



Leonardo-led team to demo 'active armour' to protect British Army vehicles and their crews against current and future weapons

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- **Called 'Icarus', the project will help ensure that British Army vehicles can affordably use the latest Active Protection System (APS) technologies to counter the evolving threat posed by hostile weapon systems**
- **Leonardo will lead a team of UK experts to lay the groundwork for the potential deployment of the technology across the British Army's fleet of land vehicles**
- **Leonardo in the UK has a heritage in protection systems, most recently having provided equipment to counter IED threats to the British Army and integrated Defensive Aids Systems across the UK's helicopter fleet and on the Eurofighter Typhoon combat jet**

**London, 13 September 2017** – Leonardo has been selected by the UK Government's Defence Science and Technology Laboratory (Dstl) to lead a team of UK companies in work that will help protect British Army vehicles against current and future weapons. Under a Technology Demonstrator Programme (TDP) called 'Icarus', the team will develop and demonstrate a way to affordably integrate 'best of breed' technologies in a category known as 'Active Protection Systems' (APS), preparing them for deployment across the Army's fleet of land vehicles. Part of the TDP will see the Leonardo team demonstrate and evaluate an operational prototype against 'live fire' weapon engagements. Team members working with Leonardo to deliver the Icarus TDP are BAE Systems, Lockheed Martin UK, Ultra Electronics, Frazer-Nash, Brighton University, Abstract Solutions, Roke Manor Research and SCISYS.

The project is responding to an operational environment where armour by itself will not be sufficient to defend against the capabilities of future weapon systems, in particular threats such as Rocket Propelled Grenades (RPGs) and Anti-Tank Guided Weapons (ATGW). In order to counter this growing threat, a number of Active Protection Systems (APS) technologies have been developed by industry and are available as off-the-shelf solutions to supplement the physical protection that is offered by an armoured vehicle. These APS technologies generally fall into either of two categories: 'soft' APS solutions that are focused on early threat detection and which attempt to disrupt, decoy or spoof the incoming threat and 'hard' APS systems that seek to defeat the incoming weapon system by physically intercepting it, known in military terminology as a 'kinetic effect'.

Whilst these APS technologies are currently available and will continue to be developed by industry, it is clear that no single solution is suited to every threat scenario or indeed all threats. The key challenge is to be able to rapidly and affordably tailor a vehicle's combination of APS technologies to optimise survivability prior to, or during, deployment.

Against this backdrop, the primary objective of the Icarus TDP is to develop and demonstrate a UK sovereign Modular, Integrated Protection System (MIPS) Electronic Architecture (EA) that enables "best of breed" APS sensors and countermeasures to be selected, integrated and deployed as

necessary to defeat a wide range of current and future battlefield weapon threats. Not only must the architecture be easy to use, it must also be affordable and dependable and ultimately form the basis of a new MIPS defence standard, similar in principle to that which has been developed for the UK Generic Vehicle Architecture (GVA) standard.

In order to deliver maximum value for money from the TDP, Leonardo has assembled a team that brings together a range of UK experts in their respective fields as well as representation from UK academia that can draw upon previous UK investment in related technical areas. Under the Icarus TDP, in conjunction with Dstl, the Leonardo team will establish and cultivate an industry APS Community of Interest (CoI). A key objective of this CoI initiative will encourage engagement across industry to help ensure the very best APS technologies available – now and in the future – are considered in the MIPS EA.

Under the related Dstl Common Defensive Aids System (CDAS) programme, Leonardo has and continues to undertake similar APS integration activities for the UK helicopter fleet. Both the CDAS and Icarus programmes build on decades of experience in the provision of integrated Defensive Aid Suite (DAS) solutions and protection systems to both the UK and allied armed forces. Current examples of DAS provided by Leonardo include the systems which protect the UK's AW159 Wildcat, Apache, Puma, Chinook and Merlin helicopters, all of which bring together a collection of sensors and protective equipment into a comprehensive defensive suite. The company also leads the EuroDASS consortium, which provides the Praetorian defensive aids sub system (DASS) for the Eurofighter Typhoon.

### **About Dstl**

The Defence Science and Technology Laboratory (Dstl) maximises the impact of science and technology (S&T) for the defence and security of the UK, supplying sensitive and specialist S&T services for the Ministry of Defence (MOD) and wider government. Dstl is an Executive Agency of the MOD, run along commercial lines. It is one of the principal government organisations dedicated to S&T in the defence and security field, with four sites; at Porton Down, near Salisbury, Portsdown West, near Portsmouth, Fort Halstead, near Sevenoaks and Alverstoke near Gosport. Dstl works with a wide range of partners and suppliers in industry, in academia and overseas.

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