NIA ENWL030
Hyperspectral Imaging

Progress Report

31 May 2022

VERSION HISTORY

Version	Date	Author	Status	Comments
V1.0	04/05/2022	Elizabeth Pattison	Final	

REVIEW

Name	Role	Date
Ben Ingham	Innovation Technical Manager	22.07.22
Victoria Turnham	Head of Innovation	25.07.22
Lucy Eyquem	Innovation PMO Manager	29.07.22

APPROVAL

Name	Role	Date
Steve Cox	DSO Director	29.07.22

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GLOSSARY

Term	Description
MTC	Manufacturing Technology Centre – project partner

1 PROJECT FUNDAMENTALS

Title	Hyperspectral Imaging
Project reference	NIA_ENWL030
Funding licensee(s)	Electricity North West Limited
Project start date	January 2022
Project duration	18 months
Nominated project contact(s)	innovation@enwl.co.uk

2 PROJECT SCOPE

Until now, utilities companies have been granted an exemption in the regulations around excavated waste arising from utilities installation and repair. In June 2022 this will come to an end and, following a transition period, it will be necessary to classify spoil and process any contaminated or hazardous material in line with environmental regulations.

The Hyperspectral Imaging project will investigate the use of hyperspectral imaging technology in the classification of spoil. The project will consist of two phases: the first will be a development phase where testing is carried out to demonstrate the capability of a hyperspectral imaging device for detecting and classifying contaminants in spoil; the second will comprise a series of field tests to confirm suitability of the device for use in real world conditions. There will be a stage-gate at the end of phase one to allow the project to end should a suitable device not appear practical following the laboratory testing.

3 OBJECTIVES

The project objectives are as follows:

- Trial the use of hyperspectral imaging for detecting and classifying contaminants in spoil.

- Demonstrate the ability to utilise this technology under field conditions.

4 SUCCESS CRITERIA

The project will be successful if it can create a prototype device that demonstrates the viability of using hyperspectral imaging on site to detect and identify spoil contaminants.

5 PERFORMANCE COMPARED TO THE ORIGINAL PROJECT AIMS, OBJECTIVES AND SUCCESS CRITERIA

After discussion with our project partner MTC, we have identified three main deliverables to achieve the project aims, objectives and success criteria:

- Deliverable 1: Problem Definition Report – establishing requirements for hyperspectral imaging device

  Discussions with MTC

  A series of discussions were held with project partners MTC to establish ENWL's requirements and ensure all necessary information is provided to enable compilation of the report on requirements for the prototype hyperspectral device.

  Consultation with internal stakeholders

  After requirements were identified, consultation with internal stakeholders took place to confirm and to answer some of MTC's more specific queries.

  Review of initial draft report and criteria with MTC

  Discussions were held with MTC to review and rank the criteria to be included in the downselection model, which will feed into the report.

- Deliverable 2: First Stage Downselection Report – using technical specification to identify the most appropriate system and proposed validation methodology

  Work not yet started – planned for May 2022.

- Deliverable 3: Second Stage Downselection Report – validating the performance of the identified systems and ensuring they meet the requirements identified in the problem definition

  Work not yet started – planned for July 2022.

  Following the agreement of a contract with the MTC to carry out the work on this project we began discussions around refining the scope from the original proposal. During the contract discussions ENW have provided details of some of the requirements, around the types and concentrations of the contaminants to be identified. Following on from this the additional requirements were laid out. These focused-on factors such as the usability of the device, the environment it would experience etc, and allowed MTC to gain a greater understanding of ENW needs. This understanding has allowed the MTC to begin work on creating the Problem Definition Report.

6 REQUIRED MODIFICATIONS TO THE PLANNED APPROACH DURING THE COURSE OF THE PROJECT

None identified at this stage.

7 LESSONS LEARNED FOR FUTURE PROJECTS

The project started in January 2022 and to date we have agreed contracts and begun work on MTC's first deliverable, the Problem Definition Report. As such, there are no lessons learned to report at this stage.

8 THE OUTCOME OF THE PROJECT

Not applicable.

9 DATA ACCESS

Electricity North West's [innovation data sharing policy](#) can be found on our website.

10 FOREGROUND IPR

There is no foreground IPR associated with the project.

11 PLANNED IMPLEMENTATION

Not applicable.

12 OTHER COMMENTS

Not applicable.