

in the UK. NCMEC then disseminates the CT reports to the NCA via a secure connection. These are downloaded daily.

22. The NCA operates a Referrals Bureau to receive CT reports from NCMEC and referrals from others. Bureau officers undertake intelligence and development work to determine the nature of offending, the identity and/or location of the perpetrator, and any ongoing risk and threat to children. Results are graded and either disseminated to UK police forces through agreed national protocols or are dealt with by NCA operational teams; allocation and prioritisation is dependent on the immediacy and assessed severity of risk.

23. The world-wide level of reports of child sexual abuse material (CSAM) submitted to NCMEC predominantly by US based industry has increased exponentially, from around 110,000 reports in 2004 to over 18.4 million in 2018.

24. The number of UK industry reports, primarily from NCMEC, is summarised in the following table:

Year	UK related Industry Reports of CSAM
2009	1,591
2010	6,130
2011	8,622

could be carried out. They offered a variety of other technical support to this operation;

- BAE created data visualisation for communications and geographical data;
- BAE assisted with intelligence gathering which led to the arrest of a suspect, by providing technical advice around the online platform being used and collecting images and text from the online platform. This investigation resulted in two suspects being sentenced to three years and five years imprisonment respectively.
- BAE created a 'web scraper' which assisted in the extraction of identifiers of over 2,000 users. The scrape facilitated easy interrogation of retrieved data which if manually assessed would have been resource intensive and time consuming;
- BAE created an automated process for extracting the chat logs from online forums into Excel spreadsheets, reducing the resourcing requirements for the team and allowing for more efficient interrogation of large volumes of intelligence to identify potential CSAE offending;
- BAE wrote code to automate the processing of social media chat logs into Excel files enabling investigators to more efficiently review large volumes of data for evidence of criminal offending;
- BAE created an automated process for converting NCMEC referral files into Excel spreadsheets for processing.

31. A live-streaming platform, has been pro-actively engaging with the NCA to improve reporting processes in relation to CSAE activity on its platform. On receiving feedback from the NCA that information provided in their NCMEC referrals was

insufficient to identify potential suspect users inciting children to engage in sexual activity online, the platform changed its reporting systems in order to provide additional information which would assist in identifying these accounts.

32. Through its online reporting portal, the same provider also provided a facility by which law enforcement can flag potentially suspect user accounts for further review and action by the platform. Following discussions with the NCA the platform is also exploring the potential for automatic detection of suspect accounts, for referral via NCMEC.

Strategic Projects involving Industry

33. In 2013, the NCA was asked to provide specialist advice and guidance to the Prime Minister's office on how offenders accessed indecent images of children (IIOC) online. The NCA supported the Prime Minister's office in a project with Google and Microsoft to make it harder for people to access IIOC through their search engines. The NCA worked closely with both companies to enhance their understanding of offender behaviour and offending pathways. This included the creation by the NCA of a list of 'black' and 'grey' terms of child sexual abuse that were known to be commonly used by offenders. The companies used this information to create algorithms that prevented IIOC being returned in search results. This work involved discussions with the companies to agree the type of terms that would be accepted so as to avoid blocking people who were searching for legal content, such as research and press articles associated with the subject. Google had over 200 staff working on this project. Both companies were cooperative during discussions and were keen to use the NCA's information to reduce offending via their search engines. The

algorithms resulted in an immediate and significant decrease in the number of searches returning illegal content. The solution was rolled out into all languages that they operated in across the world. The Prime Minister announced the results of this work to the public at an industry roundtable meeting at 10 Downing Street in late 2013.

34. Google provided the NCA with two free branded YouTube channels. The NCA uses these channels to disseminate videos, messages, competitions etc to raise awareness of online CSAE issues. There are issues with the 'related videos' feature which automatically links to other videos with similar themes. In the past this function has sometimes led to NCA material being linked to inappropriate videos. Feedback received from Google is that this cannot be disabled. In an attempt to combat this issue, the NCA sought to secure additional bandwidth that would enable videos to be streamed directly from the NCA-CEOP website. However, this was cost prohibitive.

35. Visa Europe sponsored CEOP's Financial Investigation officers for a number of years, providing financial support, and strategic and tactical support, to enhance CEOP's ability to combat the use of payment cards to purchase IIOC online. Through this support, and wider international law enforcement efforts, the use of mainstream payment mechanisms dramatically decreased over a number of years. At the time of writing, it has been virtually eradicated from the mainstream providers and there is no further requirement for a dedicated Financial Investigation capability within NCA-CEOP. Visa Europe has continued to support the NCA in many other areas, including the provision of funding for NCA-CEOP's international capacity building programme in priority countries, and the sponsorship of NCA-CEOP's