

Medical Technologies Proof of Concept Call

Introduction

Musculoskeletal (MSK) conditions are extremely common with one in five people consulting the GP about a musculoskeletal problem each year¹. While such conditions are not fatal they can be life limiting, impacting negatively on an individual’s quality of life; and with an ageing population the prevalence of MSK conditions is predicted to grow. However, the cost of treating this is further exacerbated with rising levels of obesity and an increasing sedentary lifestyle².

Treating the two most common forms of arthritis: osteoarthritis and rheumatoid arthritis is estimated to have cost the economy £10.2 billion in direct costs to the NHS and wider healthcare system in 2017³. Cumulatively the healthcare cost will reach £118.6 billion over the next decade.⁴

Reports by the Milken Institute and the Work foundation^{5, 6} highlight the need and importance of medical technologies to address the challenges of early and preventative interventions, disease management and treatments/cure.

Versus Arthritis is seeking to support innovation and translation in medical technologies to address MSK conditions, with emphasis on developments with clearly defined commercialisation routes. This is the fifth translational medical technologies call in partnership with the Medical Technologies Innovation Knowledge Centre (IKC).

Funding scope

In this initiative, we seek to fund projects that develop:

- Medical devices
- Orthotics
- Implantable therapeutic delivery
- Imaging

Technology Readiness Level (TRL)

1-2		3	4	5-6	7-8	9		10
Clinical need defined & knowledge created		Solution Generation	Investment Validation	Development & Validation	Clearance & Clinical	Outputs	Outcomes	Post Launch Market Support
Define clinical need/relevance Develop/refine solution IP	Generation of Prototypes IP Preliminary Value Proposition Risk Assessment	Market Research FTO searches Pilot Studies	Design Control Regulatory Capability	Market support data Supply Chain Reimbursement considerations Capability Clinical	Regulatory Approval Closure & Evaluation Metrics Feedback	Launch SOP		Product Support data White Paper Product Recall Support



Funding is intended to support Proof of Concept projects to advance technologies through technology readiness level (TRL)s 3 and 4, leading to investment and product development by industry at TRL 5 and beyond, thereby reducing the risk for future investment or license to a third party. Grants of up to £100,000 will be awarded to successful applicants who can demonstrate a clear commercial solution to an MSK clinical need. This call will not fund basic research projects. It is expected that projects will have been developed to a stage where further validation of the technical, market or commercial concept is required to attract further commercial investment. This funding aims to enable technologies to show proof of concept and reach TRL 5 by the end of the project funding.

Successful project proposals will be able to demonstrate from the outset that they have a well-defined and achievable end point with a clear commercial objective and show how they will identify, address and remove technical uncertainty and risk. Industry involvement is strongly encouraged.

A total budget of £500k has been allocated to develop exciting innovations from research findings to a commercially viable product and or service to help improve the lives of those living with MSK conditions.

Access to the grant funding is via a two-stage process and applications should only be made on approved Versus Arthritis application forms. There is no requirement that projects have previously received Versus Arthritis funding. This call is seeking high quality, well defined proposals that require demonstrating proof of concept with the aim of developing a commercially viable product. Proposals demonstrating positive industry support or collaboration with well-defined clinical needs and clinical engagement are strongly encouraged.

About Versus Arthritis

Together we're defying arthritis, pushing for better answers for all affected.

About Medical Technologies IKC

Based at the University of Leeds in the UK, the Medical Technologies IKC is an Innovation and Knowledge Centre funded in its second phase by the Engineering and Physical Science Research Council.

Medical Technologies IKC delivers innovation right across the medical technology spectrum - from implantable devices through to regenerative therapies, with a specific focus on regenerative devices. The Centre focuses on technologies that have viable and feasible routes to commercialisation and supports these through an approach that reduces late failure and cost.

VERSUS ARTHRITIS



Application process

How to apply

Versus Arthritis normal eligibility rules apply. The application will be led by a single university, hospital or recognised academic research institute based in the UK. Please note applicants are not restricted to current Versus Arthritis grant holders.

The application procedure is a two-stage process. The first stage will require applicants to submit a completed Expression of Interest form. These submissions will be reviewed by an expert panel and successful applicants will be invited to submit a full application proposal.

Expression of Interest applications should be submitted by **5pm 25th March 2020** via [Grant Tracker](#).

If you have any questions regarding the application process, please contact either **Sarah Odoi** (s.odoi@versusarthritis.org) or **Graeme Howling** (g.howling@leeds.ac.uk).

Eligibility criteria

This call is open to university, hospital or recognised academic research institute based in the UK and is not restricted to current Versus Arthritis grant holders.

This call is not directed to industry partners. However, bids from University Partners which demonstrate evidence of an industry-defined market need and projects with industry partner contribution are encouraged.

Projects must be able to demonstrate:

1. Fit with the funding scope outlined above.
2. Genuine patient involvement and user engagement.
3. Clear achievable project outputs with a well-defined product concept that has defined commercial application.
4. Clear demonstration of how technical uncertainty and risk will be identified, addressed and removed.
5. The technology under development will have attained Technology Readiness Level (TRL) 5 by the end of the project funding.
6. Clear benefit in harnessing the research and development strengths of the University Partner(s) and, where possible, partnership with NHS hospital trusts.
7. Leadership by an academic with a good track record in the selected technology.
8. Direct industrial contribution and/or company interest.



9. Clinical need and/or benefit

10. Confidence that the Medical Technologies proof of concept funding can add value.

Management of the project

Successful project(s) will be managed by Versus Arthritis and Medical Technologies IKC to ensure successful project delivery. Project teams will be expected to provide monthly project update reports to ensure milestone and deliverables and project expenditure remain on track. There will also be a requirement for quarterly project meetings with Versus Arthritis and Medical Technologies IKC.

Call Timeline

Expression of interest proposals submission deadline	5pm 25th March 2020
EOI Feedback and invitations to full application	21st May 2020
Closing date for full applications	8th July 2020

Contacts

If you have any further questions, please contact:

Versus Arthritis

Sarah Odoi

IP Development Manager

s.odoi@versusarthritis.org

Medical Technologies IKC

Graeme Howling

Technology Innovation Manager

g.howling@leeds.ac.uk



References:

1. Arthritis Research UK National Primary Care Centre, Keele University (2009), Musculoskeletal Matter
2. NHS England 2013/14 CCG programme budgeting benchmarking tool online at <https://www.england.nhs.uk/resources/resources-for-ccgs/prog-budgeting>
3. Arthritis Research UK: State of Musculoskeletal Health 2019
4. York Health Economics (2017). The Cost of Arthritis: Calculation conducted on behalf of Arthritis Research UK (unpublished).
5. HEALTHY SAVINGS, Medical Technology and the Economic Burden of Disease. *A Chatterjee et al* July 2014
6. Adding Value: The Economic and Societal Benefits of Medical Technology. *S Bevan et al*, 2011