



Defence and Security
Accelerator

Technical brief and challenges

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Challenge 1

Engineered blood

- high value asset
- logistical challenges
- potential for further functionality
- how far can we push the innovation?
- tissue engineering – blood as a tissue
- future-focussed theme

Challenge 2

- survivors with severe tissue injury
- progressive tissue loss
- effect of protracted evacuation?
- what can be done during this time?
- mechanobiological and biophysical routes to a regenerative agenda

Soft tissue
regeneration
(mechanical and biophysical
approaches)

What we want



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High-risk, high-potential-benefit research proposals that will demonstrate or de-risk the exploitation of technologies.

- this includes concepts or practical demonstrations (components or sub-systems as well as complete systems), supported by scientific understanding and analysis

What we want



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Proposals should:

- be clear on how they apply to military medical care and the potential benefit that they could provide
- describe technologies that could be integrated into existing MOD systems and facilities, taking into account training burden and the austere environments in which they will be used
- describe technologies that can be used very early after injury
- focus on soft tissue
- be innovative and disruptive (in other words allow a fundamental change compared to established approaches)
- demonstrate the approach at a proof-of-concept level



What we don't want

- demonstrations of existing 'off the shelf' products
- consultancy, paper-based studies, literature reviews or projects that only offer a written report
- marginal improvements in capability, solutions that offer no significant benefit to Defence
- technology watch or horizon scanning
- proposals without clear detail on the metrics that will be used to define the success of the solution
- projects that can't demonstrate feasibility within the timescale
- solutions that can't be applied to the front line
- purely storage solutions
- improved methods of debridement or other purely surgical procedures

Exploitation

- we want to exploit successful work
- we have specific routes and people to help with this
- we have experience in exploiting lessons/products from research in the medical area
- the route may be different for different projects
- technical partnering



Press release

New research shows need for emergency responders to carry blood

Dstl research shows that using blood products to treat severely injured patients before they reach hospital improves chances of survival.

Global lessons: developing military trauma care and lessons for civilian practice

T. Woolley^{1,*}, J. A. Round^{2,3} and M. Ingram⁴



In summary



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How will the competition work?

Emma Howe, Themed Competition Manager

Notice

Competition document: regenerative medicine at the front line

Updated 21 December 2017

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This [Defence and Security Accelerator](#) (Accelerator) themed competition 'regenerative medicine at the front line' is seeking proposals for regenerative technologies that can be applied very early after severe, traumatic injury resulting from combat or acts of terrorism. This competition aims to make a real difference by saving lives and reducing disability.





Competition structure

2

Challenges



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Bioengineered blood components

Challenge

1



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The preservation and
regeneration of soft tissue
using biophysical approaches

Challenge

2



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What we want



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What we don't want



Competition value

Up to £1 million available

Online bid submission

Submit your proposal to the Accelerator

The Defence and Security Accelerator funds proposals for proof-of-concept research. If you already have a product, you should speak to the [Defence Suppliers' Service](#).

New users should click the 'Start now' button below. It'll allow you to set up an account with us. You can then begin putting together your proposal for funding (or [if you've already registered sign in here](#)).

You'll be able to save your proposal and finish it later if you need to.

You can submit proposals for both our themed competitions and the enduring competition here and they'll be assessed before we decide if we'll fund or not.

You mustn't submit any classified information to the Accelerator. [Find out more about government security classifications](#).

Start now >

Or [sign in](#) if you already have an account.

Guidance

[Submitting your proposal](#)

[How your proposal is assessed](#)

[How we protect your IP \(intellectual property\)](#)

[Terms and conditions](#)

Intellectual property



Assessors



Technical partners



Collaboration





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Technical queries

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gov.uk**

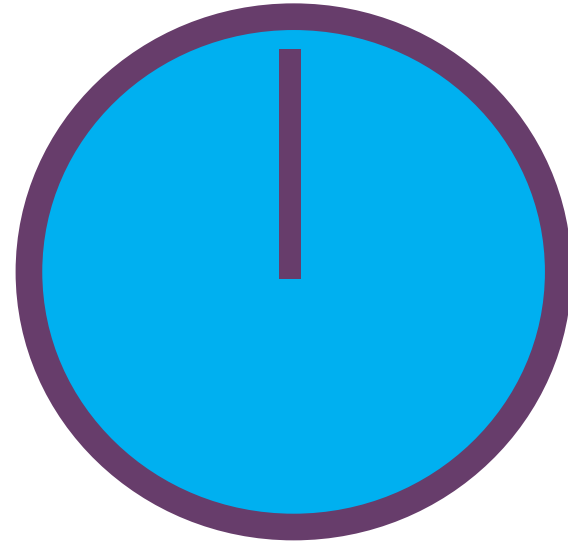


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General queries

accelerator@dstl.gov.uk

Competition closes



11 April 2018 at midday

Contact us:



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