

# News story: New bullet-proof material unveiled as Defence Minister visits MOD's research hub

On her visit to the Defence Science and Technology Laboratory (Dstl), she spoke with scientists who are creating a lighter, more flexible body armour for soldiers which uses a unique synthetically adjusted ceramic material that still stops bullets.

Defence Minister Harriett Baldwin said:

We've spent millions on innovation this year, developing technologies like a new way to uncover insurgents' fingerprints to mini-drones that investigate chemical hazards. The goal is always to help our Armed Forces defend the UK, and this next generation of armour will make our troops even more alert and effective on the battlefield.

Research has indicated soldiers wearing ceramic armour could see a 35 per cent weight reduction, which could make them faster and more comfortable in a warzone, whilst maintaining a high level of protection.

The synthetic biology for the armour project has been running for four years and Dstl are now ready to put samples through hardness testing. They also confirmed that a scale-up process is underway to produce samples that can be used for live-fire testing.

£6 million has been invested in synthetic biology to date for novel materials research, reaching out to academia and industry via a series of competitions. In some cases these competitions have been run jointly with the Research Councils, in others they have been run independently using MOD organisations, such as the Defence Accelerator.

The MOD has committed 1.2% of the rising £36bn defence budget, supported by a dedicated £800m Innovation Fund, to cutting-edge science and technology. 2017 has seen a number of exciting projects developed as part of the drive, to name just a few:

- A pocket-sized drone and a mini-detector known as Snake Eyes are amongst the new high-tech gadgets set to investigate future chemical or bio-hazards.
- A world-first in the US saw British soldiers controlling 4x4s with Xbox-style controllers and a UK driverless truck leading American trucks in an unmanned convoy, providing a glimpse into the future of getting much-

needed supplies to the front line.

- Cutting-edge fingerprint technology aimed at targeting criminals.
- A Laser Directed Energy Weapon that is capable of acquiring, tracking and engaging aerial and surface targets at various ranges and in different weather conditions.
- A new lightning-fast protection system, Icarus, which will be able to detect and defeat threats to armoured vehicles within 100 milliseconds.

The Defence Accelerator funds the development of suppliers' innovative ideas and provides support through to potential application. The Accelerator also funds innovations for defence and security which support economic growth and prosperity in the UK.

The Accelerator is approaching its first anniversary and has enjoyed great success, including:

- Launching 8 themed competitions
- Running 18 competition events
- Assessing over 630 proposals
- Funding 147 proposals with an investment of £17.3m