Eurofins Forensic Services (EFS) – Written evidence (FRS0063)

Author: Dr Mark Pearse, Director

Eurofins Forensic Services (EFS) is a private sector company delivering a full range of forensic services primarily to police forces in England & Wales (E&W). EFS has a market share of over 50% and as such is the largest provider of externally procured forensic services in E&W.

1. Is forensic science contributing to the delivery of justice in the UK?

   1.1 Forensic science delivery models differ in the various parts of the UK but in all countries science is providing objective evidence to support the administration of justice. Whilst there is a paucity of centrally collected data to demonstrate the absolute contribution of forensic science to the CJS we know through day-to-day usage that the contribution is high. For example our organisation alone (working largely with E&W forces only) processes over 70,000 cases per year supporting the investigation of offences including homicide, terrorism, rape, drugs offences, assault and acquisitive crime. Furthermore we receive over 3000 urgent requests per year and attend around 250 complex crime scenes where the police CSI requires expert opinion on evidence such as blood distribution or firearms discharge.

   1.2 The absence of objective data on the value of forensic science from a crime scene to court, end-to-end perspective is a problem in our sector. Being able to show how further investment in science realises savings in court (due to earlier guilty pleas) or saves investigative time for example, would provide the evidence to allow budget holders to be more objective in assigning monies to forensic science compared to other areas. At present no such overarching study is available to draw on.

2. What are the current strengths and weaknesses of forensic science in support of justice?

   2.1 **Strengths**

      - Impartial presentation of findings considering both the prosecution and defence position using formal Case Assessment and Interpretation approach.
      - Effective and sensitive techniques allow the detection of crime and resolution of issues that were not possible only a few years ago; for example EFS alone has contributed to the successful prosecution of over 300 offenders in previously undetected rapes and homicides (cold cases).
      - Quick delivery times supporting streamlined CJS processes.
      - Co-ordinated activities of the Forensic Science Regulator (FSR) to ensure standards and public confidence, although statutory powers are yet to be conferred.
      - Strong network of knowledge and best practice sharing via the Association of Forensic Science Providers (AFSP) and the European Network of Forensic Science Institutes (ENFSI) working groups.

   2.2 **Weaknesses**

      - Examination strategies are sometimes compromised by a financially driven approach restricting the amount or type of analysis ‘authorised’ to be carried out. This can potentially limit the contribution of the science in the overall case.
• Lack of a consistent approach around delivery models in E&W meaning lack of clarity on which services are done ‘in-house’ vs which are outsourced and can be developed by the private sector. This holds back investment and innovation.
• Lack of understanding by some lawyers and police of the role of an expert and the need for supporting databases and deductive inferencing vs factual reporting by an inexperienced person.
• Police and lawyer awareness of the power and limitations of science is inconsistent.
• Forensic statements, results and evidential value of our work are not always understood by police, lawyers and the courts (see also Q5).

Understanding and use of Forensic Science in the Criminal Justice System

3. What is the scientific evidence base for the use of forensic techniques in the investigation and prosecution of crimes? Are there any gaps in that evidence base?
3.1 The introduction of the Forensic Science Regulator’s Codes of Practice and Conduct has made it very clear that no method should be deployed that has not been appropriately validated (ie does the method deliver what it sets out to achieve in a scientifically rigorous way). In addition most methods will be subject to accreditation to ISO 17025.

3.2 For forensic examinations that involve the factual reporting of results generated from instruments (source level reporting) eg a DNA profile, Drugs identification, the validation of the methods and controls in combination with the training and competence of the individual will produce a robust outcome.

3.3 For examinations that involve the interpretation of findings in the context of the case ie for an expert to give an opinion not just on the presence of a trace or piece of evidence but also on how it got there, the expert has to properly deduce conclusions based on objective data sources and documented or peer reviewed experiences. The nature of forensic science means that it is not possible to set up directly comparable control conditions so deductions can only come from such databases, publications and collective knowledge.

3.4 Work is ongoing in the forensic science community to grow vital databases to allow experts to make the most out of forensic examinations. This work is happening in the UK (for example the expansion of the Y-STR database driven by the AFSP) and in Europe via EU funded programs associated with the creation of a European Forensic Science Area. However much more can be done, both in the UK and overseas.

4. How can the Criminal Justice System be equipped with robust, accurate and transparent forensic science? What channels of communication are needed between scientists, lawyers and the judiciary?
4.1 Organisations delivering results into the CJS should be required to have the appropriate levels of accreditation and adopt the FSR’s Codes of Practice and Conduct. Equally, experts and organisations should follow the current and recently revised Criminal Procedure Rules and Criminal Practice Directions requiring that experts disclose key points around methods and personal competence and experience.
4.2 The existing multi-agency governance groups for various areas of forensic science business areas should strive towards further co-ordination and consistency. This will ensure that innovations, policy and practice are understood by all and co-ordinated in a way that is most efficient.

4.3 To improve communication we need to address the following observations made by EFS experts during the course of their work;
- It is often the case that a barrister is appointed very late to a case and that the forensic evidence isn’t well understood or appreciated.
- There seems to be less dialogue with the CPS reviewing lawyer and barrister prior to trial and very few conversations with scientists at any level
- There is no single point of contact from the CPS to Forensic Units/ suppliers resulting in missed opportunities to discuss issues and raise awareness in an efficient way.

5. What is the level of understanding of forensic science within the Criminal Justice System amongst lawyers, judges and juries? How can it be improved?

5.1 This is a very variable depending on lawyers’ previous exposure to forensic science and cases involving forensic science. To create consistency in awareness a structured program of Continuous Professional Development is required supported by written material and input from experts and police personnel. This should include a forensic science input into legal training.

5.2 To improve the picture work needs to be done at a local level. There needs to be a CPS forensic science lead engaged in change projects and initiatives to assist with effective roll-out and a requirement. This could be supported by a specific requirement from the local police force through their commercial contracts to work to establish and maintain effective tripartite working (police, CPS provider). Prior to the closure of the FSS the concept of close tripartite working (police, CPS, forensic organisation) was common place and meant that an understanding between agencies was higher. This has been lost in recent years. Best practice and consistency can be achieved through the national CPS lead for forensics, a position already in place through the CPS Policy Directorate.

5.3 Juries are usually guided by the Judge in a case. Expectations are no doubt influenced by high profile trials and TV coverage and dramatization.

6. Is the current training available for practitioners, lawyers and the judiciary appropriate?

6.1 EFS has 650 staff and well over 100 accredited methods across many disciplines. As a result practitioner training is an essential part of our business. Training records and competencies are logged and are maintained as good practice and as part of our ISO 17025 accreditation requirements.

6.2 Other large UK forensic science organisations who are AFSP members adopt a similar approach to training and competency of practitioners.

6.3 I am not aware of any formal training programs for lawyers and the judiciary beyond occasional awareness sessions and visits to laboratories. Judges, in our experience are often well briefed at trial and have a good grasp of issues but this may well be through practical experience of having heard scientific
evidence presented previously. There is judiciary representation on the Forensic Science Regulator’s Advisory Council and this Judge already acts as a point of contact for colleagues regarding forensic issues.

**Standards and regulation**

7. **Is the current market for forensic services in England and Wales sustainable? Are changes needed to ensure forensic science provision is maintained at the level required? What are the risks of a market approach, for example what happens if a provider goes out of business? And what is the impact on quality?**

7.1 Following the announcement of the closure of the FSS in 2010 the short term priority for the police in E&W was service continuity. This was achieved through a series of procurement events, re-letting contracts to the private sector.

7.2 At the same time, austerity (which had partly led to the demise of the FSS in the first place) and the need of the police to deliver budget cuts resulted in a number of initiatives which has have ultimately halved the ‘market’ size since 2011/12. These included;

- Regional procurement and commoditisation of forensic science
- More professional police ‘submissions unit’ approach to authorisation of work to be outsourced
- In-sourcing of some work by the police

These, together with falling crime in certain areas have resulted in the market shrinking from £100+m in 2010 to a current value of around £50m.

7.3 These events and activities have definitely increased value for money for the tax payer and the introduction of submissions units and a regional approach to procurement can be viewed as a good thing. However, problems of market sustainability and attractiveness have arisen following a trend in Police and supplier behaviour. On the policing side the balance between scientific excellence and frugality has shifted too far towards the latter. The creation of an extensive list of tests for all types of science for procurement purposes was a positive step but has resulted in a product based discussions at the commissioning stage that don’t focus enough on requirements of the case and the courts. This has been exacerbated by large regional procurement events (with a heavy focus on pricing) all very close together. On the supplier’s side this has encouraged very aggressive bids (with possibly unsustainable pricing) without the time for such business decisions to work their way through in terms of long term stability.

7.4 Following the creation of the market, in comparison to other countries in the UK and overseas, a degree of mistrust of private sector providers has developed, or at least there is an unease about how to engage with the market whilst maintaining fairness and a proper competitive environment. This, in conjunction with a commoditization approach, has driven a particular type of behaviour that results in less of a partnership approach to the delivery of forensic science which can lead to a reduction in the effectiveness of the science in the CJS. It is an unusual position in our market that, as the purchasing body, the police are not the sole end user of our services; forensic science is for the courts ultimately. It should be said however, that at least three regions or regional sized customers have recognised this and procured forensic science using a very different, more collaborative approach and mind set.
7.5 Despite a more collaborative approach in some areas and a reduced focus on price in a very recent procurement event the following general conditions currently make the market less attractive for investment and ultimately less sustainable.

- **Price:** in general terms we have seen an increase weighting on price in all areas of science (including more specialised casework) over the last 7 years. At its height this was 75% for simple DNA samples and 60% for complex casework. This, together with aggressive pricing from some players in the market, has resulted in a 30-40% reduction in revenues in areas such as drugs, DNA and toxicology. If one takes a longer window we have seen a 70%-90% price erosion in some areas since the later FSS years.

- **Indexation:** the vast majority of contracts require bidders to sign up to zero inflation over the duration. With a baseline RPI of typically 3%, wage inflation of 1-2% and other increasing costs such as the need to invest in accreditation (EFS invested around 150 person days in extensions to ISO 17025 scope for new methods in 2013, in 2018 that figure will be nearly 500 person days) this is challenging. With longer term contracts now being let (in itself a good thing) zero indexation over the life is not workable.

- **Delivery Times:** all suppliers in the E&W market are now on the whole delivering services up to ten times quicker than in other parts of the UK and in other European countries. However, some of the timeliness requirements specified in contracts are extremely challenging and require a disproportionate level of investment to achieve. It is now recognised by many in the sector that a delivery requirement that is linked to CJS processes would be much better.

- **Service Credits:** in addition to challenging timeliness requirements many contracts still have a very punitive service credit regime associated with them which effectively fine suppliers for late delivery. Whilst there should of course be drivers on suppliers to ensure on-time delivery the current regimes do not reward consistency or reliability and can result in very disproportionate penalties. For example for one contract we could have a situation where we deliver a range of complex urgent work to an SIO in the 24 hours following a serious crime, but end up paying back much of the charges for the work for being minutes late despite the fact that the SIO might value the result immensely as part of an investigation.

7.6 From an EFS perspective the current position from a sustainability perspective is that whilst some areas of our business are profitable these are not sufficiently profitable to justify investment in people and new methods to the extent that we would like. Moreover, there are parts of our business where the current position is actually unsustainable when viewed in isolation. That does not mean that as a responsible provider of services to the CJS we would consider an immediate withdrawal of services in these areas but it does mean that we cannot carry on for ever in this way and must agree a backstop position and a change regarding the economics in our market.

7.7 The reduction in the size of the market has led to some consolidation of services and some difficult decisions about the continued investment in niche forensic services. We would welcome more clarity from the CJS about the need to maintain such niche services and what is required to do so.

8. *Is the system of accreditation working successfully to ensure standardised results and the highest quality analysis and*
interpretation of significance of evidence?

8.1 The most consistent, reliable and highest quality of science is produced by organisations who recognise that an overarching Quality Management System including the verification and validation of documented methods, the training of staff and the systematic approach to incidents and issues is just a way of working and a minimum standard. Accreditation is an indication through external audit that this culture and approach is present in an organisation. Accreditation itself doesn’t ensure quality.

8.2 It is a strength of the E&W market (and for other large UK forensic laboratories) that providers have developed a very strong quality culture, working closely with UKAS and the FSR and self-referring issues that need national consideration and learning for others. For smaller private organisations and for police forensic units the picture is less consistent and it is not clear that all organisations have embraced the ethos and way of working that is essential for the consistent delivery of the highest quality.

8.3 It is also worth noting that whilst most analytical methods are accredited there is currently no formal ISO standard for interpretation. This is a gap and one that the FSR is currently addressing.

9. What role should the Forensic Science Regulator have? If the Forensic Science Regulator is to have statutory powers, what should these be?

9.1 The FSR and the Forensic Science Advisory Council currently work to develop practices and policy and advise the CJS and government on all matters associated with quality and standards in forensic science. This is currently effective and, as a member of ENFSI we can testify that many countries which are respected for their forensic science infrastructure look to the UK FSR with some envy.

9.2 The FSR should be given the power to close a forensic science delivery organisation for failing to meet the accepted standards. This will work to ensure more consistent delivery of quality between organisations large and small and from both the public and private sectors.

10. What lessons can be learned from the use of forensic science in Scotland and Northern Ireland? What can be learned from the use of forensic science overseas?

10.1 FSNI and the Scottish Police Authority laboratory are in a better position to comment on their own situations.

10.2 EFS is a member of ENFSI and as such we are familiar with forensic organisations from many other countries. Equally our Eurofins forensics sister laboratories outside the UK are currently delivering forensic services in Germany, France and Belgium.

10.3 Other countries deploy a state provision system in contrast to E&W. It is clear that service levels and our customer-first culture are now much more developed that most other countries in Europe. Equally, many countries forensic laboratories are viewed by their police colleagues and customers as slow and unresponsive. Many laboratories have backlogs measured in weeks and Eurofins provides services to support the reduction in backlogs in at least four EU
It would be relevant at this stage of market development to recognise the improvement in service levels that we have seen in E&W in the last 8 years since the closure of the FSS and also the value that the CJS gets from forensic science. However, now is the time to look at balancing the service improvements and value for money with sustainability for the future to keep our forensic services at the forefront when compared with other countries.

11.1 The 2016 Forensic Science Strategy did not give enough specific detail to address each of the five broad areas mentioned. Whilst the National Approach to Delivery aspects have been taken forward by the Transforming Forensics program and there is a clear way forward for some of our Biometrics capabilities, there has been little progress in other areas.

11.2 For example, events at Key Forensic Services, Forensic Telecommunications Services and Randox Testing Services have been more of a driver for review and potential change in the market than the HO strategy document.

Forensic Science research landscape

12. How should further research funding for forensic science be justified? What should be the focus of such research? What is the role of UK Research and Innovation, especially considering the interdisciplinary nature of much forensic science?

12.1 Forensic Science research needs to be justified based on improved outcomes for the criminal justice system. However, measurement of these improvements can be much more difficult than in, for example, clinical research where research can often be linked to metrics associated with patient outcomes. The two primary end users of forensic science; the police and the prosecuting system (CPS and the Courts), have very different objectives, focussed on prevention/detection and prosecution respectively. There are some potential metrics associated with successful detections and prosecutions of crime but in many cases it will not be possible to reliably associate such outcomes with individual research programmes. This difficulty in measuring research outcomes may be a significant factor in the reluctance of the public funding bodies to ring-fence and provide funding for forensic research.

12.2 Ring-fenced research funding for forensics needs to be made available, and award of such funding needs to support the full research pipeline from early stage primary research (TRL 2) through to developmental validation (TRL 8). Provision of funding only for close-to-market projects will stifle early innovation projects, whilst on the other hand, provision for only early TRL projects will results in failure to translate genuine opportunities into viable service offering.

12.3 Forensic science is often inter-disciplinary, and this may be a key element in the failure of the individual Research Councils to ring-fence funding for forensic science. Whilst we are not fully aware of the structural relationships between the new UKRI and the individual research councils we believe that the involvement of
the interdisciplinary UKRI umbrella must be helpful to coordinate this funding stream.

13. Where are the gaps in research and understanding of forensic science? How and by whom should the research questions be articulated to fill these gaps?

13.1 R&D in forensic science is ‘solution’ driven – it is an applied science. There is very little scope for ‘curiosity’ driven research. It is a magpie profession adopting and re-purposing technology developed in other fields to its own ends.

13.2 To this end, forensic science research should be driven by end-user requirements. However, there is no single end-user, with many elements of the CJS (including policing, the CPS and the Courts) and forensic service providers and individual practitioners all have a key stakeholding in the outcomes of research.

13.3 As a supplier seeking to develop research programmes and projects, it is sometimes problematic that end-users within policing and the wider CJS are not always able to articulate or define their needs sufficiently clearly. In some cases, this is because of lack of scientific knowledge to help identify the “possible” and hence a tendency to either over-reach current scientific capabilities, or to fail to identify potentially viable opportunities. Hence research questions and end-user requirements need to be defined through collaborative forums with input from all end-users, but led by scientists and practitioners with a clear understanding of the scientific knowledge base and the detail of forensic analyses. To this end, practitioner and science-led organisations such as the AFSP can take a lead in identifying and communicating knowledge gaps within the forensic community.

13.4 We believe that the similar issues will apply when academic groups attempt to identify research needs without sufficient input from end-users. We are aware that this issue has been identified and that collaborative efforts to build partnerships between academia and policing in particular (such as the FIT-IN programme) have been initiated. We would urge that such partnerships seek to engage with private sector providers and other elements of the CJS as well to ensure that the operational practicalities of delivering any resultant innovation have been appropriately considered at the outset.

13.5 A further element of forensic research often overlooked in identifying research needs is the need for case-specific research to support evaluation of a particular set of results. Such research is another demand on the limited resource available within suppliers and costs are often impossible to pass on to customers. Furthermore, the time required to conduct such supporting research needs to be appreciated and considered in the context of contractual turn-around times and in scheduling of court dates.

14. How can a culture of innovation in forensic science be developed and sustained?

14.1 There are a number of key challenges to developing and sustaining a culture of innovation including:

- Lack of a coherent strategy amongst stakeholders and end users;
- Disparate and disconnected end users (Policing, CJS (CPS and Courts), FSPs and individual practitioners);
- Poorly defined end user requirements resulting in projects with questionable or unclear objectives;
- Lack of accessible funding streams;
- Tensions between private and public sectors;
- Requirement to operationally validate and accredit;
- Need to collect additional data.

14.2 As the E&W delivery model is based on a commercial market you could pose the question – why aren’t the private sector providers doing this? Some reasons why not would include:
- Current commercial conditions are such that expenditure on R&D is reduced – for many service delivery/performance must take precedence over all other tasks. There are some notable exceptions where R&D forms part of the contract but in the main innovation is not recognised;
- Where R&D is carried out, it is often focussed on development and improvement of core services to meet primary customer needs, rather than on transformational innovation;
- The customer is budget limited so developing new services does not always guarantee increased revenues and so the ‘business case’ is hard to make;
- Access to the limited external research funding available is even harder for a private company;
- The focus is often on efficiency improvement projects as they are of course more self-funding.

15. Are there current or anticipated skills gaps? Who should have responsibility for and/or have oversight of training?

15.1 The number of experts competent in the various forensic specialisms has reduced due to the reduction in market size and transfer/loss of staff as contracts have changed hands. This is particularly acute in toxicology.

15.2 EFS has around 70% of all casework toxicology experts (other than people aligned to Road Traffic Act related work) and there are too few qualified scientists to deliver an optimal service to the police. To a degree this is being tackled by EFS and others but more fundamentally in this area the unsustainability of the commercial conditions needs to be addressed first. Equally, in all areas of forensic work the time lag between recruitment and reaching full competence is long and requires investment at the expense of day-to-day delivery.

Digital Forensics

16. Are there gaps in the current evidence base for digital evidence detection, recovery, integrity, storage and interpretation?

16.1 We believe there is good coverage in the evidence base for digital evidence detection, recovery, integrity, storage and interpretation.

16.2 However the business case for continued investment to ensure the ongoing availability and development of these skills and evidence types is limited within commercial suppliers due to the unstable nature of the commercial Digital Forensics market place.

17. Is enough being done to prepare for the increasing role that digital forensics will have in the future? Does the Criminal Justice System have the capacity to deal with the increased evidence load that digital
forensics generates?

17.1 The work currently ongoing within the Digital Forensics Strand of the Transforming Forensics program is a positive step towards creating a robust delivery model to meet the current and emerging demands of the digital forensics market. However it remains unclear how the TF program will engage with, support and develop a sustainable commercial market to work alongside law enforcement to ensure there is sufficient capacity working at the right standards of quality to support the requirements of the criminal justice system.

17.2 In developing the capacity required of the market it is essential that quality and accreditation standards are maintained and all providers (commercial and within law enforcement) work to the same standards to help ensure consistent and robust outcomes for the CJS.

17.3 In our opinion capacity and robustness of supply could be achieved via a mature outsourced market with a smaller number of accredited commercial suppliers working alongside law enforcement to ensure that capacity is available to cope with emerging needs and spikes of demand alongside standard cases. To enable this a clear commitment to a sustainable outsourced market needs to be in place which is currently not in existence and not clearly defined within the TF program.

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