Sellafield Ltd

Liaise Innovate Network Collaborate with Sellafield Ltd

LINC with Sellafield

Opportunity 7

Work Package 7/2018 – Ground Based Robotic Platform for Radiometric Characterisation Surveying

THE OPPORTUNITY

Work Package 7/2018

Robotics technology will become increasingly dominant in the coming decade. Robotics has the potential to transform work practices at Sellafield Ltd. The transfer of these technologies to a site such as Sellafield will present challenges but there is no doubt it will raise efficiency and safety levels as well as providing enhanced levels of service and access to data. One of the capability development identified by Sellafield Ltd is to develop the ability to gain characterisation information with minimal human intervention requirement.

As such, Sellafield Ltd wants to explore the potential for a commercial off-the-shelf (COTS) or modified off-the-shelf (MOTS) robotic platform to be integrated with a radiometric detector as part of our radiological characterisation toolbox. Hence, providing the in-house capability to use land-based robotic platforms to enhance our ability to survey and characterise areas of Sellafield site to inform future decommissioning activities.

Following a recent market review ran in-house, COTS examples that fulfil the specific expectations for our use are common. The challenge here is to have a COTS or MOTS platform that would be compliant with Sellafield Ltd expectations, that can accept already owned radiometric or survey system to provide a remote inspection capability and is competitively priced. The identified platform will need to operate within the remit described within the requirements stated below.

Statement of requirements:

We are looking for SMEs to provide a suitable ground based robotic platform configured with the following requirements:

- Size: The minimal requirement here is related to the ability to deploy our survey equipment while keeping within the overall dimension of the platform. The platform must be able to transport the smaller equipment which has the following dimensions: 190 x 90 x 90 mm. (see payload for further details). The overall footprint of the platform must also not exceed the width of a doorway (76 cm). Small turning circle would also be an advantage but would not be deemed essential.
- Design: Minimum of IP64 shall be expected. Engineering design shall also consider minimal number of contamination traps as well as minimal and easy maintenance. Spare pieces such as wheels shall also be easily attainable. Radiation hardened would not be essential but appreciated.
- Locomotion: Wheels will be preferred to tracks (driving over obstacles and operating better on soft/rough terrain will not be required for our application).The wheels should be quick to change with minimal tooling required.
- Tether: A tethered platform is essential for our application. The tether should be light enough not to slow the platform movement but sufficiently robust to withstand damage if it was used to recover the platform.
- Carrier capability: A pre-drilled (or with the ability to mount equipment) on-board mount plate/cradle is required. Standard camera tripod mount screw would also be useful. The platform should not be supplied with a radiometric detector but with mounting capabilities.

- Payload: To maximise the potential use of such platform, the ability to carry a sensor package of at least 2.5 kg is required, with a capacity of up to 10 kg being preferred. The ability to carry larger sensor packages is also of interest but not a priority.
- Manipulator: This would not be required as part of starting package. The option to mount one at a later stage might be of interest, but will not be deemed a priority.
- Video: The vehicle must have first person view capability. This will require a live video feed. It should be able to capture and record videos and images for the purpose of enabling inspection/ engineering assessment. It would be useful if a second camera could be collocated with the radiometric detector to provide a similar same field of view.
- Compliance: CE marking is required of the final product due to its planned repeated use on a variety of Sellafield-owned facilities. COTS should be CE marked. MOTS should also be CE marked with all development or modification changes to be recorded. QC evidence should also be reported for MOTS.
- Quality grade: The Sellafield quality grade is 03 (see Appendix 2 for further detail).
- Weight: Ideally the platform should be lightweight enough to be deployed by a single person. Nonetheless, platform above 15 kg will still be acceptable but will have to present other clear advantages.
- User interface: The user interface should ideally be rugged, the software simple to use. A suitcase-type control-unit would ideally be useful.
- Cost: The overall cost of the platform (inclusive of remote control unit and any other required equipment) should be competitively priced. The estimated range is in the region of £40k - £80k, however this is an indicative range only and is not restrictive.
- Delivery: The delivery of the system and associated training and handover would be required within 4 months of contract award.

Deliverables:

1. Document Pack Including:
    a. Proposed Ground-based Robotic Platform(s) specification sheet.
    b. Compliance documentation / justification as well as details of development or modification changes.
    c. Operating and maintenance instructions.
2. Supply the Ground-based platform and all peripheral equipment associated with its direct operation to conduct a survey.

Proposed Terms and Conditions:

Any contract (if any) placed subsequent to this challenge will be subject to the following standard form of contract: **CFMT 104 LINC Professional Services**

Proposal Requirements

Would SMEs who are interested in this opportunity please provide a proposal addressing the following:

1. A statement demonstrating understanding of the Statement of Requirements, how it is envisaged they will be delivered and why you believe you are best placed to support Sellafield Ltd on this opportunity - **No more than 2 sides A4, plus an additional 1 side of A4 for sketches / images.**
2. Details of the proposed resources including key roles, names, relevant experience and details of case studies where similar work has been performed before, including

results realised and reference contacts which may be called upon - **No more than 3 sides A4**

3. A proposed maximum target cost to produce the deliverables – please complete the pricing schedule embedded in Appendix 1

These proposals will be reviewed by Sellafield Ltd against the criteria set out in Appendix 1 and we will engage further and facilitate collaboration with those who show the greatest potential in meeting our requirements.

Your proposal for this opportunity must be in English, costs must be in Sterling and presented in writing.

Supporting Documents

To request copies of the supporting documents 'Appendix 1 – Evaluation Criteria' and 'Form of Contract – CFMT 104 LINC Professional Services' and 'Appendix 2 - Contract Quality Requirements Manual' please contact linc@sellafieldsites.com and we will respond within our normal business hours (Mon-Fri).

Deadline

We will be holding an open telephone conference on **Friday 28th September 2018 at 15:00** for any of our registered LINC companies interested in submitting a proposal to ask questions. To register your interest in taking part in the call please email linc@sellafieldsites.com and we will provide you with dial in details. Please note that this call will be the last opportunity to ask clarification questions on this opportunity.

This opportunity is only available to companies registered on LINC at the time of publication of this challenge. Registration for future challenges remains open.

To submit a proposal to LINC for this work package please email your proposal (including all associated attachments) to linc@sellafieldsites.com for *Work Package 7/2018 Ground Based Robotic Platform* no later than **17:00 (GMT) on Tuesday 23rd October 2018.**

ABOUT LINC

LINC with Sellafield Ltd is a scheme that encourages SMEs at local and national level to collaborate and deliver innovative solutions to the mission at Sellafield.

Work packages that set out some of the challenges we are addressing at Sellafield will be published via LINC.

LINC has been established exclusively for SMEs and has been designed to provide Sellafield Ltd with direct access to SMEs in addition to supporting Sellafield Ltd's contribution to the UK SME Agenda.

All SMEs must be pre-registered with LINC before submitting a proposal. Details of SMEs registered with LINC will be published periodically to support and encourage further collaboration.

All opportunities issued via LINC shall be valued at no more than £150,000 and therefore less than the prevailing threshold levels for supplies and services applicable to the Public Contracts Regulations 2015. No contracts subsequent to any opportunity advertised via LINC shall be

awarded in excess of this threshold. Opportunities valued above these threshold levels will be made available through our Complete Tender Management system and published on the Official Journal of the European Union.

To maintain simplicity, all subsequent contracts will be subject to one of our standard Forms of Contract which will be set out within each opportunity.

Appendix

Appendix 1 – Evaluation Criteria. This is how the responses from the LINC process will be evaluated against each other.
Appendix 2 – Contract Quality Requirements Manual