ARIA Info <info@aria.org.uk>

Environmental Information Regulations request - Scoping Our Planet: EIR request

1 message

[redacted] 5 August 2024 at 13:20

To: EIR requests at ARIA <info@aria.org.uk>

Dear Sir or Madam

This is a request for information under the Environmental Information Regulations 2004.

Please confirm whether the final award decisions have been taken for ARIA's Scoping Our Planet project.

https://www.aria.org.uk/scoping-our-planet-opportunity-seeds/

2. Please provide the names of each organisation which has been allocated money under ARIA's Scoping the Planet project.

For each grant/organisation, please also include
a. The value of the grant
b. A summary of the project
c. The research outputs to be delivered

3. Please also state how many proposals were received in total for Scoping Our Planet.

I would be grateful if you could acknowledge receipt of this request.

Thank you for the time and energy you will invest in preparing a response.

Best wishes,
[redacted]

Please use this email address for all replies to this request:
[redacted]

Is info@aria.org.uk the wrong address for Environmental Information Regulations requests to Advanced Research and Invention Agency? If so, please contact us using this form:
https://www.whatdotheyknow.com/change_request/new?body=aria

Disclaimer: This message and any reply that you make will be published on the internet. Our privacy and copyright policies:
https://www.whatdotheyknow.com/help/officers

For more detailed guidance on safely disclosing information, read the latest advice from the ICO:
https://www.whatdotheyknow.com/help/ico-guidance-for-authorities
https://www.whatdotheyknow.com/help/ico-anonymisation-code

Please note that in some cases publication of requests and responses will be delayed.

If you find this service useful as an FOI officer, please ask your web manager to link to us from your organisation's FOI page.

Advanced Research + Invention Agency ARIA

Information provided to the requestor

[*Note: As the information provided to the requestor was split across multiple documents, ARIA has compiled all information provided to the requestor into this document for ease of access.*]

1. Confirmation of whether the final award decisions had been taken for ARIA's Scoping Our Planet project.

"[F]inal award decisions have been taken for ARIA's Scoping Our Planet opportunity seeds."

2. The names of each organisation which has been allocated money under ARIA's Scoping the Planet opportunity seeds. For each grant/organisation: (a) the value of the grant; (b) a summary of the project; (c) the research outputs to be delivered.

Details of awards:

Party	Context	Duration (months)	Total value (£, ex VAT)	Type of award
Voltitude Limited	Scoping Our Planet Seed	14	£497,871	Contract
University of St Andrews	Scoping Our Planet Seed	24	£499,256	Grant
Living Optics	Scoping Our Planet Seed	13	£498,156	Contract
University of Edinburgh	Scoping Our Planet Seed	24	£494,389	Grant
Twin Paradox Labs	Scoping Our Planet Seed	24	£377,746	Contract
Asterisk Laboratories Co-operative Ltd	Scoping Our Planet Seed	19	£499,921	Contract
Cranfield University	Scoping Our Planet Seed	12	£356,834	Grant

University of Southampton	Scoping Our Planet Seed	30	£500,000	Grant
University of Oxford	Scoping Our Planet Seed	24	£499,294	Grant
University College London	Scoping Our Planet Seed	24	£499,444	Grant
University of Cambridge	Scoping Our Planet Seed	36	£499,876	Grant

Project summaries:

https://www.aria.org.uk/opportunity-spaces/scoping-our-planet/scoping-our-planet

Research outputs:

Applicant	**Outputs/Milestones**	**Date**
Asterisk Laboratories Co-Operative Ltd (27 September 2024)	Organisation Setup: - Incorporate company - Payroll/tax/insurance - Team tools/website - Procure equipment - Office space - Project management planning Legally compliant business listed on Companies House with PAYE set up Valid Insurance certificate Compute system operational List of software tools used for business administration and management.	KO + 2 months
	Discovery: - Literature/landscape Review - Identify Collaborators - Nurture Connections Establish most useful outputs to community	KO + 5 months

	List of >=5 engaged stakeholders with clearly defined roles "Gap analysis" of current observational techniques, and links drawn between our measured properties with those gaps.	
	Model Development: - Label Dataset in IRIS for cloud classification - Train DL cloud classifier on labelled data - Identify Regions of Interest for Prioritisation - Spectral and spatial cloud analysis for ice and turbulence properties - Cloud height model using shadow distance Performance of individual models against validation data Computational efficiency of code (wrt time, memory, FLOPS) Documentation written that identifies model error families, mitigation strategy for each error	KO + 9 months
	Scaled Deployment: - Deploy models on open satellite image archives - Build distribution system >100 TB of satellite data processed Accessibility of online data download and query interface	KO + 12 months
	Analysis & Impact: Work with collaborators - Publish key scientific insights - Assess outcomes of project - Influence current and future RS approaches Publication of 1 or 2 peer reviewed articles in high-impact journals (perhaps separate ones for modelling and scientific outcomes)	KO + 18 months

	>=5 stakeholders either using or planning to use our data for their own work Produce short impact and future possibilities report	
Cranfield University (December 2024)	1. Sign collaboration agreement between Cranfield, Cambridge, and Microsoft (lead: Cranfield)	6 months from signature of the Grant Agreement
	2.1 Forward model A working forward model for emissions based on real data for methane and other gases (e.g.CO2) (Cambridge)	3 months from the first day of the Funding Period
	2.2 Simulated results You will simulate what to expect in the field for realistic use cases, [removed] (Cambridge)	6 months from the first day of the Funding Period
	2.3 Draft instrument specification Results of 2.1 and 2.2 will be synthesised and used to develop a draft instrument specification for emissions measurement [removed] (Cambridge)	9 months from the first day of the Funding Period
	3.1 [removed] and packaging evaluations [removed] design concepts chosen for testing Initial packaging developed for selected [removed] concepts Initial optical characterisation of [removed] (MSR / Cranfield)	3 months from the first day of the Funding Period
	3.2 Portable interrogator system Modular system to interrogate the sensor developed and initially tested using the standard gas cell (Cranfield)	4 months from the first day of the Funding Period

	3.3 Gas test system Initial results Initial gas test results from combining the outputs from 2.1 and 2.2. Initial signal to noise evaluations completed (Cranfield)	6 months from the first day of the Funding Period
	3.4 Performance testing Testing completed over range of concentrations for chosen [removed]. (Cranfield)	9 months from the first day of the Funding Period
	3.5 Reference tests completed Test plan agreed for a single sensor [removed], test environment established and tests completed against a high-quality reference instrument (Cranfield / MSR)	12 months from the first day of the Funding Period
	3.6 Concept instrument design strategy Performance (results from 2.4 and 4.1) reviewed against fit-for-purpose specification Optimised [removed] designs proposed Whole system engineering concept proposed Strategy for engineering reduction in SWAP and cost (All partners) 4.1 Digital twin developed Model of performance of individual sensor (Cranfield / MSR)	12 months from the first day of the Funding Period 6 months from the first day of the Funding Period
	4.2 [removed] algorithm proposal Proposal developed for [removed] improvement of performance in individual sensors (Cambridge/Cranfield / MSR)	12 months from the first day of the Funding Period
	5.1 Regular project meetings Online meetings of project participants (all)	Fortnightly
	5.2 Project steering committee Steering committee members representing each partner Committee maintains IP register and dissemination plan (all)	Quarterly

	5.3 Interim internal project review Internal review against milestones / deliverables and on technical progress (all)	6 months from the first day of the Funding Period
	5.4 Internal workshops Workshop to review progress and test plan (all)	9 months from the first day of the Funding Period
	5.5 Project end review Workshop to review overall project outcomes and way forward (all)	12 months from the first day of the Funding Period
Twin Paradox Labs (27 Sept 2024)	Prototyping hardware complete	01.11.25
	Data and command handling	01.11.25
	Report on NICE-OHMS performance	01.11.26
	Report on environmental tolerance	01.11.26
Living Optics (6 September 2024)	COTS System Built POC prototype COTS system build	30/01/2025
	Custom Design Ready Specifications fixed for custom optics procurement, Lead times/Suppliers determined Target specifications validated with partners	28/02/2025
	Summary Report Summary Report for work package 1 Assesses performance against initial specs and proposed measurement.	28/03/2025
	Custom SWIR System ready for trial. Software Integration ready Calibration process complete	29/04/2025

	Trial Coordination Partner Selected Trial Planned and key measurements identified.	30/01/2025
	Final Project Report	01/06/2025
University of St Andrews (27 August 2024)	Validation of the protocol Feasibility report: [removed]	[removed]
	[removed]	[removed]
	[removed] Scalability Report. [removed]	[removed]
	Preliminary outdoor feasibility study [removed]	[removed]
University of Southampton (3 December 2024)	Project initiation - Data sets downloaded and stored - Data archiving and management plan in-place - Necessary computing facilities in-house	Year 1 Approx. 31 December 2024
	Postdoc recruitment Processing, Analysis, and Standardization - Finalized hydrographic + micro-structure processing flow that can intersect with seismic-derived outputs. - Analysis of hydrographic + micro-structure data: means, variability, time-, and length-scales. - Finalized seismic processing flow that is agnostic to input data set.	Year 2 Year 1 and 2 Approx. 01 October 2026

	- Quantification of ocean-relevant errors for each data type and output. - Analysis and interpretation of seismic data: ocean imagery to identify processes + derived field to describe properties.	
	Dissemination of new scientific knowledge - Scientific Papers (1-2) in preparation and/or submitted to high-impact journals answering Scientific Questions 1 and 2 - Preliminary analysis of sub-surface and satellite data, beginning to answer Scientific Question 3. - Research conference attendance (e.g. EGU and Ocean Sciences 2026)	Year 2 and 3 Approx. 01 October 2026
	Future Planning - Targeted dissemination of results to relevant scientists (e.g. modellers for updating parameterizations, experts in satellite data) - Begin working on analysis for circumpolar/global/regional studies. - Publication of scientific articles with follow-on dissemination. - Preparing proposal for funding opportunity to scale up our project.	Year 3 Approx. 30 September 2027
University of Oxford (18 October 2024)	Simulation code for rendering images Functional code capable of generating realistic atmospheric images with associated physical properties (water content, droplet size, phase, wind velocity). We are aiming to use a grid resolution of 50m, and temporal resolution of 30s.	August 2025
	Training dataset for AI model	October 2025

	Validated dataset of 100k synthetic images with corresponding physical properties.	
	Code for training and inference of the AI model Operational AI model capable of extracting atmospheric properties from image data	March 2026
	Camera network at Chilbolton Operational cameras including visible-light, polarimetric and infrared. Optimal camera placement and specifications will be determined during simulation (Milestone 1)	June 2026
	Publication of methods paper at a computer vision, machine learning or atmospheric physics venue Submitted paper describing the Next-CAM system and its novel approaches	September 2026
	Documentation Technical documentation and user guides for the Next-CAM system. Code for inference will be made available on Github. Live data will be accessible on request via hosted server and long-term data archived on ORA.	December 2026
UCL (8 October 2024)	1. Wave breaking variables identified Table of variables as inputs and outputs listed with foreseen ideal frequency/spatial resolutions of measurements/modelling	01.03.25
	2. Collecting existing measurements + bathymetry in AIRS (Aran Islands Research Station) Files of data collected from past cameras/buoys/sensors. File of local bathymetry. In accessible formats.	01.02.25
	3. Initial SPH tuned with existing measurements	01.03.25

	Modelled breaking waves from SPH at AIRS matching existing measurements. Model outputs shared and discussed within WAVECLIM to decide on computational burden and resolution.	
	4. Campaigns in Spring 2025 Using existing instruments on the station: relevant timely field measurements. Data shared and discussed within WAVECLIM to decide on precision, measurement timing.	01.12.25
	5. Tuning of SPH tuned with new measurements Modelled breaking waves from SPH at AIRS matching early measurements. Model outputs shared and discussed outside WAVECLIM in publication.	01.06.25
	6. Synthetic observations based on SPH modelling Simplified breaking waves models from SPH at a few categories of shorelines to ultimately represent in the climate model. Model outputs shared and discussed within WAVECLIM to decide on variables resolution/timings for Machine Learning fitting.	31.06.25
	7. Exploration of existing + new measurements/new SPH Rough sensitivities and exploratory data science to represent input-output of weather conditions-breaking waves impacts. Data shared and discussed within WAVECLIM to decide on ideal resolution/time frequency of the modelling.	31.10.25
	8. Investigation of the relationships and drivers Analysis of the meaning of the sensitivities and possible physical understanding. Knowledge shared and discussed within WAVECLIM to refine variables and their characteristics of the modelling.	01.02.26

	9. Impact on climate Initial understanding of the potential impacts on climate (where/what/why). Data/modelling shared and discussed outside WAVECLIM in a workshop with climate scientists	01.04.26
	10. Analysis of longer climate runs Measure of the benefits of a wave breaking model into climate simulations. Data shared and discussed outside WAVECLIM in publications/conferences and open source code.	31.07.26
	11. Fitted ML model ML with validation and uncertainties. Model outputs shared and discussed within WAVECLIM to decide on ideal resolution/time frequency of the modelling.	01.12.26
	12. Fitted ML model into climate: software Initial coupling and integration. Model outputs shared and discussed within WAVECLIM to decide on variables resolution/timings for integration: stability, benefits, computations and I/O.	01.03.26
	13. fitted ML model into climate: software What input-outputs/how often/resolution. Knowledged shared and discussed within WAVECLIM to decide on variables resolution/timings for Machine Learning fitting.	01.05.26
	14. Analysis of the impact under scenarios Computational burden and I/O issues. Knowledged shared outside WAVECLIM in publication and code to demonstrate cost/benefits.	31.07.26

University of Cambridge (24 October 2024)	1. Cruise planning participants training #2Completion of sea survival training and medicals	15.11.24
	2. Cruise planning: float Procurement Procurement of NKE floats	30.10.24
	3. Cruise planning: glider and float shipping Instrumentation shipping to Punta Arenas	30.11.24
	4. Cruise planning: meeting Meeting of all PIs and co-Is to discuss sampling strategy	30.11.24
	5. Cruise completion Instrument deployment and seawater samples collection	15.02.25
	6. Cruise report Summary of glider and float deployments	30.04.25
	7. Postdoctoral research Beginning of postdoctoral position to assess and analyse glider/float data	01.04.25-30.06.25
	8. Glider data Quality-controlled glider dataset completion	31.12.25
	9. Seawater lab analyses Quality-controlled lab dataset completion	31.12.25
	10. Archive datasets Glider and seawater datasets published open access following FAIR data principles	28.02.26
	11. Postdoc presentation	30.04.26

	Present work at EGU conference	
	12. Glider data manuscript Paper drafted	31.12.26
	13. Float data Quality-controlled float dataset completion (please note that floats will be in the water for multiple years and this dataset will keep growing over time, so this refers to the first year of data only; the analysis will naturally continue as more data is obtained and the dataset will be updated accordingly).	31.12.26
	14. Seawater lab data manuscript Paper drafted	31.07.27
	15. Float data manuscript Paper drafted	31.07.27
	16. End of project mini-conference Present results to stakeholders	30.08.27
Voltitude Limited (27 August 2024)	Q1 Trade Space Results Presentation Reporting on the results of the StratoSat-75 trade space analysis; architectural design and sizing of the LLTA aircraft; and sub-system requirements.	31.12.24
	Q2 Mission planning and requirements workshop Workshop Minutes/Presentation Definition and validation of the target specification and mission profile of the StratoSat-75 HAPS system, with data end user input, including payload capacity, payload interface, target payload list and CONOPS.	31.03.25
	Q3 LLTA Flight Test Demonstrator Ready	30.06.25

	Presentation Output from sub-system detailed design and prototyping, system integration and LLTA acceptance test results in preparation for flight testing.	
	Q4 LLTA Flight Testing Progress and Preliminary Results Presentation Presentation on the progress of flight testing, main achievements, test objectives coverage and remaining activities as well as preliminary results and implications for StratoSat-75 performance specification.	30.09.25
	Q5 StratoSat-75 PDR, Mission Workshop and Final Report Workshop Minutes/Presentation Final Report Dissemination of results to data end users, results of flight trial data analysis and verification evidence for target StratoSat-75 specification. Proposed way forward for technology and product.	31.12.25
University of Edinburgh (18 September 2024)	Miniaturisation of the autophagous process previously demonstrated by Desmulliez's group. Working example of miniaturised autophagous process.	30/09/2025
	Definition and justification of the information transmission mean, such as, for example, wireless data transmission, or colourimetric passive sensor. Report shared with ARIA.	31/11/2025
	Manufacturing of functional prototypes suitable for demonstration of the autophagy, sensing and endurance capabilities. Delivery of functional prototypes.	30.06.2026
	Demonstration and characterisation of the autophagous capability.	31.03.2027

	Report shared with ARIA.	
	Demonstration and characterisation of the sensing and data communication capability. Report shared with ARIA.	31.03.2027
	Quantification and characterisation of the endurance. Report shared with ARIA.	31.03.2027

"Please note that some parts of the information have been withheld (as indicated by the following label: "[removed]"). This follows engagement with the third parties to which the information relates, who have not consented to its disclosure and who have made representations to ARIA that the disclosure of the information would result in commercial harm."

3. How many proposals were received in total for Scoping Our Planet opportunity seeds.

"ARIA received a total of 140 applications, and you can find details of the successful applicants on our website here, which contains a summary of their projects and research outputs."