Phenotyping – making the technology operational

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KTN and the Forensic Science Special Interest Group

- •KTN is the UK's innovation network
- Our remit is to help support UK business and academia to help grow the UK economy
- •The Forensic Science Special Interest Group was created following Bernard Silverman's review of Forensic Science R&D in 2011



Phenotyping report



Tinyurl.com/phenotyping report



Phenotyping report

- •DNA phenotyping is the prediction of a phenotype using only genetic information
- •In a forensic context, it is taken to be the prediction of physical characteristics, such as eye, hair or skin colour, ethnic appearance etc based on a DNA profile
- DNA phenotyping is a predictive tool
- •The results of DNA phenotyping are currently inadmissible, being seen as more of an investigative aid



Phenotyping report

3 discussion areas:

- The technology
- The requirements
- The ethical and regulatory concerns



The technology

- •There are several companies and researchers working in this field
- The potential of the technology is not in question
- Need to ensure that the perceptions of the technology and its capabilities match up
- •Practical questions need to be answered to demonstrate its commercial viability time, cost, maintaining competency, mixtures
- •Discussing the requirements early in the development process could help progress the technology



The requirements

- Primarily used by police forces for major cases
- Used as a tool for intelligence to aid an investigation
- •Already in use in the USA the nature of this use causes concern
- Begin with a field trial on unsolved cases
- •Could also test in missing persons and unidentified victims investigations, or a complimentary technique in DVI
- May be scope to cover national security applications



The ethical concerns

- •Often viewed as being one of the most significant barriers to implementation
- •Work required to ensure there is public confidence in the technique
- Need background datasets
- Data security is a key concern
- Transparency of the process is vital



Regulatory concerns

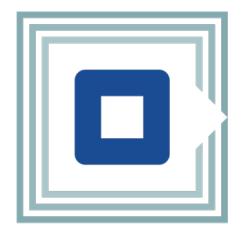
- Need a long-term view of where the technology is heading
- Act proactively to set standards and allow sufficient time for providers to achieve accreditation
- Involvement of the forensic community in this process is vital
- Different types of standard may be required



Where to go from here?

- •One organisation needs to take the lead but work closely with other stakeholder groups
- •The SIG can help co-ordinate activities in this area and disseminate any outputs.





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