

Søknadsnummer: ES444431 Prosjektnummer: -1

Søker

Prosjektansvarlig

Prosjektansvarlig	Universitetet i Oslo
Fakultet	Kulturhistorisk museum
Institutt	
Avdeling	
Adresse	Postboks 6762 St. Olavs plass
Postnummer	0130
Poststed	OSLO
Land	Norge
E-post til postmottak	postmottak@khm.uio.no
Internettadresse	www.khm.uio.no
Organisasjonsnummer	971035854
Revideres av	
eAdministrasjon	<input checked="" type="checkbox"/> Søknaden er knyttet til eAdministrasjon

Administrativt ansvarlig

Fornavn	Egil
Etternavn	Mikkelsen
Stilling/tittel	Museumsdirektør
Telefon	22859574
E-post	egil.mikkelsen@khm.uio.no
Bekreftelse	<input checked="" type="checkbox"/> Søknaden er godkjent av prosjektansvarlig

Prosjektleder

Fornavn	Egil
Etternavn	Mikkelsen

Søknadsnummer: ES444431 Prosjektnummer: -1

Institusjon / bedrift	Universitetet i Oslo
Fakultet	Kulturhistorisk museum
Institutt	
Avdeling	
Adresse	Postboks 6762 St. Olavs plass
Postnummer	0130
Poststed	OSLO
Land	Norge
Stilling/tittel	Museumsdirektør
Akademisk grad	Professor
Ønsket målform	Bokmål
Telefon	22859574
E-post	egil.mikkelsen@khm.uio.no

Prosjektinformasjon

Prosjekttittel

Digitization and Dissemination of the Archaeological Museum Archives of the University Museums in Norway (DDAMA).

Skisse nr. 319

Prosjektets hovedmål og delmål

This is a pre-project, aimed at planning for the Digitization and Dissemination of the Archaeological Museum Archives of the University Museums in Norway (DDAMA).

The main objectives of the project will be to (i) digitize the topographic archaeological archives at the university museums in Oslo, Tromsø, Bergen, Trondheim and Stavanger. (ii) The project will build a grid infrastructure consisting of one common database for all the archives. In this manner, archaeological archival material covering all of Norway will be made more accessible for research, education, public planning, as well as for other uses.

Prosjektsammendrag

The pre-project will plan for the Digitization and Dissemination of the Archaeological Museum Archives of the University Museums in Norway (DDAMA). DDAMA will be a joint initiative of the cultural-historical sections of the Norwegian university museums (The museum of Cultural History, Oslo; Bergen Museum, Bergen; Museum of Natural History and Archaeology, Trondheim; Tromsø Museum, Tromsø and the Museum of Archaeology,

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University of Stavanger. The host institution will be the museum of Cultural History of the University of Oslo, but all the five university museums will participate towards establishing and dissemination of the digital archives.

The topographical archaeological archives contain the primary documentation for the scientific study of Norwegian prehistory. The main objectives of the project will be to (i) digitize the topographic archaeological archives at the university museums in Oslo, Tromsø, Bergen, Trondheim and Stavanger. (ii) The project will build a grid infrastructure consisting of one common database for all the archives. In this manner, archaeological archival material covering all of Norway will be made more accessible for research, education, public planning, as well as for other uses. The infrastructure developed during the project will use internationally recognized formats (Dublin Core, CIDOC CRM or museumdat), as well as standard protocols such as OAI-PMH to ensure the availability of the content of the archives. Thus, it will be possible to search and browse all the museums' topographic archives, gaining a unique overview of, and access to, the primary sources for Norwegian prehistory, regardless of the archive's physical location.

The preproject will describe the and define the content of the digital topographical archives, and give a basis for the full digitalization of the archives.

Plassering

Plassering i Forskningsrådet - tilleggsinformasjon fra søker

Program / aktivitet	INFRASTRUKTUR
Søknadstype	Annen prosjektstøtte
Andre relevante programmer/aktiviteter/prosjekter	
Disiplin(er)/fagfelt	Arkeologi
Prosjektnr. v/ tilleggssøknad	
Er relatert(e) søknad(er) sendt Forskningsrådet og/eller annen offentlig finansieringsordning	Nei
Hvis ja, gi nærmere opplysninger	

Framdriftsplan

Hovedaktiviteter og milepæler i prosjektperioden (år og kvartal)

Milepæler fordelt over prosjektperioden	Fra		Til	
Detailed description of the contents of the a	2009	4	2010	1
Description of the type of documents to be in	2009	4	2010	1
. Installing the present MUSIT database for t	2009	4	2010	1

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At each museum, archive material from a repre	2010	1	2010	3
Recommendations concerning updates and linkin	2010	3	2010	4
Recommendations concerning the web applicatio	2010	3	2010	4
Revision of archive descriptions, quantificat	2010	3	2010	4
Evaluation of the pre-project and preparing a	2010	4	2010	4

Prosjektperiode

Fra dato (ååååmmdd) 20091115

Til dato (ååååmmdd) 20101114

Formidlingsplan

DDAMA will make the arcives accessible over Internet for researchers, students, public planning and others. The material will be also be used in Internet-presentations from the museums.

The work and achieved results will also be presented at international conferences concerning IT and archaeology.

Budsjett

Kostnadsplan (i 1000 kr)

	2009	2010	2011	2012	2013	2014	2015	2016	Sum
Personal- og indirekte kostnader	222	1570							1792
Innkjøp av FoU-tjenester	56	120							176
Utstyr		250							250
Andre driftskostnader	20	80							100
<i>Totalsum</i>	298	2020	0	0	0	0	0	0	2318

Spesifikasjonsfelt

Kostnadssted (i 1000 kr)

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	2009	2010	2011	2012	2013	2014	2015	2016	Sum
Næringsliv									0
Instituttsektor									0
UoH-sektor	298	2020							2318
Andre sektorer									0
Utlandet									0
<i>Totalsum</i>	298	2020	0	0	0	0	0	0	2318

Finansieringsplan (i 1000 kr)

	2009	2010	2011	2012	2013	2014	2015	2016	Sum
Egne midler	48	270							318
Internasjonale midler									0
Andre offentlige midler									0
Andre private midler									0
Søkes Norges forskningsråd	250	1750							2000
<i>Totalsum</i>	298	2020	0	0	0	0	0	0	2318

Spesifikasjonsfelt

Stipend

Doktorgradsstipend

Samarbeidspartnere

Søknadsnummer: ES444431 Prosjektnummer: -1

~~Samarbeidspartnere på institusjons-/bedriftsnivå som vil inngå konsortieavtale~~

Samarbeidspartnere på institusjons-/bedriftsnivå

1

Institusjon/ bedrift	Tromsø Museum
Kontaktperson	Roger Jørgensen
Kontaktperson telefon	77645077
Kontaktperson e-post	Roger.Jorgensen@tmu.uit.no
Partners rolle	Utf.+Fin.

2

Institusjon/ bedrift	Vitenskapsmuseet, Trondheim
Kontaktperson	Torkel Johansen
Kontaktperson telefon	73592102
Kontaktperson e-post	torkelj@vm.ntnu.no
Partners rolle	Utf.+Fin.

3

Institusjon/ bedrift	Bergen Museum
Kontaktperson	Sonja Innselset
Kontaktperson telefon	55583265
Kontaktperson e-post	Sonja.Innselset@bm.uib.no
Partners rolle	Utf.+Fin.

4

Institusjon/ bedrift	Arkeologisk Museum, Universitetet i Stavanger
Kontaktperson	Mari Høgestøl
Kontaktperson telefon	51832655
Kontaktperson e-post	mari.hogestol@uis.no
Partners rolle	Utf.+Fin.

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Samarbeidspartnere på personnivå

Vedlegg

Prosjektbeskrivelse

Filnavn	Archive Databases.pdf
Referanse	ES444431_001_1_Prosjektbeskrivelse_20090422

Annet

Filnavn
Referanse

Digitization and Dissemination of the Archaeological Museum Archives of the University Museums in Norway (DDAMA).

skisse nr. 319

This is a pre – project for DDAMA with a duration of one year, starting 2009.

Host institution: The Museum of Cultural History, the University of Oslo.

Project Coordinator: Egil Mikkelsen, Museum of Cultural History, the University of Oslo.

1. Vision and scientific goals

This is a pre-project, aimed at planning for the Digitization and Dissemination of the Archaeological Museum Archives of the University Museums in Norway (DDAMA). DDAMA will be a joint initiative of the cultural-historical sections of the Norwegian university museums (The museum of Cultural History, Oslo; Bergen Museum, Bergen; Museum of Natural History and Archaeology, Trondheim; Tromsø Museum, Tromsø and the Museum of Archaeology, University of Stavanger. The host institution will be the museum of Cultural History of the University of Oslo, but all the five university museums will participate towards establishing and dissemination of the digital archives.

The topographical archaeological archives contain the primary documentation for the scientific study of Norwegian prehistory. The main objectives of the project will be to (i) digitize the topographic archaeological archives at the university museums in Oslo, Tromsø, Bergen, Trondheim and Stavanger. (ii) The project will build a grid infrastructure consisting of one common database for all the archives. In this manner, archaeological archival material covering all of Norway will be made more accessible for research, education, public planning, as well as for other uses. The infrastructure developed during the project will use internationally recognized formats (Dublin Core, CIDOC CRM or *museumdat*), as well as standard protocols such as OAI-PMH to ensure the availability of the content of the archives. Thus, it will be possible to search and browse all the museums' topographic archives, gaining a unique overview of, and access to, the primary sources for Norwegian prehistory, regardless of the archive's physical location.

In addition, DDAMA will, by making the topographic archives from all five museums available through one infrastructure, ensure that these archives are accessible through one web interface. Thus, topographic archival material will complement the other national museum databases artefact collections, allowing researchers a near total overview of existing archaeological documentation. Likewise, the project will be a pioneering work in creating grid infrastructure within the humanities.

The archives of the archaeological university museums are generally referred to as topographic archives. This is because they are topographically ordered by county, municipality and farm. They contain excavation reports, excavation documentation, surveying documentation, reports on observations made in the field and other types of information concerning nearly all archaeological collections and monuments in Norway. The oldest materials, dating from the early 19th century, are often fragile. However, by digitizing these archives, the need to access the original papers will be reduced, thus better preserving invaluable archival documents.

In Norway, archaeological excavations and surveying are carried out by the university museums, The Norwegian Institute for Cultural Heritage Research (NIKU), and the counties. While the museums are responsible for most of the archaeological excavations, NIKU excavates mediaeval towns and churches; surveying and initial excavations are primarily carried out by the counties themselves. Before NIKU was established in 1992, excavations in the mediaeval towns and churches were carried out by excavation units at the Directorate for Cultural Heritage. However, all excavated artefacts are curated and conserved by the archaeological university museums. Likewise, reports and original documentation from these excavations are archived at the museums. Earlier, the documentation from the mediaeval excavations was not automatically incorporated in the museums' topographic archives. Through DDAMA all excavation documentation can be integrated into one system, and thus expanding the availability of these archives for research.

Archives are not static. Through developer-funded archaeological fieldwork, large amounts of documents are added to these archives on a yearly basis. Developer-funding normally covers the primary documentation of the archaeological site, but not publication of the results. Thus, reports from excavations, which are a major source of information for archaeological research, unfortunately remain for the most part unpublished. As a consequence they are often only accessible at the museum responsible for the excavation or at a local cultural heritage authority, i.e. the county.

It is common for excavation reports to exist on paper only and in a very limited number of copies. Internationally, the dissemination of such unpublished archaeological reports, referred to as “grey literature”, is seen as a challenge. In England, projects like *OASIS* (www.oasis.ac.uk/) and *archaeotools* (<http://ads.ahds.ac.uk/project/archaeotools/>) are working to disseminate the grey literature, and to provide deeper and better access. The *OASIS* project has created a system where fieldwork reports can be deposited in a digital format with the Archaeological Data Service (ADS) in York (ads.ahds.ac.uk/). This digital library of grey literature now contains more than 2,500 reports and from August to October 2008 there were 33,000 web requests made to the library, indicating the importance of this type of material.

All of the universities in Norway have introduced the electronic archiving system ePhorte. As a consequence, the museums are also archiving material in digital form. However, linking the new digital and the old paper-based archives has been implemented differently at the five museums.

Similarly, while there are topographic archives at all the museums, the precise definition, and hence the content, varies. Bergen Museum digitized portions of its topographical archives in the 1990s, and it has been used by researchers, heritage workers and students since then. However, documentation from mediaeval excavations in Bergen is not included in this digitized material. The digital version of the topographic archive is maintained parallel to the new electronic archive.

The Museum of Natural History and Archaeology in Trondheim has digitized more than 50 percent of its archive. Here, as well, the digital topographic archive is maintained separate from ePhorte.

Tromsø Museum has so far not begun digitalization of their topographic archive.

The Museum of Archaeology in Stavanger, are including the topographic archive in ePhorte. All documents produced after January 2000 are fully available in a digital form. Concerning documents produced up to December 1999, four of the 26 municipalities in Rogaland have been fully digitalized, including large scale formats up to A0. Documents from the remaining 22 municipalities are registered in the central archiving system, but not digitalized.

The Museum of Cultural History in Oslo has fully digitized all documents in formats up to A3 in ePhorte. The archive up until 1994 is purely paper-based. Documents dating from 1994 to February 2009 have been registered in the university's central archive system.

Previous national projects have digitized large amounts of data from the archaeological museums. Through the Documentation Project (1991 – 1997) and the Museum project (1998-2006) the archaeological university museums in Oslo, Bergen, Trondheim and Tromsø were able to convert

their written museum catalogues into digital form, and to scan large amount of images, primarily photographs. Digitalization of the topographical archaeological archives began in Bergen and Trondheim during this period. As a continuation of making these materials available for a large audience, MUSIT has recently made approximately 150,000 photograph and textual information from the museum catalogues available on Internet (www.unimus.no). This web site allows easy access to the collections, and is used by researchers, students, cultural heritage workers as well as the general public. DDAMA will augment the existing information available through the web site.

2. Scientific and technological environment

The project DDAMA will build a national, scientific infrastructure containing all of the topographically ordered archaeological museum archives of the Norwegian university museums. These archives will provide unique access to primary sources for archaeological research. Through the Documentation Project and Museum Project, a major part of the documents from the topographically ordered archives at Bergen Museum and the Museum of Natural History and Archaeology in Trondheim were digitized. At present, this digitized material is managed by MUSIT. Through MUSIT, the museums already have an infrastructure that makes it possible to search in the collections from all the museums. This system will be further developed within DDAMA by MUSIT.

Thus, DDAMAs infrastructure will consist of one common database that encompasses all of the topographically ordered archives. This infrastructure will use internationally recognized formats (Dublin Core, CIDOC CRM or *museumdat*) and standard protocols such as OAI-PMH to ensure the availability of the content of the archives. Likewise, through MUSIT, the university museums are in the process of developing thesauri, authoritative lists and an ontology for archaeological databases in Norway. This work will be further developed and incorporated in DDAMA. In an international setting, DDAMA will be able to contribute to research concerning the use of Natural Language Processing as a means of accessing semi-structured archaeological data.

3. Description of the Research Infrastructure

An archaeological excavation is a unique opportunity to register and document traces from past human behaviour. Through archaeological excavations the original source material is destroyed and

cannot be reconstructed. Therefore, it is important that the documents are stored in a manner that ensures their availability for future generations.

The university museums of Norway are currently developing a common database model for cultural history, and since 2007 this work has been carried out by MUSIT (www.musit.uio.no). DDAMA will participate in the development of this research infrastructure in which data will be stored in a long time perspective.

The project will encourage the five archaeological museums to index their archives in the same way. A common vocabulary and set of terms used to register the documents in the database will enhance the possibilities when querying and browsing the material.

One critical factor of the project is the results from the quantification of the archives and the resulting time estimates for digitalization of all the topographical archives.

4. Plan for access and use, data and knowledge management

The five university museums will cooperate with the Directorate of Cultural Heritage and the counties in the project. The county archives can complement the museums' own archives. Most of the material in the topographic archives will be made available over Internet. Electronic access to the scanned and registered material, whether through a web portal or by harvesting the material, will be developed and managed by MUSIT.

In Stortingsmelding nr 15 (2007-2008) *Tingenes tale – universitetsmuseene* a National Digital University museum (NDU) is proposed. Norway shall be leading in presenting material from the museums in Internet. Storytelling is one of the concepts used in museum presentations on Internet. The digital topographical archive will be important in finding the stories about the artefacts in the museum. The topographic archives comprise both the scientific observations and the stories that can be told to give other perspectives of the collections.

When the project is completed, routines will be in place to ensure that all future excavation reports, and other archaeological documentation, are incorporated in the same manner as the older material. The digital topographic archive will thereby continue to be an updated resource for national and international research.

5. Impact on research and innovation

The oldest museums, in Oslo, Bergen and Trondheim, contain collections from the whole of Norway. It was not until 1905 that Norway was divided into museum districts. The dividing lines follow the county boundaries to a large extent. However, there are two exceptions: Møre og Romsdal is divided between the Bergen Museum and the Museum of Natural History and Archaeology in Trondheim; Nordland is divided between the museum in Trondheim and Tromsø Museum. These administrative boundaries tend to influence how the past is described. Likewise, varying strategies for archaeological surveys influence how the archaeological past of the museum districts are described. It also became natural to define geographical boundaries of a study which coincided with a museum district, thus historically these museums have been regionally focused. DDAMA opens up the possibility for conducting investigations covering the whole of Norway, and to include more innovative research perspectives.

One of the areas of research that the Norwegian Association of Higher Education Institutions (UHR-m) has focused on recently is increased research on results from developer-funded archaeological fieldwork. In their comments to Stortingsmelding nr 15 (2007-2008) *Tingenes tale – universitetsmuseene* the Research Council of Norway underlines the importance of a strategic program for the museums that can stimulate increased cooperation between the university museums, the institutes and other research institutions. DDAMA will provide an important stepping stone for cooperation and networking across museum regions as well as disciplines.

Already, it is possible to search simultaneously in the artefact catalogues of the university museums in Oslo, Bergen, Trondheim and Tromsø. The digitalization of the topographic archives makes the available sources more comprehensive. Potentially, simultaneous queries in all the topographic archives will make room for new and innovative archaeological research, by vastly improving the possibilities for a wider geographical focus in archaeological research, as well as improving the quality of research by making documentation readily available.

DDAMA also opens up new possibilities for students, and will therefore have a positive effect on recruitment. Today, students have only two years to complete a master thesis at a Norwegian university. This is a radical reduction from the earlier three to four years that was the norm for a magister art-degree in archaeology in Norway. The study of archaeological materials, such as the artefacts from a certain period within a geographically defined area, is time consuming.

Consequently, such studies are becoming increasingly rare. The students tend to choose secondary sources (i.e. publications) as a basis for their research, thereby depriving themselves of important skills regarding the assessment, treatment and analysis of primary archaeological sources. When the original material becomes electronically available, students will not only have a wider range of opportunities to do innovative searches, but also be better qualified in assessing the primary sources of archaeological research.

6. Partners and scientific institutions

DDAMA will expand upon the previous projects for digitalization of the topographic archives from Bergen and Trondheim. These digital archives are maintained by MUSIT. DDAMA will greatly expand the amount of available research material by digitizing the archives from all of the museums, including the Museum of Cultural History in Oslo, the Archaeological Museum in Stavanger and the University Museum of Tromsø. The project will cooperate with the counties and the Directorate of Cultural Heritage.

7. User groups and international cooperation

Cultural heritage management within Norway is a prime supplier of information upon which research is based. Through the digitalization of the museums' topographical archives, we are producing a new arena and depth of research into our national heritage. Those who work within cultural heritage management in the counties, NIKU and the Directorate for Cultural Heritage, will be among the users of the digital topographical archives.

The primary sources for Norwegian archaeological research are also of interest to international researchers. Contacts and cultural influence extended also over the Baltic and the North Sea. Researchers from Scandinavia, Germany, Poland and England come to Norway to study the archaeological material, and will benefit from the opportunity to access the archives on Internet. This will enable them to prepare their research projects before physically reviewing the collections.

The possibility to search in the material depends on good indexing. In September 2007, the Archaeological Data Service (ADS) and the Natural Language Processing Research Group at the

University of Sheffield began work on the Archaeotools project. One of the aims of this cyber infrastructure project is to investigate the use of natural language processing (NLP) to allow automated tools to search within documents for terms which are part of known classification schemes, adding them to a faceted index, and providing much deeper and richer access to unpublished archaeological literature, such as excavation reports. Tools will also be explored which will allow users to impose their own classifications and index the documents according to their own criteria, adding further user-defined dimensions to the classification. Collaboration with this group will be beneficial when developing more effective ways of indexing the large corpus from the topographic archives. In addition, this will allow the Norwegian material to be compliant with international standards enabling greater accessibility of the material for broader international research groups.

8. Management plan and localisation

The project will be hosted by the Museum of Cultural History in Oslo. The Museum has by far the largest topographical archive of the project museums. Additionally, it has a department of documentation that will be supportive in the pro-project and later. Bergen and Trondheim have been evaluated as alternative localizations, since they already have digitized parts of their archives. However, due to the fact that they do not have a department designated to documentation, as the Museum of Cultural History has, Oslo was chosen as project host.

The organization MUSIT has a board, two coordinative groups, and several groups dedicated to different parts of the development of a common database system for the university museums. All museums are represented in each group. One of these groups is dedicated to the topographical archives. The digitized topographical archive will be a part of the MUSIT structure, and as such be part of a system that secures updates and long time preservation.

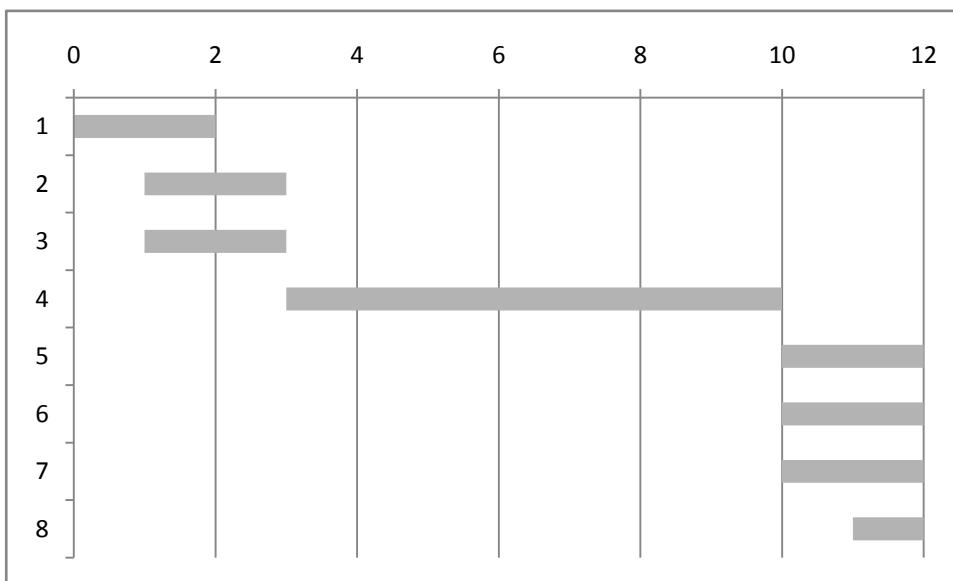
9. Time-schedule and deliverables

The pre-project will prepare for the complete digitalization of the topographical archives. The project period will be 15.11.2009 – 14.11.2010.

Tasks and milestones will be;

1. Detailed description of the contents of the archives at each museum (quantification of the totality, the different paper formats etc.)
2. Description of the type of documents to be included in the digital topographical archive, and how the documents should be registered
3. Installing the present MUSIT database for topographical archives as well as training in its use at the museums
4. At each museum, archive material from a representative number of municipalities will be fully digitized. In this manner, a framework has been developed that can be applied to digitization of complete archives
5. Recommendations concerning updates and linking of existing solutions such as Ephorte, MUSITs database for topographical archives
6. Recommendations concerning the web applications (technological solutions, access levels etc.)
7. Revision of archive descriptions, quantification and time schedule for digitalization of all topographical archives
8. Evaluation of the pre-project and preparing applications for the full-scale project

Tasks and milestones during the 12 months of the pre-project



10. Budget and funding plan

The pre-project of DDAMA applies for a total of NOK 2 million from NFR.

During the pre-project the host institution and the partners will contribute substantially.

Budget for the pre-project, one year duration		
Project coordinator/Digitalization	1474000	
Technical equipment	250000	
System development	176000	
Meetings	100000	
Total		2000000
Own funding		
One month project coordination, host institution	53000	
One month project planning at each of the five museums	265000	
Total cost of the pre-project		2318000