CALL FOR FEASIBILITY STUDIES

Future Electrical Machines Manufacturing Hub

Call Type: Invitation for Proposals
Closing Date: 17:00 on 30th of September
Webinar: 11:00am on Tuesday 1st of September

<table>
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<tr>
<th>MAX. VALUE PER PROPOSAL</th>
<th>£50,000 AT 80% FEC</th>
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<tbody>
<tr>
<td>FUNDING LEVEL AVAILABLE</td>
<td>80% FEC</td>
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<tr>
<td>TOTAL RESOURCE AVAILABLE FOR THE 1ST CALL</td>
<td>UP TO £150,000 AT 80% FEC</td>
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<td>CALL FOR PROPOSALS OPEN</td>
<td>1ST AUGUST 2020</td>
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<td>CALL FOR PROPOSALS CLOSE</td>
<td>30TH OF SEPTEMBER 2020</td>
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<td>MEETING OF REVIEW PANEL</td>
<td>W/C MONDAY 12TH OF OCTOBER 2020</td>
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<td>NOTIFICATION OF SUCCESSFUL/ UNSUCCESSFUL PROPOSALS</td>
<td>W/C MONDAY 26TH OF OCTOBER 2020</td>
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<td>ANTICIPATED START DATE</td>
<td>PROJECTS MUST START WITHIN 3 MONTHS OF RECEIPT OF THE OFFER LETTER.</td>
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1. SUMMARY

The EPSRC Future Electrical Machines Manufacturing (FEMM) Hub is offering 3 awards up to the value of £50,000 each (80% fEC) to support Feasibility Studies at TRLs 1-3. The call is open to all UK academics eligible to receive EPSRC funding and whose institutions are not currently involved with the FEMM Hub (for a list of our current partners please click here). Proposals are envisaged to have a duration of 6-12 months and maximum value of £62,500 at full Economic Cost (fEC), with funding to be awarded at 80% of fEC. Our first call is the primary mechanism for new academic collaborators to engage with the FEMM Hub and if successful could potentially provide a springboard to larger follow on funding.

2. BACKGROUND TO FEMM HUB

The vision of the FEMM hub is to put UK manufacturing at the forefront of the electrification revolution. The
Hub addresses key manufacturing challenges in the production of high integrity and high value electrical machines for the aerospace, energy, high value automotive and premium consumer sectors. Through delivering world-class manufacturing research and innovation, the Hub aims to assist UK manufacturing to capture significant value in the electrical machine supply chain, improve UK industrial productivity and deliver the environmental benefits and cleaner growth at the heart of the UK’s industrial strategy. The Hub combines and capitalises on the UK’s world leading electrical machine and manufacturing research within our universities and the translational expertise and industrial scale facilities within our High Value Manufacturing Catapult (HVMC): University of Sheffield’s Electrical Machines and Drives Group (UoS/EMD), Department of Automatic Control and Systems Engineering (UoS/ACSE), Advanced Manufacturing Research Centre (AMRC), Newcastle University’s Electrical Power Research Group (NCL), and University of Strathclyde’s Electronic and Electrical Engineering Department and Advanced Forming Research Centre (AFRC). Our research agenda has been set in close collaboration with our industry partners – the Hub is a £28.4m activity with £13.7m from industry partners and £4.7m from collaborating institutions to match EPSRC’s £10m investment.

For more information, please visit our website: [https://electricalmachineshub.ac.uk/](https://electricalmachineshub.ac.uk/)

3. **SCOPE OF THE CALL**

This call will fund proposals that complement existing FEMM Hub research (please see details of our grand challenge projects below), fill gaps or add cross-cutting activities. Proposals should demonstrate the potential, if feasibility is demonstrated, to significantly improve the UK’s manufacturing capabilities. As such, Industry are encouraged to participate as project partners to demonstrate a pathway to manufacture, although cannot receive funding directly.

**Grand Challenge 1 – Manufacturing-led innovation in electrical machines**

This theme is concerned with realising the dividends that come from much closer integration between innovations in electrical machine design and advanced manufacturing methods.

1.1: Realising novel machine design freedoms from innovative manufacture.
1.2: Manufacturing of features for in-service monitoring.

**Grand Challenge 2 – Process Innovation, Monitoring and Simulation**

This theme is focused on the numerous processes that underpin electrical machine manufacture. The research will draw heavily on modelling and simulation to explore the influence of current and emerging processes on final machine performance.

2.1: From nominal core properties to in-service performance.
2.2: Manufacturing high performance coils and ultimate control.
2.3: Manufacturing technologies for flexibility and customisation.
2.4: In-process tracking and tractability for zero-defect manufacture of electrical machines.

4. **FUNDING AVAILABLE**

The FEMM Hub is initially providing up to 3 Feasibility Studies. The funding available for each Feasibility Study is up to £62,500 (FEC); with 80% being funded directly from the Hub (i.e. maximum grant per project of £50,000). In line with standard process for 80% FEC support, it is expected that the remaining 20% will be contributed by the collaborating institution. Projects may be a duration of 6-12 months, with a maximum duration of 12 months. The funding is intended to cover the costs of the PI and supporting researchers in
undertaking their research feasibility project. Funding will therefore primarily cover staff time (including associated Indirect and Estate costs), with the remainder supporting consumables and travel. Funding for PhD students is not available.

5. **EQUIPMENT**

Funding for the purchase of equipment is not eligible. However, the FEMM Hub partners are committed to supporting the UKs research community and will provide reasonable access to facilities, equipment and expertise to proposals funded through this call (subject to terms and conditions agreed on a case by case basis). If you believe that your proposal would benefit from access to specialist equipment offered by any of the partners, please contact FEMMHub@sheffield.ac.uk where your query will be passed to the relevant person.

6. **ELIGIBILITY**

The call is open to all UK academics eligible to receive EPSRC funding and whose institutions are not currently involved with the FEMM Hub (for a list of our current partners please visit: [https://electricalmachineshub.ac.uk/about-us/hub-partners/](https://electricalmachineshub.ac.uk/about-us/hub-partners/)). We would especially welcome applications from early career researchers. For guidance on eligibility please visit: [https://epsrc.ukri.org/funding/applicationprocess/fundingguide/eligibility/investigators/](https://epsrc.ukri.org/funding/applicationprocess/fundingguide/eligibility/investigators/)

Sub-contracting is not permitted. Individuals may submit no more than one Proposal as Principal Investigator plus one as Coinvestigator, or two as Co-Investigator, to this call.

7. **HOW TO APPLY**

Full completion of the proposal form is required. You will also be required to submit a letter of support from supporting Universities. Letters should be on headed paper, signed and dated.

Completed forms must be submitted electronically to FEMMhub@sheffield.ac.uk by 17:00 on Wednesday 30th of September 2020. We will acknowledge receipt of your proposal and assign a unique number to your application.

8. **ASSESSMENT PROCESS**

Submissions will be considered by the Executive Board supported by the Industrial and Scientific Advisory Boards to ensure a fair and unbiased process. In order of importance, the evaluation criteria will be:

- **Suitability**: Is the proposal complimentary to the FEMM Hub Grand Challenge Projects and is the proposal at an appropriate TRL?
- **Research Quality**: Is the proposal likely to result in high quality research outcomes, in the form of journal publications, patents etc.?
- **Novelty**: Does the proposal contain genuine scientific novelty and is the work timely? Is it being addressed elsewhere?
- **Relevance**: Is the proposal relevant to the interests of industrial partners or represent the opportunity to significantly improve the U.K.’s manufacturing capability?
- **Ambition**: Does the proposal offer suitable levels of challenge, ambition and risk? High-risk, high-return studies are encouraged.
- **Potential**: Is the approach credible and will the team be able to deliver? If feasibility is demonstrated is there potential for developing a larger collaborative project, either at a similar fundamental level or
9. TERMS AND CONDITIONS

The host institution of the successful application will be required to enter into a legal binding agreement with the University of Sheffield that will incorporate the UKRI standard terms and conditions. Applicants are asked to consult their University’s research office ahead of submitting a proposal to this call. This award is contractually and financially from The University of Sheffield to the award holder’s University.

10. GDPR

The data you provide will be utilised and deleted in alignment with GDPR requirements.

11. CONTACTS

If you have any questions about the feasibility call, we invite you to attend the webinar which is taking place on the 1st of September at 11am. To register for this webinar please contact hub manager L.Keefe@sheffield.ac.uk.

If you are unable to attend the webinar then please direct your questions to FEMMhub@sheffield.ac.uk.

12. DEADLINE

Do not submit your proposal via JeS. Completed proposal forms (in WORD or pdf) must be submitted as an e-mail attachment to:

FEMMhub@sheffield.ac.uk

Proposals must be submitted by 17:00 on Wednesday 30th of September 2020. We will acknowledge receipt of your proposal and assign a unique number to your application.

13. EQUALITY, DIVERSITY AND INCLUSION

The FEMM hub supports the value of the diversity of its staff and stakeholders, enabling all to realise their full potential by valuing the contribution of everyone and recognising and harnessing the benefits that differences can bring. We are committed to eliminating unlawful discrimination and promoting equality of opportunity and good relations across and between the defined equalities groups in all of their relevant functions. Accordingly, no eligible funding applicant will receive less favourable treatment on the grounds of gender, marital status, sexual orientation, gender re-assignment, race, colour, nationality, ethnicity or national origins, religion or similar philosophical belief, spent criminal conviction, age or disability. Equally, all proposals will be assessed on equal terms, regardless of the sex, age and/or ethnicity of the applicant. Proposals will therefore be assessed and graded on their merits, in accordance with the criteria and the aims and objectives set for the call. As long as you are employed by an eligible UK institution and satisfy EPSRC’s current regulations on investigator eligibility you are eligible to submit a proposal, regardless of your nationality or ethnicity.