Equality impact assessment

Live Facial Recognition

How to complete an equality impact assessment

The equality impact assessment (EIA) will help you to evidence your public sector equality duty (PSED) compliance. It is a live document that outlines the way equality has been considered throughout the life of the policy, process or other project (hereafter referred to as 'product').

If you need help, see the accompanying guidance or contact your diversity, equality and inclusion team.

Version control

Version number	Date	Author	Comments
1	09/01/2025	Dominic Mason	
2	20/06/2025	Dominic Mason	
3	07/01/2026	Dominic Mason	Change of software from Corsight to NeoFace

Overview

Description of the product	Live Facial Recognition software takes live images obtained from a specific deployment using CCTV cameras, then creates a biometric profile for each facial image obtained, then cross refers those biometric profiles against a pre-loaded watchlist of biometric profiles developed from images / biometric data held about persons who need to be located and

	who meet the criteria to be entered on a LFR watchlist. The LFR system then highlights if there is a circumstance where the system believes that there a profile from the live feed meets or exceeds a set level of certainty of being a match to a profile featured in the watchlist.
EIA start date	09/01/2025
EIA author and role	Dominic Mason – Futures Hub Sgt.
EIA owner and role	Julie Dean – ACC Joint Operations
Date of last review	07/01/2026
Date of next review	07/07/2026

Key product development dates

To evidence PSED compliance, equality and inclusion must be considered throughout the life cycle of a product. You can do this by integrating EIA reviews into key product development stages. List your product's key stages and the dates you will review your EIA here.

Key stage	Date
Post initial deployment	24/02/2025
Post further research	15/12/2025
Post further deployments	07/07/2026

Research and evidence

To undertake effective equality assessment that meets PSED compliance standards, you must work from an evidence base. Use this section to list the research you will use to understand the product's potential or actual equality impacts (for example, surveys, customer feedback, protected characteristic data, academic research).

1. National Physical Laboratory: Facial Recognition Technology in Law Enforcement
2. NPL Facial Recognition Technology In Law Enforcement Equitability Study
3. Ada Love Institute, 'Beyond Face Value: Public Attitudes to Facial Recognition Technology' (2019)

4. Ada Love Institute and the Alan Turing Institute, ‘How do people feel about AI? A nationally representative survey of public attitudes to artificial attitudes to artificial intelligence in Britain’ (2023)

Consultation record

Stakeholder consultation will give you a better understanding of your product’s impacts and is crucial to satisfying the PSED requirements. Use this section to record the engagement you have undertaken; summarise the feedback received and note subsequent actions. This section can also be used to record nil returns.

A wide and considered range of stakeholders were engaged with in February 2026 to consult on the proposed deployment of LFR technology including (amongst others) elected officials, community safety leaders, religious bodies, community institutions and businesses, NGOs and organisations representing community groups as well as law enforcement and official bodies. Unfortunately, only a subset of those contacted have replied to date but this will be kept under review.

Name of group or organisation
National Facial Recognition Unit (NFRU within the Home Office)
NCC Elected Leader (Norwich City)
NCC Head Community Safety
NCC Head Community Support
Norfolk County Council Chief Exec
Norfolk County Council Head Community Safety
NCC CCTV Lead
Norwich BID Exec Director

Norwich City Football Club
Norfolk YJS Head
Norfolk Community Safety Partnership
Norfolk CYP Head
Norfolk Independent Advisory Group. (IAG)
Norwich Housing Society
Broadland Housing Society
Clarion Housing Society
Victory Housing
St Martin’s Housing Trust
Norwich Homeless Support
Community Action Norfolk
Community Action Norwich
Hethersett Masjid and Islamic Community Centre
Norwich Central Mosque
Ihson Mosque and Islamic Centre
East Anglian Bangladeshi Islamic Mosque
Al-Madinah Masjid Community Mosque

Masjid At-Tauwheed Norfolk Islamic Mission
West Norfolk Islamic Community Mosque
Siddiqa Nawaz Mosque
Thetford Central Mosque
St Spyridon Greek Orthodox Church
Norwich Synagogue
Diocese of Norwich
Sri Guru Ramdas Prakash
BME Support Group (Bridge Plus +)
New Routes Integration
Zainab Project
Norfolk Community Foundation
One Voice 4 Travellers
Norwich International Youth Project
MAP Norfolk
Norwich City of Sanctuary
Benjamin Foundation
Shaw Trust

Outreach, The Garage
SPACE Youth Fund
YMCA Norfolk
Voluntary Norfolk
Norfolk Autism Partnership
ASD Helping Hands
MIND Norfolk
Opening Doors
ADHD Norfolk
Asperger East Anglia
Engage Norfolk
MS Society Norwich & District
Able 2 B
Headway Norfolk & Waveney
Voyage Care
Norfolk & Waveney Dementia Support Service
Independence Matters
Rare Dementia Support

Norfolk Deaf Association
Norfolk Deaf Children's Society
Vision Norfolk
Royal National Institute of Blind People
LGBTQ+ project
Norwich Pride
GYROS (Gt Yarmouth Refugee Outreach)
NCC People from Abroad Team
Migrant Support Group (GY Library)
Tudor Portuguese Café, Gt Yarmouth
Cyber Portuguese Café, Gt Yarmouth
Hanseatic Union
Lord Mayor Norwich
MP Jerome Mayhew
MP Rupert Lowe
MP George Freeman
MP Steff Aquarone

MP James Wild
MP Alice Macdonald
MP Clive Lewis
MP Ben Goldsborough
MP Terry Jermy

Terminology

False-Positive Identification Rate (FPIR)- the rate of incorrect recognition (i.e., false positives or false alerts) when subjects not on the watchlist pass through the zone of recognition.

Probe Image- The input face presented to the system for matching, this is the face cropped from the live video stream, converted to a biometric template, and compared to the watchlist to produce a similarity score which, if above the threshold, generates an alert.

Threshold Settings- The threshold is a configurable confidence score, between 0 to 1, that determines when the facial recognition systems present a potential match for review by a human operator.

True-Positive Identification Rate (TPIR)- the rate of successful recognition when subjects on the watchlist pass through the zone of recognition.

General considerations

Before any deployment of equipment, a watchlist is created. The watchlist is bespoke for every deployment and the rationale for the make-up of the watchlist must be intelligence-led, justified, proportionate and necessary, with the nature of the watchlist recorded prior to each deployment.

The criteria for constructs of watchlists for use with LFR must be approved by the Authorising Officer (the 'AO') and be specific to an operation or to a defined policing objective. Watchlists,

and any images for inclusion on a watchlist, must also be limited to the categories of image articulated in Force policy documents which are images of people who are:

a. wanted by the courts; and/or

b. suspected of having committed an offence, or where there are reasonable grounds to suspect that the individual depicted is about to commit an offence or where there are reasonable grounds to suspect an individual depicted to be committing an offence; and/or

c. subject to bail conditions, court order or other restriction that would be breached if they were at the location at the time of the Deployment; and/or

d. missing persons where the risk of serious harm to the subject or the public is assessed as very likely; and/or

e. presenting a risk of harm to themselves or others.

Threshold settings are crucial as part of the actions that ensure operational effectiveness is balanced with fairness. A lower threshold increases the likelihood of false positives, while a higher threshold reduces false positives but may lead to false negatives (missed genuine matches). Choosing the right thresholds involves an informed and evidence led balancing of these risks to ensure both accuracy and equitable outcomes. Accordingly, The Constabularies will ordinarily operate at a face-match threshold of ≥ 0.64, varying only where authorised and with the safeguards set out in this document.

CCTV footage obtained as part of the LFR deployment may identify protected characteristics or special category data (such as a person's race or religion).

Impact assessment and actions

All characteristics

Details of positive and/or adverse impact or other issue
The Facial Recognition Technology (FRT) probe image is based on the mapping of key facial indicators when comparing a reference image database image for an individual against a live feed. Therefore, the functionality, accuracy, and performance of FRT may be less effective if changes to facial appearance have occurred between the time the reference image database image was taken, and the time of the deployment (and if the individual is

at the deployment, when a comparison is made), and this could impact a number of different groups.

Whilst LFR deployments will not target persons based on their having any protected characteristics or being a part of any equality groups, there are issues that may arise because of the deployment that can have an impact. If a group is not listed below, it is because there is no anticipated differential impact on that group. Detail on the impacts or issues are provided in the relevant sections as follows;

Age – See 'Age' section

Disability – See 'Disability or Neurodiversity' section

Gender reassignment – See 'Gender reassignment' section

Pregnancy and maternity – See 'Pregnancy and maternity' section

Racial Groups – See 'Ethnicity' section

Religion or Belief – See 'Religion or belief' section

Sex – See 'Sex' section

Mitigating action for any adverse impact or rationale for no further action

Specific mitigating action(s) for any adverse impact or the rationale for no further action being necessary or relevant to the group are detailed in their appropriate sections.

LFR Software Performance

This section details the studies completed in relation to the specific chosen LFR software provider, as well as wider LFR studies. This explains how the facial-match threshold has been chosen and how this ensures equitability across different demographic groups.

Suffolk and Norfolk Constabularies have chosen to utilise NeoFace's LFR software. Currently there is no nationally agreed standard for LFR, and no nationally approved or mandatory testing is available. It is therefore up to individual police forces to make reasonable endeavours to obtain details of any independent testing that has been conducted in relation to their chosen software from the supplier and to ensure that the software is as accurate and free from bias as possible. In addition to ensuring that independent bias testing has taken place, and that the results of the testing are acceptable

to Suffolk and Norfolk Constabularies in terms meeting the PSED, the Constabularies have also developed robust operational policy and procedures to ensure that the criteria for the deployment of LFR and the way it is used by officers helps the Constabularies further reinforce their compliance with the PSED. Suffolk and Norfolk Constabularies are committed to the evaluation of all LFR deployments as set out in the LFR Procedure. The Constabularies are committed to being proactive in identifying any further academic studies in relation to LFR generally, or specific studies in relation to the chosen LFR provider and utilising this as required.

The National Physical Laboratory's Equitability Study[1] evaluated NEC NeoFace V4 in March 2023. At the default threshold 0.60, NPL reported a TPIR of ~89% across five operational deployments. TPIR is threshold-sensitive: raising the threshold slightly to 0.62 resulted in a TPIR of ~82%, and to 0.64 resulted in a TPIR of ~79%, while lowering to 0.58 resulted in a slightly lower TPIR of ~88%, however a threshold of 0.56 resulted in a TPIR of ~94%.

Although lower thresholds (for example 0.56) can result in a high TPIR, the same testing shows that <0.60 thresholds increase false positive identifications and make equitability more sensitive to operational factors such as crowding and watchlist size and composition. In summary, the incremental recognition gain at 0.56 comes at a disproportionate FPIR cost and a higher risk of unequal outcomes, which is inconsistent with The Constabularies' duties to minimise unnecessary interventions and support equitable outcomes.

For Suffolk and Norfolk deployments, watchlists will generally tend to be 1,000 records or fewer, though this is not a hard requirement. Testing by NPL shows that, at low error rates, the False-Positive Identification Rate (FPIR) scales approximately linearly with watchlist size: the number of facial comparisons per passerby increases with each additional watchlist entry, raising the chance that an unrelated face will exceed the threshold. The NPL observed FPIR on a 178k test watchlist at a face-match threshold of 0.60 and then scaled those results, resulting in an anticipated FPIR ≈ 0.017% (~1 in 6,000) for ~10,000 entries and ≈ 0.002% (~1 in 60,000) for ~1,000 entries. Therefore, keeping the watchlist tight and intelligence-led (in line with The Constabularies' wider LFR documents) reduces

[1] National Physical Laboratory (2023). *Facial Recognition Technology in Law Enforcement: Equitability Study (NEC NeoFace V4)*

the number of comparisons per passerby and proportionally lowers the risk of false alerts, while still meeting the legitimate policing purpose.

Applying NPL's equitability criteria to NeoFace LFR, the default threshold of ≥ 0.60 delivers very low false-positive rates and broadly equivalent outcomes across protected characteristics in operational conditions. Specifically, NPL reports that FPIR is equitable by gender, ethnicity and age at ≥ 0.60, and that TPIR differences by gender and ethnicity at 0.60 are not statistically significant; where the study does show a statistically significant TPIR age effect, it links the difference to operational rather than software. In practice, this means the default threshold (≥ 0.60) and zone design controls (clear sightlines, appropriate mounting/angles, managed flow, and, where needed, additional viewpoints) are the right methods to sustain equitable FPIR while mitigating the age-related TPIR variance observed under busy, congested conditions. Where an operation demands the lowest possible FPIR, NPL shows that modestly raising the threshold (e.g. 0.62–0.64) further suppresses false alerts (including no false positives at 0.64 on the large test watchlist) with a trade-off in TPIR.

The NPL's key findings in relation to equitability were:

"Under the criteria we have set for equitability (see Section 4):

• *TPIR of the system at face-match threshold 0.6 is equitable across gender and ethnicity groups.*

• *FPIR is equitable between gender and ethnicity and age at face-match threshold 0.6 and above.*

• *At face-match thresholds lower than 0.6 FPIR equitability will depend on settings of the operational deployment, including size and composition of the watchlist, and the number of crowd subjects passing through the zone of recognition during the deployment.*

Given our observations on the demographic variation in FPIR, we would recommend, where operationally possible, the use of a face-match of 0.6 or above to minimise the likelihood of any false positive and adverse impact on equitability."

NEC's face recognition algorithms consistently rank at or near the top of NIST's Face Recognition Technology Evaluation (FRTE/FRVT) leaderboards for 1:N identification,

including very large-scale datasets and ageing tests, demonstrating high accuracy under independent laboratory conditions.

In recognition of the evidence base around NeoFace, Suffolk and Norfolk Constabularies will routinely operate at a threshold of ≥ 0.64 in order to reduce false positive identifications while remaining within the tested equitable operating range. The NPL study reports that at a threshold of ≥ 0.64 there were no false positive identifications on a large, demographically balanced 178,000 image watchlist; at lower thresholds (e.g. 0.58 and 0.56), false positives increase and begin to show a statistically significant demographic imbalance, whereas at 0.60 performance is equitable across gender and ethnicity. This combination of very low FPIR at ≥ 0.64 with equitable outcomes at ≥ 0.60 provides the evidence base for setting ≥ 0.64 as the routine default. Where an operational necessity of an urgent and serious nature justifies a reduction in the threshold, the AO may authorise a setting < 0.64, normally not < 0.60, subject to a documented rationale (documentation which, where urgency prevents immediate completion, may be provided orally and shall be recorded and confirmed in writing as soon as reasonably practicable thereafter), risk assessment and a defined duration. Any such use will apply non-coercive configuration measures to mitigate crowding effects and will be accompanied by explicit live monitoring of FPIR and outcomes, with a post-deployment review of equality impacts. The watchlist will be tightly scoped to, and directly linked with, the policing purpose that necessitated the reduction, containing only those individuals reasonably connected to that purpose and meeting image-quality standards. In truly urgent and serious circumstances a < 0.60 setting may be authorised by the AO on the same basis, recognising reducing equitability < 0.60 and returning to ≥ 0.64 at the earliest safe opportunity.

Previous Deployments

On 22 February 2025 the first LFR deployment by the Constabularies took place using the alternative Corsight system for Live Facial Recognition in Ipswich town centre. The system scanned 47,056 faces against a watchlist of 303 at a 55% threshold. It produced five alerts; all five were checked by the LFR operators and all five led to arrests for warrants/offences. There were no false alerts and no observable evidence or subsequent complaints that the way we used the technology caused disproportionate impact on any protected group.

The second deployment, again using Corsight, occurred on 21 June 2025. The system scanned 72,072 faces against a watchlist of 274 and produced three alerts; all three were

confirmed and all three led to arrests. Again, there were no false alerts and no observable evidence or subsequent complaints that the way we used the technology caused disproportionate impact on any protected group.

Taken together, the two operations scanned 119,128 faces, which produced eight operator-confirmed alerts, and resulted in eight arrests, with zero false alerts. Although these deployments used an alternative LFR system, these deployments will in the majority of aspects be functionally identical to future deployments and the differences in using different software are relatively limited with the main equality issues being ones that are common to the technology generally rather than being specific to any particular model. The core learning in this area brought forward from the first deployments is set out below:

Thresholds: A clear default face-match threshold must be applied, with any temporary reduction signed off by the Authorising Officer, risk-assessed and monitored, this strongly helps in keeping use proportionate and helps prevent unnecessary interventions. For NeoFace, the evidence supports running at ≥ 0.64 as our default to keep false alerts very low and fair across protected characteristics. Any justified reduction below that level will be time-bound, recorded and reviewed.

Watchlists: Keeping the watchlist tight and relevant to the purpose reduces the number of comparisons the system has to make for each passer-by, which directly lowers the chance of a false alert. Suffolk and Norfolk Constabularies' watchlists will generally aim for around 1,000 records or fewer (not a hard rule) and will keep image standards high, further reducing the risk of false alerts.

Operator checks: There must be an operator adjudication on an alert and a comparison of the match before any officers act on an alert.

Set-up and flow: Clear sightlines, sensible camera mounting/angles, and avoiding bunching in the recognition zone all will be prioritised in order to improve detection quality and the reliability of alerts.

Ongoing Evaluation

The Constabularies recognise the importance of independent academic and technical research in ensuring the lawful, ethical and non-discriminatory use of Facial Recognition technology.

The Constabularies recognise the current situation with regards to community cohesion and heightened risks around the world and recognise the potential for this reflect locally in the UK and will therefore continue to monitor both this and any community tensions on a regular basis.

The Constabularies are committed to reviewing the findings of any new studies in full when available and will assess relevance to local deployments, documents and guidance.

Code of Ethics

The Code of Ethics sets and defines the exemplary standards of behaviour for everyone who works in policing. The Code of Ethics is about self-awareness, ensuring that everyone in policing feels able to always do the right thing and is confident to challenge colleagues irrespective of their rank, role or position.

Should any officers identify anything which would infringe on the Constabularies' duties in this context, they have a responsibility to challenge this.

Age

Details of positive and/or adverse impact or other issue
Facial images uploaded will primarily be sourced from existing police records or from family and friends of persons reported as missing. The reference image database, consequently, may have images of subjects that were taken a number of years ago. The age of criminal responsibility in the UK is 10 years old. Image capture via Custody Imaging on which FRT technology is primarily reliant, is dependent on the age, date and time at which the custody image was taken. In addition, the European Union's Agency for Fundamental Rights 'Facial Recognition Technology Fundamental Rights Considerations in the Context of Law Enforcement Report 2019' highlights that as a child grows and time passes, the accuracy of a biometric match can diminish. The risk of a failure to match increases when facial images recorded at a young age are compared more than five years after they were collected. The report further indicates that the accuracy of FRT is in general significantly lower for children younger than 13 years old. They associate this to "rapid growth and change in facial appearance"

At the other end of the spectrum older persons may be particularly impacted by LFR deployments because they may face greater challenges in avoiding the LFR deployment zone by taking an alternative route. For example, if the alternative route is only accessible via stairs or otherwise makes travel more burdensome, then this may adversely impact someone who is older who may struggle with mobility, as they may be unable to use the alternative route so would be forced through the deployment zone.
Mitigating action for any adverse impact or rationale for no further action
Performance: The chosen LFR software from NeoFace for Suffolk and Norfolk Constabularies has been tested by NPL in relation to performance based on age. The testing found that while younger subjects (especially under 20) were recognised less often, this was largely due to crowding and shorter height- the FPIR was equitable by age at thresholds ≥0.60, so paying regard to the recommended minimum facial-match threshold will assist in mitigating any adverse impact due to age. To minimise any differential impact arising from crowding and from how faces present to the camera, standard, non-coercive configuration measures will be applied at every deployment. As routine practice: cameras will be sited where the existing layout naturally reduces occlusion; camera height, pitch and stand-off will be set to achieve a shallower downward angle (closer to parallel with the ground) appropriate to the scene to improve frontal capture across a wider range of heights; and, where required, a second viewpoint will be used to improve capture in dense flows. Field of view will be limited and camera settings adjusted to reduce simultaneous faces per frame and motion blur in busy scenes. Where practicable, existing site features or established infrastructure that already regulate pedestrian movement may be used to assist in reducing crowding, without any direction of public movement by the Constabularies, unless a separate legal power exists. The routine threshold will remain ≥ 0.64; where a temporary reduction is authorised (normally not < 0.60), these configuration measures will remain mandatory, together with the operational safeguards and monitoring requirements set out earlier in this document. **LFR Deployment Location:** Accessibility issues should be considered when identifying the deployment zone and thus suitable alternative routes so as to not adversely impact on individuals who might otherwise be affected by this. As detailed in the above paragraph,

consideration should be given to location to avoid crowding and reduce exclusion of younger subjects.

Watchlist: Any watchlist created will be done so as close to the deployment as possible, therefore taking all reasonable action to ensure the most accurate and up to date images of persons being added are uploaded.to stop this from happening. Should a match be highlighted, this is then checked by police personnel for accuracy before additional activity is considered. The watchlist will also require the authority of the Authorising Officer and will include details of any proposals to place children (especially below the age of 13) within the watchlist, with consideration to confirm that uploaded photo is current and what (if any) extra deployment measures are to be put in place.

Monitoring during Deployment: the LFR Operator is charged with actively monitoring the LFR system's performance during a Deployment. The Silver Commander is empowered to halt any Deployment.

Post-Deployment monitoring: the post-Deployment review process is used to examine False Alerts as well as any other relevant issues arising and determine if there is trend or overriding cause.

Disability or neurodiversity

Details of positive and/or adverse impact or other issue
Disability – People can undergo facial change for several reasons. They may suffer facial disfigurements through trauma or a medical intervention, or they may have reconstructive facial surgery which would result is a significant change to their facial features. Genetic conditions such as neurofibromatosis also cause progressive facial change. Consequently, the images that Police hold may not accurately reflect the present facial appearance of such persons given the changes since the reference image was taken. Additionally other disabilities may mean individuals face greater challenges in avoiding the LFR deployment zone by taking an alternative route. For example, if the alternative route is only accessible via stairs, then this may adversely impact someone who uses a wheelchair as they may be unable to use the alternative route so would be forced through

the deployment zone. Individuals with reduced or no vision may be unable to see the signage relating to a deployment and so inadvertently enter a recognition zone.

Individuals in this group may also be disadvantaged in that their disability may limit or prohibit their ability to become aware of a deployment in time to make an informed choice. LFR communications are largely visual (website, social media and on-street signage) and any ad-hoc verbal briefings may not be accessible; people with sight loss, some neurodivergent conditions, learning disabilities, certain mental health conditions or hearing impairment may therefore not receive or process the information in time, increasing the likelihood of entering the recognition zone without a realistic opportunity to choose an accessible alternative route.

Mitigating action for any adverse impact or rationale for no further action

LFR Deployment Location: Accessibility issues should be considered when identifying the deployment zone and thus suitable alternative routes so as to not adversely impact on individuals who might otherwise be affected by this.

Officer Engagement: LFR is a tool that assists police officers locate wanted people. LFR does not qualify as formal identification and does not make decisions that automatically result in any person being spoken to. It provides a guide to officers about which people passing the system may be of interest to them. Officers then consider the Alert using their experience and training before the Engagement Officer makes any decision to engage with a person. This includes consideration about whether disability is a factor in generating an Alert. Even where an Engagement occurs, further action is not an automatic consequence, the officer would need a lawful basis to take any further action (such as an arrest).

Watchlist/FPIR: Should a person's face have changed for any of the reasons above (or an additional / different reason) between their image being taken / provided and an LFR deployment, it would ultimately mean that the LFR software would be less likely to highlight a match between the image taken during deployment and that on the watchlist. This reduces the difference in FPIR due to disability and assists in mitigating any adverse impact.

Actions will still be taken to help mitigate any adverse impact as any watchlist created will be done so as close to the deployment as possible, therefore taking all reasonable action to ensure the most accurate and up to date images of persons being added are uploaded.to

stop this from happening. Should a match be highlighted, this is then checked by police personnel for accuracy before additional activity is considered.

Communication prior to Deployment: Deployments are published via the Force Website and social media platforms, which are often subsequently picked up by other local media platforms, which may increase accessibility and awareness amongst affected groups. Also, Suffolk and Norfolk Constabularies' websites are required by law to meet accessibility criteria, including in respect of individuals with impaired vision, motor difficulties, cognitive impairments or learning disabilities and/or deafness or impaired hearing.

Where practicable, the Constabularies will make pre-deployment contact with local organisations representing people with sight loss so that accessible notices can be shared with their members and networks. This approach complements standard public notices and on-street signage and is intended to ensure that people who cannot rely on visual signage have a fair opportunity to make an informed choice about entering the recognition zone.

Communication during deployment: Should an individual be identified as being unable to or find it difficult to 'view' the LFR signage advising them of the Deployment and entering the zone of recognition, officers will be trained to proactively look out for such persons and seek to identify such persons and approach them before they enter the zone of recognition so they can inform them of deployment and the information on the signage, advising of the ability to scan the QR code to access the Constabularies' LFR internet pages, if this would assist them in accessing the information in a way more accessible to them.

Monitoring during Deployment: the LFR Operator is charged with actively monitoring the LFR system's performance during a Deployment. The Silver Commander is empowered to halt any Deployment.

Post-Deployment monitoring: the post-Deployment review process is used to examine False Alerts, as well as any disability issues arising, and determine if there is trend or overriding cause.

Gender reassignment

Details of positive and/or adverse impact or other issue

This may impact persons who are transitioning from one gender to another if gender presentation differs from the time the comparator image was taken. It may also affect trans, non-binary and gender- fluid people who adopt to flex between gender presentations. Reports suggest that facial contouring using cosmetic make-up application may impact on FR system's performance. This was from a study in 2021 conducted by Ben-Gurion University of the Negev in Israel which tested the ArcFace model, a different model to that proposed to be deployed by Suffolk and Norfolk Constabularies. Within the currently used LFR systems across the UK and studies conducted using these systems, no observable impact has been identified.

Mitigating action for any adverse impact or rationale for no further action

Officer Engagement: LFR is a tool that assists police officers to locate wanted people. LFR does not qualify as formal identification and does not make decisions that result in any person being spoken to. It provides a guide to officers about which people passing the system may be of interest to them. Officers then consider the Alert using their experience and training before the Engagement Officer makes any decision to Engage with a person. This includes consideration about whether gender reassignment is a factor in generating an Alert. Even where an Engagement occurs, further action is not an automatic consequence, the officer would need a lawful basis to take any further action (such as an arrest).

Watchlist/FPIR: Should a person's face have changed transitioning from one gender to another, flexing between gender presentations or facial contouring using cosmetic make-up (or an additional / different reason) between their image being taken / provided and an LFR deployment, it would ultimately mean that the LFR software would be less likely to highlight a match between the image taken during deployment and that on the watchlist. This reduces the FPIR due to gender reassignment and assists in mitigating any adverse impact.

Actions will still be taken to help mitigate any adverse impact as any watchlist created will be done so as close to the deployment as possible, therefore taking all reasonable action to ensure the most accurate and up to date images of persons being added are uploaded.to stop this from happening. Should a match be highlighted, this is then checked by police personnel for accuracy before additional activity is considered.

Monitoring during Deployment: the LFR Operator is charged with actively monitoring the LFR system's performance during a Deployment. The Silver Commander is empowered to halt any Deployment. **Post-Deployment monitoring:** the post-Deployment review process is used to examine False Alerts as well as any other relevant issues arising and determine if there is trend or overriding cause.

Marriage and civil partnership

Details of positive and/or adverse impact or other issue
There is no anticipated differential impact based on marriage or civil partnership.
Mitigating action for any adverse impact or rationale for no further action
N/A

Pregnancy and maternity

Details of positive and/or adverse impact or other issue
While pregnancy and maternity are not currently identified to leading to being more or less likely to be matched to a watchlist image, there is the possibility that individuals in late stages of pregnancy or maternity may find it more difficult to choose to avoid entering the LFR zone dependent on the alternative route.
Mitigating action for any adverse impact or rationale for no further action
Accessibility issues should be considered when identifying the deployment zone and thus suitable alternative routes so as to not adversely impact on individuals who might otherwise be affected by this.

Ethnicity

Details of positive and/or adverse impact or other issue

In addition to the applicable legal obligations, both Suffolk and Norfolk Constabularies are diverse multi-cultural areas which incorporate both rural and metropolitan areas. It is therefore important for a variety of reasons to ensure that the LFR technology does not and is not seen to, cause division between persons of different race/ethnicity.

LFR is based on the mapping of key facial indicators. This mapping is dependent on the ability of the algorithm to determine the existence and exact location of the relevant key facial indicators within an image. This can be impacted by environmental factors such as ambient light and shadows factors. This may also be impacted by the depth of skin pigmentation and the use of contouring make up.

Earlier academic studies show that facial recognition technologies can perform differently across ethnic groups. Klare et al. (2012) found several algorithms were consistently less accurate for Black individuals (and for women) than for other cohorts when results were broken down by race/ethnicity and gender[2]. The Gender Shades study (Buolamwini & Gebru, 2018) audited commercial gender detection from faces and reported error rates up to 34.7% for darker-skinned women versus 0.8% for lighter-skinned men, illustrating how large group gaps can be when systems are not evaluated on balanced data[3]. More recent work shows that non-demographic factors, for example, glasses, hats, hair style/colour, face shape or facial anomalies, can also materially change results, so differences seen in practice can reflect a mix of demographic and capture/appearance effects rather than ethnicity alone[4]. The NPL study reported that at a face-match threshold of 0.60 the FPIR was equitable by gender and ethnicity, and at ≥ 0.64 there were no false positives on a large (178,000) balanced watchlist; by contrast, at 0.58–0.56 false positives increased and a statistically significant imbalance appeared with more Black individuals affected.

Mitigating action for any adverse impact or rationale for no further action

[2] Klare, B. F., Burge, M. J., Klontz, J. C., Vorder Bruegge, R. W., & Jain, A. K. (2012). Face Recognition Performance: Role of Demographic Information

[3] Buolamwini, J., & Gebru, T. (2018). Gender Shades: Intersectional Accuracy Disparities in Commercial Gender Classification

[4] Terhörst, P., Kolf, J. N., Huber, M., Kirchbuchner, F., Damer, N., Morales, A., Fierrez, J., & Kuijper, A. (2021). A Comprehensive Study on Face Recognition Biases Beyond Demographics

Performance: The chosen LFR software from NeoFace for Suffolk and Norfolk Constabularies has been tested by NPL in relation to performance based on ethnicity. The NPL testing found that both TPIR and FPIR were equitable across ethnicity at face-match threshold of 0.6 and above. The Constabularies' default threshold will be ≥ 0.64 to maintain very low FPIR while preserving the equitable performance identified at ≥ 0.60.

Officer Engagement: LFR is a tool that assists police officers to locate wanted people. LFR does not qualify as formal identification and does not make decisions that result in any person being spoken to. It provides a guide to officers about which people passing the system may be of interest to them. Officers then consider the Alert using their experience and training before the Engagement Officer makes any decision to Engage with a person. This includes consideration about whether ethnicity is a factor in generating an Alert. Even where an Engagement occurs, further action is not an automatic consequence, the officer would need a lawful basis to take any further action (such as an arrest).

Monitoring during Deployment: the LFR Operator is charged with actively monitoring the LFR system's performance during a Deployment. The Silver Commander is empowered to halt any Deployment.

Post-Deployment monitoring: the post-Deployment review process is used to examine False Alerts as well as any other relevant issues arising and determine if there is trend or overriding cause.

Religion or belief

Details of positive and/or adverse impact or other issue
The wearing of religious headwear or coverings and the growing of facial hair may have an impact on the effectiveness of FRT. In addition, certain cultures or sexes within a religion i.e. Amish, refuse to allow themselves to be photographed. Sensitivity therefore needs to be taken with cross-community dialogue to ensure the deployment is both necessary and proportionate. Respect for Diversity Awareness training is embedded within Police Culture in both of the Constabularies.

Mitigating action for any adverse impact or rationale for no further action
Officer Engagement: LFR is a tool that assists police officers to locate wanted people. LFR does not qualify as formal identification and does not make decisions that result in any person being spoken to. It provides a guide to officers about which people passing the system may be of interest to them. Officers then consider the Alert using their experience and training before the Engagement Officer makes any decision to Engage with a person. This includes consideration of whether religion or belief may have affected the generation of an Alert (for instance, if a person's face has been obscured by a religious head covering). Even where an Engagement occurs, further action is not an automatic consequence, the officer would need a lawful basis to take any further action (such as an arrest). Some religions or beliefs have strict guidelines around allowing themselves to be photographed (e.g. Amish) or require certain clothing or head coverings be worn. Officers will need to have sensitivity around this matter and consider that refusing to go past the cameras is not grounds by itself for further police action and nor is there any specific LFR power that enables the Police to require the removal of items that may cover the face. **Watchlist/FPIR:** Should a person's face be obstructed due to items adorned on their face/head due to any reason (such as a requirement of a particular religion or belief or a style decision, or a decision by necessity), it would ultimately mean that the LFR software would be less likely to highlight a match between the image taken during deployment and that on the watchlist. This reduces the difference in FPIR due to religion or belief and assists in mitigating any adverse impact. Should a match be highlighted, this is then checked by police personnel for accuracy before additional activity is considered. **Monitoring during Deployment:** the LFR Operator is charged with actively monitoring the LFR system's performance during a Deployment. The Silver Commander is empowered to halt any Deployment. **Post-Deployment monitoring:** the post-Deployment review process is used to examine False Alerts as well as any other relevant issues and determine if there is trend or overriding cause.

Sex

Details of positive and/or adverse impact or other issue
Social observation indicates women change their appearance more frequently and significantly than men which may impact the performance of LFR. Reports suggest that facial contouring using cosmetic make-up application may impact on the LFR system's performance. This was from a study in 2021 conducted by Ben-Gurion University of the Negev in Israel which tested the ArcFace model, a different model to that proposed to be deployed by Suffolk and Norfolk Constabularies. Within the currently used LFR systems across the UK, and studies conducted using these systems, no observable impact has been identified.
Mitigating action for any adverse impact or rationale for no further action
Performance: The chosen LFR software from NeoFace for Suffolk and Norfolk Constabularies has been tested by NPL in relation to performance based on sex. The NPL testing found that TPIR and FPIR were equitable across gender at face-match threshold of 0.6 and above. The Constabularies' default threshold will be ≥0.64 to maintain very low FPIR while preserving the equitable performance identified at ≥0.60. **Officer Engagement:** LFR is a tool that assists police officers to locate wanted people. LFR does not qualify as formal identification and does not make decisions that result in any person being spoken to. It provides a guide to officers about which people passing the system may be of interest to them. Officers then consider the Alert using their experience and training before the Engagement Officer makes any decision to Engage with a person. This includes consideration about whether sex is a factor in generating an Alert. Even where an Engagement occurs, further action is not an automatic consequence, the officer would need a lawful basis to take any further action (such as an arrest). **Watchlist/FPIR:** Should a person's face have changed due to facial contouring using cosmetic make-up (or an additional / different reason) between their image being taken / provided and an LFR deployment, it would ultimately mean that the LFR software would be less likely to highlight a match between the image taken during deployment and that on the

watchlist. This reduces the difference in FPIR due to sex and assists in mitigating any adverse impact.

Actions will still be taken to help mitigate any adverse impact as any watchlist created will be done so as close to the deployment as possible, therefore taking all reasonable action to ensure the most accurate and up to date images of persons being added are uploaded.to stop this from happening. Should a match be highlighted, this is then checked by police personnel for accuracy before additional activity is considered.

Monitoring during Deployment: the LFR Operator is charged with actively monitoring the LFR system's performance during a Deployment. The Silver Commander is empowered to halt any Deployment.

Post-Deployment monitoring: the post-Deployment review process is used to examine False Alerts and determine if there is trend or overriding cause.

Sexual orientation

Details of positive and/or adverse impact or other issue
There is no anticipated differential impact based on sexual orientation.
Mitigating action for any adverse impact or rationale for no further action
N/A

Socio-economic background

Details of positive and/or adverse impact or other issue
There is no anticipated differential impact based on socio-economic background.
Mitigating action for any adverse impact or rationale for no further action
N/A

Other characteristics

Details of impact or other issue
Language- those with English as an additional language or unable to speak or read English may be unable to read the LFR signage, leaving them impacted by not understanding that they are entering the Zone of Recognition and the effects of this, so they are therefore unable to take an alternative route.
Mitigating action or rationale for no further action
Officer Engagement: Officers can refer individuals to the Suffolk and Norfolk Constabularies' LFR internet pages which individuals will be able to use easily accessible translation software on, allowing them to understand the same information, assisting in mitigating any adverse impact due to language. Officers also have access to translators via phone and can utilise these to verbally explain information around LFR.

Action log

Record EIA actions and monitor action progress in the optional action log.