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The Investigator

ESSENTIAL READING FOR TODAY'S INVESTIGATORS



**UK First!
Digital
Detection Dogs**



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The police service needs people like PC Graham Attwood from Devon and Cornwall Police.

It is due to his tenacity and his willingness to explore new ways of working that his force decided to trail two Digital Detection Dogs to help identify devices at crime scenes. The force is the first in the UK to explore the potential of using police dogs in digital searches.

We know that dogs have been used successfully in other areas including murder and fire scenes for many years and that their track record (pardon the pun) is well established. However, this was not the case for digital detection.

The fact that PC Attwood took the initiative to visit the US and explore the potential for the use of digital dogs is commended and his work and dedication is already paying off as the two dogs Rob and Tweed have already been used in over 50 major crime cases in the UK.

You as investigators are well aware of the constant challenge that you are presented with in terms of digital evidence and I know you are always looking for different ways of improving the way you detect and analyse digital evidence at the crime scene. This latest project, I hope, will help further this aim. We will be watching the progress of the dogs with interest.

Finally, a big thank you to all the investigators who have attended our regional DMI roadshows over the past couple of months. We have been touring the UK with our industry colleagues to provide a series of informative presentations that focus on the digital investigation progress.

Our next stop is the Eastern region at the end of the month, followed by East Midlands and Wales in November. We look forward to meeting some of you at these events and talking to you about the current issues, challenges and best practice you are facing on the frontline on a daily basis.

Carol Jenkins

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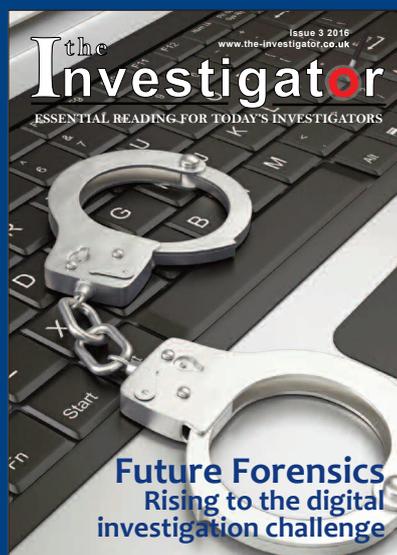
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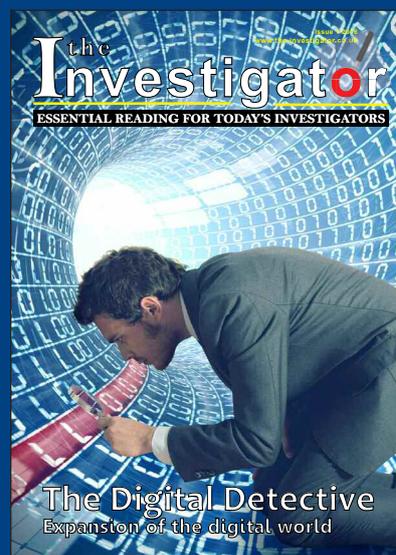
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EDITORIAL SUBMISSIONS

Do you have a case study or a research paper in policing, forensics or cyber crime?

The Investigator is always looking for innovative articles from law enforcement agencies and industry. For further details or to submit an article please email Carol Jenkins, editor at: carol@the-investigator.co.uk





Digital Dogs

A UK pilot in Devon and Cornwall is using police dogs to search for digital evidence at crime scenes. Carol Jenkins reports.

As the demand for forces to work smarter with the way they detect and process digital evidence continues unabated, one police force has recruited two canine crime fighters to help improve their response.

In a UK first – Devon and Cornwall Police has trained two Digital Storage Detection Police Dogs to be deployed at crime scenes to sniff out data devices such as mobile devices, USB sticks, SD cards, hard drives and computers.

The dogs Tweed, a springer spaniel and Rob, a Labrador have been used in over 50 warrants across the UK in locations including Hampshire, Essex, South Wales and North Yorkshire. They have been deployed in a number of a major crime cases ranging from fraud, child sex offences and terrorism.

Chief Superintendent Jim Nye, Commander for the Alliance Operations Department described the pilot as an 'historic step' for

policing in the UK. Other forces are monitoring the progress of the trial with interest to establish whether it would be feasible to carry out wider deployment across the UK.

The idea is the brainchild of PC Graham Attwood, a police dog instructor from Devon and Cornwall Police who got his inspiration when he visited the US to see how dogs were already being deployed. He visited the US in May 2015 and a pilot scheme was launched in the UK in December 2016.

PC Attwood explained that he and his colleagues at the alliance dog school, initially handled and trained Tweed and Rob in their own time as they were committed to their usual daily duties of training the forces other operational police dogs.

"The majority of the dogs we have in the force either come from our puppy breeding

scheme or are gift or rescue dogs, but this was a unique challenge for us and so we identified and purchased Tweed and Rob last December when they were around 15 months old, and embarked on this journey with them," he explained.

Recently retired Connecticut State Police Dog Instructor and co-founder of the American programme, Mike Real, along with Special Agent Jeffrey Calandra who is the only Digital Detection Dog handler in the FBI, were invited to Devon for a week in March 2016 to train with and assess Tweed and Rob. This formed part of an independent review of the ability of the dogs to detect digital storage devices, at the Alliance Police dog school, Middlemoor, Exeter.

Under the watchful eyes of the visiting Officers from the United States the dogs were put through their paces, in a three-day assessment process of the dogs' operational search abilities. Tweed and Rob passed with flying colours.

Mike Real said following the assessment: "Constable Attwood and the trainers at the Devon and Cornwall Police Canine Unit have done a masterful job of bringing this new discipline of police canine to the UK.

"These dogs have already proved their ability and their worth in the U.S. in locating evidence in numerous important cases. I have every confidence that Tweed and Rob will provide the U.K. law enforcement community an impressive new tool in the fight against child predators, fraud and terrorism."

Special Agent Jeffrey Calandra of the FBI commented: "In today's tech-driven world, crime has no state or even country boundaries, so helping our law-enforcement partners around the world develop cutting edge detection capabilities is key to fighting crime and terror."

PC Attwood said that the dogs had already produced good results.

Tweed on one warrant indicated that something may have been within what looked like a coke can. This was then inspected by a search officer and discovered that it was actually a money box which had a number of SD cards hidden within it.

Rob has also indicated a small device hidden carefully in a drawer which would have likely to have been missed by the human eye; which just goes to show that they are able to locate these items which assists us greatly with our searches.

PC Attwood spoke about the project at a recently regional event The Investigator ran for DMIs in the South West in September. He told delegates, the team was still looking at just how wide-spread the deployment of the dogs could be and just how far they could use them in the search for digital evidence.

Rob and Tweed are part of a trial, and the force will assess the success of these dogs and their new skills at the end of the 2017 with a view to rolling this out wider. The dogs live at home with their new full time police dog handlers, PC Martin King and Pc Jill Curnow.

Futher information

Electronics-sniffing dogs:
How K9s became a secret weapon for solving high-tech crimes

By Allison DeNisco

Law enforcement has trained special dogs to find hidden thumb drives and cell phones that human investigators routinely miss, and it's foiling predators, terrorists, and other criminals.

TechRepublic

[Download a copy HERE](#)



Hidden Voices

Carol Jenkins talks to inspirational campaigner Jasvinder Sanghera, CBE about the real-life tragedy that led her to devote her life to providing justice for victims of honour based violence and forced marriages.

As a teenager, Jasvinder Sanghera, was just like any other girl of her age living in the town of Derby. She went to school, watched television and played with her friends.

Despite the fact that her parents were first generation Indian immigrants, she felt totally Westernised.

The course of her life changed for good, when, aged just 15, she was presented with the picture of a man she had never met. Her mother announced, without any regard for her daughter's feelings or wishes, that he was the man she was going to marry.

"By the age of 15, we were groomed to accept our fate," she explained.

"We were made to believe it as part of the Sikh culture to be seen and not heard and to not bring shame on the family. My mother was a devout Sikh woman and she would dress us up and take us to the Gurdwara

every week and show us off as her daughters."

Throughout her life, Jasvinder had witnessed her sisters being forced into arranged marriages against their wishes with often horrific consequences. She recalls that it wasn't unusual to see her sisters being beaten by their husbands and despite their desperation to escape; her mother would urge them to go back and try to be a 'better wife.'

"As we grew up, it was not uncommon for my mum to bundle us into a car and take us to the house of one of our sisters who had been badly beaten and had black eyes and bruises," she said.

"My mother's role was to convince her to stay with the husband for the sake of the honour of the family. What people often don't realise is that it is the women who are the perpetrators of the culture of arranged

marriages. All that matters to them is to protect the honour of the family.”

Faced with the inevitability of her fate, Jasvinder took the brave decision to stand up to her mother and refuse to marry the stranger. As a result, she was taken out of school and held captive in her bedroom before her eventual escape to a new life in Newcastle.

Her parents reported her missing to the police and she was tracked down by a police officer from her home town. She urged him not to tell her parents where she was as she feared the consequences. He respected her wishes –a decision which she believed could have saved her life.

Disowned

From that day onwards, she was disowned by her family and some 36 years later they still refuse to acknowledge her and her children much to her heartbreak, her younger sister was forced to marry the same stranger that she was initially earmarked to marry. In a tragic turn of events, her sister took her own life by setting fire to herself because she was so unhappy in the marriage.



Jasvinder Sanghera

This extraordinary story led to Jasvinder setting up Karma Nirvana in 1993, a national charity that has broken new ground in the way the UK and its legal system deals with forced marriages and honour based violence. In 2013 she was awarded a CBE in recognition of her tireless campaigning that continues to this day with great gusto.

The charity provides valuable support for victims as well as police officers who need advice and guidance in their investigations. The helpline takes more than 750 calls a month and many of these calls are from UK police forces who want expert support in what are often complex investigations. Since the helpline was established in 2008, it has taken some 58,000 calls.

Call handlers are trained in risk assessment and fully understand the issues associated with HBV and honour based violence. The helpline also offers the chance to speak with survivors.

Offence

Karma Nirvana has also provided training to 22 police forces and has been pivotal in the creation of a specific UK force marriage criminal offence in 2014.

The UK's first ever conviction for forced marriages came in June 2015 when a South Wales man was jailed for 16 years. It was the first force that was trained by Karma Nirvana and which used the risk assessment tool the court heard the man repeatedly raped and threatened his victim before forcing her to marry him against her will even though he was already married.

Despite the fact that progress has been made in improving the way the criminal justice system deals with forced marriages and honour based violence, there is still progress to be made. An HMIC inspection report released in December 2015 entitled 'The Depths of Dishonour: Hidden Voices and Shameful Crime' found that the majority of forces were 'not sufficiently prepared to protect effectively victims of HBV.'

The report said that 'the service provided to victims must get better, given that they face unique difficulties in reporting such incidents and crimes.'

"Forces must also improve engagement with community groups that support the interest of victims, in order to understand better the complexities cases of HBV can highlight

these abuses as serious and organised crime.”

Campaign

Jasvinder was instrumental in campaigning for the report to be carried out and she is keen to work with investigators and the service as a whole to ensure that work continues.

“One of the reasons that these crimes have proved particularly complex to investigate is that there is a misconception that it is a ‘Muslim issue’ and that officers will be seen as Islamophobic or racist,” she explained.

Another key challenge is that investigators need to tread carefully when engaging with family members of victims as they are very often the perpetrators. It is not unusual for multiple perpetrators in the same family to collude to convince police that the victim is not in any danger.

Engage

The fact that the concept of bringing shame or dishonour on the family is a powerful cultural ideology that is perpetuated through generations can also prove challenging as very often the victim believes they are the perpetrator.

“You cannot attempt to mediate or engage with families where forced marriages or honour based violence is carried out as the families are the perpetrators,” said Jasvinder. “Officers need to realise that the mere perception that a victim could cause dishonour to the family is a motivation for a family to cause harm to them or even kill them.”

In view of this, she advises officers to take any reports from victims ‘very seriously’ from the outset.

“If a victim has the perception that they are in danger in anyway then I would strongly advise officers to take this very seriously,” said Jasvinder.

Orders

Karma Nirvana can help find victims a safe



haven to escape their families. If a victim insists on returning home, then officers can use Forced Marriage Protection Orders, civil orders that prevent a victim being forced in a marriage. If an order is made, then that places the victim on alert and breaches results in sentences of up to five years. Breaches are now criminal offences but very few forces know they have been issued.

Jasvinder advises investigators to take any reports of missing victims seriously and to act fast as the victim could be transported out of the country and could be at serious risk.

Karma Nirvana can provide support to investigators with lines of inquiries and interview techniques throughout an investigation.

Understanding the motivation of the family is critical as well as interviews with friends can prove vital.

Jasvinder works as an expert witness in civil and criminal proceedings and Karma Nirvana employs barristers and former investigators with a specialism in HBV and forced marriages. They are all on hand to support investigators during an investigation and can advise throughout.

Top Tips

When faced with a potential forced marriage, investigators are advised to:

1. Don't leave the victim – keep engaging with them

2. Get an account from the victim first as the greatest fear is that you will talk to family members and put them at further risk
3. Make sure the victim is being supported emotionally as they are more likely to have a higher level of engagement. The helpline can pay a vital role in this
4. If victims are under 18 then foster placements can be advocated by the helpline
5. Do not send victims back to the family, no matter how convincing the family is. If a victim insists on going back then consider a Forced Marriage Protection Order. To date, no court has refused an application for an order so they are straight forward to put in place.

Again the helpline can provide guidance. Orders can be put in place in just 48 hours. Conditions can be placed on the order including seizure of passports and that the victim must attend school.

6. A risk assessment tool is available to investigators to help safeguard the victim and gather intelligence more effectively.
7. Many victims withdraw and request orders be removed this could be because of intimidation so officers could consider a 'wishes and feelings' statement by specialist organisations such as Karma Nirvana.

Legislation

As well as the Forced Marriage Protection Order and the Forced Marriage legislation, there is also an offence of Coercive and Controlling Behaviour that is part of the Serious Crime Act under Section 76.

Jasvinder admits that even though much progress has been made, offences are still woefully underreported. Karma Nirvana regularly visits schools to raise awareness. Once such visit to a school in Birmingham resulted in eleven referrals from just that one school.

"The starting point is reassurance and to show victims that they will be believed," she said.

Future

Looking to the future, she wants all officers to be well-versed in dealing with HBV and forced marriage crimes in a way they are with general offences of domestic abuse.

"This isn't a niche area or a specialism that needs to be feared, it is an integral part of mainstream policing. Officers will be faced with complex cases with multiple perpetrators and in today's challenging times faced with other abuses whereby honour is used as a tool to abuse, such as revenge porn, being groomed and used to sponsor foreign nationals.

"If police officers sign up to protect people then they sign up to protect all people. We owe it the thousands of victims that are out there to take their plight seriously and to provide the justice for them all."

Karma Nirvana Helpline

Investigators can contact the helpline on 0800 5999247, it is open 9am - 9pm weekdays and 10am - 4pm weekends

For more information on Karma Nirvana go to: www.karmanirvana.org.uk





Ask the Expert

An expert team of advisers is working around the clock to provide advice to investigators dealing with increasingly complex cases. Carol Jenkins reports.

To the uninitiated, the office situated in the building in a business complex in Cambridgeshire, looks like any other office.

Appearances can often be deceptive, as the office is home to a team of experts who act as a national conduit that provides advice for investigators involved in some of the most complex major crime cases.

Major Crime Investigative Support (MCIS) is part of the National Crime Agency, initially set up in 1996 as the National Crime Faculty, to provide a national free service to any investigator who might be in need of external expertise in an investigation.

Staffed by a cadre of investigators with a wealth of operational experience, MCIS has provided advice to police and law enforcement agencies on over 100,000 occasions. It has an expert adviser database of hundreds of experts in very diverse areas

of expertise. The team was able to provide a potato expert that provided expertise in a murder enquiry as well as an expert in the workings of trebuchets (medieval catapults), elephant cruelty and penis comparison to name but a few.

MCIS. support police and law enforcement agencies with:

Specialist capabilities:

- The Crime Advice Team incorporating the Expert Advisers Database in support of all crimes
- The National Injuries Database Team and forensic medical advice
- The Witness Intermediary Team for accessing Registered Intermediaries
- Advisers in the fields of investigation, search, family liaison, interview, vulnerable witnesses, digital media, missing persons, forensics, and behavioural, psychological and geographic profiling.

National SIO Adviser led deployable teams with the skills to meet the needs of the SIOs investigating:

- Homicide and suspicious deaths
- Suspicious missing persons
- Serial offences
- Rape and abduction
- Other complex crimes

Experience

Senior Manager Frank Glen, a former Thames Valley Police officer who also has experience in external organisations, notably the Internet Watch Foundation, where he was the international lead. Mr Glen has worked in his present role for the past eleven years in the three previous organisations that existed before the NCA.

He prides himself on 'never turning an operational colleague away' and says the biggest compliment is when an investigator uses the service once and then becomes a repeat 'customer'.

"It's important to emphasise that this is a totally free service available to all police and law enforcement colleagues," he said.

"Our strength is that we provide investigators with an external perspective and can help them look a bit broader than they might have done."

Impartiality

He is mindful of the importance of respecting the impartiality of an investigation and the operational independence of the Senior Investigating Officer (SIO).

"We are here to add value. We offer investigative suggestions and help to empower decision making," he said.

"We can make suggestions and always provenance the advice we provide to an investigation. We and learn as much as we advise and seek to share that learning across policing."

However, the increasingly complex investigative landscape is proving challenging and the MCIS sees its role as



Paul Young(left) and Mike Hyde from MCIS

providing practical, independent support and advice at a stage of an investigation.

Digital

As well as being home to the National Injuries Database, the Witness Intermediary Team, the MCIS Crime Team has a database that contains contacts of experts in the digital forensics world. This is proving vital as virtually every criminal case now has some digital element to it.

Crime Advisers Mike Hyde and Paul Young act as conduits to investigators to provide specialist input in the digital arena. They pride themselves on getting the balance right between providing telephone or email support for investigators and networking in person with both forces and digital forensics experts.

They are both trained digital media investigators and have spoken at a number of internal events to promote their services as well as providing training input to forces.

Change

With more than 30 years experience in the Met, predominantly as an investigator, Mr Hyde is only too well aware of the changing investigative landscape and of the need for investigators to keep up with the pace of change.

"It's very challenging for investigators to maintain that operational focus while at the same time keep up to date with developments in the digital world," he explained.



Frank Glen(left) and Paul Young from MCIS

“Our role is to try to stay one step ahead of these developments and provide input into latest thinking around emerging areas which at the moment includes vehicle telematics and the wider internet of things.”

Mr Young also has an impressive pedigree, working in diverse roles in Thames Valley Police before joining the MCIS.

He works alongside Mr Hyde to provide digital input into investigations and to help promote the importance of the digital element of any case as being a golden thread that runs through the entire investigation and not just an add-on.

“Our focus has been on overlaying the digital work with other parts of the investigation so it’s fully integrated with the operation,” he explained.

“The challenge for investigators is that when you are living and breathing an investigation, there can be a tendency to have tunnel vision and so our role is to help investigators see the bigger picture because we’re not immersed in the minutiae of detail.”

Experts

Both Crime Advisers work together on an on-going basis to source new experts for the database and network nationally with experts to ensure they have the most comprehensive

collection of people who are working at the forefront in their particular field.

Mr Young explains their role goes beyond advising individual investigators but they also help with requests from national policing groups around current trends and difficulties.

“The fact that we are constantly in touch with investigators gives us a valuable operational perspective that other groups might not necessarily have,” he said.

“We see it is an important part of our role to disseminate current trends and best practice that will hopefully benefit the entire police service.”

MCIS works closely with the College of Policing, Home Office and National Police Chiefs Council in a bid to provide a joined up approach.

Promotion

Mr Glen admits that one of its biggest challenges is promoting MCIS and in making SIOs aware of the service.

Looking to the future, he wants to continue to promoting the expertise that MCIS can provide as he recognises that although many officers have heard of the service, due to the changes in the policing landscape many don’t know the service is now part of the NCA and still free.

“We acknowledge, however that we still have work to do in promoting our expertise and providing officers with the confidence to ring us at anytime throughout an investigation.

“It’s a work in progress and although personal satisfaction rates for our service are high, we are never complacent and are always ready for the next challenge that comes our way.”

Call the MCIS

If you are an investigator and require support from the MCIS you can call the team on 0845 000 5463 or 0800 328 6247.

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activists networks on social media
- designing a multi-purpose cyber
crime intelligence framework**

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Net Results

A report by independent think tank Reform has called for police to improve the way they investigate digital crime. The Investigator reports.

As technology continues to revolutionise the policing landscape an independent think tank has released a report calling for law enforcement agencies to more effectively address this demand.

The report titled 'Bobbies on the net: a police workforce for the digital age' says that as crime changes, police forces must respond. Technological developments in recent decades – most notably the growth of the internet – have digitised traditional forms of crime, providing new opportunities for fraudsters, sex offenders and drug dealers.

Frontline

It observed that technology also creates a new frontline of crime, which previously would not have existed. The implications of the fourth industrial revolution are yet to be fully understood. Today, almost half of crime relies on digital technology, and that is likely to rise.

Law-enforcement agencies must address this demand, said the report. Some will be met by central agencies, including the National Crime Agency (NCA) and Government Communications Headquarters (GCHQ), but much will be addressed by the 43 police forces across England and Wales. The

greatest assets forces possess are the 198,684 officers and staff they employ.

Interviews

In order to assess whether police currently meet the digital demand. Reform conducted interviews with over 40 police officers, staff, government officials and experts, visited five forces, held a focus group, and analysed public data.

The report finds that a range of changes are required to ensure forces are fit to fight digital crime. Different parts of the workforce will need to change in different ways. Nevertheless, the whole workforce requires better equipment, a better understanding of digital demand and crime-fighting techniques, and new (less-hierarchical) working patterns. Police forces should make better use of secondments, and introduce on-demand cyber-volunteer units to help fight the most sophisticated crime, such as cyber-attacks.

Grant

The report recommends that The Home Office should create a new police digital capital grant to invest in digital infrastructure, worth around £450 million per annum, with funding coming from savings

from accelerating Whitehall's automation agenda.

It says that the Government should set one of the public-policy challenges in its Industrial Strategy Challenge Fund as reducing crime, and invest in innovative new policing technology companies as part of the Industrial Strategy.

Police forces should use competitive procurement channels, such as the Digital Marketplace, to get value for money when purchasing new technology, says the report.

Demands

It also stated that forces should work with the National Police Chiefs Council to extend force-management statements setting out how to meet demand in 15 years or more. Forces should create skills heatmaps to understand the skills available to meet this demand.

There is also a requirement for forces to improve digital understanding through learning apps and offline training. It also recommends that the Home Office should create a digital academy to train cyber specialists, graduating around 1,700 police officers and staff a year.

Law-enforcement agencies should seek to increase the number of cyber volunteers to 12,000 from 40, in part by offering more dynamic volunteering opportunities says the report.

It also recommends that the Government should implement Sir Tom Winsor's 2012 recommendation to introduce a system of compulsory severance for all police officers,

and to further allow force leaders to make officers redundant if they are underperforming.

The Home Office should organise an annual hackathon-style convention to provide space for police forces to join national bodies and other experts in developing approaches to meeting the new frontline of crime.

Embrace

Responding to the report National Police Chiefs' Council lead for Digital Intelligence and Investigation, Chief Constable Stephen Kavanagh said:

"We continue to embrace the new world of ever-changing technology while adapting to the threats and opportunities that it presents for 21st century policing.

"From body worn video cameras to the roll-out of cybercrime units and virtual courts, cutting edge

technology is becoming more and more intrinsic to operational policing."

He said that the NPCC is continuing to work closely with the College of Policing to ensure that all police officers are equipped with the technological skills that their role demands, whether they are new entrants or chief constables.

"Forces are also continuing to recruit digital experts who help officers make the most of the opportunities that the digital world presents."

Read the full report
<http://www.reform.uk/wp-content/uploads/2017/08/Bobbies-on-the-net.pdf>



Network Disruption

A landmark court injunction broke up a prolific Birmingham crime gang network by banning them from entering parts of the city. The Investigator reports.

The West Midlands in the UK has made history by serving injunctions on eighteen men from two prolific crime gangs banning them from entering large parts of the city and associating with each other.

The ground-breaking move is believed to be the largest group gang injunction ever secured in the UK. West Midlands Police and Birmingham City Council secured full injunctions against the 18 men suspected of involvement in gun and drug offences.

It means the men, aged between 19 and 29, are forbidden from associating with each other and entering areas of Birmingham, including the city.

It is hoped that this ban will prevent further criminality taking places on the streets of the UK's second largest city.

Restrict

These injunction will allow officers to restrict the vehicles and mobile phones used by the men.

The injunctions were as a result of more than 80 witnesses from the Home Office and police who gave evidence at Birmingham Crown Court.

Lead detective from the Force CID Prevent Team, Detective Sergeant Ian Comfort, explained that the move came following following around 20 firearm offences involving Birmingham gangs during the summer of 2015 and into the start of 2016.

It was decided that such a high level of criminality needed to be thwarted.

"We secured interim injunctions to reduce the violence and ensure the community had on-going respite from



the incidents. We also dealt swiftly with a number of subsequent breaches," he explained.

UK first

"This is relatively new legislation and we believe that securing final full injunctions on such a large number of gang members is a UK first.

The injunctions are applied for in the civil court in addition to sentences handed out by the criminal court for offences. They are an additional measure to help control the offenders and keep the community safe.

The investigation team has been working closely with Birmingham City Council and other agencies to secure these injunctions and they have said they will continue to work with these men if they wish to turn their back on a gang lifestyle.

Injunctions

Birmingham City Council and West Midlands Police previously secured

interim injunctions following a spate of gun and drug-related crime in the city during 2015.

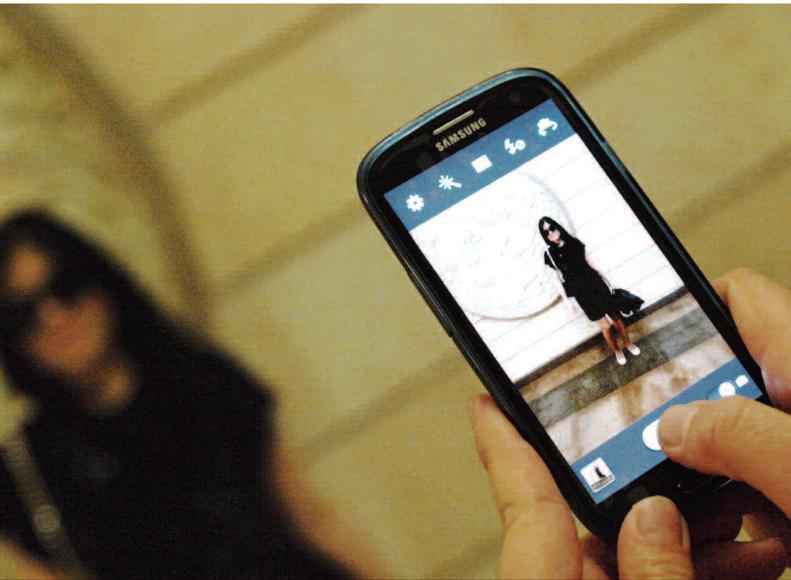
Superintendent Mat Shaer, the Neighbourhood Policing Superintendent for Birmingham, said:

"These injunctions are not sought lightly and the police together with the local council and other voluntary groups and charities will have already made exhaustive efforts with these men and their families to try and steer them away from gang culture"

Supt Shaer said officers will be responsible for enforcing the terms of the injunctions and if the men fail to adhere to the conditions they can and will be arrested. "These civil injunctions add to our armoury and do not replace criminal prosecutions or investigations.

"These powers allow us to manage the men and restrict their movements. We can restrict their associations and where they are allowed to go within the area."

Evidential use of video and images in an investigation – an SIO's guide



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Making Faces

Retired investigator and now certified forensic artist working in the US Michael Streed believes the use of composites in America requires a much-needed face lift.

Facial composites are the most visible and widely recognised form of forensic art seen today. Over the years, facial composites have been used to depict suspects in heinous, widely-publicised crimes and political assassinations.

Yet despite their one-time popularity, the use of facial composites by law enforcement has been in steady decline. This, in direct contrast to a marked rise in violent crime.

It's my belief that much of the decline is caused by the increased availability of photos and videos captured by private citizens and businesses. The poor quality of many of today's facial composites and a lack of confidence in eyewitness identification are also key contributors.

Resource

Yet despite the decline, facial composites remain a much-needed resource for law enforcement. In my experience, facial composites have been the key factor in solving countless cases and are a valued asset to most investigations.

They provide a signature image that often

attaches itself to cases where the use of a facial composite has proven to help reduce investigative cycle times. This provides law enforcement with tremendous cost-savings and more importantly, helps prevent further victimisation.

But, there could be a renaissance in the works for the use of facial composites. My book, *Creating Digital Faces for Law Enforcement* (Elsevier/Academic Press 2017), provides a blueprint for how law enforcement can leverage technology to create facial composites.

Tools

Other topics of interest for law enforcement include, how traditional forensic artists can use digital tools to increase efficiency and improve image quality. Most important is how law enforcement can increase their use of software-driven facial composites by training non-artists in the deployment and use of the technology.

Law enforcement has many options to consider for creating facial composites. Some are discussed below. The one you choose for your department depends on frequency of use and budgetary considerations.

Onsite Facial Composites

In a traditional setting, the forensic artist, usually a freelance contractor, responds to

their local law enforcement agency to meet in-person with the eyewitness.

If the agency employs their own forensic artist, the eyewitness responds to their office. It should be noted that the number of full-time forensic artists dwindle each year due to budget restraints and low utilisation.

Agencies who consider training and developing their own forensic artist should examine the high cost. Forensic art training classes average \$800-\$1,250 dollars per week. When you include airfare, lodging and meals; the costs increase dramatically. It also takes time for them to become experienced. Time is money, making the cost to train one forensic artist prohibitive.

Some departments try a less expensive approach by contracting with civilian, freelance forensic artists hired on a per case basis.

They typically attend forensic art training at their own expense. Though some volunteer their services for free; many charge a modest fee for their service ranging from \$250-\$350 per sketch.

The downside is that inexperienced, civilian, forensic artists usually lack police training, which includes interviewing skills. Law enforcement may be hesitant when considering them because of the potential for them to unintentionally harm their cases.

However, it should be noted that many civilian forensic artists that have persevered to become some of the most skilled forensic artists.

Online Facial Composites

Law enforcement agencies who still prefer a traditional hand-drawn facial composite may consider this method for creating facial composites, though it's relatively new.

The forensic artist meets online in a virtual setting to interview the eyewitness using painting software and a computer with digital stylus rather than pencil and paper.



Both computers are connected so the eyewitness can watch the forensic artist draw and guide them to a likeness they, the eyewitness, is satisfied with. Many believe that you must be in the same room with the eyewitness to be effective, the truth is, you don't.

In my role as Baltimore, MD Police Department's Forensic Artist, I have personally conducted nearly a hundred online interviews with eyewitnesses. The process for creating the facial composite is the no different than if I was onsite.

Remote services provide law enforcement with greater flexibility and product turn-around. Law enforcement doesn't have to pay for expensive equipment upgrades or continuing education.

They do receive the benefit of working with an experienced forensic artist for much less the cost of training and maintaining their own. In the end, they receive a high-quality product they can quickly disseminate to the public.

Software-Driven Facial Composites

Software-driven facial composites are becoming more popular as law enforcement seeks a cost-effective solution for creating facial composites.

The cost and quality of facial composite software programs vary. Before making an investment in the technology, law enforcement should spend time researching the program they feel is the best fit for their department.

Before making a final decision, they should review the items listed below:

Image Quality: Facial composite software programs using photographic should be avoided.

They confuse people into believing they are viewing the suspect's mugshot. Facial composite software programs, such as Frontalis Facial Composite System and/or SketchCop FACETTE Face Design System, that use sketched facial components are best.

Interview: The interview is the most important component when building a facial composite. Many companies boast about how quickly you can build a face using their software program. But quick does not always mean accurate.

Training: Good customer support includes regular training. The software you select should be supported through online training, or "hands-on" seminars.

Costs: Facial composite software costs between \$600-\$4,000 per license. Be wary of yearly maintenance fees. Unless they offer a tangible benefit, you shouldn't continue paying for something you've already purchased.

As the discipline of creating facial composites evolves, many forensic artists are embracing facial composite software as a viable alternative.

They realize how facial composite software can help them create more faces in less time than those they hand draw. This allows them the flexibility of pursuing something they're passionate about, while minimizing the impact on their primary duties.

Traditional forensic artists chafe at the suggestion that facial composite software serves as effective solution. I might have agreed with them in the beginning. But today, the quality of the software has greatly improved and rivals the same quality product they produce.

Many in law enforcement agree and routinely contact my company regarding our facial composite software products.

When considering the total costs of training and supporting a forensic artist, versus the opportunity to have trained personnel available around the clock, an increasing number of law enforcement agencies are opting for facial composite software.

Making the move from pencil to pixels can easily be accomplished by law enforcement. In an era where law enforcement depends on real-time intelligence to help drive investigations, it's essential they find the most effective way to make faces.

With the right product and proper training, software-driven facial composites provide law enforcement with an essential, cost-effective tool that will not only help them further connect with their communities, but also capture some crooks along the way!

About the Author: Police Sergeant(Ret.) Michael W. Streed is the owner of SketchCop Solutions, LLC (www.SketchCop.com) – Law Enforcement's Source for Facial Imaging and Biometric Identification.

Michael develops facial composite software products and provides training.

He is also a Certified Forensic Artist with 37 years of experience and the author of [Creating Digital Faces for Law Enforcement](#). You may contact Michael via e-mail at: Michael@SketchCop.com



Michael W Streed



Modern Slavery

Modern slavery and human trafficking (MSHT) in the UK is more prevalent than previously thought, according to the National Crime Agency. The Investigator reports.

The National Crime Agency has publicly said that a growing body of evidence resulting from an increase in law enforcement activity points to the numbers of victims of modern slavery being much higher than estimated, and the threat continuing to expand.

It has released figures showing there are currently more than 300 live policing operations targeting modern slavery in the UK.

The term 'modern slavery' subsumes the offences of human trafficking, slavery, servitude and forced or compulsory labour, including sexual or criminal exploitation.



Since April the NCA has hosted the Joint Slavery and Trafficking Analysis Centre

(JSTAC) bringing together analysts from policing, Immigration Enforcement, Border Force, HMRC and the GLAA to share and analyse intelligence.

Operations

More than a dozen of the highest risk operations targeting organised crime groups are being led by the NCA.

Recent operational results from those include the arrests of three men in north east England with suspected links to a Romanian organised crime group using the internet to advertise the services of victims trafficked for sexual exploitation, and then forcing them to launder the proceeds through criminally controlled bank accounts.

Ten women were safeguarded. Across Europe, the group and its wider network are suspected to have made around €5 million in criminal profits.



The rescue and safeguarding of five Slovakian men encountered during an investigation into allegations of forced labour in the Bristol area. A man and woman with links to a car wash business were arrested, and are suspected of being part of a wider organised crime group.

Activity

A surge in operational activity focusing on labour and sexual exploitation co-ordinated by the NCA through May and June – codenamed Operation Aidant – led to 111 arrests in the UK and some 130 people being encountered who may be considered as victims.

Linked operational activity also took place on mainland Europe resulting in around 40 further arrests and the launch of 25 further investigations as a result of intelligence gained.

Additionally, the number of people being referred into the National Referral Mechanism (NRM) as potential victims of modern slavery continues to rise.

Hidden

Will Kerr, the NCA's Director of Vulnerabilities described modern slavery as 'a hidden crime' and that the onus is on the organisation to do all it can to seek it out.

'The more that we look for modern slavery the more we find the evidence of the widespread abuse of vulnerable,' he explained.

'The growing body of evidence we are collecting points to the scale being far larger than anyone had previously thought. The

intelligence we are gaining is showing that there are likely to be far more victims out there, and the numbers of victims in the UK has been underestimated.'

In response the NCA begins a new campaign focused on sexual and labour exploitation, explaining how the public can help stop it. Over the next six months the campaign will highlight the signs of modern slavery which people may encounter in their everyday lives, and encourage them to report it.

Mr Kerr explained that 'this is a crime which affects all types of communities across every part of the United Kingdom.'



"It is difficult to spot because often victims don't even know they are being exploited. Nevertheless we need those communities to be our eyes and ears.

"There will be people living and working where victims come into contact with everyone else's so-called normal lives.

He said that they may see something they feel is not quite right. That might be someone seeming afraid, vulnerable or being controlled, moved around or forced to work against their will. If they do, we need the public to speak to us.

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Data Development

The growth in communications data as evidence in an investigation brings both challenges and opportunities explains Joe Hoy from Forensic Analytics.

It is widely acknowledged that we have become adept at capturing data from a whole host of sources for evidential and investigative purposes. Handset downloads, financial data, chat logs, social media streams etc, and law enforcement agencies have had recently had more and more tools available to process this data and to extract the relevant intelligence that is buried within it.

One area that is still immature in this regard is communications data (comms data). The issue around comms data is that there are so many varied formats of provided by network service providers, that it is a significant challenge to rapidly process and distill the evidence that it so often reveals to investigators.

The ability to quickly and efficiently make sense of the comms data coming into law-enforcement agencies is a critical success factor in all modern investigations. However,

police forces are being inundated with the amount of data associated with criminal investigations.

Underpinning this is the need to process the communications data and handset downloads associated with investigations in a time sensitive way, this places further demands upon the investigators and the analysts working on the case.

Process

Adding to the problem is the fact that communications data is not delivered to investigators in a simple format, it is actually increasingly complex and difficult to process at scale.

The consequence of this is that investigations get delayed, critical evidence gets missed or overlooked and individuals who may have connections to an investigation do not get identified. If these individuals are involved in

major crime or terrorism, the implications are obvious.

Unfortunately the problem is only going to get more complex with mobile devices being able to switch between wifi and 4g, 3g and 2g technologies during calls. This is going to show up as additionally complexity in the billing records adding further challenges to the analysis of the phone data.

Transformed

This is where Forensic Analytics have transformed this area of investigation and analysis for many Law Enforcement Agencies. With an industry leading background in bit level telecoms engineering and cell site analysis, Forensic Analytics have created a unique suite of software (CSAS and CDAN INDEXER) which automatically recognizes most formats of historical and current comms data and process it at scale into useable intelligence for deeper analysis and mapping or for officers on the ground to use tactically.

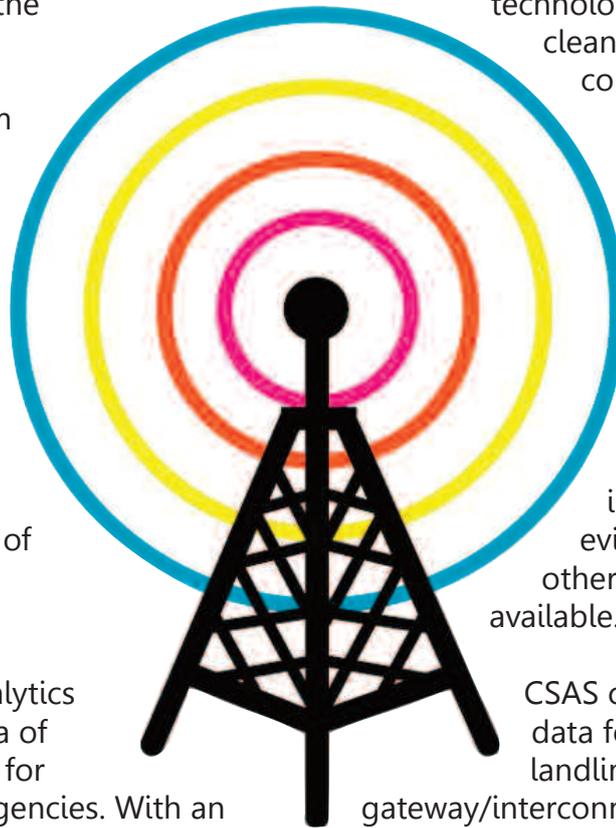
Additionally the software can index this cleansed data and index it so that unique identifiers e.g. phone number, handset contacts, IMSIs etc hidden in the data can immediately be attributed across a force, a region or even nationally.

Automate

The ability to automate this process is certainly not trivial, and many blue chip organisations have attempted, and failed to successfully develop this capability. The ability to evidentially automate the processing of comms data means that it is scalable and can process huge amounts of comms data in a fraction of the time of traditional methods.

CSAS

CSAS Desktop is a mature and proven



technology that automates the cleansing of time-critical comms data.

With CSAS Desktop, the time-consuming and error prone aspects of comms data analysis are automated. This allows more comprehensive and deeper analysis to be performed upon the data, enabling analysts & investigators to get to the evidence faster than any other solution currently available.

CSAS can process the following data formats: cellular CDRs, landline CDRs, international gateway/interconnect CDRs, cell dumps, ANPR logs, Wifi session logs, handset downloads and ad hoc geo data.

CDAN indexer

CDAN takes just the data cleansing and normalisation functions and wraps them in a set of automated processes. It acts as a centralised 'cleansing engine' to automatically ingest, process and output CDR files in a simplified and normalised format without the need for a manual operator.

It can be securely deployed to process comms data as it arrives from the network service provider's disclosure systems and it automatically creates normalised call schedules and analytical summary reports for each requested comms data file as it is received, without affecting the original copies of the data.

CDAN's Analytical Summary Report provides critical analytical intelligence (top ten numbers, top 10 landlines, top ten used cells, etc) that can be used immediately by investigators without needing to wait for an analyst to be assigned to their case.

In addition CDAN can also process handset

download extracts from Cellebrite and XRY, allowing immediate connections to be made between the handset content and the billing records held in force.

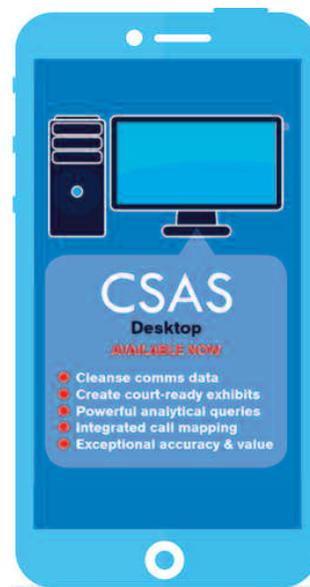
CDAN INDEXER is an addition to CDAN that can be set to automatically work through a historical store of data files and normalise them into usable Intel.

The process creates a stand-alone database of historical data organised on a case-by-case basis. At the end of the conversion process, CDAN INDEXER provides a 'query tool' function, that highlights the coincidence of contact names, phone numbers, IMEIs and IMSIs across different cases. This allows investigators to see links and patterns that may not previously have been visible revealing critical intel at scale and speed not previously available.

Law Enforcement Agencies that have deployed CSAS or CDAN have called it 'transformative' and 'unlike so many tools on

the market, it delivers what the developers have promised and then some.'

Law enforcement agencies need to be responding now to the ever growing challenges and demands of comms data and handset downloads. The data is growing in quality and is becoming more complex.



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Digital Challenge



As digital evidence continues to play an integral part in today's investigations, Paul Slater, Global Head of Investigations at Nuix looks at the current and future challenges and opportunities.

It's no secret that we are living more and more of our lives online. So, then it should come as no surprise that digital crime is also on the rise. It's imperative that police officers have the right tools and skills to tackle the spread of digital crime.

Crimes such as phishing, trolling, malware, online scams, revenge pornography and the distribution of child abuse imagery still go largely under the radar. This means that prosecution rates for digital crimes remain woefully low.

If criminals are able to exploit technology to preserve anonymity online, law enforcement needs to keep up, but the reality is that investigators are still lagging behind. The problem is not just about budgeting. A

burgeoning digital skills gap is threatening to make the problem even worse.

Threat

Policing issues are often misunderstood, with politicians and governments focusing too much on increasing staff numbers instead of ensuring that existing staff have the tools to tackle the rapidly evolving threat landscape.

Tackling staffing issues is vital, however, the questions of resources to improve overall productivity, information sharing and collaboration between forces or agencies are hurdles to efficient digital investigations.

It's a simple concept. When investigators are trying to pre-empt or investigate criminal activity, the more information they have

gathered, the better their chances of success. However, gathering and subsequently analysing information is one of the biggest pain points for investigators.

Officers are faced with issues of secrecy, conflicting interests and communications, which can all complicate the process of efficient information sharing, preventing officers from having the information they need to be effective.



Outdated

When it comes to digital investigations, investigators must progress beyond outdated forensics tools and workflows, so they can effectively analyse the contents of multiple evidence sources concurrently. Law enforcement agencies are dealing with an ever-increasing amount of data due to the explosion in devices which we use every day.

Evidence sources can range from computers and mobiles to cloud-based email, social media and wearable devices, amongst others. In fact, for a large-scale investigation, officers could be dealing with dozens of evidence sources from numerous suspects.

Sharing

Investigators must be able to examine and cross-examine multiple evidence sources simultaneously. However, vital information can often be located outside of the evidence already gathered for a specific investigation. This evidence could reside in a previous or parallel investigation conducted by a different team, agency, office or country.

Whilst law enforcement officials are aware of the need to share intelligence both internally and externally, they are often hindered by

technical and procedural restrictions. This then leads to unavoidable evidence backlogs which need to be analysed, which can impact the prosecuting process.

Review

One of the biggest complications faced by investigators is making digital evidence accessible for review to internal or external personnel. Many technology vendors have attempted to tackle this problem by combining legal review platforms and forensic investigation tools, or by adding forensic processing and analysis proficiencies to existing review platforms.



Creating tools this way can cause them to be unsophisticated and complicated to set up. The legal review background of many of these tools also means that they are very text-centric, due to the fact that most evidence in this sector was traditionally stored in email and documents.

This means that they lack the essential abilities to examine a wide range of media such as photos and video, social interactions, call logs, SMS and instant messaging, browser histories and caches.

Isolated

Another hindrance to collaboration faced by investigators is that due to the isolated way in which forensic technicians and case investigators often work, crucial decisions about which data sources to analyse are often made without the necessary knowledge of the case to inform these decisions.

It's almost impossible for forensic investigators to understand the investigation



Paul Slater

to the same degree as the investigating officer or, for them to fully comprehend potential connections between people, objects, locations and events. If this is multiplied across many of suspects and evidence sources and

technology becomes the only way to handle this.

Limitations

Visualising and analysing data can be the quickest way to detecting key facts and connections in a case, however, most investigative tools are unable to visualise data, particularly across multiple sources.



Investigators are hamstrung by human limitations that keep them from linking connections from even a small number of digital data sources. The growth of case evidence looks set to continue and investigators urgently need tools which empower them to effectively and intelligently do their jobs.

Adoption of new technologies should be at the forefront of policing priorities, as well as ensuring that the right processes are in place will help investigators do more with condensed budgets. This will also empower them to solve crimes more efficiently and prevent further crime.

Backlogs

Swamped police forces and agencies should review the ways in which they can beat backlogs– by focusing on identifying relevant issues, case objectives and creating relevant workflows around these to ensure that current and future needs are met.



This entails applying technology which can process and make available larger amounts of evidence than last generation solutions. All whilst giving investigators the ability to work together collaboratively, rather than in ineffective silos.

Future

Finally, this collaboration and information-sharing matter has been getting more attention from the industry, and there are wider, more collaborative efforts to make digital forensics less painful for investigators. Recently, EUROPOL has been working towards a more consistent approach which Nuix and other industry experts are committed towards.

The new proposition calls for the consistent accumulation of results from digital forensics software tools used to extract, parse and analyse information such as on a hard drive or a mobile phone, known as the Cyber-investigation Analysis Standard Expression (CASE). Whilst still at an early stage, this represents a transformation in digital forensic analysis.

Police officers will benefit immeasurably from this standardisation of format, partnered with the prioritisation of technology adoption. By ensuring that the best processes are in place, UK police forces will be empowered to do more with reduced budgets, as well as being well-equipped to tackle crimes in the digital world.

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Gang Mentality

Forensic psychologists from the University of Kent are shedding new light on the complex dynamics of street gangs. Carol Jenkins reports.

It's a familiar sight on street corners in the length and breadth of any town or city: a group of young people congregating in a public place, their very presence proving to be intimidating to passersby.

At best, these kids are just neighbourhood friends, but at worst, they could be part of a gang that engages in criminality that starts with low-level offences and very often escalates into more serious criminality such as drugs (usage and trafficking) and violence.

Forensic psychologists at the University of Kent are carrying out on-going work on the complex nature of gangs, their

formation, their motivation and their role in criminality.

Much of their work is conducted by interviewing prisoners who have been involved in gangs and who are not shy in painting a vivid picture of life in these criminal groups.

Vulnerable

Dr Jane Wood, a forensic psychologist at the university, leads the research work on gangs. She emphasised that gang members should not just be branded as criminals when they are also very vulnerable.

"People who join gangs are often lacking a

structure somewhere in their life and they often don't engage with school," she explained.

"Some of them are homeless, some of them have been in care and they often have chaotic family backgrounds. Rules make us feel safe and often young people look to gangs to provide a sense of belonging and a set of rules to guide their behaviour."

Fragile

Two of her university PhD students are currently examining the complex link between mental health issues and gangs as it is thought that having fragile emotional and/or mental health issues could make young people susceptible to joining a gang. Dr Wood's own research has shown that gang members suffer from more symptoms of Post Traumatic Stress Disorder, anxiety and paranoia and these all link to their exposure to violent events.



Gang members can range from as young as ten up to 25 and they tend to form in one of two ways according to findings from one of Dr Wood's former PhD students, Dr Mark James. They are either well established in a community and members join them or they start out as a friendship group that escalates into criminality.

Crime

Prisoners interviewed by the university were very frank in admitting that their motivation for joining a gang was to gain status, commit crime and make money.

One worrying aspect is the rivalry that can build up between gangs that can

often escalate into extreme violence and criminality – generally over geographical areas (turfs) – and often innocent individuals get caught up in the 'cross-fire'. The advent of social media has exacerbated this problem as gangs film themselves goading their rivals and post the pictures or videos on Facebook or Instagram.

"What we are seeing is gangs going into another gang's territory and then filming themselves defacing something and then posting it on social media," said Dr Wood. She believes that social media has also increased the opportunity for gangs to communicate constantly in a way they couldn't have done in the past.

"The interaction between gang members has definitely been enhanced by the advent of the internet."

Rivalry

This inter-gang rivalry has in the past led to serious criminality. One of the most memorable cases happened in 2003 in Birmingham when best friends Letisha Shakespeare and Charlene Ellis who were killed in a drive-by shooting carried out by a rival gang.

Many police forces have formed anti-gang taskforces to try and curb gang-related crime but they recognise that it is difficult to positively engage with gangs, who are often closed units and view police officers adversely.

Dr Wood advises police to attempt to build positive, long-term relationships with gang members and to refrain from being too authoritarian as it can often alienate the gang and actually increase its propensity to commit crime. Debate rages about whether gang

membership can be prevented but much work has been done in schools to try and divert vulnerable young children away from gangs and into more healthy pastimes and activities in the community such as sport and volunteering.

The problem is that a lot of these efforts have not been properly evaluated and so we cannot know how successful they are.

Membership

There are two types of gang membership – affiliates and members and their role and level of commitment within the group is very different.

As Dr Mark James, one of Dr Wood's former PhD students found in his research, affiliates often maintain a foot in the gang and other social camps and so they might be a member of a football team or other club as well as the gang. Their role is transient and they don't commit themselves to being a full-time member of the gang.

In contrast, committed gang members tend to cut themselves from other social groups and mix solely with the gang. They are extremely loyal to the gang and their lives very much revolve around the gang and its activities and as such, they are thought to be less likely to leave their gang.

Gang members take the issue of respect very seriously and see it as the 'gold currency'

Gang members take the issue of respect very seriously and see it as the 'gold currency' of gang membership, which they will defend with violence.

Girls

Dr Wood points out that although gang members are predominantly male, that girls do play a role in the gang. They are sometimes fully-fledged gang members but more often are used as bait and as a bargaining tool between rival gangs making them extremely vulnerable.

Elders

Despite the fact that gangs are quite closed groups, they are aware of elder gang members ("olders") and they revere them and see them as role models but do not maintain any formal links.

"The elders will talk to them and nurture them but there are no formal links as such," explained Dr Wood.

Future

Looking to the future, Dr Wood believes more emphasis needs to be placed on treating gang members as vulnerable individuals and that more preventative activity needs to be available to try and divert young people away from gangs. More focus also needs to be put on the mental health of young people in gangs and this is the area that Dr Wood and her PhD students are currently researching in depth.





DNA Development

East Midlands Special Operations Unit has joined forces with a forensic provider to launch a joint DNA laboratory. The Investigator reports.

Police staff from the Forensic Services arm of the East Midlands Special Operations Unit (known as EMSOU-FS) will be one of the first in the country to share laboratory bench space with staff from outside of policing in order to more quickly identify criminals.

The partnership with Cellmark Forensic Services, will see staff working alongside the EMSOU-FS team, with three scientists based out of a new DNA laboratory at the Arrow Centre in Nottinghamshire.

The project will mean that the need to transport samples to Cellmark's laboratories in Oxfordshire and Lancashire

will be significantly reduced. This will not only cut the unit's carbon footprint, but will make it possible to profile urgent cases from the five East Midlands forces of Derbyshire, Leicestershire, Lincolnshire, Northamptonshire and Nottinghamshire within a matter of hours.

EMSOU believes that the new arrangement will also have a positive impact on other aspects of the forensic process. For example, the fingerprint team will be able to access exhibits for analysis and recovery as soon as the DNA team has finished, also potentially enabling them to turn around results within the same day.

Ultimately, the contract will allow detectives to identify and prosecute suspects, in a range of cases from burglaries to murders, much more quickly.



Regional Deputy Chief Constable Martyn Bates said: "DNA profiling is one of the most significant advancements in modern day policing, and it was developed right here in the East Midlands.

"It is not only helping to identify offenders committing today's crimes, but you may have also heard in the news of cases in which criminals have been convicted years after some of the most serious and violent offences were committed."

He described the contract as an 'innovation' in itself.

"Not only does it mean our DNA samples can be processed more quickly, consistently and to the highest of standards, but it will also bring the scientist and investigator closer together, enabling them to work in the very best interests of

each case. In short, it's going to refine and speed up the investigative process," he explained.

"These changes also mean we will be saving money, gaining a great deal from working so closely with a global market leader with a wealth of experience and skills to impart, and allowing for other opportunities to integrate and streamline our procedures.

David Hartshorne, Cellmark's Managing Director, said: "This is a very exciting development which is allowing us to bring our forensic expertise closer to police investigators to deliver an extremely rapid and responsive DNA service. Our forensic partnership with EMSOU-FS is an innovative way of working and we are delighted that UKAS has recommended our laboratory for accreditation."