Partners:

In cooperation with:

The Project

INDICATE is a coordination action supported by the European Commission in the frame of the Capacities Programme of FP7.
The project is coordinated by ICCU, the Central Institute for the Libraries Union Catalogue of the Italian Ministry of Culture, with the participation of partners from 8 countries: France, Greece, Italy, Slovenia, Spain in the EU and Egypt, Jordan and Turkey in the Mediterranean region.

INDICATE has a cooperation agreement with the DC-NET ERA-NET project

(www.dc-net.org)

INDICATE

**International Network for a
Digital Cultural Heritage e-Infrastructure**

Objectives

The main objectives of INDICATE are, from one side, the coordination of cultural heritage research opportunities opened by e-Infrastructures in countries all around the Mediterranean region and, from the other side, the development of consistent policies and best practices governing such research.
INDICATE project aims to establish and nurture a network of common interest made up of experts and researchers in all the relevant fields, whose sustainability will be planned on a long term beyond the project duration. The network shares experiences, promotes standards and guidelines, seeks harmonisation of best practice and policy and acts as a conduit for knowledge transfer from countries with more experience of e-Infrastructures-enabled e-culture to those who are just beginning to investigate this area.
INDICATE is focused on the development of new research communities, new policies and new relationships that add value to existing e-Infrastructures by:

- Promoting common approaches to the support of Arts, Humanities and Social Sciences (AHSS) activities by e-Infrastructures;
- Stimulating the international cooperation of networks of e-Infrastructure providers and application users in AHSS and digital culture domains.

The project is rooted in the reality of research pilots and case studies which act as exemplars and demonstrators of the issues and the processes which are relevant to establishing cultural initiatives on the e-Infrastructure based platforms.

Impact

The major impact of INDICATE will be on international cooperation, harmonised policies, facilitated research collaboration both at application-to-application and application-to-infrastructure levels, improved effectiveness and efficiency of e-Infrastructure-enabled e-culture projects and thus better services to the end user.
INDICATE will have an impact across three policy axes:

- Among digital cultural heritage organisations, to raise awareness of the potential for new services built on e-Infrastructures and leading to new policies which stimulate international cultural collaboration on top of international e-Infrastructures;
- Between cultural heritage organisations and e-Infrastructure providers, leading to new policies which govern the relationships between e-Infrastructures and cultural heritage;
- Between countries in the EU and beyond (especially in the Mediterranean countries, but also in Latina America and the Far East), regarding harmonised e-Infrastructures for digital cultural heritage, both internally and across national and EU boundaries.

INDICATE will lead to the formulation of harmonised policies for e-Infrastructures-enabled cultural projects. Its extra- European scope means that the policies are not specific for an EU audience, but are indeed focused on sharing the benefits of intra-EU research with a wider audience, thus fostering a culture of cooperation between EU stakeholders and those in third countries.

The Partners

ICCU
www.iccu.sbn.it

The Central Institute for the Union Catalogue (ICCU), within the Ministry for Cultural Heritage and Activities (MiBAC), is the national centre which promotes and coordinates cataloguing and documentation activities of the library heritage. It is responsible for guiding, producing, adapting and disseminating the standard rules for cataloguing and digitization of the library heritage. ICCU coordinates also national cross-domain aggregation initiatives such as CulturaItalia, the italian culture portal. ICCU is the Coordinator of the INDICATE project.

GARR
www.garr.it

GARR is the Italian Academic and Research telecommunication network. Its main goal is to provide high-bandwidth connectivity and advanced services to the national scientific and academic community. The GARR network infrastructure covers the whole national territory and it is fully integrated into the worldwide Internet. Its widespread ultra-broadband access fully supports innovative applications.

COMETA
www.consorzio-cometa.it

COMETA is a not-for-profit Organization that owns and operates the Sicilian Grid, consisting of about 2000 CPU cores and 250 TB of storage integrated in IGI, the Italian National Grid Initiative. The COMETA Grid is distributed over 7 sites located in Catania, Messina and Palermo where High Performance Computing clusters are connected by the GARR network and the gLite middleware.

MCC
www.culture.gouv.fr

The Ministère de la Culture et de la Communication (MCC) is the Ministry in charge of Culture and Media policies in the French Government.
In MCC's Secrétariat Général, the department for research, technology and higher education (Département de la Recherche, de l'Enseignement supérieur et de la Technologie - DREST) is responsible for the co-ordination of the activities of scientific and technical research in the field of Culture, as well as the national digitisation plan for cultural heritage.

DA
www.doa.jo

The Department of Antiquities of Jordan (DA) is the official institutional authority mandated by law to be responsible for the protection, conservation and presentation of antiquities.

NTUA
www.ntua.gr

The Image, Video and Multimedia Systems Lab (IVML, www.image.ntua.gr) of the School of Computer and Electrical Engineering of National Technical University of Athens (NTUA) has been a main partner in the digital libraries field since 2004, contributing in many EU activities and projects, with main R&D related to multimedia analysis, knowledge representation and reasoning and HCI.

i2CAT
www.i2cat.net

The i2CAT Foundation, Internet and Digital Innovation in Catalonia, is a research organization located in Barcelona (Spain), whose mission is to promote research and innovation in advanced Internet technology at a regional, national and international level.

CULTNAT
www.cultnat.org

The Center for Documentation of Cultural and Natural Heritage (CULTNAT) is a public non profit body in Egypt affiliated to Bibliotheca Alexandrina and supported by the Ministry of Communications and Information Technology (MCIT). The mandate of CULTNAT is to document and disseminate Egyptian heritage, using visual, audio, and textual material to reflect Egyptian cultural and natural heritage. These technologies include Geographic Information System (GIS), Multimedia

Database, 3D Laser scanning, and Content Management System, and CULTRAMA - an innovative panoramic interactive display of cultural heritage content, on 9 screens using 9 projectors and one single computer). The Center also aims at increasing public awareness of Egypt's heritage through collaboration with national and international organizations, as well as participating in capacity building events for national and international professionals in the fields of conservation and documentation of cultural and natural heritage.

SGB
www.kultur.gov.tr

Strategic Development Departement works for the Turkish Ministry of Culture and Tourism. Ministry's main mission is to maintain, evolve, spread, publicise and evaluate the national, immovable, historical, cultural and touristic assets, thus contributing to strengthen national unity and economic development.

AAS
www.aas.si

Avtorska Agencija za Slovenijo is a consultation and representation institution that offers besides copyright consulting also interdisciplinary studies concerning the information support on several areas dealing with the development of information systems, mainly to cultural, local and national administrations, among which the design and development of the GIS of cultural heritage system at the national level.

Towards the
Virtual Research Community
of Digital Cultural Heritage

Join the INDICATE community

INDICATE is bringing cultural institutions and experts together. Establishing the network of common interes, the INDICATE community will support the development of the project.

Are you a cultural institution, research centre, university or SME? Do you participate to other projects in the domain of the digital cultural heritage? Are you an e-infrastructure willing to cooperate with the cultural community? Are you interested in INDICATE activities?

Contact us at **info@indicate-project.org** for more information or download the cooperation agreement form from the INDICATE website (**www.indicate-project.eu**) and send it to the project's coordinator.

For a stronger cooperation among institutions, it's also possible to sign a Memorandum of Understanding, an official document which describes relationships and roles of cultural heritage actors and e-Infrastructures providers within INDICATE.

Which are the benefits?

* Being part of a new interdisciplinary cross-domain community, which will be at the core of the Digital Cultural Heritage Virtual Research Community;
* Being kept informed on the progress made by digital cultural heritage research and policies internationally;
* Participating in dissemination and training activities;
* Being able to use project materials and outcome within academic, educational and professional contexts.

The INDICATE Network of Common Interest

Join the INDICATE Community

One of the major challenges of INDICATE is to establish a factual dialog among e-infrastructure providers and cultural heritage institutions. These sectors are not used to work together and they do not know each other state of the art. In fact, just as an example, there are many issues related to standards and guidelines for metadata in the cultural sector that are not known in the world of e-Infrastructures, while sharing knowledge of the applicable standards is a pre-requisite for any further development. INDICATE is a perfect instrument to progress in this direction.

The INDICATE network will be naturally interrelated with the DC-NET network of common interest. The two projects share indeed many partners and their common interests.

Within this network, INDICATE will:

- Establish working groups dedicated to specific aspects of e-Infrastructures-enabled cultural heritage which are relevant across national and organisational boundaries;
- Hold conferences, workshops and seminars on the convergence of e-Infrastructures and Arts, Humanities and Social Sciences (AHSS), with a special focus on digital cultural heritage (DCH);
- Establish online tools and resources for the working groups, such as pilots and mailing lists.

This community aims to be a long-term collaborative group.
Experience in similar projects indicates that the network will continue to add value for its members and to function beyond the lifetime of the project.

The INDICATE Pilots

INDICATE pilots aim to study and to experiment the migration of two existing e-Culture applications to the e-Infrastructure platforms.
The results of the pilots are accessible through the INDICATE e-Cultural Science Gateway (http://indicate-gw.consorzio-cometa.it).
Particular attention is paid to the preparation phase which is required before such projects can start, the problems which may arise and the appropriate solutions, as well as their applicability across national and EU boundaries.
The experience gathered within the pilots is eventually analysed and is a key input to the best practice work.

Semantic Search pilot

The INDICATE e-Infrastructures-enabled semantic search pilot, developed by IVML (www.image.ntua.gr) permits users to retrieve cultural metadata based on semantic criteria also benefiting from the characteristics of an e-infrastructure set-up. In this pilot cultural data are transformed to a semantically richer (RDF) data model. Next, specific fields of the data are enriched using domain specific vocabularies like DBPedia and Geonames. The transformed data are uploaded to a semantic repository (4 Store) that has been appropriately selected so that it can be set up on e-Infrastructures. In that way, the user can query the data, not only based on the initial fields of the metadata (e.g. location) but also on fields that provide additional information (e.g., location's area or location's population) having been derived through the enrichment process. The set up on e-infrastructures is the basis for semantic search with data availability and scalability. The data of the MICHAEL project and other projects such as ATHENA and EUSCREEN are used as test bed for the pilot.

e-Collaborative Digital Archives

The INDICATE e-Culture Science Gateway (eCSG, indicate-gw.consorzio-cometa.it), developed by COMETA (www.consorzio-cometa.it) as part of the project work plan provides users with an easy-to-use web interface and a single sign-on beyond the home institute mechanism to access digital archives of Cultural Heritage data coming from Italy and China. The Gateway is based on the Liferay portal framework (www.liferay.com) for which a portlet has been developed to interface gLibrary (https://glibrary.ct.infn.it), the well known framework developed by INFN and COMETA to create and manage digital repositories on the Grid. The Authentication & Authorisation Infrastructure put in place supports Federations of Identity Providers enabled by Shibboleth (shibboleth.internet2.edu). The INDICATE eCSG has been configured as a Service Provider of both IDEM (www.idem.garr.it) and CARSI (carsi.edu.cn) Identity Federations which count altogether about 4,000,000 end users in Italy and China. What has been done is a major step forward towards an easier and wider use of e-Infrastructures by non-expert users who do not want to deal with personal digital certificates and the complex Grid Security Infrastructure. Opening the Grid to the Identity Federations will allow a tighter coupling of e-Infrastructures with Digital Libraries and already existing Cultural Heritage repositories. Instructions to register to and access the INDICATE e-Culture Science Gateway are available at indicate-gw.consorzio-cometa.it/instructions-to-register-and-sign-in.

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The INDICATE Case Studies

The INDICATE case studies aim to analyse the potential for e-Infrastructures to be used to overcome long-standing problems in e-Culture. Three key problems are considered, namely: long term digital preservation, virtual exhibitions and management and processing of geo-coded digital cultural content.

The results of the analysis are important inputs to the best practice work.

Three workshops are organized, one for each theme addressed by the case studies:

- the long term digital preservation workshop in Ankara
- the virtual exhibition workshop in Amman
- the GIS workshop in Ljubljana.

Long Term Preservation

This case study investigates how e-infrastructure enabled long term preservation can ease the transfer the cultural heritage to future generations. The main objective of this study is to review the current situation of digital preservation process and policies in Europe, the state of the art of the technology used or in development, the relation between preservation institutions and e-Infrastructure providers and to describe which actions can be taken in a feasible way to initiate the coordination of a European eco-system of data repositories for the long term preservation of the digital cultural resources. Usage of e-infrastructure may assist to solve challenges like storage, access, data security and integrity and copyright protection in the long term. Therefore integrating digital preservation systems to large capacity networks or international NREN or Grids might rapidly become widespread worldwide. The first step of this process would be to develop national and global preservation policies and strategies and to provide to the interested institutions a set of guidelines on how to a build a preservation system (including selection, acquisition, conversion, storage, backup, preferred file formats, etc.).

Virtual Exhibitions

Digitisation allows memory institutions to exhibit their holdings in a wide variety of configurations. The case study, through a survey among partners and the analyses of current practices, investigates such configurations, - e.g.: shared exhibitions, virtual performances, thematic routes - and their possible connections with e-infrastructures. The results of such investigation will be made available in a report targeted to memory institutions willing to investigate the potential of use of the e-infrastructures for their virtual projects.
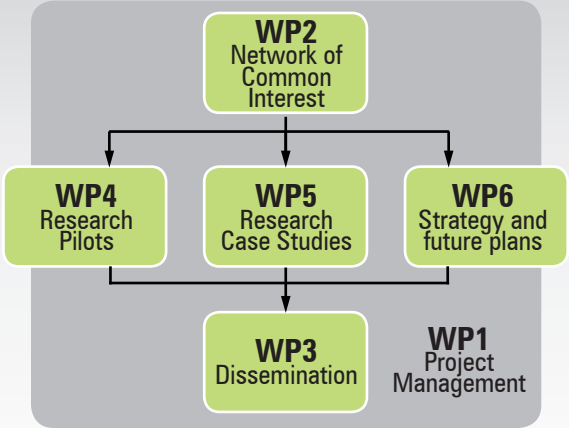
Geo-coded Digital Cultural Content

Aim of this case study is to define the requirements and to investigate how geo-location services could be applied to discover cultural content for education, long-life learning, and creative industry. On the one hand the research reviews the current approaches and new R&D activities on geocoding of cultural content in digital libraries, cultural tourism, cultural heritage, e-learning, living arts and other cultural areas, indentifying the possibilities and benefits of using the e-infrastructures. On the other hand it provides a testing of geo-parsing and geo-tagging e-services in digital culture, preparing the recommendations for the content providers. The focus will be primarily on cloud and grid computing and data infrastructures when dealing with geocoded digital cultural content.

The INDICATE Workplan

The INDICATE project consists of six work-packages; each one makes a distinct and complementary contribution to the overall project objectives. The work-packages are linked to one another as described below and shown in the following figure.

In order to achieve its objectives, INDICATE applies a proven model which includes:

- an international network of experts animated through working groups which focus on specific aspects of the project,
- exemplar/demonstrator/pilot research "sub projects",
- definition of international best practices,
- dissemination and promotion of the project results, which is considered a key metric of project's success.

Strategy and future plans

A specific work package is devoted to the discussion about strategies and future plans.

In fact, the INDICATE project is just one step on a long way to go.

One workshop on strategies and future plans is organised by INDICATE.

The workshop intends to bring together experts from each country and from each domain, namely e-culture, e-Infrastructures and the research.

The aims is to explore programmes, policies and plans which exist in each country and to seek opportunities for harmonisation.

The results are submitted to policy groups (e-IRG, ESFRI) and disseminated through the network.

This area of work is strictly liaised with the work on the development of the Joint Activities Plan of DC-NET.

Dissemination

The key audiences targeted by INDICATE all over the European Union and around the Mediterranea are:

- cultural heritage organisations;
- e-Infrastructure providers;
- e-Infrastructure policy makers;
- EU-wide policy groups (such as e-IRG and ESFRI);
- other e-Culture, e-Infrastructure and research projects.

Coordination and concertation, even beyond the end of the project, is an important objective of INDICATE.

There is a particular emphasis within the project on reaching audiences not only in the EU but also around the Mediterranean and beyond (particularly in the Far East and in Latin America).

This reflects the overall mission of the project to spread expertise and experience across the entire network of common interest.

One international conference is planned in Egypt in 2012.

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The project website

The project website is online at www.indicate-project.eu
Come and visit us!

Said about us:

www.isgtw.org/visualization/gateway-grid

www.digitalmeetingculture.net

www.dc-net.org

INDICATE

International Network for a Digital Cultural Heritage e-Infrastructure

Best practice and use cases
about digital presevation, virtual
exibitions, geo-coded cultural
content.
Pilots, workshops, conferences all
around the Mediterranean region
and internationally.