

REQUEST FOR SUBMISSIONS

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CyArk  
**500**  
**CHALLENGE**



## OPEN REQUEST FOR PROPOSALS

CyArk invites members of the heritage community to submit sites for consideration to be included in the CyArk 500. Interested governments, organizations, and individuals are asked to submit an initial letter of interest. Submissions will be evaluated by the CyArk 500 Advisory Council for selection as part of the 500. Letters that pass the initial review will be asked to submit a formal application for review by the Advisory Council. Selected sites may be eligible to receive digital preservation funding through the CyArk 500 Fund. Applications will be processed quarterly.

### HOW TO SUBMIT

Parties interested in submitting a site to the CyArk 500 are asked to submit a letter of interest with the following information:

- The name, location, and a statement of significance for the site
- The relationship of the applicant to the site and site authority
- How and through what authority permissions and access to the site will be granted
- Description of how the site meets the selection criteria of Risk, Significance, and Benefits
  - Risk: the nature and imminence of the threat posed to the site
  - Significance: the position the site holds to the cultural identity of its region or country, and to humanity in general
  - Benefits: the positive, far-reaching benefits of digitally preserving the site and transferring technology to the region
- Description of any existing digital preservation data that may be contributed to the CyArk archive
- Description of the nature and completeness of local support for the project including any existing funding to support digital preservation

### DATA LICENSING POLICY

In all CyArk 500 projects the site owners/ site authorities will retain control and ownership of the data collected. In order to participate in the CyArk 500, the site owners/ site authorities must provide CyArk with a perpetual license to use all non-sensitive collected data from the site including derivatives such as drawings, models, virtual tours, etc. for non-commercial, public, educational, and research purposes. A list of the sensitive data will be provided in advance of the project start. The license will include the use of the data and derivatives in the non-profit CyArk website and for CyArk promotional purposes.

## WHO IS CYARK

CyArk is a 501(C)3 non-profit organization pioneering change in the way we experience, protect, and preserve our cultural heritage through the use of 3D, digital technologies. CyArk's digital heritage preservation technology is creating a paradigm shift in the entire conservation field, from documentation and site management, to site interpretation and education, to archiving and free public access via the web ([www.cyark.org](http://www.cyark.org)). CyArk has worked across the world, bringing its digital preservation process to some 100 significant heritage sites including Babylon in Iraq, Easter Island in Chile, Ancient Thebes in Egypt, Pisa in Italy, and Mount Rushmore in the United States.



Map of CyArk's global projects

## WHAT IS THE CYARK 500 CHALLENGE

The CyArk 500 Challenge is the 3D scanning and digital preservation of 500 world heritage sites within a period of 5 years. Heritage sites are a significant part of our collective memory and we are losing them at an alarming rate.



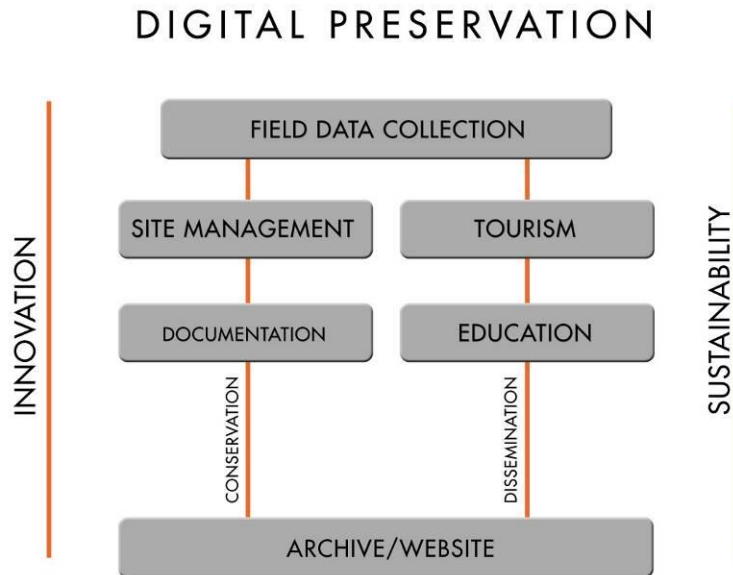
### Examples of risk facing heritage

3D laser scanning and other advanced technologies are available today and allow us to preserve and experience these incredible places in a way previously impossible. Now is the time for us to take advantage of these technologies and the change they enable to save these priceless treasures.

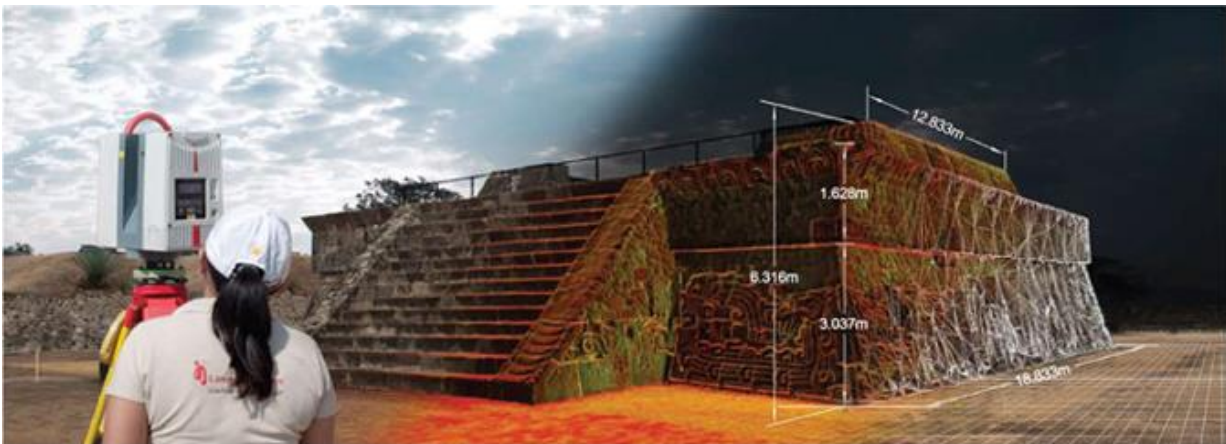
Through the CyArk 500, we can achieve an order of magnitude improvement in the way we document, preserve, experience, and archive our cultural heritage by bridging and integrating islands of automation in 3D and other digital technologies. CyArk achieves this order of magnitude improvement through a process we call Digital Preservation.

## WHAT IS DIGITAL PRESERVATION

Digital Preservation brings technology to the challenge of heritage preservation, including conservation, education, dissemination, and archiving heritage for future generations. The same data set collected for site conservation and management can also be used to further the site’s interpretation and educational goals.



### Field Data Collection



Diagrammatic image of Xochicalco showing field data collection with 3D scanner, resulting 3D cloud of points image and dimensional data.

CyArk uses 3D laser scanning, photogrammetry, and other advanced technologies to capture 3D measurable data. The resulting data is highly accurate and can be used for a number of different purposes.

## Site Management



Image showing CyArk's 3D viewer being used to manipulate a 3D model of Mt. Rushmore and identify cracks in the monument

CyArk's data can be used to create tools for site managers to better inform their decisions and management process. This can include working with extracted 2D dimensioned drawings (plans, elevations, sections, etc.) or directly with the 3D data through free viewers, or working with data derivatives such as GIS maps or BIM models.

## Documentation

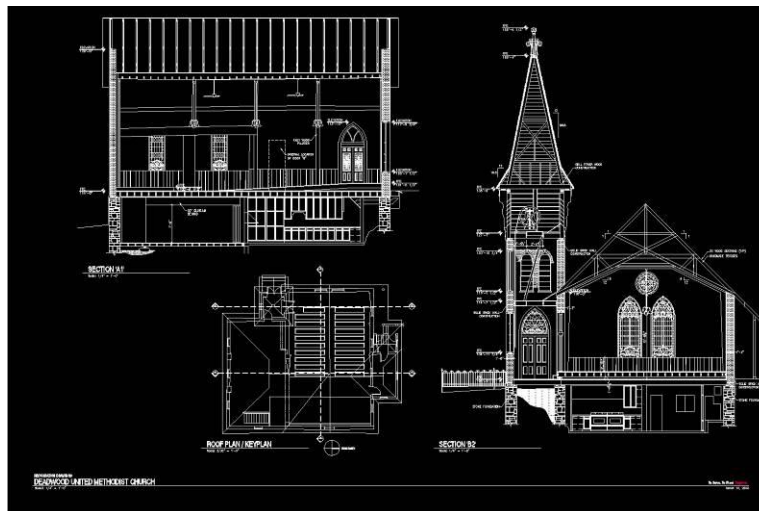


Image showing documentation produced from 3D scanning at Deadwood

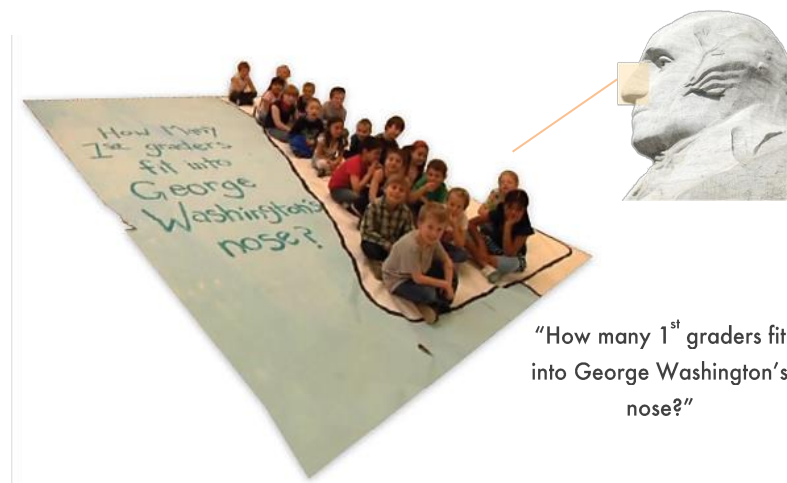
Tourism



Image showing mobile apps for tourism

The 3D data and resulting visuals can also be used to create mobile apps and other content to help promote and augment on-site tourism. Link to CyArk's mobile apps: [HTTPS://ITUNES.APPLE.COM/US/APP/MOUNT-RUSHMORE-VIRTUAL-TOUR/ID534020138?MT=8](https://itunes.apple.com/us/app/mount-rushmore-virtual-tour/id534020138?mt=8)

Education



"How many 1<sup>st</sup> graders fit into George Washington's nose?"

Image showing Mt. Rushmore 3D data being used in a lesson plan for kids. Link to news piece about CyArk's lesson plans at Mt. Rushmore:

[HTTP://WWW.KELOLAND.COM/VIDEOARCHIVE/INDEX.CFM?VIDEOFILE=121109RUSHMORE](http://www.keloland.com/videoarchive/index.cfm?videofile=121109RUSHMORE)

The data can also be used to engage the next generation with heritage through the creation of lesson plans and interactive activities. [HTTP://CYARK.ORG/EDUCATION](http://cyark.org/education)



## Archiving



Image showing CyArk's secure data bunker

Data is archived in perpetuity in CyArk's new two petabyte archive. The gold copy is stored at Iron Mountain's secure underground facility in Pennsylvania.

## Sustainability



Image showing CyArk's Technology Center at the University of KwaZulu-Natal in South Africa

CyArk transfers its knowledge and processes to local organizations by means of establishing Technology Centers with local schools and universities.

## WHAT IS THE SELECTION PROCESS

Submissions to the CyArk 500 will be evaluated by the CyArk 500 Advisory Council on the basis of three main criteria: the nature and imminence of the threat posed to the site (“risk”); the position the site holds to the cultural identity of its region or country, and to humanity in general (“significance”); and the positive, far-reaching benefits of digitally preserving the site and transferring technology to the region (“benefits”).

Each site is assessed and scored based on information provided in the site’s primary letter of interest and secondary application about risk, significance, and benefits, as well as extensive independent research about the site. Proposals receive a weighted score for risk to ensure that sites facing a larger number of unlikely or low-impact risks are not necessarily given priority over sites facing a smaller number of highly destructive, imminent risks, such as sites near major seismic faults or in active combat zones.

A site that passes the risk assessment is included in the CyArk 500 Challenge if it then also passes significance measures. Sites that fail the risk assessment may still be considered for inclusion in the CyArk 500 Challenge provided the site scores highly for significance as well as clearly articulates the benefits of applying 3D technology. Sites that pass the risk assessment, but fail the significance and benefits measures may still be included in CyArk’s general archive of projects, but would not be considered part of the CyArk 500 Challenge.

This selection process was developed by the CyArk 500 Advisory Council, a blue ribbon international panel of heritage experts who evaluate all submissions to the CyArk 500.

### The CyArk 500 Advisory Council



Gustavo Araoz  
ICOMOS



Sheridan Burke  
Godden MacKay Logan



Bonnie Burnham  
World Monuments Fund



David Mitchell  
Historic Scotland



Rohit Jigaysu  
ICORP



Nelly Robles  
Harvard University



Christina Cameron  
University Montreal



Tom Greaves  
Dot Product



Ruth Parsons  
CyArk Europe  
Former Historic  
Scotland CEO



Edward Impey  
English Heritage



Laura Page  
Arts Council



Patrick Martin  
TICCIH

## WHAT IS THE EXECUTION PROCESS

CyArk will address all the projects in the 500 in two phases.

### Phase 1: Urgent recordation and archiving (“Scan and Can”)

The first phase of the 500 will focus on the rapid recordation of sites. This process is known internally as “Scan and Can.” In this phase the priority is placed on capturing the site in the field and archiving the data. During the Scan and Can phase only minimal deliverables are produced for immediate dissemination on the web ([www.cyark.org](http://www.cyark.org)). Additional deliverables such as full conservation and educational products are not developed in this stage.

The Scan and Can approach also allows sites to be captured at very low cost.

### Phase 2: Full data development

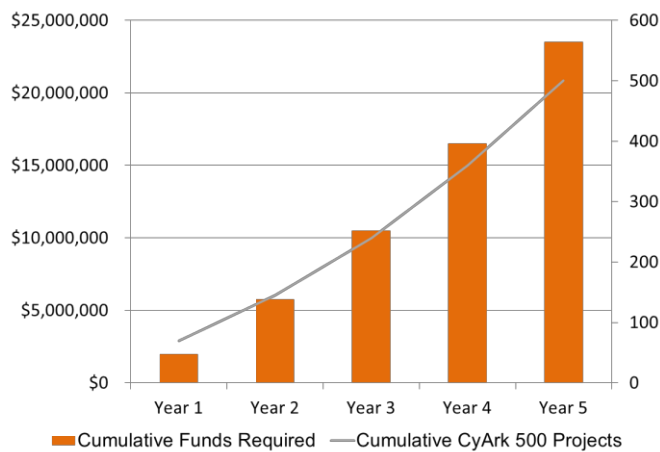
As funding becomes available, each of the Scan and Can projects will be more fully developed to include deliverables for both conservation and dissemination (see project example of Hopi Petroglyph Sites ([HTTP://CYARK.ORG/PROJECTS/HOPI-PETROGLYPH-SITES](http://cyark.org/projects/hoopi-petroglyph-sites))). Since the data is archived in the first phase, it is possible to accomplish the second phase as funding and time allow.

## HOW IS THE FUNDING STRUCTURED

The Phase 1 work is expected to cost below \$50,000 for an average project. For very large sites with multiple large structures, the Phase 1 work will be further phased starting with the most important structures that will fit within the budget. Work will continue on the site through the establishment of local technology centers.

It is anticipated that certain sites will have funding available for Phase 1 work. Sites that lack funding will be eligible for grants from the newly formed CyArk 500 Fund.

The CyArk 500 Fund is comprised of donations and multi-year pledges from individuals, foundations, corporations, and governments. It is expected that site authorities will participate in raising funds to contribute to the CyArk 500 Fund. Over the five years of the CyArk 500, the 500 Fund will raise the necessary funds to complete the project.



## WHAT ARE THE BENEFITS

Selection for the CyArk 500 will be a highly competitive process. Those sites selected by the Advisory Council will receive numerous benefits through their participation in the CyArk 500.

### Local Impact

The CyArk 500 will bring new technologies to the site and the local community. The sites will benefit from new tools and information for management and promotion of the site. The site and the community may also benefit from the transfer of new skills and technology by means of establishing a local technology center in conjunction with the 500.



Image of Somaliland's Horn Heritage working with new technology to preserve the rock art in the Horn of Africa

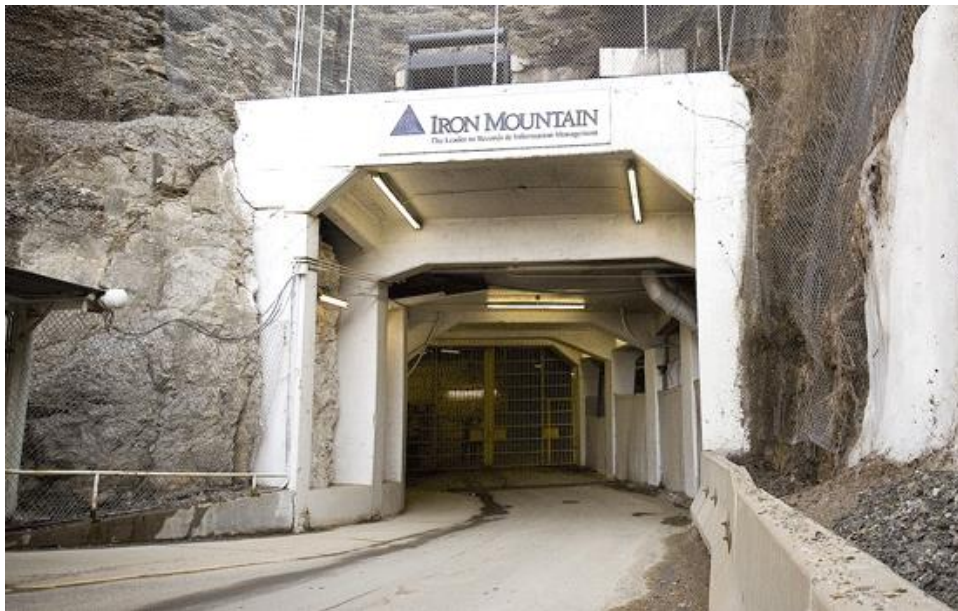
## Improved Site Management

The CyArk 500 will result in documentation and other tools to aid in site management and conservation. The sites involved will receive highly accurate information to help in ongoing preservation work.



Image of Taos Pueblo conservators using CyArk documentation on conservation work for the pueblo

## Data Security



The resulting data from the CyArk 500 will be stored in CyArk's secure data archive located within Iron Mountain's state-of-the-art Boyers facility. CyArk takes care to ensure these precious records of heritage sites are properly migrated and maintained for the future.

### Educational Materials

The CyArk 500 will also create educational lesson plans and activities which can be used by teachers to educate the next generation on these important places.



Image of South Dakota teacher using CyArk's 3D content in the classroom

### Tourism Materials

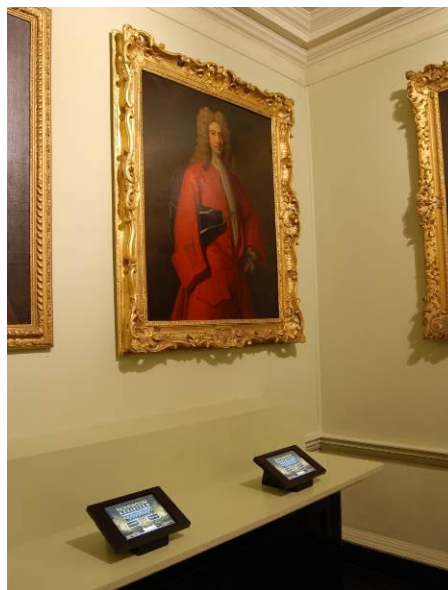


Image of CyArk-developed kiosk for Houghton Hall

CyArk provides broad exposure to cultural tourism materials through the CyArk website. Additionally, the CyArk 500 will allow for the development of mobile apps, kiosks and virtual tours to aid both on-site and virtual tourism.

## Broad Exposure

The sites selected for the CyArk 500 will also benefit from CyArk's global presence and reach.

CyArk has been featured in:



CyArk maintains an international audience through the web, social and mobile platforms.

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- 1.6 million people from 224 countries and territories visited cyark.org last year.
  - 30,000 mobile app downloads.
  - 10,000+ teachers, students, academics use our lesson plans, virtual tours, and educational content.





