Quick Reference

Please note that you must read the full Call document for guidance before submitting your proposal

Future Manufacturing Research Hubs 2018

Call type: Invitation for outlines

Closing date: 25 January 2018

Funding Available: EPSRC will provide up to £30 million (Research Council contribution) to support three Future Manufacturing Research Hubs. Research Council funding for each Hub will be up to £10 million over seven years.

How to apply: A two-stage assessment process will be used, involving outline applications and full proposals. Outlines will be considered by an expert panel. Invited full proposals will undergo expert peer review, followed by an interview panel, resulting in a rank ordered list.

Key Dates:

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Contacts:

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- Gerard Davies, Portfolio Manager – Manufacturing the Future Theme 01793 44 4233, gerard.davies@epsrc.ac.uk
Dr Richard Bailey, Senior Portfolio Manager – Manufacturing the Future Theme
01793 44 4423, richard.bailey@epsrc.ac.uk
Future Manufacturing Research Hubs 2018

Call type: Invitation for outlines

Closing date: 25 January 2018


Summary
EPSRC invites outline applications for a number of large-scale, multidisciplinary research Hubs. Hubs should address major, long-term challenges facing manufacturing industries, and/or capture opportunities from emerging research areas.

Research Council funding for each Hub will be up to £10 million over seven years, supporting a programme of innovative research in the engineering and physical sciences, related to the challenges in commercialising early stage research. The Hubs will feature high quality, multidisciplinary research, strong engagement with relevant manufacturing industries, and will take a leadership role in their national network.

A two-stage assessment process will be used, involving outline applications and full proposals.

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Background

Manufacturing is an essential part of the UK economy, comprising 10% of the UK’s GVA, 45% of exports and employing 2.6m people, with a further 2.5m across the extended value chain. Our manufacturing sector is diverse, with activities in aerospace, pharmaceuticals, chemicals, automotive, electronics, biotechnology and food and drink. Manufacturing is integral to delivering many of the prosperity outcomes identified within the current EPSRC Delivery Plan https://www.epsrc.ac.uk/about/plans/deliveryplan/prosperityoutcomes/.

The sector needs to be innovative to compete on a global scale and EPSRC’s Manufacturing the Future theme aims to support this innovation through the research we fund. By ensuring researchers co-create their programmes with industry we ensure major, long term challenges are addressed and emerging opportunities are captured.

The UK manufacturing innovation landscape is changing and we expect our investments to take this into account, clearly demonstrating how they fit within the wider manufacturing ecosystem. For example, the Catapult centres are designed to transform the UK’s capability for innovation and help drive future economic growth in areas where they have been established.


A number of reports set out future challenges and trends for UK manufacturing, including:


To help manufacturing industries respond to these opportunities and drivers, we support a portfolio of Future Manufacturing Research Hubs (https://www.epsrc.ac.uk/research/centres/manufacturinghubs/).

These Hubs:

- Create and deliver a coherent programme of high quality, multidisciplinary research that addresses major, long term challenges facing manufacturing industries and/or capture future industrial opportunities from emerging research areas
• Engage strongly with relevant manufacturing industries, to enhance knowledge exchange between academia and industry, and deliver significant impact

• Take a leadership role in the national research landscape, conducting outreach activities and driving research excellence and capability in their area through further, wider activity

• Take a leadership role in the national innovation landscape, influencing and working with other stakeholders in the innovation chain (for example Innovate UK & the Catapult network), to catalyse activity and ensure acceleration of impact

• Work collegiately with other Manufacturing the Future critical mass activities to advocate for manufacturing research, nationally and globally.

For more information about EPSRC’s portfolio and strategies, see our website: https://www.epsrc.ac.uk/research/ourportfolio/

Scope of call
This call is to support innovative research programmes in the engineering and physical sciences, related to the challenges in commercialising early stage research.

The Hub research programmes should:

• Draw on advances in underlying science and technology, such as (but not limited to) information and communications technology, advanced and functional materials, biotechnology or sustainable/green technologies

• Focus on the design and development of new and existing manufacturing processes, systems and networks, looking to take advantage of the opportunities to manufacturing sectors offered by such developments

• Explicitly consider the pathway to manufacture, including production scale up and integration within the wider industrial system.

Applicants will therefore need to articulate the Hub’s strategy at each stage of the value chain (discovery, understand, integrate/adapt, demonstration and deploy). EPSRC support will be focused on early stages in the value chain. The strategy for later stages in the value chain, often described as the “valley of death”, needs to be ambitious but realistic, describing how funding for development and commercialisation would be secured and the expected roles of different partners along the pathway to manufacturing.

A key characteristic of the Future Manufacturing Research Hub model is that the research is driven by the long-term research challenges of industry and other users. Co-creation of the Hub programme with users and high quality user collaboration is therefore essential.

All proposals must lie predominantly within EPSRC’s remit. However, where aspects of a proposal overlap with the remits of other research councils, we will consult with those councils regarding their potential interest in becoming involved.
EPSRC will only fund one Hub within an area and therefore will not fund Hubs in areas already covered by existing Future Manufacturing Research Hubs (https://www.epsrc.ac.uk/research/centres/manufacturinghubs/).

Proposed Hubs in areas that already have other EPSRC-funded critical mass activities (e.g. Programme Grants) should be able to show how they complement those existing investments.

**Future Manufacturing Research Hub characteristics**

The core Hub activity should be based in a single location, with other institutions or groups acting as ‘spokes’, inputting specific expertise in areas that complement those from the lead institution.

**Hubs**

Applicants will need to demonstrate that their Hub, together with the spokes, will deliver in the following categories:

**Research**
- Deliver a programme of high quality research with a strong, multidisciplinary team, building on a history of excellence in research
- Have a clear, shared Hub vision, encompassing a core mission for the Hub, a strategic view of the research programme and activities (i.e. not a portfolio of separate research activities), relationship to the host institutional strategy, Hub sustainability, and a mechanism for reviewing this vision
- Demonstrate creative and innovative research approaches, drawing on emerging research opportunities and bringing in new disciplines, being self-sustaining in the generation of new research ideas and providing space to fail

**Skills**
- Ensuring a strong ethos of developing staff and supporting the people pipeline

**Management and Leadership**
- Maintain a strong operational core to ensure the efficient operation of the Hub, with an appropriate, robust management structure in place, including good measures of progress, clear team roles and a recruitment strategy
- Show the added value of being a Hub (e.g. describe how it will be more than the sum of its parts) by demonstrating strong connectivity between all Hub partners, a coherent portfolio of projects and resilience to change (e.g. succession plans for key investigators/researchers)

**Impact**
- Have a clear business need and a clear path to commercialisation for translation of emergent research opportunities, providing a suite of equipment/techniques for industry to access and de-risk research
• Actively seek to maximise the benefits from the research to UK manufacturing industries (through commercialisation, translation into policy/practice, partnership and/or other approaches) and demonstrate these impacts to Government, industry and other stakeholders

• Have significant direction and support from collaborators, including co-creation of the business case with industry, exposing academia to industrial problems, with the expectation that this support will increase over the lifetime of the grant, but not with one partner dominating

• Have a framework for engagement with collaborators, managing and evolving the group of collaborators through the lifetime of the Hub

• Provide leadership in the innovation landscape, influencing and working with other stakeholders to accelerate impact and generate growth

• Support the delivery of prosperity outcomes and ambitions within the current EPSRC Delivery Plan https://www.epsrc.ac.uk/about/plans/deliveryplan/prosperityoutcomes/

National Hub

• Drive forward the national manufacturing research agenda in their area, building on the Hub and Director’s high profile and authority in the research landscape

• Engage with (national & international) academia beyond core Hub membership, supporting feasibility projects, sharing equipment and promoting networking

• Work with other public investments in the manufacturing landscape (e.g. the Catapult network) to align capabilities, link up resources and ensure that research outputs can be taken towards commercialisation

• Respond to the changing manufacturing landscape, by refreshing their research agenda and evolving their partnerships

• Work as a cohort with other Manufacturing the Future critical mass activities (e.g. Hubs, Centres, Programmes) and EPSRC to further the manufacturing research agenda, influencing policy and contributing to the national debate in manufacturing.

Spokes

Spokes should provide specific expertise in areas that complement those from the Hub. This expertise could be in the form of research skills/capability, or in research translation and knowledge exchange.

We expect the overall number and identity of spokes to evolve over the life of a Hub, with spokes being engaged with the Hub at differing levels of intensity and over differing timescales, in the same manner that the Hub collaborators would evolve. The number of spokes at the Hub inception should be appropriate and manageable for the scope of the proposed Hub.

Spokes could be involved in a range of activities, including sharing platform support resources, sharing equipment and feasibility projects. The Hub is also
expected to network and engage other researchers across the UK with relevant expertise, beyond the Hub and spokes.

Innovation spokes would act with the Hub to improve the impact of the Hub. They would act as a conduit working across TRLs, facilitating the translation of research outputs from the Hub to business, providing a path to commercialisation. Potential innovation spokes could include Catapults, UK national laboratories, Government organisations having acknowledged science standing and independent verification capacity and Research and Technology Organisations. The use of EPSRC funding for the innovation spokes’ activities will depend on their eligibility for RC funding (http://www.rcuk.ac.uk/funding/eligibilityforrcs/). It is expected that innovation spoke activities will be part of the Pathway to Impact and appropriate resources may be requested for these activities.

**Funding available**

EPSRC will provide up to £30 million (Research Council contribution) to support three Future Manufacturing Research Hubs. Research Council funding for each Hub will be up to £10 million over seven years. Outline proposals requesting significantly less resource and/or less than seven years duration may be office rejected as out of scope of the call and more appropriate for other routes to EPSRC funding.

The £10M funding for each Hub is available to support the following activities, with the balance of Hub funding across the four components to be determined by the applicants:

- **‘Platform’ research funding, supporting:**
  - Core research activities or technologies that are necessary or valuable to the Hub, including the appropriate dissemination of research knowledge
  - Retention of key staff and nurturing collaborations
  - Networking with other centres in the UK and overseas
  - Feasibility studies to be conducted as part of the outreach programme

- **‘Grand challenge’ research funding to support up to two major research projects/themes, the focus of which are driven by long-term manufacturing research challenges of users and/or capturing future industrial opportunities from emerging research areas**

- **Operational funding, supporting:**
  - Hub administration, management and governance
  - Hub marketing, communications and business development
  - Hub outreach and public engagement
  - Creativity@home funding to help take creativity and radical idea generation to a higher level, see annex 2
• Pathways to impact and commercialisation activities (https://www.epsrc.ac.uk/funding/howtoapply/preparing/economicimpact/).

Equipment
Where possible, researchers are asked to make use of existing facilities and equipment, including those hosted at other universities. If equipment is needed as part of the research proposal, applicants must follow the following rules for requesting equipment.

Individual items of equipment over £10,000 in value and up to the current OJEC (Official Journal of the European Communities) procurement threshold can be included on research proposals submitted through this call, but research organisations will be expected to make a contribution to the cost.

EPSRC has aligned a restricted capital budget to this call which will be used to support equipment requests over £10K. The capital budget will be allocated to successful full proposals based on the advice of peer review and discussions with the applicants and partners. Due to limited capital budget, EPSRC reserves the right to negotiate the level of EPSRC contribution to capital items.

Requests for equipment over the current OJEC threshold on proposals associated with this call will not need to go through the separate Strategic Equipment Panel but will be considered as part of the assessment of the Hub proposals. Please note: This call is not for the creation of a national equipment facility or service.

For more information on equipment funding, please see: https://www.epsrc.ac.uk/research/facilities/equipment/.

Eligibility
For information on the eligibility of organisations and individuals to receive EPSRC funding, see the EPSRC Funding Guide: https://www.epsrc.ac.uk/funding/howtoapply/fundingguide/.

How to apply
A two-stage application process will be used.

• **Stage 1 Outline proposal** - application details are detailed below.

• **Stage 2 Full proposal** - application details are contained in Annex 1, for future information, but remain subject to change. Further details of the Je-S submission route, including the full proposal deadline, will be made available to the successful outline applicants. Only successful applicants will be invited to submit an application to the full proposal stage. No other applications will be accepted.

Submitting your outline application
You should prepare and submit your proposal using the Research Councils’ Joint electronic Submission (Je-S) System (https://je-s.rcuk.ac.uk/).

Although multi-institutional bids are expected, only one Je-S application form should be submitted from the Hub host institution, requesting all of the funds for the Hub and spokes.
EPSRC does not accept uninvited resubmissions of proposals that were previously considered for funding. EPSRC expect proposals to be substantially changed before submitting the same research idea as a new proposal. If your amendments only address panel and reviewer comments or make only minor changes, your proposal will count as a resubmission. EPSRC reserves the right to reject the proposal at this stage as a resubmission if it has not been substantially changed from a previous Hub outline or full proposal.

When adding a new proposal, you should select:

- Council ‘EPSRC’
- Document type ‘Outline Proposal’
- Scheme ‘Outline’
- On the Project Details page you should select the ‘Future Manufacturing Research Hubs 2018 - Outlines’ call.

Note that clicking ‘submit document’ on your proposal form in Je-S initially submits the proposal to your host organisation’s administration, not to EPSRC. Please allow sufficient time for your organisation’s submission process between submitting your proposal to them and the call closing date. EPSRC must receive your application by 16:00 on 25 January 2018.

Guidance on the types of support that may be sought and advice on the completion of the research proposal forms are given on the EPSRC website (https://www.epsrc.ac.uk/funding/howtoapply/) which should be consulted when preparing all proposals.

Please also note that it is the responsibility of the lead organisation to ensure all the documentation required is submitted with the proposal form.

You should consult your Research Administration at the earliest opportunity when preparing your outline proposal, specifically with regard to costing your outline proposal and any internal procedures you need to follow.

**Guidance on writing an application**

In addition to the proposal details that you need to complete in Je-S (including outline costs and a non-technical summary of the proposal), you will also need to prepare the following attachments:

- Outline Case for Support
- CV of proposed Director
- Statement of support from the host university(ies).

Do not upload any other attachments. If submitted they will not be put forward for peer review.

**Outline Case for Support**

The case for support should be a maximum of four sides of A4 and should use the following headings:
• **Overall vision for the Hub.** This should include the Hub vision and how it meets the aims and expectations of the Future Manufacturing Research Hub model. It should also include an overview of the manufacturing research opportunities and challenges and the approaches to addressing them. This should include evidence that users have been closely involved in the preparation of this proposal from the outset. Separate letters of support from users are not required at the outline stage.

• **UK need for a Future Manufacturing Research Hub in this area.** This should be set in an international context with reference to relevant academic research, business requirements and potential manufacturing opportunities.

• **Leadership qualities of the Director.** In addition to the information provided in the CV, please provide evidence that the Director has the necessary skills and competencies to drive the Hub vision. Please note that EPSRC would usually expect the Director to also be the grant PI; there should only be one Director, although deputy directors and other leaders can be identified within the team.

• **Capability of the Hub team.** This should include evidence:
  o that you have the necessary skills within the team to address the proposed research challenges, or a route to access those skills
  o of user collaboration, direction and the ability to leverage cash and in-kind support from these users.

• **Appropriateness of this funding mechanism.** It will be important to articulate not only that the overall research challenges and business opportunities are best addressed through this type of funding, but also that it is appropriate for the EPSRC to provide the funds, given the funding research landscape.

• **Resources requested.** Include the percentage of time the principal and co-investigators will be spending on the project. Explain the distribution of funding requested for the directly incurred costs of the proposal (i.e. the ‘platform’, ‘grand-challenge’ and operational support funding). You will need to detail any equipment costs for items above the OJEU limit.

**CV of proposed Director**

This should be a maximum of two sides of A4. Please provide a CV for the Director that demonstrates a track record in managing large complex research grants and of collaborating with users. The CV should be uploaded into Je-S as ‘CV’ attachment type.

**Statement of support from the universities**

Please attach letters from all universities involved articulating how the Hub aligns with the university’s research strategy. There is no requirement for other information or commitment at this stage, although other information may be included if it is felt that it would help to address the assessment criteria.

Universities that are involved in the Hub or as research spokes should have at least one Co-I listed in Je-S and therefore costed into the proposal.

The letter should be signed by the Pro-VC for Research or equivalent. Each university letter should be a maximum of two sides of A4. Please combine all
letters into one document and upload into Je-S as ‘Host organisation Statement’ attachment type.

**Je-S form (project partners)**

Please do not complete any details in the project partner section as this should be left blank. Involvement of collaborators in the bid should be described in the case for support as described above.

**Attachment formats**

Please note that on submission to EPSRC all non-PDF documents uploaded onto Je-S are converted to PDF, the use of non-standard fonts may result in errors or font conversion, which could affect the overall length of the document.

In addition, where non-standard fonts are present, and even though the converted PDF document may look unaffected in the Je-S System, when it is imported into the Research Councils Grants System some information may be removed. We therefore recommend that where a document contains any non-standard fonts (scientific notation, diagrams etc.), the document is converted to PDF prior to attaching it to the proposal.

For advice on writing proposals see: [https://www.epsrc.ac.uk/funding/howtoapply/preparing/](https://www.epsrc.ac.uk/funding/howtoapply/preparing/).

**Assessment**

**Assessment process**

A two-stage assessment process will be used.

EPSRC reserve the right to apply additional selection criteria in the event of the call being so substantially oversubscribed as to be unmanageable as initially planned.

**Stage 1: Outline Proposal**

The outline bids will be considered by a peer review panel based solely on the information provided on the Je-S form, in the case for support and the accompanying attachments.

The peer review panel, comprising industrial and academic members with a broad range of expertise, will produce a rank ordered list of the outline proposals based on the assessment criteria. EPSRC will decide, based on the advice of the peer review panel, which proposals to invite to the full stage.

For unsuccessful outlines there will be no feedback. For outlines invited to the full stage there may be specific feedback from the peer review meeting which will be passed to the applicant.

**Stage 2: Full Proposal**

Full proposals will be sent to independent peer reviewers, including at least one nominated by the applicant. The peer reviewers’ role will be to comment on all the assessment criteria, but primarily on the quality of the research. Applicants will be invited to respond to the reviewers’ comments.
Full proposals that receive sufficiently supportive reviewer comments and have a satisfactory PI response, as determined by a full proposal sift panel (with the same membership as the interview panel), will then be invited to the interview stage.

The interview panel, comprising industrial and academic members with a broad range of expertise, will rank the proposals against the full assessment criteria using the reviewers’ comments, PI response and overall interview performance. The PI plus up to three others identified on the proposal will be invited to attend the interview. At least one of these should represent the industry collaborators.

EPSRC will decide, based on the advice of the interview panel, which proposals to fund.

For full proposals not invited to interview feedback is received in the form of reviewer forms prior to the interview meeting and the rank order list information published on EPSRC’s Grants on the Web (GoW) system shortly after the interview meeting.

For full proposals invited to interview there may be specific feedback from the full proposal sift meeting which will be passed to the applicant in advance of the interview.

**Assessment criteria**

**Stage 1: Outline Proposal**

The criteria for assessment of outline proposals will be:

- **Hub vision**
  - Innovative nature of the manufacturing research programme
  - Alignment to institutional strategy(ies)
- **UK need for the Hub**
  - Demonstration it addresses the needs of industry
  - Appropriateness of collaborators
- **Leadership qualities of Director**
- **Capability of the Hub team:**
  - To tackle the research challenges, engage with users and to deliver impact
  - Engagement of collaborators
- **Appropriateness of Hub funding mechanism**
- **Appropriateness of resources requested and management arrangements.**

Proposals **must** describe a compelling vision and demonstrate a UK need for their Hub in order to be considered for a full proposal. However, it is important that all the assessment criteria are met as the outline panel will consider all of them.
Stage 2: Full Proposal
The criteria for assessment of full proposals will be:

- Quality of the manufacturing research programme
  - The appropriateness of the proposed methodology
  - Degree of novelty in the research plans and approach
  - The ambition, adventure, and transformative aspects identified

- National Importance of the manufacturing research programme
  - The UK industry need for research activity in the area of the Hub
  - Evidence of co-creation of the Hub bid with industry
  - Potential for transformative impact on the research community, society and the UK economy including emerging industries

- Pathway to Impact
  - The effectiveness of the activities identified to help realise the Hub impacts, including networking and outreach to other research and user groups, as well as public engagement
  - Appropriateness of the resources requested for this purpose
  - The relevance and appropriateness of the beneficiaries and collaborators

- Applicant team
  - Leadership qualities of the Director
  - Appropriateness of the track record of the applicant(s)
  - Balance of skills of the project team to deliver the aims and objectives of the Hub
  - Appropriate team training and development

- Resources and Management
  - Robust management and governance plans, including the level of business/user direction and support
  - Appropriate resources requested and justified

- Proposal Assessment
  - Overall strategy for the Hub, including vision and plans for longer term sustainability
  - Level of commitment from the universities).
Moving forward

There will be a briefing session for those groups invited to submit a full bid at the EPSRC Offices in Swindon in **early March 2018.**

We only expect to see **minor** changes in requested resources from outline to full proposal, **unless otherwise directed by EPSRC.** Significant changes to the bid, and therefore from the proposal considered at the outline meeting, will be considered a new proposal and rejected.

Outline submissions to this call will not count towards the Repeatedly Unsuccessful Applicants Policy. However, full submissions will count towards the policy. Further information about the policy can be found at: [https://www.epsrc.ac.uk/funding/howtoapply/basics/resubpol/rua/](https://www.epsrc.ac.uk/funding/howtoapply/basics/resubpol/rua/).

Guidance

Guidance for reviewers

Information about the EPSRC peer review process and guidance for reviewers can be found at: [https://www.epsrc.ac.uk/funding/assessmentprocess/review/](https://www.epsrc.ac.uk/funding/assessmentprocess/review/).

Guidance for reviewing standard grants can be found here: [https://www.epsrc.ac.uk/funding/assessmentprocess/review/formsandguidancenotes/standardgrants/](https://www.epsrc.ac.uk/funding/assessmentprocess/review/formsandguidancenotes/standardgrants/).

Additional grant conditions

In addition to the standard terms and conditions for grants, successful Hubs will have the following additional grant conditions – given in summary form below:

- EPSRC expectations for the Director of the EPSRC Hub including taking a leading role in national policy and debate
- It is expected EPSRC will give Hubs a fixed starting date
- Hubs to report progress to EPSRC when requested, and at least on an annual basis
- EPSRC to agree the management structure, including terms of reference and membership
- EPSRC involvement in Hub management and other activities throughout the grant
- Hub investigators to be advocates for EPSRC
- Hub investigators to attend EPSRC organised and other national events identified by EPSRC as requested
- Publicity/branding guidelines, to include the Hubs being named ‘Future XXXX Hub’, where XXXX is the name of the research area
- Hubs to undergo a mid-term review of their activities, led by EPSRC, which will determine whether the Hub’s funding for the final three years is released
• Hubs to have collaborative agreements in place between universities and with any project partner before collaboration begins

• Hubs to engage as part of the cohort of Hubs.

**Key dates**

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</tbody>
</table>

*EPSRC aims to adhere to the key dates as published, however there may be exceptions where the sift, prioritisation or interview meeting may have to change due to panel member availability.

**Contacts**

For further information, advice or queries regarding the application procedure please contact:

• Future Manufacturing Research Hubs central email
  ManufacturingPeerReview@epsrc.ac.uk

• Gerard Davies
  Portfolio Manager – Manufacturing the Future Theme
  01793 44 4233, gerard.davies@epsrc.ac.uk

• Dr Richard Bailey
  Senior Portfolio Manager – Manufacturing the Future Theme
  01793 44 4423, richard.bailey@epsrc.ac.uk

If you have any questions about preparing and submitting your proposal using Je-S, please contact the Je-S helpdesk (JeSHelp@rcuk.ac.uk, 01793 444164). Your Research Administration should also be able to offer advice about costing and writing your proposal and the Je-S system. Please allow enough time before the closing date for your organisation’s submission process.

**Change log**

<table>
<thead>
<tr>
<th>Name</th>
<th>Date</th>
<th>Version</th>
<th>Change</th>
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<tbody>
<tr>
<td>Gerard Davies</td>
<td>11/10/17</td>
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Appendix 1: Je-S attachments Check List (Outline)

<table>
<thead>
<tr>
<th>Attachment Type</th>
<th>Maximum Page length</th>
<th>Mandatory/Optional</th>
<th>Extra Guidance</th>
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<tbody>
<tr>
<td>Case for Support</td>
<td>4 pages</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>C.V.</td>
<td>2 pages</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Host Organisation Statement of Support</td>
<td>2 pages per letter</td>
<td>Mandatory</td>
<td></td>
</tr>
</tbody>
</table>

Please ensure you adhere to the above attachment requirements when submitting your proposal. Any missing, over-length or unnecessary attachments may result in your proposal being rejected.

Please note that it is the responsibility of the lead organisation to ensure all the documentation required is submitted with the proposal form.
Annex 1: Full Proposal Applications

Applicants must have been successful at the outline stage in order to submit an application to the full proposal stage.

Please note that EPSRC reserves the right to reject a full proposal where the resources are substantially different from those indicated in the outline proposal or where there have been other significant changes from the outline proposal that have not been discussed with EPSRC. The total cost must not exceed £10 million EPSRC contribution. Costs requested under the equipment heading must not deviate by more than 10%.

Submitting application

You should submit your proposal using the Research Councils’ Joint electronic Submission (Je-S) System (https://je-s.rcuk.ac.uk/).

Further details of the Je-S submission route will be made available to the successful outline proposals.

Although multi-institution bids are expected, only one Je-S application form should be submitted from the Hub host institution, requesting all of the funds for the Hub and spokes. Multiple Je-S proposals will not be accepted.

Note that clicking ‘submit document’ on your proposal form in Je-S initially submits the proposal to your host organisation’s administration, not to EPSRC. Please ensure you allow sufficient time for your organisation’s submission process between submitting your proposal to them and the Call closing date, which will be in May 2018 (the exact date will be communicated in due course to applicants successful at the outline stage).

It will be mandatory to have at least one user-collaborator named as project partner in Je-S, as your proposal will not validate without one. It is also mandatory that some of the collaboration will involve a direct cash contribution. It is not acceptable for the only project partner making a cash contribution to be closely linked to the Institutions involved in the bid (e.g. university spinouts).

Guidance on writing a full application

Your full proposal must include as a minimum (other attachments may be required in some cases):

- single Je-S application
- case for support – twenty pages
- CV for the proposed Director - two pages
- pathways to impact - four pages
- justification of resources - two pages
- work-plan - two pages
- project partners’ statements of support
- Host organisation statement – two pages per organisation.
Guidance on what is required in the proposal sections is below, including additional attachments that may be required for some applications.

**Case for Support (max 20 sides of A4 in total)**

The case for support should be divided into the following sections, keeping to the number of pages indicated:

- **Track record (2 pages):** In addition to the information provided in the CV, provide evidence of the Director’s leadership qualities, as well as their skills and competencies to drive the vision of the EPSRC Hub. Also show that the team has the capability and capacity to address the identified research needs.

- **Hub Overview (8 pages):**
  - **Vision and rationale for the Hub.** Explain succinctly the overall vision for the Hub and how this will achieve the call objectives of a Future Manufacturing Research Hub as detailed on page 1 of this call.

  The vision should be set in an international context with reference to relevant academic research and business requirements.

  The rationale should describe:
  - how will the research contribute to, or help maintain EPSRC Prosperity Outcomes, the health of manufacturing and other research disciplines,
  - how will the research contribute to current or future UK economic success and / or enable future development of key emerging industry(s)
  - the national strategic need for a unique world leading research activity in this area
  - how the Hub will address users’ key manufacturing and business research needs, to enable them to be innovative in a ten-year timescale
  - how the research fits with and complements other UK research already funded in the area or related areas.

  This section should articulate why funding in this area is timely and relevant. It should also provide evidence that this bid has been co-created with users.

  - **‘Platform’ funding.** Explain the activities this part of the funding will enable in underpinning the vision and activities of the Hub. Include details of how it is envisaged the programme of research will progress, as well as the user engagement in the platform activities and how it will impact on their business.

  - **‘Grand Challenge’ funding.** Give an overview of the research theme(s), their underlying key research challenges and the broad approach to addressing them. The initial projects should be outlined here but the scientific details and the methodology for the initial projects can be provided in the technical annex. Include details of how the programme of research will progress, as well as the user
engagement in the platform activities and how it will impact on their business.

- **Technical annex (8 pages).** The technical support annex is intended to provide additional information on the research programme for the expert reviewers. Please ensure there is sufficient detail to allow peer review to assess the quality and ambitious nature of the research. There are no stipulations about the format of the technical annex, but it should complement the other sections of the case for support.

- **Management (2 pages).** This should give details of how the Hub will be run. This should include:
  
  o the governance of the EPSRC Hub, taking into account that the Principal Investigator is responsible for delivering the grant objectives
  
  o administrative support arrangements, which should be in place from the start of the grant
  
  o how decisions will be made to start new research projects or stop existing ones
  
  o how independent advice will be sought and used to inform the strategy and direction of the Hub
  
  o the strategy as to how the flexibility of resources will be used across the platform and grand challenge activities, including a risk management strategy
  
  o how the Hub will further enhance its research portfolio to increase its impact on its user community
  
  o metrics that will be used to measure both quantitatively and qualitatively the impact and success of the Hub in terms of research, people and policy.

The case for support should be uploaded to Je-S as per standard research grant applications.

**CV of the proposed Director**

This should be a maximum of two sides of A4. Please provide a CV for the Director that demonstrates a track record in managing large complex research grants and of collaborating with users. The CV should be uploaded into Je-S as ‘CV’ attachment type.

Otherwise CVs will only be accepted for named researchers and/or visiting researchers. CVs are not required for any investigators (other than the Director) or project partners.

**Pathways to Impact**

This should be a maximum of four sides of A4. Explain the Hub’s strategy for engagement with the entire value chain (from discovery, to understanding through to integration/adaptation, demonstration and deployment), to achieve and accelerate impact from the Hub’s activities.
The scale of the Hubs, together with their position in the value chain, gives you the potential to be adventurous and to propose some stretching activities in this area, including people movement/secondments and proof of concept work.

This section should cover how the potential pathways to impact will be delivered, looking across the research landscape and innovation landscape, including:

- **Community outreach activities** to:
  - promote networking and collaboration with non-Hub researchers, driving research excellence
  - directly supporting non-Hub researchers in collaborative research in areas of direct relevance to the Hub
  - embed a responsible approach to innovation ([https://www.epsrc.ac.uk/research/framework/](https://www.epsrc.ac.uk/research/framework/))
  - engage the wider public in research.

- **User engagement activities**, explain the framework to manage and evolve the group of collaborators through the lifetime of the Hub, covering:
  - how and when potential users have been / will be identified
  - what form the engagement will take, including how the outputs of the research are made available to potential users
  - the strategy to maintain and control the balance between the needs of the users and the requirement to carry out ambitious research.

- **Innovation chain engagement**, influencing and working with other stakeholders (for example Innovate UK & the Catapult network), to ensure acceleration of impact and time to market, including:
  - promoting follow-on work and very early stage commercialisation
  - how to engage appropriate funding agencies (other than EPSRC) required to support the Pathways to Impact.

- It is recognised that activities described in this section may well overlap in purpose and so cover a number of these headings.

**Justification of Resources**

This should be a maximum of two sides of A4. This should justify the resources required to undertake the research programme (Platform and Grand Challenge), support the Hub operations and implement the Pathways to Impact.

Please provide a table totalling the Directly Incurred resources requested for each of the four heading in the Resources Available section (i.e. the two research programmes, Hub operations and Pathways to Impact resources).

Any justification for equipment over £10k should also include justification for any maintenance or support costs that are requested and details of the proposed contribution to the cost of the equipment from the involved research.
organisations or project partners. It should also include an explanation if there is only a sole supplier for the equipment.

Please note that resources cannot be requested for travel and subsistence for any of the collaborators identified in the bid. The Justification of Resources should be uploaded to Je-S as per standard research grant applications.

Two-page Workplan

A full detailed seven year workplan is not required as it is accepted that a detailed research programme for the latter years is not known and depends on research results from not only the Hub but also other research groups nationally and internationally.

Sufficient detail can be provided for the first two/three years to enable peer review to have confidence that there is a structured approach. The workplan should be diagrammatic in nature and providing a graphic or pictorial indication of milestones, decision points and allocation of staff resource from the Hub and spokes.

The workplan should be uploaded to Je-S as per standard research grant applications.

Project Partner Statements of Support

All collaborating organisations must be listed in the Je-S form as project partners with an appropriate statement of support. These letters from project partners should:

- confirm their rationale for support for the Hub from their business needs and drivers, and detail how they have been involved in the preparation of the proposal
- confirm the contribution of cash and in-kind support
- show an outline of their intended involvement during the lifetime of the Hub
- be dated and on headed paper, making clear the role of the signatory in the user organisation.

The letters should be uploaded into Je-S as ‘project partner letter of support’.

Please include the company name (which can be abbreviated) in the file name of the PDF.

Letter from the host universities

Letters are required from all universities involved in the proposal and should explain:

- how the new Hub would align with the university’s research strategy
- what commitment (direct or in-kind) the university will be contributing
- what particular support will be given to the Hub Director.
The letter should be signed by the Pro-VC for Research or equivalent. Each university letter should be a maximum of two sides of A4. Please combine all letters into one document and upload into Je-S as ‘Host organisation Statement’ attachment type.

**Letters of Support from non-project partners**

Letters of Support from non-project partners will only be accepted when a collaborating organisation cannot be listed as a project partner. There is no page limit for the Je-S attachment, but a maximum of three letters is permitted and letters should be on headed paper, and be signed and dated within six months of the proposal submission date.

**Equipment quotes**

For more information please see https://www.epsrc.ac.uk/research/facilities/equipment/process/researchgrants/.

**Equipment Business Case**

This 2-page document only needs to be included if resources for equipment over the current OJEC threshold are requested. For more information please see https://www.epsrc.ac.uk/research/facilities/equipment/process/researchgrants/.

**Ethical Matters**

Applicants should use the Ethical Information section on the Je-S form to demonstrate to peer reviewers that they have fully considered any ethical issues concerning the material they intend to use, the nature and choice, current public perceptions and attitudes towards the subject matter or research area. EPSRC will not fund a project if it believes that there are ethical concerns that have been overlooked or not appropriately accounted for. All relevant parts of the Ethical Information section must be completed. If the research will involve human participation or the use of animals covered by the Animals (Scientific Procedures) Act 1986 it is recommended that applicants pay particular attention to the guidance highlighted below. EPSRC reserves the right to reject applications prior to peer review if the Ethical Information sections are not completed correctly.

Further guidance on completing this part of the Je-S form can be found at https://je-s.rcuk.ac.uk/Handbook/pages/GuidanceonCompletingaStandardG/EthicalInformation.htm.

Other relevant guidance includes: EPSRC’s policy on animal use in research (https://www.epsrc.ac.uk/about/standards/animalresearchpolicy/) and the Responsible Innovation Framework (https://www.epsrc.ac.uk/research/framework/).

**Attachment formats**

Please note that on submission to council all non-PDF documents are converted to PDF. The use of non-standard fonts may result in errors or font conversion, which may result in changes to the layout of the document and could affect the overall length of the document. For this reason we recommend that the documents are converted to PDF files before uploading.

For advice on writing proposals, see: https://www.epsrc.ac.uk/funding/howtoapply/preparing/.
### Je-S attachments Check List (Full proposal)

<table>
<thead>
<tr>
<th>Attachmen&lt;br&gt;Type</th>
<th>Max Page&lt;br&gt;length</th>
<th>Mandatory/Optional</th>
<th>Extra Guidance for this call</th>
</tr>
</thead>
<tbody>
<tr>
<td>Case for Support</td>
<td>20 pages</td>
<td>Mandatory</td>
<td>Comprising up to two A4 sides for a track record, up to eight A4 sides describing proposed research and its context, up to eight A4 sides technical annex and up to two A4 sides on management.</td>
</tr>
<tr>
<td>CVs</td>
<td>2 pages</td>
<td>Mandatory</td>
<td>For Director.</td>
</tr>
<tr>
<td>CVs</td>
<td>2 pages each</td>
<td>As Required by EPSRC</td>
<td>For named and visiting researchers, and researcher co-investigators only.</td>
</tr>
<tr>
<td>Pathways to Impact</td>
<td>4 pages</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Justification of Resources</td>
<td>2 pages</td>
<td>Mandatory</td>
<td></td>
</tr>
<tr>
<td>Workplan</td>
<td>2 pages</td>
<td>Mandatory</td>
<td>Must be diagrammatic.</td>
</tr>
<tr>
<td>Project Partner Letters of Support</td>
<td>No page limits</td>
<td>As Required by EPSRC</td>
<td>Must be included from all named project partners. Must be on headed paper, and be signed and dated within six months of the proposal submission date <a href="https://www.epsrc.ac.uk/funding/applicationprocess/preparing/writing/lettersofsupport/">https://www.epsrc.ac.uk/funding/applicationprocess/preparing/writing/lettersofsupport/</a>.</td>
</tr>
<tr>
<td>Host Organisation Statement of Support</td>
<td>No page limits</td>
<td>Mandatory</td>
<td>Please combine letters from each university (each maximum two pages) into one document for attachment.</td>
</tr>
<tr>
<td>Letters of Support</td>
<td>No page limits</td>
<td>As Required by EPSRC</td>
<td>In exceptional circumstances a maximum of three letters can be submitted.</td>
</tr>
<tr>
<td>Equipment Quotes</td>
<td>No page limits</td>
<td>As required by EPSRC</td>
<td><a href="https://www.epsrc.ac.uk/research/facilities/equipment/process/researchgrants/">https://www.epsrc.ac.uk/research/facilities/equipment/process/researchgrants/</a></td>
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<td>Attachment Type</td>
<td>Pages/No Page Limit</td>
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<tr>
<td>Equipment Business Case</td>
<td>2 pages each</td>
<td>As required by EPSRC</td>
<td>Required for any items or combined assets with a value above the OJEU limit.</td>
</tr>
<tr>
<td>Technical assessment</td>
<td>No page limit</td>
<td>As required by EPSRC</td>
<td></td>
</tr>
<tr>
<td>Proposal Cover Letter</td>
<td>No page limit</td>
<td>Optional</td>
<td>The cover letter can be used to highlight any important information to EPSRC. This attachment type is not seen by reviewers or panel members.</td>
</tr>
<tr>
<td>Other attachment</td>
<td>No page limit</td>
<td>At EPSRC request only</td>
<td>Do not use this attachment type.</td>
</tr>
</tbody>
</table>

Please ensure you adhere to the above attachment requirements when submitting your proposal. Any missing, over length or unnecessary attachments may result in your proposal being rejected.

Approval must be sought from EPSRC in advance of submission before attaching any other documents other than those specified.

**Please note that it is the responsibility of the lead organisation to ensure all the documentation required is submitted with the proposal form.**
Annex 2: Creativity@home

EPSRC, working with professional facilitators, has set up an initiative to support project investigators, researchers and teams to help generate and nurture creative thinking and galvanise team dynamics that paves the way for individuals and teams to take creativity and radical idea generation to a higher level – the initiative is known as creativity@home (https://www.epsrc.ac.uk/funding/howtoapply/routes/network/ideas/creativityathome/).

Objectives for creativity@home include:

- learning a range of creative problem solving tools and techniques and how this might aid creativity in research
- engaging researchers in blue skies idea generation
- learning how to work effectively in teams, understanding different styles of approaching problems and how to influence others
- exploring the future research vision and cross-disciplinary opportunities in the group using new facilitation tools and techniques
- developing a cohort of trained people that have learnt and are applying creative problem solving techniques so that the approaches and culture become embedded within the project team.

Activities that have taken place previously have included:

- training and subsequent support for project managers and students in creative facilitation techniques enabling them to run mini sandpits and cross-disciplinary idea generation workshops
- away days for multidisciplinary teams exploring how they might work better/more effectively together
- Creative Problem Solving training for groups of researchers that enhances their approach to problem solving in their research
- professionally facilitated idea generation workshops creating new research directions and people connections.

For creativity@home, you and the research programme team are the key resource. Your group will be given access to professional facilitators and the aims and objectives are left up to you and your group to decide. The professional facilitators will work in partnership with you throughout the initiative - the timescale and all facilitation activities will be planned in consultation with you. The facilitators will focus on the process enabling your group to think freely and explore new tools and exciting research directions.

Funding for creativity@home will be accessible via your grant award and is to pay for facilitator time, travel & subsistence and basic facilitator materials.

Creativity@home is a flexible resource. How best to use the resource is up to you to decide when exploring options with your chosen facilitators. There is no maximum value that you may apply for, however you will need to justify the resource that you request.
If your application is successful EPSRC will provide you with a list of facilitation companies that you may contact. Of course, you may already work with a facilitator; in this case, EPSRC is pleased for you to continue your engagement.

**How do I include funding for creativity@home?**

If you are interested in working with professional facilitators to enhance your Hub research programme then you should request resource to cover this in the outline application stage. At the full proposal stage, applications will need to include:

- **Je-S form** – applicants should include appropriate resource to cover the creativity@home activity under the heading Other Directly Incurred Costs

- **Justification of Resources** – justify why you believe that the creativity@home initiative will enhance the experience of the researchers and strengthen your research programme. Broadly outline what type of activities you are interested in pursuing and the associated need for the resource.

The assessment process will assess the benefit of the creativity@home activity to maximising the potential of your Hub research programme.