

Compiling, Processing and Accessing the Collection of Legal Regulations of the Republic of Croatia

Tanja Didak Prekpalaj

Tamara Horvat

Diana Miletić

Dubravka Mokriš

Hrvatska informacijsko-dokumentacijska referalna agencija - HIDRA

Siget 18C, Zagreb, Hrvatska

Didak@hidra.hr, THorvat@hidra.hr, Diana.Miletic@hidra.hr, Mokris@hidra.hr

Summary

Accelerated Internet development and expansion contributed to the growing number of regulations published in an electronic form. Due to that fact, one of the latest research objectives is development of new programs for searching through such documentation and development of digital collections. Croatian Information Documentation Referral Agency (in further text: HIDRA) systematically and regularly gathers publicly available official documentation in print and electronic form, and its goal is to gather documentation to enable simple user access to information from a single point. On HIDRA's web site there are fully available legal documents of the Republic of Croatia with all changes and amendments, bylaws and other data and relations accessible through hyperlinks, relevant to a regulation in question. Thanks to electronic documents and good information-documentation practice, complete Croatian legislation, including that enacted prior to 1990, is for the first time available on-line in a unique way.

This Paper will show how a simple access to a complex content (such as legislation) is developed, and which knowledge, technologies and institutions must be included in its realization.

Key words: electronic document, regulation, document retrieval, official document

Introduction

Being familiar with legislation as well as its accessibility are the key factors which enable a society to function. Not only is it important to individuals and native legal entities, but also to all international factors which are interested in legal regulations and business dealings of a particular country.

Contemporary users can access legislation in a number of different ways, due to the fact that all documents are presented and published electronically. However,

such presentations vary in quality, they provide more or less updated and correct information, and in most cases in order to access them one has to pay a fee. The government should aim, within a variety of private initiatives, to offer its citizens and other interested parties high service quality, free of charge. This way the entire legislation, which is a foundation of its judicial system, will be presented in a coherent way and made easily accessible to everyone.

The importance of accessibility of legal regulations

Well-designed display of required information would allow a user to have a clear and simple access to a system of legal regulations. This also shows the level of a country's democratic development, and another very important aspect which is known as e-democracy [1]. The term e-democracy implies, among other things, that users are allowed to use all tools which they need in order to actively benefit from information systems provided by government administration. Such system should be a source of comprehensive data, which will be easy to process, simple to combine into one coherent whole and exchanged with other users. Therefore, it will stimulate the environment where a citizen, once familiar with their rights, will be able to actively take part in decision making.

When it comes to tools which are necessary for searching and locating such system data, their most important feature must be clarity and simple use. Whether a user is searching for a legal regulation or trying to locate some other document, it is crucial that simple, fast, coherent and long-term formats are applied. As a result, legislation would become more user-friendly and the range of users would expand, thus enhancing better understanding between citizens and decision makers and strengthening confidence in democratic processes.

A part of collection of official documentation in HIDRA refers to legal regulations that have been processed in this very organization and offered to users in a unique way. Based on experience in dealing with users, a significant number of inquiries were noted in the area of legal regulations and legislation search, which made us, conclude that finding and knowing legal regulations is very important to citizens both in business and private aspects of their lives. Therefore it is crucial to ensure that a required regulation is found easily and as fast as possible.

Creating a collection of legal regulations of the Republic of Croatia

The main source for such collection of legal regulations of the Republic of Croatia is The Official Gazette – the official newspaper of the Republic of Croatia where all legal regulations are published before they come into force.

Considering the fact that in most cases there is a short time period (*vacatio legis*) between the date legal regulations are published and the date they come into force, and taking into account a well-known principle both in legal theory and practice, that not being familiar with the regulation may cause you harm

(*ignorantia iuris nocet*), a team of experts from various fields is gathered and starts work immediately upon an e-version of Official Gazette is published.

In HIDRA, the first step in creating a collection of legal regulations of the Republic of Croatia is to select the ones which will find their place in it. The primary criterion is the one of addressee*, which implies that the first acts to be processed are predominantly the bylaws which are enforceable against all citizens or a particular group of citizens of the Republic of Croatia. Singular acts which are enforceable against an individual or a group of individuals are left out as they usually refer to an individual case and therefore are unique.

Bylaws passed by bodies of local and regional self-government (ordinances, statutes, etc.) are not incorporated in this collection as the similar collection is being created on the county, city and municipality level. It is important to note that international agreements with the Republic of Croatia as a party are incorporated in its national judicial system and according to their legal effect they are above the law. As such, these agreements are found in a separate collection known as International agreements.

HIDRA's collection contains complete texts of legal regulations of the Republic of Croatia in its electronic form. It has to be said that it also contains electronic versions of those regulations by preceding states, which were enacted before 1990 and were still in force at the beginning of 2007, the year when the project of their digitization began. These regulations had to be searched for in old volumes of former country's official gazettes, some being over 60 years old (The Official Gazette of FNRJ, The Official Gazette of SFRJ, The Official Gazette of SRH) and together with their amendments they were scanned and saved in PDF format in digital archives of HIDRA.

This makes HIDRA the only institution, which on its web pages, offers the possibility of viewing those regulations that were enacted before 1990 and are still in force. For the first time, the entire enforceable legislation of the Republic of Croatia has been integrated and made accessible online [2].

Processing legal regulations of the Republic of Croatia

Documentation processing

Regardless of its means of publication, all collected documents are processed, formally and substantially in documentation databases. The entire compiled material is processed in the same place and with one, uniform procedure. Data processing is performed applying international recommendations and standards for bibliographic description of publications and documents and HIDRA's normative infrastructure:

- ISBD standards (for bibliographic description of material)
- ISO standards (for data exchange) [3]
- UNIMARC format (for storing data in machine-readable medium)

* Persons for whom the legal standard is intended.

- Pravilnik i priručnik za izradbu abecednih kataloga / Eva Verona (for bibliographic processing)
- EUROVOC Thesaurus with Croatian appendix [4] (for selection of document content determinant as well as standardized names of bodies/institutions in charge of drawing and publishing legal regulations)

The processing involves determining unique document contents according to a word or expression listed in a controlled dictionary. The document is further processed by the method of intellectual analysis, which implies a complete understanding of its contents. Descriptors which outline the contents of the document in short, will allow the end user to access the data via search engine.

Eurovoc Thesaurus

Eurovoc Thesaurus (in further text: Eurovoc) [5] is a controlled dictionary which has been used in this type of official documentation content processing in EU for the last 20 years. It is a multi-disciplinary, multi-language thesaurus, primarily used as a documentation tool which enables the contents to be presented in a unique and unambiguous way. Apart from this, by using Eurovoc, document search is made easier and much faster. It was published in seven languages in 1984 by The Publications Office of the European Union and till today a total of 23 language versions have come out, including Croatian.

Eurovoc consists of 21 fields and 127 microthesauri in the form of a structured and controlled list of names used for all important terms in different official documents. The terms in Eurovoc are called descriptors, because they help us to describe the documents. But what makes it so specific is the great number of non-descriptors; i.e. the names that have not been recommended and have the same meaning in everyday language. This feature makes the document search a great deal easier. Currently, Eurovoc consists of more than 7000 descriptors and approximately the same number of non-descriptors.

For a precise way of processing official documentation of the Republic of Croatia, HIDRA has designed a National appendix to Eurovoc. It contains a structured directory of Croatian state bodies and bodies of local and regional self-governments, the Republic of Croatia diplomatic missions as well as foreign diplomatic missions in the Republic of Croatia, the list of political parties and geographic features, all together in 3500 normative records. Some 200 descriptors for the need of specific Croatian contents have been built in the structure of the original Eurovoc. All items in Croatian appendix are marked as Crovoc.

Using this unique thesaurus while processing official documents is a guarantee that the required document will be discovered much faster in an ever-rising pool of information published daily by the bodies of public authorities.

AIDE – Automatic Indexing using Eurovoc Descriptors

Apart from consistent application of standards and being well-familiarized with the thesaurus which is used in official documentation content processing, another important condition for a good quality processing is competence in various professional areas. Even in cases where these conditions are well-met, the marking procedure depends to a great extent upon a person who is performing indexing, therefore the results may vary. This is highly undesirable in any content processing, even more so in the processing of legal regulations. For this reason, one should strive to reduce such disparity to a minimum and this can be achieved by automatic indexing.

AIDE project – *Automatic Indexing using Eurovoc Descriptors* [6] was launched by HIDRA in 2004 after Croatian experts participated in the workshop organized by Joint Research Centre of The European Commission, entitled *Addressing the Language Barrier Problem in the Enlarged EU – Automating Eurovoc Descriptor Assignment*. At the workshop, JRC experts presented their achievements in the field of automatic indexing by Eurovoc descriptors, the new automatic system which was imitating the Eurovoc descriptor assignment performed by humans. At the end of 2007, the automatic indexing programme was developed, based on the above experience and the work of experts from HIDRA, Department of Electronics, Microelectronics, Computer and Intelligent Systems with the Faculty of Electrical Engineering and Computing, University of Zagreb (ZEMRIS), and experts from Department of Linguistics with the Faculty of Philosophy, University of Zagreb (ZZL). This was a software system for indexing official texts in Croatian language by using Eurovoc descriptors. The entire AIDE project is considered to be the result of Croatian know-how.

AIDE is intelligent software which learns from examples and is based on the principles of machine learning [7]. The development of algorithms for analysing and indexing legal texts is, according to documentalists, based on two premises: the first one is a great number of e-documents in learning corpus and the second one is high-quality indexing model which has been designed by relevant experts from various professional fields. Today AIDE software efficiently proposes ways of indexing texts of legal regulations which are still unindexed, while the team of experts revises the accuracy and completeness of recommended solutions. Thus, further increase in the number of processed documents as well as regular revision of proposals for automatic indexing software make AIDE more and more successful, which directly affects the quality of search results.

Apart from being increasingly successful in indexing new, unindexed documents, the software offers the possibility of selecting statistical associations in the texts of legal regulations. These are first terminologically checked and then incorporated into Eurovoc, this way enriching the range of its non-descriptors. As a result, the further development of Eurovoc is ensured in the best possible way, directly from the texts of official documentation.

WinAIDE station, built for computer assisted indexing by applying automatic indexing method has become a routine tool which is regularly used in HIDRA when processing a collection of legal regulations. It brought about the development of publicly available web service automatic indexing programme called WebAIDE, which can meet the requirements of IT infrastructure developments in all public authority bodies in the Republic of Croatia.

Data search and display

Searching for legal regulations through an *e-catalogue*

HIDRA web pages offer an *E-catalogue of official documentation of the Republic of Croatia* [8], where one can access bibliographic description of legal regulations. Apart from the title, Official Gazette's issue number and year, the following data is offered to the user:

- complete texts of legal regulations
- data on a regulation and all amendments, revisions and links to the former
- date of coming into force
- data on the body which passed the legal regulation
- data and link to legal grounds for passing a particular regulation
- data and link to any regulation that has in any way intervened in the contents of a regulation, together with a short note on the nature of intervention
- data on invalidity – a regulation which is not in force any more is marked as "not in force", with the quoted date of invalidity and link to a regulation whose provisions repealed it
- link to all supporting legislation which was passed based on this regulation
- data on the harmonization of the regulation with EU legislation and a link to complete texts (directives, ordinances, Treaty establishing the European Community etc.) of relevant EU legal acts
- data on negotiation chapter pertaining to the regulation, in line with the harmonization of legislation of the Republic of Croatia with the EU *acquis* (35 chapters)
- data on the field of competence of the body of public authority which has drawn up the regulation (27 fields)
- data on the contents of a regulation (using Eurovoc descriptors)

Various ways of data marking in *E-catalogue* give the possibility of selective data search. When it comes to legal regulations of the Republic of Croatia, this enables not only the search for all legal regulations, but also the access to:

- only those regulations which are in force
- those regulations that have been harmonized with EU legislation
- only those regulations in force which have been harmonized with EU legislation

What is more, the *E-catalogue* also has the option of accessing the above quoted categories in terms of the field of competence of the bodies of public authorities, and also in terms of negotiation chapters pertaining to regulations which have passed the process of harmonization with the EU legislation.

Zakon o genetski modificiranim organizmima [online e-arhiv] / izrada nacrtu Ministarstvo kulture ; donositelj Hrvatski sabor. - (NN 070/2005).

Tip dokumentacije:	PRAVNI PROPISI RH NA SNAZI usklađeni s EU zakonodavstvom
Tijela javne vlasti:	Ministarstvo kulture Hrvatski sabor
Napomena:	Prijedlog zakona: P.Z. br. 212 Datum stupanja na snagu: 2005-06-16 Stupanjem na snagu Zakona o hrani (NN 46/07) prestaju važiti odredbe koje su u suprotnosti s odredbama Zakona o hrani
Vidi:	* UTJECAJNI PROPIS: Zakon o hrani [online e-arhiv] / izrada nacrtu Ministarstvo poljoprivrede, šumarstva i vodnoga gospodarstva ; donositelj Hrvatski sabor.
Poglavlje pregovora:	Okoliš
Obuhvaća:	* Podzakonski akti
Područje djelatnosti:	Okoliš
URL:	DOKUMENT: http://hidra.srce.hr/arhiva/263/18315/ww...
DOKUMENTI EU:	Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC - Commission Declaration, http://eur-lex.europa.eu/LexUriServ/LexU... Council Directive 90/219/EEC of 23 April 1990 on the contained use of genetically modified micro-organisms, http://eur-lex.europa.eu/LexUriServ/LexU... Council Directive 98/81/EC of 26 October 1998 amending Directive 90/219/EEC on the contained use of genetically modified micro-organisms, http://eur-lex.europa.eu/LexUriServ/LexU...
SKUPNA RAZINA:	NN 070/2005
Sadržaj:	genetički promijenjen organizam zdravstvena politika zaštita okoliša mikroorganizam utjecaj na okoliš sprečavanje rizika bioindustrija genetički inženjering sigurnost na radu priprema za tržište javno zdravstvo
Stanje podataka	2009-07-08
baza	PPRH

Picture 1. Data display on chosen regulation (E-catalogue of official documentation of the Republic of Croatia)

Direct full text search through CADIAL search engine

Apart from classical e-catalogue search, HIDRA offers the possibility of direct search through complete texts of legal regulations with the assistance of CADIAL search engine, which is the result of Croatian-Flemish project CADIAL (Computer Aided Document Indexing for Accessing Legislation) [9][10]. It is a continued cooperation among the three parties: the University of Zagreb experts, researchers from Katholieke Universiteit Leuven Interdisciplinair Centrum voor Recht en Informatica (ICRI) in Belgium and Joined Research

Centre. The project was based on the results of AIDE, and its objective was further development of algorithms for analysing and indexing legal texts in Croatian language and their intelligent search. Search engine CADIAL has been publicly available since the end of 2008 for searching HIDRA's collection of legal regulations of the Republic of Croatia.

Picture 2. CADIAL search engine user interface display

The search starts by selecting one or more of the three possible options: searching the complete text of the document, searching the document title and searching Eurovoc thesaurus descriptors. Another possibility is to search for only those legal acts which are in force, rather than searching for all regulations. By selecting advanced options, the search becomes more focused according to the type of act, negotiation chapter and area of competence.

With CADIAL, the search is carried out on the complete text of the legal regulation. Just one click on the title of the legal regulation which is selected among the search results, leads the user onto the display of its complete text. At the very beginning of this display, there is data which describes the regulation and offers direct further links. This way the user has the opportunity to directly access groups of linked regulations, what is more, the user can have an insight into the complete text of each of these. Therefore, all linked regulations can be viewed directly, without referring to bibliographic description. Apart from links to complete texts of all supporting legislation and links to the underlying regulation as well as to all EU documents the regulation has been harmonized with, the display also contains the link to the authentic regulation document.

What is of the utmost importance is that CADIAL has been using the software for morphological normalization [11] of Croatian words, and therefore has solved the problem of locating a word in all its forms, which made the search a great deal easier for each user. The search engine has the option of bilingual search, in Croatian and English, and as such enables the user to search for Croatian legal regulations by using Eurovoc descriptors in English.

Vrsta akta: [zakonski akt](#)
Status akta:
• [VAŽEĆI AKT](#)
[Eurovoc deskriptori](#) (11):
(prikaži/sakrij sve...)
• [genetički promijenjen organizam](#)
• [zdravstvena politika](#)
• [zaštita okoliša](#)
• ...
Područje djelatnosti:
• [Okoliš](#)
Poglavlje pregovora s EU: [III.3.27. : Okoliš](#)
Vezani dokumenti:
• Ujedinjeni propis: [Zakon o hrani \(NN 046/2007\)](#)
[Podzakonski akti](#) (14):
(prikaži/sakrij sve...)
• [Pravilnik o mjerama sigurnosti i standardima objekata za ograničenu uporabu genetski modificiranih organizama u zatvorenom sustavu \(NN 084/2006\)](#)
• [Pravilnik o sadržaju prijave za ograničenu uporabu genetski modificiranih organizama u 2., 3. i 4. razini opasnosti \(NN 084/2006\)](#)
• [Pravilnik o sadržaju prijave zatvorenog sustava \(NN 084/2006\)](#)
• ...
EU dokumenti (3):
• [Directive 2001/18/EC of the European Parliament and of the Council of 12 March 2001 on the deliberate release into the environment of genetically modified organisms and repealing Council Directive 90/220/EEC - Commission Declaration](#)
• [Council Directive 90/219/EEC of 23 April 1990 on the contained use of genetically modified micro-organisms](#)
• [Council Directive 98/81/EC of 26 October 1998 amending Directive 90/219/EEC on the contained use of genetically modified micro-organisms](#)
Poveznica na originalni dokument: [Zakon o genetski modificiranim organizmima](#)

ZAKON

O GENETSKI MODIFICIRANIM ORGANIZMIMA

I. OPĆE ODREDBE

Članak 1.

Ovim se Zakonom uređuje postupanje s genetski modificiranim organizmima (u daljnjem tekstu: GMO), prekogranični prijenos GMO-a, proizvoda koji sadrže i/ili se sastoje ili potječu od GMO-a, ograničena uporaba GMO-a, namjerno uvođenje GMO-a u okoliš, stavljanje GMO-a i proizvoda koji sadrže i/ili se sastoje ili potječu od GMO-a na tržište, rukovanje, prijevoz i pakiranje GMO-a, postupanje s otpadom nastalim uporabom GMO-a, odgovornost za štetu nastalu nedopuštenom uporabom GMO-a, tijela nadležna za provedbu ovoga Zakona, te obavljanje upravnog i inspekcijskog nadzora nad provedbom ovoga Zakona.

Picture 3. Display of complete text of legal regulation and supporting information

Regarding a very high degree of data integration offered by CADIAL, it is possible to say that at the moment it is the easiest and the fastest search for legal regulations of the Republic of Croatia.

Conclusion

The main objective of any democratic society should be to make sure that simple and high-quality search for legal regulations is made possible. As one of the agents in designing IT infrastructure between the Government and state bodies of the Republic of Croatia, HIDRA has been monitoring the needs of its users. It has therefore designed the collection of legal regulations that offers high-quality information to the user and makes it easily and quickly accessible. The presented collection was created and is further being developed as a combina-

tion of experts' knowledge from various professional fields and applying tools which are the result of new technological advances. CADIAL search engine shortens the time users need to find the regulation, at the same time making the search more simple. This way the user has an easy access to comprehensive contents of national legislation. Finally, if we take into consideration the advantage offered by a bilingual Eurovoc, which is overcoming language barriers while searching Croatian as well as EU member states legislations, it is obvious that the intelligent CADIAL search engine truly improves the search by making legal regulations easily accessible to everyone.

Literature

- [1] CM/Rec(2009)1E / 18 February 2009. Recommendation of the Committee of Ministers to member states on electronic democracy (e-democracy). http://www.coe.int/t/e/integrated_projects/democracy/02_Activities/002_e-democracy/Recommendation%20CM_Rec_2009_1E_FINAL_PDF.pdf
- [2] HIDRA - Hrvatska informacijsko-dokumentacijska referalna agencija. <http://www.hidra.hr>
- [3] ISO 5963-1985. Documentation - Methods for examining documents, determining their subjects, and selecting indexing terms. Geneva : International Standards Organization, 1985.
- [4] Hrvatska informacijsko-dokumentacijska referalna agencija – HIDRA. Pojmovnik Eurovoc. Verzija 4.3. Zagreb : HIDRA, 2009. <http://www.hidra.hr/eurovoc/eurovoc1.HTM>.
- [5] Eurovoc Thesaurus. <http://europa.eu/eurovoc/>
- [6] Hrvatska informacijsko-dokumentacijska referalna agencija – HIDRA. Projekti. AIDE. Zagreb: HIDRA, 2009. <http://www.hidra.hr/hidra/hidraproj-c.htm>
- [7] Kolar, Mladen; Vukmirović, Igor; Dalbelo Bašić, Bojana; Šnajder, Jan. Computer-Aided document Indexing Systems. // *Journal of Computing and Information Technology - CIT*. 13 (2005), 4; 299-305
- [8] Horvat, T.; Pekarari, R. Pitajte HIDRU : kako najjednostavnije i najbrže doći do potrebne službene informacije ili dokumenta? // *Infotrend, Prilog eGovernment*. 169 (3/2009), str. 1-5.
- [9] CADIAL – Computer Aided Document Indexing for Accessing Legislation. <http://www.cadial.org/>
- [10] Mijić, Jure; Moens, Marie-Francine; Dalbelo Bašić, Bojana. CADIAL Search Engine at INEX. // *Lecture Notes in Computer Science, Advances in Focused Retrieval (INEX 2008)*. 5631 (2009)
- [11] Šnajder, Jan; Dalbelo Bašić, Bojana; Tadić, Marko. Automatic Acquisition of Inflectional Lexica for Morphological Normalisation. // *Information Processing & Management*. 44 (2008), 5; 1720-1731.