

Robot Dexterity

TA3 Call for Expert Committee

Date: 4 November 2024

V1.0

Request for Proposals

TA3 Facilitating modularity, interoperability, and common standards within robotics: Call for Expert Committee

SECTION 1: INFORMATION AND CONDITIONS

Introduction

We are pleased to invite you to take part in this Request for Proposal (RFP).

ARIA is an R&D funding agency. We fund teams of scientists and engineers to pursue research at the edge of what is technologically or scientifically possible. ARIA was established by the UK Government in January 2023 with high levels of autonomy and flexibility. From climate change to AI and bioengineering, society faces enormous challenges and opportunities that can be uniquely addressed by science and technology. ARIA was created to activate the UK's world-class R&D talent in new ways so that we can meet these head on. One way we do this is by identifying opportunity spaces: areas that we believe are currently under-explored relative to their potential value and impact.

The [Smarter Robot Bodies](#) opportunity space focuses on robotics. One theme that has emerged is the need to advance modularity, interoperability, and common standards in robotics. As defined by the Robotics Growth Partnership 2022, these are:

Modularity: A shift to modular architectures that enable smart machines to be maintainable, adaptable, and extensible.

Interoperability: A digital commons to act as the glue that connects these smart machines in real-time to one another, to the digital shadows/twins that optimise their behaviours and capabilities, and to the smart services that orchestrate and coordinate their activities.

Common Standards: Establishing hardware and software components that support interoperability and the creation of pre-competitive building blocks to accelerate innovation.

Such work is important for promoting innovation but often neglected, as it does not offer a return on investment and incumbents have an interest in locking people into their technology, rather than enabling them to build with different blocks.

ARIA wishes to gain greater clarity around what is needed in this space and which bodies need to be convened to achieve this. For example, the 2024 Tony Blair Institute [report on the UK's opportunity to lead on next-wave robotics](#) proposed exploring "the key software and hardware

components that robotics startups in the UK require most at present”, and identifying “areas where modularised components could generate significant cost and time savings”. In which areas would improved software and hardware modularity lead to major time and cost savings?

Similarly, the 2022 [RGP report on Cyber-Physical Infrastructure](#) noted that “new standards are required to support this greater software and hardware modularity, in order to avoid duplication, reduce development times and maintenance costs, and facilitate data sharing.” Which specific standards are required and who is best placed to create them?

To answer this and similar questions, we propose to recruit an Expert Committee empowered to:

- Collect evidence (written and verbal) from stakeholders on the modularity, interoperability, and common standards topics.
- Design and host at least one in-person workshop event to bring stakeholders together to discuss in real life.
- Produce a summary report of specific and actionable recommendations for next steps.

The Requirement

Expert Committee

We are looking for a committee of 4 to 5 experts, representing a range of ages, genders, geographic regions, and professional backgrounds. Their collective expertise will ensure a multi-faceted evaluation of the presented work at the workshop, resulting in a comprehensive and insightful report.

The Committee will:

- Support the design and development of the call for evidence, including defining the format for the workshop (please see below a tentative plan of the workshop, which is open for discussion);
- Assess and select presentations and lead discussions during the workshop;
- Distil evidence into a set of recommendations for action, ideally with priority and approximate cost;
- Solicit written and other evidence from diverse stakeholders;
- Collaborate with fellow committee members and liaise with other bodies worldwide.

The key deliverable for the Committee will be a comprehensive published report with actionable recommendations for solutions to challenges relating to modularity, interoperability, and common standards in robotics.

Tentative workshop plan

We will host a one-day, in-person workshop in the UK between 10 March and 21 March (exact date and location to be confirmed), inviting individuals and teams to submit presentations or demonstrations focused on challenges and solutions in modularity and interoperability. Submissions for workshop presentations will be evaluated by the ARIA Robot Dexterity team and Expert Committee.

The selected presenters will showcase their work before a live audience and a distinguished committee. We expect the committee and audience will engage in insightful Q&A sessions to delve deeper into the presented concepts.

Note: the final format of this workshop will be determined following initial brainstorming sessions with the Expert Committee and ARIA. ARIA will provide support on workshop design and development, including logistics and event space. The Expert Committee must be able to attend the workshop in person; please let us know if you have any accessibility requirements. Travel costs to the workshop can be reimbursed if pre-agreed with ARIA.

Expert Committee Application and Selection

To apply, you should submit a 500-word statement explaining why you would be a suitable candidate and what experience and ideas you would bring to the Expert Committee. Following this, shortlisted candidates will be invited to a discussion with the ARIA Robot Dexterity team. The ARIA Robot Dexterity team will select 4 to 5 experts for the Expert Committee following review of the written responses and discussions.

You can submit your application via ARIA's [application portal](#).

Implementation and Deployment Timeline

The Expert Committee must be in place by mid-December 2024 and available to attend the first kick-off meeting in w/c 16 December.

The contracts will run through to May 2025 and include the call for evidence, selection for workshop presentations alongside the ARIA Robot Dexterity team, leading the workshop, and writing a report of the findings from the workshop.

Key Contract Terms

The contract will be placed on terms and conditions provided by ARIA to the committee member. The proposed terms will include the following principles:

- We expect committee members to spend an average of three days per week on this work from mid-December 2024 until May 2025. The exact amount and dates are negotiable. Members will be asked to propose a day rate in their application; this will be subject to negotiation and form part of the selection criteria;
- All Foreground IP generated as a result of the funded activity shall belong to ARIA;
- The Expert Committee will be named as co-authors on the final report;
- Committee members will be subject to certain confidentiality obligations.

Procurement Timeline

The dates in the following timetable are provisional and may be subject to change at the reasonable discretion of ARIA.

Event	Date
Issue Call for Expert Committee RFP	4 Nov 2024
Deadline for submission of clarification questions	18 Nov 2024
Submission of final proposal in response to this RFP	27 Nov 2024 [12:00 GMT]
Interviews by ARIA selection panel	03 Dec 2024 - 09 Dec 2024
Expert Committee chosen and informed	11 Dec 2024
Panel kick-off meetings	w/c 16 Dec 2024

Clarification Questions

Applicants are urged to review the RFP documentation and identify and submit any clarification requests to clarifications@aria.org.uk no later than 18:00 GMT on 18 Nov 2024. Clarification requests received after this date will not be reviewed.

Any clarification request or responses containing information that is of relevance to all applicants will be provided to all applicants that confirm their intention to participate. Answers to clarification requests will also be posted to the [ARIA website](#) following the deadline for submission of clarification requests. If applicants do not wish a query or response to be disclosed to other applicants, they must communicate this and the reason why, with the clarification question.

SECTION 2: REVIEW AND SELECTION PROCESS

Selection criteria

The appointed provider will be selected against both their written response and interview according to the following criteria:

- A. **Background and experience** - A clear demonstration of experience in the robotics sector and the provision of expert advice
- B. **Your approach** - A clear articulation of what you see as our requirements and how you would meet them
- C. **Ability to deliver** - Demonstrate your ability to deliver and adapt to changing demands
- D. **Commercial terms** - Provide your proposed day rate (including estimated number of days)

Note: ARIA encourages applications across all levels of experience, organisational types, and backgrounds.

SECTION 3: PROPOSAL RESPONSE STRUCTURE

Applicants are invited to set out how they propose to deliver the Services outlined within this RFP. The format below is set out as a guide and represents a maximum length response. If applicants chose to respond in a different format this will be acceptable as long as sufficient information is provided to be comparable to this format of response.

Criterion A - Background and experience

- We welcome all stages of career, backgrounds and organisations but would like you to provide a brief overview of your experience in robotics, with a focus on modularity, interoperability, and common standards.

Criterion B - Your approach

- A clear articulation of what you see as our requirements and how you would meet them;
- Provide examples of when you have worked well with cross-functional teams and where you have provided a similar output.

Criterion C - Ability to deliver

- Provide examples of your ability to deliver and flex to meet changing demands;

- Set out how you would manage and devote time to this role alongside your existing commitments and/or employment;
- Clear demonstration supported by evidence of access to a wider pool of individuals with specialist experience and subject matter or market expertise in their programme areas.

Criterion D - Commercial terms

- Provide your proposed day rate; any resultant contract will be based on a time and materials basis utilising the agreed day rates. To support budgeting, we'd also like you to provide a rough estimate of the number of days you estimate are required to complete the requirement.

Additional requirements

The applicant shall confirm as part of their submission adherence to the following mandatory requirements:

- All data to be stored within the UK or EEA;
- Confirmation of adherence with the [Government's supplier Code of Conduct](#);
- Provide acceptance of key contract terms and conditions detailed above.

Format of Proposal Submission:

Format	PDF. Pages should be numbered and the response should include the applicant's name inserted as a header
Word Guide	500-word statement + one page appendix (to include examples and/or evidence of previous relevant work)
Responses to	https://aria.grantplatform.com/
Deadline for Submission	12:00 GMT, 27 Nov 2024

SECTION 4: CONDITIONS OF RFP

Confidentiality, Publicity, Conduct and Conflicts of Interest:

The contents of this RFP are confidential and must not be not copied, reproduced, distributed, or passed to any other person at any time, except for the purpose of enabling the applicant to submit a proposal. ARIA may use the information included in an applicant's response for any reasonable purpose connected with this RFP. In particular, once an applicant has been excluded, ARIA reserves the right to use any ideas contained in that applicant's proposal in any ongoing discussions with other applicants but undertakes not to reveal the identity of the provider of these ideas. No publicity regarding the subject matter of this RFP or the award of any Contract will be permitted unless and until ARIA has given express written consent to the relevant communication.

ARIA reserves the right to: a) waive or change the requirements of this RFP from time to time without prior (or any) notice being given by ARIA. In the event that ARIA makes material changes to this RFP, ARIA may choose to extend the deadline for submission; b) reject any applicant that does not submit a compliant Proposal in accordance with the instructions in this RFP; c) disqualify any applicant that is guilty of serious misrepresentation in relation to their Proposal; d) withdraw this RFP at any time, or to re-invite applicants on the same or any alternative basis; e) choose not to award any Contract as a result of the current procurement process; and f) make whatever changes it sees fit to the Timetable, structure, or content of the procurement process, depending on approval processes or for any other reason. ARIA will not be liable for any applicant's costs, expenditure, work, or effort incurred by them in carrying out enquiries in relation to, proceeding with, or participating in, this RFP, sourcing process, or procurement, including if the procurement process is terminated or amended by ARIA.

Suppliers are expected to adhere to the Government's supplier Code of Conduct. This is available at https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/779660/20190220-Supplier_Code_of_Conduct.pdf.

Any attempt by applicants or their advisors to influence the contract award process in any way may result in the applicant being disqualified. Specifically, applicants shall not directly or indirectly at any time: a) enter into any agreement or arrangement with any other person as to the form or content of any other Proposal, or offer to pay any sum of money or valuable consideration to any person to effect changes to the form or content of any other Proposal; b) enter into any agreement or arrangement with any other person that has the effect of prohibiting or excluding that person from submitting a Proposal; c) canvass ARIA or any employees or agents of ARIA in relation to this sourcing process; or d) attempt to obtain information from any of the employees or agents of ARIA or their advisors concerning another applicant or proposal. Applicants are responsible for ensuring that no conflicts of interest exist between the applicant and its advisors, and ARIA and its advisors.

Any applicant who fails to comply with this requirement may be disqualified from the procurement at the discretion of ARIA.

Applicants recognise and accept that it will be at ARIA's sole discretion as to which, if any, proposal is accepted.