

EMSO implementation and operation: DEVelopment of instrument module

TENDER ISSUE

D5.2

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1.2	26.01.2017	Feedback from the Executive Board	EB
1.3	24.02.2017	Includes final tender documentation	Ruhl

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1. EXECUTIVE SUMMARY

This document details the procurement process for two replicate EMSO Generic Instrument Modules. It includes the expected time-line, technical information, links to the technical documents and the draft text for the tender. The tender will be released on 31st January 2017.

2. PROCUREMENT PROCESS

NERC will purchase individual instruments for the replicated EGIMs (Table 2) following the UK public sector procurement rules (Appendix 1 and Table 3). NERC will then release a tender for construction and testing of the two replicated EGIMs. The instruments will be free issued to the winning bidder.

3. UK PROCUREMENT

Proper procurement needs to happen when raising a purchase order, ensuring the correct process is followed depending on the value of the order.

In exceptional circumstances, the requisitioner will need to contact Procurement at UKSBS to ensure that the order is processed properly.

You can include your contact details in the Note to Buyer text box when raising a requisition if you wish to discuss the order with the buyer before they convert the requisition to a PO.

The Service Level Agreement (SLA) with UKSBS for any value requisition to be converted to a Purchase Order is 10 working days. This will however depend on the complexity of the order, i.e. if the supplier needs to be set up or if the order needs to go out to tender.

3.1.£0 to £10K Orders

Where possible, orders below £10,000 should be placed through Science Warehouse. There are around 90 suppliers listed on Science Warehouse and it is the suppliers' responsibility to keep their list of products and prices up to date.

If the order cannot be placed through the Science Warehouse then a non-catalogue request needs to be placed.

If the order is under £1,000, a single quotation is permitted but where possible additional quotations should be sought.

For all orders above £1,000 and below £10,000, 3 quotes are required. These may be provided by the customer to UKSBS. The quotes need to be attached to the requisition when the order is raised.

Any requisitions below £10,000 will be automatically pushed through by the Procurement team at UKSBS.

3.2.Greater than £10K to £25K Orders

For orders greater than £10,000 or below £25,000, 3 separate quotes need to be provided when raising the requisition. These can be provided by the customer or by UKSBS and the customer can suggest a preferred supplier if they wish.

If the order is to go to tender, then when raising the requisition, a comment in the 'Note to Buyer' box will need to be included saying 'Please Source'.

3.3.Greater than £25K to OJEU Limits (£172,000) Orders

If the total value of the order is over £25,000 but under the OJEU limit of £172,000, then requirements need to be advertised on Contracts Finder portal / Emptoris e-Sourcing tool used by UKSBS.

Emptoris is the electronic tool used widely across Central Government for advertising and managing tenders greater than £25,000. It has e-Tendering, e-Evaluation and e-Auction capability. UKSBS will post your order on Emptoris, where suppliers can log in and bid to compete for the tender. Customers can then access the supplier proposals and scoring.

A detailed specification including delivery timescales needs to be sent to the buyer at UKSBS with a request to go to tender. The buyer will then contact you for more information.

3.4.Single Sourcing Actions (SSAs)

Single Sourcing Actions are used for orders greater than £10,000 where there are no alternative sources of supply, i.e. for specialist equipment, for technical reasons or there is only one supplier able to provide that item etc.

A Single Sourcing Action Request Form will need to be completed which can be found on the Knowledge Base and submit to UKSBS. Anything up to the value of £100,000 will then be approved within UKSBS.

Any orders greater than £100,000 will go to UKSBS Chief Executive to be approved on behalf of BIS (department of Business, Innovation and Skills).

SSAs require a brief justification ensuring that it is focused on the reason for the SSA, an assessment of risk and approval from UKSBS before discussions with the supplier take place. The final decision rests with UKSBS and BIS.

You can find a template for a single tender on Knowledge Base under Procurement – Sourcing Templates.

A UK SBS Single Sourcing Actions Policy and Process Guidance document can be found on the Knowledge Base under Procurement – Procurement Policy.

3.5.OJEU – The Official Journal of the European Union

Orders greater than £172,000 will need to go through OJEU process under the Government procurement rules.

To raise an order with a value greater than £172,000, you would first need to phone UKSBS Procurement (see section 19 for contact details) and speak to a buyer.

A detailed specification including delivery timescales will need to be sent to the buyer with a request to go to tender. The buyer will then contact you for more information if required.

OJEU is the publication in which all tenders from the public sector, which are valued above a certain financial threshold according to EU legislation, must be published. The legislation covers organisations and projects that receive public money.

You can search for new business opportunities, tenders and lower value opportunities from a wide range of other sources throughout the UK and Ireland via the OJEU website, (please find link below).

Orders can take 4 to 5 months to go through the process so the requisitioner will need to ensure the order is processed before the financial year starts.

Further information can be found on the OJEU website or on Knowledge Base via the following links;
<http://www.ojeu.eu/whatistheojeu.aspx>

<https://moss.ssc.rcuk.ac.uk/Procure/Lists/Frequently%20Asked%20Questions/OJEU.aspx>

3.6.UK Cabinet Office Controls

For some categories, there are additional Cabinet Office controls depending on the value of the order. Currently there are controls in place for the following;

- Consultancy work over £20,000
- IT purchasing over £100,000
- FM (facilities management) for all service maintenance orders

The new Crown Commercial Service Facilities Management framework went live on 29 July 2015.

CCS Frameworks are used in preference to a competitive sourcing exercise. All frameworks can be viewed on the CCS website, (please see link below)

Cabinet office approval is now mandatory for all maintenance requirements for Facilities management, e.g. routine maintenance contracts or minor works. They do not apply to;

- The supply only of goods such as paint, PPE, nuts, bolts, screws, ironmongery or toilet rolls. Please note that the installation of such items is not exempt
- Research/scientific services e.g. repairs to lasers, microscope maintenance
- Research equipment e.g. microscopes, parts for laser installations, spare parts for installed pieces of equipment that are not part of the fabric of the building
- Genuine specific one-off FM service requirements e.g. emergency repairs, weekend call-outs. Please note the Cabinet Office is making rigorous checks to ensure that this exception is not used to fulfil on-going requirements.

The approval process is managed by the Crown Commercial Services (CCS) via the Facilities Management Cabinet Office Controls form (FMCOC).

The FMCOC form will need to be completed by the requestor and submitted by email to fmcontrols@crowncommercial.gov.uk.

Only once confirmation of approval from CCS has been received should a requisition be raised via iProcurement, attaching the approved form. Any in-scope requisitions without an approved form will be returned to the customer with a note advising what the customer needs to do next.

If you are in doubt as to whether your requirement is subject to FMCOC, you should complete the FMCOC form and send to CCS. CCS has advised they will respond quickly on submissions that do not require approval. UK SBS Procurement will continue to monitor the process and requirements to support compliance with the controls.

Further information on Facilities Management services can be found on the Crown Commercial Service website;

<http://ccs-agreements.cabinetoffice.gov.uk/contracts/rm1056>

For advice on Cabinet Office Controls, please contact Retained Finance.



Invitation to Quote

**Invitation to Quote (ITQ) on behalf of Natural Environment
Research Council**

**Subject: UK SBS PR17012 2 x Generic Instrument Modules
(EMSODEV Project)**

Sourcing reference number: PR17012


UK Shared Business Services Ltd (UK SBS)
www.uksbs.co.uk

Registered in England and Wales as a limited company. Company Number 6330639.
Registered Office North Star House, North Star Avenue, Swindon, Wiltshire SN2 1FF
VAT registration GB618 3673 25
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UKSBS

Shared Business Services

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Section 1 – About UK Shared Business Services

Putting the business into shared services

UK Shared Business Services Ltd (UK SBS) brings a commercial attitude to the public sector; helping our customers improve efficiency, generate savings and modernise.

It is our vision to become the leading provider for our customers of shared business services in the UK public sector, continuously reducing cost and improving quality of business services for Government and the public sector.

Our broad range of expert services is shared by our customers. This allows our customers the freedom to focus resources on core activities; innovating and transforming their own organisations.

Core services include Procurement, Finance, Grants Admissions, Human Resources, Payroll, ISS, and Property Asset Management all underpinned by our Service Delivery and Contact Centre teams.

UK SBS is a people rather than task focused business. It's what makes us different to the traditional transactional shared services centre. What is more, being a not-for-profit organisation owned by its customers, UK SBS' goals are aligned with the public sector and delivering best value for the UK taxpayer.

UK Shared Business Services Ltd changed its name from RCUK Shared Services Centre Ltd in March 2013.

Our Customers

Growing from a foundation of supporting the Research Councils, 2012/13 saw Business, Energy and Industrial Strategy (BEIS) transition their procurement to UK SBS and Crown Commercial Services (CCS – previously Government Procurement Service) agree a Memorandum of Understanding with UK SBS to deliver two major procurement categories (construction and research) across Government.

UK SBS currently manages £700m expenditure for its Customers.

Our Customers who have access to our services and Contracts are detailed [here](#).

Section 2 – About Our Customer

Natural Environment Research Council (NERC)

NERC is the UK's main agency for funding and managing research, training and knowledge exchange in the environmental sciences.

NERC's work covers the full range of atmospheric, Earth, biological, terrestrial and aquatic science, from the deep oceans to the upper atmosphere and from the poles to the equator.

The organisation coordinates some of the world's most exciting research projects, tackling major issues such as climate change, environmental influences on human health, the genetic make-up of life on Earth, and much more.

Working internationally, NERC have bases at some of the most hostile places on the planet; running a fleet of research ships and aircraft and investing in satellite technology to monitor gradual environmental change on a global scale. NERC provide forewarning of, and solutions to, the key environmental challenges facing society.

Examples of funded research

- Showing the importance of mature tropical forests to the global climate.
- Developing a safer and cleaner way to mine gold by reducing the use of mercury.
- Studying the hole in the ozone layer - discovered by our British Antarctic Survey - and monitoring climate change.
- Playing a major role in the International Census of Marine Life that monitors our oceans.


NERC also runs six organisations of world renown:

- British Antarctic Survey, in Cambridge.
- British Geological Survey, in Nottingham.
- National Oceanography Centre, in Southampton.
- Centre for Ecology & Hydrology, in Oxfordshire.
- National Centre for Atmospheric Science, in Leeds.
- National Centre for Earth Observation, Swindon.

www.nerc.ac.uk

Section 3 - Working with UK Shared Business Services Ltd.

In this section you will find details of your Procurement contact point and the timescales relating to this opportunity.

Section 3 – Contact details		
3.1	Customer Name and address	National Oceanography Centre University of Southampton Waterfront Campus European Way Southampton SO14 3ZH
3.2	Buyer name	Fiona Morris
3.3	Buyer contact details	MajorProjects@uksbs.co.uk
3.4	Estimated value of the Opportunity	[add the estimated value of the opportunity or the minimum / maximum banding anticipated or otherwise add 'Not applicable' 
3.5	Process for the submission of clarifications and Bids	All correspondence shall be submitted within the Emptoris e-sourcing tool. Guidance Notes to support the use of Emptoris is available here. Please note submission of a Bid to any email address including the Buyer <u>will</u> result in the Bid <u>not</u> being considered.

Section 3 - Timescales		
3.6	Date of Issue of Contract Advert and location of original Advert	13/02/2017 Contracts Finder
3.7	Latest date/time ITQ clarification questions should be received through Emptoris messaging system	21/02/2017 14.00
3.8	Latest date/time ITQ clarification answers should be sent to all potential Bidders by the Buyer through Emptoris	28/02/2017 14.00
3.9	Latest date/time ITQ Bid shall be submitted through Emptoris	7/03/2017 14.00
3.10	Date/time Bidders should be available if face to face clarifications are required	N/A

3.11	Anticipated rejection of unsuccessful Bids date	14/03/2017
3.12	Anticipated Award date	15/03/2017
3.13	Anticipated Contract Start date	15/03/2017
3.14	Anticipated Contract End date	01/03/2018
3.15	Bid Validity Period	60 Days

Section 4 – Specification

Assembly of two EMSO Generic Instrument Modules:

Assembly and testing of two oceanographic instrument modules, including construction of the frame, capable of deployment in deep water at European Multidisciplinary Seafloor and water column Observatory (EMSO) locations.

A prototype EMSO Generic Instrument Module (EGIM) is currently undergoing shallow water testing. The bidder will assemble two replicates of the prototype module to house a selection of instruments provided. The replicated modules will be capable of deployment in water depths to 5000 m for periods of more than 1 year between servicing.

Components are procured in advance and the bidder will take receipt of the components from NOC, assemble and test the systems in accordance with accompanying dry- and wet-test acceptance guidelines. Engineering drawings and related documentation will be provided.

Examples of functional tests to be carried out by the assembly vendor on the assembled system include: Checks of connections, connectors and cabling; Electrical continuity checks; Checks of the instrument output voltage on the controlling unit for the all ports; Communication tests between the EGIM and external devices; and Failure mode management tests including the cases of power or communication failure.

Delivery of two pressure-qualified EGIMs and accompanying dry- and wet-test acceptance reports must be completed and delivered within 40 days of receiving the components for validation prior to deployments of sensor modules anticipated in the latter half of 2017. Delivery will be to NOC, Southampton, SO14 3ZH.

The possibility exists for the bidder to make use of 25 square metre work space at the National Oceanography Centre's Marine Robotic Systems Innovation Centre (MARSIC) for approximately £2170 per month. Cost excludes the use of tools and machinery. At additional cost the testing facilities including large and small pressure test chambers can be accessed.

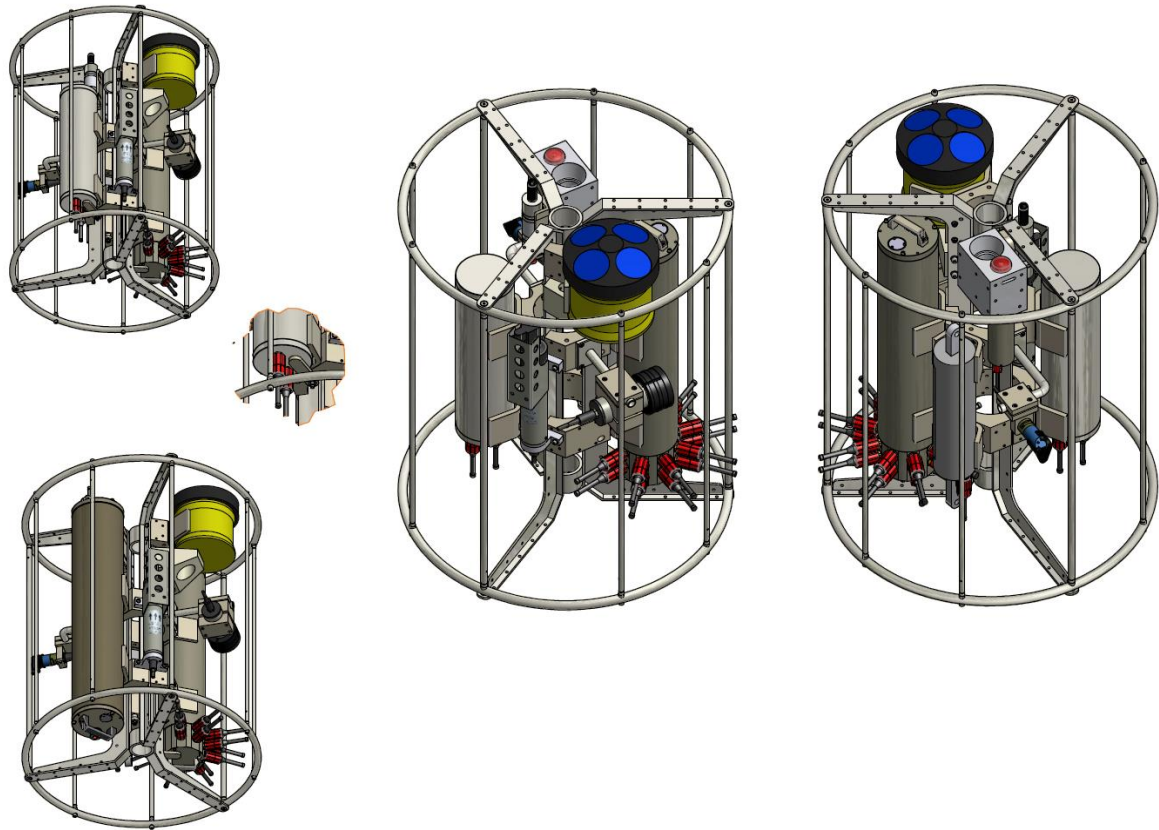


Figure 1: Example technical drawings of the completed EGIM. The EGIM height is 0.9 m for scale.

Limited technical documentation can be found as Appendices.

Terms and Conditions

Bidders are to note that any requested modifications to UK SBS Terms and Conditions on the grounds of statutory and legal matters only, shall be raised as a formal clarification during the permitted clarification period.

Section 5 – Evaluation model

The evaluation model below shall be used for this ITQ, which will be determined to two decimal places.

Where a question is 'for information only' it will not be scored.

The evaluation team may comprise staff from UK SBS, the Customer and any specific external stakeholders UK SBS deem required. After evaluation the scores will be finalised by performing a calculation to identify (at question level) the mean average of all evaluators (Example – a question is scored by three evaluators and judged as scoring 5, 5 and 6. These scores will be added together and divided by the number of evaluators to produce the final score of 5.33 ($5+5+6=16 \div 3 = 5.33$))

Pass / fail criteria

Questionnaire	Q No.	Question subject
Commercial	SEL1.2	Employment breaches/ Equality
Commercial	FOI1.1	Freedom of Information Exemptions
Commercial	AW1.1	Form of Bid
Commercial	AW1.3	Certificate of Bona Fide Bid
Commercial	AW3.1	Validation check
Commercial	AW4.1	Contract Terms
Price	AW5.5	E Invoicing
Price	AW5.6	Implementation of E-Invoicing
Quality	AW6.1	Compliance to the Specification
Quality	PROJ1.1	Experience of oceanographic instruments
Quality	PROJ1.4	Sensor Controlled Software
Quality	PROJ1.6	Handling Costs

Scoring criteria

Evaluation Justification Statement

In consideration of this particular requirement UK SBS has decided to evaluate Potential Providers by adopting the weightings/scoring mechanism detailed within this ITQ. UK SBS considers these weightings to be in line with existing best practice for a requirement of this type.

Questionnaire	Q No.	Question subject	Maximum Marks
Price	AW5.2	Price	30%
Quality	PROJ1.2	Delivery	%
Quality	PROJ1.3	Testing	%

Evaluation of criteria

Non-Price elements

Each question will be judged on a score from 0 to 100, which shall be subjected to a multiplier to reflect the percentage of the evaluation criteria allocated to that question.

Where an evaluation criterion is worth 20% then the 0-100 score achieved will be multiplied by 20.

Example if a Bidder scores 60 from the available 100 points this will equate to 12% by using the following calculation: Score/Total Points available multiplied by 20 ($60/100 \times 20 = 12$)

Where an evaluation criterion is worth 10% then the 0-100 score achieved will be multiplied by 10.

Example if a Bidder scores 60 from the available 100 points this will equate to 6% by using the following calculation: Score/Total Points available multiplied by 10 ($60/100 \times 10 = 6$)

The same logic will be applied to groups of questions which equate to a single evaluation criterion.

The 0-100 score shall be based on (unless otherwise stated within the question):

0	The Question is not answered or the response is completely unacceptable.
10	Extremely poor response – they have completely missed the point of the question.
20	Very poor response and not wholly acceptable. Requires major revision to the response to make it acceptable. Only partially answers the requirement, with major deficiencies and little relevant detail proposed.
40	Poor response only partially satisfying the selection question requirements with deficiencies apparent. Some useful evidence provided but response falls well short of expectations. Low probability of being a capable supplier.
60	Response is acceptable but remains basic and could have been expanded upon. Response is sufficient but does not inspire.
80	Good response which describes their capabilities in detail which provides high levels of assurance consistent with a quality provider. The response includes a full description of techniques and measurements currently employed.
100	Response is exceptional and clearly demonstrates they are capable of meeting the requirement. No significant weaknesses noted. The response is compelling in its description of techniques and measurements currently employed, providing full assurance consistent with a quality provider.

All questions will be scored based on the above mechanism. Please be aware that the final score returned may be different as there may be multiple evaluators and their individual scores will be averaged (mean) to determine your final score.

Example

Evaluator 1 scored your bid as 60

Evaluator 2 scored your bid as 60

Evaluator 3 scored your bid as 40

Evaluator 4 scored your bid as 40

Your final score will $(60+60+40+40) \div 4 = 50$

Price elements will be judged on the following criteria.

The lowest price for a response which meets the pass criteria shall score 100.
All other bids shall be scored on a pro rata basis in relation to the lowest price. The score is then subject to a multiplier to reflect the percentage value of the price criterion.

For example - Bid 1 £100,000 scores 100.

Bid 2 £120,000 differential of £20,000 or 20% remove 20% from price scores 80

Bid 3 £150,000 differential £50,000 remove 50% from price scores 50.

Bid 4 £175,000 differential £75,000 remove 75% from price scores 25.

Bid 5 £200,000 differential £100,000 remove 100% from price scores 0.

Bid 6 £300,000 differential £200,000 remove 100% from price scores 0.

Where the scoring criterion is worth 50% then the 0-100 score achieved will be multiplied by 50.

In the example if a supplier scores 80 from the available 100 points this will equate to 40% by using the following calculation: Score/Total Points multiplied by 50 ($80/100 \times 50 = 40$)

The lowest score possible is 0 even if the price submitted is more than 100% greater than the lowest price.

Section 6 – Evaluation questionnaire

Bidders should note that the evaluation questionnaire is located within the **e-sourcing questionnaire**.

Guidance on completion of the questionnaire is available at
<http://www.uksbs.co.uk/services/procure/Pages/supplier.aspx>

PLEASE NOTE THE QUESTIONS ARE NOT NUMBERED SEQUENTIALLY

Section 7 – General Information

What makes a good bid – some simple do's 😊

DO:

- 7.1 Do comply with Procurement document instructions. Failure to do so may lead to disqualification.
- 7.2 Do provide the Bid on time, and in the required format. Remember that the date/time given for a response is the last date that it can be accepted; we are legally bound to disqualify late submissions.
- 7.3 Do ensure you have read all the training materials to utilise e-sourcing tool prior to responding to this Bid. If you send your Bid by email or post it will be rejected.
- 7.4 Do use Microsoft Word, PowerPoint Excel 97-03 or compatible formats, or PDF unless agreed in writing by the Buyer. If you use another file format without our written permission we may reject your Bid.
- 7.5 Do ensure you utilise the Emptoris messaging system to raise any clarifications to our ITQ. You should note that typically we will release the answer to the question to all bidders and where we suspect the question contains confidential information we may modify the content of the question to protect the anonymity of the Bidder or their proposed solution
- 7.6 Do answer the question, it is not enough simply to cross-reference to a 'policy', web page or another part of your Bid, the evaluation team have limited time to assess bids and if they can't find the answer, they can't score it.
- 7.7 Do consider who your customer is and what they want – a generic answer does not necessarily meet every customer's needs.
- 7.8 Do reference your documents correctly, specifically where supporting documentation is requested e.g. referencing the question/s they apply to.
- 7.9 Do provide clear and concise contact details; telephone numbers, e-mails and fax details.
- 7.10 Do complete all questions in the questionnaire or we may reject your Bid.
- 7.11 Do check and recheck your Bid before dispatch.

What makes a good bid – some simple do not's 🙅

DO NOT

- 7.12 Do not cut and paste from a previous document and forget to change the previous details such as the previous buyer's name.
- 7.13 Do not attach 'glossy' brochures that have not been requested, they will not be read unless we have asked for them. Only send what has been requested and only send supplementary information if we have offered the opportunity so to do.
- 7.14 Do not share the Procurement documents, they are confidential and should not be shared with anyone without the Buyers written permission.
- 7.15 Do not seek to influence the procurement process by requesting meetings or contacting UK SBS or the Customer to discuss your Bid. If your Bid requires clarification the Buyer will contact you.
- 7.16 Do not contact any UK SBS staff or Customer staff without the Buyers written permission or we may reject your Bid.
- 7.17 Do not collude to fix or adjust the price or withdraw your Bid with another Party as we will reject your Bid.
- 7.18 Do not offer UK SBS or Customer staff any inducement or we will reject your Bid.
- 7.19 Do not seek changes to the Bid after responses have been submitted and the deadline for Bids to be submitted has passed.
- 7.20 Do not cross reference answers to external websites or other parts of your Bid, the cross references and website links will not be considered.
- 7.21 Do not exceed word counts, the additional words will not be considered.
- 7.22 Do not make your Bid conditional on acceptance of your own Terms of Contract, as your Bid will be rejected.

Some additional guidance notes

- 7.23 All enquiries with respect to access to the e-sourcing tool and problems with functionality within the tool may be submitted to Crown Commercial Service (previously Government Procurement Service), Telephone 0345 010 3503.
- 7.24 Bidders will be specifically advised where attachments are permissible to support a question response within the e-sourcing tool. Where they are not permissible any attachments submitted will not be considered.
- 7.25 Question numbering is not sequential and all questions which require submission are included in the Section 6 Evaluation Questionnaire.
- 7.26 Any Contract offered may not guarantee any volume of work or any exclusivity of supply.
- 7.27 We do not guarantee to award any Contract as a result of this procurement
- 7.28 All documents issued or received in relation to this procurement shall be the property of UK SBS.
- 7.29 We can amend any part of the procurement documents at any time prior to the latest date / time Bids shall be submitted through Emptoris.
- 7.30 If you are a Consortium you must provide details of the Consortiums structure.
- 7.31 Bidders will be expected to comply with the Freedom of Information Act 2000 or your Bid will be rejected.
- 7.32 Bidders should note the Government's transparency agenda requires your Bid and any Contract entered into to be published on a designated, publicly searchable web site. By submitting a response to this ITQ Bidders are agreeing that their Bid and Contract may be made public
- 7.33 Your bid will be valid for 60 days or your Bid will be rejected.
- 7.34 Bidders may only amend the Contract terms if you can demonstrate there is a legal or statutory reason why you cannot accept them. If you request changes to the Contract and UK SBS fail to accept your legal or statutory reason is reasonably justified we may reject your Bid.
- 7.35 We will let you know the outcome of your Bid evaluation and where requested will provide a written debrief of the relative strengths and weaknesses of your Bid.
- 7.36 If you fail mandatory pass / fail criteria we will reject your Bid.
- 7.37 Bidders are required to use IE8, IE9, Chrome or Firefox in order to access the functionality of the Emptoris e-sourcing tool.
- 7.38 Bidders should note that if they are successful with their proposal UK SBS reserves the right to ask additional compliancy checks prior to the award of any Contract. In

the event of a Bidder failing to meet one of the compliancy checks UK SBS may decline to proceed with the award of the Contract to the successful Bidder.

- 7.39 All timescales are set using a 24 hour clock and are based on British Summer Time or Greenwich Mean Time, depending on which applies at the point when Date and Time Bids shall be submitted through Emptoris.
- 7.40 All Central Government Departments and their Executive Agencies and Non Departmental Public Bodies are subject to control and reporting within Government. In particular, they report to the Cabinet Office and HM Treasury for all expenditure. Further, the Cabinet Office has a cross-Government role delivering overall Government policy on public procurement - including ensuring value for money and related aspects of good procurement practice.

For these purposes, UK SBS may disclose within Government any of the Bidders documentation/information (including any that the Bidder considers to be confidential and/or commercially sensitive such as specific bid information) submitted by the Bidder to UK SBS during this Procurement. The information will not be disclosed outside Government. Bidders taking part in this ITQ consent to these terms as part of the competition process.

- 7.41 From 2nd April 2014 the Government is introducing its new Government Security Classifications (GSC) classification scheme to replace the current Government Protective Marking System (GPMS). A key aspect of this is the reduction in the number of security classifications used. All Bidders are encouraged to make themselves aware of the changes and identify any potential impacts in their Bid, as the protective marking and applicable protection of any material passed to, or generated by, you during the procurement process or pursuant to any Contract awarded to you as a result of this tender process will be subject to the new GSC from 2nd April 2014. The link below to the Gov.uk website provides information on the new GSC:

<https://www.gov.uk/government/publications/government-security-classifications>

UK SBS reserves the right to amend any security related term or condition of the draft contract accompanying this ITQ to reflect any changes introduced by the GSC. In particular where this ITQ is accompanied by any instructions on safeguarding classified information (e.g. a Security Aspects Letter) as a result of any changes stemming from the new GSC, whether in respect of the applicable protective marking scheme, specific protective markings given, the aspects to which any protective marking applies or otherwise. This may relate to the instructions on safeguarding classified information (e.g. a Security Aspects Letter) as they apply to the procurement as they apply to the procurement process and/or any contracts awarded to you as a result of the procurement process.

USEFUL INFORMATION LINKS

- [Emptoris Training Guide](#)
- [Emptoris e-sourcing tool](#)
- [Contracts Finder](#)
- [Tenders Electronic Daily](#)
- [Equalities Act introduction](#)
- [Bribery Act introduction](#)
- [Freedom of information Act](#)



Invitation to Quote

Questions

**Invitation to Quote (ITQ) on behalf of Natural Environment
Research Council**

**Subject: UK SBS PR17012 2 x Generic Instrument Modules
(EMSODEV Project)**

Sourcing reference number: PR17012

UK Shared Business Services Ltd (UK SBS)
www.uksbs.co.uk

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Registered Office North Star House, North Star Avenue, Swindon, Wiltshire SN2 1FF
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UKSBS
Shared Business Services

Section 6 – Evaluation questionnaire

Bidders should note that the evaluation questionnaire is located within the **e-sourcing questionnaire**.

Guidance on completion of the questionnaire is available at
<http://www.ukpbs.co.uk/services/procure/Pages/supplier.aspx>

PLEASE NOTE THE QUESTIONS ARE NOT NUMBERED SEQUENTIALLY

COMMERCIAL QUESTIONNAIRE

SEL1.1	Please state the full legal name and address and contact details of the organisation tendering (or organisation acting as lead contact where a consortium bid is being submitted).																								
Bidder guidance	The information should be based on the details of the organisation bidding (or organisation acting as lead contact where a consortium bid is being submitted). This is the legal entity with whom we will Contract if successful.																								
Scoring criteria	For information only																								
Bidder response	<table border="1"> <tr> <td colspan="2">Table</td></tr> <tr> <td>Bidders full legal name</td><td></td></tr> <tr> <td>Address line 1</td><td></td></tr> <tr> <td>Address line 2</td><td></td></tr> <tr> <td>Address line 3</td><td></td></tr> <tr> <td>Address line 4</td><td></td></tr> <tr> <td>Town / City</td><td></td></tr> <tr> <td>Country</td><td></td></tr> <tr> <td>Post code (or equivalent)</td><td></td></tr> <tr> <td>Bidder contact</td><td></td></tr> <tr> <td>Telephone No.</td><td></td></tr> <tr> <td>Email</td><td></td></tr> </table>	Table		Bidders full legal name		Address line 1		Address line 2		Address line 3		Address line 4		Town / City		Country		Post code (or equivalent)		Bidder contact		Telephone No.		Email	
Table																									
Bidders full legal name																									
Address line 1																									
Address line 2																									
Address line 3																									
Address line 4																									
Town / City																									
Country																									
Post code (or equivalent)																									
Bidder contact																									
Telephone No.																									
Email																									

SEL1.2	<p>In the last three years, has any finding of unlawful discrimination been made against your organisation by an Employment Tribunal, an Employment Appeal Tribunal or any other court (or in comparable proceedings in any jurisdiction other than the UK)? And/or;</p> <p>In the last three years, has your organisation had a complaint upheld following an investigation by the Equality and Human Rights Commission or its predecessors (or a comparable body in any jurisdiction other than the UK), on grounds of alleged unlawful discrimination?</p>
Bidder guidance	<p>The Bidder shall answer Yes or No Yes – Fail No – Pass</p> <p>*If you have answered “yes” please provide, as an attachment to this question, a summary of the nature of the investigation and an explanation of the outcome of the investigation to date.</p> <p>If the investigation upheld the complaint against your organisation, please use the attachment to explain what action (if any) you have taken to prevent unlawful discrimination from reoccurring.</p> <p>You may be excluded if you are unable to demonstrate to UK SBS’s satisfaction that appropriate remedial action has been taken to prevent similar unlawful discrimination reoccurring.</p>
Scoring Criteria	Mandatory Pass / Fail
Bidder response	Yes / No


FOI1.1	FREEDOM OF INFORMATION ACT 2000 (FOI) AND / OR ENVIRONMENTAL INFORMATION REGULATIONS 2004 (EIR) Information provided in the course of the procurement process may be disclosed under Freedom of Information Act 2000 or Environmental Information Regulations 2004 if requested under an FOI request or EIR request. Please note that some of the information provided may be protected under the FOI Act exemptions and EIR Exceptions. More information on applying the exemptions or exceptions can be found under the Information Commissioners Office (ICO) website http://ico.org.uk Please confirm you have been informed that information provided under this Bid may be disclosed under the FOI Act 2000 and Environmental Information Regulations 2004 and agree to it being published irrespective of submitting a successful or unsuccessful Bid.	
Bidder guidance	The Bidder shall answer Yes or No Yes – Pass No – Fail	
Scoring criteria	Mandatory Pass / Fail	
Bidder response	Yes / No	


FOI1.2	FREEDOM OF INFORMATION ACT 2000 (FOI) AND / OR ENVIRONMENTAL INFORMATION REGULATIONS 2004 (EIR) EXEMPTIONS Please complete this section <u>only</u> if you have agreed for your information to be disclosed under the FOI Act or EIR in Question FOI1.1. If you have not agreed to your information to be disclosed under the FOI Act or EIR in Question FOI1.1 please complete a field 'N/A' (Not applicable) If you have agreed for your information to be disclosed under the FOI Act or EIR in Question FOI1.1 please tell us what exemptions or exceptions may apply to your information and why? If you are not relying on any exemptions or exceptions please complete each field 'N/A' (Not applicable)	
Bidder guidance	The Bidder shall provide details of their proposed exemptions/exception in the table below. The Bidder (irrespective of submitting a successful or unsuccessful Bid) shall note that if UK SBS believes that the suggested Exemptions or Exceptions have not been applied properly as per the Act or Regulation, UK SBS will disclose the requested information unless another exemption or exception can be applied by UK SBS. Be aware that by completing FOI1.1 and answering 'Yes' you have agreed for UK SBS to disclose the provided information under the Freedom of Information Act 2000 or Environmental Information Regulation 2004, therefore you will not be approached for consent.	
Scoring criteria	For information only	
Bidder response	Confidential Information	Justification for exemption/exception under FOI Act

	Commercially sensitive information	Justification for exemption/exception under FOI Act

AW1.1	<p>FORM OF BID</p> <p>I declare that to the best of my knowledge the answers submitted in this ITQ are correct. I understand that the information will be used in the process to assess my organisation's suitability to be invited to bid for UK SBS's requirement and I am signing on behalf of my organisation. I understand that the Contracting Authority may reject this ITQ if there is a failure to answer all relevant questions fully or if I provide false/misleading information.</p> <p>I understand that the Government's transparency agenda requires that sourcing documents, including ITQ templates such as this, are published on a designated, publicly searchable web site, and, that the same applies to other sourcing documents issued by UK SBS, including the ITQ, and any contract entered into by UK SBS or its customers with its preferred supplier once the procurement is complete.</p> <p>By submitting a response to this ITQ I agree that our participation may be made public.</p> <p>I understand that the answers given in this response will not be published on the web site (but may fall to be disclosed under Freedom of Information Act 2000 or Environmental Information Regulations 2004).</p> <p>By submitting a response to this ITQ I agree and accept the justification for the Contracting Authority's evaluation criteria.</p> <p>By submitting a response to this ITQ I agreed and accept that UK SBS reserves the right to change without notice the procedure for awarding the Contract, to reject any or all bids for the Contract, to stop the process and not award the Contract (in whole or in part) at any time without any liability on its part.</p> <p>By submitting a response to this ITQ I agree and accept that nothing in this process is intended to form any express or implied contractual relationship between the Parties unless and until a Contract is awarded. UK SBS is not liable for any costs resulting from cancellation of this process nor any costs incurred by Bidders taking part in this procurement process.</p> <p>I understand that where sourcing documents issued by UK SBS or contracts with its suppliers fall to be disclosed UK SBS will redact them as it thinks necessary, having regard (inter alia) to the exemptions/exceptions in the FOIA or EIR.</p>	
Bidder guidance	<p>The Bidder shall answer Yes or No</p> <p>Yes – Pass</p> <p>No – Fail</p>	
Scoring criteria	Mandatory Pass / Fail	
Bidder response	Yes / No	

AW1.3	<p>CERTIFICATE OF BONA FIDE BID</p> <p>The essence of procurement is that the customer shall receive bona fide competitive Bids, from all those Bidding. In recognition of this principle, we certify that this is a bona fide bid, intended to be competitive and that we have not fixed or adjusted the amount of bid by or under or in accordance with any agreement with any other person.</p> <p>We also certify that we have not done and we undertake that we will not do at any time before the hour and date specified for the return of this bid any of the following:</p> <ul style="list-style-type: none"> (a) Communicate to a person other than the person calling for these bids the amount or approximate amount of the proposed bid, except where the disclosure, in confidence, of the approximate amount of the bid was necessary to obtain insurance premium quotations for the preparation of the bid; (b) Enter into any agreement or arrangement with any other person that he shall refrain from bidding or as to the amount of any bid to be submitted; (c) Offer to pay or agree to pay or give any sum of money or valuable consideration directly or indirectly to any person for doing or having done or causing or have caused to be done in relation to any other bid or proposed bid for the said supply / service any act or thing of the sort described above. <p>In this certificate, the word "person" includes any persons and any body or association, corporate or unincorporated, and any "agreement or arrangement" includes any such transaction, formal or informal, and whether legally binding or not. We acknowledge that UK SBS will be entitled to cancel the contract and to recover from us the amount of any loss resulting from such cancellation if we or our representatives (whether with our without our knowledge) shall have practiced collusion in Bidding for this contract or any other contract with UK SBS or shall employ any corrupt or illegal practices either in the obtaining or execution of this contract or any other contract with UK SBS.</p> <p>We agree that UK SBS may disclose the Bidders information/documentation (submitted to UK SBS during this Procurement) more widely within Government for the purpose of ensuring effective cross-Government procurement processes, including value for money and related purposes.</p>
Bidder guidance	<p>The Bidder shall answer Yes or No</p> <p>Yes – Pass</p> <p>No – Fail</p>
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes / No


AW3.1	<p>In the event of a Bidder successfully providing the most advantageous offer to UK SBS against a procurement requirement, the Bidder is expected to provide an answer to the attached questions as a validation check prior to the award of any Contract.</p> <p>If the Bidder fails to meet UK SBS' expectations we reserve the right to not award the Contract to the relevant Bidder and either award to the Bidder with the second most advantageous response or run a new procurement.</p> <p>The validation check document is located in RFx Attachments and attached to this question.</p> <div style="text-align: center;">  AW3.1 ITQ Validation check.pdf </div>
Bidder guidance	<p>The Bidder is not required to complete the validation check at this stage but will be required to respond to the questions in the event of providing the most advantageous offer to UK SBS against a procurement requirement.</p> <p>Yes – Pass No – Fail</p>
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes I have understood that I need to complete the validation check in the event of providing the most advantageous offer to UK SBS against a procurement requirement.


AW4.1	<p>Please confirm your acceptance of the attached Contract Terms.</p> <p>## AW4.1 GUIDANCE  - Review the template contract terms available on the portal, and add the relevant document as agreed with your HOP. .##</p>
Bidder guidance	<p>The Bidder shall answer Yes, No with justification or No</p> <p>Yes – Pass No with justification – Pass. See question AW4.2 for details of what amounts to a valid justification. No – Fail</p>
Scoring criteria	Mandatory Pass / Fail
Bidder response	Drop down menu - Yes, No with justification, No

AW4.2	<p>Where a Bidder has answered question AW4.1 with 'no with justification' they must detail the justification and the proposed change to the clause.</p>
Bidder guidance	<p>A justification for not accepting a specific clause or series of clauses from the attached Contract Terms is that the Bidder would be in breach of legal requirements or statutory regulations by complying with that clause or series of clauses (i.e. for the avoidance of doubt, being unable to comply</p>

	<p>with a clause or series of clauses because of an internal policy reason will not be considered to be a justification for a legal requirement or statutory regulation).</p> <p>Where the Bidder has answered question AW4.1 as "no with justification", the Bidder shall provide a Contract mark-up utilising track changes detailing the relevant clause, the proposed changes to the clause and the justification for the changes. In this case, the Bidder shall score a pass if (but only if) UK SBS considers both the following requirements are satisfied:</p> <ul style="list-style-type: none"> • the reasons stated as justifying the Bidder's statement that it cannot accept the Contract Terms due to legal requirements or statutory regulations are valid; and • the changes submitted do not create significant risk for UK SBS and are reasonably necessary and proportionate to ensure the Bidder complies with the legal requirements and statutory regulations. <p>Where a Bidder has answered Question AW4.1 with 'Yes' or 'No' it must answer 'not applicable' to achieve a Pass to question AW4.2 (noting that an answer of 'No' to question AW4.1 has already resulted in a fail).</p> <p>In the event of a Bidder answering Yes or No to Question AW4.1 and then providing a proposed mark up, rejection of a clause or a justification for a change then the response will be a Fail.</p>
Scoring criteria	Mandatory Pass / Fail
Bidder response	<p>Drop down menu</p> <p>'N/A'</p> <p>'I have answered AW4.1 'No with justification' and attach modifications / requested / justification'.</p>

PRICE QUESTIONNAIRE

AW5.2	<p>Bidders are required to complete the Excel Pricing Schedule attached in the Bidder Response section.</p> <p>All prices shall be exclusive of VAT.</p> <p>All costs appearing elsewhere in the Bid but not mentioned in this Pricing Schedule shall be presumed waived.</p> <div><p>AW5.2 Price Schedule.xlsx</p></div>																								
Bidder guidance	<p>Bidders shall confirm they have completed the Pricing Schedule. The scoring methodology for this question shall be: The lowest price for a response which meets the pass criteria shall score 100.</p> <p>All other bids shall be scored on a pro rata basis in relation to the lowest price. The score is then subject to a multiplier to reflect the percentage value of the price criterion.</p> <p>Where the scoring criterion is worth 50% then the 0-100 score achieved will be multiplied by 50</p> <p>In the example if a supplier scores 80 from the available 100 points this will equate to 40% by using the following calculation: Score/Total Points multiplied by 50 (80/100 x 50 = 40)</p> <p>The lowest score possible is 0 even if the price submitted is more than 100% greater than the lowest price.</p> <p>The lowest price for a response which meets the pass criteria shall score 100. All other bids shall be scored on a pro rata basis in relation to the lowest price. The lowest score possible is 0.</p> <p>For example, assuming the lowest bid is £100,000.</p> <table><tr><th>Bid Price</th><th>Differential to the lowest price which meets the mandatory pass criteria</th><th>Score</th></tr><tr><td>£100,000</td><td>0</td><td>100</td></tr><tr><td>£120,000</td><td>20%</td><td>80</td></tr><tr><td>£140,000</td><td>40%</td><td>60</td></tr><tr><td>£150,000</td><td>50%</td><td>50</td></tr><tr><td>£175,000</td><td>75%</td><td>25</td></tr><tr><td>£200,000</td><td>100%</td><td>0</td></tr><tr><td>£300,000</td><td>200%</td><td>0</td></tr></table>	Bid Price	Differential to the lowest price which meets the mandatory pass criteria	Score	£100,000	0	100	£120,000	20%	80	£140,000	40%	60	£150,000	50%	50	£175,000	75%	25	£200,000	100%	0	£300,000	200%	0
Bid Price	Differential to the lowest price which meets the mandatory pass criteria	Score																							
£100,000	0	100																							
£120,000	20%	80																							
£140,000	40%	60																							
£150,000	50%	50																							
£175,000	75%	25																							
£200,000	100%	0																							
£300,000	200%	0																							
Scoring criteria	Maximum Marks 30%																								
Bidder response	Yes																								

AW5.5	<p>UK SBS are committed to delivering payments to suppliers within the timescales stated within our Contract terms and intend to embrace e-invoicing.</p> <p>There are a number of options for suppliers to choose from outlined in the attached FAQ. Please confirm your acceptance of e-payment.</p> <div style="text-align: center;">  <p>AW5.5 ISupplier fact sheet.pdf</p> </div> <p>ISupplier</p>
Bidder guidance	<p>The Bidder shall answer Yes or No</p> <p>Yes – we will utilise an e-invoicing option - Pass No – we will not utilise an e-invoicing option - Fail</p>
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes / No

AW5.6	<p>Please confirm if you are successfully awarded this contract your implementation team will work with UK SBS to ensure that e-invoicing is established within 28 days of Contract award by UK SBS.</p>
Bidder guidance	<p>The Bidder shall answer Yes or No</p> <p>Yes – Pass No – Fail</p>
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes / No

QUALITY QUESTIONNAIRE

AW6.1	Please confirm your compliance to the requirements of Section 4 Specification
Bidder guidance	The Bidder shall answer Yes or No Yes – Pass No – Fail
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes / No

PROJ1.1	Bidder to confirm they have experience of working with oceanographic instruments that operate in deep water.
Bidder guidance	The Bidder shall answer Yes or No Yes – Pass No – Fail
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes / No

PROJ1.2	Bidder to confirm product must be delivered and fully tested to National Oceanography Centre in Southampton by 1st June.
Bidder guidance	Bidder to confirm this information from the selection below. The scoring methodology for this question shall be as follows: Yes scores 100 No scores 0
Scoring criteria	Scoring is based on the 0-100 scoring methodology. Maximum Marks: 35%
Bidder response	Selection

PROJ1.3	Bidder to outline their approach for dry and wet testing including pressure testing.
Bidder guidance	Bidder to provide information as required. Maximum number of characters for response where long text is used is up to 4096 and attachments are permitted.
Scoring criteria	Maximum Marks: 35%
Bidder	Text / Attachments allowed

response	
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PROJ1.4	Bidder to confirm their capability of working with sensor controlled software.
Bidder guidance	The Bidder shall answer Yes or No Yes – Pass No – Fail
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes / No

PROJ1.5	Bidder to indicate where assembly and testing will take place and if the bidder requires space at the National Oceanography Centre MARS Innovation Centre.
Bidder guidance	Bidder to provide information as required. Maximum number of characters for response where long text is used is up to 4096 and attachments are permitted.
Scoring criteria	For information only.
Bidder response	Text / Attachments allowed

PROJ1.6	Bidder to confirm there will be no handling costs for the frame/sensors/free-issued components.
Bidder guidance	The Bidder shall answer Yes or No Yes – Pass No – Fail
Scoring criteria	Mandatory Pass / Fail
Bidder response	Yes / No

PROJ1.7	Bidder to confirm delivery costs.
Bidder guidance	Bidder to provide information as required and add costings to AW5.2 Price Schedule. Maximum number of characters for response where long text is used is up to 4096 and attachments are permitted.
Scoring criteria	For Information Only.
Bidder response	Text / Attachments

1 Introduction

EGIM, the EMSO Generic Instrument Module, is designed to consistently and continuously measure parameters of interest for most major science areas covered by EMSO. This research infrastructure provides accurate records on marine environmental changes from distributed local nodes around Europe.

EGIM is able to operate on any EMSO node, mooring line, sea bed station, cabled or non-cabled and surface buoy. In fact a central function of EGIM within the EMSO infrastructure is to have a number of ocean locations where the same set of core variables are measured homogeneously: using the same hardware, same sensor references, same qualification methods, same calibration methods, same data format and access, same maintenance procedures.

2 Overall description of the EGIM

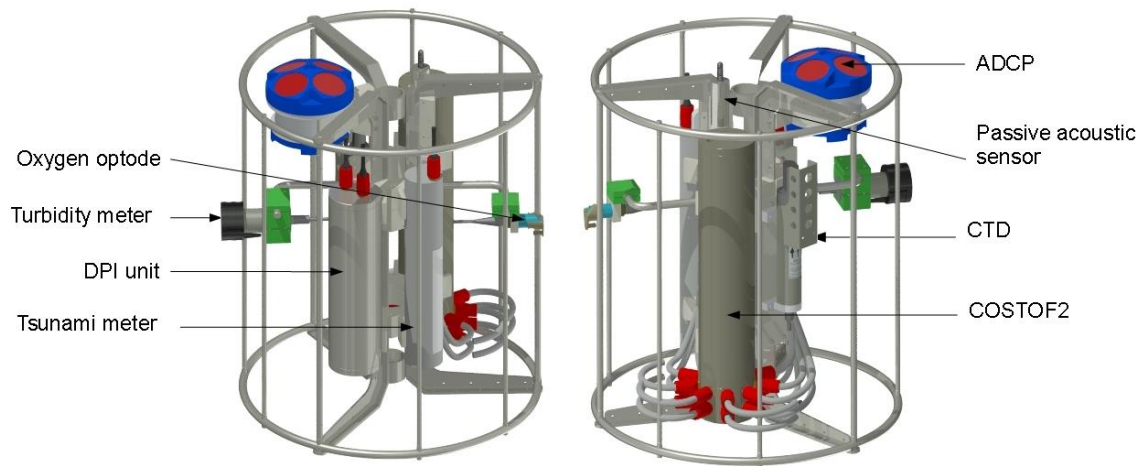


Figure 1 EGIM components

3 Technical specification of the EGIM

- Number of generic instruments: 6

Parameter	Sensors
Temperature, Conductivity, pressure	SEABIRD SBE37-SIP
Pressure	SEABIRD SBE 54 Tsunami
Dissolved O ₂ , temperature	AADI-3005214831 DW4831
Turbidity	Wetlabs FLNTUrdt
Ocean currents, Compass and tilt meter	Teledyne Workhorse monitor ADCP 300 KHz
Passive acoustics, Compass and tilt meter	OceanSonics icListen SB60L-ETH

Table 1 EGIM prototype sensor models

- Monitoring mode: cabled and non-cabled mode capabilities with
 - Embedded web server,
 - Mode self-management in case of power and/or Ethernet link loss,
 - Short-term backup batteries: 10 days
- Power input requirements: either 300VDC to 400VDC or 30VDC
- High precision time stamping provided by an embedded atomic clock with $5 \cdot 10^{-11}$ drift
- Communication in air and underwater at short distance: WiFi link

- Dimensions: Ø 810mm H 925mm
- Maximal operating depth: 4830m¹
- Temperature range for long term running:
 - 26°C (Maximal in-situ temperature)
 - -2°C in running mode
 - -20°C in sleeping mode
- Temperature range for storage: -20°C

4 Description of the EGIM components

a. CTD SEABIRD SBE37-SIP-P7000-RS232

<http://www.ifremer.fr/esonetyellowpages/sensor.php?id=234>

<http://www.seabird.com/sites/default/files/documents/37-SIPbrochureNov14.pdf>



Figure 2 CTD SEABIRD SBE37-SIP-P7000-RS232

b. SEABIRD SBE54 Tsunami meter

<http://www.seabird.com/sites/default/files/documents/54BrochureAug15.pdf>



Figure 3 SBE54 Tsunami meter

c. AADI-3005214831 Optode DW4831

¹ Sensor providers generally give their specifications in meters assimilating 10 meters to 1 bars and the 6000m maximal depth specification stands for 600 bars. This is an estimation and for deep sea condition, the error is significant. In addition, a safety factor should be preserved between test and service pressure.

Depth	Service pressure	Test pressure
6000 m	625 bars	750 bars
4830 m	500 bars	600 bars

Due certain component specifications, the EGIM functioning depth should be limited to 4830 meters.



Figure 4 AADI-3005214831 DW4831

- d. WETlabs ECO FLNTurtd

http://wetlabs.com/eco-flntu?qt-product_tabs=1#qt-product_tabs



Figure 5 WETlabs ECO NTurtd

- e. TELEDYNE RDI Workhorse monitor ADCP 300 kHz rated 6000m

<http://www.ifremer.fr/esonetyellowpages/sensor.php?id=244>

<http://rdinstruments.com/product/adcp/monitor-adcp>



Figure 6 TELEDYNE RDI Workhorse monitor

- a. OceanSonics icListen HF(L) model SB60L-ETH

<http://oceansonics.com/wp-content/uploads/Ocean-Sonics-Brochure-icListen-HF-Web.pdf>

<http://oceansonics.com/wp-content/uploads/icListen-Specs.pdf>



Figure 7 OceanSonics icListen SB60L-ETH

f. COSTOF2

The COSTOF2 provides the following services to EGIM sensors:

- Energy distribution and control
- Measurement sequencing
- Indexation of the measurement data on a common high precision time base
- Measured data storage
- Communication with the external world
- Anti-fouling protection

The housing is made of Titanium alloy, the length is 745 mm and the diameter is 142 mm.

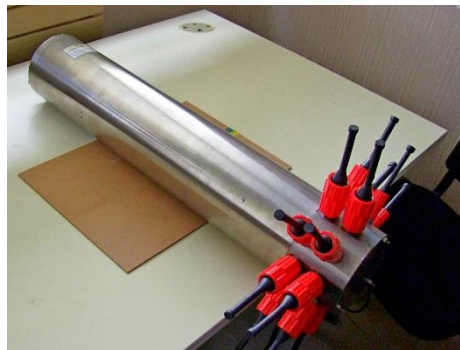


Figure 8: COSTOF2

g. DPI, "Data&Power Interface unit"

The Data&Power Interface unit is used to connect the EGIM on a cabled observatory. It transforms power to ensure a cabled interface to the EGIM in high voltage input configuration and provides energy to the EGIM in a short-term fail-soft mode in case of power loss. The housing is made of Titanium alloy.



Figure 9: DPI Unit

h. EGIM prototype frame

The EGIM frame protects the components and maintains them in the appropriate place before and during deployment. The EGIM is intended to be used undismounted from its frame, added as a whole to a mooring, a node or an external frame. The EGIM prototype frame is made of titanium. See G730400d_Assembled_EGIM_structure



Figure 10 EGIM prototype frame

5 EGIM input and output lines

For complete cabling, Cabling scheme (Ifremer/G730011B)

a. EGIM input

There are two possible power ranges:

Input	Value
-------	-------

Power line Range A	300 to 400 VDC, 1 A With connection to the DPI
Power line Range B	30 VDC, 5 -12 A The nodes providing low voltage can connect directly to the COSTOF2. An input is available for the Ethernet link and another to the power supply.

Table 2 Input power specifications

b. Output power lines

OUTPUT	VALUES
Power line Number	12
Power line Voltage Range	5 -24 VDC
Power line Current Range	0 – 3 A

Table 3 Output power lines

a. Output communication lines

Criteria	
Total number of sensor outputs	16, including 1-wire outputs (4)
Serial output ports	12 ports
Configuration of the serial port	EIA-232, 422, 485 interchangeable via software
Ethernet connections	4
Configuration of the Ethernet port	10/100 mbps

Table 4 Output communication lines

6 Functioning modes

The EGIM has two nominal modes: an autonomous mode and a cabled mode.

When functioning in cabled mode, the EGIM can manage cable failure:

In case of power loss, the EGIM starts in a short-term fail-soft mode on rechargeable backup batteries of the DPI. The system reboots in autonomous mode. The Ethernet connection is shut down. The system checks power and Ethernet regularly in order to recover cabled mode.

When the backup batteries have reached the lower limit, all the instruments are shut down and every 6 hours, the system checks power and Ethernet in order to recover cabled mode.

7 Tests

a. Check of the DPI output voltage

b. Check of the instrument output voltage on COSTOF2 for the 12 ports

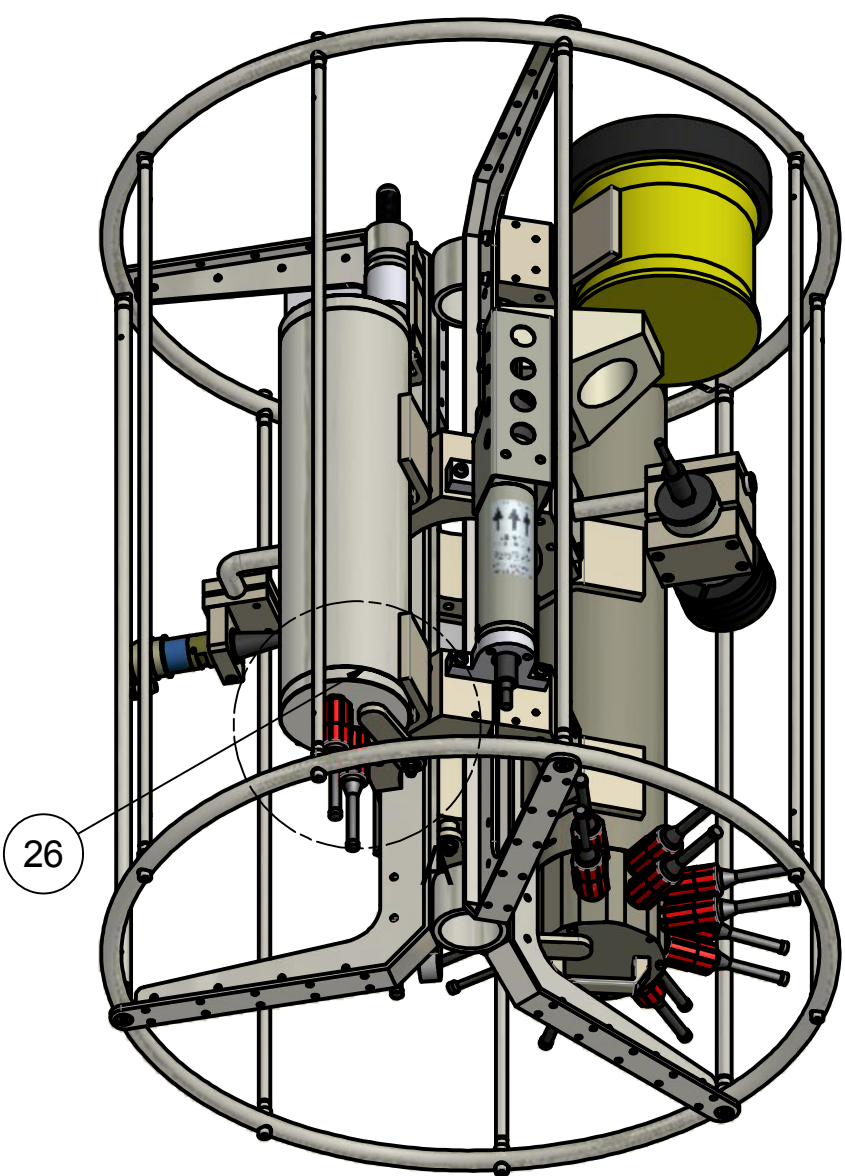
Repeat from sensor2 to sensor12 (J09 to J19)

Sensors Power
Switch on sensor1 power with IO board web interface
Measure the voltage between pin 1 (0V) and 2 (+V)

The voltage must be 12V or 24V depending on the connector label

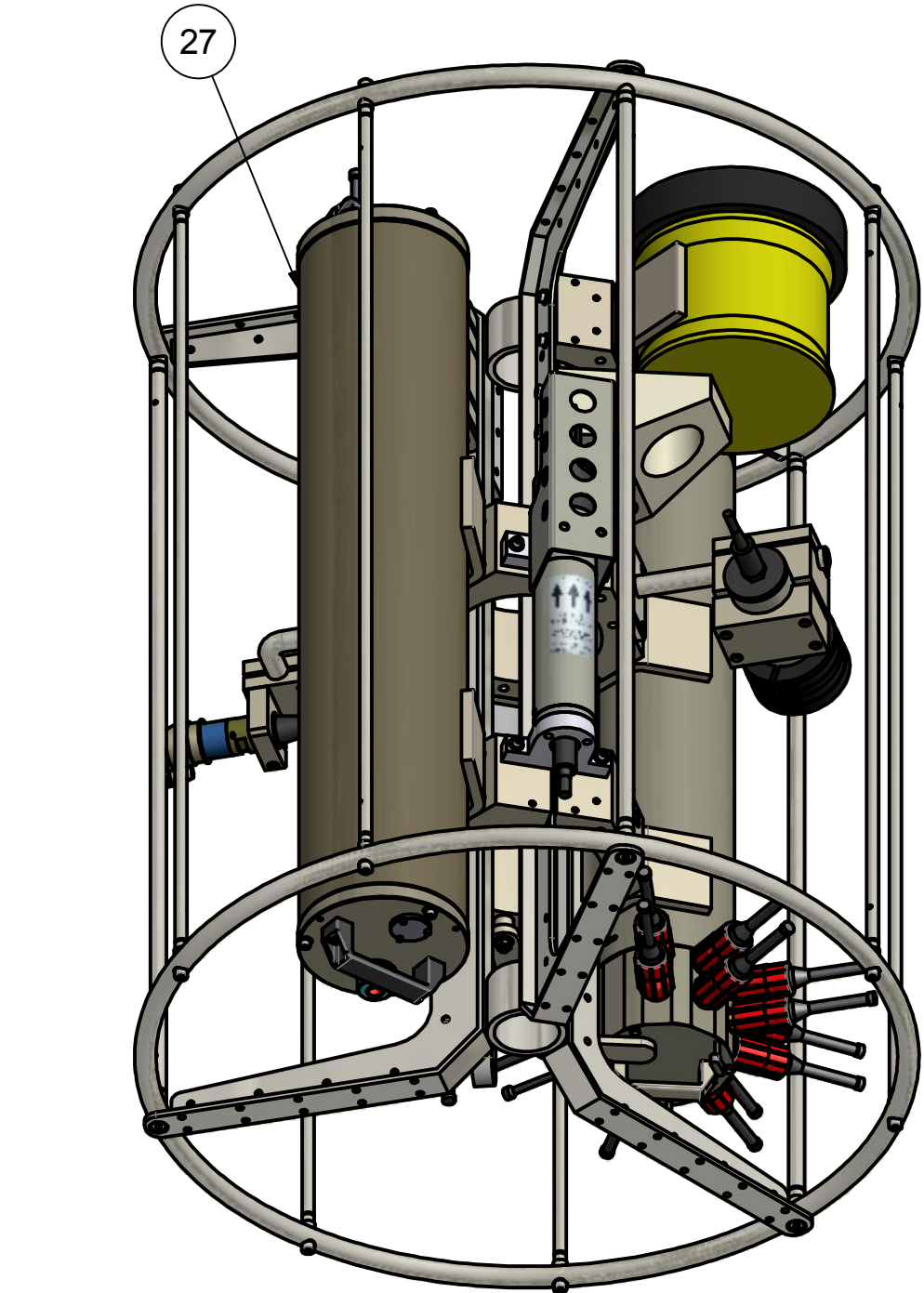
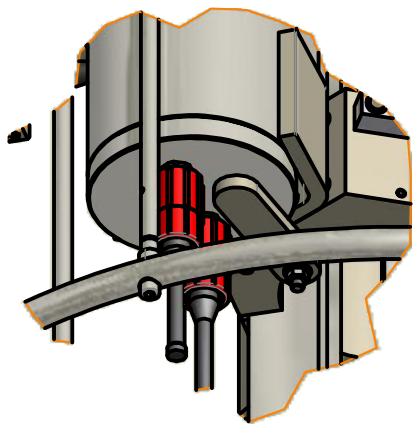
Table 5 Power to sensor tests

- c. Communication tests between the EGIM and the node
For sensor 4, 7 and 10: ping of the sensor address through Ethernet link
For sensors 2, 4, 5, 7, 8, 10, 11: Test bidirectionnal communication between test terminal and transparent mode terminal through RS422/485 link, (baudrate = 9600 and baudrate = 115200)
- d. Check of connectors and cabling
- e. Electrical continuity check
- f. Mode management tests including the case of power or communication failure according to §6

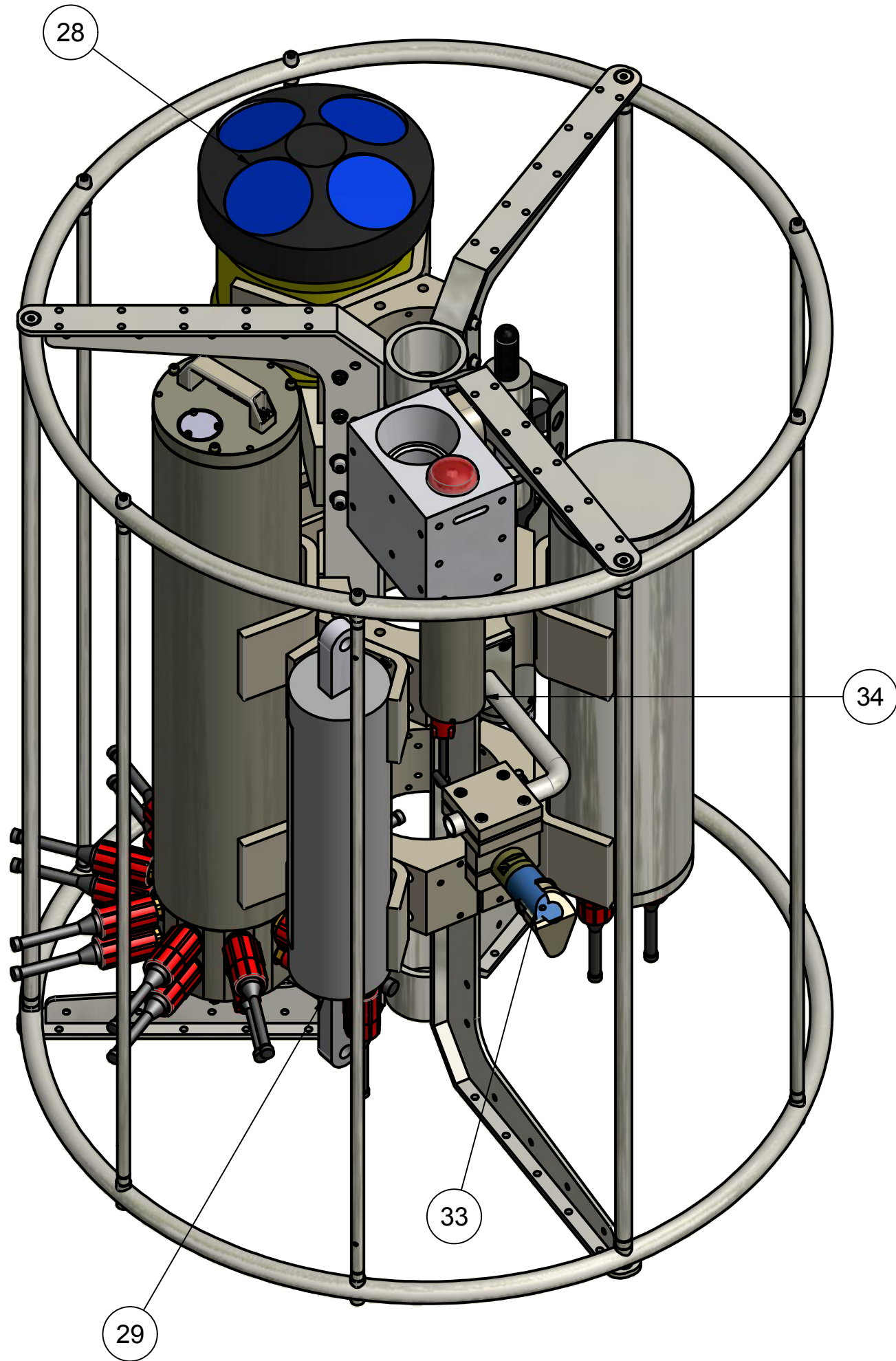
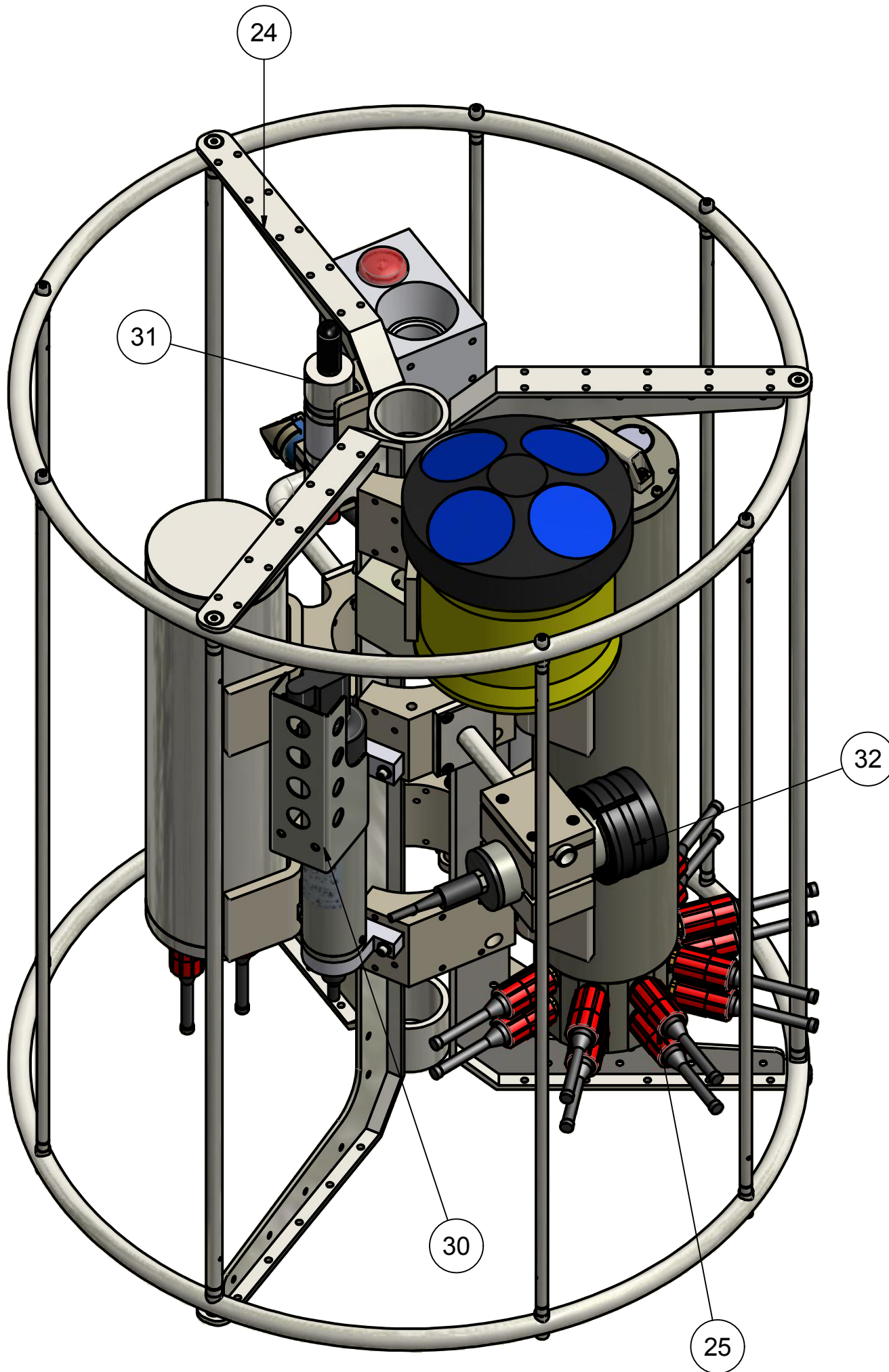


DPI version


DETAIL A- Ech 1 : 5



Battery pack version



**BON POUR
FABRICATION**

c	Modification of numbering	07/02/17	JR. Lagadec
b	DPI version and battery pack version	19/12/16	JR. Lagadec
a	"Bon pour fabrication"	14/14/16	JR. Lagadec
Indice	Modifications	Date	Auteur
Matière :		Tol. générales :	
Traitement :		Rugosité :	
 Ifremer CENTRE DE BRETAGNE Technopôle de Brest Iroise CS 10070 29280 PLOUZANE Tel : 02 98 22 40 40 / Fax : 02 98 22 45 45		Dessiné par : jrlagade	Date : 13/10/2016
		Masse: 137,564 kg	Ensemble : EGIM
		Echelle: 1:5	Sous-ensemble : EGIM
		Analytique: A080815	Titre : EGIM equipped
		Format: A2	Page: 1/1
RDT/I²M		G73	00
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