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WHITE PAPER

NPCC REPORT REVEALS 5-YEAR PLAN TO FUTURE-PROOF FORENSICS CAPABILITIES IN POLICING

The National Police Chiefs' Council has shared its vision of how the most effective use of digital forensics in policing can be achieved.

The 2020 report on digital forensic science within the police is critical in its verdict that forces haven't been quick enough or co-ordinated enough, to date, in making use of the potential that digital forensics offer and to find a way to take advantage of the huge advances in mobile, cloud, artificial intelligence, sensors and analytics that are commonplace in almost every other walk of life.

It states: "While crime and criminals have become ever more digitally sophisticated, our response, at every level of law enforcement, has been slow, fractured and piecemeal. To create a justice system that truly meets the needs of the public in the digital age, while also meeting demands for greater efficiency, we must think differently about our approach to every element of digital – and digital forensics in particular."

The comprehensive report explains the issues and sets out a series of solutions, alongside a five-year timeline to achieve the objections and activities.

It proposes a national 'whole system approach' to build a sustainable, future-proofed digital forensic science service to deliver the capabilities needed where they are needed. It says digital forensic science capabilities must help policing to outstrip and deal with the criminal threats wherever they come from, keeping pace with rapid technological advances and denying criminals the chance to exploit them.

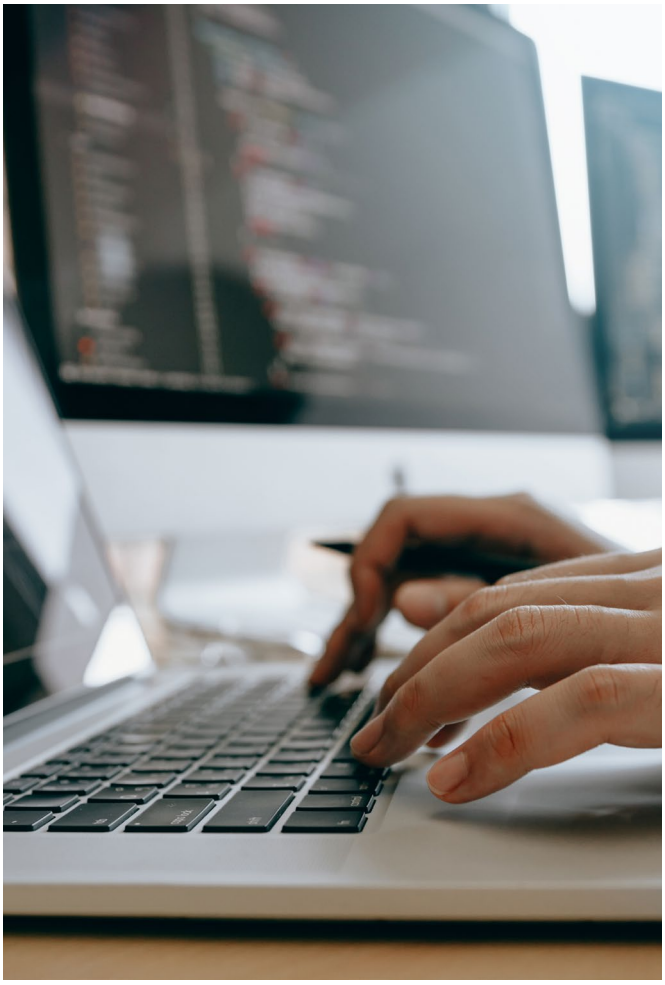
The report states: "We envision a world where evidence is secured quickly and efficiently for investigations and intelligence, and shared securely with prosecutors and disclosed fairly to the defence; where more sensitive and trusted ways of working improve the experience for victims and witnesses; where quality, accuracy and rigour mean that we deliver the best possible service to the Criminal Justice System and to the public we serve."

THE CHALLENGES

Over 90% of crime is already recognised as having a digital element; with the acceleration in use of technology in society we conduct more and more of our daily lives online, so the critical role digital forensic science plays will only continue to grow.

In the report, the Transforming Forensics Programme research has identified a number of core challenges that digital forensic science faces within policing:

- Backlogs and delays to investigations as a result of an exponential growth in demand for digital forensic examinations
- Digital examinations are becoming more complex and new techniques are needed to maintain digital forensic capability to extract and analyse information
- Force digital forensic units have limited capacity to research and develop innovative techniques and very few have access to external research support
- Meeting the challenge of rising data volumes, encryption and cloud storage means policing needs to work in new ways and it is crucial to maintain public trust and confidence in doing so
- Digital forensic services often operate without support from other force departments and it is unclear who is responsible for funding, managing and providing these IT services. As a result, digital forensic units often lack core tools to help them manage their activity



- Forensic science funding reductions have led to a substantial decrease in the size of the supplier market. Action to put this market on a sustainable footing is essential
- Recruiting experienced digital forensics examiners is an issue for all forces. With a finite pool of experienced professionals to draw from, forces must compete with the private sector, and the growing number of cybersecurity roles where there is substantial crossover with digital forensic skills
- There is a lack of digital forensic science awareness within policing and there is no national digital forensic training for these roles
- The Forensic Science Regulator mandated that all forces achieve accreditation to the ISO17025 quality standard for their forensic science activities Despite a deadline of October 2017, compliance is still low. Less than 20% of departments requiring accreditation have achieved it, not because of lack of commitment from digital forensic units but because of the pace at which digital forensics is changing. This challenge is greater when it comes to digital forensics than any other discipline because of the added complexity resulting from the range of digital forensics data types and methods
- Handling and retaining data is difficult for forces because differing legislation, policy and guidance in this area does not provide a clear indication on what digital forensic data they need to retain or for how long.

THE SOLUTION

The Digital Forensic Science Strategy plans transformational change to digital forensic science across several key areas:

IMPROVED OPERATIONS

Standardising, industrialising and providing services centrally. 'Doing it once for the benefit of many' are the foundations to transform digital forensic science service.

Standardising processes will allow forces to collaborate on casework, technology, R&D and quality assuring processes. This will underpin everything in the future, including automation.

To develop the operating model, Transforming Forensics Programme and Forensic Capability Network (FCN), in tandem with forces and partners, will build on the three-tier approach Digital Forensics Portfolio Board (DFPB) outlines which many forces have already adopted. This tiered model will be delivered nationally and provide national, regional and local elements.

By harnessing forces' efforts across the country everyone will pull in the same direction, getting the most from joint work and helping establish the FCN as a national knowledge and expertise network for digital forensics, all underpinned by a nationally networked technology solution.

Once this tiered operating model is embedded consistently, digital forensic services will be more agile and responsive to fast-changing needs. Technology will enable agile working – using a flexible platform and toolset to scale up capability quickly when needed and taking advantage of cloud technologies. There will be common ways of working and a shared information architecture, removing barriers to collaboration and enabling flexible resource deployment to meet demand.

MEETING THE DATA CHALLENGE

To ensure that digital forensic science delivers maximum possible benefit to the criminal justice system, best value must be extracted from the data policing holds. This will be done by improving and streamlining the way digital forensic source data is managed.

TF and FCN will support forces to agree to a consistent national approach to handling legacy digital forensic data, producing operational guidance to interpret existing policy and legislation.

TF will support government to develop national policy to manage digital forensic data and prepare for future demand.

To tackle the growing challenges of data volume and complexity TF should design and implement a digital forensics science information architecture built on the FCN Xchange platform including a national digital forensic data model aligned to recommendations in the National Policing Digital Strategy.

Decisions must be made about the degree to which digital forensic data management and technology is centralised. TF will collaborate with forces to develop the optimal architecture for using cloud technologies.

A standard digital forensic data model and information architecture will support sharing information securely with partners, improve the service provided to victims and witnesses and help to improve criminal justice outcomes.

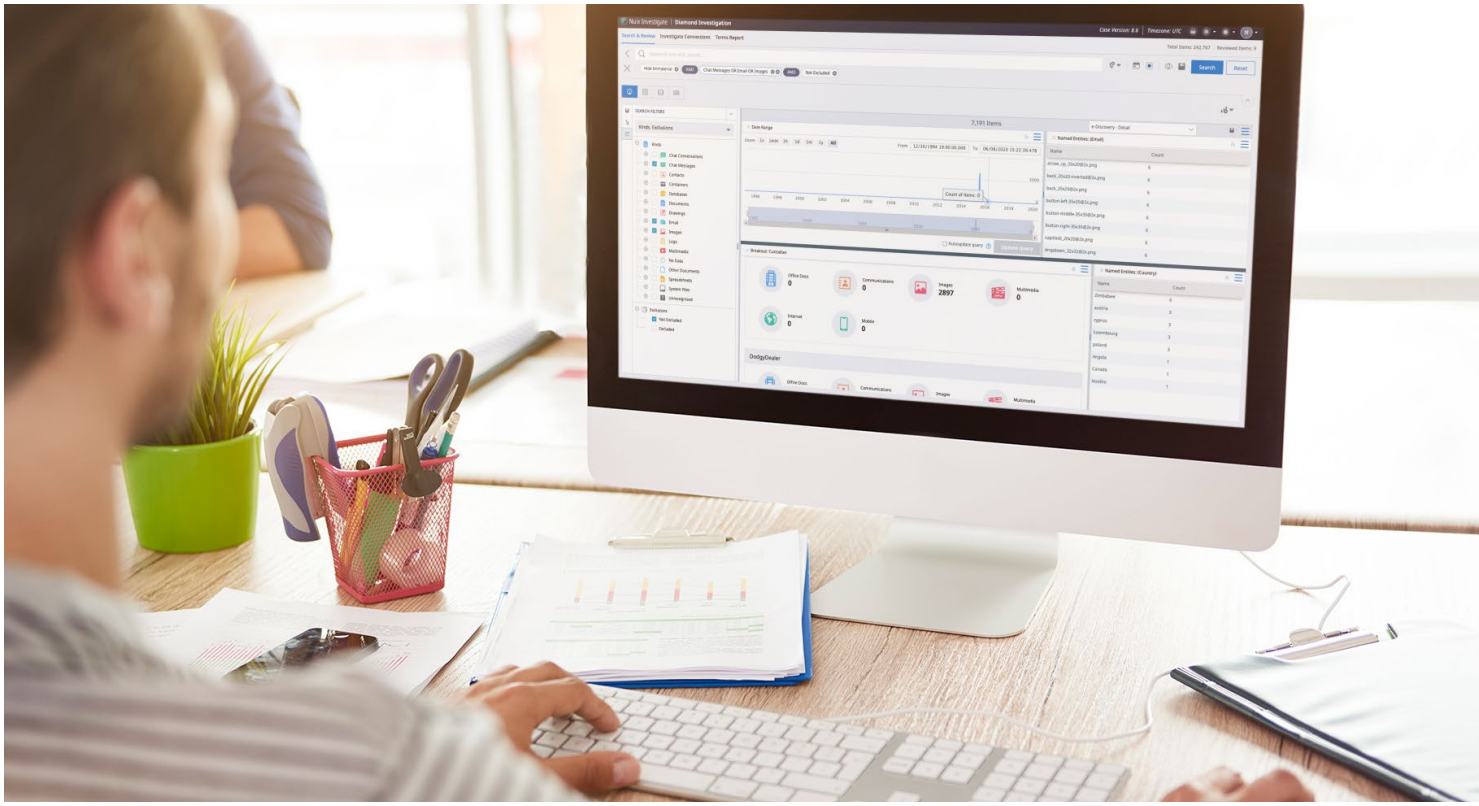
IMPROVED COMMERCIAL PRACTICE

Police should engage with the commercial sector on a 'sure and strategic footing', which if co-ordinated nationally will enable the force to leverage its collective buying power and act as an intelligent customer.

The report states that forensic service providers, carrying out digital forensic analysis on behalf of policing, are integral to digital forensic science services. As part of the Forensic Marketplace Strategic Plan, FCN Commercial and Digital Forensic Market Operations Group (DFMOG) will seek consensus across policing on likely national demand in the future to allow FSPs to plan the services they deliver and give them confidence to grow and innovate to deliver those services.

Improving access for small, innovative suppliers in emerging areas to provide their services will ensure policing has access to the full range of technological innovation.

There will be more engagement with consumer device providers, technology and online services, to inform and develop digital forensic analysis capabilities for these devices, technologies and services in future.



RESEARCH & DEVELOPMENT

R&D is critical to driving continuous improvement in digital forensic science. FCN Science will facilitate national collaborations and will coordinate and influence an R&D programme drawing in R&D effort nationally, combining casework- driven capabilities that practitioners develop with industry research by tool vendors, and multi-disciplinary academic research.

A digital forensic science advisory group in the FCN will be established with representatives from academia, operational policing and research organisations to provide independent advice and guidance.

DEVELOPING THE WORKFORCE

To transform digital forensic science a skilled workforce must be recruited and retained that is motivated, fully trained, well managed and equipped with access to the right tools and processes to deliver a world-class digital forensic service to the criminal justice system.

FCN Science, in partnership with the College of Policing (CoP), aims to improve digital forensic science career opportunities, ensure a culture of continuous learning supported by a national competency framework, training and a workforce recruitment and retention plan. As part of this retention plan there will be a partnership with industry and academia to build a 'skills pipeline' to reinforce the workforce continually.

BUILDING TRUST

The right legislation and ethical frameworks are critical to building and maintaining public trust and confidence in digital forensic science in policing.

The FCN will support government to ensure that legislation is fit for purpose in a digital age and address future technological advances. It will also address public ethical and trust concerns, and deliver better support to the Criminal Justice System (CJS).

Transforming governance, the workforce, commercial engagement, operations and data management will ensure that quality is 'built in' at every level.

From crime to court there will be improvements to quality standards, effectiveness and efficiency by:

- Providing tools and methods that are robust and assessed for accuracy for quality assurance
- Following the 'validate once, verify many' methodology for a more efficient and achievable approach to validation
- Enabling a national network to share learning, knowledge and experience
- Delivering a single online quality management system, accessible at point of need
- Building a standard approach to accreditation.

These steps will provide the public, the courts, practitioners and investigators with the trust, confidence and assurance that independent assessment to external quality standards brings.

KEY STEPS TOWARDS DELIVERY

The strategy is divided into short (0-18 month), medium (18-36 month) and long (36-60 month) activities and objectives.

The report charts each activity, its expected time scale to complete, and who is responsible for achieving it.

It concludes by saying that even though technology is an essential part of digital forensic science and will be an essential component in transforming digital forensic science, at its heart this is not simply a technology problem to solve.

It states: "We need a consistent, collaborative approach to our big challenges – volumes, complexity and legitimacy – and it will take more than technology alone to deliver a rapid, quality assured digital forensic service nationally.

"To do this, policing must come together on common ways of working. We need a cultural shift in practice, supported by strong governance, if we are to build up this national response to support digital forensic science to deliver effective and efficient service.

"The scale of change we need across digital forensic science means that full transformation will take time. So we propose to take a 'twin track' approach, combining TF activities that support the longer-term change with 'quick wins' delivering rapid operational benefit for digital forensic units and policing.

"Everyone involved will collaborate closely with partners to ensure we deliver measurable improvements in service and rapid benefits to the CJS, at the same time ensuring that all activity supports and contributes to the longer-term transformation of digital forensic science."

READ THE FULL REPORT HERE

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