



STFC CLASP Guidance Notes

INTRODUCTION

STFC External Innovations runs a Challenge Led Applied Systems Programme (CLASP) to support the application and commercialisation of STFC research in the four key global research challenge areas identified in the STFC Futures Programme. These four areas are Energy, Environment, Healthcare and Security. Individual calls are aligned to specific challenge areas.

There is a two stage application process for CLASP. Applicants are invited to submit a short outline, which is assessed by the CLASP panel. A number of applicants are then invited to develop a full proposal with the assistance of specific panel members assigned as mentors.

AIMS

CLASP is intended to support the de-risking of the R&D process for industry through the development of technology demonstrators and industry-ready prototype systems (moving STFC research outputs from TRL 3 to 5 approximately).

Proposals drawing on technology and expertise from the STFC research community are invited. It is expected these will provide a solution to one of the many challenges associated with the challenge area identified and for which there would be a demonstrable potential market.

The brief for the projects is left open to allow projects to request the timescale and resources they feel is necessary for the work. The total budget of the scheme per annum is in the region of £1.5M and it is expected that this will fund a small number of projects ranging from short feasibility studies to larger developmental projects against key milestones. Larger projects may be funded against initial stages only in the first instance with further funding awarded on review of the project progress.

Proposals should take advantage of the existing effort and skills across the STFC funded research community, but consortia may include other research groups, industry or non-academic end users. However, only academic partners may request funding.

Funding is available to STFC supported groups however the call will fund academic partners from other academic disciplines. Industry / user engagement with the projects is strongly encouraged.

CHALLENGE AREAS

A Focus Group of healthcare sector experts convened to define key technical healthcare challenge areas that will form the priorities for the funding call of the CLASP. The list is not exclusive and we would welcome any novel and innovative proposal that address other healthcare challenges.

Radioisotopes

- New methods for the production of medical radioisotopes for ⁹⁹Tc as well as other new radioisotopes for diagnosis and therapy.
- New detectors for novel radioisotopes.

Imaging Technology (ensuring high efficiency and high throughput)

- Software solutions and data processing methods for improved pattern recognition and more quantitative medical imaging.
- New software for digital imaging.
- New imaging technology e.g. allowing reduced doses, imaging through fat.
- New imaging technology and software for the management of organ movement.

Medical Informatics

- New software allowing integration of data from multiple sources e.g. combining imaging, biological and genetic data, to aid personalised medicine.

Early Diagnosis

- New technology developed for use in GP surgeries and hospitals as well as at home e.g. high and low tech imaging.
- Software tools for data collection and sharing for GPs, as well as combining data sets for personalised screening and stratified medicine.
- Software tools for risk analysis and predictive modelling to inform personalised screening.
- Remote sensing to measure multiple parameters e.g. breathing patterns.

The Focus Group emphasised the importance that proposals included clinical and / or industrial collaboration to ensure implementation is built into each proposal, as well as requirements for regulation and an understanding of the regulatory pathway. Proposals offering new technology solutions should consider the importance of interoperability of data generated by devices.

The 2014 Healthcare CLASP call complements the portfolio of work funded through the Research Councils and the priority challenge areas were identified through consultation with experts including EPSRC and MRC to ensure increased impact from working together.

STFC Healthcare Focus Group

Dr Barbara Camanzi	STFC Futures Healthcare
Dr Paul Beasley	Siemens
Prof Erika Denton	NHS
Dr Ian Walker	Cancer Research UK
Dr Chris Watkins	MRC
Dr Gareth Derbyshire	STFC Industrial Strategy
Mr Philip Webster	Dept. of Health
Dr Bryan Griffiths	NHS Innovations / TrusTECH
Dr Terry O'Neill	HealthTech and Medicines KTN
Dr Alasdair Gaw	Technology Strategy Board
Dr Andrew Boston	University of Liverpool
Dr Phillip Tait	STFC External Innovations

ELIGIBILITY

Lead applicants must be employed within a university academic group previously or currently funded by the STFC core Science Programme (nuclear physics, particle physics, astronomy, space science) or employed within STFC Laboratories/Facilities and must show that the work proposed will develop technologies and expertise directly from this research.

CLASP is open to organisations that are eligible for STFC Grants - i.e. Higher Education Institutes, recognised academic analogues such as institutes funded by other research councils, and other organisations eligible to apply for STFC funding, including CERN, ESRF and ESO (for CERN, ESRF or ESO see Annex 1). For ESA funded work please contact the office to check eligibility.

For further information applicants should refer to the [STFC Research Grants Handbook](#).

APPLICATION PROCESS

Application for funding is a two stage process. Applicants are invited to submit an initial Outline, this will be assessed by the CLASP panel and shortlisted applicants will be invited to develop full proposals with assistance and advice from STFC External Innovations staff and CLASP panel members.

After technical and market review, applicants will be invited to present their final proposals directly to the CLASP Panel. Applicants must use JeS (Joint Electronic Submission) to submit both the outline and the full proposal. JeS will require information about the researchers and partners, their institutions and project costs.

Outlines:

JeS form

Only the lead PI should submit an Outline.

Case for Support

Project description - 2 pages maximum, Arial (or equivalent) 11 point font, with a minimum of 2 cm margins around each page. This should include:

- Technical Outline - explain the technical background to the proposal and its link with STFC funded research
- Impact on the challenge area - describe the ultimate goal of the project and detail the way in which development of this technology will address the sectorial challenge identified as relevant to your proposal
- Timescale and Outline work plan - use this section to describe briefly the steps that will be taken to develop the technology in the course of the project. Include in this the justification for any collaborations (with experts external to the main proposers) that you will develop in the course of the project to support the work
- The project partners - only the PI should submit an initial application the full proposal should contain Je-S applications from each of the organisations requesting funding
- Estimated cost – this can be updated in the full proposal

Letters of Support

- Potential project partners (required)
- Interested industry or other user organisations

Invited Full Proposals:

Je-S submission

- The applicants should submit the proposal through Je-S to the CLASP call.
- Full costs should be indicated in this form.
- Where a partner is contributing cash and/or in-kind support, it is important this is recorded in the partner section of the JeS form.
- Where the project funds will be held by more than one institution the PI from each institution must submit a separate Je-S application with a common title and Case for Support.
- Please quote the Outline proposal as a related proposal in the relevant section of your Je-S form.

Further documentation must be uploaded through Je-S as separate pdf documents. These include:

- Six page case for support (Mandatory)
- One page Gantt chart (Mandatory)
- Data Management Plan (Mandatory)
- Letter of Support from Technology Transfer Office (Mandatory)
- Letter of Support from Project Partner(s) (Mandatory if a partner is named)
- Letters of Support from organisations interested in the project (Recommended)
- Covering Letter (Optional)

Any additional documents such as CVs, extra results, pathways to impact statements, list of publications etc. will be removed and not sent for review.

As applicants from all institutions must submit a separate application through Je-S please forward this instruction to **all** relevant members of your consortium. All members will use a common title and case for support.

In developing the full proposal applicants should take note of the panel comments and advice from Panel Advisors allocated from the CLASP panel and the general guidance below.

Capital

Where any project is proposing to apply for any capital items, including items needed to build a prototype, over £10K inc. VAT, the applicant should contact the office ASAP due to the limited capital budget of this programme. Please see the RCUK guidelines on equipment costs for more details.

Case for Support

The remit of the CLASP call is to "**provide a solution to one of the many challenges associated with the Healthcare Sector and for which there would be a demonstrable deliverable for a potential market.**" In contrast to a pure research proposal a full Case for Support should address the scientific, societal and commercial, whether short or long term, aspects of the project:

This should be no longer than six pages and conform to the standard template of Arial (or other clearly readable) 11 point font with a minimum of 2 cm margins around each page.

This must include:

- **Background and Aim**

What is the STFC funded research that will form the basis of the project? What knowledge exchange has taken place between the applicants and industry (if any)? What is the aim of this application? Who will benefit from this project and subsequent commercialisation?

- **Technical Summary**

Describe the current status of the technology you are proposing and the plan for development. This should include justification of why you are best placed to carry out this work.

- **Business Plan**

Where possible this should include a description of the target market, route to market, expected customers and projected sales. Describe the competitors in the market and how the proposed technology would offer a commercial advantage. Describe the predicted investment and mechanism required post-project to complete commercialisation. This should also include a summary of the IP position (further detailed in the Letter of Support from your TTO).

- **Work Plan and Risk Analysis**

Detail specific work packages, assigning responsibility between partners if required. Applicants should show that they have identified risks and developed alternative strategies to mitigate these. The applicants should consider both technical, programmatic and, where relevant, commercial risks.

- **Resources**

State the resources requested and provide justification for them. The CLASP Panel can reduce resource requests if they feel there is insufficient justification.

- **Project Deliverables**

Identify what the direct outputs will be at the end of this grant (please be specific).

- **Software development plan (if applicable)**

Where the proposal includes software development a plan should be submitted with detail relative to the significance of the software development in the project, see Annex 2.

In addition a one page Gantt chart of the project timeline must be submitted.

The Case for Support should be clear and concise. It will be the responsibility of the principal applicant to ensure that any information is worded in such a way to protect commercially confidential or sensitive areas. STFC will assume that the applicant has obtained necessary permissions from any party that may be involved in the application.

Letters of Support - Project Partner and supportive organisations

Letters of Support must be included from all named partners (if any). In addition you can include letters of support from other relevant parties not directly involved in the project but who support the objectives, for example, potential end users.

Letters should:

- Be on headed paper and signed by a senior member of staff or director (the capacity in which the supporter is signing off the letter should be stated).
- Be dated within 6 months of submission

- Detail their interest and involvement in the project in terms of specific objectives and desired outcomes together with market size and their plans for commercialising the technology.
- Specifically address the issues contained in the project and not be too general in nature.
- Detail specific contributions to the project (either cash or in kind) with a justifiable monetary value. These contributions should be repeated in the Case for Support.

Letter of Support - Technology Transfer Office

A letter of support from an applicant's Technology Transfer Office (or equivalent) **must be** included with each CLASP full application.

It should relate specifically to the proposal (i.e. should not be a generic letter of support), and should explain in detail how the university sees the project being taken forward, as well as how the university intends to support the work involved, where appropriate. The letter should include:

- Support (if any) from the office already provided (such as financial or resource)
- Support that will be provided if the application is successful
- Outline of current and anticipated future IP position (has a patent been filed / granted)

Data Management Plan

Proposals for projects that would result in the production or collection of scientific data should include a data management plan as an attachment to the JeS proforma. The data management plan attachment is mandatory and should be no longer than two pages of A4. If it is felt that a DMP is not relevant to a proposal then an attachment explaining this should be uploaded to pass validation. This, together with any costs associated with it, will be considered and assessed by the normal peer review process. The data management plan should explain how the data will be managed over the lifetime of the project and, where appropriate, preserved for future re-use.

Collaboration Agreements

If the CLASP project includes more than one organisation (academic or non-academic) on the JeS form, a collaboration agreement must be signed between all organisations and a copy sent to the STFC office before the project start date. This should include how IP will be managed.

Example model research collaboration agreements that may be used as a basis for specific agreements between partners have been developed through the Lambert toolkit for collaborative research.

ASSESSMENT

CLASP applications are assessed by an independent Panel comprised of members from industry / users and academia. View the current membership below.

Papers sent to referees and Panel members are marked 'In Confidence' to indicate the intention that the contents of the application are not made known more widely than is necessary for the proper consideration of the application. Referees and Panel members are asked to declare conflicts of interest, personal or institutional, where this arises in relation to an application they have been asked to assess.

Outlines

After the outline deadline, the applications are sent directly to the CLASP Panel and do not undergo external peer review. The CLASP Panel meet to determine whether outlines should be invited back to full proposal stage or rejected. See below for assessment criteria.

Invited Full Proposals

Invited applicants are assigned a Panel Advisor to assist in the preparation of a full proposal. After the full proposal deadline, the applications are sent to external referees for technical review and separately for a market assessment review. After technical and market review, applicants will be invited to present their full proposals directly to the CLASP Panel.

Each proposal will normally be assessed by up to three external referees, one of whom may be nominated by the applicant. Nominated referees must not be collaborators; neither should they be from the applicant's or collaborator's home institution. Applicants have the option to identify referees that STFC should not approach. STFC reserves the right not to use nominated referees. After the call deadline, the proposals are sent to external referees. Applicants will be notified of the decision approximately two weeks after the panel meeting.

Panel Mentors

Panel mentors (members of the CLASP Panel) will be assigned to projects to assist in the development of outline applications into full proposals. It is **strongly advised** that you make contact with your allocated Panel Mentor **as soon as possible** once assigned. Panel Mentors can provide guidance to applicants on the preparation of written proposals and the presentation to the CLASP panel.

Presentations

Applicants should prepare a 15 minute presentation and will be given 15 minutes to answer questions from the panel. Please note that this timing will be strictly adhered to. The number of presenters is restricted to two per project (PI or Co-I can present). The presenting team, for example, can include an academic from the project and a representative of a collaborating partner or a representative of the technology transfer office. The date of the presentations to the Panel will be sent to the lead applicant *via* email as soon as they are set. We will confirm the appointment time shortly after the closing date.

Assessment Criteria (both Outline and Full Proposal).

Economic Impact:

- Likelihood of commercialisation (route to market, inc. cost)
- Economic benefit to UK (inc. cost savings)
- Market assessment (need, size, competitors, value, location)
- IP Management plan
- Timeliness

Societal Impact:

- Staff training / Capacity building
- Dissemination plan
- Academic benefits

Overall Quality:

- Scientific quality (current technology status, objectives and deliverables)
- Risk management
- User engagement
- Suitability of applicants and partners (outline who is doing what)
- Value for money (justification of costs)
- Strategic fit to call (addressing key Healthcare challenges)
- Added value of CLASP funding (what would happen if this was not funded)

CLASP PANEL

Membership

All CLASP Panel members have signed standard STFC Non-Disclosure Agreements (NDAs).

Chair

- Dr Trevor Cross - e2v

Members

- Dr Paul Beasley – Siemens
- Prof. Themis Bowcock - University of Liverpool
- Mr Chris Dorn - Quanta Ltd
- Prof Louise Harra - UCL
- Dr John Lees - University of Leicester
- 2 additional members TBC

Additional call specific expert members (1 year membership)

- Dr Ian Walker – CRUK
- Dr Bryan Griffiths – North West Coast AHSN
- Professor Erika Denton - NHS

Secretariat

- Tracey McGuire - STFC

PROJECT MONITORING AND REPORTING

Project Monitoring

STFC External Innovations will appoint a member of their team as liaison for all awarded grants. This is to further develop the relationship between STFC and its academic and user community. The liaison can advise on additional funding opportunities and ensure any Impacts are captured.

ResearchFish

All award holders are required to submit outputs from their CLASP project on the [ResearchFish platform](#). Award holders are required to provide information about outputs arising from their work annually during the period of the award and normally for at least five years after the award has terminated. The CLASP Panel will monitor outputs on all CLASP grants.

CONTACTS

The STFC office can provide help and support on CLASP grant applications. We encourage potential applicants to contact the office to discuss their proposal. Please contact Tracey McGuire (tracey.mcguire@stfc.ac.uk).

ANNEX 1: CERN, ESO OR ESRF SCIENTISTS AND ENGINEERS

Eligibility Definitions

CLASP applicants from CERN, ESRF or ESO will be a scientist or engineer performing one of the following functions:

- Research, development or professional work including academic study and/or supervisory responsibility
- Leadership of research, development or professional work involving a wide range of academic study and/or strategic responsibility
- Responsibilities of the highest level of scientific and/or management complexity, originality and wide distinction

All applicants from CERN, ESRF or ESO should provide a covering letter to their Research Proposal stating confirmation that they meet the eligibility criteria as set down above.

An applicant's contract of employment with CERN, ESRF or ESO must extend for at least the period of the grant for which they are seeking funds.

The Principal Investigator need not be a UK citizen.

Additional Guidance

The collaborating organisation must have its research or manufacturing base in the UK.

Funds requested – all amounts requested should be given in pounds sterling

Estates and indirect costs will not be applicable to CLASP grants awarded to CERN, ESRF or ESO. The estates and indirect costs addition is covered in the STFC subscription payment to CERN, ESRF or ESO. If the grant is awarded, STFC will pay 80% of the full economic cost of research projects, excluding estates and indirect costs.

Declaration – completed Research Proposal form must be approved by the appropriate Head of Department or equivalent. Applications from CERN shall be submitted through the Director of Technology Transfer and Scientific Computing; applications from ESO through the Head of Administration.

Additional conditions – successful CLASP awards to CERN, ESRF or ESO applicants will be subject to the standard terms and conditions of STFC awards although additional grant conditions might be required on individual grants.

ANNEX 2: SOFTWARE DEVELOPMENT PLAN GUIDELINES

A software development (SD) plan is required for all projects which include SD as a portion of their work, but the detail of the plan should be in proportion to the significance of SD to the project. Where SD is a minor part of the project the plan need not be extensive but where SD is critical to the success of the project and/or takes up a significant portion of the project time the detail of the SD plan should reflect this fact. The plan should be included within the six page case for support.

Overview

Over the last five to ten years the software industry has reached the conclusion that the central problem regarding software quality and major software project failures is one of inadequate management. This annex provides some guidelines to the applicant for the planning (including cost and timescale estimation) and management of the project, and the quality of the software deliverables.

Objectives

If a team is asking for public funding to develop a system, then a reasonable expectation of the application is to provide enough visibility to be assured that:

- The stated goal is to produce software that will be deployed and maintained as a semi-commercial product.
- There is an understood set of project objectives, sufficient to determine a reliable project cost.
- There is an understood development process with identified points for management review, using a methodology that provides some level of control and design evolution.
- There is an understanding of the project cost and its profile throughout the project.

Project management

A minimum requirement on any software project would be to:

- Identify a lifecycle model that will be used as a basis for the management of the project
- Identify the top-level requirements of the project
- Identify the deliverables of the project
- Identify the key lifecycle milestones of the project and their products (including documentation and the availability of any prototypes) and understood success criteria

The proposal need not necessarily identify all of the above, but should provide enough detail and justification to present a convincing case that the development process is understood.

Plan

A plan should be produced within the Case for Support, addressing the project management requirements, including the key milestones. The milestones should have nominal dates assigned to them.

There should be evidence of a cost estimation process and allocation of sufficient resources (cost and staff). If there is not enough visibility to this cost estimation, then it will be assumed that it has not been done adequately and that the project is at risk of not reaching its objectives.

Risks

This should relate to the relative priorities of the project deliverables/functionality - if there are specific areas of high technical/project risk (to be identified), how are these to be managed?

ANNEX 2

If the project needs to be de-scoped to complete on schedule or within cost, what measures will be taken?

The measures that will be taken to minimise cost/risk should be stated: e.g. use of COTS equipment or commercial software, software design tools, software development tools, change management tools, configuration management tools, requirements tracking tools, defect tracking tools.

Project Governance / Oversight

The governance and oversight arrangements should be stated if the project PI is not suitably qualified to oversee software development. Otherwise it will be assumed that the PI is responsible for this section of work.

Development approach

Methodology

There should be an understood development process with identified points for management review, using a methodology that provides some level of control and design evolution.

Examples of types of methodology include the "Waterfall" lifecycle model, a rapid prototyping / iterative or incremental delivery methodology.

Requirement analysis

The user needs should be clearly stated in the Case for Support and should encompass both functional requirements and non-functional requirements such as usability, resilience, performance and supportability.

The relative priorities of the project deliverables/functionality should be stated.

Design

The appropriate design activities should be stated, which may include conceptual, architectural, preliminary, or detailed design.

Testing approach/ Quality

Overview

The end product should be robust, practical and meet the needs of the users.

Explain what measures will be taken to assure software quality: ideally a software development/quality plan.

Again, such a plan does not have to be a large part of the Case for Support, but it does need to address how the project will assure that it will meet its design objectives, as represented by the requirements.

The testing activities may include coding testing, unit module testing, subsystem testing, software/hardware testing, system integration testing and user acceptance testing.

Implementation / Deployment

The implementation activities, and any post-implementation and maintenance activities should be stated.

Explain what software documentation should be produced – systems and user documentation.