

RESEARCH & INNOVATION STRATEGY

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FOREWORD

This Research and Innovation strategy supports the current, new and evolving crime challenges faced by Forensic Science and the Criminal Justice System.

It emphasises the need for longterm commitment, coordination, and funding to ensure the delivery of high-quality forensic science.

Collectively a strong ethos to research across forensic science aligned to known risks and threat in the sector will enable us to be at the forefront of innovation.

This is a complex interdisciplinary field, with drivers and pressures from multiple stakeholders. It encompasses various academic disciplines

including technological, physical and social sciences to effectively serve the criminal justice system.

Exponential growth of technology has a direct impact on criminality, requiring a strategic response which has foresight, innovation, and agility embedded.

Through community led innovation coordinated by the Forensic Capability Network we will lead Forensic Science research and innovation.

This strategy highlights the critical role that research and innovation has in advancing forensic science, improving criminal justice processes, and enhancing public trust and confidence in the outcomes of forensic investigations.

Chief Constable Nick Dean
NPCC Forensic Lead



PURPOSE

This strategy will effectively establish a system where **policing drive innovation through increasing the status, profile, and legitimacy of Forensic Science across the research community.**

On behalf of the community, we will connect the core components and pathways needed to instil an innovative and proactive culture for continuous future focused forensic research. This will ensure a whole community approach to developing the scientific knowledge base that will positively influence operational policing.



OUR VISION

We will **support** policing, the public and victims of crime by driving **research & innovation** that leads forensic science into the future.

OUR PRINCIPLES

By driving our vision, we will:

- Develop **partnership** working across the community
- Identify and prioritise current and emerging **challenges** facing forensic science and policing
- **Coordinate** research nationally and internationally
- Facilitate **collaboration, communication** and innovation across the Criminal Justice System
- Maximise the **impact** of research on front line policing delivery
- Encourage and focus **investment** in forensic science related research
- Establish a dynamic and **inclusive** cross sector research community
- Build public confidence through **trustworthy** science based forensic capabilities
- **Measure** success through a continuous review process

WHY DO WE NEED A RESEARCH & INNOVATION STRATEGY?



Historically Forensic Science research has been fragmented across the policing and government sector with other associated capabilities driving innovation.

Multifaceted issues have driven this including

- **Rapid advancements in technology**
- **Repeated reductions in funding across the sector**
- **A lack of a cohesive approach**
- **Limited research council focus**
- **Marketplace instability**

This has resulted in studies from other sectors being shoehorned and adapted for a policing purpose which may enhance learning but fails to drive real change in forensic practise. This presents limitations and risks to the scientific basis of forensic processes within the criminal justice system.

The pace of change across forensic science has been rapid and requires maintained focus and attention. Giving the forensic science community a voice will enable funding opportunities to expand and allow UK policing to be at the leading edge of technological and scientific innovation. Being a world leader in forensic science could increase international relations, and economic growth.

A coordinated approach will help us to deliver a clearer evidence base supporting the value of forensic science. This will:

- Focus research and innovation in the most appropriate areas
- Support the standardization of national guidance for forensic science
- Inform and influence funding and resourcing requirements
- Enable the use of analytics to explore the value and investigative benefits of forensic science.

By considering the needs of forensic research and innovation as a priority, we will be able to exploit opportunities, learning from other sectors whilst innovatively embedding an agile, collaborative, quality culture, which will preserve the integrity of forensic evidence from crime scene to court – forensics by design.

Current levels of investment in forensic science research have and continue to be challenging and do not accurately reflect the value it brings to the Criminal Justice System (CJS). Forensic science is deemed a linchpin of the criminal justice system, including generating lines of enquiry, exonerating, and safeguarding the innocent, and providing evidence in prosecutions.

Community challenges identified include.

- Lack of local investment and coordinated thinking for research activities with limited cross fertilisation of the learning across our organisations.
- Capacity to manage and coordinate innovation in an operational setting is difficult to initiate and maintain.
- Acknowledgement of the value of research.
- Sharing data and good practice.
- Consensus about research priorities, risks, opportunities, and future vision.
- Cross sector duplication.
- Lack of multi-disciplinary and interdisciplinary approach.
- Organisational, cultural, and political challenges to effective partnership.

THIS IS OUR STRATEGY

Our community is at the heart of this strategy.

Working together we will develop a culture of excellence in forensic science through a cycle of continuous improvement, trust, and knowledge sharing.

This cycle includes effective coordination, collaboration, communication and evaluation with stakeholders.

Together we will drive a single vision for innovative forensic science research that supports policing and victim's needs.

COORDINATE

Delivered through national coordination of knowledge in relation to current and emerging risks, challenges and opportunities that affect operational service delivery.

The FCN will strive to embed new insights and developments in forensic science across policing and the CJS, alerting strategic partners to emerging threats, and promoting investment in research and innovation.

Through continuous horizon scanning we will facilitate the collation of trends, requirements, and challenges from forensics, policing and CJS communities.

COLLABORATE

Developed through a shared culture of excellence, continuous improvement, and trust to build new scientific knowledge.

Working as the forensic arm of research and innovation in the national arena the FCN will endeavour to build trusted alliances and partnerships with academia, industry, and key stakeholders to agilely respond to current and emerging operational challenges.

Together we will grow scientific knowledge, enhancing the development of our people and capabilities.

COMMUNICATE

Established through a communication network built on trustworthy partnerships across the forensic science sector that ensures an openness to sharing and working together.

As the voice for the forensic science community the FCN will provide the foresight to advise on known and future community challenges.

A thriving research community will support, engage, and invite industry and academia to shape and inform new solutions.

It will highlight the need for investment in forensic science within the UK through true collaboration across the sector.



HOW WILL WE DELIVER THIS RESEARCH & INNOVATION STRATEGY?



COORDINATE

Establish a national networked partnership approach to forensic science research and innovation.

This strategy will be delivered through national coordination of knowledge from across the forensic science community and the wider CJS in relation to current and future risks, challenges and opportunities that affect operational service delivery, our processes, and our workforce.

The FCN will strive to deliver new insights and developments in forensic science, across policing and the CJS, alerting strategic partners to emerging risks and promote investment in research and innovation.

Continuous horizon scanning will allow us to facilitate the collation of trends, requirements, and challenges from forensic, policing and CJS communities.

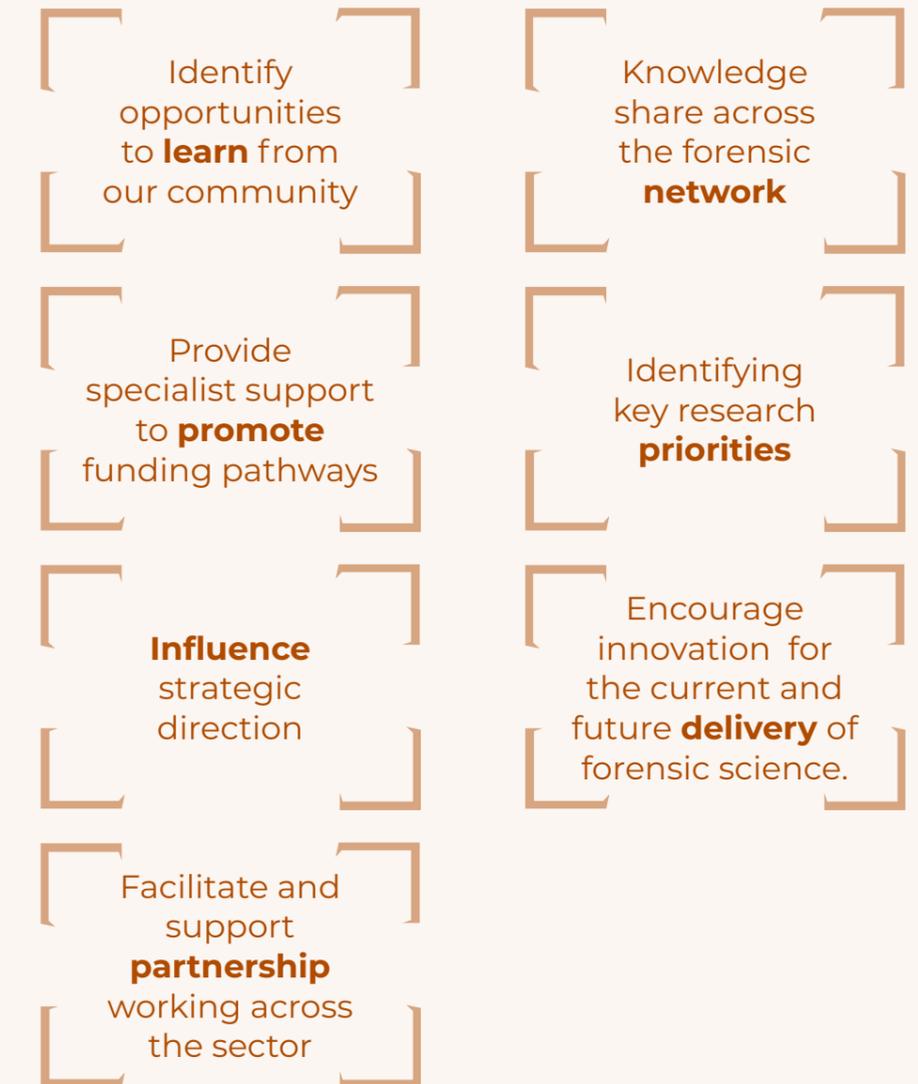
This knowledge will be shared, and opportunities sought to coordinate, develop, and commission new technology, work processes and good practice. This will complement and increase forensic value to existing capabilities, ensuring that any new science is developed from early technical readiness levels, through to an emerging and sustained capability within an operational environment.

A coordinated process to identify and mitigate issues including:

- Regulatory challenges
- Operational demands
- Affordability & sustainability
- Inconsistency across the sector
- Lack of national oversight

It is vital that research and innovation is aligned to the known threats and Issues raised in the **Forensic Strategic Threats and Risk Assessment (FORSTRA)** and other relevant reports.

WHAT WE WILL DO TO COORDINATE





COLLABORATE

Collaboration is key to a successful research and innovation strategy.

With the increased pace of technological advancement and continued requirement for data and interoperability across technologies, this strategy aligns with the NPCC Chief Scientific Advisor for Policing's view that we should no longer view science and technology in the;

'Traditional sense as a capability and view it in terms of what problem we are using science and technology to solve and horizon how far the adoption is from seeking a solution' (Taylor, 2022).

By doing this together, working to the common goal, we will ensure forensic science gets the recognition it deserves.



By enabling these interactions we will.

- Enhance the body of knowledge and its exchange within the community.
- Guide and inform forensic science policy and practice.
- Influence the discovery of new technology and production of useful methods ensuring their application for forensic practice is realised.
- Establish mutually beneficial ways of working between commissioners of research and its users.
- Develop with stakeholders' collaborative spaces to support and develop new solutions at pace.
- Establish academic partnerships to support research and project pathways, both short and long term, within the UK and internationally.
- Capitalise on the potential of undergraduate and post graduate research.
- Guide, support and ensure that any research undertaken will comply with the FSR codes of practice and the Research Concordant, police and academic ethical frameworks, embedding legitimacy, trust, and confidence.
- Provide specialist support and direction for funding applications and where required identify suitable collaborators from industry/academia etc.
- Stand up advisory research groups. Members of the advisory groups will be active in the research arena.
- Aim to bridge the research gap between the innovation phase and embedding learning into operational practice.

WHO WILL WE COLLABORATE WITH?





COMMUNICATE

Successfully sharing forensic science knowledge, learning and experience across the innovation sector will improve the value and benefits of research and innovation.

As a voice for the forensic science community the FCN will have the foresight to inform external partners on known and future community challenges

The policing processes to support forensic innovation are complex and can be challenging for businesses, industry, and academia to engage with effectively. We will look to navigate and streamline these through clear communication channels.

Learning from forensic science research will be shared in an accessible way ensuring that information reaches those who inform policy and deliver operational practice.

Investment in research and innovation could be improved by increasing the value and understanding of forensic science to external funding bodies.

Policing historically is an adopter of science, technology & innovation. The forensic science community needs to take the “driving seat” in science, technology, and innovation to address the challenges of the CJS (Taylor, 2022).

A more creative approach to gathering information from investigations through to court will encourage better engagement and ensure that the benefits are realised.

Across the forensic science sector, we will harness the desire to share. By improving effective communication in this space we will enable access to relevant policing data enabling us to plan and adapt more effectively. Having the ability to proactively embed innovation faster will directly benefit policing.

Any new idea or innovation requires buy in from many people, all of which are likely to have differing priorities, incentives, and perspectives. This requires time, consultation, and trust. Setting priorities for our activities with a level of governance and senior level support will be critical.



WHAT WILL YOU SEE?

Attendance and engagement to **promote** and build our existing networks

Strategic **representation** for forensics across the sector

Develop UK and international science partnerships

Broader engagement and partnership working to **secure funding** in forensic science

Publish known forensic areas of research interest



EVALUATE

Success of this strategy will drive future innovation activity for forensic science by continuously ensuring research alignment to policing challenges and needs.

The inclusion of a continuous process of review and reflection will ensure that the value of forensics within policing thrives.

As a trusted critical friend for the forensic science community the FCN will:

- Support interpretation of knowledge that meets policing standards to appropriately embed scientific rigor into operational practice
- Ensure FCN partners are aligned to international innovation strategies and directives
- Remain focused on being innovative and forward thinking
- Know that partnership remains at the heart of success

Our measures of success will be determined through;



This list is not exhaustive, with methods being interchangeable depending on the brief and/or scope of the activity.

Timelines for research and innovation is variable and flexible with multiple interdependencies often influencing success.

This strategy highlights a commitment to a formal review process to research and innovation through community led engagement and feedback.

It details our ambition to lead and coordinate forensic science innovation across the sector. It is designed to enable a workforce that has the right skills, training, knowledge, and equipment to provide a service to the CJS and the wider community.

This strategy will be used to identify and develop the ideas and innovations needed to ensure that we embed the science, technology, innovations, and research as needed.



REFERENCES

NPCC Science & Technology Strategy

<https://www.npcc.police.uk/SysSiteAssets/media/downloads/our-work/office-of-the-chief-scientific-advisor/npcc-science-and-technology-strategy.pdf>



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