

**Science, Engineering and Analysis Plan**

**2023**

**-2026**

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# Foreword

Science, engineering and analysis underpin the work of HSE and provide a basis for robust decision-making. It is a requirement for HSE under the Health and Safety at Work etc. Act 1974 to ‘make such arrangements as it considers appropriate for the carrying out of research and the publication of the results of research and the provision of training and information, and encourage research and the provision of training and information by others’

HSE has launched its new 10-year strategy [Protecting People and Places](https://www.hse.gov.uk/aboutus/assets/docs/the-hse-strategy.pdf), setting out how HSE’s role and responsibilities are growing, particularly in the areas of building safety, chemicals regulation and supporting sustainable, healthy, workplace practices. The science and evidence generated by HSE’s scientists, engineers and analysts, and through our collaborative programmes with industry, academia, and our network of international partners, provides the expert evidence supporting HSE’s vision which is dedicated to **protecting people and places**. We work to ensure people feel safe where they live, where they work and in their environment.

We have undertaken a refresh and re-prioritisation of our science plan to align with this new strategy and the needs of all Divisions in HSE, including the Building Safety Regulator. Our science plan will continue to develop and be refreshed over the coming years as the evidence required to support the delivery of HSE’s strategy becomes clearer.

The companion document to our Science, Engineering and Analysis Plan, [Areas of Research Interest](https://www.hse.gov.uk/research/content/hse-areas-of-research-interest.pdf) (ARI) details HSE’s forward looking research priorities that helps to ensure, within an ever-changing world, that HSE remains a modern, enabling regulator, within one of the most successful health and safety systems in the world.

I would like to thank everyone who has contributed to the process of developing this plan.

**Professor Andrew Curran,**

**Chief Scientific Adviser and Director of Research**

# Underpinning principles of our science, engineering and analysis plan

* The focus of our science and evidence is to provide the evidence base that HSE requires to inform its decision making on the appropriate policy and regulatory activities needed to make an improvement in health and safety in the workplace. It helps us to understand the attitudes and behaviours that we might seek to influence, and the controls and interventions that might be needed to have an impact on health and safety. It can also help us evaluate whether our activity is having the desired effect and change direction if necessary.
* In this plan we have listed our activities under the key organisational strategic objective that is relevant. However, many of our activities are cross-cutting in nature and are therefore applicable to more than one strategic theme.
* We will ensure that we undertake an ongoing review of HSE evidence needs to meet evolving regulatory priorities required to deliver HSE’s strategy over the coming years.
* We aim to work with others outside HSE to help us understand key knowledge gaps and help us to deliver the science and evidence needed to support HSE’s strategy.
* We aim to develop collaborative partnerships with others to explore the possibility of sharing and building larger data sets than we could produce on our own, to help answer HSE’s objectives.
* We will develop a longer-term science planning cycle which is informed by engagement with stakeholders (nationally and internationally) to better understand what HSE needs to do and how we might benefit from working with others.

# Reduce work-related ill health, with a specific focus on mental health and stress

HSE will take a preventative approach to work-related ill health and will prioritise activity in three main areas of the most common causes of working days lost: work-related lung disease, work-related stress and mental ill health and musculoskeletal disorders. Whilst our science and evidence plan focusses on these priorities it also reflects other areas of health concern.

There is wealth of knowledge in these priority areas. However, the rapidly changing nature of work means that HSE will require a forward-looking evidence base particularly with respect to practical and effective control measures to improve health outcomes, and evidence-based evaluations of successful interventions.

We will keep abreast of the advances in measurement science and technology to improve evidence gathering. We will make best use of new data collection, data mining, modelling and analytical techniques to support our decisions on prioritisation, targeted intervention, and evaluation of impact.

### Our emerging science, engineering and analysis priorities for 2023/26

* Provide the evidence base to support HSE’s health evaluation strategy. This will include exploring the feasibility of linking data sets within HSE and other organisations to support policy and regulatory decision making to improve health outcomes.
* Provide the evidence, analysis and support to policy and sector colleagues to enable the development, implementation and evaluation of interventions to tackle priority health risks.
* Further understand the remaining evidence gaps in key health areas such as work-related stress and mental ill health, asbestos and respirable crystalline silica (RCS), to enable appropriate prioritised research programmes and Areas of Research Interest.
* Further explore alternative ways to expand our collection of exposure and health outcome data, for example by using digital tools and data-sharing agreements with occupational health providers, dutyholders and other stakeholders.
* Continue to improve our understanding of how the rapidly changing nature of work is likely to affect work-related ill health, taking account of any social, demographic and technological changes.
* Collect, compile and publish statistics on work-related ill health, injuries and associated impacts.

### Examples of current projects

* Continue with a study to measure airborne asbestos concentrations in the built environment.
* Develop more sensitive and reliable laboratory-based measurements for RCS and establish if there are simpler techniques that could be used by dutyholders to assess the success of their control measures.
* Assess whether exposure control improvements in electroplating resulting from previous HSE intervention have been sustained.
* Evaluate practical interventions to control *Legionella* risk in industrial cooling water systems through the use of enhanced monitoring and rapid test methods.
* Investigate new products and uses of isocyanates, including potential risk and exposure issues, and provide the practical tools to appropriately assess these exposures.
* Assess whether emissions from desktop 3D printers in environments such as offices or workshops are raised to hazardous levels, particularly when a larger number of printers are used in the same space.
* Search for, collate and analyse existing information relating to work-related musculoskeletal disorders in construction in order to identify the higher risk tasks and activities.
* Understand current noise exposures and available control measures in the woodworking industry.
* Produce our national statistics using information from data sets including the Labour Force Survey and The Health and Occupation Research Network (THOR).

# Increase and maintain trust to ensure people feel safe where they live, where they work, and in their environment

### Building Safety and Construction

The Building Safety Act 2022 has confirmed the appointment of HSE as the new Building Safety Regulator (BSR) for England and an ambitious programme to establish the new regulator at pace is continuing to progress in line with [published timescales](https://www.hse.gov.uk/building-safety/prepare.htm).

In support of this, we will commission the science and evidence needed to underpin work to establish and deliver BSR functions which involve:

* overseeing the safety and standards of all buildings
* helping and encouraging the sector to improve building safety professionals’ competence
* leading implementation of a new regulatory framework for high-rise buildings.

Our work in this area will seek to exploit synergies arising from shared building safety interests across wider HSE and cross-government in support of BSR activity.

### Our emerging science, engineering and analysis priorities for 2023/26

* Using intelligence from insight, foresight, analytical and scientific research we will continue to explore and identify knowledge gaps to shape future building safety areas of research interest and to evaluate BSR performance including by:
  + Commissioning work that will target knowledge gaps to help inform building safety standards and guidance development including to:
    - support BSR’s obligation under Section 21 of the Building Safety Act to report to the Secretary of State within three years, by building an evidence base that will underpin recommendations addressing certain safety-related matters in relevant buildings;
    - provide effective oversight across the whole built environment;
    - develop effective strategies to build sector competence and evidence-based regulatory approaches.
* Continuing to improve our understanding of the building safety risk and hazard factors.
* Identifying potential implications of new and emerging technologies on the building safety risk profile through the building life cycle, including identifying opportunities to eliminate or reduce risks at the design stage and appropriate intervention strategies.
* Exploring ways of measuring performance and competence to deliver improved building safety outcomes.

### Examples of current projects

* Assessment of engineering materials - developing understanding of how materials perform through the building life cycle with a focus on structural and fire safety performance.
* Fire spread on exposed rigid insulation - exploring how different configurations of rigid insulation may impact on the rate and direction of fire spread

### Chemicals

As a globally respected Competent Authority, we will support the UK to grow and prosper through science-led regulation of the effective and safe use of chemicals and associated technologies.

HSEs Chemicals Regulation Division (CRD) operates a number of regimes relating to the classification, registration and trade in chemicals (with certain regimes focussing on particular classes of chemicals). This programme of work will optimise the regulation of chemicals, ensuring that our regulatory regimes and other processes are based on an up-to-date understanding of scientific, technical and other information.

We will commission work in this area to help understand how well current regulatory frameworks reflect current understanding, insight, practices (such as those driven by new technologies) and factors such as a changing environment. The research will largely be focussed at improving the efficiency and effectiveness of regulatory regimes and processes.

We will aim to develop evidence for innovative approaches to regulation through collaboration across HSE and other government departments, to make sure we maintain our world-class reputation for regulatory excellence. We will continue to make the best use of new data collection techniques, modelling and analytical methods to help us make proportionate regulatory decisions.

### Our emerging science, engineering and analysis priorities for 2023/26

* Enhance the collection of statistics on pesticide usage to provide confidence that the regulatory regime is working as expected and to support other government departments where requested.
* Refine the strategic approach to identification and prioritisation of research and development/evidence needs.
* Seek opportunities to develop a more agile/’smarter’ approach to chemicals regulation.
* Further improve approaches to human health and environmental risk assessment, reducing areas of uncertainty and revising models where required.
* Develop links between different parts of HSE and other regulators where data, risk assessment methodologies and intelligence can be shared to improve efficiency and effectiveness.
* Develop relationships with research organisations to bid for funds for research projects that will develop practical solutions to managing chemicals and their interaction with the environment.
* Work with independent science-based research organisations and others to maximise opportunities to develop and enhance the regulatory framework to provide support for UK farmers, innovation and the use of new technology. This will range from exploring trends and drivers for change in regulatory approaches, to formalising specific requirements.

### Examples of current projects

* Conduct a study to understand the exposures that operators experience when applying pesticides to tunnel-grown crops.
* Continue a study to assess the exposures that operators experience when applying herbicides using weed wipers.
* Continue our involvement in the ecotoxicological risk assessment towards sustainable chemical use (EcoRisc) project supporting PhD students with regulatory training during secondments in HSE CRD to enhance the development and experience of the next generation of environmental regulators.
* Review the Aquatic buffer zone for pesticides, consolidating current schemes into a single baseline to enable more representative environmental regulatory exposure assessments.
* Develop a method to support regulatory decisions on whether fungicide mixtures are well-balanced with respect to the management of resistance. This work will potentially reduce the loss of crop protection products because of increasing fungicide resistance.
* Conduct a review of the current risk assessments for pollinators (including honey bees) from around the world providing a picture of best practice from which recommendations may be developed to support a GB risk assessment.
* For biopesticides the retained ecotoxicological guidance that exists is vague and it is difficult for applicants to sufficiently address the data requirements. HSE will commission a review into the available information including draft guidance documents in order to establish/outline a suitable modern risk assessment scheme for biological pesticides (biopesticides) and “low risk” substances.
* Conduct a feasibility study to define additional options for environmental risk mitigation that are agronomically practical, enforceable, and capable of delivering consistent environmental protections.

# Enable industry to innovate safely to prevent major incidents, supporting the move towards Net Zero

HSE has an important part to play in the safe delivery of the government’s commitment to achieve Net Zero greenhouse gas by 2050.

HSE will have a key role in establishing safety assurance around new technologies. We will work with government and sectors to understand the changing risks and challenges presented by these new technologies and ensure the regulatory framework remains fit for purpose. We will commission work to identify and develop the evidence required to enable HSE to deliver the strategic objective outlined in its strategy.

HSE is working through a Net Zero Hub to bring together experience from across the organisation to identify the key challenges for HSE policy, operational and scientific activity in this area.

We will ensure we are working to better understand both the safety and health impacts of new technologies and how changes in working practices can impact workers.

### Our emerging science, engineering and analysis priorities for 2023/26

* Continue to keep pace with the changing health and safety risks associated with new technologies and practices to ensure we have the evidence base to underpin a robust regulatory framework, an example of this is fusion energy.
* Develop an ongoing relationship working with other government departments on their net zero programmes to support a joined-up approach to the evidence base.
* Continue to support the Department of Business Energy and Industry Strategy (BEIS) to assess and assure the safety evidence of using hydrogen for heating.
* Conduct a research programme of work to understand the risks resulting from lithium-ion battery failures, to improve understanding and awareness both for industry and our own policy and regulatory approach.
* As a statutory consultee for developments around major accident hazard (MAH) pipelines and for modifications to existing MAH pipelines we will further develop our modelling capability to enable the calculation of risks from hydrogen and the transportation of carbon dioxide from carbon capture sites.

### Examples of current projects

* Understand the behaviour of lithium-ion batteries in the event of a failure event.
* Develop modelling capability to enable the calculation of risks of transporting hydrogen in pipelines and the transportation of carbon dioxide from carbon capture sites to long-term sub-sea storage facilities.
* Engage with industry and the international community to understand the status of safety research in the area of carbon capture and storage
* Conduct a formal evidence assessment process on the safety evidence emerging from the BEIS-led programme considering the potential to use hydrogen for heating.
* Contribute to the effective deployment of hydrogen as an alternative fuel by developing a better understanding of the risks of hydrogen refuelling stations in multifunctional contexts, co-located alongside other fuels.
* Contribute to international work seeking to understand the hazards and risks associated with potential fires and explosions from liquid hydrogen (LH2) transfer facilities.
* Look to collaborate with industry projects seeking to answer questions around hazards associated with new fuels and modelling releases (particularly considering topography and releases onto water).
* Continue to collaborate with industry programmes seeking to answer questions on key safety-related knowledge gaps related to new and emerging net zero technologies.
* Modelling for predicting ammonia dispersion and considerations of the properties of carbon dioxide and hydrogen to provide the right evidence base for land-use planning.

# Maintain Great Britain’s record as one of the safest countries to work in

The legislation under which HSE operates has enabled Great Britain to become one of the safest places in the world to work through a combination of our extensive proactive regulatory work, enforcement, and prosecutions. Work undertaken within this strategic objective will help ensure that HSE has the evidence base needed to underpin our regulatory activities in these key areas.

Research will be undertaken to ensure that HSE has the evidence base to allow it to adapt and respond to the rapidly changing nature of work, taking account of any social, demographic and technological changes.

We aim to have improved evidence on the changing risks from new technologies, including understanding how materials and components behave with alternative fuels such as hydrogen, advanced manufacturing methods and ageing infrastructure.

We will focus on developing our understanding of how materials and structures degrade over time; informing risk-based inspection using non-destructive and autonomous techniques and how designers and manufacturers contribute to improvements in occupational health and safety.

HSE obtains information on reportable health and safety incidents and proactive inspections which feed into its regulatory activity. The potential for us to use these data sources to learn lessons, including why different failures in health and safety occur and how they might be prevented, is substantial. Recent developments have meant that the task of generating data-driven insights and learning from health and safety data sources, particularly free text sources, is now more achievable. We will further explore this valuable area to increase the value of data that HSE routinely collects to help prevent accidents in the future.

### Our emerging science, engineering and analysis priorities for 2023/26

* Technical support for investigations, inspections and enforcement including a focus on fairground activities such as sealed inflatables.
* Through the [Discovering Safety Programme](https://www.discoveringsafety.com/about) continue to develop techniques to extract insight and intelligence from our data and, with input from industry, develop data driven solutions to improve health and safety performance.
* Provide analytical support to policy development including impact assessments and post-implementation reviews.
* Keeping pace with new construction technologies and practices, for example modern methods of construction, to ensure we have the evidence base to underpin an enabling and robust regulatory framework that is proportionate to evolving risks and supported by appropriate interventions.
* Explore the development of a research programme in the area of Artificial Intelligence and autonomy, building on expertise across academia and industry.
* Continue to develop the evidence base to support asset integrity across major hazard sectors, focusing on decommissioning and ageing infrastructure, the integrity of new assets and emerging technologies.

### Examples of current projects

* Continue with our programme of work to develop new techniques to analyse and aggregate data to learn lessons and help prevent future accidents.
* Conduct research into the safe design, manufacture and operation of land based sealed inflatables play equipment.
* Continue to develop mathematical models to predict the consequences of potential accident scenarios that are critically important for HSE’s land-use planning advice. Work includes validation of dispersion models, modelling pool spread/evaporation, deposition and terrain, and atmospheric dispersion in urban environments.
* Continue our research on the factors affecting the severity of vapour cloud explosions.
* Understand the risks associated with the use of anaerobic digestors, and identify any evidence gaps that may exist, using incident data and published literature.
* Continue to deliver a programme of ongoing shared research that addresses the key asset integrity issues associated with hazardous plant, including Remote Visual Inspection and Corrosion Under Insulation.

# Engagement and collaboration

To provide best available scientific evidence, HSE has evolved a model of scientific engagement and collaboration that brings together scientists in industry, academia, and international government research institutes.

We will continue to proactively engage with academia, other government departments and national research institutes to facilitate knowledge exchange, forge partnerships and research collaborations. Strategic engagement is led by the CSA through discussions with UKRI and Research Councils, and the Government Chief Scientific Adviser and CSAs from other government departments.

We will continue to work with the [Thomas Ashton Institute](https://www.ashtoninstitute.ac.uk/) for Risk and Regulatory Research - a collaborative partnership between The University of Manchester and HSE. Its vision is to draw on the partners’ combined knowledge, experience and world-class minds to deliver applied research and development, learning and regulatory insights that widen the global conversation to enable a better working world.

We will continue to engage with internal and external stakeholders through involvement in HSE stakeholder events, engagement with policy and regulatory colleagues, and attendance at conferences, international and national committees and standards forums.

We will also work with appropriate Government Professions and international scientific networks such as the Partnership for European Research in Occupational Safety and Health ([PEROSH),](http://www.perosh.eu/) the International Commission on Occupational Health ([ICOH)](http://www.icohweb.org/site/homepage.asp), and the International Association for Hydrogen Safety [(IAHySafe).](http://www.hysafe.org/IAHySafe)

We will continue to engage with industry at a strategic level including major businesses, and trade and professional organisations. This facilitates engagement on understanding science and evidence needs, driving pull-through, and identifying where needs can be delivered collaboratively, delivered through external funding mechanisms, or through industry sponsorship of [HSE’s Shared Research Programme](https://www.hse.gov.uk/research/shared-research-programme.htm).

We will build on our established relationships with Other Government Departments (OGDs), agencies and public bodies to continue identifying common objectives for us to address collaboratively. These partnerships are extremely valuable in supporting the delivery of our strategic objectives, especially in the area of Net Zero.

Changes within the workplace and workforce are ongoing. Our Foresight Centre will continue to support HSE and the broader health and safety system to anticipate and keep pace with these changes, and to be better placed to tackle new health and safety challenges. It will fulfil its core foresight, futures and knowledge sharing functions, working in collaboration with colleagues across HSE including to undertake horizon scanning and provide high quality information about trends and drivers of change affecting the world of work that will support HSE in being a forward-looking regulator.

### Our emerging priorities for 2023/26

We will expand our established partnerships and develop new collaborations and opportunities for engagement in areas aligned with HSE’s Strategic Objectives:

* In support of our Net Zero activities, we are working in partnership with the Aerospace and High Value manufacturing sectors to establish a *Liquid Hydrogen Centre of Excellence* which will address the challenges associated with the storage and use of liquid hydrogen fuel.
* We will seek opportunities to secure a sustainable programme of research and development in support of improved data-driven regulation, including working with BEIS through their *Regulatory Pioneers Fund* (RPF).
* We will continue to address our key challenges through direct engagement with our industry and regulatory stakeholders through the Shared Research model of collaborative research. In particular, we will expand on the successes within our Asset Integrity programme in key areas of concern, for example, *Corrosion Under Insulation*.
* Explore opportunities to influence and benefit from Research Council funding, such as gaining invitations to Research Council ‘sandpit’ meetings in topics key for HSE’s needs and jointly applying for funding with other bodies to UK Research and Innovation (UKRI) calls
* Strengthen existing links with international organisations, for example, Organisation for Economic Co-operation and Development (OECD), United Nations (UN) Globally Harmonised System, US Environmental Protection Agency and the US National Toxicology Program.

# Sharing our knowledge

We will continue to share our scientific and analytical knowledge through a wide range of channels. These channels include: papers in peer- reviewed scientific journals and conference proceedings; National Statistics, HSE’s [Research Reports](https://www.hse.gov.uk/research/rrhtm/index.htm) and [Evidence Reports](https://www.hse.gov.uk/research/coronavirus-science-research.htm) series; incorporation in information, advice and guidance published by both HSE and industry bodies; incorporation in standards; articles in trade and professional magazines; and presentations at seminars, conferences and industry events. These channels also include HSE [products and services,](https://www.hsl.gov.uk/) including high-quality, relevant training solutions that extend the reach of HSE’s key messages to thousands of delegates around the world each year, testing and monitoring services, and useful tools.

The peer-reviewed papers are also important in maintaining the credibility of our scientific capability for use to inform and underpin operational regulatory and policy making functions. Demonstration of science quality is also provided by challenge through the courts for evidence provided by expert witnesses.

We will continue to publish [citations of all scientific publications by year.](https://www.hsl.gov.uk/resources/hse-science-and-research-publications) HSE’s Research Reports and Evidence Reports are available free online. This implements the UK Government's commitment to improving access to publicly funded research. Publications where HSE is the sole or lead funder are ©Crown Copyright. We will continue to provide a high-level summary of our wider research interests, presented as [Areas of Research Interest](https://www.hse.gov.uk/research/content/hse-areas-of-research-interest.pdf) (ARIs), which either HSE or other organisations – sometimes working in partnership – could usefully address.

We will continue to share case studies that illustrate the benefits of our science through our [Annual Science Review](https://www.hse.gov.uk/research/review.htm). We will also continue to publish [HSE’s Science e-Bulletin](https://public.govdelivery.com/accounts/UKHSE/subscriber/new?topic_id=UKHSE_209) which has over 80,000 subscribers and gives news about publications and major free online seminars. We will continue to extend opportunities for further external communications and engagement via digital and social media.

### Our emerging priorities for 2023/26

* Use our science communication channels to share our scientific knowledge, developments and experience with the health and safety system.
* Use our existing cross-government science communications network to raise the profile of HSE science.
* Share and raise awareness of the work of the HSE [Workplace Health Expert Committee](https://www.hse.gov.uk/research/workplace-health-expert-committee.htm) through free online seminars and other HSE science communication channels.
* As part of British Science Week, publish a series of case stories from recent Annual Science Reviews which support HSE’s annual campaigns.
* Launch Annual Science Reviews with public seminars for national and international stakeholders
* Continue publication of our science and analysis (including papers in peer-reviewed journals and conference proceedings, National Statistics, HSE Research and Evidence Reports, articles in trade and professional magazines, and book chapters).
* Continue to develop tools designed to protect workers, such as the Safety Climate Tool, the Stress Indicator Tool and the suite of ergonomics tools.
* Continue to develop training solutions including a suite of Safe Net Zero courses, training and product development for improving building safety, and launch an international regulators’ training course that supports the delivery of HSE’s Regulatory Training Programme (RTP).

# Capability and capacity

We will continue to develop and maintain our scientific capability and capacity to optimise the contribution science makes to delivering HSE’s mission. Our existing and planned initiatives have been considered within a Science, Engineering and Evidence Excellence Programme, aligned with the [Government Science and Engineering (GSE) Profession’s strategic themes and goals](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1001460/2021_GSE_Profession_Strategy_High_Resolution_Accessible.pdf), as well as HSE’s Strategy and [Science and Evidence Strategy](https://www.hse.gov.uk/research/content/science-evidence-strategy-1622.pdf).

We will develop a confident, inclusive, innovative scientific professional leadership that inspires and empowers our workforce to achieve their best, through identified and targeted learning and talent development and through opportunities for secondment and interchange.

We will support HSE in the effective delivery of current and future strategies through further development and alignment of HSE’s scientific capability.

We manage and develop the capabilities of our staff and facilities, we invest in:

* Staff – in their knowledge and skills, in line with the GSE Career Framework, to ensure we have the capability to meet current and emerging science and evidence needs.
* New facilities, techniques and technologies, and maintain facilities unique to HSE to meet the organisation’s current and emerging needs.
* Information and knowledge management to ensure the full value of this important asset can be released.

We will continue to support good scientific knowledge & practice through providing staff access to scientific journals and publications relevant to their work.

### Our emerging priorities for 2023/26

* Champion the GSE Strategy and Career Framework for our GSE staff and affiliate colleagues and embed into performance management arrangements where this is possible.
* Provide a route-map to learning and development opportunities linked to the GSE skill set and aligned to HSE’s learning and development approach.
* Through STEM Futures and other joint-enterprise initiatives, develop an improved set of communities of interest and practice, leading to targeted development opportunities.
* Support further professional capability development through our Academic Learning Programme and the STEM Futures Partnership.
* Continue to engage externally with academia, industry and other Government departments to develop the next generation of regulatory scientists.

# Governance and assurance

HSE’s Chief Scientific Adviser (CSA) is accountable to HSE’s Chief Executive Officer for the governance and commissioning of HSE’s science, engineering and evidence. This is aligned to the implementation of HSE’s overarching Science and Evidence Strategy.  

To assist in discharging their accountability, the CSA is advised by the HSE Science, Evidence and Research Advisory Group (SERAG). SERAG comprises HSE senior civil servants in regulatory, policy and enforcement roles who represent the needs of the internal end-user policy and operational divisions, as well as the Chief Statistician and Chief Economist, and the Chief Medical Adviser (CMA).  

Assurance of HSE’s science governance and commissioning processes (including the effectiveness of SERAG) is undertaken by Government Internal Audit Agency (GIAA) and reported through to the Board via the Audit and Risk Assurance Committee (ARAC). 

Additionally, the CSA is assisted by an external science assurance group, the Science Quality Assurance Group (SQAG) whose members are aligned to the science needs for the new HSE strategy. SQAG reports directly to the Chair of HSE. We also completed a self-assessment exercise in Autumn 2022 ahead of the appointment of SQAG drawing on experts from Manchester University through the [Thomas Ashton Institute](https://www.ashtoninstitute.ac.uk/). 

HSE’s [HSE Ethical statement](https://www.hse.gov.uk/research/ethical-statement.htm) for science sets out our commitment to the highest possible ethical standards of behaviour and conduct throughout all facets of the work we do whilst meeting all legal requirements. We have a Research Ethics Panel for work involving human tissue, subjects or data which is accredited to an external Research Ethics Committee and considers low and medium risk research proposals. All potentially higher risk proposals are considered by an external Research Ethics Committee.  

HSE has an Analysis Function which subscribes to the [Government Analysis Functional Standard](https://www.gov.uk/government/publications/government-analysis-functional-standard--2).  HSE has Heads of Profession for Government Social Research Service (GSR), the Government Economic Service (GES) and the Government Statistical Service (GSS), ensuring that GSR/GSE/GSS standards are followed within HSE.   

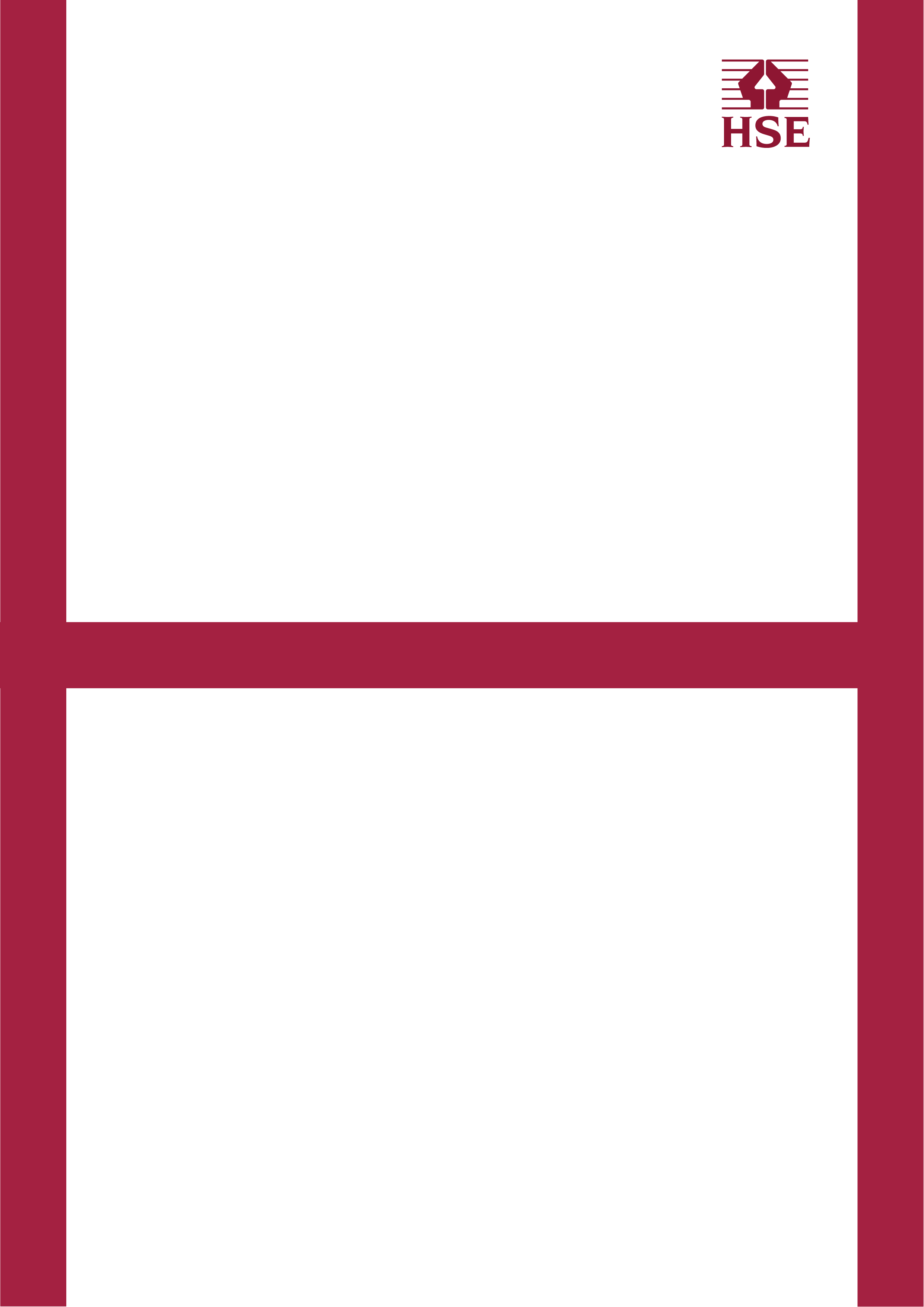
HSE draws on external stakeholder expertise, both scientific and from other fields through a number of arrangements.  This includes committees that are commissioned through the Health and Safety at Work Act, or other relevant legislation. HSE has a number of Committees that operate under the CoPSAC arrangements e.g. the [Workplace Health Expert Committee](https://www.hse.gov.uk/research/workplace-health-expert-committee.htm) and the CSA and CSA’s Office engage with these groups regularly to ensure that the principles are followed.  The Workplace Health Expert Committee is a formal scientific expert committee, provides expert opinion to our Chief Scientific Adviser and gives HSE access to independent, authoritative, impartial and timely expertise on workplace health.     

HSE supports the Concordat on Research Integrity. We are an active member of the Government Office for Science working group, whose membership is drawn from CSA’s teams across government, which is sharing best practice and developing proportionate and effective approaches to meet the [Guidance to implement the Concordat to Support Research Integrity within government](https://www.gov.uk/government/publications/implementing-the-concordat-to-support-research-integrity-within-government/guidance-to-implement-the-concordat-to-support-research-integrity-within-government) published in February 2022. This is our first annual statement of compliance and we will continue to meet the highest standards of research integrity including acting to support a strong culture based on good governance and support for the development of researchers.  

HSE has a vast archive of incident, accident, investigation and concerns data. Some of our data sets have been further supplemented with data from industry stakeholders to enrich the information with additional and applicable knowledge. We use the collected data to provide new insights, tools, techniques and approaches to industry. In this way we share the knowledge that underpins everything we do.   

HSE’s [Privacy policy](https://www.hse.gov.uk/privacy.htm) covers what stakeholders can expect us to do with their personal information, when they make contact with us, use one of our services or have an interaction with us as a regulator.  

HSE has internally and externally focused [equality and diversity priorities](https://www.hse.gov.uk/aboutus/equality-and-diversity.htm), which are embedded within [HSE's strategy](https://www.hse.gov.uk/aboutus/assets/docs/the-hse-strategy.pdf).



**Further information**

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