



**Physical Sciences
Humanities**

Continuous Access To Cultural Heritage (CATCH)
Grant round 2010 in the areas of cultural heritage, the humanities and computer science

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1 Introduction

The councils for Physical Sciences and Humanities of NWO invite researchers with interest in the areas of cultural heritage, humanities and information science to participate in the 2010 Call for Proposals of the research programme Continuous Access to Cultural Heritage (CATCH). Guidelines for applicants are available in the appendix of this call.

The extent and significance of digital cultural heritage are evolving rapidly. As a result of considerable investment by government and the cultural heritage institutions, digital collections are taking shape, the extent and character of which are highly diverse. These collections offer unexpected and unimagined opportunities for many user groups, varying from children at primary school to foreign tourists, from enthusiastic amateurs to specialized curators, from university researchers to cultural entrepreneurs. Crucial to the interaction with this wealth of heritage sources, however, is the availability of methods and techniques to employ and re-employ the digital sources in every context and to present them (perhaps many times over) in all possible ways. The aim of the CATCH programme is the development of these methods and techniques. The requirements of cultural heritage institutions form the departure point for this. Due to the influence of social and technological change, these institutions are finding themselves confronted with an environment in which their current working methods, possibilities for collaboration and patterns of organisation are inadequate in meeting demands.

The CATCH programme is aimed at innovation: the application of excellent research, steered by the heritage sector, enables this sector to innovate and to develop new services and products. The programme is also aimed at collaboration between research and heritage institutions, but in addition between the heritage institutions themselves, so that physically diverse sources can be presented to the user as a coherent entity. And finally, the programme is directed towards the communication and transfer of the techniques developed, on the one hand from within the cultural heritage domain of the institutions participating in CATCH to all other relevant bodies and on the other hand from the CATCH community to other socially and economically involved parties.

The fourteen projects that CATCH has been financing since 2005 work according to the *laboratorium extra muros* principle. The CATCH researchers conduct their projects within the cultural heritage institutions, which function as an extramural laboratory for the universities. The accent in these fourteen projects is on collaboration between the cultural heritage institutions, researchers in the humanities and those in computer science. In addition to the existing multidisciplinary approach, the purpose of this 2010 round is to help foster collaboration with private or public social partner(s). In this regard the call follows the Strategic Research Agenda (SRA) of the ICT Innovation Platform (IIP) CREATE¹, which aims to bring together heritage institutions, industry and research institutions by furthering mutual collaboration in the field of research.

Demand-driven, innovative research lies at the heart of CATCH. The programme employs existing digital sources. Digitalisation of collections itself will not be financed by CATCH.

¹ More information: <http://iipcreate.com/>

By cultural heritage is meant in this context heritage within the spatial domain, such as cultural landscapes and monumental structures. Such cultural heritage is supervised by expert trustees, such as museums, scientific institutions, archives, libraries. These institutions are in the rest of this document referred to as 'curatorial bodies'.

2 Aim

The ambition of CATCH is the development of generic techniques cutting across the areas of humanities and computer science in the service of and in interaction with curatorial bodies. Innovation, collaboration and transferability are pivotal.

In CATCH the digital heritage collections play a pivotal role. The research is directed at increasing the accessibility of these collections, based on users' needs as put forward by the curatorial bodies. CATCH finances teams that are focused on the cross-fertilization between scientific research and the bodies' mission.

The programme aims to provide the curatorial bodies with a new impulse by means of scientific publications, software tools and other research results. Attention to **transferability** and **interoperability** is important. Research to provide solutions to the present limitations in semantic and legal areas can be included in a project proposal.

Scope in the 2010 round

Hallmarks of this 2010 round are a multidisciplinary approach and integration of the knowledge utilisation in the research. Multidisciplinary teams in which humanities researchers collaborate work jointly with heritage institutions and computer science researchers can allow themselves to be inspired by the following types of question. What is the role of the ever-increasing amount of digital sources in humanities research? Can new questions be posed on the basis of this? Can new links be made and what will be the result of these, especially for the heritage institutions? How can collaboration between researchers in computer science and the humanities meet the needs of heritage institutions with respect to information technology innovations? What is the significance of digital heritage sources for the public and for researchers? The integration of knowledge utilisation (valorisation) in this round offers the researcher the opportunity to translate scientific results into practical tools and services for everyday use. The user is pivotal in this.

There are three main themes through which this CATCH round fulfils the aims described above:

1. Analysis, formalisation and methodology
2. Interoperability of large-scale and diverse sources
3. Visualisation and simulation

The main themes are further investigated in subsection 2.1.

Budget

In this round, the CATCH research programme has at its disposal a budget available with which in principle permits four project proposals to be honoured (see subsection 3.2).

2.1 Main themes of the 2010 Call for Proposals

In this subsection are described the three main themes that can be addressed in the 2010 round. Please note that project proposals in this invitation are not limited to museums, archives and libraries alone, but are equally directed towards the broader definition of cultural heritage, for example, cultural landscapes and monumental structures, in addition to data collections relevant to research in the humanities.

2.1.1 Analysis, formalisation and methodology

Some disciplines, such as socio-economic history, have been working for some time with large data collections. The methods of other humanities researchers are traditionally heuristic: delving into issues in the humanities on the basis of a limited amount of source material. However, through digitalisation and data processing by computers, even in those disciplines that have been more traditional in their working methods, data-rich approaches are becoming possible that can significantly augment the arsenal of humanities research tools. The computational analysis methods do not, however, always deliver results that lend themselves to direct interpretation within the usual framework of humanities research.

This calls for additional research operating at the interface between the humanities and computer science. Attention in some research areas needs to be directed to the central role of explicit modelling.² As well as providing new tools, the modelling process can offer insights into the concepts and methods themselves, and analysis and formalisation of that process can contribute significantly to methodological convergence of the two disciplines. But tools for detection of patterns and correlations on the basis of statistics or perhaps more implicit features may also play a role in the interpretation of digital heritage.

The interpretation of cultural expression (objects, texts, events) and their interrelationships is a significant aspect of research in the humanities.

Interpretations are temporary in nature: new interpretations must constantly be generated which build on, or reject, the previous ones. There is, in fact, a process of concerted and continual interpretation and annotation of material. This creates tension with the existing practice involving static publications and monumental editions of sources.

The above leads to the following (not intended as restrictive) list of research topics:

- Modelling of concepts in the humanities sciences
- Detection of cultural influences and characteristics of style in cultural heritage collections
- From digital edition to heritage in context

Relevance to other main themes

An important overlap with the other main themes is to be found in the applicability of the results under the above-mentioned category:

- Interoperability of large-scale and diverse sources:
 - Collaboratories: ‘community-based’ solutions for data integration and data enrichment as technological aids for conceptualisation, formalisation and analysis.
 - Data evolution: modelling and editing can be regarded as continual processes through which both the syntax and the semantics of the data change.
 - Large-scale approaches: relations with the contextualising of material.
 - Integration and harmonisation of terminology: this issue is connected with matters relating to uncertainty and interpretation as dealt with in theme 2.
- Visualisation and simulation:
 - Techniques for the visualisation of multidimensional editions.
 - Contextualisation through simulation.

² See in this respect Willard McCarty’s keynote speech: *Beyond retrieval? Computer Science and the humanities*, given during the CATCH Midterm Event on 30 November 2007, available at http://www.nwo.nl/nwohome.nsf/pages/NWOA_7ANC86_Eng.

2.1.2 Interoperability of large-scale and diverse sources

The universal exchange of large-scale, widely distributed data collections between researchers is these days common practice in a number of natural science disciplines, including biomedical sciences, high-energy physics, and astronomy. The extensive availability of data has radically changed the nature of research in these areas. A similar process is underway in the humanities, for example in historical demography, socio-economic history, (computational) linguistics, historical linguistics, art history, the Bible studies and archaeology. Research in these fields is increasingly based on large, widespread, internationally available data collections, which in turn has a highly positive effect on, for example, the quantifiability and verifiability of results obtained and on the internationalisation of research. These kinds of development can be predicted for other disciplines within the humanities. In recent years there has been a clear trend towards the integration of databases that had initially been individually created with other, similar or even complementary digital sources from other researchers or institutions.

There is also a shift noticeable in the humanities research from local and individual research to geographically diverse and multidisciplinary research teams. This can be seen from the increase in the number of scientific publications with international and multidisciplinary authorship. A requirement for further development along these lines is the availability of sufficient appropriate tools for long-range collaboration and for access to and integration of large-scale, heterogeneous and distributed data.

Researchers in the humanities are, however, doing more than just using the existing data. Due to new possibilities in research and publication they are themselves producing data collections that in turn are available to others. One example is the use of GIS systems. A new data can be created by the linking the geographic data to, for example, information regarding labour migration. This development requests for new means and tools whereby such self-created data collections can in a reasonably uncomplicated way be published, retrieved, used and maintained.

Significant data collections in the humanities disciplines are maintained by cultural heritage institutions. The essence of unfolding cultural heritage is the sharing of knowledge and the added value that an on-line presentation for a heritage institution can provide for both the public and for humanities research. This means that the institution's digital information must be available from the perspective of knowledge management. Key concepts can be the collaboration possibilities, reaction to change, demand-driven operation and flexibility in the serving the needs of a variety of user groups. It must be possible to share knowledge with different types of user and also to work cross-sectorally. Different groups can use the same data sources if enough thought is given to a shared infrastructure and communal access.

The data sources in the humanities differ in nature, however, from those in the natural sciences. In the first case predominantly textual, visual and auditory data are involved, in the second case purely numeric data. Inconsistencies, ambiguity, incompleteness, 'fuzziness' of data, in combination with a diversity of linguistic, regional and time-dependent definitions of standards and concepts are inherent in the data collections of the humanities. The inaccuracy, or 'fuzziness', of data presents a whole range of new problems that have to be solved before systematic research becomes a real possibility. These problems make demands which the currently available IT tools are not yet able to meet within the humanities.

All the above leads to the following (not intended as restrictive) list of research topics:

- Integration and harmonisation of terminology
- Re-use of data

- Prevention of data duplication
- Data quality
- Data evolution
- Large-scale application
- Diversity of data
- Collaborations

Relevance to other main themes

The research topics in this main category are predominantly methodological and infrastructural in nature. The connection with the other main themes can be strengthened by testing the usefulness of the research results in this category in combination with the results from the other categories:

- Analysis, formalisation and methodology
 - Is the infrastructure for collaborations significantly useable as a technological basis for conceptualisation and analysis?
 - Are data-evolution methods useable for conceptualisation as altered over time?
 - What demands does the use of vocabularies make on methods of terminological integration and harmonisation?
- Visualisation and simulation.
 - Are the methods that guarantee scale magnitude and distribution sufficiently robust for use as infrastructure for visualisation environments?
 - Are methods of data evolution applicable for historical visualisations?
 - What demands does the use of vocabularies place on methods for terminological integration and harmonisation?

2.1.3 Visualisation and simulation

Digital visualisation and simulation are powerful research tools for both humanities researchers and curators of cultural heritage collections.

Visualisation enables insight into large amounts of information of diverse character and provides good starting points for data enrichment and multimodal interaction. Visualisation is already in frequent use for historical information. There is a rich tradition of historical atlases, for instance, but from a broader perspective there is huge scope for innovation on this front in the humanities. The challenge here is the great heterogeneity of the collections. Often, geographical, temporal information is involved that is heterogeneous in composition, relational or multimedial in nature.

For the smaller collections, too, visualisation technology presents new possibilities. With 3D techniques, invisible layers of heritage objects and monuments can be made visible, and for art historians new possibilities for observation and analysis are being developed. Digital presentations make it possible to reconstruct objects that are no longer in existence or to experiment with a virtual surrogate should such work be impossible with the original. Such experiments also permit new kinds of interactions with an object, also on the multimedia front.

The research area 'affective appraisal', which is involved with how we perceive objects as a result of representation (often visual), can play an important role here. The new research area 'Visual Analytics' is directed towards the presentation of a great amount of information in a meaningful way so that users are supported in the detection of patterns and in understanding relationships and processes. In various disciplines useful and powerful methods have already been developed for the exploration of complex information and file collections. Cultural heritage and humanities research provide rich data collections and many points of contact for the development of advanced methods of interaction.

Simulation and modelling are also gaining in importance in the humanities. Simulations can play a role in the picturing and modelling of future expectations. In archaeology, full use is already being made of 'pre-indicative modelling', whereby high-risk spots in the landscape can be indicated so as to prevent costly and time-consuming digs in the future.

Techniques that make possible the combination of analysis and design lay commonly accepted representations of cultural objects and of knowledge in the field of humanities open to discussion. They raise methodological questions which can be addressed by combining knowledge from research in the humanities with expertise in cultural heritage and computer science.

Finally, it is important to safeguard the quality of the visualisations and simulations. This requires on-going computer science research in the direction of (further) development of visual standards and tools with an emphasis on exchangeability and scalability.

All the above leads to the following (not intended as restrictive) list of research topics:

- Visualisation of data and patterns: visual analytics
- Interfaces and interaction: multimodal, intelligent, adaptive, personalised
- Virtual worlds and simulation
- Affective appraisal

Relevance to other main themes

The relevance to the other main themes can be strengthened by testing the usefulness of the research results in this main category in combination with results from the other categories:

- Analysis, formalisation and methodology
 - Visual co-presentation of historical sources or narratives ('visual narratives', in some cases with timelines) enables comparisons that can lead to new interpretations
- Interoperability of large-scale and diverse sources:
 - Visualisation, combined with data mining and statistical analysis
 - The development in discussions and the progress of argumentation that take place in the context of interdisciplinary collaboration around data sets could be visualised in dynamic models of knowledge.

3 Guidelines for applicants

3.1 Who can apply

Applications may be submitted by researchers from Dutch universities, NWO institutes and KNAW institutes. Interested researchers from other knowledge institutions are requested to contact the CATCH programme office in advance. The application is submitted by one researcher (the main applicant) on behalf of a team comprising researchers from one or more research institutions and one or more cultural heritage institutions.

The main applicant is also the potential project leader. He/she is required to provide the director or dean of his/her institution with a copy of the application. When a proposal is submitted, the NWO assumes that the institution has been informed and accepts this competition's subsidy terms and conditions.

CATCH wishes to make maximum use of the available expertise in the areas of the humanities, computer science and cultural heritage. A combination of capacities in multidisciplinary teams can be to the benefit of the research disciplines in the fields of the humanities and computer science as well as our cultural heritage (see also Section 2, under Scope).

The main applicant must furthermore:

- possess adequate research experience, be in possession of at least a doctorate, be a senior researcher and hold a position at a Dutch research institution.
- be able to remain involved with the research for which the grant is being requested during the period for which the application is being made.

It should additionally be borne in mind that:

- it is not permitted to submit simultaneously two identical or highly similar proposals;
- proposals or highly similar proposals that are submitted to different NWO competitions (for example Free Competition and the Innovational Research Incentives Scheme) may be accepted only once.

3.2 What can be applied for

CATCH grants aim at augmenting research carried out by a multidisciplinary research team in which expertise from the fields of cultural heritage, computer science and the humanities is represented. The team comprises personnel from one or more research institutions and personnel from one or more cultural heritage institutions. The total amount of grant for one project is 655.853 Euro.

The intention is that the grant be used to hire new personnel for the realisation of the project, namely one four-year appointment of a PhD-student (aio), one three-year appointment of a postdoc researcher and one four-year appointment of a programmer. Instead of the PhD-student or postdoc researcher, a grant can be requested to enable an expert of a cultural heritage institution to spend over a period of three or four years at least 40% and at most 80% of his/her working hours on research falling under the awarded project. This person will be seconded to a research group for part of his/her time.

The project grant further covers:

- a personal bench fee of 2 x € 5.000 for the PhD-student (aio) and the postdoc (or the cultural heritage expert: see above), as a supplement to cover national or international travel expenses and the printing costs of a thesis.
- an equipment credit of € 5.000 for the purchase of computer facilities
- a standard amount of € 10.000 to cover the expenses of team members' travel between the research groups and heritage institution(s) concerned and participation in international conferences.

The amount of the grant for personnel is set in accordance with the prevailing NWO-VSNU agreement.

Research utilisation

NWO is providing the researchers of the awarded projects the opportunity to apply for an additional subsidy for activities related to research utilisation. This gives researchers the chance to translate their research results towards implementation. A maximum of € 50.000 per project can be requested for preparing and making available knowledge and research results in order for third parties (outside the scientific domain) to apply and to make use of them. Activities and/or products can be developed, put into practice and used in collaboration with third parties. The users' perspective is central to this.

As well as in the pre-proposal as in the full proposal the applicant is requested to provide information on planned activities regarding to research utilisation. When the project proposal is awarded, the project leader will be requested in the second year of the research to submit a detailed budget on the planned activities.

The additional grant is intended for, amongst other things, feasibility study, development of services and/or software, extension of the appointment of a CATCH researcher (at least doctorate degree) in industry or a heritage institution (including 50% matching for maximally 1 year) and for hiring external personnel.

3.3 When can applications be submitted

The 2010 round comprises two stages:

Pre-proposal

The pre-proposal is mandatory for applicants wishing to be considered for the full proposal stage. Pre-proposals are summarized research applications. Pre-proposals must be submitted to the CATCH Programme secretariat in accordance with the guidelines in Appendix 1 no later than **Thursday 16 December 2010 by 12.00 p.m.**

Full proposal

Within five weeks of the deadline, the assessment committee will select a maximum of twelve pre-proposals to be worked out in detail in a full proposal. Applicants will be notified as to whether or not they should submit a full proposal.

Full proposals must be submitted to the CATCH Programme secretariat in accordance with the guidelines in Appendix 2 no later than **Thursday 28 March 2011, 12.00 p.m.**

3.4 Drawing up an application

All proposals (both the pre-proposal and the full proposal) should be written in English in order to make it possible for the international referees to advice. The

proposal must be comprehensible on its own. References to internal papers must therefore be avoided. Only references to 'open literature' are permitted. Should reference to a preprint be unavoidable, applicants are requested to provide a copy of this (in electronic form) along with the proposal for the consultation by the assessment committee. Further information concerning drawing up an application is included here (see the appendices).

3.5 Specific conditions

Applications that are accepted must commence no later than nine months after the date of the final decision. The grant will expire for projects that have not started by that time.

3.6 Submitting an application

To submit the grant application, you need to make use of Iris, the electronic grant application system of NWO. You can find the Iris operating procedures and manual at <https://www.iris.nwo.nl>. An application consists of two parts: a **fact sheet** (online web form) in which the core information of both the applicant and the proposal are stated as well as the proposal itself. You should make use of Iris to fill in and submit the fact sheet electronically. One of the sections of the fact sheet is a summary of 250 words maximum which should correspond with the English summary in the proposal. You are requested to send the proposal as an attachment in PDF-format at the same time that you electronically submit this fact sheet.

(When filling in the online fact sheet you can only make use of ASCII characters ('plain text'). Use of formulae, italics etc. is therefore not possible. These can of course be used in the proposal.)

4 Assessment procedure

4.1 Procedure

4.1.1 Assessment

Both the pre-proposals and the full proposals will be assessed by the International Scientific Advisory Board (ISAB). The ISAB (hereafter referred to as the 'assessment committee') assesses the pre-proposals on suitability within this 2010 round. For the evaluation of the full proposals the assessment committee makes use of recommendations required from independent experts (referees), both Dutch and foreign³.

Those submitting full proposals will be given the opportunity to respond shortly (500 words maximum) to the referees' comments (right of rebuttal). The rebuttal must be received in electronic form by the programme secretariat within a week of the despatch of the referees' comments. Rebuttals that are too late or too long will not be considered in the assessment.

Should the tone of the rebuttal lacks objectivity in the opinion of the assessment committee, the rebuttal will not be taken into consideration in the evaluation.

The assessment committee will prioritise the full proposals on the basis of the quality of full proposals and its own (scientific) insight, taking into account the referees' comments and the applicants' rebuttals. At the same time the assessment committee will produce a written recommendation concerning the quality of the proposed research.

4.1.2 Decision making

The Steering Committee, comprising a delegation of members of the NWO boards for the Physical Sciences and Humanities divisions, decides on acceptance and rejection on the basis of the assessment's prioritisation.

The Steering Committee aims at an average decision-making term of four months, starting from the time the full proposals are assembled. The Steering Committee will, however, take longer should the necessary care demand this. You can check on the progress of your application via the 'Voortgang' ('Progress') button in Iris.

4.1.3 Timeline

- 16 December 2010 : deadline pre-proposals
- mid-January 2011 : outcome pre-proposal evaluation
- 28 March 2011 : deadline full proposals
- mid-April 2011 : request for applicants' rebuttals
- mid-May 2011 : meeting assessment committee
- beginning June 2011 : decision making steering committee

³ It is possible (but not mandatory) to provide a maximum of three persons who may NOT act as referees. For confidentiality reasons you are requested not to include these names in your application but rather to send them by e-mail to catch@nwo.nl.

4.2 Criteria

4.2.1 Scientific assessment

Both the pre-proposals and the full proposals will be evaluated by the assessment committee on the criteria: appropriateness, scientific quality, multidisciplinary collaboration, relevance and research utilisation. The criteria are of equal significance.

A. Appropriateness of the proposed research as regards the aims and research scope of this call. The main themes as described in this document will serve as guiding principles.

B. Scientific quality of the proposed research is evaluated on the basis of the following six components:

- a. Scientific merit of the proposed research.
- b. Innovation (development of new concepts or techniques, or new ways of applying existing techniques and methods).
- c. Clarity of the research goal.
- d. Competence of the research team.
- e. (Feasibility) of work programme.
- f. Timing of the proposed research, in scientific, social and/or economic terms.

C. Multidisciplinary collaboration should be evident from the composition of the research team, active participation from the three fields of expertise (cultural heritage, humanities and computer science), the activities plan and the roles of the team members. See further under subsection 4.2.2.

D. Relevance of the proposed research for the curatorial bodies participating in the research proposal and the potential relevance for other curatorial bodies, plus the contribution of the proposed research towards innovations in the humanities.

E. Research utilisation is one of the main spearheads of the NWO strategic plan 2011–2014, with emphasis on the stimulation and facilitation of this. CATCH therefore wishes to draw attention to the preparation and dissemination of research results for practical application. The researcher will be asked to describe how the knowledge and/or results to be gained from the research could lead to new techniques or insights or to applications relevant to curatorial bodies or humanities researchers. The following aspects will be considered in the evaluation:

- a. (potential) contribution of the research results to the solution of the problems as described in the application;
- b. potential for concrete applications;
- c. effectiveness and feasibility.

See further under subsection 4.2.3.

4.2.2 Further explanation of criterion C: multidisciplinary collaboration

In the project proposals the active contribution and involvement of one or more curatorial bodies must be specified. The active contribution comprises the following:

- a. the researchers financed by CATCH will work partly (at least 60% of the time) 'on site', meaning within one of the curatorial bodies participating in the application, or
- b. (as alternative for a) the heritage expert financed by CATCH will carry out part of his/her research at one of the research institutions named in the application.

- c. the researchers have access to the relevant collections, data and systems, within the participating heritage institution(s) and the participating research institutions.
- d. the substantive, personal contribution of staff (not financed by CATCH) of the participating heritage institutions who are members of the project team. In real terms, this personal contribution comprises at least 25% of the award granted for personnel. This is equivalent to one man-year, spread over four years (0.25 FTE per year).

The application will describe active contribution on all these points. The applicant must submit a definitive commitment from the participating heritage institution(s) within a month of the award decision.

4.2.3 Further explanation of criterion E: research utilisation

De Steering Committee considers it of great importance, in view of the main spearheads of the 2011–2014 NWO strategic plan, that in this 2010 round research utilisation becomes an integral part of the research proposals. This means further developing research findings towards practical applications and services. For the awarded projects an additional grant can be requested in the second year of the research.

For the integration of research utilisation in the research, targeted collaboration in the knowledge and innovation chain is indispensable. In this call, CATCH is asking researchers to involve one or more public or private societal partner(s) (for example, industry, education, government) at the beginning and throughout the duration of the research.

In the research proposal the collaboration with one or more public or private societal partner(s) must be described. The involvement can be done through, amongst other things:

- a. actual personal involvement in the conduct of research projects;
- b. provision of research facilities (experimental environments);
- c. contribution (financially or otherwise) to the development of exploitation plans and long-term administration of research results;
- d. development of applications based on the gained knowledge.

4.3 Composition of committee

The pre-proposals and the full proposals will be assessed by CATCH's International Scientific Advisory Board (ISAB). For the composition of this board, see the CATCH website: www.nwo.nl/catch.

5 Further information

5.1 Contact

For further information you may contact the CATCH Programme Office:

- Ms Rosemarie van der Veen-Oei
- tel. +31 (0)70 344 08 51
- e-mail: catch@nwo.nl

5.2 Documentation

You can download this Call (also in Dutch version) and other relevant documents from www.nwo.nl/catch under Grant & Calls.

6 Appendices

6.1 Guidelines for compiling a pre-proposal

Before you start to write your research proposal, we would ask you to take good notice of the guidelines presented below.

Submission of the pre-proposals

The pre-proposal, exclusively as a PDF file, must be submitted the CATCH Programme secretariat by the deadline (see Section 3). Use for this purpose Iris, NWO's electronic subsidy application system. Visit <https://www.iris.nwo.nl/>. Here you will also find the Iris operating procedure and manual.

The submission proceeds in four steps. During the first three steps you provide factual information about your pre-proposal (title, main applicant, etc.)⁴. In the first step you are asked to provide, amongst other things, a summary. This is the layman's summary. Characteristics are:

- a summary of your proposal in Dutch;
- 250 words maximum;
- aimed at research colleagues from other disciplines;
- can be used, if necessary, for publicity purposes.

In the second step you check your details. In the third step you add any co-applicants. In the fourth step you add the pre-proposal as an attachment in **PDF format**.

The pre-proposal must be written in **English**. The pre-proposal should be comprehensible on its own. References to external works (other than literature references) should be avoided where possible.

1a Project title

A title that is as short as possible, yet specifies the research for which the grant is being requested (the same as entered in the project information screen).

1b Project acronym

Only where relevant (the same as entered in the project information screen).

1c Principal investigator

Only the name of the main applicant (who serves also as contact person and is the intended project leader).

2 Classification

You are requested to quote the main theme which, in your opinion, best fits the research. In this you have the choice of the following themes:

- I. Analysis, formalisation and methodology
- II. Interoperability of large-scale and diverse sources
- III. Visualisation and simulation.

⁴ When filling in the screens with project information you can employ only ASCII characters (plain text). Use of formulae, italics, etc. is therefore not possible. These can, of course, be employed in the **research proposal**.

3 Composition of the research team

In this section you are asked to name the persons who are or will be directly involved in carrying out the research, and to mention the positions applied for. Quote (so far as is known) the surnames and initials of these persons, their titles, speciality and university or institution. You are asked to present this information in the form of a table. You are also asked to state the intended promotor of the PhD-student.

4 Description of the proposed research

The maximum length of this part of the application is 2.000 words.

The following aspects are to be covered:

- the scientific topic and the anticipated research results;
- method of research;
- scientific significance of the proposed research;
- concrete applications that the research is aiming towards, and the relevance of these for cultural heritage institutions and innovation in the humanities;
- relation of the proposed research to comparable research elsewhere;
- the concrete role of the heritage institutions;
- activities directed towards the utilisation of scientific knowledge and research results.

Use in this section the following arrangement (see the evaluation criteria in subsection 4.2):

4a Scientific aspects

4b Multidisciplinary cooperation

4c Relevance

4d Research utilisation - *kennisbenutting*

5 Literature

A brief summary of the references used in the proposal.

6.2 Guidelines for compiling a full proposal

Before you start with the compilation of your research proposal, we would ask you to take good notice of the guidelines presented below.

Organisation of the research proposal

All research proposals must be written in **English**. The proposal must be comprehensible on its own. References to internal papers must therefore be avoided. Only references to 'open' literature are permitted. Should reference to a preprint be unavoidable, you are requested to send one copy (in electronic form) with the proposal for the consultation of the assessment committee. The research proposal must not exceed 5000 words, excluding question 6d, valorisation, the references, the budget and the summary.

Submission of the research proposal

The full proposals, presented exclusively as a PDF file, must be submitted to the CATCH Programme secretariat by the deadline (see Section 3). Use for this purpose Iris, NWO's electronic subsidy application system. Visit <https://www.iris.nwo.nl/>. Here you will also find the Iris operating procedure and manual.

The submission proceeds in four steps. In the first three steps you provide factual information about your research proposal (title, main applicant, etc.)⁵ In the first step you will, amongst other things, be asked to provide a summary. You can use the Dutch summary from the pre-proposal for this, with any necessary adaptations. In the second step you check your information. In the third step you add possible co-applicants. In the fourth step you add your research proposal, as an attachment in **PDF format**.

Maximum length: 5.000 words for the sections 6 (except question 6d), 7 and 8.

1a Project title

A title that is as short as possible but specifies the research for which the subsidy is being requested (the same as entered in the project information screen).

1b Project acronym

Only where relevant; the same as entered in the project information screen.

1c Principal investigator

Only the name of the main applicant (who serves also as contact person).

2 Summary of research proposal

A short summary of the research proposal (250 words maximum). This is the *scientific* summary that will be sent to the external referees.

3 Classification

You are requested to quote the main theme which, in your opinion, best fits the research. In this you have the choice of the following themes:

- I. Analysis, formalisation and methodology
- II. Interoperability of large-scale and diverse sources
- III. Visualisation and simulation.

4 Composition of the research team

The research team comprises three sections:

- The PhD-student, postdoc researcher and programmer for whom the grant is being requested ('vacancies'). It is possible for a heritage expert to replace the PhD-student or postdoc; this project member is then seconded to a research group (see subsection 4.2).
- The contribution from one or more universities or institutions
- The contribution from one or more heritage institutions.

You are requested to name the intended promotor of the PhD-student. Use the following table for this information.

| Name and title | Affiliation | Expertise | Role in project | Financed by |
|----------------|-------------|-----------|-----------------|-------------|
| | | | | |

⁵ When filling in the screens with project information you can employ only ASCII characters (plain text). Use of formulae, italics, etc. is therefore not possible. These can, of course, be employed in the **research proposal**.

5 Research school

In which research school (or schools) will the participants in the proposed research work?

6 Description of the proposed research

The following aspects should be covered:

- the scientific topic and the anticipated research results;
- method of research;
- scientific significance of the proposed research;
- concrete applications that the research is aiming towards, and the relevance of these for cultural heritage institutions and innovation in the humanities;
- relation of the proposed research to comparable research elsewhere;
- the concrete role of the heritage institutions;
- activities directed towards the utilisation of scientific knowledge and research results.

Use the following arrangement in this section:

6a Scientific aspects

6b Multidisciplinary cooperation

6c Relevance

6d Research utilisation - *kennisbenutting* (max. 400 words)

7 Description of the proposed plan of work

Planning

You are requested to outline the phases of the entire research in concrete periods. What are the tasks and what is the schedule for their performance?

Actual activities

You must define more specifically the activities that you expect to take place in the context of the research during the first two years. Give a global indication of which tasks the various research team members will be carrying out in the research process.

8 Literature

- a. Present here a summary of the references used in the proposal
- b. Mention here a maximum of five most important publications of the research team.

9 Allocated budget for one CATCH project:

Always applicable⁶ to:

| | | |
|------------|--|-----------|
| Personnel: | PhD-student (4 years) | € 198,693 |
| | postdoc (3 years) | € 195,706 |
| | programmer (4 years HBO ⁷ level) | € 236,454 |
| | Bench fees postgraduate researcher and postdoc | € 10,000 |
| | Equipment credit – computer facilities | € 5,000 |

⁶ All amounts quoted here are the standard amounts as per 1 July 2010 in accordance with NWO-VSNU contract agreements regarding awards.

⁷ Approximates to bachelor level or equivalent in technical education.

Material credit – travel budget € 10,000 +
€ 655,853

Should funding be requested for a heritage expert seconded to a university or similar, this position replaces the PhD-student or postdoc entry by the following calculation:

Heritage researcher: no. years x no. FTE x standard sum whereby:

number of years = 3 or 4

number of FTE = at least 0.4 and at most 0.8

standard sum – use the following table:

| 1 FTE | HBO level | Academic level |
|---------|-----------|----------------|
| 3 years | 175,249 | 209,613 |
| 4 years | 236,454 | 282,820 |

The NWO offers those CATCH project leaders whose applications are accepted in this round the possibility to apply for an additional grant (max. € 50,000) for the purpose of research utilisation. For this part you should submit a detailed budget on activities to the Programme secretariat during the second year of the research.