# [News story: Using the power of data science to answer world-wide challenges](#)

Dstl is working in partnership with Government Communications Headquarters (GCHQ) and the Alan Turing Institute – the national Institute for data science – on a number of defence challenges that exploit the power of data science.

As part of this work, Dstl took part in a Data Study Group, a regular series of events run by the Alan Turing Institute in which researchers work on real-world data science challenges over the space of a week. Dstl contributed a project for the Data Study Group to explore whether machine learning could be used to identify code vulnerabilities. The aim was to develop potential practical solutions; such as improved detection of software vulnerabilities that might decrease software resiliency or be exploitable by potential hackers.

Around seventy data science researchers took part in the Data Study Group, drawn from universities from around the UK and with specialisms ranging from machine learning, computer science and deep learning.

Technical support for those participating was provided by Dstl staff, contributing and actively supporting the study groups.

Results are expected to be applied in real world situations and to indicate where more work with The Alan Turing Institute is needed.

Glen Hart, technical lead for Dstl, said:

> This was, in effect, a data-centric hackathon where the brightest minds tackled some of the biggest data issues for defence today. It's fantastic to be partnering with the Institute and fascinating to see how different approaches can help defence, security and beyond.

And if you think you've got what it takes to answer questions like those set for the data study group, here's a brand new challenge set by Dstl's very best data scientists!

Repeated patterns can often be illustrative of underlying information within data. There is some information hidden in the following phrase, which relates to what Dstl, GCHQ and the Alan Turing Institute are looking for: "We draw cartoons to invent signals for insight and jest."

Follow us on Twitter @dstlmod and we will announce the answer soon!

Find out about current [data science roles](#)

Find out more about the Turing's Data Study Group series and our [partnership](#)