VISION:
Science Supporting Justice

MISSION:
Forensic Science Ireland delivers, to best international standards, independent expert opinion, advice, training and research to support the Irish Criminal Justice system.

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1975: Laboratory established
1978: Laboratory moved to Garda HQ
1979: 10 additional staff recruited
1980: High profile murders - Lord Mountbatten, D/Gda Mortey and Gda Byrne and Deborah Robinson
Foreword by Minister Fitzgerald

Forensic Science Ireland (FSI) provides invaluable support to the criminal justice system in Ireland.

FSI provides objective scientific evidence over a broad range of expertise which assists An Garda Síochána in the investigation of crime, the prosecuting authorities in deciding whether or not a charge should be brought, and the Courts in determining if the necessary legal standard of proof has been met. FSI also provides services to other state agencies involved in criminal investigation e.g. GSOC, Customs, Military Police.

In 2015, FSI celebrates the 40th anniversary of its establishment as the former Forensic Science Laboratory. Over that period, a formidable body of scientific expertise has been built up. All of the staff are civil servants of the Department of Justice and Equality. Most are scientifically qualified with many holding Masters or Ph. D degrees. All routine methods employed in FSI are validated and accredited to ISO 17025 standard. FSI is subject to annual inspection by internationally recognised experts acting on behalf of the Irish National Accreditation Board (INAB). FSI contributes to the investigation of violent and sexual crime through the application of DNA technology, to the investigation of fatal shootings, burglaries and hit and run traffic accidents through the detection of firearm residue (GSR) and other forms of trace evidence e.g. paint, glass, textile fibres. A major part of the work of FSI is the identification of illicit drugs for the purpose of prosecutions under the Misuse of Drugs Acts. The upsurge in new psychoactive substances in recent years has posed challenges to law enforcement. Research carried out in FSI has identified many of these new substances and thus brought them within the scope of the Misuse of Drugs Acts.

FSI scientists also assist investigations and court proceedings by interpreting their findings impartially in the light of the known circumstances of the offence and what is alleged to have occurred. This requires familiarity with relevant scientific literature. FSI scientists further assist An Garda Síochána by attending at crime scenes when it is considered that their presence will add value to the investigation.

FSI ensures that its services meet best international standards by engaging actively in a number of international fora. FSI cooperates with Forensic Science Northern Ireland (FSNI) under the aegis of the North/South Inter-Governmental Agreement on Criminal Justice Co-Operation. FSI is a founder member of the European Network of Forensic Science Institutes (ENFSI) which brings together 62 forensic science institutes in 35 countries geographically spread across Europe. ENFSI operates through a number of Working Groups which bring together specialists in particular areas. FSI is represented on all relevant Working Groups and has hosted a number of expert conferences, including most recently the Annual Conference of the Drugs Working Group in Dublin Castle in May 2015. Under its current Director-General, Dr. Sheila Willis, FSI has led an EU-funded ENFSI project to standardise and improve the evaluation of scientific evidence across Europe.

Undoubtedly the most significant development in forensic science over the past 40 years has been the introduction of DNA profiling as a tool in criminal investigation. FSI has provided DNA profiling on a routine basis since the early 1990’s. During that time, DNA evidence given by FSI scientists has played a key role in many high profile criminal trials. A further milestone was reached in June 2014 when President Higgins signed into law the Criminal Justice (Forensic Evidence and DNA Database System) Act 2014. This set out the legal procedure for the establishment of the National DNA Database, named FSI as the custodian of the database, and also changed its name from the former name of Forensic Science Laboratory. Extensive work in preparation for the commencement of the legislation has been carried out in FSI, by An Garda Síochána, and by my Department, and I expect to be in a position to sign the Commencement Order necessary to bring the Act into operation shortly.

As forensic science advances, scientific techniques become ever more sensitive. Hence, ever more elaborate anti-contamination procedures become necessary to ensure the integrity of the findings produced by FSI. That is why I recognised some time ago that the facilities it currently occupies – essentially a 1970’s office block – are outdated and in need of modernisation. The provision of a modern, fit-for-purpose laboratory has been under consideration for some time. In 2009 and in subsequent years, plans were drawn up by the OPW to develop state of the art facilities on a site adjoining other government laboratories at Backweston, Co. Kildare. Unfortunately, due to the economic downturn, this project had to be put on hold. Earlier this year, I recognised that the time was right to re-activate this important project and my Department and FSI have held a number of meetings with the OPW to progress it.

I conclude by thanking the staff of FSI, past and present, for their loyalty and dedication over the past 40 years and by wishing them every success over the next 40 years in their new facilities.

1983
Larry Dunne convicted of supplying Drugs

1983
Derrada Wood - Don Tidey
Kidnapping; ring of steel

1984
Alex Jeffreys used DNA in Pitchfork case

1984
Kerry Babies
Who We Are and What We Do

Science Supporting Justice

Forensic Science Ireland is an associated office of the Department of Justice and Equality. The people working at FSI are mainly trained scientists and analysts supported by administration staff and number close to one hundred. We work together to deliver to best international standards, independent expert opinion, advice, training and research to support the Irish Criminal Justice system.

Our Remit

Originally known as the Forensic Science Laboratory, FSI was established in 1975 to provide a scientific service to the Criminal Justice System by analysing samples submitted from crime scenes and providing expert evidence in criminal trials. Forty years later some of the original staff are now leading today’s FSI team as we embrace the ever increasing advances in forensic science and continue to fulfil that remit.

In June 2014 President Higgins extended our scope when he signed into law the Criminal Justice (Forensic Evidence and DNA Database System) Act 2014. It named us as the custodian of that database and changed our name from Forensic Science Laboratory to FSI.

In addition to our role within the Irish justice system we have also always been conscious of our responsibility to contribute to the global knowledge base. So, while the FSI is very much a working service laboratory, our staff are encouraged to contribute to scientific conferences and publish their work. Examples are listed on p13.

FSI was also a founding member of the European Network of Forensic Science Institutes (ENFSI) in 1995. Our members are active on all the relevant ENFSI working groups and in recent years have contributed to some of the EU funded ENFSI Monopoly projects. ENFSI was granted Monopoly funding status by the EU in 2009 and they have used this funding to address best practice issues across the discipline of forensic science. More details on this on p12.

FSI is accredited according to ISO17025 and holds an Excellence through People certificate. In 2012 the laboratory received the Taoiseach’s award for the project “From Complaints to Compliments” in the Drugs area. In 2013 and 2014, the laboratory was awarded Calibration or Testing Laboratory of the Year by the Irish Laboratory Awards.

I am proud of the contribution this group of people make to science supporting justice.

Sheila Willis
Director General FSI
Our Management Team

FSI is managed by a Directorate of five - Director General, Directors of Science, Services, DNA, and Chemical Sciences.

Science supporting justice

Forensic Science Ireland is a knowledge based organisation and the expertise of the staff is its most valuable attribute. Its functioning is an excellent example of the practical application of science in Ireland. Our staff, many of whom hold M.Sc. and Ph.D. qualifications in Chemical and Biological Sciences, work to use science in the investigation of crime.

The nature of Science results in ongoing change and there is a lot of emphasis on ongoing education and development. This is vital in ensuring that the Criminal Justice system has the benefit of International best practice.

Director General

Dr. Sheila Willis B.Sc; Ph.D M.Sc. (mglt FRSC, FICI, FCSFS. Sheila’s career has focused on how science can be used to investigate crime and assist the administration of Justice. She has been Director of the Laboratory since 2002. Before that she held positions of Deputy Director and Head of Chemistry. She has worked in the laboratory since the very early days having joined with a number of the present senior staff in 1979.

Director of Science

Dr. Louise McKenna, B.Sc, PhD, MSc (Public Sector Management), was appointed Deputy Director in 2003. She joined the FSL as a biologist in 1979 and became head of the Biology Section in 1997. Most of her professional career has been involved with Biology casework and scenes. In her current role as Deputy Director, she has responsibilities for Human Resources, which include the Performance Management and Development System and leading the Staff Development Group in the delivery of non-technical training. Dr. McKenna also has responsibility for the co-ordination of the functional work areas as well as finance, quality and ICT.
Seán, a native of Limerick, joined the laboratory in February 1983. He completed his undergraduate and postgraduate studies in University College Galway. He began his career in the Drugs section and moved in 1985 to the Chemistry section. He moved back to the Drug section in 1994. He was appointed Head of Biology in March 2004. He was appointed as Director of Operations in October 2008.

In 1997 he graduated with an M.A in Public Management [Institute of Public Administration]. His thesis was on “Efficiency and Effectiveness in the Forensic Science Laboratory”. This study examined some of the performance indicators available to assess if the laboratory was providing a value for money service.

Seán has been involved in and given evidence in court on a wide variety of evidence types, including, explosives, fibres, glass, paint, drugs, footwear comparison and tachographs. He has had a long-term interest in the value of a statistical approach to evidence interpretation.

Dr. Geraldine O’Donnell, B.Sc, PhD joined the laboratory in February 1992 having completed her undergraduate studies in University College Galway and postgraduate studies in University College Galway, Baylor College of Medicine Houston, Texas and University College Dublin.

She began her career in the Biology Section transferring subsequently into the DNA Section. In 2007 she was appointed Quality Manager for the laboratory.

She was appointed Deputy Director in 2015 with responsibility for DNA operations and the National DNA Database of which Forensic Science Ireland is custodian.

Dr. Tom Hannigan is a native of Ballygar, Co. Galway. He holds a B.Sc. and a Ph.D. in Chemistry from University College Galway (NUIG). He also holds a B.L. degree from Kings Inns. He joined Forensic Science Ireland in August 1982 and has served in the Drugs and Chemistry disciplines. He has a particular interest in all kinds of trace evidence especially firearm residue (GSR) and in the identification of explosives and other suspect materials. He has given evidence in a number of major trials relating to fatal shootings and possession of explosives. He was appointed Director of Chemical Sciences in February 2015 and has overall responsibility for operations in the Drugs and Chemistry disciplines. He also has responsibility for FSI’s obligations under the Freedom of Information Acts.
1990
Criminal Justice (Forensic Evidence) Act, 1990

1991
Ecstasy seizures noted

1992
Forensic Laboratory in Northern Ireland destroyed by PIRA bomb

1992
Fibre evidence on three suspects arrested in Donegal following attempted murder of UDR man in Fermanagh
Our work

FSI examines approximately 12,000 cases each year. Approximately 8,000 of these are drugs seizures. Certificates of Analysis from FSI are necessary for the prosecution of offences under the Misuse of Drugs Acts.

Evidence Types

In the DNA area, DNA profiles are extracted from submitted items and compared with reference profiles obtained from suspects to assist the investigation of crimes ranging from burglaries to sexual assaults and murder. Blood Pattern Analysis (BPA) and examination of damage to clothing is also carried out. The National DNA Database will be situated in this area. In the Chemistry area, many types of trace evidence are recovered and compared with reference samples e.g. glass, paint, fibres, firearm residue (GSR). Marks and impressions are also examined e.g. footwear impressions left at crime scenes or manufacturing marks on plastic bags. Debris samples from suspicious fires are analysed for accelerants e.g. petrol and suspect materials are analysed for explosives. Work carried out in FSI frequently leads to the elimination of suspects from investigations. There are few major criminal trials that do not feature some contribution from FSI. Our scientific staff are qualified in a range of scientific disciplines, mainly Chemistry and Molecular Biology, many of them to Masters or Ph.D level.

As an associated office of the Department of Justice and Equality, FSI relies on the Department to provide the resources necessary to operate the service. We have been housed in Garda Headquarters since 1979. However, as a result of the growing need for a purpose built laboratory to reflect the increasing scope and complexity of our work, the Minister for Justice and Equality has recently asked the OPW to reactivate plans for the construction of a purpose built modern laboratory at Backweston, Co. Kildare.

Forensic Cases

The bulk of the cases for FSI analysis are submitted by An Garda Síochána but material is also received from Garda Siochána Ombudsman Commission (GSOC), Customs & Excise, and Military Police. Cases are accepted by FSI reception/case intake staff who ensure that items are safely and securely stored or passed directly to a scientist depending on the situation. In either situation the chain of custody is carefully monitored.

The court is much more likely to question who handled a particular item, how it was packed, stored etc rather than probe the more scientific aspects. Case submissions vary from minor packages containing small amounts of drugs to cases with large numbers of bags containing multiple samples from suspects, victims and premises. In larger cases, the first task is to identify which samples are most likely to provide useful findings. In this way, the forensic laboratory differs from the clinical model where uniform samples are submitted for a range of fixed tests. Bulk items are returned to An Garda Síochána following the issuing of a report. In some instances sub samples are retained on file and archived with the files. The current practice is that files are retained indefinitely.

In addition to analysing samples in the Laboratory, staff from FSI provide professional advice and training on the appropriate samples to be taken from crime scenes and individuals and in some circumstances they attend crime scenes. We also operate an out of hours service for situations where investigating Gardai need access to immediate information.

The court is much more likely to question who handled a particular item, how it was packed, stored etc rather than probe the more scientific aspects.
FSI signs a Service Level Agreement (SLA) with An Garda Síochána on an annual basis and reviews this service periodically. We are a demand led service and as such managing workloads is an ongoing challenge. To help manage demand and ensure FSI resources are used most productively FSI provides training courses instructing Gardaí where forensic science is most useful.

In our SLA with An Garda Síochána, cases are classified into four categories depending on the potential contribution from forensic science and the significance of the case; cases with high potential and high importance to An Garda Síochána self select. Cases of low importance where forensic science can make a difference should get priority but often the requests are for high profile cases even though the chances of getting meaningful results are low.

The popularity of TV shows centred on forensic science has fuelled assumptions that forensic scientists can solve crimes all by themselves, frequently in less than 24 hours. The reality is different. Our work is often an important part of the investigative process but we do not operate in isolation. We work closely with An Garda Síochána on cases where our findings have the potential to make a difference and provide value for money for the State by ensuring that our expertise and resources are used in instances where they are more likely to include or exclude suspects rather than provide findings that are neutral.

Samples thought to contravene the Misuse of Drugs Acts are the highest volume of cases submitted and also the area of greatest fluctuation. The area of most sustained increase is DNA, which is also the discipline of greatest ongoing development. Chemistry contains the greatest variation in types of materials encountered and the discipline where the greatest diversity of knowledge is needed.

Scientists retained by the defence in criminal cases visit the laboratory approximately twice a month to review work in specific cases. The scientific findings themselves are rarely in dispute but there may be variation in interpretation because scientists retained by the defence have access to information from their instructing solicitors that is not available to us. We are obliged to disclose, and do disclose, all relevant information. However, it is sometimes difficult to determine the scope of the information requested. While a particular case file is readily made available, other information is stored in laboratory wide systems e.g. training files, results of proficiency tests, validation work for a particular test. This is also made available if needed.

The use of DNA in forensic science analysis continues to increase since its first use in the “Black Pad” murders case in the UK in 1987.

Glass is a typical evidence type.

“Every contact leaves a trace” Dr Edmond Locard
Cold Cases

Ongoing improvements in technology are increasingly enabling us to revisit unsolved cases from an earlier era, commonly referred to as “cold cases”, to check whether or not newer techniques can help solve them.

For FSI to help in these cases, it is vital that the scientists have sufficient information to enable them to assess whether or not the findings have the potential to assist or not. In forensic science, particularly in the trace evidence area, transfer and persistence mechanisms and issues are often more important parameters than the analytical characteristics. For example glass fragments or other trace materials could be analysed and the analytical results reported but the more important questions are around how many such fragments are expected to be transferred and retained in the particular circumstances under consideration. This is also true in the highly discriminating DNA area if the DNA originates from invisible traces.

One of the greatest challenges of this work is locating the relevant items and ensuring the integrity of the finding given the changes in the meantime. Over the years the role of quality assurance has increased in significance. Early forensic scientists worked in isolation adapting methods in an ad hoc fashion. Today FSI ensures that all methods are validated and accredited to ISO 17025 standard when used routinely. Significant resources are devoted to collaborative exercises and proficiency trials and we are subject to annual inspection by internationally recognized experts acting on behalf of the Irish National Accreditation Board (INAB).

Every effort is made to ensure that this does not stifle scientific curiosity and in instances where rarely used tests are required, the scientific method of testing by experiment is encouraged. If information not covered by our suite of tests was needed e.g. the flammability of a fabric, staff are encouraged to test rather than rely solely on literature.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
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<tr>
<td>1997</td>
<td>First STR DNA profiling system introduced (SGM)</td>
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<td>1998</td>
<td>Murder of Siobhan Hynes</td>
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<td>1999</td>
<td>First strategy statement published</td>
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<tr>
<td>1999</td>
<td>Partnership committee established</td>
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The popularity of TV shows centred on forensic science has fuelled assumptions that forensic scientists can solve crimes all by themselves, frequently in less than 24 hours.
Protecting Evidence

The phrase attributed to Forensic Science pioneer Dr Edmond Locard that “every contact leaves a trace” is the underlying principle that underpins our work. It is also the concept that gives rise to the possibility of inadvertent contamination. As technology improves the forensic scientist is in a position to detect smaller and smaller amounts of material. This increases the risk of contamination and means that work needs to be carried out in a manner that minimizes this possibility and systems must be put in place to ensure that if contamination occurs, it is detected. Work on the various materials related to suspects and victims is carried out separated either in space or time by scientists who wear protective clothing. In recent years the level of protective clothing has increased and additional protocols put in place to monitor the environment and identify and minimise all potential contamination risks.

International Co-Operation

Forensic Science Ireland is an active participant in a number of international forensic organisations.

FSI was a founder member in 1995 of the European Network of Forensic Science Institutes (ENFSI). ENFSI brings together 62 forensic science laboratories and institutes in 35 countries geographically spread across Europe. ENFSI has “monopoly status” with the EU i.e. it is recognised by the EU as the spokesperson for forensic science in Europe and has received various research grants from the EU. ENFSI operates through a number of Working Groups, which bring together forensic specialists in particular subject areas. Typically, each Working Group hosts an annual conference in one of the member states, bringing together the experts in that area. FSI has hosted a number of such conferences, most recently the Annual Conference of the Drugs Working Group in Dublin Castle in May 2015.

FSI is also a member of the Association of Forensic Science Providers (AFSP), which brings together a number of public and private forensic science providers, and aims to be the voice of forensic science in Britain and Ireland.

We also co-operate with our counterparts in Northern Ireland, Forensic Science Northern Ireland (FSNI), under the aegis of the North-South Inter-Governmental Agreement on Co-operation on Criminal Justice Matters.
Our contribution to the development of forensic science

FSI staff continue to be active at all levels in ENFSI and have made major contributions to the following documents as well as assisting the ongoing work of the expert working groups in which we participate.

Some of the key publications to which FSI members have contributed

- ENFSI Drug sampling guideline – FSI contributor Hugh Coyle
- ENFSI guideline for Evaluative Reporting in Forensic Science – FSI contributors; Sheila Willis Chair; Louise Mc Kenna, Sean Mc Dermott and Geraldine O’ Donnell
- ENFSI guideline on production of Proficiency Trials  FSI contributor; Louise Mc Kenna co-author
- ENFSI Guidelines for the single laboratory validation of instrumental and human based methods in Forensic Science. FSI contributor; Geraldine O’ Donnell co-author.

The following two references are included as essential reading in the proposed basic forensic science knowledge examination, which is at the early stages of being tried within ENFSI laboratories.

- Contributions to Trace evidence by Sean Mc Dermott, FSI, Encyclopaedia of Forensic Science published by Wiley, 2009

Other publications

Although the laboratory is a service rather than a research laboratory, staff are encouraged to publish their work.

Some recent examples of such publications in key areas of our work include:

- New Psychoactive substances
  The analysis of substituted cathinones. Part 1: Chemical analysis of 2-, 3- and 4- methylethamethcathimone  

The analysis of substituted cathinones. Part 2: An investigation into the phenylacetone based isomers of 4-methylethamethcathimone and N-ethylcathinone  
Seán D. McDermott*, John D. Power*, Pierce Kavanagh, John O’Brien 

The analysis of substituted cathinones. Part 3. Synthesis and characterisation of 2,3- methyleneedioxy substituted cathinones  
Pierce Kavanagh, John O’Brien, John Fox, Cora O’Donnell, Rachel Christie, John D. Power*, Seán D.McDermott* 

- Interpretation of DNA findings  
  Daly, D.J.,* Murphy, C.* and McDermott, S.D.,* The transfer of touch DNA from hands, to glass, fabric and wood, Forensic Science International: Genetics 2012, 6, 41-46.

- Interpretation of paint findings  
  A survey of the Evidential Value of Paint Transfer Evidence  
  Sean Mc Dermott* and Sheila Willis*; JFSCA 42; No6, p,1012 – 1019  
  “The Evidential Value of Paint Part 11 – A Bayesian Approach”  
  Sean Mc Dermott,* Sheila Willis* and John P. Mc Cullough*; JFSCA 44 No2 p,263 270

- Quality in Forensic Science  
  “Power, Process, People - A presentation on quality and competence in forensic science delivered at EAFS2009;”  

- The Highs and Lows of Accreditation, Sheila Willis*  

*Staff from various disciplines in FSI.
2002
Body in suitcase in canal
Murder of Sister Philomena Lyons
PMDS introduced into FSI
John Crerar found guilty of murder of Phyllis Murphy in 1979
Planning for the Future

Although in 2015 Science has a clear place in the Criminal Justice System and few high profile murder trials go through the courts without some element of science, we are working in an environment where science is evolving faster than legal precedent and where trials are frequently conducted some years after the work is carried out. This tension between Law and Science will continue to provide a challenging environment.

FSI’s strategic plan for 2015 - 2018 aims to embrace these ongoing challenges and developments and focus on the areas within our remit where we can maximize the benefit to society of “Science Supporting Justice” and fulfil our role to the highest levels of quality, consistency and efficiency.

The plan is therefore built on four key areas:-

- Excellence in Science
- Customer Service
- Modern Organisation
- DNA Database

It identifies the key goals in each of these areas, how we intend to achieve them and the benefit a successful outcome will bring to our service and our clients.
2005
Richardson kidnapping
2005
Climate survey
2005
Fatal shooting of Noel Roche Clontarf
2005
Anti-bullying policy launched
Excellence in Science

Our Goals

<table>
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<tr>
<th>Goal 1</th>
<th>Provide a quality forensic science service</th>
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<tr>
<td>Goal 2</td>
<td>Anticipate future technological opportunities and their applications to casework</td>
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<tr>
<td>Goal 3</td>
<td>Increase support for learning opportunities</td>
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<tr>
<td>Goal 4</td>
<td>Ensure that we are operating to best international practice</td>
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How we plan to achieve our goals

1. Provide a quality forensic science service

Maintain our ISO accreditation by:-

- Continuing to operate the laboratory using ISO 17025 as the management system
- Ensuring the role of Quality Manager is maintained and has access to top management;
- Ensuring through training and ongoing communication that all staff are aware of the functioning of the quality system
- Document all processes and test methods within the quality system
- Monitor and act upon feedback generated via key sources of information to ensure continuous improvement. For example:-
  - Internal audits and proficiency trials
  - Customer feedback
  - Management review meetings
  - Track and follow unexpected results

2. Anticipate future technological opportunities and their applications to casework

We will increase our awareness of international cutting-edge research by:

- Holding regular literature review meetings where current scientific publications are reviewed and discussed.
- Embracing and utilising all innovation change and development that is relevant to our work.
- Identifying future requirements for our support and services by sharing current practice and experience and future plans with other European Forensic Science providers.
- Maintaining good working relationships with the main commercial organisations in Forensic Science.
- Agreeing areas where further development of our scientific services is possible through literature reviews, case-work experiences, discussions with other providers and the use of new commercial products.
Evidence of success
- Development of close and productive links with 3rd level institutes and working groups.
- Introduction of new/expanded scientific services, for example:
  - More sensitive detection of "male only" DNA
  - Improved toxicology screening in sexual assault cases
  - Method development for analysis of new psychoactive substances

Increase support for learning opportunities
We will maximise the use of technology to strengthen our learning facilities and opportunities by:
- Ensuring all FSI staff have online access to web-based learning/conferences and publications.
- Granting staff sufficient time and financial support to attend relevant conferences in Ireland and internationally.

Evidence of success
- Improved awareness and accessibility of online journals
- Dedicated webinar facilities
- Useful input to the continuous improvement of our services through FSI Staff representation at industry fora.

Customer Service

Our Goals

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<th>Goal</th>
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<td>Goal 1</td>
<td>Deliver excellent Customer Service to our clients</td>
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<td>Goal 2</td>
<td>Promote the practice of presumptive testing of Section 3 Cannabis and Cocaine cases by An Garda Síochána. [These testing protocols have been validated by FSI.]</td>
</tr>
<tr>
<td>Goal 3</td>
<td>Provide “at scene” attendance and out of hours service for major or urgent cases</td>
</tr>
<tr>
<td>Goal 4</td>
<td>Contribute to Cold Case reviews so that maximum benefit is obtained from modern scientific techniques</td>
</tr>
<tr>
<td>Goal 5</td>
<td>Ensure that evidence in Court is given in a consistent well-informed fashion</td>
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</table>

How we plan to achieve our goals

1. Deliver excellent customer service to our clients
- We will issue an annual report detailing the numbers of cases agreed with An Garda Síochána in the Service Level Agreement for that year. We will meet the case reporting targets agreed with An Garda Síochána as part of our Service Level Agreement.
- We will identify and communicate to the Gardaí expected delivery times for each case type to help them plan their investigations.
- We will assign individual scientists to prioritise urgently required cases (e.g. suspect in custody) in order to achieve results within hours of submission to FSI.

Evidence of success
- Achievement of results in benchmarking exercises which demonstrate FSI is operating to best international practice
Explore process improvements to increase efficiency and help give us the flexibility to ensure the short notice prioritisation of urgent cases does not adversely impact our overall workload.

Further develop the robotic automation and automatic data handling systems which have already increased our capacity and efficiencies.

Strive to identify and utilise further ways of maximising productivity by using more advanced equipment and work practices.

Evidence of success

- All cases reported within expected delivery times agreed with An Garda Síochána.

Promote the practice of presumptive testing of Section 3 Cannabis and Cocaine cases by An Garda Síochána. (These testing protocols have been validated by FSI.)

- We will encourage and support the use of presumptive drug testing by An Garda Síochána by providing training in testing protocols to Gardaí on request. This enables Gardaí to carry out field tests and have instant preliminary drug identifications.
- We will make information on presumptive testing available to relevant bodies and fora such as Garda Regional Conferences, the Judiciary and legal stakeholders.

Evidence of success

- Most Section 3 cannabis & cocaine cases will be appropriately dealt with without having been submitted to FSI.

Provide “at scene” attendance and out of hours service for major or urgent cases

- We will attend crime scenes where serious offences have occurred and where we can help add value by being there.
- We will put measures in place to provide mentoring to and obtain feedback from scientists attending crime scenes.
- We will obtain feedback from scientists who attend scenes and use this information and experience to identify further improvements to the service we provide.
- We will provide an out-of-hours analysis service by having a team of scientists available for out of hours testing in urgent cases.

Evidence of success

An FSI scene attendance and out of hours service which meets the needs of An Garda Síochána.

Contribute to Cold Case reviews so that maximum benefit is obtained from modern scientific techniques

We will develop effective and up to date protocols for Cold Case Reviews by:

- Reviewing all lessons learnt from our previous experiences working on cold cases.
- Examining other forensic labs cold case protocols and incorporating all relevant practices and information into our own systems.

Evidence of success

A co-ordinated approach and appropriate protocols in place for liaison with An Garda Síochána on Cold Case reviews.
Ensure that evidence in Court is given in a consistent well-informed fashion

- All court going FSI staff will receive mentoring and on-going support and feedback from more experienced colleagues before and after court trials.
- Communication training and Expert witness training will continue to be provided by suitably qualified external communications companies.

Evidence of success
Evidence given in Court by FSI staff is acknowledged to be of a high standard of integrity and scientific knowledge.

Continuing to Provide High Quality, Credible Expert Opinion in reports and in Court

- We will review our report writing to ensure clear, concise evaluations are provided which avoid misinterpretation by being written in a style and manner which ensures sometimes complex scientific terms and information is understandable to all stakeholders.
- We will liaise with relevant stakeholders- An Garda Síochána and Prosecution Service to ensure that our reports are clear in their intended message.
- We will continue to use the Expert Evaluative Opinion approach as a way of ensuring that our scientific work is robust and our reports are based on logic as well as being balanced and transparent. Evaluative reporting considers findings given competing accounts of events and provides relative weight to be given to the findings. It differs from reporting facts in isolation or giving multiple explanations for findings without evaluation.
- We will identify and implement research projects for building EEO knowledge databases to ensure that EEO reporting is reliable and beneficial to the judicial process.
- We will include the management of EEO reporting as part of the Quality Management System to ensure this important part of our work is resourced sufficiently.

Evidence of success
- FSI reports make a positive contribution to the judicial process by being of high quality and easily understood by all relevant stakeholders.
- FSI is a leading organisation in EEO reporting.
- EEO included as part of Quality Management System.
- Audits show reports to be balanced, robust, logical and transparent.

Improved productivity through increased use of summary reports

- We will review current practices and consult with end users to ensure summary reports are appropriate and sufficient for greater numbers of cases.
- Evidence of success
- Increase in the use of summary reports and resulting benefits to overall productivity.

The provision of joint cross sectional reports in appropriate cases

- We believe single reports covering all aspects of the forensic analysis work carried out on a case will provide a more efficient and easily understood presentation of evidence that the present system of multiple reports. And we will liaise and consult with An Garda Síochána and the DPP to identify how this method of reporting can be successfully achieved and implemented.

Evidence of success
- Joint cross sectional reports are issued on a pilot basis.
Modern Organisation

Our Goals

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How we plan to achieve our goals

1. To improve our Information and Communications Technology (ICT) system and facilities
   - We will ensure our current ICT system is upgraded to be on a par with other ENFSI (European Network of Forensic Science Institutes) laboratories and Government Departments and Agencies
   - We will complete the Laboratory Information Management System (LIMS) Project by using this system to record all submissions to the laboratory before the end of 2015
   - We will streamline our communications with our customers by piloting electronic reporting via email
   - We will continue to update our website with news and events pertinent to Forensic Science.

2. Purpose built facilities suitable for a 21st century forensic science institute
   - We will support the design and development of the new purpose built facility currently planned for Backweston Campus, Co. Kildare by providing guidance, advice and technical support to the OPW and Department of Justice & Equality as appropriate

Evidence of success

- Our ICT system is on a par with other relevant agencies
- Technical support systems in place
- LIMS fully functional and supported
- Appropriate use of electronic communications
- Website publishes up to date useful and interesting content and reflects the professionalism of FSI

3. Facilitate a culture that supports the achievement of best HR practice and Professional development
   - We will introduce a Continuous Professional Development (CPD) points system which encourages our staff to develop their knowledge and professionalism by gaining CPD points through literature reviews, presentations and attendance at conferences/webinars.
   - We will improve our internal communications by publishing a regular newsletter, enhancing our website and holding more frequent informal gatherings to promote networking and exchange of information and knowledge.
   - Encourage an open environment where FSI staff discuss difficulties they have experienced or “near-misses” in order to maintain a robust forensic service.
Evidence of success

- Staff have embraced the CPD points system and made use of the opportunities it provides to develop their professionalism.
- Staff feedback shows that FSI’s internal communications are timely, relevant, engaging and informative.
- Issues are resolved through the relevant team or systems process rather than at the individual level.

Enhance our relationships with all key stakeholders

- We will provide training to An Garda Síochána and all stakeholders through Scene of Crime Course training in Garda Headquarters as well as formal lectures in Templemore.
- We will promote the profile of FSI among key stakeholders and the public through seminars and presentations.
- We will establish feedback mechanisms between FSI and key stakeholders such as a submission screen available through the Garda portal and increased use of case review questionnaires.
- Monitor the amount of reprocessing of DNA database samples and work with those agencies submitting these samples to improve sampling procedures.

Evidence of success

- Reduced amount of re-processing of DNA database samples.
- FSI’s name, expertise and credibility are recognised and acknowledged by key stakeholders, media and public as appropriate.
- Feedback mechanisms are effective and actions identified are followed up.

DNA Database

Our Goals

| Goal 1 | Further develop and enhance our service delivery by the operation of the DNA Database |
| Goal 2 | Implementation and maintenance of best practice standards for quality and security |
| Goal 3 | Support An Garda Síochána, the Department of Justice & Equality, the National DNA database oversight committee and the Oireachtas by providing information and data on matters relating to the DNA database |

How we plan to achieve our goals

| 1 | Further develop and enhance our service delivery by the operation of the DNA Database |
| 2 | We will develop systems and protocols to maximise the investigative and identification potential of the National DNA Database (NDNAD) to An Garda Síochána. |
| 3 | Automated processing of more than 95% of all reference samples in FSI has already been achieved, and we will build on this by fully implementing the CODIS (Combined DNA Index System) database to include samples from people and from crime-stains. |
| 4 | We will develop systems to enable international DNA exchange and co-operation by formalising our IT infrastructure link with the secure S-TESTA government network, and by utilising the CODIS database’s international data exchange function. |
Evidence of success

- Timely investigative leads provided to An Garda Síochána by reporting matches between DNA taken from a person with DNA found at the scene of a crime and also between scenes.
- Information provided on an ongoing basis on the impact of DNA on the detection rates for different crime types.
- Identification of missing persons index operating effectively.
- International data exchange in accordance with the Prum treaty. This is an agreement where DNA profile, fingerprint and vehicle registration information exchanged between member states.

Implementation and maintenance of best practice standards for quality and security

- We will develop criteria for uploading DNA profiles such as the number of DNA elements required for international hit reporting.
- We will develop, in partnership with the National DNA Database Oversight Committee, criteria for searching of DNA profiles which meet data protection requirements.
- We will develop Quality Control checks to ensure that DNA profiles are associated with the correct casework samples and that all results obtained from the database are robust and credible.
- We will establish a DNA sample traceability system which will be managed in accordance with our current methods of auditing and monitoring our working practices under the Quality Management System.

Evidence of success

- Established procedures, protocols and standards developed and in everyday practice.
- Satisfactory audits of procedures and practices.

Support An Garda Síochána, the Department of Justice & Equality, the National DNA database oversight committee and the Oireachtas by providing information and data on matters relating to the DNA database.

- We will publish an annual report on the DNA database.
- We will provide information and data to the Department of Justice & Equality in relation to parliamentary questions.
- We will provide support to the National Forensic Coordination Office (NFCO) relating to the appropriate protocols for the destruction of samples and profiles.

Evidence of success

- Annual reports published.
- Data provided as per requests.
- Ongoing communications with and support for the NFCO.
Partner Agencies

FSI

Crime Scene
An Garda Síochána
Health Service Executive (SATU units)
Customs
Military Police
The Garda Síochána Ombudsman Commission
State Pathologist

Other Partners
Department of Justice and Equality
Irish Prison Service
Irish Youth Justice Service
European Network of Forensic Science Institutes
Interpol
Association of Forensic Science Providers
UK Forensic Regulator
The State Laboratory
Irish National Accreditation Board
National Standards Authority of Ireland (Excellence Through People)

Courts
The Courts Service
Coroner’s court
Director of Public Prosecutions