capable to implement the procurement, to submit their bids and, at the same time, contracting authority publishes call for competition on the Public Procurement Portal and on its own website."

This means that Public Authorities cannot purchase eEnviPer platform in direct negotiations but through public competition in Serbia.

3.2 CLOUD COMPUTING AND PUBLIC PROCUREMENT

Security and Resilience in Governmental Clouds (2011) , published by ENISA, provides a guide for public bodies in the definition of their security and resilience requirements and how to evaluate and choose from the different cloud computing service delivery models.

According to this report, rule of law applies to governmental actors in all Member States, they are directly bound by their respective constitutions. This is in contrast to private actors who have full private autonomy unless there are laws that constrain their actions. Sometimes this is not very apparent, mostly because many (sub-constitutional) laws apply to governmental actors and assure compliance with constitutional requirements. Sometimes these laws even apply similarly to both the government and the private sector. So, in most cases, discussing this sub-constitutional law will be wholly sufficient for the purposes of this analysis.

For governments and PAs in general, one of the main legal issues is sovereignty and control over the data that is being handled. A governmental body that is entitled to handle data retains responsibility for its proper handling and should ensure that its obligations to protect the data extend by contract to its third party providers. Where cloud infrastructure hosting extends beyond the local legal jurisdiction, the public body must consider the implications and related safeguards offered by their provider(s). If governmental data is being handled abroad by private parties in foreign jurisdiction, this create the risk that foreign courts subpoena the private entity and thus reach into the government's data. Additionally, this may mean potential breaches of confidentiality and intellectual property laws related to the information, data, know–how, copyright or patent material they migrate to the cloud.8 These issues apply equally to all forms of outsourcing, including any current outsourcing arrangements as well as public, private and community cloud provision. A government body therefore should ensure that its outsourcing providers impose adequate security measures, and that procedures and mechanisms are in place so that only relevant data would ever be surrendered in response to legitimate demands by the judicial authorities.

The legal compliance by all parties involved in a governmental cloud has to be implemented through their contractual relationships. In practice, they either negotiate clauses that assure compliance or choose to contract only with partners whose standard terms and conditions include the required assurances. All stages of the contractual chain between the municipalities, province or region and the external service provider have to be carefully negotiated and/or evaluated. This is especially relevant where data protection law is applicable, because EU and national data protection laws require IT-security measures. This may transform into, for example, service level agreements and provisions on technical and organizational measures for IT-security.

Recently, ENISA released another report called "Procure Secure A guide to monitoring of security service levels in cloud contracts". In this report, ENISA set up some parameters for cloud computing procurement:

1. Service availability
- Which functions should be covered by availability monitoring?
- How to define when a system is unavailable.
- How availability is measured (e.g. user reports, sample requests).

2. Incident response
- Definition of minimum response times.
- Severity classification of incidents.
- Incident management capabilities in place for systems customer control.

3. Service elasticity and load tolerance
- For which resources should elasticity be monitored?
- Elasticity tests (e.g. burst tests).
- Elasticity in customer architectural choices.

4. Data life-cycle management
- Monitoring of back-up operations and tests. e.g. age of most recent data restored.
- Export test results: e.g. integrity check and parse according to well-defined formats.
- Independent testing of availability and performance of back-ups.

5. Technical compliance and vulnerability management
- Definition of a set of security-related configuration options.
- Software updates and patches to be applied.
- Procedures for vulnerability discovery and reporting including by a trusted third-party.

6. Change management

- Notice periods for critical changes to system configuration.
- Notification triggers implemented for critical events, such as loss of certification status (e.g. ISO), significant changes in security processes e.g. key lengths.

7. Data isolation

- Types of data isolation monitored, e.g. memory, data at rest, secure deletion.
- How to define criteria for a failure in performance isolation.
- How can data and performance isolation be tested independently?

8. Log management and forensics

- Are logs tested frequently for availability?
- Cross-checks with customer's own event-logging systems (e.g. firewall logs).
- Do you log relevant events in the systems under your control?

In public procurement of Cloud Computing based solutions, no challenges with the procurement of the eEnviPer platform is identified in Greece as it is designed as a cloud platform. Also in Serbia there are no specific challenges if all the security and privacy standards are reached and maintained. Also in Serbia, the installation of certain GIS data on a remote server should be regulated by agreement with the service provider that would ensure the protection of the data. In Turkey, the installation of a cloud solution has to obey the public tendering process and rules. If all these rules and conditions are met, no specific issues is expected but the public authorities are willing to host their own environments as private clouds and they are not willing to procure a cloud solution which is hosted outside of Turkey. These are the identified challenges during the piloting phase. In Italy, the challenge is related to the fact that the legal framework is still incomplete in terms of public procurement of cloud-based services. Therefore, now there is no constraint for the adoption of the eEnviPer cloud service as it is a part from the hesitancy of the PA officers in front of the regulatory uncertainty. But in future, once a clear regulation is defined, it could be necessary to adapt the cloud solution implemented by eEnviper platform to the new regulations.

3.3 DATA & SYSTEM SECURITY AND PUBLIC PROCUREMENT

In Italy, regarding the data and system security concepts of a public procurement, the PA is allowed to ask to declare the compliance with the article 50-bis and 51 of the PA Digital Code, in practice they ask the bidder to provide an operational continuity plan and a disaster recovery plan and to store and control the documents in public administrations in such a way as to minimize the risk of destruction, loss, access unauthorized or

inconsistent with the purposes of the collection. In Turkey, public procurement and tender requirements have been identified by general rules and special conditions of the public authority that are detailed in the Request for Proposal documents. All international data and system security standards are asked from the bidder parties. Some PAs also asks the bidder to provide their certificates for ISO/IEC 27001:2005 – Information technology – Security techniques – Information security management systems – Requirements. In Serbia, Public Authority expect that eEnviPer solution ensure, in terms of security, the following standards: availability (data/information are available to everyone and only authorized persons can remove it), integrity of the data (only authorized persons can modify the data/information and in accordance to law), authentication (no one can jeopardize authenticity of the data/information), and non-repudiation (stakeholders are not able to repudiate authenticity, integrity and origin of the data/information). For the certification, there are no general regulations. Contracting authority prepare tender documentation that contain definitions of requirements in terms of: type, technical characteristics (specifications), quality, quantity and description of goods, services or works, manner of executing control and ensuring quality assurance, time limits for contract execution, place of execution or delivery of goods, any additional services. By considering all these eEnviPer platform adapts itself to maintain and satisfy the data and system security requirements.

3.4 LICENSE REQUIREMENTS FOR PUBLIC PROCUREMENT

During the piloting phase, licensing requirements for public procurements is also analyzed by pilot countries and the following issues have been raised:

In Italy, both the issue of software licensing and opens source are handled by the “Code of the Digital Public Administration”. The Art.22, modified on the 12th August 2012, states the following:

Public administrations acquire computer programs or parts thereof as a result of a comparative assessment of technical and economic of the following solutions available on the market:

a) software developed for the public administration;
b) reuse of software or parts of it developed for the public administration;
c) Free Software or Open Source;
d) software delivered through cloud computing;
e) proprietary software through use of a license;
f) software combination of the previous solutions.

So when the comparative assessment of technical and economic aspects demonstrates the impossibility to access to solutions open source or already developed within the public administration at a lower price, the acquisition of proprietary computer programs and software with commercial license is allowed.

In Turkey, PAs are allowed to define their licensing criterias in the public tender specification documents. Some PAs are willing to procure open source based solutions and the others provide their licensing requirements in details in the public tender specifications. For eEnviPer platform, both the platform license and the ESRI licenses are going to be considered during the procurement phases. In Greece, licensing of the eEnviPer platform should follow the regulations of the Greek Law 3979/2011 concerning e-Government and no Open Source issues are expected. In Serbia no licensing and open source related issues have been raised up to now.

3.5 NATIONAL PRACTICES ON ICT PROCUREMENTS

Given the overview of the general rules and regulations applied related to ICT procurement in the above section, below we aimed to analyse the current situation related to procurement laws in particularly related to ICT and cloud computing and also related to technical requirements in the pilot countries via asking the questions defined in the Annex-I, Section 2.

3.5.1 Turkish Pilot

Turkish Law on Public Procurement (Law No: 4734, Turkish Law on Public Contracts (Law No: 4735) is the main regulations on the Procurement of Services.

Article 10 of Public Procurement Law clearly states the rules of qualification as given in the following paragraph:

> "...
>
> The tenderers participating in the procurement proceedings may be required to submit the following information and documents for evaluation of their economic, financial, professional and technical qualifications:
>
> **a)** For evaluation of the economic and financial capability; 1) bank statements relating to the financial standing of the tenderer, 2) the balance sheet of the tenderer which is obligatory to be published in accordance with the related

legislation, or required sections of the balance sheet, if those are not available, equivalent documents, 3) a statement of the tenderer's overall turnover or documents indicating the volume of the work being carried out and completed by the tenderer relating to the subject matter of the procurement proceedings.

b) For the evaluation of professional and technical qualifications;

1) Documents proving that the tenderer is operating as a registered member of the related chamber in accordance with the relevant legislation, and is legally eligible to submit tenders,

2) With regard to subject matter of the procurement or similar works undertaken by the tenderer under a contract having a value in the public or private sector;

a) Documents proving the experience in works contracts whose preliminary acceptance proceedings have been completed and in services contracts linked to construction works whose acceptance proceedings have been completed within the last fifteen years,
b) Documents proving the experience in works contracts whose preliminary acceptance proceedings have been completed and in services contracts linked to construction works whose acceptance proceedings have been completed, of which is supervised or managed at least in the ratio of %80 of the contract value, within the last fifteen years,
c) documents proving the experience for the ongoing works contracts and services contracts linked to works contracts which have been completed flawlessly, supervised and managed at least in the ratio of %80 of the total contract value within the last fifteen years, provided that the initial contract value has been completed,
d) Documents proving the experience in goods and services contracts completed within the last five years,
e) for transferred contracts: the documents proving the experience in works contracts whose preliminary acceptance proceedings and in services contracts linked to construction works whose acceptance proceedings have been completed within the last fifteen years and in goods and services contracts whose acceptance proceedings have been completed within the last five years, provided that at least %80 of the contract value have been completed,

3) Documents relating to the production and/or manufacturing capacity, research-development activities and quality assurance practices of the tenderer,
4) Information and/or documents relating to the organizational structure of the tenderer, proving that he/she employs or will employ adequate number of staff in order to fulfill the subject matter of the procurement,
5) In cases of procurement of services or works, the documents demonstrating the educational and professional qualities of the managerial team and the technical staff of the tenderer,
6) Documents relating to facilities, machinery, devices and other equipment required for fulfillment of the work that is the subject matter of the contract of the procurement,
7) Documents relating to the technical staff or technical institutions responsible for quality control, whether they are directly attached to the tenderer or not,
8) Certificates granted by quality control institutions accredited in accordance with the international rules, certifying the conformity of the work in question with the standards specified in the tender document,
9) In case requested by the contracting authority for the confirmation of their accuracy, samples, catalogues and/or photographs of the goods to be supplied…"

Following this, certificates might be required by the PA mostly depending the size and impact of the project; (All the certifications must be obtained from institutions accredited by Turkish Accreditation Agency or International Institutions accredited by International Accreditation Agencies that are recognized mutually by Turkish Accreditation Agency)

ISO 9001: Quality Management Systems, ISO 20000: IT - Service Management, ISO27001: IT - Security techniques - Information security management systems

e-Government regulations are based mainly on internationally recognized and utilized standards of ISO, BSI, CEN, ANSI and World Wide Web Consortium, W3C. National standards on public web pages established by TUBİTAK (Turkish Scientific Council) in 2006 were used as a guide to set the standards on government internet web services for e-Government project.

In regards to procurement of cloud services, there is not any specific regulation in place. However, within legal boundaries, especially in commercial and personal data security issues, there are already installed programs running on the cloud system.

It is not obligatory to carry any certificates to operate in the data security business, however, most agencies are very likely to assess the qualifications of the tenderer as following paragraph from Law No:4734 clearly states:

> "…Certificates granted by quality control institutions accredited in accordance with the international rules, certifying the conformity of the work in question with the standards specified in the tender document…"

Each Public Authority might require different type of licences according to the needs and requirements in their specifications. .

In 2005, as part of the Action Plan for the e-Transformation project, it was decided to implement the open source code software in designated public institutions for trial purposes, and switch to open source code in the applications used by the e-Government by the time. However, in the meantime the PA's are allowed to specify the type of code depending on the job requirements.

The ISO standards for the Information management: Recording, Archiving, Distributing, Publishing and Security of Data are mostly accepted unless there is a national regulation specifically developed for certain management systems such as e-Signature Act (23.01.2004, No:5070). While E-signature Usage is still limited to a number of public institutions, it is projected that in the near future e-Transformation project shall penetrate every public institution and e-Signature shall be obligatory in each and every transaction of the government.

There are a number of laws that are imposed for the e-Government solutions such the Universal Availability of Services Act (Law No: 5369, 25.06.2005), Regulation on Personal Information Registry and Protection of Privacy, Turkish Law No 5809 – Law on Electronic Communication Turkish Law No: 5651 – Regulating the internet transmission issues and combating the crimes which are conducted by internet transmission

During the eEnviPer solution exploitation phase, procurement of the cloud system stands as a barrier. It is highly recommended that the regulations mentioned below are examined thoroughly for the compliance.

- Decree on Protection of Commercial Secrets and Access Rules to the Commercial Information No:2010/3
- Article 4 and 8 of Regulation on Personal Information Registry and Protection of Privacy
- Turkish Law No:2565 – Military Zones and High Security Areas

- Turkish Law No 5809 – Law on Electronic Communication
- Turkish Law No: 5651 – Regulating the internet transmission issues and combating the crimes which are conducted by internet transmission

3.5.2 Greek Pilot

In Greece the issues related with the public procurement are regulated by the following laws:

- Greek Law 2286/1995 'Public Sector Procurements and regulation of relative issues'
- Presidential Degree 118/2007 'Regulations for Public Procurements'
- Presidential Degree 60/2007 Adaptation of the Greek Legislation to the EU Directive 2004/18 'For the coordination of the procedures for public sector procurements'.
- Presidential Degree 370/1995, for the adaptation of the Greek legislation according to the EU laws.

The Greek Law 3979/2011 'For the e-governance' regulates the issues related to the electronic governance and ICT. The above mentioned Law doesn't state any general administrative requirements for ICT. Every Authority must publish administrative requirements, during the procurement process, according to their own special characteristics.

Furthermore, the Law 3979/2011 doesn't mention any general technical requirements for ICT. Every Authority must publish technical requirements, during the procurement process, according to their own special characteristics.

The Ministerial Decision Φ.40.4/1/989 of 2012 poses the standard requirements for any e-governance solution. Particularly, the above legislation describes the desired and mandatory requirements in the following fields:

- Directions for the organizational management structure of the system, the roles and the responsibilities of the personnel involved.
- Naming of the internet site
- The artistic overall presentation of the site
- The structure and content of the public internet sites with rules for the first page, the content of the site, the structure and the procedures for the management of the content, the securing of the rightness, completeness, and update of the content, rules for the language of the content and the possibility for the use of a second language (e.g. English).

- The basic functions of search, navigation and contact details with the appropriate authority.
- Specification for the accessibility of all the public to the system, including people with special needs.
- Procedures and rules for the provision of information services to the users, for the operation of users' forums and interconnection with operational systems of the authorities.
- Procedures and rules for the evaluation of the content and the services by the users.
- Security issues and protection of personal information.
- Classification of users and access permits.
- Legal issues in focus of personal data issues, copyright issues, and legal disclaimer issues.
- Issues regarding the dissemination of the systems.

The Greek Law 3979/2011 'For the e-governance' regulates the issues related to the electronic governance and ICT. This Law describes a general frame in which the processes of e-governance should comply, without providing any further detailed description.

The Presidential Degree 131/2003 'Directive for the electronic trade' is an adaptation to the EU Directive 2000/31 and also provides some generic instructions and directions without specific details.

The Ministerial Decision Φ.40.4/1/989 of 2012, on the other hand, makes clearer the specifications regarding the e-governance and the framework for the creation and use of cloud computing solutions.

According to the Greek legislation, as described above, PA's allowed to procure cloud solutions.

The Greek legislation does not specifically allow or forbid the procurements of cloud solutions hosted in another country, in any law.

The Presidential Degree 131/2003 'Directive for the electronic trade' is an adaptation to the EU Directive 2000/31. It adapts the Greek legislation to the European Laws. The Presidential Degree, nevertheless, provides some generic instructions and directions without specifying the categories and the procedures govern the cloud computing.

The Greek legislation does not specify any data and system security certifications for public procurement. Any certifications and specifications are determined on each occasion according to the special requirements of each agency and authority.

Similarly, there is no data and system security certification regulation for public procurement. Any certifications and specifications are determined on each occasion according to the special requirements of each agency and authority.

The Ministerial Decision Φ.40.4/1/989 of 2012 suggests the use of open source software in the e-governance, without that suggestion to be obligatory. In general, every solution is judged according to the specifically needs and requirement of each distinct case, without a general mandatory norm.

The Greek Legislation does not describe specific standards regarding e-signatures or electronic document management systems, for PA procurements. However, Law 3979/2011 'For the e-governance' in Article 13 mentions that generally the electronic documents edited by a public authority could have an advance e-signature which is based in recognized certificate and is created by secure software for creation of signatures. That signature has the same legal and proving power with the traditional hand signature.

In addition The Ministerial Decision Φ.40.4/1/989 of 2012 mentions recommended and mandatory rules and specifications for the security and authentication of the e-governance services, for the security on data transfer and the technological security of the personal information data of the users.

It is also important that the legislation does not specifically restrict the e-government solutions to be owned by a national company, in any law.

As the regulations do not demand any particular requirements and specifications in public sector ICT procurements, eEnviPer solution will not face any particular barrier in the exploitation phase in Greece.

3.5.3 Serbian Pilot

Serbia adopted a new Law on Public Procurement ("OJ RS", No 116/08) in December 2008 and implementing legislation in July 2009. The law paved the way for a major overhaul of the Serbian procurement framework. It has brought about several changes, such as certification of professional public procurement officials, introduction of e-procurement and establishment of an electronic public procurement portal, the possibility of court review in public procurement cases, introduction of anticorruption clauses and institutional independence of the public procurement bodies, notably the Public Procurement Office and the Commission for the Protection of Rights in public procurement matters.

Other related bylaws and regulations are as following:

- Guidelines on small value public procurement procedures
- Regulation on procedure for awarding certificates to public procurement officials
- Regulation on determining evidence which prove that bid was submitted by domestic bidder and on determining goods of domestic origin
- Regulation on criteria for establishing commissions for public procurement
- Regulation on mandatory elements of tender documents in public procurement procedures
- Regulation on procedure for opening bids and the form for taking minutes on opening bids
- Regulation on how to keep records of public procurement

There are no specific requirements regarding ICT goods and services procurement. The procuring entity decides on criterion and requirements in its request.

Consequently, there is not any regulatory provision for the cloud computing. However, the "Information Society Development Strategy in the Republic of Serbia until year 2020" supports integration of technological trends, especially cloud computing. So, the PA's are allowed to procure solutions on cloud and cloud solutions hosted in another country. Currently, cloud rental models are not available.

As stated previously, General procedure concerning public procurements is covered by the Law on Public Procurement ("OJ RS", No 116/08). This law does not specifically state anything about procurement of ICT and its licensing. It does, however, state that goods can be rented, not only bought, which might be relevant for eEnviPer licensing.

In general, Serbian regulations in this field are yet to be written. There is no law that states whether system has to be owned by a national company or not. The only document that mentions anything about the subject is the Statute on Electronic Office Business (OJ RS, 40/10) and accompanying Manual, which provides requested file formats and technical procedures concerning maintenance of the e-archives (temperature, access…). Concerning this, it might mean that the actual data should be stored on the Municipality servers, and not in the cloud. Law on Information Security will most likely cover these topics, but is still not adopted.

There are also laws that cover terms mentioned under #4- such as Law on Electronic Signature ("OJ RS", 135/2004), Electronic Document Law ("OJ RS", 51/09), but as already mentioned, these are not strictly connected with the procedure of public procurements.

3.5.4 Croatian Pilot

Public procurement legislation has been aligned with EU since January 2012 with the spring 2011 government ordinance providing for increased transparency, including publication of information on the actual execution of contracts via the Public Procurement Act (Official Gazette 90/2011). This Act regulates procedures for the award of public contracts and framework agreements for the procurement of supplies, works or services, legal protection in relation to those procedures and the competences of the central state administration body competent for the public procurement system.

There is also a Public Private Partnership Act and the Concessions Act approved in late 2008 represents an important new step in promoting PPP in Croatia.

Other related procurement regulations are as following:

- Act on the State Commission for Supervision over Public Procurement Procedure, Official Gazette 21/2010
- Ordinance on the list of entities bound by the Public Procurement Act, Official Gazette 19/12
- Regulation on control over the implementation of the Public Procurement Act , Official Gazette 10/12
- Ordinance on training in the field of public procurement, Official Gazette 06/12
- Regulation on public procurement notices, Official Gazette 10/12
- Ordinance on the application of the Common Procurement Vocabulary (CPV); Official Gazette 06/12
- Regulation on the methodology for drawing up and handling tender documents and tenders; Official Gazette 10/12
- Regulation on public procurement for defence and security purposes; Official Gazette 89/2012
- Ordinance on public procurement in diplomatic missions and consular posts of the Republic of Croatia abroad; Official Gazette 22/2012
- Regulation on implementation of the public private partnership projects, Official Gazette 88/12

There is no specific reference to ICT procurement requirements. The content to be procured is expected to be described in Scope of work or Scope of services with appropriate procurement conditions.

Besides, there are not any regulations related to cloud computing and also any guidelines addressing the hosting the cloud in another country, neither on cloud business rentals. However, existing permitting laws and by-laws proscribe procedures based on personal communication and documentation exchange in hardcopy. Only some of national spatial

data infrastructure (cartography, orto-photos, spatial plans, etc.) is available in digital format, very often not in active format.

Public procurement legislation requires free market approach. If eEnviPer system is to be used, it must be justified that it is the only suitable solution. In addition, procurement of special computer software requires delivery of source code.

There is e-Croatia Government policy recommendation for the usage of open source platform for development of solutions to be used in government agencies and public sector.

In addition to that, Croatian government has formed a Committee for the digitalisation of public administration with one of the key activities focusing on the optimisation of use of electronic communication infrastructure in public administration, with the emphasis on use of resources owned by Republic of Croatia.

During the exploitation phase of the eEnviPer, not using open source platform (using of ESRI) may raise problems, as the e-Croatia Government policy recommends usage of open source platform for development of solutions to be used in government agencies and public sector. In addition to this, Croatian government – Open source code policy (2006), e-Procurement Legislation- The Public Procurement Act (NN 110/07 / NN 125/08) and accompanying regulations and ordinances (NN 125/08), regulate the conditions of and procedures for public procurement which precede the conclusion of contracts on the procurement of goods and services and the contracting of works with the objective of securing the effective utilisation of budgetary and other of encouraging a free market for tendering.

3.5.5 Italian Pilot

Public procurement is regulated by the “Code of Public Contracts”, approved by Legislative Decree 163 of 2006, published in the ordinary supplement no. 107 / l at Official Gazette n. 100 of May 2, 2006, entered into force on 1 July 2006.

Administrative requirements for ICT procurements are listed in the: “Guidelines on the quality of ICT goods and services for the definition and the Government of the contracts of the Public Administration”. This document illustrates to public entities the impacts resulting from the possible choices and approaches concerning the ICT contract. The purpose of this manual is to express considerations, applicable to the tender that the administration must realize, about:

- the choice of the object and the mode of delivery

- the choice of competitive tendering to establish the criteria for access to the tender
- the attribution of the technical score
- the attribution of the economic score
- the prevention of abnormally low tenders.

In order to participate to tenders related to ICT procurement, a general requirement is the ownership of a certification EN ISO 9001:2000 for the tenderer quality system, issued by a recognized accredited certification in accordance with the requirements of EN 45012, in relationship to the specificity of the subject of the tender.

The document discusses, also, the criteria for accessing the tender, which can be controlled in pre-qualification stage, in the case of tender with restricted procedure, or during the offer, in the case of open procedure. The access criteria are defined in relationship to the following parameters:

- Thresholds for financial capacity: The general principle in defining the turnover criteria is not to exclude emerging companies, thus promoting the participation of companies also recently established or resulting from recent spin-off which, however, have proven experience in the type of service request., which then might not have a turnover in previous years, and to encourage participation by imposing thresholds not particularly high. On the other hand, in situations where the contract is particularly critical and large, the thresholds of participation established according to economic and financial criteria guarantee the reliability of the supplier and its ability to deal with complex situations and large.
- Thresholds for technical capacity: these may be connected to the availability of staff with a certain level of specific experience or qualification; indication of academic and professional qualifications of the service providers and the persons actually responsible for the provision of services; a statement of the tools, plant or technical equipment with which the service provider will perform the contract

The minimum technical requirements for ICT procurement are defined into the document "Recognition of some Best Practice applicable to ICT contracts"

The best practices selected are summarized in the table below.

Best Practice	**Ambito di applicazione**

CMMI-DEV Capability Maturity Model Integration for Devolution	Integration and development of software products
COBIT Control Objectives for Information and related Technology	ICT Governance
ITIL Information Technology Infrastructure Library	ICT services management
PM BOK Guide to the Project Management Body of Knowledge	Project Management
PRINCE 2 Projects IN Controlled Environments	Project Management

In addition, the international ISO Best standards are those considered most relevant to the implementation of projects and the provision of ICT services. These standards, summarized in the following table, allow the certification of production organizations (ICT providers) engaged in construction projects and the provision of ICT services.

Standard	Scope
UNI EN ISO 9001:2000 Quality management Systems. Requirements	Quality Management
ISO/IEC 27001:2005 IT - Security techniques - Information security management systems - Requirements	ICT security management
ISO/IEC 20000-1:2005 IT - Service Management – Part 1: Specification	ICT services management
UNI ISO 10006:2005	Project Management

The technical requirements of eEnviPer solution are those established by the Directive no. 8 26 November 2009 of the Minister for Public Administration and Innovation, which defines the “Guidelines for the Web Sites of Public Administration”.

This directive defines rules in terms of:

- publication into the domain "Gov.it" an essential condition for the immediate recognition of its public nature, and then click the name of the site to identify administrative level, specify the administration that runs it and the person in charge;
- comply with the principles of transparency of administrative action, identifying minimum essential content of a website and public management policies about the nature and use of on-line content and the method of treatment of user-entered data;
- ensure the maintenance of a public website and make it visible;
- comply with the requirements of accessibility and usability;
- implement secure access to online services;
- observe the correct rules for the processing of personal data;
- monitor the quality of a public website.

There is no legislation in place related to the cloud procurement, but the document “RECOMMENDATIONS AND PROPOSALS ON THE USE OF CLOUD COMPUTING IN THE PUBLIC SERVICE” explores the possible solutions that PA could take in order to contract and operate a initiative cloud.

In regards to data and system security certifications, the following certifications are taken into consideration in the present PA regulation:

- ISO/IEC IS 15408 (Common Criteria) standard applies to ICT products/systems.
- The certification of the ICT management process is performed instead in accordance with ISO / IEC IS 27001 (derived from British Standard BS7799: 2)
- The certification of the implementation of cryptographic devices, according to the U.S. standard FIPS 140 and the professional staff according to standards reference developed by various organizations mostly Americans.

It must be noted that the mentioned certifications are not mandatory, but the use of certification services is stimulated especially in contexts identified in the PA as highly critical, such as those relating to protection of bodily integrity and health of the citizens, those in which the damage, although only economic, can be very relevant for citizens and

for the country, and when the ICT tools are used by citizens to exercise their freedom and their basic rights.

The issue of software licensing is handled by the "Code of the Digital Public Administration". The Art.22, modified on the 2nd August 2012, states the following:

"Public administrations acquire computer programs or parts thereof as a result of a comparative assessment of technical and economic of the following solutions available on the market:

a) software developed for the public administration;

b) reuse of software or parts of it developed for the public administration;

c) Free Software or Open Source;

d) software combination of the previous solutions."

Only when the comparative assessment of technical and economic aspects demonstrates the impossibility to access to solutions open source or already developed within the public administration at a lower price, the acquisition of proprietary computer programs and software with commercial license is allowed.

Significant, in this regard, is also the Chapter VI - Development, acquisition and reuse of information systems in public administrations, and in particular Art.69, which states the following:

1. Public administrations are holders of computer programs made on specific customer's specification, have a duty to give them in source code form, complete the documentation available at no charge to other public administrations that require them and wish to fit their needs, unless justified reasons.

2. In order to facilitate the reuse of computer programs owned by the government, pursuant to paragraph 1, the systems are required to be easily portable to other platforms and meet the definition and regulation made by DigitPA, under 'Article 68, paragraph 2.

3. Public administrations must insert in contracts for the acquisition of computer programs or individual modules, referred to in paragraph 1, clauses guaranteeing the right to dispose of the programs for the reuse of the same or other administrations.

4. Contracts for the acquisition of computer programs developed on behalf and at the expense of the government must include clauses, agreed with the supplier, forcing it, for a certain period of time, to provide, at the request of other government, services which allow the reuse of programs or individual modules.

As explained above, PA is allowed to buy software license only if the comparative assessment of technical and economic aspects demonstrates that it is the only suitable solution.

The following standards are at the moment identified:

As explained above, PA is allowed to buy software license only if the comparative assessment of technical and economic aspects demonstrates that it is the only suitable solution

The following standards are at the moment identified:

<u>for drafting and management of electronic documents</u>:

ISO 15489-1: 2006 Information and documentation - Management of archival documents - General principles on records management.

ISO 15489-2: 2007 Information and documentation - Management of archival documents - Guidelines on records management.

ISO / TS 23081-1:2006 Information and documentation - Records management processes - Metadata for records - Part 1 - Principles, Framework for the development of a metadata system for document management.

ISO / TS 23081-2:2007 Information and documentation - Records management processes - Metadata for records - Part 2 - Conceptual and implementation issues, practical guide for implementation.

ISO 15836:2003 Information and documentation - The Dublin Core metadata element set, system metadata of Dublin Core.

<u>for the preservation of electronic documents</u>

- ISO 14721:2002 OAIS (Open Archival Information System), open information system for archiving.
- ISO / IEC 27001:2005, Information technology - Security techniques - Information security management systems - Requirements, Requirements of an ISMS (Information Security Management System).
- ETSI TS 101533-1 V1.1.1 (2011-05) Technical Specification, Electronic Signatures and Infrastructures (ESI); Preservation Information Systems Security, Part 1: Requirements for Implementation and Management, Requirements for building and managing safe and reliable systems for the electronic storage of information.
- ETSI TR 101533-2 V1.1.1 (2011-05) Technical Report, Electronic Signatures and Infrastructures (ESI); Preservation Information Systems Security, Part 2:

Guidelines for Assessors, Guidelines for evaluating safe and reliable systems for the electronic storage of information.

- UNI 11386:2010 S-Recovery of Digital Objects.
- ISO 15836:2003 Information and documentation - The Dublin Core metadata element set, system metadata of Dublin Core.

There are also some technical rules to be used as a reference for the digital signature, but they comply with the generally accepted international standards, without identifying a specific technology or solution

As the Art.69 of the "Code of the Digital Public Administration" states, it has to be owned that the PA itself.

It appears that the during the exploitation phase issues may arise in regards to cloud hosting, as there are grey areas in the current regulations and also if the solution has non OS licence, it will be challenging to comply with Art 22 of the Code of the Digital Public Administration. In addition to this, Art 69 of the Code of the Digital Public Administration requires systems to be portable, both in technological terms and with respect to licensing issues, therefore, the eEnviPer solution needs to meet this criterion.

4 INTEROPERABILITY REQUIREMENTS

4.1 EU INTEROPERABILITY FRAMEWORK (EIF) FOR PUBLIC SERVICES

In the EU, the European Commission has setup different initiatives in the area of e-government within the limits of the few powers of the EU in the domain of Public Administration. One initiative is the IDABC Programme, which can be regarded as the initiative that best serves the different Member States administrations as far as e-government is concerned.

As regards the interoperability policy, the IDABC Programme issued its Architecture Guidelines (version 4.1) in March 1999, as a supporting tool for the Decision of the European Parliament and the Council 1720/1999/EC "Interoperability and access to Trans-European Networks for the electronic Interchange of Data between Administrations" (EPC, 1999). Current version is 7.1 and it was issued in September 2004. The Architecture Guidelines provide concepts and reference for optimum interoperability between European Institutions, European Agencies, and Administrations in Member States.

Furthermore, IDABC published the final version 1.0 of its European Interoperability Framework[21] (EIF) in November 2004. The EIF provides a common framework for discussion around interoperability, pinpointing which interoperability issues should be addressed when implementing pan-European e-government services, but it avoids prescribing any concrete architecture or standard catalogue, which was to be the main objective of successive releases of the Architecture Guidelines.

The recommendations and guidelines of the EIF are mandatory for pan-European projects carried out in the context of IDABC programme, which is financed by the EU and managed by the European Commission. The EIF does not aim to replace national interoperability guidance but focuses on supplementing them by adding the pan-European dimension. Anyway, the influence of EIF over national interoperability frameworks is important.

The EIF defines the minimal characteristics of an open standard as: being maintained by a not-for-profit organisation with on-going development based on an open procedure available to all interested parties; having been published and available and able to be copied for a zero or nominal fee; and the intellectual property of the standard being available, irrevocably, on royalty-free basis.

[21] http://ec.europa.eu/isa/documents/eif_brochure_2011.pdf

The formal version 2.0 of the EIF (2010) recommends that public administrations should prefer 'open specifications' but does not define 'open standards' as the previous version did. It also recommends in doing so that public bodies should "take due account of the coverage of functional needs, maturity and market support", and states that such bodies may decide to use less open specifications in cases in which open specifications "do not exist or do not meet functional interoperability needs". Moreover, specifications should always be "mature and sufficiently supported by the market", except in the case in which the creation of "innovative solutions" is required.

Below are the underlying principles of the EIF (2010)[22]

- Subsidiarity and proportionality
- User-centricity
- Inclusion and accessibility
- Security and privacy
- Multilingualism
- Administrative simplification
- Transparency
- Preservation of information
- Openness
- Reusability
- Technological neutrality and adaptability
- Effectiveness and efficiency

4.2 NATIONAL INTEROPERABILITY STANDARDS

Following the overview of the EU interoperability standards, it is essential for eEnviPer pilots to determine the national interoperability requirements. For this purpose, we have asked the pilots questions listed in the Annex-1, Section3.

4.2.1 Turkish Pilot

Guide to Interoperability Standards Version 2.1 was published in May 2012. In the formation of the standards, European Interoperability Practices are used as reference such as IDA and IDABC programmes. Main subjects of the standards are about the usage of

[22] Annex 2 to the "Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of Regions 'Towards interoperability for European public services'"

World Wide Web, equal access and availability, safety and protection of the personal and commercial information.

Main policy developed by the decision makers is the full compatibility of the National Interoperability Framework with the European Interoperability Framework. Therefore, any services within the boundaries of European Interoperability Framework shall be compatible to the Turkish Standards of IF.

4.2.2 Greek Pilot

The Ministerial Decision Φ.40.4/1/989 of 2012 poses the Interoperability Framework Standards in Greece. Particularly, the above legislation describes the desired and mandatory requirements in the following fields:

- Principles and rules for the organization and coordination of the processes for the provision of integrated services to the public and enterprises.
- Representation of semantic information, through metadata structures.
- Rules, Principles and Standards for the documentation of the development of e-governance solutions, including methods of modeling procedures, documents and data.
- Standards for the communication with third systems and especially for protocols in network level, application level and content distribution.
- Standards and rules for the safety and authentication of the network services, the safety of the data transfer and the technological protection of the users' personal data.

Moreover, according to the Greek Law 3882/2010 (Governmental Gazette Vol. A / 166 /22.09.2010), "National Infrastructure for Spatial Information – Harmonization with the Directive 2007/2/EU of the European Council and the Council of 14th March 2000, and other issues", all new geo-data and metadata must comply with the standards of the EU Directive 2007/2 INSPIRE.

4.2.3 Serbian Pilot

Ministry of Finance and Economy of Serbia has provided a web portal "Tehnis" that gathers all interoperability standards and demands. These are, depending on the subject, issued by the ministry in charge. No documents have yet been issued by relevant ministries in subjects of ICT and e-Government, except one that regulates data processing systems (demanding keyboard with Serbian alphabet etc.), which is irrelevant for the eEnviPer.

4.2.4 Croatian Pilot

In 2010 Croatian government introduced the Croatian Interoperability Framework, which enables the separate information systems of state government bodies to be connected to the government network. The IF is completely aligned with the European Interoperability Framework.

So, if the eEnviPer solution complies with the EIF standards that would be sufficient.

4.2.5 Italian Pilot

Italy has drafted a National Interoperability Framework (NIF) consisting of a legal framework Digital Administration Code (DAC) and an ICT interoperability framework Sistema Pubblico di Connettività e Cooperazione (SPC), which is deployed to enforce the DAC.

The SPC mainly describes the actors, the governance, the interoperability infrastructures, and the security management. Firstly, the actors could be qualified SPC providers (providing internet or application service), private enterprises with public purposes, or external authentic data sources (do not participate in SPC but they can provide required information within SPC). Secondly, the governance of SPC is under the control of the SPC Commission, formed by members appointed by Ministers and members appointed by the Assembly of local administration. Thirdly, the interoperability infrastructures guarantee technical interoperability at any abstraction level, from the connectivity up to the application level. Finally, the security management implements a set of security services to enforce trust among public administrations connected to the network[23].

The Italian NIF is nicely aligned with the EIF, especially in terms of interoperability governance, conceptual model, and principles.

A re-design of the SPC framework started around September 2011. The SPC Board and DigitPA coordinate the groups that are principally formed by representatives from both central and local Public Administrations.

[23] http://joinup.ec.europa.eu/sites/default/files/NIFO%20-%20Factsheet%20Italy.pdf

4.3 E-ENVIPER COMPLAINCE WITH EIF FRAMEWORK- COMPARISON OF NATIONAL STANDARDS

The eEnviper platform supports the following OGC interoperability standards in relation to spatial data access and sharing:

- Web Map Service (WMS) for serving collections of layers as map images
- Web Map Tile Service (WMTS) for serving map layers as cached map tiles
- Web Feature Service (WFS) for serving data as vector features
- Web Coverage Service (WCS) for serving data as raster coverage
- Web Processing Service (WPS) for serving geospatial processing

Furthermore the eEnviper platform is built on a Representational state transfer (REST[24]) architecture, which is is a style of software architecture for distributed systems, allowing eEnviper to be able to exchange data easily with any other application/medium.

In Italy, regarding the interoperability of the eEnviPer platform, no issue is expected in regulatory terms. There may be specific requirements, which can vary for each new deploy of the system, because the PA officers could require interoperability with the systems already in place for mutual integration of information. Therefore, some customizations might be required. Accordingly, the eEnviPer Platform meets the requirements of the Greek IF standards. In the exploitation phase, it is expected to face some challenges in regards to interoperability, because Region of Crete is currently constructing an electronic registration system for all documents and applications received and exchanged by all Directorates of the Region of Crete. No issues have been identified in Turkey, Croatia and Serbia.

[24] http://en.wikipedia.org/wiki/Representational_state_transfer

5 REGULATORY FRAMEWORK FOR PUBLIC PRIVATE PARTNERSHIPS (PPP) MODEL

The phenomenon of public-private partnerships (PPPs), which re-define the relationship between the public and private spheres, is expanding rapidly. PPPs describe a form of cooperation between the public authorities and economic operators. The term "public-private partnership" is not defined in the EU legislation on public contracts. In general, it refers to forms of co-operation between public authorities and the private sector. The primary aims of this cooperation are to fund, construct, renovate or operate an infrastructure or the provision of a service. PPPs are present in sectors such as transport, public health, education, national security, waste management, and water and energy distribution. At European level, they help implement the European Initiative for Growth and trans-European transport networks.

PPPs are characterised by:

- the duration of the relationship between the partners;
- the method of funding the project;
- the role of the partners in the definition of objectives, design, completion, implementation, and funding;
- the distribution of risks.

There are two types of PPP:

- PPPs of a purely contractual nature.
  In this case, the partnership is based solely on contractual links and may fall within the scope of European Directives on public procurement;
- PPPs of an institutional nature.
  These PPPs involve cooperation within a distinct entity and may lead to the creation of an ad hoc entity held jointly by the public sector and the private sector or the control of a public entity by a private operator.

5.1 EU legislation & Legal Framework

Under EU law, there is no specific system governing PPPs. There is, however, EU legislation which is relevant to certain aspects of PPPs. For example, PPPs represent one method of public sector procurement. The EU has two procurement directives:

(i) the Public Sector Directive (2004/18/EC), which prescribes the procedures for the award of works contracts, public supply contracts and public service contracts and

(ii) the Utilities Directive (2004/17/EC), which prescribes procurement procedures for entities operating in the water, energy, transport and postal sectors.

Furthermore, all contracts in which a public body awards work involving an economic activity to a third party, whether PPPs or not, must be examined in the light of the rules and principles of the EC Treaty, including, in particular, the principles of transparency, equal treatment, proportionality and mutual recognition. With regard to the freedom of establishment and the freedom to provide services (Articles 43 to 49), these principles encompass transparency, equality of treatment, proportionality and mutual recognition. The EC Treaty thus applies to PPPs.

A legal and regulatory framework that supports PPPs is meant to facilitate investments in complex and long-term PPP arrangements, reduce transaction costs, ensure appropriate regulatory controls, and provide legal and economic mechanisms to enable the resolution of contract disputes.

The design of PPP legal frameworks varies across EU countries depending on legal tradition and existing laws. A PPP legal framework should include:

- Provisions that make a PPP project possible and facilitate its functioning (e.g. the legal right to establish a PPP company, the terms and conditions under which public assets may be transferred to non-public entities, the power of the PPP company to choose sub-contractors on its own terms); and
- Provisions that enable governments to provide financing, where relevant (for example, to provide subsidies or to make long-term commitments of public expenditure for the life of the PPP contract).

A legal framework for PPPs at European level should also include the following:

- the framework of the procedures for selecting the private partner;
- the establishment of private initiative PPPs;
- the contractual framework and any changes made in the course of a PPP;
- sub-contracting;
- the importance of effective competition in the case of institutionalised PPPs.

A PPP legal framework is typically identified in laws and regulations, but also in policy documents, guidance notes and in the design of PPP contracts. The exact nature of the legal and regulatory framework applicable to a particular PPP transaction also depends, among others, on the financing mechanisms contemplated and the scope of responsibilities transferred to the PPP company. These are issues on which the public sector should always secure advice from suitably qualified advisers.

This topic will be further analysed during the deployment and testing phases of eEnviPer platform.

6 CONCLUSIONS

This Regulatory Impact Report includes different levels of regulatory impact analysis of the eEnviPer platform starting from the design phase, to deployment, testing and operation on each pilot country. The report focuses upon the legal and regulatory issues that may directly impact the certification of the eEnviPer platform for exploitation in European Union. This analysis will serve as a critical input for the cloud platform to ensure that any certification requirements to allow the solution to go-to-market are considered during the design, deployment and testing phases. This deliverable will also provide input to the target business models for exploitation including certification and liability protections.

When we look at the regulatory framework in each country, we see similar structures for the inclusion of Directives, the structure of the issuing authorities and environmental permit categories. We also reported necessary documents for issuing EIA and Environmental Permits for each country. Turkey‘s first framework environmental legislation is the Environment Law (published in the Official Gazette dated August 11, 1983 and numbered 18132)(Law No. 2872). This directive is updated several times and the last update was in 2008. There are two types of permits in Turkey one issued by the Ministry of Environment and the other is issued by the Directorates in each region. Required documents for permitting regimes are mentioned in Section 1.2.1 above. In Turkey, the Ministry has a portal for Environmental Permits but not for EIA. The Greek Law 4014/2011 (Governmental Gazette Vol. A/ 209 / 21.09.2011) which is issued in 2011 defines the regulatory framework and gives the authority to Ministry of Environment for Categoty A1 projects. Category A2 projects are permitted by the respective Periphery and Greece also defines Category B type projects to be permitted by Standard Environmental Commitments (SEC). The documents required by the Greek Laws are given in Section 2.1.2. Serbia also has the Law on Environmental Protection (“The Official Gazette of the Republic of Serbia”, no. 135/04 and 36/09) to provide the basis for the regulatory framework. In Serbia the Ministry of Environment or the Provincial Secretariat for Environmental Protection is the authority to issue Environmental Permits. Also in Croatia EIA process is defined by the Environmental Protection Law (OG 110/07) and Regulation on EIA (OG 64/08, 67/09). In Croatia the Ministry of Environment and Nature Protection is in charge of issuing the permits. In Italy, The Legislative Decree of 3 April 2006, n. 152, called Environmental Regulations, is the reference Italian legislation on environmental permit and Environment Ministry is the authority to give permits. When we look for all five pilot countries and their regulatory framework, we see similar structures in defininig the Environmental Permits. The issuing authority is mainly the Ministry for big projects in all these countries. The documents required are changing according to the legislation defined.

The first EU legislation in the public procurement sphere date back to the 1970s. The initial focus was firmly on establishing disciplines to overcome entrenched fragmentation of national public procurement markets. Two Public Procurement Directives replacing the four 'old' Public Procurement Directives are:

- The Public Sector Directive: Directive 2004/18/EC on the coordination of procedures for the award of public works contracts, public supply contracts and public service contracts.
- The Utilities Directive: Directive 2004/17/EC coordinating the procurement procedures of entities operating in the water, energy, transport and postal services sectors.

In addition to these Directives, the European Commission launched the Open Source Observatory and Repository (OSOR) in order to support the use of open source software in the European public sector. In March 2010, OSOR produced the Guideline on public procurement of Open Source Software , with a view to explaining how the public sector can acquire open source software, and why it should do so.

This Guideline also makes recommendations on the use of open standards and general ICT procurement. Also in eEnviPer pilot countries like Croatia open source usage is an important criteria for public sector procurements. The Guideline is intended to encourage public authorities at any level (local, regional or national) to procure open source software, even in the absence of specific policies on the use of open source, by showing procurement officers, policymakers and IT managers how to procure open source solely following European procurement regulations.

As the eEnviPer platform will run on a cloud, cloud computing and cloud based solutions procurement is another topic that this Regulatory Impact Document is investigated. ENISA reported criterias for cloud computing and public procurement including service availability, incident response, service elasticity and load tolerance, data life cycle management, change management, data isolation, log management and technical compliance and vulnerability management. Also in the second release of this report, data & security requirements and also licensing requirements will be investigated during public ICT procurement. Turkish Law on public procurement defines the standards and ways of public procurement in details. Turkey also has an e-government platform for public procurement. In regards to procurement of cloud services, there is not any specific regulation in place. However, within legal boundaries, especially in commercial and personal data security issues, there are already installed programs running on the cloud system. On the other hand, it is not allowed to procure cloud solutions hosted in another country. In Greece, The Greek Law 3979/2011 ‘For the e-governance’ regulates the issues related to the electronic governance and ICT. Furthermore, the Law 3979/2011

doesn't mention any general technical requirements for ICT. Every Authority must publish technical requirements, during the procurement process, according to their own special characteristics. The Greek legislation does not specifically allow or forbid the procurements of cloud solutions hosted in another country, in any law. Serbia adopted a new Law on Public Procurement ("OJ RS", No 116/08) in December 2008 and implementing legislation in July 2009. Serbia also provided an electronic public procurement portal. Consequently, there is not any regulatory provision for the cloud computing. However, the "Information Society Development Strategy in the Republic of Serbia until year 2020" supports integration of technological trends, especially cloud computing. So, the PA's are allowed to procure solutions on cloud and cloud solutions hosted in another country. Currently, cloud rental models are not available. Serbian law also does not specifically state anything about procurement of ICT and its licensing. It does, however, state that goods can be rented, not only bought, which might be relevant for eEnviPer licensing. In Croatia, Public procurement legislation has been aligned with EU since January 2012 with the spring 2011 government ordinance providing for increased transparency, including publication of information on the actual execution of contracts via the Public Procurement Act (Official Gazette 90/2011). There is no specific reference to ICT procurement requirements. The content to be procured is expected to be described in Scope of work or Scope of services with appropriate procurement conditions. Besides, there are not any regulations related to cloud computing and also any guidelines addressing the hosting the cloud in another country, neither on cloud business rentals. Public procurement legislation requires free market approach. If eEnviPer system is to be used, it must be justified that it is the only suitable solution. In addition, procurement of special computer software requires delivery of source code. There is e-Croatia Government policy recommendation for the usage of open source platform for development of solutions to be used in government agencies and public sector. In Italy public procurement is regulated by the "Code of Public Contracts", approved by Legislative Decree 163 of 2006. Italy provides standards and best practices for ICT procurement. These standards, allow the certification of production organizations (ICT providers) engaged in construction projects and the provision of ICT services. There is no legislation in place related to the cloud procurement, but the document "Recommendations and Proposals on the Use of Cloud Computing in the Public Service" explores the possible solutions that PA could take in order to contract and operate an initiative cloud. It must be noted that the mentioned certifications are not mandatory.

Regarding the interoperability framework in EIF and National interoperability frameworks eEnviPer platform needs to support standards. Turkey has their Guide to Interoperability Standards Version 2.1 and adheres ICT products to support this standard. It is mainly suitable for EIF as well. Greece also has the Ministerial Decision Φ.40.4/1/989 of 2012 poses the Interoperability Framework Standards in Greece and accordingly, the e-Enviper Platform meets the requirements of the Greek IF standards.

Serbia has a portal named “Tehnis” for interoperability standards but there is no documents have yet been issued which is irrelevant for the eEnviPer platform. Croatia as the new member of EU uses their own standards aligned with EIF. So, if the eEnviPer solution complies with the EIF standards that would be sufficient. Italy has their National Interoperability Framework (NIF) consisting of a legal framework Digital Administration Code (DAC) and an ICT interoperability framework. The Italian NIF is nicely aligned with the EIF, especially in terms of interoperability governance, conceptual model, and principles.

As a concluding remark for the first version of the Regulatory Impact Report, The eEnviPer platform cloud based public ICT procurement may cause problems in Turkey and other partners have no limitations to procure cloud based solutions event if it is based in another country. This issue will be investigated during the deployment and testing phases.

From the certification perspective Turkey, Greece, Serbia does need any specific certification. In Turkey, according to the requirements of the Authority you may need certifications like ISO 9001 and ISO 20000, etc. E-Signature is supported by the authorities in each country but is not a mandatory statement for public procurement. In Turkey, cloud hosting and licensing may raise problems during the exploitation phase. Moreover, not using open source platform (using of ESRI) may raise problems, as the e-Croatia Government policy recommends usage of open source platform for development of solutions to be used in government agencies and public sector. Wheras, in Italy licensing requirements may raise during the exploitation phase.

As an overall, all these issues will be considered both in the deployment and testing phases. Any issue raised will be identified during the testing period will be reported in the second version of this deliverable.

A. Annex A – Questionnaire

CIP-ICT-PSP-2011-5 - 297358

eEnviPer

A single multi-purpose SOA platform that delivers environmental permissions thorough the cloud of e-Government services and applications

Questionnaire for T6.2- Regulatory Impacts Report

Workpackage	**WP6**
Dissemination level	**PU (public)**
Contributor(s)	
Editor(s)	**Serdar Yümlü, Gonca Kara Demir**
Partner in charge(s)	**Sampas**
Due date	**16/11/2012**
Submission Date	**30/11/2012**

SECTION 1: NATIONAL REGULATORY FRAMEWORK FOR ENVIRONMENTAL PERMITTING REGIME

Please provide a list and short description of the legislations related to Environmental Permitting System

Please provide a list and short description of the legislations related to Environmental Impact Assessment Procedures

Who is entitled to issue permits? Permitting Authority?

Who can apply for environmental permits?

Please provide the list of required documents when applying for a permit?

Does any of the documents require wet signature?

What is the current system for issuing permits? Is there a central government system?

Please list the compliancy issues related with your national regulations that may arise when implementing eEnviPer solution

SECTION 2: PUBLIC SECTOR ICT PROCUREMENT

NATIONAL REGULATIONS ON ICT PROCUREMENTS

What are the regulations for the public procurement?

What are the administrative requirements for ICT procurements and please list down the related regulations?

What are the minimum technical requirements for ICT procurement?

What might be the technical requirements of eEnviPer solution?

CLOUD COMPUTING AND PUBLIC PROCUREMENT

Any there any legislations related with platforms running on clouds?

Does your PA's allowed to procure solutions on cloud?

Does you PA's allowed to procure cloud solutions hosted in another country?

Are there any legislations related to cloud rental business models?

DATA & SYSTEM SECURITY AND PUBLIC PROCUREMENT

Please list the required data and system security certifications for public procurement

LICENSE REQUIREMENTS FOR PUBLIC PROCUREMENT

1) Please list the licences required for the public requirement?

Are the licence requirements of the eEnviPer platform suitable for your procurement procedures?

Is there any open source software requirement for the PA procurements?

Please list down the standards for the PA procurements such as e-signatures, electronic document management systems etc…

IPR issues- Does the proposed system has to be owned by a national company or not?

POSSIBLE BARRIERS FOR EENVIPER SOLUTION DURING THE EXPLOITATION PHASE

SECTION 3: NATIONAL INTEROPERABILITY STANDARDS

What are national Interoperability Framework (IF) Standards?

Please assess if eEnviPer platform meets the requirements of your national IF standards