

WP3.1: Overview of Current State Report

Case Study of Slovenia

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Abstract

This is an overview of the development of the digital research infrastructure in Arts and Humanities in Slovenia. The aim of the case study is to identify the development of the digital humanities infrastructure, to map all relevant recommendations, strategies, initiatives and key figures supporting and enabling the development of (future) policies. The main focus is on the development process itself; identifying individual initiatives, ideas, strategies, collaborations, accomplishments, references and the obstacles encountered. The paper includes a comparative component – considering developments in Slovenia within a broader EU and non-EU context.

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1. Overview

The term 'digital humanities' is not widely known in Slovenia, and is rarely used among researchers. Nevertheless, national resolutions, strategies and action documents show that digitisation is seen as a priority, so this is the focus of much of the infrastructural development to date. The objective of the strategies from the government and ministerial departments is to provide easy public access via the internet to the cultural heritage of the nation.¹ Documents follow the recommendations and actual requirements of the European Commission. The ministries (Ministry of Culture and Ministry of Higher Education, Science and Technology) and the Slovenian Research Agency publish calls for applications related to the research infrastructure in general, or general declarations of support for the development of cultural heritage digitisation. In addition to access, preservation is cited as the most common imperative for the digitisation of cultural heritage in documents and strategies. The development of research infrastructure in humanities is not treated separately, but incorporated into the field of cultural heritage and programmes of research infrastructure. The digitisation process appears aimed at the general population, not towards the research and scientific communities.

Despite this vision and these stated priorities, Slovenia is lacking a clear strategy for the development of digitisation that would provide guidelines to individual research institutes, and others already involved in this process. Digital centres in Slovenia process a variety of content on an ad hoc basis, but without a common policy that would point towards the systematic digitisation of this material. This case study demonstrates that the current state of digitisation of the research infrastructure in humanities is rather scattered and disorganised. This lack of a proper policy results in a duplication of documents digitised in various centres.

1.1. Methodology

The conclusions of this case study are based on a study of documents, online discussions, conversations with individuals, and our own experience in the field of Slovene historiography research infrastructure. Due to the lack of documents which would indicate coherent development strategies for the digitisation of the humanities-related research infrastructure, we decided to conduct interviews with individuals. These were aimed at identifying individual initiatives as well as monitoring the communication dynamics between various centres and individuals in the area of a digital humanities infrastructure.

The interviews were conducted at the Directorate for the Information Society at the Ministry of Higher Education, Science and Technology; the Slovenian Research Agency – who are responsible for research infrastructure; the Josef Stefan Institute – for the development of language technologies; dLib (National University Library); the Ministry of Culture; and the Central Library in Maribor. Individuals interviewed are not a representative sample – and this was not our intention – but the data gathered can still provide a basis for a general assessment of the current status, activities and development over recent years.

1.2. Agencies and Responsibilities

The development of policy is the responsibility of the Ministry of Higher Education, Science and Technology (MVZT), through the policies and programmes of its Directorate of the Information

¹ The term 'cultural heritage' is often not defined, and is interpreted very broadly across a variety of fields: from library to archive material, individual catalogues, a register of movable and immovable heritage, multimedia and online issues or the web portals of individual institutions, as well as e-mail communication.

Society; the ARRS (Slovenian Research Agency - a national funding body) and the MK (Ministry of Culture). The task of the Directorate of the Information Society at the MVZT is to establish and design the technological infrastructure, whilst that of the MK is to determine content, with the Ministry looking particularly at cultural heritage. The main problem is that the focus is on actual content, whilst not enough attention is paid to the issues of open access and presentation.

In 1994, the Government of the Republic of Slovenia has established an information service for Slovene science, culture and education – the Institute of Information Science ([IZUM](#)).² Together with other key players within the information services in the country, IZUM enables Slovenia's inclusion into the information highways of the contemporary world. IZUM's objectives, closely related to the research infrastructure for humanities, encompass the following: the development of mutual bibliographic systems and the coordination of cataloguing in cooperation with the National Library; the organisation and maintenance of information systems to monitor research activity in Slovenia; engineering related to the development and maintenance of the computers and communication infrastructure in the educational, research and cultural organisations; research, development and consultancy work in one's own field of activity. IZUM's activity is particularly related to the development and operation of the COBISS system and its services.

IZUM plays an important role among the researchers in arts and humanities. In cooperation with the Slovenian Research Agency – it established science research infrastructure providing information on research programmes, projects, researchers and research institutions– the SICRIS information system – which includes 765 research organisations, 1,238 research groups, 12,818 researchers, 4,921 research projects , and 600 research programmes. SICRIS also allows viewing of the presentation pages of European Projects of the EU Framework Programmes, directly from the Projects Database within the CORDIS system.

² IZUM emerged from the Computer Centre of the University of Maribor (RCUM), which transformed from a classical organization of this type into a modern information infrastructure centre between 1980 and 1990. In 1991, the Ministry of Science and Technology defines IZUM as the information infrastructure service for science, education and culture in Slovenia and in 1994 the Government of the Republic of Slovenia passes the complemented IZUM Foundation Act, by which it determines its functions.

2. General Policies and Initiatives

2.1. Priorities

As previously mentioned, the priority for the Republic of Slovenia is the protection of cultural heritage and for lifelong learning, in the sense of 'computers in every school and the establishment of cybercafés'.³ This stage is now over and has been replaced by a new one which should provide technological platforms across Slovenia and 'fill up cyberspace with e-content'. The establishment of a technological platform is one of the key objectives of the Directorate for The Information Society at MVZT, whereas the content is to be the responsibility of the MK.

2.2. Research infrastructure

The researchers who investigated the applied sciences and the relationship between science and information technology, particularly focused on the following issues: how science uses web services; with whom researchers most often communicate; how they take opportunities to find projects; the connections they make with other institutions internationally via information technology (research on the use of Internet; Competitiveness in Slovenia 2002-2006; some projects were done by Science Research Centre at the Faculty of Social Sciences).

Between the late 1990s and immediately after 2000, using the model of the triple spiral, applied science researchers pointed out the significance and need for different forms of intermediary structures between scientists, the economy and the political and social system. The study on the formation of the scientific community in cyberspace⁴ was based on empirical research, and draws attention to the need for a closer collaboration between institutions (of various disciplines, although with an emphasis on the natural sciences) and the State.

Research infrastructure (including, but not exclusively and not necessarily, digital support for humanities; so humanities is not treated separately from other disciplines within the research infrastructure) is set as a priority for further development of scientific research policies. Research infrastructure is – like all research support – considered in a broad sense, and it could potentially relate to internal web-portal design and connections, or to office equipment.

2.3. Open access

Compliant with the declared priorities of the Republic of Slovenia, most attention is given to keeping (preserving) the digital material and somewhat less emphasis is placed to the provision of open access.⁵ The significance of digitisation, and the subsequent open access of cultural heritage, refers particularly to the marketing of the creative industries and to the tourist economy as well as the use of digital cultural content in education and lifelong learning. The development and accessibility of the said content is considered a basis for the recognition of Slovenia across the world, and at the same time, the science could pull Slovenia out of the economic crisis. Thus the funding body (ARRS) is optimistic and anticipates further support for the research infrastructure programmes.

³ MVZT's representative's description of this first stage of digitisation and the state's concerns about it

⁴ Davor Kozmus, 2006 (doctorate thesis), Faculty of Social Sciences.

⁵ Strategy of the Republic of Slovenia in the Information Society, 2003, Resolution on National Culture Programme 2004-2007 (ReNPK0407), Resolution on National Research and Development Programme, 2006-2010 (ReNRRP), *Si2010: Development Strategy for the Information Society in the Republic of Slovenia* (documents are listed in the Appendix).

2.4. Obstacles to Development

Discussions at the workshop on research and development strategy and the potential of The National and University Library (within the TEL-ME-MOR project) held in 2005, indicate disappointment over the State's under-involvement, as well as demanding a better coordinated national policy and increased connections between researchers, scientists, support communities and the State.

The same issue was brought up at the conference on material digitisation, held in 2007, organised by the private sector –Digitalizacija d.o.o.⁶ Namely, the digitisation of analogue content faces several difficulties, such as the shortage of funding, technological problems (data organisation and its access) as well as copyright issues. In addition, problems also arise in the digitisation process itself: what to digitise, and in what order? Priorities are determined by the money available instead of being based upon an agreement reached at national level. More attention should also be paid to the marketing of digital content. According to the technical director of Digitalizacija d.o.o, material digitisation faces another problem: there is no central register of content awaiting digitisation and of content already processed. This requires that the digitised content be stored in an organised and clear fashion, and as soon as possible, otherwise there's no point in the digitisation.

⁶ *Digitalizacija d.o.o.* specialised in the digitisation of movable and immovable cultural heritage in 2005.

3. Digital Humanities Initiatives

'Digital humanities' remains an unfamiliar term, rarely used among the researchers or in public and when it is, usually relates to the electronic publication of scientific articles. Even in the more advanced areas of digital development, interviews reveal very different understandings of the term 'digitisation'. One researcher engaged in language technologies believes the problem is lack of communication between ICT professionals and humanists. Not only do these two groups lack good inter-communication, but this is also difficult to establish due to the diversity of their many differing terminologies and methodologies and divergent views on the open access of documents.

As to the resolutions and strategies of the Republic of Slovenia that are related to the humanities, we want to particularly mention the digitisation of libraries (books and periodicals) and archival material. The current activities in Slovenia (mainly in libraries and to a smaller extent in different institutions) are oriented towards the digitisation of books and periodicals, whereas other material (archival, visual material) is left aside, despite the fact that archives already partially digitalise their own material. With the exception of strategies adopted by the digital library (dLib), the digitisation of library material does not share a coherent development policy, and the digitisation of archival material is generally rather loose and lacks a uniform concept. Due to the increasing interest by the public and researchers (scientists) in this archival material, it is one of the major priorities of the public archive service to provide open access to it. As a matter of fact, not much has been accomplished in this field and the public only has limited access to the archive depots.

The interviews indicate dispersion, confusion, vague concepts of competence and definitions of terms created by various individuals, which may have serious consequences. For example, the director of dLib drew attention to the problematic understanding of digitisation, which in the MK's view, only encompassed the actual scanning process, which was eligible for funding whereas other related processes (e.g. access to scanned documents, construction of depositories and metadata processing) were excluded. This gradually changed – most likely through the initiative and negotiations of the individuals involved in dLib – in the call on applications for the MK funding programme for dLib. Nevertheless, MK projects applied for by individual smaller libraries still encompass only the scanning stage. The libraries are expected to apply for additional funding for the implementation of metadata, organisation and processing. Now access and metadata processing is provided by dLib which is itself interested in a coordinated process. Unfortunately, it often happened in the past that scanned documents were just left in drawers. We have not discovered any other initiatives that might result in new policies, or any actual concerted pressure being brought to bear upon ministries and national funding bodies.

3.1. Digital Research Centres in the Humanities

Digital research centres in humanities have developed within the programmes of research infrastructure. The connections with support centres – libraries and archives (funded by various ARRS programmes and MK programmes) – are facilitated by the researchers' use of their services. The digitisation of humanities is dealt with by various centres in Slovenia (Faculty departments within the Universities of Ljubljana, Maribor and Koper), SAZU (Slovenian Academy of Sciences and Arts), the National University Library, local studies departments of other Slovene libraries (for example Central Library, Celje), IZUM, the Scientific Research Centre in Koper, etc. These digital centres differ from each other: they can be online portals of institutions or a digital service for internal users, whereas in a few examples, they provide access to digitised publications, documents and other material for the general public – in particular the presentation of publications (table of contents and abstracts), other databases and similar.

3.2. Mapping Individual Initiatives and Collaborations

Online discussions and interviews point to some individual digitization initiatives in the field of research or cultural heritage which result in separate projects (most often not related to each other), whereas the national resolutions and strategies in their initiatives and explanations mainly refer to the European Commission documents.

In the view of the majority of the people interviewed, the initiatives and individual cooperation between various institutions can only be realised within the European projects, due also to their greater funding. This also holds true for dLib, although we should not underestimate the initiatives from Slovenia within individual projects. The problem is lack of information about structural funds. The public is still not familiar with all the possibilities of drawing funds from the EU, thus the issue of international cooperation still remains at a basic stage, and requires more thorough consideration in the future.

As shown by the experience of the central national centre – the digital library – the actual strategies (the dLib strategy) mainly originate from individuals' own initiatives which resulted in collaborative projects and collaborations, and subsequent modifications were made to calls for applications. No such steps were made in the field of science (in particular humanities).

Specific projects and collaborations between centres tend to be the result of previous cooperation between individuals or institutions. For example, the MK covers an area too large to be able to focus on individual strategies. Recorded priorities are designed upon the EC example. In the field of cultural heritage, the MK pays more attention to the National University Library (NUK), dLib and the register of movable and immovable heritage (which nevertheless fails to deliver actual results in the field of digitisation). In this respect, the science is only treated indirectly.

According to online discussions and conversations with individuals, there is a lot of talking about the significance of cultural heritage, but a lack of actual decisive action that could bring changes in the human resources policy as well as a shift in funding priorities. The lack of a development strategy can also be attributed to the shortage of political will. Slovenia is believed to have failed establishing a synergy between the ministries of culture, education, science and technology during its independence (after 1991),⁷ which has had a negative effect in the interdisciplinary fields, such as the preservation of cultural heritage.

3.3. Public/Private Cooperation in Digital Research Infrastructures

There is no real cooperation between public and private in the digital research infrastructure in Slovenia. Within state-funded projects (through Slovene Research Agency), a number of research centres sign contracts with private individuals to digitize materials, process metadata and organize it. The role of research and educational institutions as well as libraries is to define the content and connection modes of the material. A number of research centres make contracts with private individuals within by the state funded projects, private individuals digitize them, then process metadata and organize it. This is financed by the Slovenian Research Agency, whereas research institutions, educational institutions and libraries define the content and connection modes of the material. Only occasionally also private individuals (ICT centres) apply for projects. This cooperation depends on a case-by-case basis.

⁷ Slovenia declared its Independence in June 1991.

Building upon the initiative of the private company Digitalizacija d.o.o. who specialised in the digitisation of movable and immovable cultural heritage after 2005, one of the first conferences on the digitisation of cultural heritage was organised in 2007, with the participation of the Ministry of Culture.

3.4. Problems and Obstacles to Development

One major criticism directed at researchers is that they lock files away and prevent further processing and work with the metadata. The communication between humanists and ICT professionals still needs to be developed in Slovenia, with the establishment of digital humanities and its incorporation into university programmes (possibly at post-graduate level).

In Slovenia, there is no (central) repository for humanities. Individual institutions and editorial boards have their own online presentations, which rather than complete publications introduce cover pages with table of contents.

- In the view of the Ministries and funding bodies, Slovenia is too small for a central repository;
- Some wonder who would take this role;
- Such a repository is needed, not on the same server, but at the level of metadata;

Links between ICT professionals and humanists are established in the area of language technologies and electronic scientific publications, though this more or less depends on the initiative of individuals (eZiss – Scholarly digital edition of Slovene literature).⁸

There are initiatives to form discussions on scientific publications and digital humanities in relation to the Slovene language, based on the actual project of the eZiss web centre. Attention was brought to the intertwining of information technologies and humanities, methods of science changing, a register of types of material, method of material analyses and its presentation.⁹

The need for closer collaboration between researchers and the State (and thereby, increased financial support) also features in the conversations we had, as well as in the various contributions, online discussions etc. Further to this, within the research infrastructure of Slovene historiography at the Institute of Contemporary History, we also believe in the significance of closer cooperation between research institutions. The result of this dispersed approach to the digitisation of humanities in Slovenia is duplication on one hand, and a lack of evidence of what has already been done, on the other.

The issue of connections and cooperation between various institutions (research institutes, researchers, support centres and the State) was pointed out by many individuals (though fewer did so at the Ministries). The individual views varied: some attribute the non-cooperation to the disparate criteria and requirements of their own disciplines, whilst others found that good communication was not established due to the different terminologies and epistemologies used by the humanists and ICT professionals.

The solution could therefore be in the development of digital humanities (also in the area of education) that would bridge these obstacles. Some believe that European projects provide more possibilities for collaboration; they are something of an »umbrella« that can facilitate the collaboration

⁸ The e-ZISS digital critical editions of Slovenian literature offer selected Slovenian texts with integrated facsimiles, transcriptions and scholarly commentary, in some cases including audiovisual recordings.

⁹ Matej Ogrin: http://nl.ijs.si/e-zrc/bib/eziss-Ogrin_Matija.pdf

and participation of various institutions. A problem with European projects and funds is that they are still underexploited (due to a lack of a central management role etc.). On the other hand, individuals also draw attention to the issue of dispersion and insufficient organisation within the EU projects. In addition, in Slovenia there is no financial support from enterprises nor international or national sponsorships or donations. Researchers, and quite often also private individuals (ICT centres), depend on funding from national and international projects.

The documents (although rarely) point to interactive, digital and hypertextual services and aspects that need to be considered, in particular legal aspects and regulations, copyrights in the digital world, provision of e-knowledge and e-skills, safety on the Internet, enforcement of customer protection, including the provision of privacy and confidentiality. Interoperability and the use of open standards are evermore becoming a clear requirement and condition for any further successful development. In terms of access, the significance of speech and other user interface technologies is increasing, for example W3C WAI (Web Accessibility Initiative), which allow access to e-content by various groups of people that are physically impaired.

In addition to the legal aspect, often brought up in conversations, there are also other issues, such as:

- Open access: the fear of theft and locking of documents.
- Copyright;
- In the view of the Ministries, one of the important issues is that individuals insist on keeping documents in various formats (digital, printed, micro film, etc.) with resulting cost increases;
- Does it make sense to establish central national digital centres? Various interlocutors also refer to differing definitions of what constitutes a 'digital centre'. The question also arises of what such a centre is supposed to offer – given the fact that digital humanities in Slovenia have not developed yet, and in fact this issue is not even discussed. The only centre of national significance with a developed strategy in the country is the digital library:
- The necessity of common standards of reference so that the web services are aware of its existence;
- The different criteria and standards used across various disciplines (in humanities) and within culture (museums, archives etc.) might be a problem.

4. Digital Library: dLib

4.1. An Overview

Digital Library - dLib¹⁰ - in Slovenia was established within The European Library initiative¹¹ and supported by EEA Grants,¹² ARSS and the MK. The premise of the digital library concept, established in 2005 within the National and University Library are defined by the strategic and development documents of the Republic of Slovenia and the European Union. One of the premises for the design of the digital library of Slovenia (for more on formal support: see Appendix I: Documents) is the Strategy of the Republic of Slovenia in the Information Society (si2010). The dLib is classified within the sixth target area of the said Strategy, i.e. the formation of digital content in cultural, scientific and educational fields in order to preserve the cultural heritage and language.

Despite several other current initiatives in Slovenia, this is the only portal with significant content and having a strong connective role between various institutions. In addition, dLib was the first digital centre that designed and published a strategic document based on other international examples (in 2006), and has itself become an example for other development policies and strategies in Slovenia. Despite the support of European and national projects, dLib's origins were of somewhat enthusiastic nature: individuals at NUK significantly contributed to its formation, design and development, through their vision and initiatives.

The digital library provides for the open searching of resources and ready access to journals, articles, books, photographs, manuscripts, sheet music, a poster database, a collection of sound recordings, higher education publications, virtual exhibitions and reference material. All the collections are freely accessible.

Documents defining strategies and the development of the digital library:

- [Digital Library of Slovenia Development Strategy - dLib.si 2007-2010](#)
- [DLIB.SI : the digital library of Slovenia: knowledge management portal](#) (2006)

Important moves in the development of the dLib definitely include the agreement with ARRS and publishers of scientific magazines. Namely, any scientific edition has to provide on its website at least the list of contents and an abstract of the publication. The editorial boards are bound by this agreement (formally obliged by ARRS) to send their files to the dLib for permanent storage. The cooperation between the dLib and publishers was promoted by the initiative of individuals; firstly between the dLib and psychologists (*Psihološka Obzorja* – Horizons of Psychology) from the Psychology Department at the Faculty of Arts.

Another significant move was establishing connections with smaller, regional libraries. The MK promotes the digitisation of material related to local studies (postcards, local papers). Due to the lack of computer centres and competent experts in smaller libraries, the role of a mediator and coordinator

¹⁰ The digital library (dLib) was selected for brief presentation here due to the fact that it is the only centrally coordinated portal/repository aimed also at researchers in the humanities and art.

¹¹ European Library project was supported by [TEL-ME-MOR project - 2005-2007](#), [EDL project - 2006-2008](#). Now it is incorporated in Telpus (2007-2009) funded by the European Commission; it aims to OCR more than 20 million pages of content in many languages, to make the library data [OAI compliant](#) and therefore harvestable

¹² The EEA Grants are funds contributed by Norway and the EEA member states, in order to reduce economic disparities between the member states and peoples of Europe.

was assumed by the dLib. Regional libraries, via calls for projects, apply for financial resources, which allow the scanning of material, whilst the dLib facilitates access to these materials. Due to the fact that calls for applications only provide funds for material scanning, the mediator and central coordinator prevents the materials from "being left in a drawer" - which had been the case in the past. As already mentioned, in order to provide open access to digitised documents (i.e. to establish access and metadata processing), the regional libraries would have to apply for funding from other sources for this work.

Also, in the view of the digital library, one of the key issues is to convince the broader public of the need for a coordinated strategy at national level, which would provide adequate financial and other resources. Attention is also brought to the definition of 'development,' which should address the development of digitisation in a more comprehensive way, as well as incorporating the marketing and promotion of this material.

4.2. Researchers and Digital Library – dLib

Based on the findings of the study conducted by the Department of Library and Information Science and Book Studies at the Faculty of Arts in Ljubljana, the researchers welcome the digital library project and use its services. Their question remains though, what the digital library should encompass, as well as the approach to the digitisation itself. They all draw attention to the lack of a comprehensive approach to the digital library, which would include aspects of various professions and disciplines (social, cultural, economic, political and technological). In addition, more discussions and clear answers are required in relation to the digitisation concept, its strategic planning, study of users' requirements and adapted applications, strategies for selecting material for digitisation, the technology of conversion, storage and interchange of digital sources.¹³

From the historiographic point of view, the researchers appreciate the material held by national and regional libraries (the same holds true for archives, but there are no larger centres in this field). Nevertheless, there are some doubts about the priorities of digitising content. The driving principle behind the digitisation of library content is its preservation – i.e. it is prioritised by its significance for national cultural heritage and the preservation of the original material, much influenced by its frequency of use. This may well be a legitimate approach with regard to libraries, but it is inadequate in regard to the requirements of researchers. As a result, the Institute of Contemporary History launched the Project of Slovene Historiographic Research Infrastructure (within the Sistory web portal¹⁴), which from the start, takes into consideration the requirements of the history research community. Its aim is not to compete with the dLib (which is considerably larger and more demanding). The Sistory project – an education and research portal of Slovene historiography – aims to format and digitise historical material congruent with the principles and interests of the historical sciences. Further to promoting the findings of Slovene historiography to the general public, the Sistory portal – through the establishment of local, national and international connections in the field of research as well as education – also aims at forming a platform for international and interdisciplinary discussion.¹⁵

¹³ <http://www.ff.uni-lj.si/oddelki/biblio/primo/PRIM/2006/prsamect.ppt>

¹⁴ <http://www.sistory.si>

¹⁵ The portal comprises two sections: the digitisation of magazines, printed and archive sources, databases, analyses and literature, as well as the Index of Citations – the only such index in the Humanities and Social Sciences in Slovenia (with an open access).

5. European Initiatives and Projects

National initiatives refer to, and complement, the European initiatives; such as the example of the formation of The European Library (TEL) aimed at allowing access to the heritage of 43 national European libraries and basic information related to them.

The technology of the information society of the sixth framework programme (2002-2006) allowed financing of a large number of researches in the field of cultural heritage digitisation, including the e-Content programme (2005-2008), part of which is aimed at projects for the improvement of accessibility and the simplification of the use of European cultural content.

The Slovene Presidency of the EU (2008) organised an international conference *Kultura Na Spletu* (Culture on Web), attended by 165 participants from 21 countries, including countries from South and Southeast Europe. The main topic of the conference was to overview the cultural content in the fields of culture, education, lifelong learning and cultural tourism already published online, exchange experiences and identify mechanisms that promote the integration of cultural content online to allow the best possible accessibility, as well as the recommendations of the *Commission on the Digitisation and Online Accessibility of Cultural Material, and Digital Preservation (2006/585/EU)* as well as Unesco's *Convention on the Protection and Promotion of the Diversity of Cultural Expressions 2005*.

Major emphasis was put on support for the establishment of dialogue between the authors of digital cultural content and agents in the web environment; support to the reinforcement of national frameworks in terms of interoperability which would connect digital cultural content of museums, archives, libraries and other national and local cultural institutions. The main role was attributed to Europeana, which allows the development of multilingualism in the web environment both in terms of creation as well as distribution of multilingual cultural content, and the development and use of multilingual user interfaces. Special attention was drawn to the accessibility of cultural web content in space and time via GIC technologies and the expansion of free access to cultural content across all technological platforms in particular to the most vulnerable groups.

The Europeana database is provided by the National and University Library, whereas the Europeana Local - which will also incorporate digitised material from public libraries, regional museums and archives - was joined by the Celje public library and Gorenjska regional museum.

6. Status of Slovenia in Digitisation Processes

Several people have drawn attention to Slovenia's status in the digitisation processes within the EU: in the digitisation of cultural heritage, Slovenia lags behind some European centres which provide a more comprehensive policy. In addition, online discussions point out that Slovenia (sometimes) also lags behind some non-EU countries (such as Serbia and Croatia). Nevertheless, some areas can have innovative achievements attributed to them, such as the registering of Slovenia's immovable cultural heritage, the National University Library, the archives, multimedia centres and public libraries.

Immediately after 2000, this falling behind in the development of information technology was often attributed to the transition from a former Yugoslav state, whereas now, the small size of Slovenia is cited as the main reason. In explaining the significance of, and requirements for, the scientific development of information technology, the documents refer to the European Commission's priorities and the programmes they apply.

However, the Directorate for the Information Society brought attention to the fact – and sensibly shared this with the broader public – that in some cases, European policies have adapted almost too well in Slovenia; in this case, at the cost of connections with other countries, for example the USA. As regards connections via different international ministries in the field of communication technologies, such are also established in the former Yugoslav as well as Balkan context. We should also mention the connections with Finland (a cooperative project), the International quadrilateral cooperation (between Slovenia-Croatia-Hungary-Italy), bilateral co-operation and the activities of the Central European Initiative (CEI).

7. National ESFRI Roadmap

The National Esfri Roadmap is currently under preparation. In addition to Dariah (Digital Research Infrastructure for the Arts and Humanities), there are also coordination groups for the Clarin network (which does not enjoy any financial support in the preliminary stages) and Share (Upgrade of the Survey of Health, Ageing and Retirement in Europe).

Currently, we are in the stage of presenting programmes and projects and searching for national support for further Dariah development at the national level.

8. Towards the Future: the Development of a Digital Research Infrastructure Aimed at the Arts and Humanities

National development programmes in the field of science and culture are supportive of the establishment of digital infrastructures. Nevertheless, they remain mainly declarations, and fail to provide strategic solutions for further development; rather than putting an emphasis on a coordinated national policy for its development, these programmes particularly emphasise its establishment. Specifically, there is a lack of actual development policies aimed at digital humanities. According to conversations conducted with individuals, such development would be possible within European projects and programmes, though there are doubts regarding dispersion at European level, and this requires a thorough consideration of how to define the actual objectives and roles of individual European digital networks (according to whom they are intended to serve). That said, further efforts have to be invested in looking for support at the national level, both between researchers, Ministries (for scientific policies) as well as the national funding bodies.

Appendix I: Documents

List of Documents

Strategy of the Republic of Slovenia in the Information Society, 2003

Resolution on National Culture Programme 2004-2007 (ReNPK0407)

Resolution on National Research and Development Programme, 2006-2010 (ReNRRP)

Speech by Minister Jure Zupan (Ministry of Science, Higher Education and Technology) at Ministerial Declaration E-inclusion ICT Riga, June 2006

Si2010: Development Strategy for the Information Society in the Republic of Slovenia

Development Strategy of Digital Library of Slovenia - dLib.si 2007-2010

Introduction

Digital support for research infrastructure and humanities is both directly and indirectly defined in different documents, strategies and national programmes. As previously stated, more attention is paid to cultural heritage and therefore the listed documents also particularly refer to cultural policy.

National programmes define policies in relation to the cohesion policies of the European Union, 2007-2013, as well as to the development policies of Slovenia, as per the Strategy of Development of Slovenia, 2007-2013. The programmes not included in these and other documents adopted at the national level, (such as the National Programme for the Development of Rural regions, 2007-2013 or the Operative Programme of the Regional Development Potentials Promotion, 2007-2013 and such similar) provide the basis for the incorporation of cultural projects in the European programme documents to obtain money from the European Union funds.

The National Culture Programme is based on the adopted principles of cultural policy, according to the pertinent guidelines and areas, including the priority objectives and priorities attainable. The Resolution on the National Culture Programme (NPK 2003) refers to the Slovene language and its use and development as its first general priority. In terms of modernisation of library material by electronic editions in Slovene and the digitisation of library heritage, it draws attention to the chronic delay in the digitisation of Slovene texts and the design of original or translated software. The language issue is in particular addressed by the »umbrella« strategic document, the Strategy of Development of Slovenia (SRS, 2005), the actual implementation of which would require more specific and emphasised provisions.

Strategy of the Republic of Slovenia in the Information Society, 2003

Congruent with the Strategy of the Republic of Slovenia in the Information Society, 2003 (adopted at the 8th session of the Government of RS, held on 13th February 2003, resolution No. 033-15/2003-1), the informatisation of culture is defined as a priority of cultural policy. Its objectives encompass the following: the open access to culture, access to comprehensive information on culture and provision of a better quality professional and scientific assessment of culture. The document places emphasis on technical, organisational and content-wise issues (new media, telecommunication services, European digital contents, e-commerce etc.), whereas there is no mention of the language of information and computer tools.

Resolution on the National Culture Programme 2004–2007 (ReNPK0407)

These document priorities are National and University Library and electronic publications (gathering and storage of online publications and their access). The primary objective is the provision of initial allocations for the acquisition of information equipment and electronic material processing.

Anticipated outcomes are as follows: preservation of electronically published heritage, support in the use of electronically published and digitised material for education and research purposes within the information society. The anticipated informatisation of culture as a general priority of cultural policy in the period 2004-2007 includes some measures that would result in a digital library. The said measures encompass the support for the archiving of online content relevant to Slovene culture, the digitisation of Slovene library heritage and its presence on the Internet, as well as the formation of a national culture portal.

One of the priorities of the public archive service is to – in a most friendly and accessible manner – bring the information on archive material closer to the public, doing this whilst considering the limitations imposed by data protection requirements, and the further development of the public archive service informatisation by the introduction of previously adopted, but for various reasons, unorganised material, as well as the promotion of professional processing of adopted archive material and provision/formation of basic tools aimed at its use.

Resolution on National Research and Development Programme, 2006-2010 (ReNRRP)

This resolution refers to further coordinated digitisation and the provision of a digital sources archiving system. Otherwise, the national research and development programme pays little attention to digitisation and development strategies and is more oriented towards actual policy in culture (faculties, public institutes etc.). The national culture programme is more focused on digitisation.

Speech by Minister Jure Zupan (Ministry of Science, Higher Education and Technology) at Ministerial Declaration E-inclusion ICT Riga, June 2006.¹⁶

At the Directorate for Information Society at MZVT, this speech was addressed as the basic reference for the Directorate's operation and definition of its task. Its key points are the following: initiative of the digital library (associate of Co-operative Online Bibliographic System & Services) and SICRIS (Slovenian Current Research Information System) to access information on research activity, e-learning and lifelong learning, intellectual property and copyrights, preservation of cultural heritage (referring to museums, libraries, archives and audio-visual material) for cultural identity.

Si2010: Development Strategy for the Information Society in the Republic of Slovenia

This document is the key strategic guideline following the European initiative i2010, and is based upon national strategic documents of Slovenia's development strategy, the National development Programme, 2007-2013 and the Resolution on National Development Projects, 2007-2013. The aim is to define a national framework to promote the development of the information society in Slovenia by 2010 (set development guidelines).¹⁷

¹⁶ http://ec.europa.eu/information_society/events/ict_riga_2006/doc/presentations/pl2-speech_zupan.pdf

¹⁷ http://www.mvzt.gov.si/fileadmin/mvzt.gov.si/pageuploads/pdf/informacijska_druzba/si2010.pdf

Scientific and research infrastructures are defined as special educational and research communication networks, the »accelerator of innovations and progress,« as well as the basis for research and development work. The document refers to the formation of the European Research Agency (ERA) which provides researchers and development engineers in the European Union equal opportunities as to their cooperation with development and research programmes. The e-Europe initiative includes action programmes which anticipate priority construction of infrastructures that would allow scientists and researchers rapid access to the Internet. Special emphasis is given to the fact that these are national and cross-European networks which electronically connect scientific and research institutions, universities, science libraries, research centres and educational institutions. The progress in computer and information technology allows researchers the development of advanced working methods, which by way of high-performance connections, visualise their achievements, form virtual development teams, access to geographically dispersed databases, do distant tests and use processing potentials of distant tools and devices. Special emphasis is given to the technological formation of the Slovene network Arnes, which is incorporated in the European GEANT.

Development Strategy of Digital Library of Slovenia - dLib.si 2007-2010

According to its concept, the digital library is categorised within the sixth target area of the strategy, the so-called formation of digital contents in the field of culture, science and education, thereby preservation of cultural heritage and language. In outlining the status, this strategic documents establishes that »the information and (tele)communication infrastructure itself is insufficient in its condition, for increased and better use of the information society services,« and points out that »the lack of quality digital content in the administrative, commercial as well as cultural and artistic fields on the Slovene web is the main reason for impaired use of the Internet in the country.« The formation of a digital library is the best solution to increase the volume of digital content in Slovene language online, as well as an opportunity to provide access to online content from either workplace or home to researchers, students and the population in general.

As the safe keeper of Slovene written cultural heritage, the national library is the most appropriate institution to implement the digital library project. The humanities are not separately listed in the initiatives and resolutions.

Further on, the document points out that digitisation is becoming a new significant task of all national libraries in the European Union in the field of cultural heritage preservation and its access. Therefore the national library is somewhat a natural protagonist for activity aimed to provide access to Slovene cultural content online, as well as its preservation.

The Digital library (dLib) vision encompasses the following:

- Provision of information sources, information and services for the development requirements of the information society and the promotion of social and economic development of Slovenia;
- Permanent preservation of Slovene cultural heritage in a digital format by the maintenance and development of a trust-worthy repository or digital archive;
- Formation, development and management of digital collections in compliance with users' requirements, pertinent regulations and standards, as well as in cooperation with various strategic partners in the field of culture, science, education and commerce;
- Provide the broadest, open access to digitised content, and the development of tools for their use;
- Promotion of the digital library as an infrastructure for educational and scientific research processes, for lifelong learning and the democratisation of society by providing access to

digital information for all users, regardless of who they are and from what location they want to access information.

Appendix II: Description of Institutions: ARRS, MZVT, Directorate for Information Society, MK

ARRS

The Slovenian Research Agency performs professional, developmental and executive tasks related to the implementation of the National Research and Development Programme within the authoritative budget memorandum and State budget, as well as other tasks aimed at the promotion of research, compliant with the purpose of its establishment. ARRS by way of public calls for applications, finances research programmes (5 years), projects of Target Research Programme (2 to 3 years) and programmes of research infrastructure (6 years).

MZVT

The Ministry of Science, Higher Education and Technology performs tasks in the fields of higher education, research activity, technology, metrology and the promotion of the information society in areas not included within the areas of operation of other ministries.

Directorate for Information Society at MZVT

Directorate for the Information Society at MZVT was established in 2004 after the abolition of the Ministry of the Information Society – MID.¹⁸ MID's tasks and competences were at that time transferred to the Ministry of Economy, Ministry of Science, Higher Education and Technology, as well as other competent ministries. The Directorate for Applications in the Information Society was to a large extent, transferred to the Directorate for the Information Society within the Ministry of Science, Higher Education and Technology.¹⁹

The Directorate for the Information Society is responsible for accelerated, harmonised and efficient development of the information society, based on knowledge and lifelong learning, and this is practically expressed by the transfer of knowledge, information and communication technologies and content to educational and research institutions, bodies of public administration and local self-government, commerce as well as civil society. The Directorate collaborates with various organisations in the field of legislation, safety and privacy in electronic communications, education, the monitoring of development indicators of the information society, promotion of development and localisation of software based on open source, implementation of scientific and professional meetings, implementation of projects for the reduction of the 'digital gap' and such similar.

MK

The Ministry of Culture is responsible for administrative and professional as well as other tasks in the following fields: art, cultural heritage, media, European affairs and cultural development, cultural rights of minorities and the development of cultural diversity, Slovene language, the promotion of Slovene culture and international cooperation.

¹⁸ In compliance with the law amendments to the Government of the Republic of Slovenia Act (Official Gazette of the RS, No. 123/04, 18.11.2004, ZVRS-D) and Public Administration Act (Official Gazette of the RS, No. 123/04, 18.11.2004, ZDU-1C)

¹⁹ The field of work of the Directorate for Information Infrastructure was transferred to the Directorate for Electronic Communications within the Ministry of Economy; website address <http://www.mg-rs.si/>