

Announcement of Opportunity

CEOI 10th Call for Earth Observation Technology and Instrument Development Proposals

1 INTRODUCTION

On behalf of the UK Space Agency, the Centre for Earth Observation Instrumentation is pleased to announce its Tenth EO Technology Call, with the primary aim to solicit new and innovative ideas for EO technology developments. We also invite proposals to develop higher TRL technologies through airborne demonstration or by the development of a payload for a CubeSat In-Orbit Demonstration mission.

The CEOI has the objective to realise an excellent, internationally competitive national Earth observation instrument and technology research and development programme. It will achieve this by building UK academic and industrial capability in EO, and by funding the development of advanced EO instrumentation.

The Call is issued by the CEOI Partners: Airbus Defence and Space Ltd, University of Leicester, QinetiQ Ltd, and the STFC Rutherford Appleton Laboratory.

Details of previously CEOI funded projects may be found on the CEOI website (www.ceoi.ac.uk).

We welcome enquiries from potential bidders for clarification of any aspect of the Call.

1.1 Reference Documents

The following documents contain information that is relevant to this Call:

- [RD1] National Space Policy:
<https://www.gov.uk/government/publications/national-space-policy>
- [RD2] National Space Technology Strategy:
<https://connect.innovateuk.org/web/national-space-technology-strategy/overview>
- [RD3] EC Definition of Small and Medium Enterprises:
<http://ec.europa.eu/growth/smes/>
- [RD4] BEIS Guidance - State aid: general block exemption regulation:
<https://www.gov.uk/government/publications/state-aid-general-block-exemption-regulation>
- [RD5] Innovate UK/Catapult In Orbit Demonstration Programme
<https://sa.catapult.org.uk/iod/>
- [RD6] IOD Programme Requirements and Summary ICD (available from CEOI website)¹
- [RD7] IOD Interface Control Document – available on request from the CEOI Technical Director on submission of Intention to Bid form (see Annex A)

¹ [RD6] contains the publically available subset of [RD7] for organisations preparing their Intention to Bid

2 CEOI 10th EO Call Description

The total budget available for the Call will be up to £2,000K, with additional PV funds required from industrial bidders. The Call is released on 3rd January 2017 with a closing date of 28th February 2017 at noon. Proposal selection will be conducted in anticipation of projects starting from March 2017.

The Call will accept proposals against any of the 3 themes:

Theme	Funding and Duration	Eligible Activities
New and innovative ideas for EO technology development	Fast Track grants of up to £200k, expected to be up to 15 months duration; Pathfinder grants of up to £75k, expected to be up to 9 months duration.	Feasibility studies Industrial research Experimental development
Achieving higher TRL through airborne demonstration	Flagship grants of up to £500K, normally expected to be up to 18 months duration	Industrial research Experimental development
Development of EO CubeSat flight model payloads for commercial service demonstration	Flagship grants of up to £500K, expected to be up to 18 months duration	Industrial research Experimental development

The primary selection criteria for all themes will be: strategic importance including business/exploitation plan; technological excellence; project management; and value for money.

Eligible activities include Feasibility Studies, Industrial Research and Experimental Development². Proposals for work categorised as Fundamental Research will not be considered.

Proposals for projects which are from collaborative teams will be given preference and the CEOI encourages combined industrial/academic teams (any organisation type can lead). We will also consider collaborative proposals that form part of a larger activity funded by one or more other organisations, provided that the proposed work falls fully within CEOI programme objectives.

This funding opportunity is open to industry, UK HEIs and other research organisations. Annex D Table 1 and Note 1 define eligible collaborations and the higher percentage grant levels available for collaborative activities. We will also consider proposals from single bidders, either academia or industry if sufficient funding is available.

Additional private venture (PV) funds may be required from industrial bidders as defined by State Aid General Block Exemption Regulation [RD4].

Projects which are conceived as part of a multi-stage development should outline the activities which may follow. If a project is successful in this Call and achieves its objectives, the project team may subsequently be invited to provide a bid for additional activities if funding should become available.

The CEOI will only award grants to proposals which are judged to be of sufficient quality. It should be noted that value for money will be a major evaluation criterion. The CEOI reserves the right to re-issue the Call in a revised form if all allocated funds are not utilised.

² These are the definitions of R&D activities that are used by the European Commission to determine the maximum allowable intervention rates mandated by State Aid regulations. See Annex D for more details.

2.1 CEOI 10th Call Themes

The objectives for the 3 themes within this Call are summarised below:

New and innovative ideas for EO technology projects:

This call theme will accept proposals for Fast Track and Pathfinder projects.

For Fast Track grants, preference will be given to proposals of the highest technical quality that accelerate the development of innovative technologies for future scientific or commercial space missions. Proposals for Pathfinder Grants should be highly innovative and have strong enabling potential for future space activities.

Projects developing instrumentation for commercial applications are encouraged and the CEOI will welcome proposals that exploit the facilities and capabilities of the Satellite Applications Catapult. Projects which are conceived as the first stage in a multi-stage development should outline the activities which may follow.

Projects will be considered which introduce technologies which offer ‘disruptive’ or enabling potential to existing concepts, e.g. to improve performance, and/or improve system parameters such as cost, mass and resource requirements. Such technology-led projects must show a credible benefit to future commercial, operational or scientific mission objectives. Proposals that include elements of technology demonstration would be welcome.

The CEOI anticipates funding approximately 6 Fast Track and 6 Pathfinder projects.

Achieving higher TRL through airborne demonstration

This call theme will accept proposals for Flagship projects.

The priority for this theme will be to support proposals that advance the TRL of UK technology; bidders are encouraged to focus proposals on activities which advance the development of EO instrument technologies to TRL 5 and 6, including development of previous CEOI funded technologies, and taking these through to a demonstrator programme. Projects can consider airborne, balloon or High Altitude Platform (HAP) flight opportunities.

Proposals may include activities which improve the ‘Science Readiness Level (SRL)’ of instrument technologies, but all proposals must predominately demonstrate a significant technology advance.

The Call will seek proposals for projects requiring CEOI funding up to £500K, with a preference for those that aim to complete within 18 months, although longer projects of up to 24 months duration will be considered if there is strong justification. Preference will be given to proposals that demonstrate an urgent need for funding in order to access an identified near-term space mission opportunity.

Projects preparing for international candidate EO missions for ESA and other agencies will be expected to construct their proposal to acknowledge the mission down-selection decision points, i.e. the proposed work should complete at these points, or be phased so that projects may be stopped if missions are deselected or cancelled.

Development of EO CubeSat flight model payloads for commercial service demonstration

This call theme will accept proposals for Flagship projects.

The CEOI CubeSat payload theme is linked to the In-Orbit Demonstration (IOD) Programme [RD5] recently announced by the Satellite Applications Catapult (the Catapult) and created by Innovate UK. Projects funded under this CEOI Call theme will develop payloads to the point where they will be eligible for in-orbit demonstration through the Catapult IOD programme.

The following points should be noted:

- All costs for the development of the payload are the responsibility of the payload developer, who will receive a grant from CEOI. Payloads developed under the CEOI grant remain the property of the development team.
- All costs for the IOD mission other than development of the EO payload and the financial commitment noted below are the responsibility of the Catapult with its consortium.
- The Catapult and Innovate UK will reserve one IOD mission to host, launch and operate an EO payload developed with a CEOI Grant from this Call, and which meets the IOD requirements. Further IOD opportunities may arise in the future, but are not guaranteed.
- The Catapult will work with the CEOI to ensure that payloads selected under the CEOI Call will be compatible with the IOD programme objectives.
- CEOI projects will commence from March 2017, with a typical duration of 12 to 18 months. The IOD programme is underway, with 4 launches scheduled at approximately 6-month intervals from March 2018. There is some flexibility on launch dates.
- Delivery of the payloads to the spacecraft integrator is required approximately 9 months in advance of the launch date.
- Payloads will go through the standard acceptance process defined by the IOD programme, with adaptations for the timing of the CEOI project and with due account taken of the lower initial maturity of technologies under development. This process is defined in the IOD Programme Requirements document [RD6].

Payload Requirements:

- The selected payload will be required to be compatible with the IOD Programme Requirements [RD6] and the IOD Interface Control Document [RD7].
- The payload development team will be responsible for delivering the payload on the timescales and to the specification agreed by them with the Catapult;
- The payload will have a clear service-oriented purpose, with the data gathered through the mission contributing towards a commercial service demonstration, and a clear route to market for the service identified. The Catapult can offer support services at any point during payload development, including refining the business case, connecting with potential customers or service providers and access to data processing facilities to enable demonstration of the service using the mission data.
- Following completion of the CEOI funded development, in order to secure an IOD launch slot, a financial commitment estimated to be between £100K and £200k (depending on payload and the level of support required) will be payable to the Catapult by the CEOI payload developer or service provider associated with the CEOI payload. This payment will

contribute towards the running costs of the mission, including regulation and licensing, shipping to Clyde Space and then to the launch site, support for compliance to launch requirements and at least 6 months of operations, including connectivity, data storage and processing. The payment plan is flexible and will be agreed with the selected candidate.

3 NOTIFICATION OF INTENTION TO BID

Applicants are required to notify CEOI of their intention to bid by email to the [CEOI Call Administrator Lisa Finch](#), using the pro-forma at Annex A, by **2nd February 2017 at noon**.

The purpose of this is to gauge the size of the response and to inform the selection of reviewers. The notification and information therein will be held in confidence as described in Section 9.

4 GUIDELINES FOR PREPARING AN APPLICATION

Applications should take the form of a proposal in single-spaced typescript (minimum font size 12 point Times New Roman, minimum 1.5 cm margins all round, including diagrams and tables). All Sections defined in Table 4.1 must be supplied in the proposal.

Section	Description	Maximum Page Count			
		New and innovative ideas		Airborne demonstration	CubeSat payloads
		Pathfinder	Fast Track		
Cover letter	See 4.1	3	3	3	3
Application Form	See Annex B	1	1	1	1
Project Summary, including picture or diagram	See 4.2	1	1	1	1
Technical proposal	See 4.3	4	8	12	14
Business/ Exploitation plan	See 4.4	2	2	4	6
Financial and management information	See 4.5	4	4	6	6
Excel Finance Table	See 4.6	Yes	Yes	Yes	Yes
Risk Table	Annex C	1	1	2	2
Company and organisation background	See 4.7	2 total	2 pages per organisation	2 pages per organisation	2 pages per organisation
Eligibility information	See 8	1 page plus any appended information			
Work Package Descriptions	-	1 page each	1 page each	1 page each	1 page each
CVs	CVs of <u>key</u> personnel	1 page each	1 page each	1 page each	1 page each

Table 4-1 Application Checklist

Proposals which do not include all of the mandated Sections or do not conform to the page count limit may be rejected. Should any part of the application overrun the specified page limit, the Assessment Panel will only consider material up to the designated page limit, in the correct format.

Bidders should note that the Agency, University of Leicester or CEOI will not refund any costs associated with preparing proposals.

4.1 The Covering Letter (common to all proposals)

To ensure ease and speed of placing the contract following selection, the bids must include a covering letter to University of Leicester, who will be the contractual administrator of the CEOI grants on behalf of the Agency and CEOI, containing:

- The project title and Call Theme the proposal is addressing
- A committing offer to University of Leicester, with a firm fixed price for the work to be carried out.
- A statement of acceptance of the standard CEOI Terms and Conditions (T&Cs). A copy of these T&Cs is available on the CEOI website. Bidders should note that these T&Cs will not be open to negotiation and that in submitting this statement, you are accepting the T&C's on behalf of your organisation. Please ensure that appropriate authorisation is obtained.
- Nominated Referee: Details of at least one referee who may be approached for assessment of the tender. Please give name, address, Email, telephone number. The bids will be assessed by the Review Panel (see Section 6), but CEOI reserves the right to seek the opinion of an external expert referee, which will be taken into account by the Panel.
- Reference (Industry only): The name of at least one customer contact in the UK who may be approached, with whom you have recently undertaken similar work. The bids will be assessed by the Review Panel (see Section 6), but the CEOI reserves the right to seek a customer reference, to be considered by the Panel.
- The completed Application Form

4.2 The Project Summary (common to all proposals)

The project summary should provide a brief overall description of the project in a form suitable for publication should the project be funded (i.e. free of any commercial or IP material). This summary would be included in a press release and published on the CEOI and the Agency websites when any award is made and updated during the project, to keep the websites current.

4.3 The Technical Proposal

For New and Innovative Technology proposals (Pathfinder and Fast Track):

- A description of the work to be undertaken, highlighting the innovative aspects of the project;
- An assessment of the likely disruptive effect of the proposed technology, including the likely effect on the scientific or commercial status quo.
- An exposition of the scientific or commercial drivers underlying the project, showing the relationship of the work to the UKSA Civil Space Strategy, NERC science, the IGS 2014 and to the NSTP Roadmaps;
- For very new and potentially unfamiliar concepts, you should provide references to any relevant and preferably peer-reviewed publications.
- The start and end TRL of the proposed work, and possible exploitation routes.
- Information on collaboration between partner organisations and Intellectual Property Rights.

Note: For Pathfinder proposals, the second and third items should be more briefly addressed to fit within the page count limit

For Airborne Demonstrator Flagship proposals:

- A description of the work to be undertaken, highlighting the innovative aspects of the project;
- An exposition of the science, commercial and/or operational need and drivers, showing the relationship of the work to UKSA strategy, and/or high priority NERC science;
- Justification for why this technology should be developed and the benefits it offers over alternative solutions;
- A description of how the proposed work takes advantage of UK strengths, and further positions the UK for increased involvement in space and future growth.
- A description of any system-level benefits expected (e.g. cost, mass, size, resource requirement)
- A technology roadmap showing heritage, future evolution and also the start and end TRL of the proposed work.
- Information on collaboration between partner organisations and exploitation of Intellectual Property Rights.

For Cubesat flight model payloads for commercial service demonstration:

- A description of the work to be undertaken, highlighting the innovative aspects of the project in comparison with existing solutions.
- The target performance of the proposed payload should be specified and compared to existing solutions or to those currently under development.
- A description of the target level of service or data provision using the proposed payload during the initial In-Orbit Demonstration and subsequently during a fully operational scenario (e.g. a Cubesat constellation).
- An evaluation of the technical compatibility of the proposed payload with the In-Orbit Demonstration (IOD) Cubesat platform. This is to be done with reference to [RD6] “IOD Programme Requirements and Summary Interface Control Document”, provided with this call, and [RD7] the “Detailed IOD Interface Control Document”, available upon request, upon submission of an intention to bid form. Note that the detailed ICD may be subject to change in the future. Bidders can contact the CEOI Technical Director during the proposal writing period to discuss this.
- The target mass, volume and power parameters of the flight model payload. Any additional requirements that might be imposed on the platform by the payload should be identified (e.g. external apertures or deployable structures, pointing, thermal or data downlink requirements or any aspect of the operational requirements) and any potential conflicts with the platform.
- The current Technology Readiness Level (TRL) of the payload and the target TRL at the end of the CEOI activity should be identified. A description and schedule should be provided for any development and testing activities that will be required following completion of the CEOI project to take the payload to FM status.
- A description of how the proposed work takes advantage of UK strengths, and further positions the UK for increased involvement in space and future growth.
- Information on collaboration between partner organisations and exploitation of Intellectual Property Rights.

4.4 Business/Exploitation Plan

For New and Innovative Technology and Airborne Demonstrator proposals:

All proposals must include a business and/or exploitation plan.

This should identify potential space flight opportunities and the exploitation route that are targeted, with justification for the timeliness of development and a summary of the subsequent stages of development. The future steps that will be taken to improve the probability of successful use of the results of the CEOI activities should also be provided.

In the case of projects targeting commercial opportunities, the proposal should include a brief business plan, including potential accessible market size and estimated time to break even and enter profit.

For Cubesat payload proposals:

The proposal should provide a preliminary business plan indicating potential accessible market size and estimated time to break even and enter profit. The business plan should include the following information:

- A description of the main exploitable products and/or deliverables from the project.
- A description of potential and accessible market(s), with identification of key customers.
- An assessment of the commercial potential of the proposed mission, stating the opportunity being addressed with reference to current competition, and showing a strong business rationale for undertaking the project, including any traction already made.
- An exploitation roadmap detailing the route to market, and the key commercial and marketing steps required to successfully exploit the project outcomes.
- An estimate of size of the total addressable market once commercialisation is achieved.
- Any benefits to third parties should be described and, if possible, quantified.
- Potential commercial breakthroughs (e.g. creation of new markets), or innovations associated with this project should be highlighted, whilst the risks and potential capability or skill gaps which might prevent successful mission completion and continued service delivery should be appraised. If risks and capability gaps exist, a strategy to mitigate their effect should be presented.
- Finally, the specific value added from the IOD opportunity should be stated.

4.5 Financial and Management Information – (common to all proposals)

The financial and management section of the proposal should contain:

- A project plan, including a summary of the work, a project schedule, and work break down structure.
- A clear identification of which institutions and individuals will be performing which functions, the lead organisation for each task and the resources required for each task.
- A list of the key individuals and their position in the project team.
- Deliverables for each work package; the deliverables should be clearly identified as to their scope and delivery schedule, and where possible linked to payment milestones.
- A financial summary showing the cost of each work package and the major items of expenditure by each partner (staff, travel, external contracts, procurements etc) with justification;
- Table of proposed milestone payments with description, amount and dates.
- A clear statement of the GBER State Aid Category and of any Private Venture (PV) investment offered (see 5.2 below and Annex D);
- An assessment of the major project technical, schedule and commercial risks and the approach to tracking and mitigation of these risks. All applicants are required to complete the Risk Table provided in Annex C.
- Work package descriptions shall be attached in an Annex (not included in the page count limits);

4.6 Excel Finance Table (common to all proposals)

The CEOI Finance Table must be completed, using one worksheet (P1-P8 in the Excel spreadsheet) for each Partner. The template is available on the CEOI website.

4.7 Company and organisation background (common to all proposals)

Provide for each of the project partners the company/organisation background and relevant track record.

5 CONTRACTUAL INFORMATION

Grant award(s) will take the form of a contract between University of Leicester and the project's lead organisation. The lead organisation will be expected to place contracts with similar terms and conditions with its Partners and to flow down the grant finance.

This CEOI activity has been assessed by HMRC as outside the scope of VAT, because no taxable supply to the UK Space Agency or to CEOI is taking place. The IPR will not in the normal course of events pass to the Agency or the CEOI.

All relevant costs, including taxes on procurements, must be included within the total amount of the grant application. Note that a direct procurement for services from another organisation implies that they are a sub-contractor and not a Partner.

Bidders should note that grants cannot be given to companies in financial difficulties.

5.1 Payment plans

Payment plans should be constructed so that no more than 20% is paid at kick-off, and no less than 20% at the final review acceptance. Other milestone payments should be included, which should reflect major project stages and intermediate deliverables.

5.2 Additional Funding Contribution

Industry is required to provide a contribution to eligible project costs in accordance with the European State Aid General Block Exemption Regulation (GBER) requirements. Note that EC grants or other funds from public sources are not eligible as additional contributions.

Bidders must identify and justify the category type of the work proposed, and this must be consistent with the work programme. Note that the type of activity and company size defines the maximum 'Intervention' rate (and hence the minimum required contribution level) that is permitted for that activity (see Annex D). There are concessions for collaborative activities.

Bidders must ensure that they supply the correct information that allows CEOI to award grants within the scheme and it is the responsibility of the bidder to ensure compliance with the relevant State Aid legislation. Further guidance is available on the BEIS website [RD4].

5.3 Academic contribution

Academic partners will be funded at no more than 80% of Full Economic Cost (FEC).

5.4 Type of Award

The award will be made on a firm fixed price basis.

5.5 Intellectual Property

It is expected that consortium members will declare any Background IP to be brought to the project as part of the establishment of the Contract with University of Leicester. The IP generated during the course of the project will belong to the originators.

5.6 Contractual Pre-conditions

If the project is selected for grant offer, the following conditions must be met before the CEOI will initiate preparation of the contract:

- The company size and GBER category under EU State Aid rules are correctly defined.
- The source and amount of additional funding is fully defined.
- The financial viability of all members of the project consortium and funding sources are established through a due diligence process.
- The consortium is judged by the UK Space Agency to be eligible to receive a Grant from UK government under HM Treasury regulations and under EU State Aid rules.

6 ASSESSMENT OF PROPOSALS

The Review Panel will consist of independent Agency approved reviewers drawn from academia, industry, Government or the Research Council Review Colleges. The Catapult IOD Project Team will be members of the Review Panel for the CubeSat Payload proposals.

The Panel will assess the proposals according to the criteria listed below, taking into account the commitment of the organisations, in particular the lead organisation, to the success of the project.

Assessment of New and Innovative Technology proposals (Fast Track and Pathfinder) and of Airborne Demonstrator Flagship proposals:

- **Overall strategic importance of the proposed project (30%) *Why is the work necessary?*** The need for this technology development, and the potential scientific or commercial impact, including the strength of the business/exploitation plan. Alignment of the work to the UKSA Civil Space Strategy, the IGS 2014 and the NSTP Roadmaps;
- **Technology Excellence (30%) *What are the advantages of this technology and why do it now?*** The novelty, originality and suitability of the work proposed, including the benefits it offers over alternative technologies. The timeliness of the proposed work in relation to external factors;
- **Quality of project planning and management arrangements (20%) *What qualifies the team and will they deliver the project successfully?*** The quality of the project planning; suitability of the management arrangements; capability and track record of the team members; assessment of risk and mitigation proposed.
- **Value for money of the proposed work including assessment of PV (20%) *Does the project represent good value for money and does the PV offered conform to State Aid rules?*** Whether the cost is appropriate for the work proposed and represents a good investment for the Agency; whether the PV investment is justified and consistent with GBER State Aid rules.

Assessment of Cubesat payload proposals

Gateway Assessment: Compliance with IOD programme requirements and compatibility with the IOD platform

- **Business plan assessment (30%)** *Is this a strong and innovative business opportunity? What is the likelihood of a successful outcome?*
 - Strength of the business opportunity and quality of the business plan (mapping of the value chain, target customers)
 - Degree of service innovation and likelihood that a step-change in service capability will be achieved
 - Credible and substantial return on investment likely to result (size of the market and proposed commercialisation strategy)
 - Contribution to economic growth and ability to stimulate job creation.

- **Technology Excellence (30%)** *What are the advantages of this technology and why do it now?*
 - Technological excellence of the work, degree of innovation and likelihood that a step-change in technological capability will be achieved
 - Need for this technology development, its potential applications and the benefits it offers over alternatives technologies
 - Timeliness of the proposed work in relation to external factors.

- **Quality of project planning and management arrangements (20%)** *What qualifies the team and will they deliver the project successfully?*
 - Quality, completeness and realistic timescales of the project plan
 - Capability and track record of the team members - ability of the team to deliver the outcomes proposed
 - Quality of risk analysis and the mitigation proposed. “Risk” is defined as the probability that the project will meet its stated technology or business objectives.

- **Value for money of the proposed work including assessment of PV (20%)** *Does the project represent good value for money and does the PV offered conform to State Aid rules?*
 - Cost appropriate for the work proposed and represents a good investment for the Agency
 - Level and justification of PV commitment, and consistent with State Aid rules

7 PROJECT MONITORING AND REPORTING

Following an award and completion of contractual formalities, the CEOI will assign to the project an experienced coordinator drawn from CEOI partner organisations. The coordinator will oversee the projects with the following methodology:

- The coordinator will initiate each project, by preference at a face-to-face meeting at the lead contractor's site. If a timely face-to-face meeting cannot be arranged, the kick off meeting can take place through a telephone conference;
- The lead contractor's project manager will report on progress to the coordinator using the CEOI report template at the end of every month by email. Any issues arising will normally be addressed by the coordinator by telephone or email;
- There will be a progress review every 3 months, by preference face-to-face, with one of these designated as the mid-term review, held at an appropriate site. Where feasible, the reviews should be synchronised to significant project events and/or delivery of some of the project objectives;
- At the end of the project, a Final Report and Executive Summary both suitable for publication will be produced. There will be a formal project final review and there may also be a CEOI project final presentation day in which each of the projects will present a summary of work and achievements.

8 ELIGIBILITY

We welcome bids from a variety of organisations including academia, industry and government research institutes. The details of some organisations may not be known to the UK Space Agency especially for newer entrants to CEOI. Such applicants should provide brief and relevant company background information, including areas of expertise and company contact information including registration and official address.

Following receipt of bids and before award of any contract, new entrants may be required to provide additional eligibility details:

- Evidence of company legitimacy and financial solvency, supported by e.g. company Annual Reports;
- Details of company quality processes and accreditation;
- Track record, supported by reputation or by statements from referees and customer testimonials.

It is possible that some consortia bidding for projects may need to involve non-UK entities. This is allowable in principle subject to the following conditions:

- The UK must lead the consortium;
- The UK work must represent a substantial proportion of the whole project;
- The consortium must demonstrate that the proposed non-UK capability is essential and not available in the UK;
- The rules can be relaxed if the non-UK entity is supplying PV or capability, and resources on a no-exchange-of-funds basis.

Full details of the non-UK participation must be provided in the bid, appended to the eligibility statement.

9 CONFIDENTIALITY

The procedure for handling and assessing the bids and notifications will be as follows:

- All bids will be handled according to UK Space Agency/Civil Service Code of Conduct confidentiality practice. This is summarised in the Cabinet Office framework which covers commercial in confidence³.
- Bids and notifications will be submitted to the University of Leicester administrator who will act on behalf of the CEOI. The administrator will hold all bids in confidence and will not propagate the bids internally in the University or elsewhere.
- Copies of the notifications of intention to bid sheets will be provided to CEOI Director and to the CEOI Technology Programme Director, who will retain these as confidential information.
- Submission of an Intention to Bid for Theme 3 will result in the contact details of the applicant being supplied to the Catapult IOD Team Leader so that confidential information about the CubeSat In-Orbit Demonstration programme can be provided to the bidder
- When the bid period completes, electronic copies of the bid documents will be distributed to the independent assessment panel members, to the CEOI Director and to the CEOI Technology Programme Director. Bids under Theme 3 will also be distributed to the Catapult IOD Team Leader. The UK Space Agency confidentiality rules will apply.
- Bids not recommended by the Panel will be destroyed. They will not be visible to the wider CEOI Leadership Team or to any others;
- Bids recommended by the Panel will be visible to the CEOI appointed project co-ordinator and to the CEOI Leadership Team;
- Bids selected for funding will remain confidential (i.e. will not be visible to staff of any of the CEOI Partners or the Catapult other than the project co-ordinator, the CEOI Leadership Team and the Catapult IOD Team Leader).

The CEOI Director, the CEOI Technology Director and the CEOI appointed project manager will monitor the funded project through regular project reports and reviews. A standard CEOI Non-Disclosure Agreement can be used to cover information exchange between the project participants and CEOI staff at any stage during the bid or contract. A copy is available on the CEOI website.

Bids into the Cubesat Payload theme will be assessed by the Catapult IOD Project Team for compliance to the IOD programme requirements. Only proposals passing the Catapult IOD Gateway assessment will be assessed by the independent panel.

10 TEAMING AGREEMENT

Should an award be made, the contracted consortium will be required to establish a Consortium Agreement (CA) between its members, prior to the commencement of work. The CA should establish agreements regarding how the results of the work, including IPR and spin-outs, will be exploited by the consortium members. A model agreement is available from the CEOI website.

³ pp15-16: <https://gcn.civilservice.gov.uk/wp-content/uploads/2011/02/propriety-guidance.pdf>

11 SUBMISSION AND CONTACT INFORMATION

Only the lead institution should submit an application. Bids should be submitted to the University of Leicester administrator, who will act on behalf of the CEOI, as follows:

- Electronically in PDF or Microsoft Word format. **The bid should preferably be contained in single PDF file (apart from the separate Excel format Finance Table).**
- In submitting a proposal, bidders accept that all information supplied as part of the bid will be handled under the procedures defined in Section 9, irrespective of any confidentiality markings.
- In addition, a single printed and signed copy of the full bid should be posted on or before the closing date. Note: The date of the postmark or other proof of posting will be considered sufficient to prove that it is posted on time.

The electronic submission should be sent by email to the CEOI Technology Call Administrator, Mrs Lisa Finch at lf107@leicester.ac.uk

The printed copy of the proposal, including the financial information and a formal signed financial offer to University of Leicester should be sent to:

Mrs Lisa Finch
CEOI Technology Call Administrator
Department of Chemistry
George Porter Building
University of Leicester
University Road
Leicester LE1 7RH

Telephone: +44 (0) 116 229 7681
Fax: +44 (0) 116 223 1710
Email: lf107@leicester.ac.uk

For further information and formal enquiries contact:

Mr Chris Brownsword
CEOI Technology Director
QinetiQ Building, A8 Room 1004,
Cody Technology Park,
Ively Road, Farnborough
GU14 0LX

Tel: 01252 393918 (land line)
Mob: 07825 762527 (mobile)
Email: cbrownsword@QinetiQ.com

Annex A – Intention to Bid Pro-Forma

Title of the project	
Lead organisation	
Project partners	
Call Theme this proposal addresses	
Short description of the project	
Estimated Grant request (ROM value)	

This form should be emailed to Mrs Lisa Finch (CEOI Technology Call Administrator) at:
lf107@leicester.ac.uk

Annex B – Application Form

The completed Application Form should be included with the Cover Letter when the full bid is submitted.

Title of Project	
Lead Organisation	
Project partners	
Address of Lead Organisation, including postcode	
Lead Contact - Commercial (Name and e-mail)	
Lead Contact – Technical (Name and e-mail)	
Call Theme this proposal addresses	
Is the project addressing a commercial opportunity (Yes/No)	
GBER State Aid Category (see Annex D)	
Grant Funding Requested (£)	
Academic Contribution (£ and % of Total Project Cost)	
PV Contribution (£ and % of Total Project Cost)	
Total Project Cost (£)	
Proposed start date and duration	
Details of related proposals submitted to the autumn 2016 UK Space Agency NSTP3 Call	

Annex C – Risk Table Template

Risk Description	Type	Impact	Probability	Overall Rating	Mitigation Strategy
Short description of risk and potential consequences	Technical, Commercial or Managerial	1-5	1-5	L/M/H	Actions to be taken during project

Impact and Probability 1 = Low; 5= High
 Overall rating Impact x Probability
 where 1<Low<6; 9<Medium<12; 16<High<25

Annex D - State Aid intervention levels

Bidders should ensure their proposal is compliant with the relevant State Aid legislation. European regulations allows State Aid to companies for technology R&D activities via the General Block Exemption Regulations (GBER), with intervention rates (i.e. maximum % grant offered) depending on the type of activity, the type of organisation, and the size of the company as follows:

- **'fundamental research'** means experimental or theoretical work undertaken primarily to acquire new knowledge of the underlying foundations of phenomena and observable facts, without any direct commercial application or use in view;
- **'industrial research'** means the planned research or critical investigation aimed at the acquisition of new knowledge and skills for developing new products, processes or services or for bringing about a significant improvement in existing products, processes or services. It comprises the creation of components parts of complex systems, and may include the construction of prototypes in a laboratory environment or in an environment with simulated interfaces to existing systems as well as of pilot lines, when necessary for the industrial research and notably for generic technology validation;
- **'experimental development'** means acquiring, combining, shaping and using existing scientific, technological, business and other relevant knowledge and skills with the aim of developing new or improved products, processes or services. This may also include, for example, activities aiming at the conceptual definition, planning and documentation of new products, processes or services;

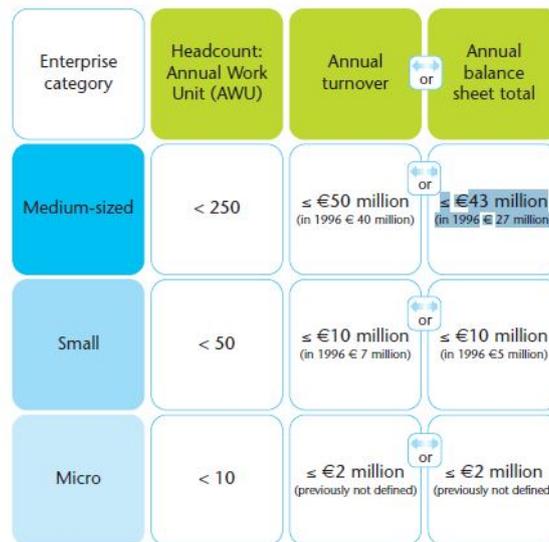
Experimental development may comprise prototyping, demonstrating, piloting, testing and validation of new or improved products, processes or services in environments representative of real life operating conditions where the primary objective is to make further technical improvements on products, processes or services that are not substantially set. This may include the development of a commercially usable prototype or pilot which is necessarily the final commercial product and which is too expensive to produce for it to be used only for demonstration and validation purposes.

Experimental development does not include routine or periodic changes made to existing products, production lines, manufacturing processes, services and other operations in progress, even if those changes may represent improvements;

- **'feasibility study'** means the evaluation and analysis of the potential of a project, which aims at supporting the process of decision-making by objectively and rationally uncovering its strengths and weaknesses, opportunities and threats, as well as identifying the resources required to carry it through and ultimately its prospects for success;

Full guidance from BEIS to the EC State Aid General Block Exemption Regulation is provided in [RD4].

Fig 1 EC definition of the various company types [RD4]



Anything above the limits for a medium sized company is designated as a large company.

Academic partners will be funded in all cases at 80% of Full Economic Cost (FEC).

This table summarizes the GBER State Aid categories and maximum allowable intervention rates.

State Aid Category	Intervention rate		
	SME	ME	LE
Fundamental Research	100%	100%	100%
Feasibility study	70%	60%	50%
Industrial research	70%	60%	50%
Industrial research projects involving collaboration/ dissemination ¹	80%	75%	65%
Experimental development	45%	35%	25%
Experimental development projects involving collaboration/dissemination ¹	60%	50%	40%

Note 1 Collaborations between businesses and research organisations where the research organisation bears at least 10% of the costs & have the right to publish their own research, or business to business collaborations which involve more than one member state of the EU/ EEA or involve at least one SME, provided that no one business partner carries more than 70% of the project costs. Procurement/supplier relationships do not qualify.