

Biometrics and Forensics Ethics Group

Notes of the 4th meeting held on 5th June 2018 at Home Office, 2 Marsham Street, Westminster, London, SW1P 4DF.

1.0 Welcome and introductions to morning session

1.1 The Chair welcomed all to the 4th meeting of the Biometrics and Forensics Ethics Group (BFEG). The chair welcomed Professor Louise Amoore, professor of human geography at Durham University, whose appointment to the BFEG had been announced on 26 March 2018.

1.2 Apologies had been received from Simon Caney.

2.0 Live Facial Recognition Demonstration

2.1 The Metropolitan Police Service (MPS) technical, operational and chief officer leads for Live Facial Recognition (LFR) presented this item and provided a demonstration of the LFR technology currently deployed by the MPS during ongoing trials.

2.2 Members were informed that when deployed, two different watch lists were utilised. The operational watch list, compiled specifically for each event, comprised the images of individuals:

- wanted for crime;
- wanted on warrant;
- on bail with conditions not to attend events;
- with banning orders;
- who are known criminals who operate in a crowded space; and
- whose previous behaviour at similar events has compromised the security plan, or who by their previous behaviour could be reasonably expected to compromise the security in place at events.

The second, the 'blue' watch list, comprised the images of members of staff present at the event. The 'blue' watchlist was used to generate system metrics such as the false-negative identification rate.¹

2.3 The operation of the LFR system was described. When an individual passed into the field of view their face was detected, 'templified'² and compared to the watch lists. A match between the image captured and the operational watch list generated an alert. The matching threshold³ of the equipment was usually set at the default recommended by the software manufacturer, NEC Corporation. The threshold was chosen to minimise the false

¹ The false-negative identification rate is the number of times that somebody known to be present walks past the camera and an alert is not generated.

² The process by which facial recognition software creates a numeric representation of the face based on the position, size and shape of facial features.

³ The matching threshold sets the confidence level at which a match will be reported

negative alert rate, whilst maintaining the false positive alert rate at less than 0.1%. It was noted that the custom threshold could be altered where necessary, for example to accommodate the detection of individuals with an 'average face', whose faces generated a high number of alerts. Multiple images of an individual could be loaded onto the system to improve accuracy.

2.4 When a match occurred an alert was relayed to the controlling officer operating the system. The alert contained the watch list entry to which the subject has matched, the facial image of the subject for whom the alert had been generated, a score for the match⁴, and a 'context' image⁵. The alert allowed the controlling officer to assess whether it was necessary to engage with the individual to confirm their identity. Members were informed that the video footage, watch list images and the context image of all individuals generating alerts, were retained for 30 days to enable the generation of performance metrics.

2.5 The controlling officer assessed the matched images and, based on their judgement, decided whether information was forwarded to an officer at the scene to request that they engage with the individual. It was emphasised that the system was entirely closed and did not link back to any other databases.

2.6 A strategic oversight board for LFR had been established by the MPS. To ensure proper safeguards were in place, a necessity and proportionality test was carried out alongside a privacy impact assessment (PIA) for each deployment. The original PIA for the trial had been reviewed by the Information Commissioner's Office. Seven more pilots were planned for completion by December 2018, after which time a full evaluation of the programme would be carried out. If the trials were deemed successful, a tendering process would be launched for the supplier of the LFR algorithm going forwards. Stakeholder engagement strategies were being developed.

Action 1: MPS to share the Live Facial Recognition PIA with the BFEG.

3.0 Discussion of Live Facial Recognition Demonstration

3.1 A member asked about the form of the engagement that the officer would have with the subject for whom a match had been recorded and an alert generated. It was explained that the officer controlling the system compared the captured image with the watch list image and decided whether the individual should be approached to confirm the individual's identity and take any necessary action. A concern was raised that at a public event an individual may not have identification on their person to confirm their identity. The officer would make a judgement on how to handle the engagement as they would in routine operational circumstances.

⁴ The score produced is not a percentage, however the score is normalised to 100 and a percentage point is generated.

⁵ The context image is the same image from which the facial image is derived but with no cropping. The context image provides additional information to the officer to allow them to identify the matching individual if they need to engage with them, such as the clothing that they are wearing.

3.2 Members were informed that the trials were carried out overtly with literature distributed at each event containing information about the trial. A member asked whether officers were briefed on the sensitivities of using the technology and what information was given to the individual apprehended as a result of a match. A concern was raised that the use of the technology and the associated interventions may be viewed as antagonistic, even if officers were acting with integrity. This could deter people from attending a public event in future where the technology was being used.

Action 2: MPS representative to share the literature on Live Facial Recognition distributed at public events with the BFEG.

3.3 A recent report published by Big Brother Watch⁶ claimed that LFR technology deployed by the MPS at the 2017 Notting Hill Carnival was inaccurate 98% of the time. MPS representatives informed BFEG members that this figure was misleading in that the thousands of instances where individuals' faces had been templated had not generated a match were not reflected. At the carnival over 100,000 people passed the camera. Only 95 alerts were generated over the entire weekend with one a true-positive⁷ match.

3.4 A member asked about the false-negative rate for the 'blue' watch list. In a controlled environment the standard procedure to generate metrics was to have ten staff pass the camera a minimum of ten times each. In the open environment, where controls were not possible, the false-negative identification rate was 30% at the Notting Hill Carnival 2017 and 22% at Remembrance Day 2017.

3.5 A member enquired as to whether any ethnicity data was collected on false-positive⁸ matches, as algorithmic bias (particularly with respect to race and gender) had been reported. Members were informed that ethnicity data was not collected as it was not possible to determine the individual's ethnicity solely from an image. It was acknowledged that some early algorithms had shown a racial and gender bias and that the training set used for an algorithm impacted algorithm performance. However, using human assessment after a match was used to mitigate the issue.

3.6 Members queried the experimental methodology and underpinning hypothesis of the trials to better understand how success would be defined. When the MPS explained that the individual deployments would be assessed alongside some level of qualitative assessment, a member recommended the separation of the trial into two parts. The first part would be a control using set parameters to assess performance. Following publication of the first part of the trial, the second part would determine whether the technology was operationally useful with respect to the time, effort and money spent on it. The MPS agreed that this would be useful, but were keen to continue to test the technology utilising crowds of people at public events.

⁶ Available from: <https://bigbrotherwatch.org.uk/all-campaigns/face-off-campaign/>

⁷ A true-positive match is when a facial recognition system correctly matches a person's face with an image held on a database.

⁸ A false-positive match is when a facial recognition system incorrectly matches an individual's face with an image of another person held on a database.

3.7 A member asked about the evaluation of the trials, specifically who would be carrying out the evaluation, what questions they would be seeking to answer, and what would be defined as a 'harm' or 'benefit' to individuals. Members were informed that the evaluation of the technical performance was being conducted by the MPS technical lead for the programme. The evaluation methodology and results had been checked by the National Physical Laboratory and the overall evaluation would be conducted by a mix of internal and external individuals, including members of the academic community. When asked whether these individuals had been identified, and if they had helped design the evaluation, the MPS responded that they would be appointing the external members shortly. The MPS agreed to share the evaluation of the trials with the BFEG once complete, at the end of 2018.

3.8 A member asked where the photos in the watch list were obtained and whether there were clear boundaries around where facial images could be derived from, i.e. excluding social media. Currently the images uploaded were drawn principally from the police custody image database. Social media images were not used as part of the trial and it was likely that their use would only be considered to assist in the identification of particularly high-risk individual.

3.9 Members noted the lack of public scrutiny in advance of the trials and associated lack of transparency. MPS representatives acknowledged that the communication strategy to date had been poor, but informed members that steps were being taken to address this.

4.0 Welcome and introduction to plenary session and matters arising

4.1 The chair welcomed all to the plenary session of the meeting.

4.2 The note of the last meeting of the BFEG had been approved by correspondence and published on the website.⁹

4.3 Actions arising from the March 2018 meeting were discussed.

4.3.1 *Action 2: Home Office Data and Identity Directorate to provide a more detailed report on mobile fingerprint ID for the next meeting.* As this is a Home Office Biometrics (HOB) initiative, any developments in mobile ID would be reported to the HOB PIA Ethics Working Group (HOB EWG). Updates would then be highlighted to the BFEG via the HOB EWG update.

4.3.3 *Actions 4, 5 and 7: Establishing working groups for database linkages and international sharing, and emerging genetic technologies, especially rapid-DNA and Y-STR, and ethical review of research proposals.* These actions were currently ongoing. The secretariat would plan initiation of these groups and include this in the BFEG work plan in the coming months.

4.3.4 All other actions were complete.

⁹ Available from: <https://www.gov.uk/government/organisations/biometrics-and-forensics-ethics-group/about/membership#meeting-minutes>

5.0 Chair's Update

5.1 The Chair informed the BFEG that a written ministerial statement would be laid [the WMS will be laid after summer recess 2018] confirming that the remit of the BFEG would be expanded to consider strategic issues relating to the use of large volume data sets by the Home Office. Members would receive an overview from a Home Office official under item 7.

6.0 Stakeholder Updates

6.1 Written updates had been shared with the BFEG from the Office of the Biometric Commissioner and the Forensic Information Databases Service (FINDS). Members were invited to provide comments on the updates. No comments were received.

7.0 Data Ethics Framework

7.1 The BFEG policy sponsor confirmed that the remit of the BFEG had been expanded to include the provision of independent ethical assessment and review the use of the large volume data sets held by the Home Office. The BFEG would be asked to advise on the Home Office Data Ethics Governance Framework prepared by the Home Office Chief Scientific Adviser, Professor John Aston. The framework would provide guidance on the analysis of large volume data, support expert and impartial discussions of capabilities and risks, and ensure balanced moral, legal and policy consideration of the use of large volume data.

7.2 Members discussed their experience of providing ethical oversight to organisations in which they operate. At the Oxford University Big Data Institute, a monthly open forum (the 'Big Data Ethics Forum') was held for academics, projects leads, researchers, and PhD students. At this forum, practical solutions to ethical problems arising in the development and conduct of research were discussed. The forum also provided an opportunity for the sharing of good practice models. The forum had been working well and created a transparent and supportive environment. At the University of Warwick, a service had been established to provide one-to-one ethical advice to staff within their organisation, which allowed researchers to be frank and to receive tailored advice.

7.3 A member raised that consideration of ethics within the Home Office should include effects on the public, groups of individuals, and of justice overall, in addition to privacy. To maximise the resultant benefits, Home Office officials were advised to consider staff training, dedicated workshops and the significance of having independent ethical input and oversight.

8.0 Home Office Biometrics (HOB) Strategy

8.1 It was confirmed that the HOB Strategy would be published in June 2018. The strategy would set out:

- what was meant by the term biometrics;
- how the Home Office used biometrics;
- the role of the HOB Programme in the development of a single integrated platform for biometrics including fingerprints and DNA; and
- the future governance of biometrics.

8.2 With the introduction of new biometric technologies, it would be important to ensure that Data Protection Impact Assessments (DPIAs) were carried out and published. It was emphasised that new modalities should not be introduced simply because they were available. Members agreed that the scope of the DPIAs should be sufficiently broad and should address human rights and the societal impact of Home Office actions. Ethical challenge from a critical friend, such as the BFEG, would be important.

8.3 Members were informed that the HOB PIA was planned for publication at the same time as the HOB Strategy.

9.0 Home Office Facial Recognition Oversight Board

9.1 Members were informed that the Home Office was creating an oversight board to improve coordination and transparency around the use of facial images, facial recognition systems, and new biometrics techniques for the purpose of law enforcement. The terms of reference for the oversight board were currently being developed. The Information Commissioner, the Surveillance Camera Commissioner, the Biometrics Commissioner, as well as representatives from the Home Office, National Police Chiefs' Council (NPCC), and the Forensic Science Regulator would be invited to sit on the board.

9.2 A member of the BFEG would also be invited to sit on the board. The BFEG were content to provide representation and looked forward to hearing of further developments in the board's establishment.

10.0 BFEG Facial Recognition Working Group

10.1 The chair of the Facial Recognition Working Group (FRWG) informed members that at its first meeting held on the 08 May, the group had discussed its draft project initiation document (PID).

10.2 The purpose of the FRWG was to determine the ethical issues surrounding the use of Automated Facial Recognition (AFR). The group would provide advice on governance of the technology and develop an ethical framework for its use.

10.3 A short paper was to be produced setting out the ethical issues on the evidence provided to the BFEG thus far. It was suggested this paper should be produced before the MPS trials conclude in November 2018. The FRWG would aim to produce this report in October 2018 and an ethical framework to support the use of the technology by Spring/ Summer 2019.

10.4 The working group asked the BFEG for comments on the PID. It was agreed that consideration of the retention of custody images should be taken forward by a separate working group.

11.0 FIND Strategy Board

11.1 A written update had been provided to the members. No comments on the update were received.

11.2 A proposal to increase the number of markers (loci) retained on the Missing Persons' DNA Database (MPDD) was discussed. Under the proposal the MPDD would retain all the loci generated when a DNA profile was obtained for the sample enhancing the match process for both confirmation and elimination purposes. Currently any loci that were not contained within the DNA-17¹⁰ set of loci were essentially ignored for MPDD purposes.

11.3 The MPDD currently comprised DNA profiles obtained from the personal effects of missing persons, kinship reference profiles (from missing persons' relatives), and crime stain profiles ('no body' murders and unidentified bodies).

11.4 When asked whether the BFEG agreed to the increase in the number of loci retained on the MPDD, members agreed that they were content.

11.5 The FIND SB sought BFEG members' views on the retention of DNA profiles on the National DNA Database (NDNAD) in instances in which the donor had passed away before the DNA sample was taken, or before the individual was charged, and where after an investigation it has been found that it is likely the individual had committed serial serious offences. An example where this had been used was in the Fred West case.

11.6 Members were asked if they felt it appropriate to store a deceased individual's DNA profile on the NDNAD to help solve any outstanding crimes. The potential impact to the reputations of the deceased individuals and their families was raised and members were reassured that the ethical impact on individuals would be considered and included in the policy. Members were asked to review the written policy once it had been produced to confirm their consent before sign-off.

Action 3: FIND SB representative to share the NDNAD retention of subject profiles – deceased before charge policy with BFEG members once drafted

11.7 Members' views were sought concerning the access and use of the police fingerprint elimination database. A questionnaire had been sent to police forces to assist in the identification of inconsistencies in operation as a means of closing the consistency gap

¹⁰ DNA 17: A profile produced using the latest system of DNA profiling technology which examines 16 variable sections of DNA, plus a sex-test marker to produce a numerical DNA profile that can be loaded onto the National DNA Database.

between fingerprint and DNA elimination databases. Members were asked for their views on the options available.

11.8 A member raised a question regarding some of the wording used in the policy. It was confirmed that the text “However, a search may be conducted for other than elimination purposes” was correct and that forces can be asked to check local policing elimination fingerprint collections for other purposes in exceptional cases with regard to professional standards.

11.9 Members confirmed that they were content with the policy to use the DNA elimination database used as a model for the fingerprint elimination database. This would ensure standards were applied consistently to the DNA and the fingerprint elimination databases.

12.0 HOB PIA & Ethics Working Group (EWG) Update

12.1 A meeting of the HOB EWG was held on the 02 May 2018. Tom Sorrell was welcomed as a new member of the group.

12.2 The HOB EWG had been asked to review the latest version of the HOB Programme PIA document. A number of amendments were suggested, pending which the HOB EWG were content for the document to be published.

12.3 The working group had also received an update on the work carried out to implement the General Data Protection Regulations (GDPR) for the HOB programme.

13.0 BFEG General Data Protection Regulation (GDPR) Policy

13.1 BFEG members were advised that the GDPR entered into force on the 25 May 2018 and that personal data processed by the BFEG would be handled in compliance with GDPR.

13.2 A policy document¹¹ and Privacy Impact Notice (PIN)¹² for the BFEG was shared with members and approval sought. All were content with the policy and PIN.

14.0 AOB

14.1 Members were informed that the Biometrics Commissioner’s (BC) annual report had been published and was available on the BC’s website.¹³

¹¹ Available from: <https://www.gov.uk/government/publications/privacy-and-data-protection-policy-for-arms-length-bodies>

¹² Available from: <https://www.gov.uk/government/organisations/biometrics-and-forensics-ethics-group/about/personal-information-charter>

¹³ Available from: <https://www.gov.uk/government/publications/biometrics-commissioner-annual-report-2017>

Annex A – List of attendees

| | Representative | Role |
|----|-----------------------------|------------------------------------|
| 1 | Chris Hughes | BFEG Chair |
| 2 | Adil Akram | BFEG Member |
| 3 | Louise Amoore | BFEG Member |
| 4 | Sue Black | BFEG Member |
| 5 | Liz Campbell | BFEG Member |
| 6 | Simon Caney | BFEG Member |
| 7 | Nina Hallowell | BFEG Member |
| 8 | Christopher Harling | BFEG Member |
| 9 | Mark Jobling | BFEG Member |
| 10 | Isabel Nisbet | BFEG Member |
| 11 | Thomas Sorell | BFEG Member |
| 12 | Denise Syndercombe-Court | BFEG Member |
| 13 | Jennifer Temkin | BFEG Member |
| 14 | Peter Waggett | BFEG Member |
| 15 | Metropolitan Police Service | LFR strategic lead |
| 16 | Metropolitan Police Service | LFR technical lead |
| 17 | Metropolitan Police Service | LFR operational lead |
| 18 | FINDS Unit, HO | Observer |
| 19 | Identity Unit, HO | Policy sponsor |
| 20 | Identity Unit, HO | Observer |
| 21 | Science Secretariat, HO | BFEG Secretary, HO |
| 22 | Science Secretariat, HO | BFEG Secretariat, HO |
| 23 | Science Secretariat, HO | Head of Science Secretariat, HO |
| 24 | OSCT, HO | Observer |