HUMANITARIAN INNOVATION FUND
Early Stage Innovation Final Report
- Please try not to exceed 5 pages (Arial, 12pts) excluding attachments –

Organisation Name	LSN Ltd
Project Title	**Community-based mapping, modelling and monitoring of endangered heritage**
Partner(s)	Endangered Archaeology in Middle East and North Africa project (EAMENA), Oxford University; Ptolemais-Hermiou, Sohag; Documentation and Archaeological Survey Project, Helwan University; Ministry of Antiquities, Cairo; Mali Mali; Inition
Problem Addressed / Theme	Cultural heritage is increasingly threatened by conflict and environmental factors. It is also a human right, with culture playing a key role in the identity, cohesion and resilience of individuals and communities.
Location	UK, Mali,
Start Date	November 2016
End Date	April 2017

Total Funding	Total HIF and other contributions: £19,866
Total Spent	£32,018 change this!
Innovation Stage	Recognition
Type of Innovation	Transformational from the perspective of humanitarian policy, technology integration and practice
Project Impact Summary	Have demonstrated novel approach to documentation of heritage sites and structures
	Integrated aerial robotics, digital imaging with cloud processing under field conditions
	Formed a plan for ongoing research, documentation, conservation and providing a deterrent against damage and even permanent loss
	Piloted training for local people and Built a global network of experts/advocates
	Explored blended enterprise as business model

ACTIVITIES CARRIED OUT

1. Describe all the activities carried out. Please attach a workplan or log frame, if these were used. Attached updated work plan – plan and actual attached

2. Changes or amendments to the planned activities and objectives that have not been detailed in an *Agreement Amendment Form*, please list them here.

a) Mitigating security risks following the dynamic monitoring of risks (kidnap etc.)
b) Investment in higher spec image capture and photogrammetry, recognising the urgency and profile of the field work in a country where access and security are deteriorating
c) Accelerated pace of project after AAAS Roundtable capitalising on timeliness

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ACHIEVEMENTS

3. Has the project demonstrated the success of the innovation or idea?

By 'success' we mean that the innovation has achieved the planned positive impact/outcome, or that the idea has proven effective.

√ Completely successful

Please explain further:

The project achieved its objectives, but on top of that:

a) The consultation, thanks to a number of international roundtables and conferences, was global in scope, and we were able to exchange ideas with world leaders http://www.elrha.org/hif-blog/importance-communities-protecting-heritage-conflict-zones/
b) we brought together people and organisations in a way that enabled us to accelerate the whole programme, and share insights through the more intensive use of blogs, and look at innovation in this field http://www.elrha.org/hif-blog/innovators-protection-endangered-heritage/
c) It demonstrated how the use of a Cloud based service could be a tool to facilitate collaboration between international experts and local people, as well as creating a peer to peer network of frontline practitioners.
d) Was a catalyst for new partnerships (UCL, Bristol University and Northumbria University in the UK, Leiden University in the Netherlands and Rice University in the US) which we were able to include a proposal for follow up funding.
e) A concept developed for a sustainable and scalable enterprise approach

4. Please describe how the project achieved the planned objectives, and describe all of the results achieved through the activities indicated in Question 1.
The approach is detailed in the work plan as well as the the Logframe.
In addition to a practical demonstration of community based heritage stewardship in an area affected by conflict and environmental challenges, it alsohighlighted a wide range of other humanitarian applications for this approach from flood risk management, irrigation and food security, forensics and rule of law; infrastructure monitoring and management, documented in a series of blogs and on the Facebook project site.

APPROACH

5. The approach was highly appropriate. The use of a Facebook project page enabled us to reach out to experts around the World, share insights and build a community of interest. https://www.facebook.com/skyviewsdjenne
We started out with multiple potential field trial sites for consultations with local partners and then quickly focussed on the most appropriate, where we had the strongest local support for the main field trial which was Mali. http://elrha.org/hif-blog/choose-mali-site-test-concept
It also proved to be one of the toughest areas to operate, but that had the benefit of fully testing the approach, and highlighting the value in a real case with high national and international profile.

MAJOR OBSTACLES

6. Please list the three most significant obstacles faced during the project and describe how they affected the planned activities and results.

Obstacle	Impact of Obstacle
1. Engagement and trust of local community recognising degree of insecurity / tensions within the country	Time taken to find the right people on the ground, and that any misunderstanding can lead to suspicion about motives which may not reflect local interests
2. Lack of connectivity	Impact on digital media processing and real time engagement with international experts
3. Building and maintaining momentum recognising we were at the stage of concept development	This was only a concept development phase and thus we needed to manage expectations about our capacity to follow on which is endangering the momentum we have built up

7. Please indicate what steps were taken to address these obstacles and whether the solutions were effective.

Solution	Effective?
1. Training and support of champions within the local community	Very effective, but this takes time and not all selected candidates will have the same degree of aptitude
2. Use of innovations in Wireless networking and connectivity through G3+	Partly solved the problem, but need greater capacity to be fully effective, for example, the use of a satellite link
3. Worked up a follow up proposal after the initial very positive feedback	We are ready to continue and are now waiting to hear from HIF

OPTIONAL: **PARTNERSHIPS AND COLLABORATION**
If you received HIF funding with partners or collaborators, please answer questions 8 and 9.

8. How and why did the partnership change during the course of the project?

The AAAS singled Mali and Syria out as key case studies in the field of conflict and heritage stewardship. We chose to focus on Mali for the field work and shared the rational for this in the blog: http://elrha.org/hif-blog/choose-mali-site-test-concept

The profile we rapidly gained for the project led to many offers of collaboration and advice which we hope to build on in the development phase.

Keen interest from the Malian Government led to meetings with the Ministers of Culture and of Tourism, the Director of the Mission Culturelle and Head of the National Museum as well as support from both the British and Swedish Ambassadors, and UNESCO in-country representative. The wider significance of this approach to stabilisation was documented in an endorsement from the British Ambassador in Mali.

9. Are there plans to continue your partnership, either while continuing this innovation or on other projects?

☐X Yes, with this innovation
☐ Yes, with another project
☐ Maybe
☐ No

Please describe further:

We have been invited to:
participate in a UNESCO backed conference on cultural heritage in Mali
present the insights gained at a heritage workshop in East Africa, as well as put together a development proposal to HIF involving the expanded partnership network
present at an International Conference "Documenting our Heritage at Risk" in Rome 19-20 May 2017
Explore how the approach could be used in Afghanistan, Egypt, Libya, Nagorno Karabakh and Tunisia

DISSEMINATION
10. Please describe any steps taken to disseminate the outcomes of the project.
Please include all completed and forthcoming, as well as all planned and unplanned products (for example, research and policy reports, journal articles, video blogs, evaluations).

Participation in roundtables and conferences, including the AAAS R2P conference in London

The web / Blogs

- ELHRA project page - http://www.elrha.org/map-location/community-based-mapping-modelling-monitoring-endangered-heritage/ is our project page on the donor website.
- https://skyviewsdjenne.wordpress.com/
- https://www.facebook.com/skyviewsdjenne, which has engaged close to 1000 people around the world.

Video
Mali Mission https://www.youtube.com/watch?v=69W8IUEeeV0&t=6s
From aerial robotics to augmented reality
https://www.youtube.com/watch?v=biFgk_06O3Q

We will plan to produce more videos like that

Events
We plan to run or participate in events in London, Bamako, Paris and Rome.

NEXT STEPS

11. Will the project, idea or innovation be replicated, carried forward or scaled up?
  X☐ Yes – if he receives development funding from HIF.

Please describe further:
We have received a request at the Ministerial level to build on the pilot research in Mali, along with invitations to adopt this approach to heritage in conflict affected countries in both Africa and Asia.

12. If the project or innovation could be carried forward, replicated or scaled up, please list the three most important issues or actions that will need to be considered *(where 1 = most important and 3 = least important)*

Suggestion/issue	*1*	*2*	*3*
1 The value of networks enhanced by digital technology which allow real time collaboration between frontline workers and international experts wherever they may be. This builds on ideas from other sectors such as the Grid Economy, as well as to crowd-source ideas from the bottom up. A networked based approach to innovation can also be transformational having the potential to be more adaptive, faster and agile	X☐	☐	☐
2 Local engagement to ensure relevance, sustainability and foster constant development and evolution. This also has enabled us to tap into local expertise, skills and scholars	☐	☐X	☐
3 Framing within the security, stabilisation and resilience agenda. This is particularly relevant to humanitarian interventions in areas affected by conflict; recognising the difference between working in, around and on conflict.	☐	☐	☐X