



The State Laboratory
An tSaotharlann Stáit



Strategy Statement 2023-2026
Excellence and Innovation in Chemistry

Message from the State Chemist

I am delighted to present this Strategy Statement for the State Laboratory, which sets out the goals and strategies of the Laboratory for the period 2023 – 2026.

The State Laboratory is a Scheduled Office under the aegis of the Department of Public Expenditure, NDP Delivery and Reform (DPENDR). It is the Government's principal analytical chemistry laboratory and provides a comprehensive analytical and advisory service to clients across a range of Government Departments and Offices. Over the lifetime of the previous strategy, the State Laboratory provided services to over 40 clients who indicated very high satisfaction ratings in the annual Customer Satisfaction Surveys. This reflects the high quality, responsive and expert scientific service provided and it is the Laboratory's mission to continue to provide the same high standards of customer service.

Demand for analytical and advisory services continues to grow significantly from both new and existing clients. In 2022 and 2023, the Laboratory implemented new structures to ensure capability to meet these demands. The analytical work is now supported by four sections, Finance, HR, ICT and Laboratory Services. This enhances the operation of the laboratory, providing expert support to allow the scientific staff to devote their time to science. The State Laboratory is fully committed

to *Better Public Services – the Public Service Transformation 2030 Strategy* and to the vision of an Agile, Innovative and Professional Laboratory.

The State Laboratory welcomed many new staff in recent years and will continue to do so while demand for services increases. Developing expertise in chemistry is essential for the future success of the laboratory and this will receive renewed focus under this strategy. The State Laboratory recognises and values all our staff as our most important asset. This strategy supports a highly talented, diverse, skilled and motivated workforce who are empowered and engaged through working in a collaborative, inclusive and supportive working environment.

In 2024, the State Laboratory will celebrate 100 years of providing services to improve the lives of the people of Ireland. While the equipment and facilities have changed dramatically since 1924, the professionalism, innovation and dedication of the people of the State Laboratory is as high now as it was when our colleagues were building the new State of Ireland.

Barbara O'Leary
State Chemist

Our Mission

To provide a world-class analytical chemistry and advisory service to the State, supporting government, protecting consumers, preventing fraud and safeguarding public health.

Our Vision

To be a centre of excellence for chemical analysis and innovation, serving the State.

High Level Objective

To provide a high quality, innovative and responsive chemical analysis and advisory service to Government Departments and Offices that supports national food and feed safety programmes; revenue collection; fraud prevention; and public health and consumer protection and to provide centralised analytical toxicology services to the State.



Our Values

The State Laboratory will foster and promote:

A quality and responsive customer service

A culture of innovation and continuous improvement

A collaborative work environment where people are treated with dignity and respect

The highest standards of professionalism and scientific excellence

A public service ethos of independence, integrity and impartiality

A culture of accountability, efficiency and value for money

Strategic Goal 1

People and Culture

The State Laboratory recognises and values our staff as our most important asset. To succeed, the Laboratory needs the right people with the right skills and competencies in place at the right time. We need exceptional leaders who can champion our culture, live our values and facilitate high performance, combined with a highly talented, diverse, skilled and motivated workforce who are empowered and engaged through working in a collaborative, inclusive and supportive working environment.

In recent years, demand for chemistry graduates has increased, mainly due to the growth of the pharma sector in Ireland. As a result, the profile of new entrants to the State Laboratory has changed. Developing expertise in chemistry is essential for the future success of the Laboratory and this requires training, on-the-job learning, a research culture, participation in international working groups and attendance at conferences and workshops. Expertise that was previously brought into the laboratory through post-graduate qualifications and experience, is now being developed on-site. This will lead to stronger links with third level institutions and an increased focus on upskilling graduates.

Many staff in the support sections have qualifications in relevant disciplines including IT, Finance, HR, Health and Safety, and Communications. This enhances the operation of the Laboratory, providing expert support to allow the scientific staff to devote their time to chemistry.

An inclusive, positive culture will prevail across the Laboratory, where people treat each other with dignity and respect, and feel valued as members of the State Laboratory.

Actions 2023-2026

Develop and implement a new People and Culture Strategy

Promote a positive and inclusive work environment

Increase collaboration across sections

Support the well-being of staff

Develop expertise in relevant disciplines

Build a culture of research and innovation

CEN and EU Reference Laboratory participation

Provide Leadership and Management training

Review scientific staff grade structure

Strategic Goal 2

Support Official Food, Feed and Fertiliser Controls

The State Laboratory is designated as Ireland's National Reference Laboratory (NRL) for parameters such as nutritional additives for use in animal feed, specific classes of veterinary drug residues in food of animal origin and contaminants such as persistent organic pollutants, mycotoxins, plant toxins and heavy metals in feed and/or food.

The Laboratory's NRL role involves collaborating with European Union Reference Laboratories (EURL), participating in core working groups to improve analytical methods and testing capabilities, providing scientific and technical assistance to the competent authorities and, where necessary, coordinating the activities of official laboratories.

The State Laboratory assists with testing for The Department of Agriculture, Food and the Marine (DAFM), in partnership with the Food Safety Authority of Ireland (FSAI). National sampling and surveillance programmes are part of a system of official controls and inspections, ensuring the highest standards of food and feed safety.

In 2022, the value of Irish food and drink exports increased by an estimated 22% to a record high of €16.7 billion. Food Vision 2030 fosters expansion of primary production and export trade. The demand for Laboratory services to analyse a variety of foods, drinks and animal feedingstuffs for a wide range of substances continues to grow.

Actions 2023-2026

Support National Food and Feed Safety inspection programmes

Support DAFM Fertiliser and Limestone inspection programmes

Expand testing requirements resulting from changes to legislation including enhanced analysis, additional regulations, integrity testing and import controls

Participate in relevant national and international groups including EURL working groups, EU working groups and CEN technical committees and working groups

Strategic Goal 3

Support Revenue Collection and Fraud Prevention

The State Laboratory supports Revenue in ensuring that the correct customs duties are collected on traded goods by providing a comprehensive tariff classification advisory service and that the correct excise taxes are paid by testing samples of alcoholic beverages and fuel oils for a wide range of parameters.

One of Revenue's key strategic priorities is to tackle non-compliance. The State Laboratory supports Revenue investigations into shadow economy activities, including fraud, illicit trade and smuggling, by providing expert testimony, scientific evidence and analytical results to support court prosecutions.

The State Laboratory provides an analytical testing service to support Geographical Indication (GI) authentication of Irish whiskey to ensure that only whiskey produced in Ireland in accordance with strict technical specifications can be labelled and sold as Irish whiskey. In 2022, Irish whiskey exports exceeded a value of 1 billion euros for the first time and it is vital to support this export market that the authenticity of this product is verifiable.

Actions 2023-2026

Provide expert scientific advice, supported by chemical analysis, on the correct classification of goods under the Customs and Excise Tariff of Ireland

Support Department of Enterprise, Trade and Employment (DETE) by providing technical advice on the processing of Applications for Suspension of Customs Duty

Support Revenue on the application of appropriate excise duties and strengthen supports for prosecuting fraud

Develop and validate a new method for the determination for the soon to be introduced EU Fiscal Fuel Marker

Provide analytical support to Revenue, FSAI and DAFM in relation to the authenticity of Irish GI Spirit Drinks, and develop and validate new methods of analysis as required

Strategic Goal 4

Provide Centralised Analytical Toxicology Services to the State

Forensic Toxicology

The State Laboratory tests post-mortem samples for a wide range of prescription medicines and illegal drugs for the Coroners Service and the Office of the State Pathologist. Samples are routinely analysed for approximately 170 drugs.

This service has come under pressure due to a significant increase in demand in recent years. In order to ensure these pressures are managed efficiently, the State Laboratory will continue to engage with key stakeholders, including DPENDR, regarding appropriate resourcing of its toxicology service.

Toxicant Testing in Animals

The State Laboratory provides a toxicant testing service to DAFM to support investigations into large-scale poisoning incidents on farms and to the National Parks and Wildlife Service (NPWS) in relation to the illegal poisoning of wildlife, especially re-introduced birds of prey. This involves the analysis of a wide range of toxicants and veterinary drug residues in biological samples.

Actions 2023-2026

Provide a comprehensive forensic toxicology service to the Coroners Service and the Office of the State Pathologist

Secure resources to respond to the significant ongoing increase in sample numbers and reduce the turnaround times

Keep abreast of emerging illicit drug use trends and expand the scope of testing accordingly

Provide a comprehensive toxicant testing service in animals to public sector clients and add additional analytes to the scope of testing

Explore the use of high-resolution accurate mass methodologies for untargeted screening analysis to investigate possible wildlife poisoning incidents

Strengthen protocols in place with NPWS and DAFM to support court prosecution samples

Strategic Goal 5

Public Health Protection Initiatives

Pharmaceutical Products

The Health Products Regulatory Authority (HPRA) protects public and animal health through the regulation of human and veterinary medicines. The Investigations Division of DAFM also works to protect consumers and the food chain by monitoring the supply and use of veterinary products on farms.

The State Laboratory supports the work of both the HPRA and DAFM by testing samples of seized pharmaceutical, herbal and veterinary products for the presence of pharmaceutically active compounds and excipients. When required, staff of the Laboratory provide expert testimony in subsequent court prosecutions.

Hemp and Cannabidiol (CBD) Products

Hemp crops can only be grown in Ireland under licence from the HPRA and there is a requirement to inspect 30% of the area sown to ensure that the tetrahydrocannabinol (THC) content of the crop does not exceed 0.3%. The State Laboratory analyses THC in hemp samples for DAFM and in CBD products seized by Revenue Customs Officers.

Tobacco Products

The State Laboratory is designated by the Department of Health as the testing laboratory for Ireland, for the purposes of carrying out testing on tobacco products as set out in EU legislation. The laboratory analyses cigarettes for tar, nicotine and carbon monoxide.

The Laboratory also supports the HSE Tobacco Control Network Support Unit by testing e-liquids and associated devices to ensure compliance with the Tobacco Product Directive (2014/40/EU).

Actions 2023-2026

Expand the range of testing to new pharmaceutical active ingredients

Test THC levels in hemp crop samples for DAFM to ensure levels are not in excess of those allowed in legislation

Support Revenue, FSAI, DAFM and other public sector clients by carrying out analysis and further developing testing capabilities for THC and other cannabinoid substances in a variety of matrices

Complete establishment of a tobacco laboratory for tar, nicotine and carbon monoxide in cigarettes as part of a routine inspection programme

Develop new qualitative and quantitative test methods as required to meet client requirements for testing e-liquids and associated devices

Strategic Goal 6

Environmental Protection and Specialised Chemical Analysis and Advice

Environmental Protection

The State Laboratory has supported the Environmental Protection Agency (EPA) to monitor the presence of dioxins in the environment for many years by testing milk samples. Dioxins present in grass will concentrate in the fat content of the milk. The Laboratory tests fish samples for dioxins in support of a new biota monitoring programme in inland surface waters alongside analysis for PFAS in these samples.

The State Laboratory supports the Department of the Environment, Climate and Communications in protecting the environment by performing sulphur analysis on fuel oil samples. The Department may have a new requirement for solid fuel analysis during the lifetime of this strategy.

The Laboratory supports the Department of Transport by testing marine oils for sulphur content and is part of the Oil Spill Identification Network (OSINet) at the request of the Irish Coastguard. OSINet supports its members in using oil forensic analysis to prove the origin of marine pollution by oil and as evidence for the reimbursement of the cost of response operations under governmental claims.

The State Laboratory is supporting DAFM by implementing new methods of analysis to test for environmentally friendly fertiliser additives such as urease and nitrification inhibitors, which have the potential to reduce emissions of greenhouse gases from fertilisers.

Specialised Chemical Analysis and Advice

The State Laboratory provides scientific advice supported by specialised chemical analysis to many Government Departments and public bodies with occasional requirements in a diverse range of areas including art conservation, chemical weapons and illegal waste.

Actions 2023-2026

Support EPA monitoring programmes for persistent organic pollutants in the environment

Expand the analysis service for oil and other fuels for environmental protection purposes

Implement new methods for, and carry out testing for, environmentally friendly fertiliser additives

Provide a chemical analysis and advisory service to organisations with occasional requirements

Support Revenue by carrying out analysis for active ingredients and possible illicit drugs in various imported products

Continue to provide expert advice and representation for public sector clients on expert groups and technical committees

Strategic Drivers

Governance

Apply the highest standards of corporate governance, risk management and safety to the operation of the Laboratory.

Operate a Quality System that meets the requirements of ISO 17025, and maintain and expand the Laboratory's scope of accreditation to meet client requirements.

Use centralised procurement and ICT frameworks to improve efficiencies and achieve value for money.

Fully meet new government requirements including joining the Financial Management Shared Service, new Government Accounting Standards, the Climate Action Plan, the Civil Service Renewal 2030 Strategy and Better Public Services – the Public Service Transformation 2030 Strategy.

Provide a safe work environment for staff, mitigating the hazards associated with working with potentially dangerous chemicals.

Collaborate with other public sector laboratories to improve efficiencies and reduce duplication of effort in the sector.

Technology, Processes and Infrastructure

Implement an ICT Strategy to maintain robust and secure ICT systems and maximise the use of ICT solutions to improve efficiencies.

Develop and implement an Innovation Strategy to drive a culture of innovation that supports the introduction of new scientific technologies and delivers world-class services to clients.

Implement a Project Management approach to optimise internal processes and to streamline and enhance services.

Work with the OPW to maintain and upgrade the existing laboratory infrastructure.

Continue to consider energy efficiency and the environmental impact of all operations.

In conjunction with the OPW, implement the State Laboratory Climate Action Roadmap 2023.