**RAD Propulsion Limited**

**Invitation To Tender**

**Software engineering services to support development of electric propulsion system for watersports**

1. **Background/Introduction**

RAD Propulsion Ltd. is developing an innovative electric propulsion system for small waterborne vessels such as stand up paddle boards, kayaks and dinghies.

The purchase of this system is part of a grant funded application process and therefore procurement will be subject to grant approval of the project as a whole. We will compare tenders received on a compliance basis only.

1. **Project Specifications**

RAD Propulsion Ltd. wish to purchase software/firmware development services to support the development of a connected electric propulsion device. The RAD engineering team wish to work with a software organization that runs in a truly agile process driven way. We are looking for a company with the necessary skills and experience to complete approximately six agile sprints on a project, each lasting two weeks. The supplier will aim to undertake the following tasks split across the sprints. The supplier will aim to define a provisional breakdown of these tasks by sprint in a sprint planning session as part of the project kick off meetings and concept workshop.

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| **Task No.** | **Task Description** |
| 2.1 | Undertake concept workshop and develop User Stories with RAD, hardware developer and naval architect at tenderers offices. Define provisional sprint content and work with RAD and other suppliers to agree aligned programme (including dates and deliverables). |
| 2.2 | Select COTS development kit for RAD controller, battery and motor controller with RAD and hardware developer |
| 2.3 | Build simple control architecture to connect processor board, battery & motor controller |
| 2.4 | Research and select Internet of Things (IoT) cloud service |
| 2.5 | Build simple interface using cellular connection to IoT service |
| 2.6 | Display simple parameters in IoT web interface |
| 2.7 | Commission and test COTS prototype on bench |
| 2.8 | Interact with thruster designer for motor power and RPM data |
| 2.9 | Develop motor controller firmware in partnership with motor controller designer |
| 2.10 | Develop interface to motor controller from controller PCB using RAD Bus |
| 2.11 | Test motor against thruster specifications on bench |
| 2.12 | Develop firmware for Batter Management System (BMS) if required |
| 2.13 | Develop BMS interface to RAD Bus and RAD Controller |
| 2.14 | Test battery with firmware |
| 2.15 | Full prototype RAD Controller software to meet system requirements |
| 2.16 | Full prototype IoT interface |
| 2.17 | Full prototype IoT web portal (RAD Cloud) |
| 2.18 | Full prototype Wifi or bluetooth interface to app |
| 2.19 | Full prototype phone app |
| 2.20 | Interface onto Full Prototype hardware |
| 2.21 | Test integrated Full Prototype hardware and software elements on bench |
| 2.22 | Support to trials and tuning of system for 3 days, test each IoT function, allowance for system hardening and documentation to close out project. |

Regular progress meetings will be required in Falmouth, Cornwall

In addition, the following are requirements from a supplier to ensure appropriate experience for the task and ability to complete the following General requirements:

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|  | **Requirement** |
| 2.23 | Sprint report meeting will be hosted in Cornwall, UK every two weeks |
| 2.24 | Documented experience of at least one ‘electric assist’ project |
| 2.25 | Documented experience of at least one brushless motor control project |
| 2.26 | Documented experience of embedded firmware development |
| 2.27 | Documented evidence of web development |
| 2.28 | Documented evidence of phone app development |
| 2.29 | Completed at least 5 years of agile software development projects |
| 2.30 | Space for hardware in the loop testing |
| 2.31 | At least 3 agile teams to provide a level of redundancy for varying workloads |
| 2.32 | All foreground intellectual property will be supplied to RAD Propulsion Ltd and will be subject to a separate agreement to be signed prior to award of contract and any background IP used will be provided with a royalty free license for unlimited use. |

Please ensure that you have completed the Compliancy Matrix.

1. **ITT Timetable**

The anticipated timetable for submission of the tender and commission milestones are set out below:

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| --- | --- |
| Activity | Date |
| Date ITT available on Contracts Finder | 20 February 2019 |
| Last date for raising queries | 28 February 2019 |
| Last date for clarifications to queries | 2 March 2019 |
| Deadline to return ITT | 7 March 2019 |
| Evaluation of ITT | 8 March 2019 |
| Award of Contract | This is subject to successfully obtaining grant funding and will normally be no later than 30 days from contract evaluation. However please ensure the tender is valid for a minimum of 3 months. |

1. **Conflicts of Interest**

Please provide a statement with regards to a conflict of interest for this procurement through the provision of either:

A Declaration that to your knowledge there is no conflict of interest between your company and RAD Propulsion Limited that is likely to influence the outcome of this procurement either directly or indirectly through financial, economic or other personal interest which might be perceived to compromise their impartiality and independence in the contexts of this procurement procedure.

Or

A Declaration that there is a likely conflict of interest between your company and RAD Propulsion Limited that is likely to influence the outcome of this procurement either directly or indirectly through financial, economic or other personal interest which might be perceived to compromise their impartiality and independence in the contexts of this procurement procedure, please provide details of this connection.

This will permit RAD Propulsion Limited, that in the event of a conflict of interest, appropriate steps are taken to ensure that the evaluation of any submission will be undertaken by an independent and impartial party.

**Exclusion**

RAD Propulsion Limited shall exclude applicants from participation in this procurement procedure where they have established or are otherwise aware that the applicant, to include administrative, management or supervisory staff that have powers of representation, decision or control of the applicants company, has been the subject of a conviction by final judgment of one of the following reasons:-

Participation in a criminal organisation

Corruption

Fraud

Terrorist offences or offences linked to terrorist activities

Money laundering or terrorist financing

Child labour and other forms of trafficking in human beings

1. **Consortium or sub-contracting**

Where a consortium or sub-contracting approach is proposed, all information requested should be given in respect of the proposed prime contractor or consortium leader. Relevant information should also be provided in respect of consortium members or subcontractors who will play a significant (greater than 25%) role in the delivery of the services under any ensuing Contract.

1. **Tender Application Requirements**

Please provide paper copies of your application which should include:

1. Confirmation that you the supplier are able to meet the requirements outlined in the brief above.
2. Dated your response, used our company’s full postal address (albeit you submission might be by email) and included the Reference: e.g. RAD Propulsion Ltd - Marine-i.
3. Details of who to contact in your company in relation to this tender
4. Company registration Number and VAT number (if appropriate)
5. Completed Compliance matrix (Annex 1) with the total cost of providing the goods/services requested in section 2 broken down by individual sprints.
6. **Tender Scoring Criteria**

The tender will be scored only on their compliance to the specification set out in section 2 and awarded to the lowest compliant tender.

1. **Tender Returns**

Tenders may be returned by email or post, or by delivery in person.

Tenders are to be returned by:-

Latest date to be returned: 07/03/2019

Latest time to be returned: 5.00 pm

1. If submitting by **email,** tenders should be sent electronically to dan@radpropulsion.com with the following message **clearly noted in the Subject box; ‘**RAD Propulsion Ltd – Marine-i: Software engineering services to support development of electric propulsion system for watersports.’

Tenderers are advised to request an acknowledgement of receipt when submitting by email.

If submitting by post or in person, the Tender must be enclosed in a sealed envelope, only marked as follows:-

Tender - Strictly Confidential – RAD Propulsion Ltd - Marine-i.

Contract Reference : Software engineering services to support development of electric propulsion system for watersports

Addressed to:

Care of Simon Hindley.

RAD Propulsion Ltd. April Cottage, King Charles Quay, Falmouth, Cornwall, TR11 3HQ

The envelope should not give any indication to the Tenderer’s identity. Marking by the carrier will not disqualify the tender.

If delivery **by hand** please obtain an official Receipt at point of delivery

1. **Clarification**

There will not be any negotiations of any of the substantive terms of the Tender Documents. Only clarification queries will be answered. Any clarification queries arising from the Tender Documents which may have a bearing on the offer should be raised as soon as possible in writing. The deadline for clarification questions is 28th February 2019. All e-mailed queries should be sent to:-

Name: Dan Hook

E-mail: dan@radpropulsion.com

No representation by way of explanation or otherwise to persons or corporations tendering or desirous of tendering as to the meaning of the tender, Contract or other Tender Documents or as to any other matter or thing to be done under the proposed contract shall bind us unless such representation is in writing and duly signed by a Director of n. Limited. All such correspondence shall be returned with the Tender Documents and shall form part of the Contract.

Tenderers must provide a single point of contact in their organisation for all contact between the Tenderer and RAD Propulsion Limited

Responses to any queries will be shared through Contracts Finder website.

1. **Disclaimer**

The issue of this documentation does not commit RAD Propulsion Limited to award any contract pursuant to the bid process or enter into a contractual relationship with any provider of the service. Nothing in the documentation or in any other communications made between RAD Propulsion Limited or its agents and any other party, or any part thereof, shall be taken as constituting a contract, agreement or representation between RAD Propulsion Limited and any other party (save for a formal award of contract made in writing by or on behalf of RAD Propulsion Limited).

Bidders must obtain for themselves, at their own responsibility and expense, all information necessary for the preparation of their tender responses. Information supplied to bidders by n. Limited or any information contained in RAD Propulsion Limited’s publications are supplied only for general guidance in the preparation of the tender response. Bidders must satisfy themselves by their own investigations as to the accuracy of any such information and no responsibility is accepted by RAD Propulsion Limited for any loss or damage of whatever kind and howsoever caused arising from the use by bidders of such information.

Bidders shall be responsible for their own costs and expenses in connection with or arising out of their response. RAD Propulsion Limited reserves the right to vary or change all or any part of the basis of the procedures for the procurement process at any time or not to proceed with the proposed procurement at all.

Cancellation of the procurement process (at any time) under any circumstances will not render n. Limited liable for any costs or expenses incurred by bidders during the procurement process.