Dstl: our role in cyber defence

Paul Kealey leads over 700 word-leading scientists at the Defence Science and Technology Laboratory (Dstl) who create cutting edge science for the UK's defence and homeland security capability.

The 2021 Integrated Review (IR) saw huge investment in the cyber and space security areas, and Paul explains how Dstl will ensure the money is used to its full potential to protect the nation.

> The value of government money is taken extremely seriously, and means that we make sure it is used in the most cost effective manner and with maximum benefit.
>
> We use the funding to make sure the military has the capability it needs now and in the future to keep the UK safe.
>
> We also look at the government's agenda of levelling up, making sure we look at how investments across the whole United Kingdom are delivered and making sure that we develop industry, export products and jobs for the whole of the nation.

The importance of research in Space and Cyber

> We are facing many challenges in cyber and space where the UK is constantly being challenged in the cyber domain. It is not optional and we need to be ahead of the cyber curve to protect the UK's commerce and finance, the multi-systems used in defence and security.
>
> Similarly, in space, it is crucial we take part in space research, not just for a 'safer spaces sake', but it is a key enabler where it is used for timing the planks of the communication, earth monitoring (civil or military) and for navigation, so having a safe and secure set of space capabilities pedals the whole of the UK economy.

Threats to the UK's cyber infrastructure

> It's a continuing problem for all parts of the industry and defence, from banks to hospitals and even your home computer, but it is actually the National Cyber Security Centre that lead on the providing the security on the national infrastructure.
>
> Dstl's role in defence ensures that our military equipment, and our

military systems have that equal world-class level of security and are safeguarded ahead of any planned and potential threats.

How we use data

We use data in a number of ways: firstly to support military commanders to help them make better decisions, for example data can help see what's on the other side of the mountain and what's going on in the battlefield.

Data is used to understand what another Army or adversary are doing, so Dstl experts will develop algorithms that can help provide intelligence, giving personnel the information they need and at pace wherever they are.

We also develop data to ensure even better decisions are made in investment and where defence should invest its money, which capability area is a priority. Dstl supports across government, advising them what they should be investing in.

Keeping ahead of the threat

Intelligence is gathered as part of a cross-government effort, for example the UK's Defence Intelligence organisation will lead on the intelligence signal.

Dstl works under the Chief Scientific Advisor (CSA) Dame Angela McLean where we follow her science and technology strategy, and this looks at generation after next technologies that don't just look ahead, but can predict and plan for the likelihood of future attacks.

We are making computers and algorithms of the future, not just to be in front, but actually jump ahead. We are making future computers and future algorithms that will ensure we are secure and without risk of vulnerabilities, in essence, we are jumping ahead of what technology currently offers.