



ESTRELLA - 027655

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Dissemination Level		
PU	Public	X
PP	Restricted to other programme participants (including the Commission Services)	
RE	Restricted to a group specified by the consortium (including the Commission Services)	
CO	Confidential, only for members of the consortium (including the Commission Services)	

ESTRELLA - Executive summary

ESTRELLA brings together the leading European companies and experts in the market of legal knowledge systems, to collaborate on the development, demonstration and dissemination of an innovative, open platform enabling citizens and businesses to easily access, understand and apply complex legislation and regulations. The interests of public administration are represented in ESTRELLA by the participation of the national tax ministries of Hungary and Italy.

The complexity and quantity of legislation and regulations is increasing at an alarming rate. While to a modest degree this trend can be countered by appropriate deregulation, the elimination of outdated laws and efforts to reduce bureaucratic red tape, the trend towards ever more complex laws reflects necessarily the increasing complexity of modern technology and business relationships in a global economy, and increasing public interest demands in areas such health, safety and security.

Legal knowledge systems are the key technology for managing the complexity of legislation and enable new online e-government services in which determinative transactions requiring the application of complex legislation, such as tax benefits or social security administration, are processed online, giving citizens and businesses immediate access to a personalized and transparent assessment of their rights and obligations. Three companies in the ESTRELLA consortium, knowledgeTools, Ruleburst and RuleWise, are the European leaders in the market of legal knowledge systems. Although they have a proven track record of successfully developing and deploying systems for public administration which enable citizens and businesses to cope with complex legislation, the further acceptance and dissemination of legal knowledge technology, and thus the further growth of this market, is severely hampered by the lack of an open platform. Public administration is understandably reluctant to invest heavily in closed, proprietary solutions. ESTRELLA will solve this problem by bringing experts and representatives of all stakeholders together to collaborate on the development of an innovative open platform for legal knowledge systems that advances the state of the art, enabling new services, while protecting investments by being interoperable with existing commercial systems. The main technical objectives of the ESTRELLA project are to develop a Legal Knowledge Interchange Format (LKIF), building upon emerging XML-based standards of the Semantic Web, including RDF and OWL, and Application Programmer Interfaces (APIs) for interacting with LKIF legal knowledge systems.

ESTRELLA will also design a document management system for legal sources, based on a uniform XML format, enabling search, explicating relations with other documents, drafting of new documents and version management.

To demonstrate and validate the ESTRELLA platform, European legislation and national tax legislation of two European countries will be modelled and used for pilot applications. Finance ministries and tax administrations of several European countries are taking part in the project, either as a full partner (Italy, Hungary, Germany), or in an Observatory Board.

The first version of LKIF, based on the Semantic Web technologies OWL and SWRL as indicated in the original proposal and Technical Annex, is now specified. It has two parts: a terminological one (the ontology) and a language. The language part has been defined as a layered language. The building blocks are: OWL-DL, DLP, DL-safe subset of SWRL, but also proper LKIF rules. Users can select the combination they prefer, in view of desired computational features or expressive power.

The work on formally specifying the vendor formats is finished. It has become clear that the original conception of LKIF as a format for exchanging knowledge bases among the systems of the vendors, by writing translators between LKIF and their formats, needs revision. These formats are used to represent completely different things: proof trees, inference rules and concepts. This is one of the reasons for developing LKIF as a layered language.

An ontology of basic legal concepts specified in OWL was delivered, together with a report describing its principles and the method used to build it.

These results are publicly available through the Internet (<http://www.estrellaproject.org/>).

Concerning the management of legal sources, the project has successfully sought co-operation with the CEN/ISSS standardization activities initiated by UvA early in 2006. On December 6th 2006 the first version of the CEN/ISSS workshop agreement on an interchange format for legal sources was adopted in Paris.

A general XML format for legal sources was produced (schema's plus description) plus guidelines for its use, based on the CEN/ISSS work. It covers several aspects: time definitions, modification taxonomy, examples for applying the standard and documentation. It also provides some examples of use of the MetaLex/CEN standard in XML. It is publicly available via the Internet (<http://www.metalex.eu/>, via <http://www.estrellaproject.org/> and the CEN site at <http://www.cen.eu/>).

Initial User Needs were investigated to inform design work in the project, and reported in a deliverable. At the start of the project the user needs were not explicitly defined. Progress towards work package objectives was initiated by the design of a survey methodology starting with a questionnaire to be put to users, then the conduct of a workshop to discuss findings in an open setting, followed finally by bilateral discussions with selected target Users to clarify any outstanding issues. An Observatory Board of representatives of all stakeholders outside of the project was formed.

A Validation Approach was completed on schedule and defines the schedule, phases, validation actions to be conducted in each pilot site, and definition of instruments, data capture, and reporting formats.