Greece

Stefanos Kollias
National Technical University of Athens
Hellenic National Representative

A. Users and content

In 2005 the involvement of cultural organisations in digitization and digital content repository generation was high, due to the continuation of the – about 140 – digitization, annotation and cultural site generation projects in the framework of the Information Society Programme in Greece. Although the outcomes of these projects will become apparent in late 2006 and early 2007, when all these projects will be completed, many cultural organizations have performed great progress in implementing their digitisation and annotation goals. In late 2005, the Ministry of Culture announced some new projects to be implemented in 2006-2007, related to the following:

a) Digitization and generation of cultural content for e-learning, in collaboration with the Ministry of Education
b) Digitization and cultural content organization in the archaeological domain
c) Generation of semantic infrastructure for unified access to the Hellenic cultural content.

Moreover, some more – digitisation and related issues – projects will be supported by the Information Society Programme on:

a) Digitisation of cultural content of Museums in extension of the on-going ones
b) Digitisation of content of the Greek Parliament
c) Digitisation and Intellectual Propriety Rights (IPR).

The total budget of these actions is about 15 Million Euro. As a consequence of the above, more cultural content is expected to be digitised and be available through the Web, more repositories will be generated by cultural organizations and cultural content owners and more users are expected to get access to this content. Special attention will be paid to bring younger people, especially students, closer to cultural content and this will be a priority for the Hellenic Ministry of Culture.

B. Technologies for digitisation

A Scientific Committee formed by the Information Society Programme and the Ministry of Culture, composed of leading university professors and researchers in the cultural domain, who have created respective studies and recommendations for the digitizing Organisations – on how to digitise, annotate, store and provide access to their repositories – examine the status and progress of digitisation with respect to the recommendations of the aforementioned studies. A main issue regarding the technologies for digitisation is deemed to be interoperability and access to the produced digital content. In this framework many research efforts focus on semantics and the recent progress in the Semantic We technologies. The actions that are taken or foreseen have two goals:

• Participation and contribution to the related W3C actions and standards. There is participation of Greek universities in the W3C Working Group on Best Practices and especially in the leadership of the 'Multimedia Annotation and the Semantic Web' Task Force set up in 2005. The main issue here is to provide standardization of semantic representation of multimedia information (text, images, sound, video, 3-D), with the cultural domain being one of the most appropriate testbeds for these developments.
• Generating a common semantic infrastructure, composed of mediator systems, that will be able to assist a unified and effective access to cultural information, through the main Hellenic portal, ODYSSEAS, as this information is generated and provided by the more than 150 sites of the Greek Cultural Organisations. This infrastructure should take into account the W3C recommendations and

standards, related to representation languages such as RDF and OWL, semantic ontologies and interoperability issues. The project to be funded by the Hellenic Ministry of Culture with the title 'Generation of semantic infrastructure for unified access to the Hellenic cultural content' will assist the developments in digital cultural content generation, access and promotion within Greece and with reference to all other similar European developments.

C. Sustainability of content

Sustainability of content is a major issue that needs to be taken into account by the Hellenic Ministry of Culture, as well as the Organisations that possess, promote and use this content. An on-going discussion takes place on this issue. In early summer 2005, the Committee set up by the E-Business Forum of the EDET/GRNET Organisation of the General Secretariat of R&D produced their report on the prospects and capabilities of collaboration between the public and private sector in the cultural domain. The Committee has organized meetings with major players in the Computer and Communication Industry, as well as with major Cultural Organisations that are currently digitize their content, including Museums, Archives, Monasteries. In particular the Committee Members from the Ministry of Culture and the National Technical University of Athens met with members of the following organizations:

ERT, National Greek Television
Goulandris Museum
Sofia Institute
Film Centre Greece
ELIA Museum
GRNET
Information Society Programme
Lambrakis Research Foundation
ATC SA
Lambrakis Publishing Organisation
Intracom SA
PRC SA

Moreover a workshop was organized by the National Technical University of Athens in June 2005, where the results of this activity were presented and discussed with users.

In particular, the results produced by the Committee, focused on a distance that seems to exist between technology companies and cultural organizations with reference to the corresponding goals and tactics; in the cultural organization case, the libraries, museums and archives view the technological players as a means for solely achieving digitized content and organizing their sites, with the whole content management task and related sustainability issues being solely under their own responsibility. In the case of technology players, they do not seem to estimate the cultural domain-organisations as mature enough for long term collaborations, and prefer short term service provision, based on specific contracts with the cultural players. Change of this situation is foreseen in the future, with specific actions needed to be taken by the Ministry of Culture so as to reinforce collaboration between the private and public domain. The results obtained through implementation of the *Dynamic Action Plan* are expected to positively contribute towards this goal.

D. Digital preservation

Preservation of the generated digital content has been defined by the Ministry of Culture as one of the goals of the forthcoming period of development 2007-2013. By this time, it is expected that big amounts of Greek cultural content will have been generated and will be available through the Web. By the use of the technology state-of-the-art and in collaboration with the Cultural Organisations, the Hellenic Ministry of Culture will assist by providing the necessary framework and all possible support for the preservation of the digital content. In particular, the Hellenic Ministry of Culture has pointed the generation of an 'Hellenic Cultural Web' as the basic strategic goal for the period 2007-2013 coinciding with the 4th Action Plan of the Greek Economy. In this framework, the Ministry will assist in generating and assisting all the necessary infrastructure for issuing a unified and efficient access to Hellenic Culture Heritage, focusing on the digitised content, to be searched and retrieved within a variety of Greek cultural sites possessing and exposing multimedia cultural information referring to ancient and modern Greek civilization. Preservation of this material will be a main issue in this attempt, together with development of the necessary technological support that will facilitate each

user's access to the content; personalizing the offering of information to users' characteristics, while adhering to standards – especially with what refers to the syntactic and semantic information/knowledge representation – will be the tools to achieve this support.

E. Monitoring

In summary, the MINERVA tools and publication have been well disseminated in Greece during the duration of the MINERVA and MINERVA Plus projects and are still doing so. In particular, the NRG members keep a close contact with more than 140 public organisations possessing and being in the process of digitising cultural content and spread these tools and publications to them during all events organised by them or the Hellenic Ministry of Culture and the National Programme for Information Society. Six such events were held in 2005 in Greece, and in particular, in Athens, Thessaloniki and Patras. The MINERVA products have been well received by the interested parties, and have been used to provide the guidelines and tools that are used in a variety of digitisation projects currently being performed in the framework of the Information Society Programme. Moreover the MINERVA results formed the basis of studies performed by the NRG and other universities for the Ministry of Culture and the Information Society Programme in the topics of image, sound, video/film, 3-D image digitisation, digital rights management, interoperability, metadata and annotation, best practices. In summary, the MINERVA results highly assisted the current spread of digitisation projects within the Greek territory; more than 200 we sites are currently being created with all types of multimedia cultural content in Greece. The MINERVA best practices, the associated tools and publications will continue to be the basis for the generation, preservation and management of all this content. The Hellenic Ministry of Culture, through the scientific, administrational and supervising activities with reference to generation, access, promotion, exchange of cultural content within Greece and abroad, is and will be monitoring the progress of the digitization activities, so as to be able to take all necessary supporting activities, to promote the national results to the other European collaborators and vice versa, using all means, including the NRG, the MICHAEL Plus project where

Greece is also participating, and all other initiatives, such as the IST e-Culture, E-Content Plus Programmes where either itself or other Greek research and cultural organizations participate.