**Request for Quotation**

**To:** Whom it may concern

**From:** paul.haywood@cefas.co.uk

**Tel:** 01305 206704

**Date of Issue:** 6/10/2015

**Response Deadline:** 12:00,26/10/2015

*Late submissions will not be accepted*

**Responses to be sent to:** paul.haywood@cefas.co.uk

**Title:** Request for quotation (RfQ) for:

1. The design, manufacture and supply of injection moulding tooling for a marine container system;
2. A proof production run of 50 units of the system.

# General

# Background to Requirement:

A consortium has a requirement for a marine container system to be manufactured / produced for proof of concept testing in the marine environment. Four provisional designs have been produced the details, of which, are provided at Appendices.

Each design:

* Comprises a number of injection moulded components.

* Has undergone considerable design work to-date to facilitate the production / manufacture of the injection moulding tooling and, as a result, CAD drawings are available after receipt of a Non-Disclosure Agreement (found at the end of the document).
* There is a degree of manoeuvrability to allow for a modular approach to the manufacture of the containers to enable the potential reduction of the tooling size for individual components. The final design will be agreed in writing by the partnership prior to manufacture taking place.

Following response to the RfQ a design (or designs) will be selected to proceed to development/manufacture.

**Purpose:**

The purpose of this RfQ is to:

* Produce a cost effective marine container system for operation in the marine environment and, in this, assess the potential unit costs of the designs detailed within this RfQ with the objective of developing/manufacturing one, or more, of the designs.
* Enable the consortium, on contract award, to work with a suitable supplier to refine the design(s) as necessary to achieve the production of the selected design or designs.

**Deliverables:**

The successful tenderer will be required, following contract award, to produce:

1. Injection mould tooling, including design and manufacturing knowhow as necessary and associated engineering drawings for the tooling for the selected marine container system(s). The tooling must have the capability to produce at least 5,000 full units of each system beyond the scope of this tender.
2. A ‘run’ of components required to make up 50 complete units of the selected system(s).

**Tender Responses:**

The consortium is extremely keen to receive tenders that provide a breakdown of costs for all four designs and component parts. However, tender responses will also be accepted for one, two, or three designs to facilitate comparison.

**System Dimensions (with reference to the technical specifications at Appendices):**

All dimensions shown align the depth value to the expected direction of pull of the injection mould tooling.

Dimensions are the overall bounding box sizes of the components. Volume is shown in cm3 and calculated on SolidWorks 2015.

Dimensions will be subject to change, with significant reductions if containers are modularised and the consultation process identifies a more effective route to tooling.

**Detailed Requirement:**

For the purpose of this RfQ, Cefas will require tooling for a marine container system in line with the individual requirements tabulated in Table 1 below and as covered under the individual system descriptions at Appendices.

Within the context of the specification a marine container system shall be made up of more than one tooled part. The successful tenderer will be supplied with CAD drawings provided in Solidworks 2015 but will be required to liaise with the consortium to optimise the design for practical tooling and economic efficiency.

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| **No** | **Requirement** | **Criteria** | **Note(s)** |
| 1 | Injection moulding tooling for one marine container systems. | Essential |

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| System 1.0 | 4 different tooled components in total. |
| System 2.0 | 5 different tooled components in total. |
| System 3.0 | 4 different tooled components in total. |
| System 4.0 | 1 moulded component in total. |

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| 2 | Each tooling to be supplied with all working and ancillary parts. | Essential |  |
| 3 | All tooling should be provided with a supplier’s/manufacturer’s warranty. | Essential | The proposed period of warranty should be specified in the RfQ response. Details of exceptions should also be clearly detailed. |
| 4 | Tooling to be designed and manufactured:* In an appropriate material that would be capable of producing 5,000 of each system.
* To be suitable for manufacture of mouldings in polyethylene.
* For ease of replacement of key component movable parts for future design modifications.
 | EssentialEssentialPreferable |  |
| 5 | Tooling details;In house capacity to produce 2.5mm meshes on inner and/or outer container tooling.In house capacity to create moveable tooling to accommodate undercuts and meshes on side wall of components. | EssentialEssential | Refer to CAD dataRefer to CAD data |
| 6 | In house capability to develop, under the guidance of the consortium, the designs to suit injection moulding processes. | Essential | Tooling design and tooling drawings to be completed by tenderer. |
| 7 | To be able to work with 3D data created in SolidWorks 2015 (CAD Data will be provided after a non-disclosure agreement is in place). | Essential | Part files and assemblies will be provided, not tooling drawings. |
| 8 | In house capabilities to mould the run of 50 complete sets of parts for both designs. The quantities are shown in the right column. | Essential |

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| **System 1.0** |
|  | **Part** | **Qty** |
| 1.1 | Basket Side | 100 |
| 1.2 | Basket Horizontal | 550 |
| 1.3 | Divider Small | 500 |
| 1.4 | Divider Large | 250 |

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| **System 2.0** |
|  | **Part** | **Qty** |
| 2.1 | Chassis | 50 |
| 2.2 | Half Basket | 100 |
| 2.3 | Half Basket Lid | 100 |
| 2.4 | Stack Tube | 50 |
| 2.5 | Clip | 100 |
| 2.6 | Segment Divider | 700 |

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| **System 3.0** |
|  | **Part** | **Qty** |
| 3.1 | Basket Side | 200 |
| 3.2 | Basket Horizontal | 550 |
| 3.3 | Divider Small | 500 |
| 3.4 | Divider Large | 250 |

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| **System 4.0** |
|  | **Part** | **Qty** |
| 4.1 | Chassis | 50 |

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| 9 | Material consideration to cover – * Suitably robust for operation in a marine environment.
* Suitable for use in saltwater.
* UV stable.
* Operational temperature range to suit UK waters, max range 2-20oC.
 | EssentialEssentialEssentialEssential |  |
| 10 | ISO 9001, or equivalent, compliance. | Desirable |  |
| 11 | Project Plan | Essential |  |

**Table 1**

**Project Plan**

The successful tenderer will be required to provide a detailed project plan with the response to the RfQ to include key delivery phases and associated work breakdown, appropriate milestones and necessary approval / decision points.

**Intellectual Property**

Ownership of the Intellectual Property associated with the manufacture of the tooling and 50 units of the Marine Container System including, but not exclusive to; goods, guidance, specifications, instructions, plans, drawings, data, know-how, designs or other material shall be vested in the consortium.

**Confidentiality**

Tenderers will, on request, be provided with confidential information associated with the designs. This may include but not necessarily limited to, CAD information/drawings and other more detailed technical information. Where such information is requested, a Non Disclosure Agreement (template at Annex A) will be required to be completed and returned to Adam.Stringer@falmouth.ac.uk Information will only be provided when the agreement has been signed by both parties.

**Location for goods to be delivered to:** To be advised on contract award.

**Contract start date:** 4/11/2015

**Evaluation:**

Quotations will be evaluated on value for money:

Technical capability 50%

Quality 20%

Cost 30%

**Additional information to be provided by the Tenderer:**

1. Details of previous experience of the design/manufacture of injection moulded tooling for robust marine stable plastic parts.
2. Details of previous experience in working closely with clients to optimise designs for tooling solutions.

# Budget:

The maximum available budget (ex VAT) is £72,000.

# Submitted Pricing (Schedule 2):

Tenderers are to provide a breakdown of costs as per the table below and include:

* The planned completion date(s) based on the contract award date.
* VAT where appropriate.

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| **System** | **Good or Services Required** | **Completion Date** | **Cost****(£)** | **VAT****(£)** |
| 1.0 | The supply of injection moulded tooling for the manufacture/production of a quantity of the marine container system in accordance with the technical specification. |  |  |  |
| The manufacture/production, supply and delivery of quantity 50 of marine container systems in accordance with the technical specification. |  |  |  |
| 2.0 | The supply of injection moulded tooling for the manufacture/production of a quantity of the marine container system in accordance with the technical specification. |  |  |  |
| The manufacture/production, supply and delivery of quantity 50 of marine container systems in accordance with the technical specification. |  |  |  |
| 3.0 | The supply of injection moulded tooling for the manufacture/production of a quantity of the marine container system in accordance with the technical specification. |  |  |  |
| The manufacture/production, supply and delivery of quantity 50 of marine container systems in accordance with the technical specification. |  |  |  |
| 4.0 | The supply of injection moulded tooling for the manufacture/production of a quantity of the marine container system in accordance with the technical specification. |  |  |  |
| The manufacture/production, supply and delivery of quantity 50 of marine container systems in accordance with the technical specification. |  |  |  |

Please provide a more detailed breakdown of costs for the system and at sub system (component part) level to facilitate the assessment of relative cost of key criteria, where it is possible to do so.

We understand and accept that **Cefas’ Standard Terms and Conditions for Goods** apply to this project and any subsequent work. These can be found at: [Terms and Conditions](https://www.gov.uk/government/publications/short-form-terms-and-conditions)

**Payment Schedule:**

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| **Criteria** | **Value** |
| On contract Award | 30% |
| Acceptance of final design | 20% |
| Final deliverable – as agreed at contract award | 50% |

**Signature**

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| Signed: | For:(Company Name) |
| Name: (Block Capitals) | Date: |
| Name of contact to call in the event of a query (if different from above): | Direct telephone number of contact: |

**Appendix 1**

# System 1.0 - Technical Specification

The design comprises of four different injection moulded components numbered below. The part numbers refer to the corresponding part descriptions and dimensions below and notes in table 1 under detailed requirement.

* 1. Basket Side
	2. Basket Horizontal
	3. Divider Small
	4. Divider Large

Each complete unit is made up from 2 basket sides, 11 basket horizontal parts, 10 Small Dividers and 5 Large Dividers. In total 28 components per complete unit. Its overall form is made up of two V shaped ‘basket sides’. All parts are meshed with 2.5mm x 2.5mm (refer to CAD data). All parts are to be moulded from polyethylene, grade to be confirmed.

To create the 50 complete units therefore will require the following number of mouldings:

* 1. Basket Side x 100
	2. Basket Horizontal x 550
	3. Divider Small x 500
	4. Divider Large x 250

System 1.0 Individual part descriptions:

* 1. Basket Side
* Dimensions – 412mm x 356mm Depth = 243mm Volume = 842cm3
* Wall section typically 2.0mm – up to 4.5mm in sections.
* No undercut detailing.
* Hinge detailing.
	1. Basket Horizontal
* Dimensions – 402mm x 356mm, Depth = 10mm, Volume = 146cm3
* Wall section typically 2.0mm.
* Predominately low profile.
* No undercut detailing.
	1. Divider Small
* Dimensions – 399mm x 36.5mm Depth = 3mm Volume 25.7cm3
* Wall section typically 2.0 mm.
* Predominately low profile.
* No undercut detailing.

1.4 Divider Large

* Dimensions – 399mm x 76.5mm Depth = 3mm Volume 47.9cm3
* Wall section typically 2.0 mm.
* Predominately low profile.
* No undercut detailing.

**Appendix 2**

# System 2.0 - Technical Specification

The design comprises of six different components numbered below – The part numbers refer to the corresponding part descriptions and dimensions below and notes in the table.

* 1. Chassis
	2. Half Basket
	3. Half Basket Lid
	4. Stack tube
	5. Clip
	6. Segment Divider

Each complete unit is made up from one chassis, 2 half baskets, 2 half basket lids, 1 stack tube, 2 clips and 14 dividers. In total 22 components per complete unit.

To create the 50 complete units therefore will require this number of mouldings –

* 1. Chassis x50
	2. Half Basket x100
	3. Half Basket Lid x100
	4. Stack Tube x50
	5. Clip x100
	6. Segment Divider x700

System 2.0 Individual part descriptions –

* 1. Chassis
* Moulded from polyethylene, grade to be confirmed.
* Dimensions – Diameter 735mm Depth = 50.5mm Volume = 1670 cm3
* Circular design, robust, simple geometry.
* Wall section typically 4.0mm up to 6.0mm.
* No undercut detailing.
	1. Half Basket
* Moulded from polyethylene, grade to be confirmed.
* Dimensions – Semi Circular Diameter = 700mm Width = 355mm Depth = 102mm Volume = 847cm3
* Wall section thickness typically 2.0mm up to 4.0mm.
* Semi-circular design, ‘container’ like design.
* Significant surface meshing. Requires moving tooling.
* Undercut detailing.
	1. Half Basket Lid
* Moulded from polyethylene, grade to be confirmed.
* Dimensions – Semi Circular Diameter = 710mm Width = 345mm Depth = 24mm Volume = 548cm3
* Wall section thickness typically 2.0mm up to 4.0mm.
* Semi-circular design, Predominately low profile.
* Significant surface meshing.
* No undercut detailing.
	1. Stack Tube
* Cut to length extruded polyethylene tubing. Diameter 100mm Length 170mm.
* No tooling required – requires sourcing.
	1. Clip
* Moulded from polyethylene, grade to be confirmed.
* Dimensions – 325mm x 50mm Depth = 55mm Volume = 137cm3
* Wall section thickness typically 2.0mm up to 4.0mm
* No undercut detailing.
	1. Segment Divider
* Moulded from polyethylene, grade to be confirmed.
* Dimensions – 272mm x 97.6mm Depth = 4mm Volume = 42cm3
* Wall section thickness typically 2.0mm
* Predominately low profile.
* Significant surface meshing.
* No undercut detailing.

**Appendix 3**

# System 3.0 - Technical Specification

The design compromises of four different injection moulded components numbered below. The part numbers refer to the corresponding part descriptions and dimensions below and notes in table 1 under detailed requirement.

* 1. Basket Side
	2. Basket Horizontal
	3. Divider Small
	4. Divider Large

Each complete unit is made up from 4 basket sides, 11 basket horizontal parts, 10 Small Dividers and 5 Large Dividers. In total 30 components per complete unit. Its overall form is made up of four sides to create a diamond shaped ‘basket sides’. All parts are meshed with 2.5mm x 2.5mm (refer to CAD data). All parts are to be moulded from polyethylene, grade to be confirmed.

To create the 50 complete units therefore will require the following number of mouldings:

* 1. Basket Side x 200
	2. Basket Horizontal x 550
	3. Divider Small x 500
	4. Divider Large x 250

System 1.0 Individual part descriptions:

* 1. Basket Side
* Dimensions – 412mm x 304mm Depth = 36.8mm Volume = 552cm3
* Wall section typically 2.0mm – up to 4.5mm in sections.
* No undercut detailing.
* Hinge detailing.
	1. Basket Horizontal
* Dimensions – 403mm x 321mm, Depth = 8.75mm, Volume = 144cm3
* Wall section typically 2.0mm.
* Predominately low profile.
* No undercut detailing.
	1. Divider Small
* Dimensions – 406mm x 36.5mm Depth = 3mm Volume 27cm3
* Wall section typically 2.0 mm.
* Predominately low profile.
* No undercut detailing.

3.4 Divider Large

* Dimensions – 406mm x 76.5mm Depth = 3mm Volume 51cm3
* Wall section typically 2.0 mm.
* Predominately low profile.
* No undercut detailing.

# System 4.0 - Technical Specification

The design comprises of one injection moulded component detailed below and works in conjunction with other readymade off the shelf items.

* 1. Chassis

Each unit is made up from a single chassis on to which existing meshed baskets fit. The design may incorporate standoff tubes (no injection moulding requirement). These would be sourced items (cut to length tubing.

To create the 50 complete units therefore will require the following number of mouldings:

* 1. Chassis x 50

System 1.0 Individual part descriptions:

* 1. Chassis
* Dimensions – Diameter 410mm Depth = 16.5mm Volume = 462cm3
* Wall section typically 2.0mm – up to 4.5mm in sections.
* No undercut detailing.
* Mesh Detailing.

**Annex A**

**One-way** Non-Disclosure Agreement

**Date:**

**Parties:** Falmouth University & [Company name]

[Company Name], a company registered in England under company number [Company Number] whose registered office is at [Company registered address] (the Recipient)

and

Falmouth University, an English Exempt Charity whose registered office is at Falmouth Campus, 25 Woodlane, Falmouth, Cornwall, TR11 4RH, United Kingdom (the Discloser)

1. The Discloser intends to disclose information (the Confidential Information) to the Recipient for the purpose of tendering for developing tooling for the production of prototypes (the Purpose).

2. The Recipient undertakes not to use the Confidential Information for any purpose except the Purpose, without first obtaining the written agreement of the Discloser.

3. The Recipient undertakes to keep the Confidential Information secure and not to disclose it to any third party who need to know the same for the Purpose, who know they owe a duty of confidence to the Discloser and who are bound by obligations equivalent to those in clause 2 above and this clause 3.

4. The undertakings in clauses 2 and 3 above apply to all of the information disclosed by the Discloser to the Recipient, regardless of the way or form in which it is disclosed or recorded but they do not apply to:

a) any information which is or in future comes into the public domain (unless as a result of the breach of this Agreement); or

b) any information which is already known to the Recipient and which was not subject to any obligation of confidence before it was disclosed to the Recipient by the Discloser.

5. Nothing in this Agreement will prevent the Recipient from making any disclosure of the Confidential Information required by law or by any competent authority.

6. The Recipient will, on request from the Discloser, return all copies and records of the Confidential Information to the Discloser and will not retain any copies or records of the Confidential Information.

7. Neither this Agreement nor the supply of any information grants the Recipient any licence, interest or right in respect of any intellectual property rights of the Discloser except the right to copy the Confidential Information solely for the Purpose.

8. The undertakings in clauses 2 and 3 will continue in force indefinitely.

9. This Agreement is governed by, and is to be construed in accordance with, English law. The English Courts will have non-exclusive jurisdiction to deal with any dispute which has arisen or may arise out of, or in connection with, this Agreement.

Executed and Delivered as a Deed by,

acting by**,** a director, in the presence of:

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Signature of Director Falmouth Signature of Director (the recipient company)

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Name of Director Falmouth Name of Director (the recipient company)

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Signature of witness Signature of witness

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Name of witness Name of witness

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Address of witness Address of witness