

Summary of Accuracy Test comparison

For both NEC and the other respondent, analysis of the system was conducted using the same set of approximately 400,000 individual passport photo images with varying quality across image generations and including a selection of images of individuals younger than 16 years of age. The algorithms in use were the vendors current version at that time (four years ago), and as such are not a reflection of the accuracy of either vendor's algorithm today because the accuracy of facial recognition algorithms has improved enormously since 2017.

The accuracy of the facial recognition was assessed by measuring performance on two high level tasks:

- 1) Identification: ability to identify fraudsters with multiple identities in the system (1:Many matches)
- 2) Verification: ability to determine if a person applying for reissue is the correct individual (1:1 matches).

The testing included matching across a range of different generation passport images captured using different levels of camera quality, and evaluated performance with various subsets of the population.

In both the Identification and Verification tests NEC's algorithm outperformed the other respondent.

With regards to the Identification test, both respondents provided better accuracy with good quality images of the same resolution, but there was a still a material gap between NEC and the other respondent.

For the Verification task NEC outperformed the other respondent, especially in relation to accuracy for the youth age group.