sserc

Annual report 2025

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The front cover image links to our Corporate Social Responsibility activity detailed in pages 7 and 58.

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Overview

Chair introduction

It is with immense pride and great pleasure that I introduce the SSERC 2025 Annual Report, a document that not only reflects on a year of significant achievement but also marks a momentous occasion: our 60th Anniversary. Six decades on from our founding in 1965, SSERC continues to be a cornerstone of STEM education in Scotland, a testament to our enduring relevance, adaptability, and unwavering commitment to educational excellence across all levels, from early years to secondary and beyond. I encourage you to take the time to browse through the 2025 report to truly appreciate the breadth and range of activities that SSERC continues to deliver.

This past year has seen remarkable strides, further cementing our commitment to our Vision 2030: to be **internationally recognised as a centre of excellence for STEM learning and support**. We have made significant and tangible progress across all our workstreams, pushing the boundaries of what is possible in educational support and innovation. From enhancing our professional learning programmes to expanding our digital resources and strengthening our advisory services, this sustained momentum is a direct result of the clarity of our shared vision and the strategic dedication applied to our ambitious goals, moving us ever closer to realising our long-term aspirations.

Such accomplishments would simply not be possible without the **extraordinary dedication of our staff**. Their passion, deep expertise, boundless creativity, and unwavering commitment to excellence are the driving force behind SSERC's success. They continually develop and deliver engaging professional learning activities, provide invaluable expert advice, and foster an environment of continuous improvement that makes a profound difference to educators and learners alike. Their pursuit of our core values is evident in every initiative and interaction, even in the face of evolving educational landscapes and new challenges.

I am also privileged to chair a Board of Directors and Trustees that is both deeply supportive and appropriately challenging. The Board's collective strength lies in the rich variety of experience, dedication, profound knowledge, and diverse perspectives our members bring, encompassing educational leadership, financial acumen, strategic planning, and operational oversight. This broad expertise has proven invaluable in navigating a dynamic external landscape, ensuring robust governance, insightful strategic guidance, and maintaining our unwavering commitment to innovation and sound decision-making for the benefit of all our stakeholders.

On behalf of the Board, I extend my sincere gratitude to our CEO, the Senior Management Team, our invaluable partners – including the Scottish Government, STEM Learning, PSTT and all of our members – and critically, every member of the SSERC team for their tireless efforts and ongoing commitment to our shared mission.

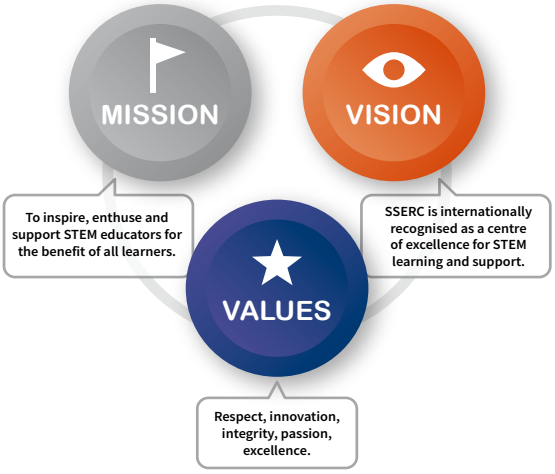
Together, we look forward to 2026 and to continuing to deliver and support STEM education and learning.

Alistair Wylie - Chair of SSERC Board of Directors and Trustees

Message from the CEO

2025 marks a major milestone in the history of SSERC – our 60th anniversary. Since our establishment in September 1965, SSERC has been at the forefront of supporting and empowering education practitioners across Scotland and, increasingly, beyond our national borders. This anniversary is not just a celebration of our longevity, but a testament to our relevance, resilience, and unwavering commitment to education.

Over the past six decades, SSERC has continuously evolved to meet the needs of a dynamic and often challenging educational landscape. The political, social, economic, and educational contexts in which we operate have shifted dramatically over the years. Yet, our ability to adapt – without losing sight of our core mission – has been fundamental to our success.



This adaptability has been made possible through the dedication of our people. At the heart of SSERC lies a team of individuals whose passion, professionalism, and commitment drive everything we do. It is their expertise and enthusiasm that shape the diverse portfolio of programmes, services, and resources we deliver, ensuring they remain responsive to the evolving needs of the education community.

As we look to the future, SSERC remains focused on innovation, collaboration, and excellence. We are proud of our legacy, but we are equally excited about the opportunities ahead. We look forward to continuing our work in supporting educators, inspiring learners, and contributing to a vibrant, future-ready education system for Scotland.

On behalf of the entire team, I would like to thank all our partners, supporters, and practitioners who have journeyed with us over the past 60 years. Your engagement and trust have been vital to our impact, and will continue to shape our direction in the years to come.

Alastair MacGregor

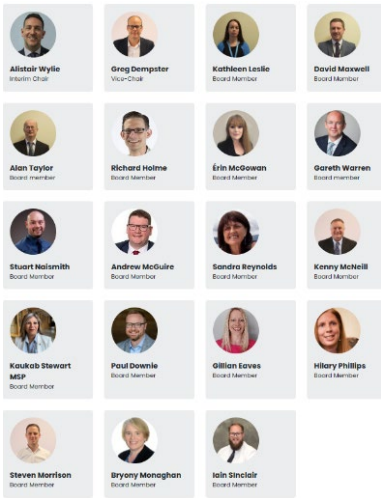
Alastair MacGregor - Chief Executive Officer

Corporate activity

SSERC continues to benefit from the leadership of a diverse, committed, and enthusiastic Board of Directors and Trustees. Their dedication to good governance and strategic direction has been instrumental in driving progress toward **Vision 2030**, with particular focus this year on digital transformation, international engagement, and expanding access to high-quality STEM education and training.

We are especially grateful to our **Chair, Alistair Wylie, and Vice Chair, Greg Dempster**, for their continued leadership, as well as to the wider Board for their rigorous scrutiny, support, and ambition for SSERC's future.

During this reporting period, we completed a comprehensive strategic review, updated our risk management framework, and refined our approach to diversity, equity, inclusion and belonging (DEIB) and sustainability. These enhancements reflect our commitment to ensuring that SSERC remains a forward-thinking and resilient organisation.



As we look ahead, we remain focused on delivering the ambitions of Vision 2030, ensuring that SSERC continues to innovate, collaborate, and lead in STEM education and professional learning in Scotland and beyond.

We welcomed three new Board members: **Bryony Monaghan** (representing Stirling Council), **Iain Sinclair** (representing Falkirk Council) and **Gareth Warren** (Principal, George Heriot's School and representing School Leaders Scotland (SLS)). You can find out more about our Board members at SSERC | Who we are.

We also wish to acknowledge the vital contributions of our **member organisations**, including all 32 Scottish local authorities, as well as our growing network of **national and international partners**. Their continued engagement allows us to deliver an expanding portfolio of impactful programmes, aligned with our strategic goals and the national STEM education agenda.

Staffing

In this reporting year, we ended with a staffing complement of 31. We welcomed **Johnathan Doran** as our Education Manager, supporting Biology and Environmental Science.

SSERC collects data on equality, diversity, and inclusion from delegates who attend SSERC professional learning activities. This data is collected voluntarily and is used so that we can develop a better understanding of how different groups are affected by our policies, processes, decisions, products, and services and, by doing so, identify and take action to address any potential discrimination, harassment, and/or unconscious/conscious bias. We are grateful to the **637 delegates** who took the time to complete the survey. The results can be located at edi-2024-2025.docx.

We significantly overhauled our approach to recruiting staff and board members to make the process inclusive, equitable, and encourage diversity in both applications and recruitment.

As part of our approach to staff wellbeing, and following staff engagement, we implemented several new policies, including a Life Events Policy, a revised Diversity, Equity, Inclusion and Belonging Policy, and a Wellbeing Policy.

Complaints

We had no complaints in this reporting period.

SSERC Honorary Fellowship Award

The 2024 SSERC Honorary Fellowship was awarded to **Clare Adamson (MSP)** and **Hannah Christie**. The Honorary Fellowship is awarded to individuals who have demonstrated a significant contribution to STEM Education and Training in Scotland and who demonstrate the values associated with SSERC.
For more information about the SSERC Honorary Fellowship, visit SSERC | SSERC Honorary Fellowship.

Clare Adamson (MSP).

Hannah Christie.

SSERC Corporate Social Media accounts

SSERC official | SSERC | SSERC | SSERC

SSERC outdoor education/garden project

The SSERC garden project entered its 4th year – working in partnership with King's Road Primary School in Rosyth. During this session 24 Primary 4 and 5 learners, plus 15 staff, parents and volunteers took part in the project. The focus for this year was growing and cooking produce from the garden – providing learning opportunities closely linked to the curriculum. The growing and teaching spaces at SSERC provided opportunities for learners to plan for the gardening year – choosing which crops to grow from seed, nurturing the plants, harvesting, preparing, cooking and tasting. There was also a strong focus on improving biodiversity, with increased planting for pollinators. We have also been pleased to support EATS Educates - a local community-based food education project – providing help and advice for the school-based aspects of this programme.

Things we enjoyed the most...

Feedback from the learners

Making soup *- using equipment and getting to eat it after (carrot and coriander was our favourite!)*

Making ***seed bombs***

The wormery *- got to hold them and see the different layers – we also liked the woodlice*

Planting ***horseradish***

Using tools *(hand drill/goggles)*

Everything *about SSERC!*

Planting the ***flower boxes***

Using microscope *to see things really close up*

Weeding *- preparing the beds for next things*

Professional Learning

Aim
To increase the breadth and impact of the professional learning offering.

Our professional learning programme continues to play a vital role in supporting STEM education within the secondary school sector. The consistently strong levels of participant engagement and highly positive impact evaluations reflect the ongoing value and relevance of our offerings.

Secondary

The importance of practical work in STEM is widely accepted, and it is acknowledged that good-quality practical work promotes the engagement and interest of learners, as well as developing a range of skills, scientific knowledge, and conceptual understanding.

The SSERC Secondary Team, in collaboration with our Scientific Officers, remains committed to developing and delivering a diverse portfolio of professional learning courses. These are continually refined and tailored to meet the evolving needs of the education practitioners we serve.

From April 2024 - March 2025 the Secondary Education Team delivered

5410.5	1082.1	996	758	112	52	87
Hours of combined professional learning	CPD units* achieved	Delegates	Teachers	Technicians**	NQTs	Other delegates including STEM Ambassadors and CLD Staff

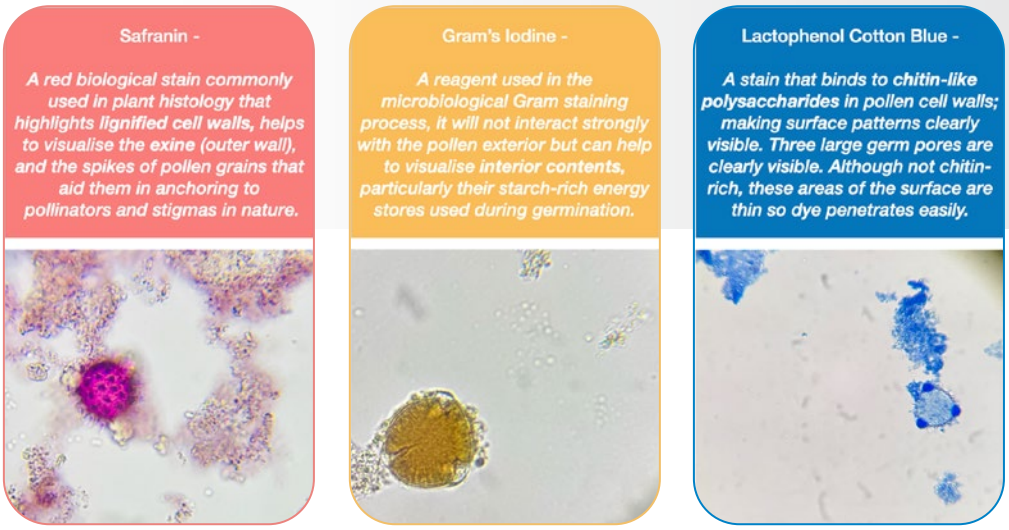
*1 CPD unit equates 5 hours of SSERC PL ** technicians attending teacher based courses

Biology

736	147.2	249	8
Hours of combined professional learning	CPD units achieved	Teachers attending	Courses

The 2024/2025 academic session has been one of active engagement with Biology teachers, as lessons are learned from the return of the national Assignment and Project tasks for learners in recent years. The professional learning helped to support investigations at both Higher and Advanced Higher levels across Scotland, with many practitioners lacking experience in delivering and assessing these core pieces since entering the profession after 2020. Many of those who have joined the teaching workforce in recent years have also noted that their own university experiences have lacked the same levels of laboratory training, due to the impact of the Covid-19 pandemic, and as a result SSERC has responded by developing new courses to demonstrate a wider variety of practical activities that educators can adopt to meet the requirements of the course assessment task. Newly and recently qualified teachers were supported on a range of our courses, as well as more experienced practitioners engaging in professional development.

During the reporting period, we experienced a change in staffing with Johnathan Doran taking on the role of Education Manager (Biology) in February 2025.



All of the above images show pollen extracted from a single sample of wildflower blossom honey, prepared at the SSERC HQ in Dunfermline. Each has been stained with a different visualisation dye to highlight distinct features.

New activities have been developed including the use of common laboratory stains to visualise pollen from either plant sources, pollen traps, or honey (see image above).

In the period before Johnathan's arrival, our range of professional learning to support Biology included:

Investigations for Advanced Higher Biology
With the return of the Advanced Higher Biology Projects, we delivered a 2-day course, exploring investigations that support the curriculum at this level. The course was particularly suited to practitioners who were new to delivering the AH Biology course in school. Project ideas were discussed, with built-in networking opportunities to share best practices with colleagues.

"I feel so much more prepared to deliver this aspect of AH Biology. I was properly scared of it and now, while I'm still not confident, I really feel like the experience has meant that I feel like I have a much better idea of how the lab work should go, how the projects should look, how to help my pupils do their best. I really could not recommend this course more highly, the staff were all lovely and so helpful and knowledgeable. I am so grateful that I got this chance. Thank you so much."

Biology SSERC Meet – Advanced Higher Biology Projects
This short, online meeting aimed to reflect on learnings from the 2023/2024 session, during which the Project course assessment task for Advanced Higher Biology returned. During the course, we shared new SSERC resources and facilitated a session on sharing good practices.

"This has impacted my performance as I have developed my awareness of the project included within my subject area. This will allow me to effectively run this in my classroom, and improve attainment of pupils."

Practical Biology for Newly Qualified Teachers
This course was designed to explore practical techniques applicable to senior phase Biology, including National 5, Higher Biology, Human Biology and Advanced Higher Biology. The programme offered an excellent way of keeping up to date with developments in the subject area. There were ample opportunities to build new working relationships with other Biology teachers across the range of schools and Local Authorities in Scotland. Delegate quotes include:

"I have no clue what I'd do without SSERC."

"I genuinely believe this will have made significant improvements to some of my day-to-day learning and teaching, on inclusive practices and how outcomes are achieved by students."

This academic year included multiple presentations of our *Safety in Microbiology for Schools* programme, with delegates continuing to rate the course very highly. This SCQF credit and levelled course takes school technicians with a range of both scientific and non-scientific training backgrounds and equips them to undertake a range of important microbiology preparatory activities in a safe and effective manner.

This year, one such course was appraised by Dr Eoin Cowie, who, until his recent retirement, had held the post of Lecturer in Microbiology at The Robert Gordon University for 30 years. Eoin shadowed the 3-day programme and advised on future development opportunities, saying of the course:

"This is a very well designed short course, strongly focussed on developing the skills and confidence of delegates to safely practice microbiology in an often resource-limited secondary school science teaching environment."

Review of Codes of Practice

During the 2024/2025 period, initial activities required to undertake a robust review of both the *Safety in Microbiology Code of Practice* and its *Materials of Living Origin* counterpart have been completed. An initial review of the documents has been carried out and, with areas for further refinement identified, a group of external academic advisors drawn from several Scottish universities has been assembled to review the documents and contribute their expertise to the subsequent editions.

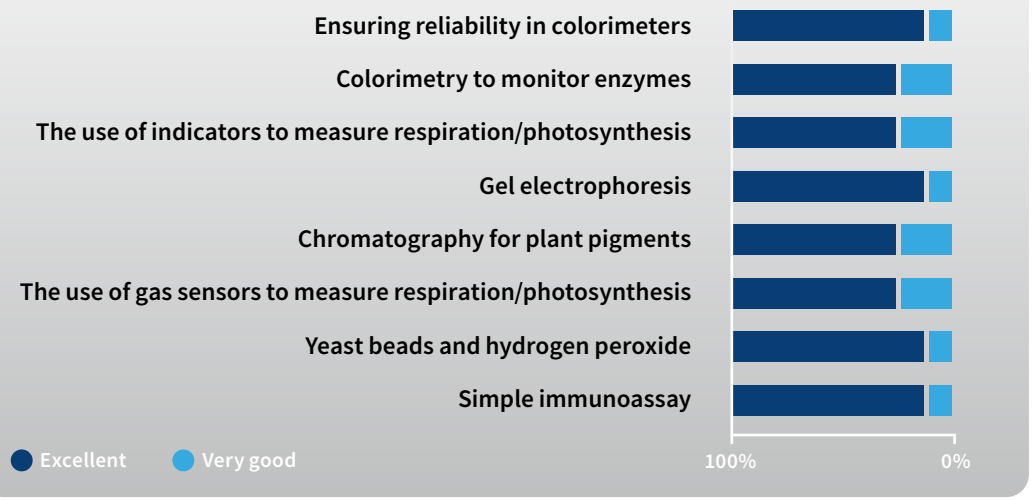
SSERC is grateful to those academic specialists who, at the close of this academic year, are in the process of giving their time to undertake this work, and feels confident that this expert-led approach to refining our Code of Practice guidance documents will be reflected in the quality of the final publications.

Resource expansion

A range of downloadable resources has been further expanded this year, including a variety of practical activities suitable for National 5 and Higher Biology Assignments and Advanced Higher Biology Projects as well as further activities to support the microscale approach to Biology laboratory work. These protocols, accompanied by a range of useful data sets to support teachers and learners with data literacy across practical activities have also been made available on the website.

What delegates say about some of the SSERC designed activities:

Evaluation data for 'Practical Techniques for NQT Biologists' (12-13 March 2025)



Course development

- A new course called ‘Experiments, Investigations and Skills for Higher Human Biology’ has been devised in partnership with the University of Edinburgh and will be co-delivered by both institutions in September 2025.
- A new course called ‘Experiments and Data Analysis for Psychology Teaching’ has been devised and will be delivered at the SSERC HQ in Dunfermline in early 2026.
- A new course with a focus on ecology and environmental sampling of animals has been devised in partnership with the Field Studies Council and will be delivered at their Millport site in early 2026.

Sustainability

Across our courses, we have made a concerted effort to reduce single-use plastics. Instead, we have reused such materials or substituted for glassware or to repurpose commonly disposed household items for laboratory purposes. Outdoor learning has featured heavily in Biology courses delivered in 2024/2025, highlighted for progression or alternative investigations that could be carried out in an outdoor setting. Wherever relevant, the link between course content and the UN SDGs has been explicitly stated to delegates.

Chemistry

In the year 2024/2025 Chemistry delivered the following courses:

413.6 Hours of combined professional learning

82.7 CPD units achieved

56 Teachers attending

6 Courses

For Teachers

- A new 2-day course to support Advanced Higher Projects
- A 2-day course Chemistry Skills for Advanced Higher
- A 1-day course on Chemistry Assignments for National 5 and Higher
- A 1-day course on BGE Chemistry for Non-Specialists
- A Chemistry training day for Fife teachers (and some technicians)
- 2 Days of Chemistry PL for Moray teachers

For Technicians

- A 2-day Technicians course for Senior Phase Chemistry
- Chemical Handling (2 instances)
- Introductory Chemistry – now an online, self-study course

Additionally, chemistry contributed to:

- Probationers Courses (2 Cohorts)
- N5 Lab Science course
- Environmental Science

Some feedback from course delegates includes:

"The laboratory practical work as it gave me extremely good practical advices for the preparation and use of different chemicals very often used in school, as well as the health and safety measures to follow."

"All the lab sessions were great but my favourite was the Trymistrin experiment: low cost and high success plus the smell was delicious."

"I have developed a much wider range of skills throughout several of the activities covered during the course. I now have the skills and confidence to better develop the knowledge of my colleagues and feel confident in delivering PL sessions within my department. My subject knowledge is stronger and I will be able to pass this on to the pupils in my class."

We developed the following resources:
- 2 methods for analysis of Calcium in Limestone
- Determination of Copper in Brass
- Estimation of Lactose in milk
- Extraction of Trimyristin from Nutmeg
- Synthesis of Fluorescein
- Synthesis of Benzoic acid
- Synthesis of ethyl ethanoate
- Microscale introduction to chemical reactions
- Plus a range of tweaks and improvements to existing activities.

Other activity in Chemistry
Chemistry also contributed to the following:
- The Nigel Botting meeting for Chemistry Teachers at the University of St Andrews.
- 4 x 1-Hour sessions for 40 delegates at the STEM Technician Training Day.
- We ran two chemistry sessions for delegates attending our probationer's courses in December 2025 and January 2025.
- We are continuing to work with the Royal Society of Chemistry to offer subject specific CPD around the country.

Sustainability
Our microscale chemistry activities continue to be very popular, not least because of the reduced amount of equipment and materials involved.

We are always looking to tweak our experiments to use less elaborate or cheaper alternatives to expensive equipment.

Environmental Science

We were grateful for the funding from The Caterpillar Foundation (Progress Rail) to develop and deliver an Environmental Science professional learning programme in May 2024, which provided secondary science teachers with hands-on training in environmental fieldwork and laboratory techniques aligned with the National 5 and Higher Environmental Science curriculum.

300 Hours of combined professional learning

60 CPD units achieved

30 Teachers

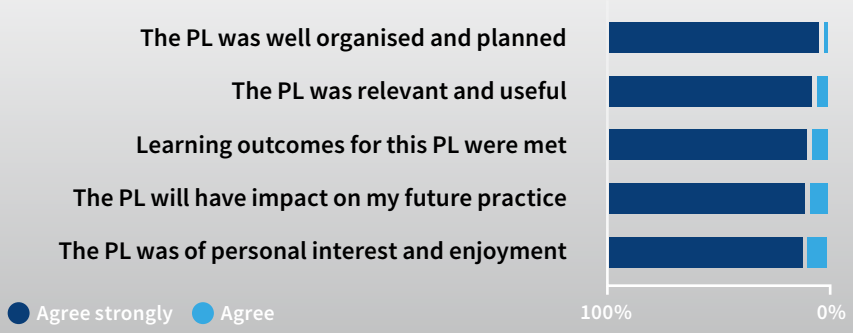
2 Courses

Participants conducted practical investigations including freshwater invertebrate sampling, soil testing, lichen abundance surveys, and water quality analysis, gaining direct experience in using biodiversity indices, colorimetry, and geochemical methods in the context of the beautiful surroundings of rural Fife.

Progress Rail
A Caterpillar Company

The course strengthened teachers' subject knowledge in key areas such as climate change, pollution, and ecosystem dynamics - creating an opportunity to reacquaint teachers with the importance of outdoor education.

Evaluation data for Environmental Science PL May 2024



Attending teachers were encouraged to connect both outdoor activities and laboratory tools through a range of Environmental Science investigations, including kick-sampling at Blairadam to measure aquatic invertebrate diversity in relation to water velocity, using the Simpson's Diversity Index to quantify ecosystem health. In the laboratory, they also conducted soil pH, moisture, and permeability testing.

Delegates' comments included:

"Increased confidence in delivering engaging and diverse learning and teaching which engages learners in relevant course specifications while also improving learners' participation in wider issues as part of being global citizens."

"Greater enthusiasm to engage with wider agencies and partnerships to support learners in building confidence as individuals and support in future career pathways."

Environmental science for Geography teachers
A new course designed to support Geography teachers in delivering Environmental Science was devised during the latter months of the 2024/2025 academic year and has subsequently been delivered with sponsorship from Ocean Winds. The course offered attending teachers the opportunity to explore lichen abundance, refractometry, and hydrometry to analyse sugars and the production and capture of CO_2 by plant life. In addition, it included activities demonstrating photosynthesis in seaweed using hydrogen carbonate indicator and, with the support of the SSERC Chemistry team, featured sessions on bioplastics and a demonstration of how to safely and effectively produce biofuels in a classroom setting.

Secondary cross-team activity

At SSERC, we deeply value those who choose to pursue careers in STEM education. Our commitment extends beyond the early stages of their teaching journey – we strive to provide ongoing support throughout their professional lives. Recognising that STEM educators often work across disciplinary boundaries, we offer a range of professional learning opportunities designed to equip them with the skills and confidence needed for interdisciplinary and multidisciplinary teaching. These are outlined in detail in this section.

Science probationers
We ran our 2-day course for Probationary teachers in December 2024 and again in January 2025. A total of **39 delegates** attended over the two sessions. The courses were very well thought of: 87% rated it an excellent course and the remaining 13% of delegates rated it very good.

680	136	87	7
Hours of combined professional learning	CPD units achieved	Teachers	Courses

All agreed strongly or agreed that the course was well organised and planned, relevant and useful, was of personal interest and would have an impact on future practice. Two delegates wrote bulletin articles describing their experience whilst attending the course. You can read these in SSERC STEM Bulletin Issue 280 here, if a member, or here if not a member.

"The course was amazing, everything well run and the networking opportunities and socialising with other science probationers was a great fun."

"I was able to visualise and understand concepts I was struggling with before especially for BGE science."

"The micro stuff looked very educational, useful and accessible. Lots of good ideas in the physics, chemistry and biology labs!"

Laboratory skills
We ran our Laboratory Science for National 5 course in December for 14 delegates. In order to reduce the cost to delegates, we reduced the face-to-face sessions from 3 days to 2 and provided some online pre-course reading for delegates to cover what they would have missed.

The course was a success with all delegates rating it Excellent or Very Good. Some typical comments were:

"I have a wider knowledge base and am improving my practice with better pupil engagement."

"I found all of the sessions invaluable, especially as someone who is currently developing resources to teach the course in the next academic session!"

"It has given me increased confidence and knowledge of methods of course delivery. Increased range of experiments and ideas of how to resource these effectively."

Broad General Education Chemistry for Non-Specialists
We ran the course again this year and it was rated as "excellent". Some typical comments were:

"It has increased my enthusiasm, confidence, and understanding when delivered practical chemistry activities."

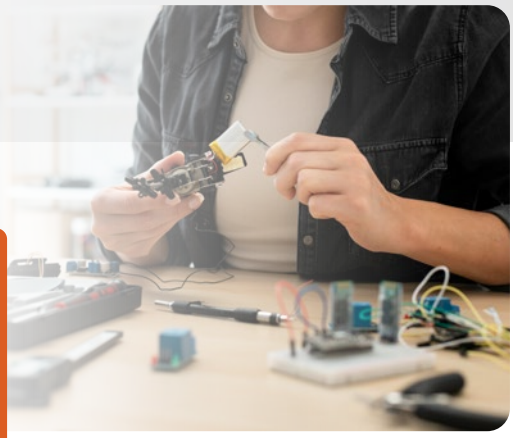
"It has given me much increased confidence in laboratory skills and how to explain the content to the learners."

Broad General Education Physics for Non-Specialists
We ran this course again this year and feedback continues to be very good. Comments from delegates included:

"All the sessions were very useful. Some highlights: The sessions on multimeters and the conductive plastic investigation were very useful. The session in the lab on forces was especially good for my confidence with explanations. The Van der Graaff generator session was great for understanding what is and isn't safe."

"I liked learning about the online resources and understanding multi meters as I didn't know anything about the online resources and they look very accessible and useful, and the multimeters had always been a source of confusion for me. The lab demonstrations were also very useful."

Physics



757.7
CPD hours (delivered and self-directed)

151.5
CPD units achieved

96
Teachers

9
Courses

In the year 2024/2025 Physics delivered the following courses:

- A 2-day IOP/SSERC Raising Attainment in Physics course
- A 1-day 'Data Science' course
- A twilight 'Saving the world with data Science' course
- A session at the IOP Scotland Stirling Physics Teachers Conference
- A 2-day support for practical activities in Higher and Advanced Higher Physics course
- A pilot, 2-day course in support of Nat5 practical electronics

Delegates also continue to benefit from our self-study courses with delegates subscribing to the following self-study courses:

- Physics safety course
- Physics 'Tracker' motion analysis course
- Physics 'satellites for beginners' course

Some feedback from course delegates includes:

"I found all the sessions which discussed the practical aspects of the course more useful as I am not always sure what experiments can be done."

"I found the sessions on Newton's rings and the session on using tracker to be incredibly helpful to my practice."

"Seeing all the practical's and getting to have a shot was very useful. The amount of knowledge that [the tutors] have is incredible and really useful."

"I genuinely, found every aspect of the course extremely useful."

"All sessions were useful to me. Having the practicals demonstrated and time to try was very useful".

"The practical element of the course was the most useful. Soldering, building circuits on breadboard and transferring to stripboard layout was definitely the most beneficial experience from the course. Ian Bell's input as SQA PA and as a practitioner was extremely helpful."

"I found... Learning how to use Tracker and all the hands on practical opportunities. SQA session with Andy Shields... most useful."

"Practical session on optics and waves. This is an area I was looking for more activities and demonstrations relevant to the higher and AH courses and there were some excellent activities."

"The most useful sessions were the actual practical electronics. Developing practical skills whilst using the tools and building circuits. The session on the assessment of the course was also useful as it indicated what the goalposts were."

We developed the following courses and resources:
We developed and ran a pilot 2-day course in support of Nat5 Practical Electronics.

We continue to develop and add to our, now substantial, list of H and AH Physics experiments. Development work undertaken last session has allowed us to add a further 40 pages of experiments and techniques to our already comprehensive course Lab Book.

New for 2025/2026
Feedback from our courses indicated that a course aimed at practical work for Higher Physics would be welcomed by teachers. We have therefore developed a 1-day, support for practical activities in Higher Physics course which will run in the 2025/2026 year.

We also plan to construct a 'starlight simulator' to support our Higher Physics practical activities along with a high-precision, low-drift voltage and current reference which will be used to ensure multimeters used in Advanced Higher Physics experiments are within specification.

We plan to construct (or purchase) five beta test sources to confirm the efficiency of our G-M tubes and for use on our working with radioactive sources courses.

Other activity in Physics
Physics also contributed to, ran or developed the following:

- A two 2-day SCQF rated, Intro Physics course for 14 technicians and a 2-day Intermediate Physics course also for technicians. A BGE Physics for non-specialist's course.
- 4 x 1-Hour sessions for 40 delegates at the STEM Technician Training Day.
- We ran two Physics sessions and a data science session for 17 delegates attending cohort 2 of our probationer's course in January 2025.
- We continue to work with Edinburgh University to develop a particle Physics board game to support this aspect of Higher Physics. Our work with the University of Edinburgh on a particle Physics board game has resulted in SSERC gaining a licence to use the board game in our courses. The board game was commented on favourably by the delegates attending our H/AH course.
- We ran workshops to support the 2-day Technology Probationers course.
- Physics will be contributing sessions in support of our Lab Science and all cohorts of our Science Probationers courses in December and January.
- We delivered a 1-hour session at the IOP Scotland Stirling Physics Teachers Conference to 30 delegates.
- We have loaned equipment to 4 schools to allow learners to complete AH Physics experiments and have arranged two visits for learners and their teachers to complete AH Physics experiments at SSERC.
- Two-part online, health & safety training course '*Working with radioactive sources*'.

- As a result of enquiries from teachers about higher investigations we have designed a simple light sensor and written up an experiment to measure the RMS value of different waveforms, to demonstrate the inverse square law, capacitor time constants and a simple gratings experiment. These activities will be published in the bulletin as well as added to our course materials.
- As a result of an enquiry we designed a simple magnetic field strength meter for use at BGE.
- We have purchased a Muon detector to support practical work in the particle Physics area of the Higher Physics curriculum.
- We have completed the build and testing of our Cube Sat Simulator to support our satellites course and teachers delivering this area of the Higher Physics curriculum.

Sustainability

Our AH on a budget continues to be very popular.

We have also shown how it is possible to use a single LED as a light source for use in the Newton's Rings experiment. This will also be published in our bulletin.

One delegate on our H/AH course commented that one aspect that they found most useful was...

"How to build kit for AH experiments from cheap products."

Another delegate on the same course...

"Also appreciated that there was a consideration for school budget when it came to planning experiments."

We continue to look for experiments that give great results but which require common, home-made, 3D printed or low cost equipment. For example our budget light sensor for use in our Higher Physics investigations cost less than £2 to construct.

We are always looking to tweak our experiments to use less elaborate or cheaper alternatives to expensive equipment.

Technology

In 2024/2025, the Technology Team continued to deliver a comprehensive programme of practical hand and machine skills-based courses, aimed at developing and enhancing the professional competence of teachers and technicians. The following 2-day courses were delivered during this period:

- Welding Skills
- Woodturning Skills
- Hot and Cold Metal Forming
- Centre Lathe Skills
- Technology Probationer Residential
- Safe Use of Classroom Machinery
- SQA Practical Metalwork Skills

In addition, the Technology Team delivered a further 17 courses as part of the Technician Portfolio of Professional Learning. This was achieved through the delivery of the following courses:

- Safe Use of Fixed Workshop Machinery
- Safe Use of Fixed Workshop Machinery – Refresher
- Maintenance of Fixed Workshop Machinery

470	94	34	7
Hours of combined professional learning	CPD units achieved	Teachers attending	Courses (face-to-face)

The team also contributed to the STEM Technicians training day by providing taster workshop sessions focused on welding and woodturning skills

Evaluation quotes

"The course was very useful, getting further practice with tools and working on projects that challenged my skillset. I feel far more confident using the lathe and have already implemented some of what I learned into my N5 PWW class."

Woodturning 2025

"The whole experience was very useful as the Lathe is a machine I have never had the confidence to use so seeing all the different processes has been very useful."

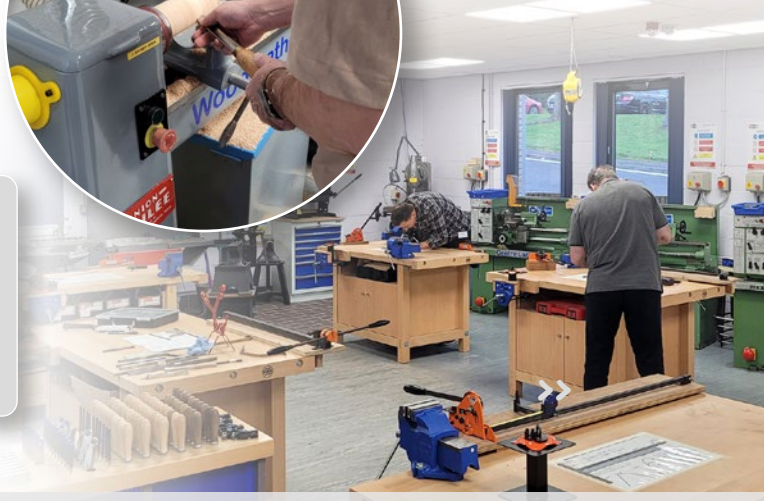
Centre lathe skills 2024

"Both days were fantastic. I found the hot metal project useful as it is something I haven't used as often I would like it."

Hot and cold forming 2024

"Practicing with the MIG Welder was probably most useful, as this is the welder we have in my school. However, I found all of the course very useful and feel I had a great introduction to welding."

Welding skills 2024



Collated evaluation data from technology courses

Evaluation data		
How would you rate the overall quality of this Professional Learning?	Excellent – 77%	Very good – 21%
The PL was well organised and planned	Agree strongly – 88%	Agree – 11.5%
The PL was relevant and useful	Agree strongly – 81.5%	Agree – 17.2%
The PL will impact my future practice	Agree strongly – 81.2%	Agree – 17.7%

Courses/resources developed

- Redevelopment of SQA Practical Metalworking course due to revision made to assessment project.
- Delivered and developed a small workshop session as part of the Inspiring a Sustainable Approach to STEM Primary residential.
- The technology team contributed to the STEM Technicians training day, developing, and delivering workshop taster sessions in welding skills and woodturning.

SQA Practical Metalworking 2024.

Technology NQT Residential

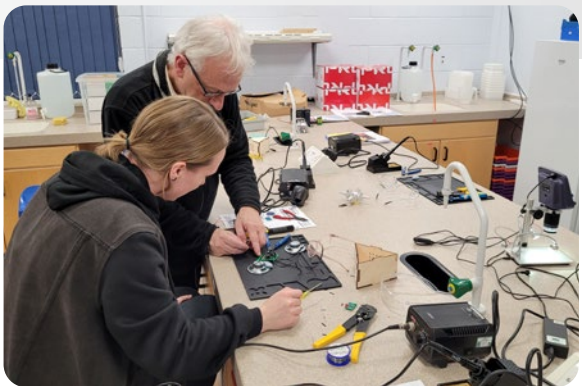
The third Technology NQT Residential took place at SSERC in November 2024 and has continued to be a successful and well received event. It was well attended, with 13 delegates participating, representing a wide range of Local Authorities across Scotland.

Five practical workshop sessions were delivered, featuring newly developed projects, innovative ideas, and effective teaching strategies. These sessions were designed to support Newly Qualified Teachers in delivering safe, high-quality, hands-on STEM learning within the technology curriculum.

"I found the woodwork and metalwork sessions most useful. I did not have much experience woodturning, so being taught how to do this properly and use of different tools were both extremely useful and things that I will be bringing into my practice immediately."

"I found the sessions on metal working and health and safety most useful, as well as the overview of SSERC's work and highlighting the STEM Ambassadors and Young Stem Leaders programmes. The chance to network with other professionals and hear about different settings was also really good."

One delegate wrote an article about their experience of being on the course. You can read this in SSERC STEM Bulletin Issue 280 here, if a member, or here if not a member.



New for 2025/2026
We will continue to revise existing and develop new professional learning to support STEM education practitioners. Here is a sample of what to look forward to:

Courses and resources in development 2024/2025:
- Reconfigured Practical Metalworking course, focusing on skills and processes for SQA Practical Metalworking coursework, including changes to the assessment project.
- Development of Technology probationer residential 2025.
- Continuation of the Safe Use of Fixed Workshop Machinery, Classroom Machinery and Refresher Training for Technicians & Teachers.

Environmental sustainability
As part of the Technology PL provision, we are committed to sourcing all training materials in a cost-effective and environmentally responsible manner. We aim to minimize waste during training exercises, and any unavoidable waste is appropriately recycled. After successfully trialling the use of VR welding equipment in 2023, we have now secured a class set of six units through the Ocean Winds Industry Partnership. This will enable us to more fully integrate VR welding into our courses.

We have also continued to refurbish and repurpose existing equipment where appropriate, both to expand our available resources and to prevent usable machinery from being discarded. This year, we have added to our welding capabilities by refurbishing an Oxford arc welding machine and repairing and servicing a recently donated MIG welding machine.

Early Years and Primary incorporating Digital Skills and Computing Science

The Early Years and Primary team have engaged with and provided professional learning (PL) for the following groups across the academic year 2024/2025:

- Early Years Practitioners
- Nursery Teachers
- Primary School Teachers
- ASN Teachers (supporting learners working at Early and Second CfE levels)

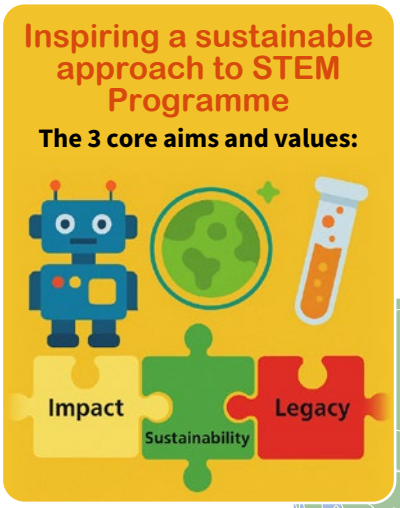
Our professional learning programmes empower educators to navigate the ever-changing educational landscape. They are designed not only to enthuse, motivate, and inspire but also to provide the confidence and tools needed to meet the evolving needs of teachers and learners. We equip educators with the confidence to deliver hands-on STEM activities that are not only engaging and inclusive but also develop crucial life skills in learners such as critical thinking, curiosity, collaboration, and problem-solving. This approach empowers teachers to go beyond traditional methods, creating a powerful and impactful learning experience that prepares every child for success in a rapidly evolving STEM-oriented world.

Professional learning delivered:

- Inspiring a Sustainable Approach to STEM 2024/2025 (Pilot Year)
- Open SSERC Meets
- Courses supported by STEM Learning

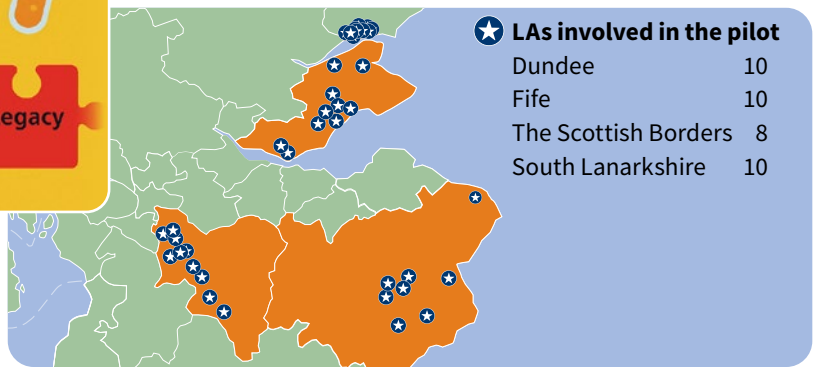
"SSERC consistently delivers high-quality, relevant professional learning that directly impacts our teaching and learner engagement."

2232
CPD units covered across all PL



Pilot year

Our new 3-year programme, 'Inspiring a Sustainable Approach to STEM', aims to promote and support Science, Technology, Engineering, and Mathematics (STEM) education in primary schools and the wider community. This pilot programme will inspire and engage practitioners to equip their learners with STEM-related knowledge and skills (including Digital Skills and Computing Science) required to succeed in the future workforce and encourage them to consider STEM-related careers.



The **Inspiring a Sustainable Approach to STEM programme** is a new, three-year initiative designed to fundamentally improve and promote Science, Technology, Engineering, and Mathematics (STEM) education in primary schools and the wider community.

Core goals and approach

At its heart, this initiative aims to create a lasting legacy for STEM education by developing robust, self-sustaining infrastructure and leadership within participating LAs. The programme addresses challenges faced by other short-term educational initiatives through two key goals:

- **Building Local STEM Capacity** – the programme's ultimate goal is to establish a permanent STEM Resources Hub within each participating Local Authority (LA) by the end of the third year. These hubs will serve as lasting centres for resources and best practice.
- **Developing Long-Term Leadership** – it places a strong emphasis on developing leadership and coaching skills among participants. This focus ensures that local educators can continue to train, support, and inspire their colleagues long after the programme's direct involvement is reduced, guaranteeing its sustainability.

The programme is structured as an intensive, directive intervention in its first year, establishing strong foundations, with a planned, gradual reduction by SSERC in years two and three as local leadership takes over. The new programme's design was influenced by discussions with key stakeholders including PSTT, the Scottish Government, and Local Authority Officers.

The benefits of the programme extend to learners, practitioners, schools, and the wider Local Authority.

- **For teachers** – the programme aims to increase confidence and competence in using STEM as a context for learning and to develop their professional practice. This will allow for pedagogical change.
- **For learners** – the programme will support potential attainment and progress across CfE levels, improve STEM capital, and enhance their engagement, motivation, and enjoyment of learning.
- **For schools** – the programme also helps schools by providing in person intense professional learning along with access to STEM resources and an identified SSERC STEM Associate within each school to support staff.
- **For the Local Authority** – by supporting LAs in the development of physical, digital, and human resources, the programme contributes to a sustainable approach to STEM education.

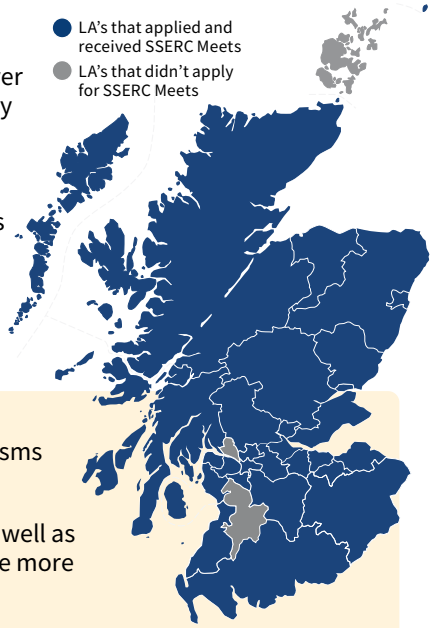
The overall goal is to equip learners with the STEM knowledge and skills needed for the future workforce.

Dissected information from the SSERC STEM Associates' pre-course questionnaire and the whole-school staff surveys highlighted that certain STEM concepts needed to be covered early on in this three-year programme. Our professional learning provided focused workshops that covered a range of subjects, including engineering and technologies, leadership and coaching, and practical contexts for STEM activities. We delivered hands-on sessions using VEX 123 robotics and woodwork, the latter specifically designed to progress teacher skills. In addition, we explored themes on space, plants and animals. These workshops have equipped educators with the confidence and tools to implement engaging activities in their classrooms.

"SSERC's Primary Inspiring a Sustainable Approach to STEM workshops are consistently excellent. They provide such clear, hands-on approaches that I can immediately implement in my classroom. I leave feeling re-energised and equipped with fresh, innovative ways to teach STEM. The focus on enquiry-based learning is fantastic."

SSERC Meets

A SSERC Meet is a no-cost, live online twilight session designed to deliver STEM professional learning for educators. These sessions, supported by the Edina Trust and the Scottish Government, take place from 3.30pm to 5pm via MS Teams. Participating settings are sent a resource kit containing materials for multiple staff members to engage in hands-on STEM activities during the session and with learners later. SSERC Meets provide access to supporting online materials and opportunities for questions and sharing ideas. This format ensures cost-effective, practical STEM training that benefits both educators and learners.



SSERC Meet titles delivered

All wound up and Cranky – an exciting and engaging collection of activities that explore moving models using simple winding mechanisms and recycled materials.

Making Nature a Home – looking at environmental sustainability as well as utilising playground and outdoor areas to build habitats to encourage more insects to this space.

Assessment Progression in Primary Science – This 3-part SSERC Meet explores a range of activities and examples that can support the teaching and assessment of scientific enquiry. The course builds upon the work of the Teacher Assessment in Primary Science (TAPS) project and includes consideration of new learner work collections to support progression across the school.

Christmas STEM – An exciting and engaging collection of activities and STEM concepts based around a festive theme. The activities and ideas can easily be adapted for use at any time of the year. Aimed at First and Second Level, with a focus on the Forces and Materials Organisers within CfE.

STEM by the Book – A focus on the SSERC STEM by the Book resource, we explore a range of STEM activities linked to popular books.

Science Enquiry - Observing and Exploring – activities in this SSERC Meet support two of the four main approaches to Science Enquiry described in CfE:
- Observing & Exploring
- Classifying

These engaging, hands-on activities also provide opportunities to consider progression from Early through to Second Level.

Science Enquiry - Fair Testing and Finding an Association – activities in this SSERC Meet support two of the four main approaches to Science Enquiry described in CfE:
- Fair Testing
- Finding an Association

These engaging, hands-on activities also provide opportunities to consider progression from Early through to Second Level.

Simple Electrical Circuits – focussing on the Electricity Organiser across First and Second Levels within CfE, exploring activities which can be used to meet energy transfers in electrical circuits and electrical circuits. By using the following:
- Select, use and store batteries safely.
- Make several simple electrical circuits.
- Troubleshoot common problems with building circuits in the classroom.
- Recognise the symbols for various components and draw simple circuit diagrams.
- Understand how to investigate electrical conductors and insulators using a simple electrical circuit.
- Describe the energy transfers within simple electrical circuits.

SSERC Meet figures 2024/2025

29
LAs covered through the open SSERC Meets

19
SSERC Meets delivered

1244
Delegates that attended these SSERC Meets

399
Schools supported

867
applications

"The hands-on activities and equipment we've gained access to are invaluable, sparking our students' curiosity with real, engaging science experiences. This is thanks to the Edina funding, which has enabled SSERC to provide resources that are easily integrated into our existing lesson plans, making it seamless to implement new and exciting science activities."

Open Courses supported by STEM Learning

- Amazon ENTHUSE Partnership
- APAX ENTHUSE Partnership
- BP Super ENTHUSE Partnership
- SPACE UK ENTHUSE Partnership (7-part SSERC Meet)

Open course figures 2024/2025

28
LAs covered through open courses

50
Schools supported

166
Delegates that attended open courses

"SSERC consistently delivers high-quality, relevant professional learning that directly impacts our teaching and learner engagement."

Other activities

SSERC is in the third year of an ongoing Engineering Educates partnership with the Science and Engineering Education Research and Innovation Hub (SEERIH) at the University of Manchester. As Engineering Educates Champion for Scotland, SSERC has supported schools across Scotland with this campaign, engaging 39 schools with the Engineering Educates Robotics Challenge resources so far. SSERC supported an Engineering Educates event at the Robotarium at Heriot-Watt University in June 2025.

Great Science Share for Schools (GSSfS)

Since 2018 SSERC has been a supporter and promoter of the GSSfS, over the last 4 years we have been Scottish Champions for this innovative, engaging and exciting programme. SSERC and five learners (from the Thornton Primary STEAM Team) were involved in filming a series of science activities using paper, water and ink - culminating in presenting a live lesson, from SSERC HQ, to over 80 schools and 680 learners across Scotland as part of GSSfS 2025 in June 2025.

What's next...

We will continue to revise existing and develop new professional learning to support STEM education practitioners. Here is a sample of what to look forward to:

- **Inspiring a Sustainable Approach to STEM** – development of workshop materials to deliver through Year 2 of the programme and making amendments from delegate feedback to the Year 1 programme.
- **Launch of in person Embodied Learning course** – this course will focus on making meaningful gestures to convey specific teaching ideas and concepts in the field of STEM. It is a deeper dive into this new pedagogical approach and leads on from our self-study course.
- **STEM by the Book** – development of further activity cards linking literacy to STEM.
- **STEM context planners** – following the successful launch in August 2024 we plan to add more planners to this resource to battle the planning bureaucracy for all educators.
- **Early Years and Primary resources** – this area of the website will see a variety of new resources being added for membership access.
- **Health and Safety** – this area of the website will have new FAQs and examples added for membership access.

Environmental sustainability

Reusable, upcycled or multipurpose resources are now provided through our SSERC Meets and our in-person PL. We have been using less plastic in our workshops. Cardboard boxes are used to send out our SSERC Meets resources rather than plastic boxes. We raise awareness of environmental sustainability throughout all workshops. Our use of digital technology to deliver live online PL has a considerable positive impact on the environment extending reach and local delivery.

Digital Skills and Computing Science

Digital Skills and Computing Science (CS) should be embedded in all Early Years and Primary settings across Scotland, with integration across the curriculum encouraging learners to develop vital skills that enhance their learning. However, significant barriers remain for practitioners, including limited confidence, insufficient access to training, lack of resources, accessibility challenges, and the difficulty of finding time within an already crowded curriculum.

416
CPD units covered across all PL

To address these challenges, our professional learning (PL) offerings in Digital Skills and Computing Science have been designed with flexibility and accessibility in mind. Recognising that teacher confidence and ease of implementation are key, SSERC provides not only face-to-face training but also ongoing support and immediate access to loan kits for classroom use. This enables practitioners to apply their learning directly in their own settings immediately after the in-person PL.

We prioritise resources that are versatile and accessible, including options that can be used unplugged and require no additional technology, or that can be used in multiple ways, thereby reducing access barriers. All of our sessions and materials are designed with cross-curricular integration in mind, helping teachers to embed Digital Skills and Computing Science into wider learning, and to make efficient use of curriculum time. SSERC Digital is also committed to providing continuous support and coaching, not just during the PL sessions, but throughout the loan kit period and beyond. Our end-of-loan showcase sessions give delegates the opportunity to share their experiences, reflect on the impact of the training, and plan future steps for their setting.

The loan kit system allows schools to borrow high-quality resources and experience the benefits of Computing Science in action. After attending the PL this year, many settings have gone on to invest in their own kits, having seen the positive impact first hand.

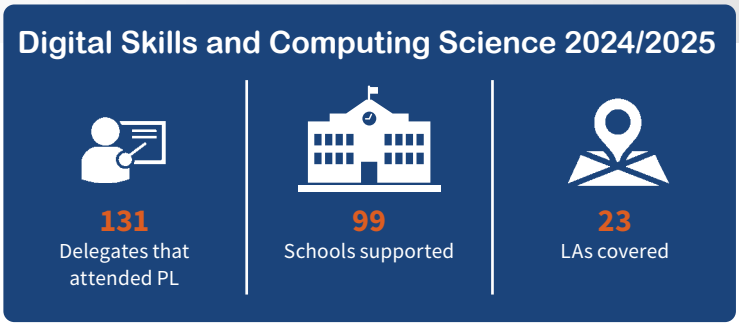
SSERC Digital delivered the following courses over the past year:

Courses	Delegates attended
Introducing indi (Enthuse funded) x 2	31
Introducing indi (Loan kit PL) x 2	20
Meet Marty V2 (Enthuse funded)	16
VEX GO (Enthuse Funded)	10
VEX GO (Loan kit PL) x 2	17
Dash & Dot (Loan kit PL)	8
Sphero BOLT (Loan kit PL)	9
VEX 123 (Amazon EIP Year 2)	10
VEX 123 (Apax EIP Year 2)	10

Each of these sessions was run multiple times over the year, with some supported via STEM Learning funding, and others following the new format of supporting the PL with a 16 school week loan of a class kit.

"The loan kit has had an enormous impact on learners within our school from P1-P7, it has created a lot of excitement and has built on learning around computational thinking skills. They had never used the resource and all children got to explore and further develop their computational thinking."

During the year, our Digital Skills and Computing Science PL calendar reached 131 teachers in 99 schools, across 23 different authorities, demonstrating SSERCs reach and ability to support schools across Scotland, and ensuring learners have access to high-quality digital and CS education.



Additional PL delivered

ISAS (VEX 123) – involved in delivering CS sessions to delegates taking part in the Inspiring and Sustainable Approach to STEM program, with delegates getting VEX 123 robots and training to support the use of these in their settings.

Technology Probationers (micro:bit) – worked with a group of secondary technology probationers and introduced them to the use of micro:bit as a tool for cross curricular learning.

Aberdeen Loves Learning (Unplugged CS) – SSERC Digital delivered several sessions throughout the day for the Aberdeen Loves Learning initiative, with a focus on Unplugged CS and Sphero indi.

STEM Dundee – supported STEM Nation award recipients through delivering sessions to learners and an informal information session to staff and community members.

Apple RTC sessions – developed and presented Apple RTC sessions covering subjects such as photography, green screen, videography and creating music. These twilight sessions were face-to-face and available to all educators in the local area of SSERC HQ.

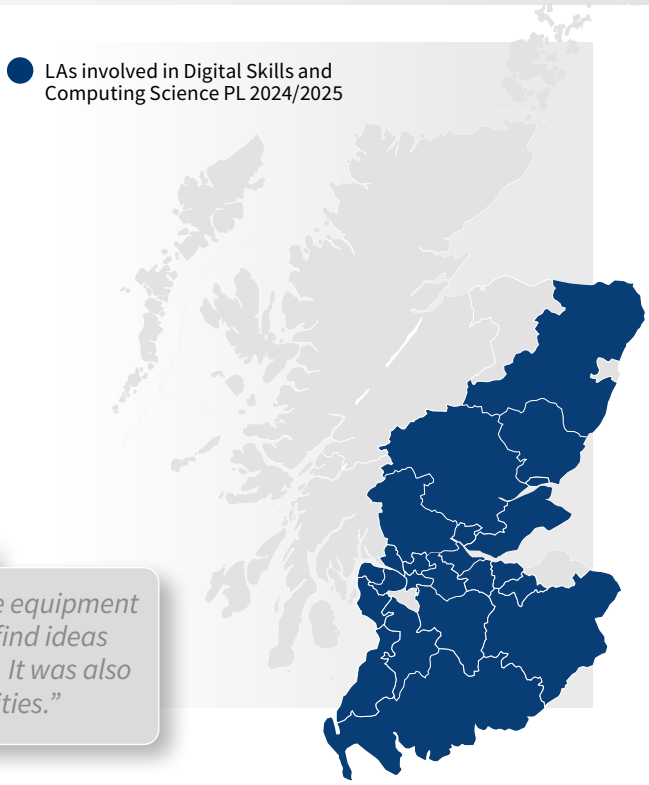
Sphero BOLT – as part of our partnership working with Sphero, SSERC Digital worked with groups of third year learners to program Sphero robots around a mini golf course.

Partnerships

As part of our PL offering we have partnered with companies whose approach to supporting the integration of CS into schools mirrors our own:

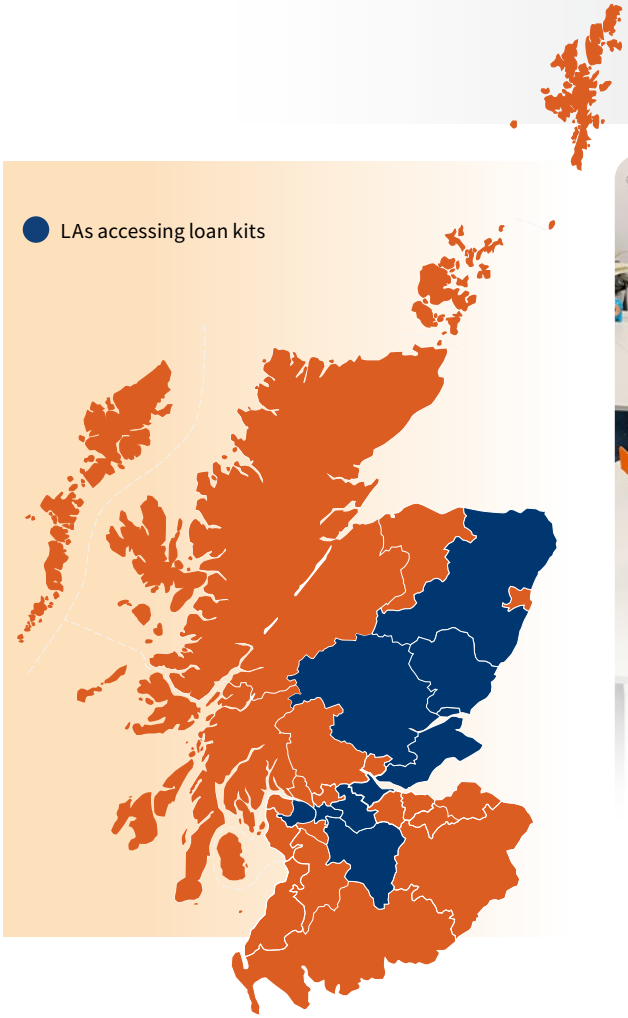
"I used the Sphero Bolts with 3 classes across the upper primary, so all children got to use a new technology resource where they would apply their learning with a new programming platform and new robot. It really allowed me to assess the children confidently as it demonstrated the application and understanding when using a Computing Science (CS) resource. The Sphero classroom space was useful to get the children to document their learning and share it with me."

Authorities engaged with PL



"Excellent mix of information and time to try the equipment out. Enjoyed the links to other sites where I can find ideas for unplugged and plugged Computing Science. It was also useful to meet teachers from other local authorities."

"It was all 5. A lot to get through and varying levels of difficulty, but was all challenging and relevant to take back to school."*



Digital Loan Kit Access

26
Schools supported

10
LAs covered

Courses run 2024/2025

Introducing Indi (x2)
Class Loan Kit

Marty V2
Enthuse funded

VEX GO
Enthuse funded

VEX GO
Class Loan Kit PL

Dash & Dot
Class Loan Kit PL

Sphero Bolt
Class Loan Kit PL

131
Delegates attended

129
Schools supported

23
LAs covered

School technicians

Aim
To raise the professional status of school technicians and promote the role they play in the education community in Scotland.

SSERC recognises the vital contribution that technicians make to the delivery of high-quality STEM education and training across Scottish schools and colleges. In recognition of this, we have established a dedicated workstream focused on supporting and empowering this essential workforce.

Amid ongoing challenges and pressures facing the technician profession, SSERC remains committed to providing targeted support, professional development opportunities, and strong advocacy on behalf of technicians. Through this work, we aim to raise the profile of the profession and champion its value both within Scotland and on the international stage.

Our continued efforts will ensure that technicians are equipped, recognised, and celebrated as key contributors to the success of STEM education.

Leadership in Technical Support

We launched our new Leadership in Technical Support course in August 2024 with an initial cohort of 10 delegates. The SSERC Leadership in Technical Support programme is a 110-hour professional learning (PL) programme completed over a full academic year. The programme provides leadership opportunities to support career progression and the development of leadership skills that can be used within the technician role. This SCQF Level 9 course has 11 credits. We will launch Cohort 2 in the next financial year.

The School STEM Technician

We published issues 6 and 7 of the School STEM Technician on the SSERC website. All issues can be accessed for free via a member login to the SSERC website or purchased through the SSERC online bookshop at SSERC Bookshop.

PL courses for Technicians 2024/2025

3262	652.4	299	37
Hours of combined professional learning	CPD units achieved	Technicians	Technician specific PL courses

"People delivering course super knowledgeable and supportive throughout the entire course."

"I thoroughly enjoyed every session I attended. Each one was delivered in an engaging way, and I have something from each that I can take back with me to my school."

For the year 2024/2025, SSERC delivered the following courses for technicians.

Courses	Delegates
2x Chemical Handling	23
2x Electrical Safety and PAT	18
2x Introductory Physics	17
1x Intermediate Physics	10
1x Leadership in Technical Support	8
1x Maintenance of fixed workshop machinery	8
4x Safe Use of Fixed Classroom Machinery	19
12x Safe Use of Fixed Workshop Machinery	72
6x Safe Use of Fixed Workshop Machinery Refresher	24
4x Safety in Microbiology for Schools	38
1x STEM Technicians training day	46
1x Senior Phase Chemistry for Technicians	16

"I needed to complete this course to be able to use the machinery at school. The way that the information was explained and the opportunity to try everything with support, made the whole course accessible, engaging and useful."

For the year 2024/2025, SSERC Accredited Centres delivered the following courses for technicians.

"I am new to my role as a technician I found the whole course useful as it was relevant to my job and has installed more confidence in me to go about my daily work."

Courses	Delegates
7x Electrical safety and PAT	14
2x Introductory Physics	12
1x Intermediate Physics	7
14x Safe Use of Fixed Workshop Machinery	53
5x Safe Use of Fixed Workshop Machinery Refresher	20
5x Safe Use of Fixed Classroom Machinery	21
12x Safety in Microbiology for Schools	76
4x Safety in Microbiology for Schools Refresher	24

PL courses SSERC Accredited Centres

2115
Hours of combined professional learning

423
CPD units achieved

227
Technicians

50
Technician specific PL courses

"I found all of them very interesting, because they offered me the chance to think about new experiences that I could propose as class activities."

ASE Annual Conference Nottingham January 2025

SSERC attended the ASE National conference in Nottingham to run a training session for school technicians from all over the country entitled “Sensational Seaweed”. This hands on practical session, looking at photosynthesis by using common seaweed, was attended by over 35 delegates and received excellent feedback. There was actually an early queue forming to ensure delegates could get a place in the lecture theatre. We have been invited back for next year’s event. Thinking caps at the ready for another successful session.

STEM Technician Training Day May 2024

On the 17th of May 2024, 46 technicians from all over the country came to SSERC to take part in the STEM Technician Training Day. 4 x 1-hour training sessions were offered during the day with time for networking and a spot of lunch. The event was a huge success with positive feedback and a desire to see the same again next year.

Sessions on offer	
Microscale Biology	Introduction to Wood Turning
Microscale Chemistry	Sensational Seaweed
Experiments with Radioactivity	Using Microbits and Robots
Introduction to Welding	

“There were aspects within both the biology and chemistry sessions that I could certainly suggest to colleagues and implement. Absolutely loved the sensational seaweed session.”

Sustainability

When school technicians use the SSERC Accredited Centre programme to access professional learning at a centre closer to their place of work, it supports positive sustainability and environmental outcomes. By reducing the need for long-distance travel, the programme helps lower carbon emissions and fuel consumption. This localised approach also minimises the environmental impact associated with large-scale training events, such as energy use and waste generation. Additionally, it strengthens local networks, contributing to a more sustainable and environmentally conscious professional learning model.

Outreach work

Aim
To increase capacity and capability to offer a greater volume and range of Professional Learning via SSERC accredited centres and the use of digital communication and technology.

While SSERC is located in the City of Dunfermline, our impact extends across Scotland and increasingly beyond. This broad reach is supported by the launch of our new website during this reporting period, providing a central hub for access to our full range of services.

We continue to expand our digital presence through multiple channels, including SSERC TV, SSERC Online Learning, and other virtual platforms. These enable us to deliver high-quality STEM education and training to a diverse audience, regardless of their location. Additionally, our SSERC Accredited Centre network enables local access to SCQF credit-rated and levelled professional learning opportunities, ensuring quality and consistency in delivery across all regions.

STEM Festivals

Drawing on the public engagement and research experience of our team, SSERC has begun increasing its presence at science festivals with the goal of both raising public awareness of various key scientific topics and of the work that SSERC does. In the 2024/2025 year, materials were created and relationship established with a number of such festivals including the Inverclyde STEM Festival and the Orkney International Science Festival, with successful delivery at these events having now occurred in the 2025/2026 calendar. In some cases, these sessions have been recorded to allow educators to benefit from them more widely.

Development work continues across further subjects including chemiluminescence and genetic analysis to make future such participations successful.

Newbattle Abbey College Partnership Course - Bee Biology and Pollinator Behaviour Certificate

Working collaboratively with Newbattle Abbey College, SSERC successfully devised a new qualification in bee biology in the 2024/2025 year. Exploring a novel model of funding, the course has been designed to welcome teachers/technicians as well as members of the public with a small course fee from public attendees helping to support a dozen free places on the course for educators.

The course was structured to consist of four online sessions an in-person visit day to the apiary located on the Newbattle Abbey College campus. The course has since subsequently been delivered successfully.

"I loved all of the presenters. They all brought different knowledge and passions, and I felt having the different speakers really enriched the course content."

Course Participant (2025 Cohort)

SSERC TV

We continue to expand the range and diversity of our SSERC TV offer and our number of subscriptions is gradually increasing.

Academic year 2024/2025

sserc TV

28427
Views

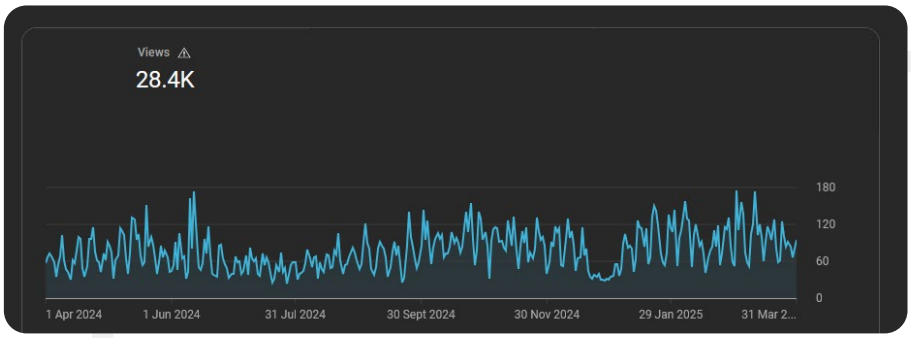
781.4
Hours watched

SUBSCRIBE

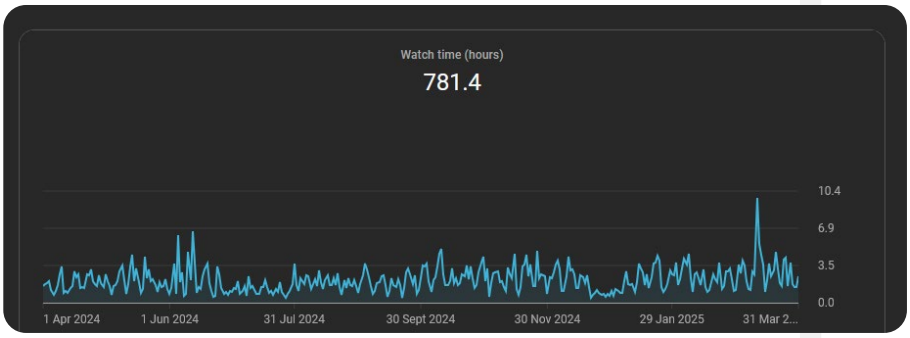
+85
New subscribers

Main Channel overview

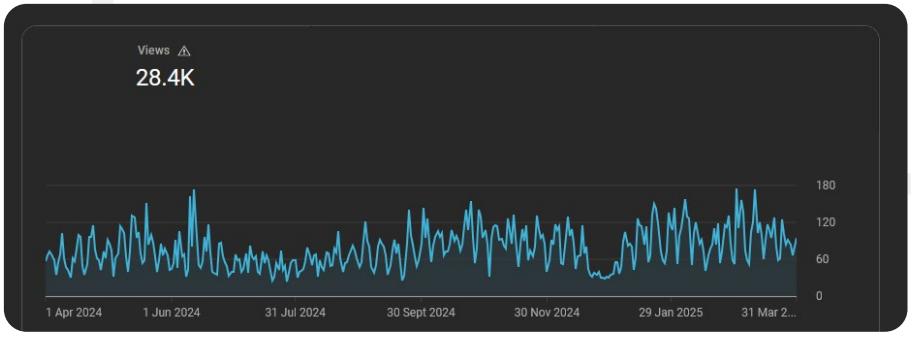
Channel views 01/04/2024 - 31/03/2025



Channel watch time 01/04/2024 - 31/03/2025



Subscribers 01/04/2024 - 31/03/2025



Top 10 viewed videos 01/04/2024 - 31/03/2025

	Views	Watch time (hours)	Subscribers
Total	**28,427**	**781.4**	**85**
Secret Message Using Water	4,237 14.9%	86.6 11.1%	0 0.0%
Eye Dissection	1,705 6.0%	63.2 8.1%	6 7.1%
Immobilised Yeast	2,383 8.4%	60.4 7.7%	6 7.1%
Making a Lighthouse Model	1,756 6.2%	47.7 6.1%	4 4.7%
Secret Message	1,099 3.9%	32.0 4.1%	4 4.7%
Immobilised Algae	1,245 4.4%	31.5 4.0%	8 9.4%
Micro Technique 11 E coli smear	833 2.9%	27.2 3.5%	2 2.4%
Micro Technique 9 Vital stain S cerevisae	546 1.9%	17.7 2.3%	3 3.5%
Quantum Tunnelling in Radioactive Decay	914 3.2%	17.5 2.2%	4 4.7%
Balancing butterfly	630 2.2%	13.9 1.8%	0 0.0%

Top 10 most viewed playlists 01/04/2024 - 31/03/2025

	Views	Watch time (hours)
Total	**28,427**	**781.4**
Secondary Biology	8,917 31.4%	253.4 32.4%
Primary	9,911 34.9%	249.2 31.9%
Microbiological Techniques	5,097 17.9%	116.2 14.9%
Secondary Physics	2,185 7.7%	52.8 6.8%
Secondary Technology	231 0.8%	25.8 3.3%
Physics Videos for Technicians	534 1.9%	20.5 2.6%
Ssercmeets	106 0.4%	15.2 1.9%
Physics Teacher Virtual Summer School	114 0.4%	13.4 1.7%
Introductory Physics	322 1.1%	12.7 1.6%
Tech_meets	133 0.5%	7.4 1.0%

Amount of views per country

6266
United Kingdom
(210 hours)

3133
United States
(80.6 hours)

2110
India
(47.1 hours)

536
Hong Kong
(18.1 hours)

154
South Africa
(7.9 hours)

113
Ireland
(2.6 hours)

95
Australia
(3.8 hours)

61
Pakistan
(0.9 hours)

47
Philippines
(1.7 hours)

43
New Zealand
(0.7 hours)

SSERC Accredited Centres

The SSERC Accredited Centre Program continues to allow for easier access to meaningful professional learning. With 9 centres leading the way in relevant technician/teacher professional learning from Aberdeen to South Ayrshire. Not only providing local professional learning courses to attend but lowering the environmental burden by reducing the overall travel time for most accredited centre attendees.

There is a large choice of professional learning courses to choose from. This includes hands on practical courses to get to grips with Physics department equipment, to more specific courses to aid in the delivery of microbiology practical in the classroom. You could maybe come along and learn the safe way to operate high risk woodworking and metal working machines. The choice continues to grow.

Courses	Amount
Safe Use of Fixed Workshop Machinery	11
Safe Use of Fixed Classroom Machinery	3
Maintenance of Fixed Workshop Machinery	1
Safety in Microbiology for Schools	11
Introductory Physics	2
Intermediate Physics	1
Electrical Safety and PAT	5

Evaluation activity

Aim
To use evaluation data to influence the direction of all SSERC workstreams and publish using various channels, e.g. website, academic journals, social media.

At SSERC, we place a strong emphasis on understanding the impact of our STEM education programmes across the education community. Evaluating impact enables us to assess how our provision influences individual practice, supports peer collaboration, and enhances outcomes for learners. This process is central to ensuring that our programmes are not only aligned with national priorities but also responsive to the needs of educators at all career stages.

Robust impact evaluation allows us to identify what is working well and where there are opportunities for further development. It supports continuous improvement and ensures our decisions are informed by evidence. Moreover, demonstrating the effectiveness of our professional learning to stakeholders, funders, and policymakers helps build confidence in the value of our work. We also conduct **anonymised equality monitoring** to ensure that our programmes are inclusive, equitable, and accessible to all participants.

We are honoured to continue as a GTCS-accredited organisation, supporting our teachers' professional learning. This is linked to the Standard for Career-Long Professional Learning, which builds on the Standards for Registration to provide an aspirational and developmental framework for teachers to progress and enrich their professional knowledge, understanding, skills, and abilities. It supports teachers in continuing to develop as accomplished, reflective, and enquiring professionals who can engage with the complexities of teaching and learning, the changing contemporary world of their learners, and the world beyond the profession and its institutions, to enhance the learning experiences for all learners. This Professional Standard is designed to help teachers identify, plan, and develop their own professional learning needs, ensuring the continued development of their professional practice as they progress through their careers.

Our corporate three-part evaluation process is designed to gain insight into the quality of our professional learning offer. Equally important is the impact of our professional learning on delegates, their in-school peers, and learners.

Step 1

Pre-course evaluation to understand the aims and objectives of the delegate.

Step 2

Post-course evaluation to collect feedback on our own performance in PL delivery and for the delegate to begin planning for positive impact back at their centre.

Step 3

Measuring impact evaluation to investigate the impact the PL course has had on themselves, colleagues and learners in their centre over a subsequent period of time.

We are grateful to our delegates who take the time to complete our evaluation surveys, which support the practice of professional reflection.

The pilot of the '**Inspiring a Sustainable Approach to STEM**' programme for Primary schools has provided an invaluable opportunity for us to implement a Reflective Action Plan. This isn't just a tracking tool; it's a living document that captures the journey of change within each participating school.

The **Reflective Action Plan** offers SSERC robust qualitative information. It provides a real-time narrative of the progress made by each SSERC STEM Associate, their colleagues, and their learners. It extends beyond individual impact, highlighting the broader shifts occurring within each school and the wider school community.

Through the qualitative data provided, we gain a deep understanding of how STEM is being increasingly **integrated as a core context for learning**, rather than an isolated subject. Furthermore, the reflective action plan reveals how STEM is becoming a powerful delivery mechanism for the rest of the curriculum, fostering interdisciplinary connections and enriching the educational experience across all subjects. This insight allows us to truly grasp the transformative change happening in each school and understand the positive impact of the 'Inspiring a Sustainable Approach to STEM' programme.

Our joint activity with a PhD Research Student from the University of Stirling is progressing with the development of a plan to examine the impact of STEM Leader 7 on the future STEM destination of learners, as well as interrogating data related to progression into STEM Leader 7 from other levels of the Young STEM Leader Programme.

Advisory Service

Aim
To further develop and promote the Advisory Service.

SSERC's Advisory Service is a comprehensive, multi-faceted support offering available to all our members. It plays a critical role in enabling the safe and effective delivery of practical STEM learning by providing access to tried-and-tested protocols, model risk assessments, and tailored guidance that aligns with current health and safety regulations, presented in a way that is practical and accessible for schools and colleges.

We firmly believe that health and safety should enable, not limit, hands-on STEM learning. Our guidance is designed to support educators in confidently delivering engaging, practical experiences that bring STEM to life for learners.

In addition to this core service, SSERC offers a suite of specialist support, including:
- Our role as the nominated Radiological Protection Adviser for all Local Authorities and many other education institutions.
- Expert advice on laboratory and workshop design.
- Independent product testing and evaluation.

These bespoke services make SSERC's Advisory Service uniquely positioned to support the evolving needs of STEM educators and institutions across Scotland and beyond.

Over the year the SSERC Advisory Service has continued to consolidate and further expand both its provision and reach.

Key functions

- Specialist health and safety advice for schools, colleges and LAs.
- Unlimited access for members to specialist advisors in Primary Science, Biology, Chemistry, Digital Skills, Physics, Technology, Technician Services and health and safety.
- Guidance and compliance advice for radiological health and safety legislation through our Radiation Protection Advisory service.
- Free online management of health and safety courses for Curriculum Leaders.
- Other face-to-face and digital specialist health and safety courses, including radiological protection, which are heavily subsidised or free.
- Access to the members' area of the SSERC website - curriculum support materials, health and safety advice and resources e.g. model risk assessments for both specific subject and whole school activities.
- Recommendations on equipment and design of specialist accommodation.
- Free consultancy and technical information.
- Apparatus testing for safety, performance and conformity with standards.
- Free health and safety courses for Initial Teacher Education (ITE) students.

SSERC Advisory personnel

The training of our Education Officer (Physics and RPA) to become a Radiation Protection Adviser (RPA), is ongoing and it is anticipated that she will achieve RPA status during the coming year. Our Physics Education Manager achieved the NEBOSH National General Certificate in Occupational Health and Safety. We have a new Biology advisor who will be undertaking similar health and safety training in due course.

SSERC Advisory Service

While most of our advice is accessed at will by members via the website, more complicated matters require a more personal approach by phone, email or the enquiry form on the website. Over the past year, the Advisory Service has dealt with over 2,000 enquiries across a broad spectrum of both curricular and non-curricular areas.

HSE inspections

There have been no further inspections of specific areas in schools from the HSE but we have continued to support those establishments that were inspected to help them address any issues that were raised in the past round of inspections.

Publications & advice

The Advisory Service continues to contribute to the various SSERC publications, especially the STEM Bulletin and the STEM School Technician Bulletin as well as having its own dedicated Advisory Service Bulletin. These can all be accessed at Publications | SSERC.

Recent articles have included guidance on: Borax and slime, Laboratory fires, keeping a classroom pet and many more.

After last year's large-scale overhaul of many risk assessments and guidance documents, this has been a quieter year. There have been updates to our documents on Fume Cupboards and Laboratory Design an improved layout on the website to allow for easier location of Bulletin articles and the ongoing production of new risk assessments and revision of current ones.

Our document on guidance for New and Expectant mothers has also been revised and expanded to include Technology and Art departments as well as Science.

Advisory related courses

A range of health and safety courses was delivered to ITE students in Aberdeen, Napier, Edinburgh, Stirling and Highlands and Islands Universities. This has further developed our strong working relationships with ITE institutions in Scotland to support the safe delivery of practical STEM learning by educators at the gateway of the profession. A typical comment was:

> *"It was good to meet the SSERC staff and I will feel more confident in approaching SSERC regarding H&S issues in the future".*

For students at Glasgow, an online course was requested so we have created a self-study course for this on our online-learning website, which was well received by the students who took it.

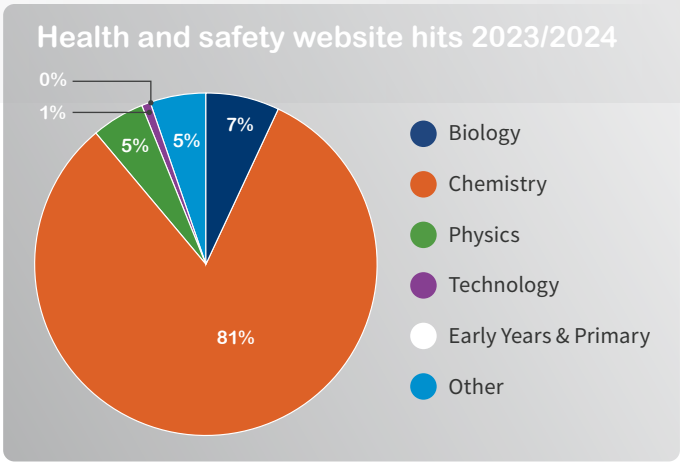
There was also a 3-part live online H&S course run in November for teachers and technicians.
A typical comment was:

> *"I found the scenarios very useful as it gave me an understanding of how to look at situations and assess the H&S aspect of them and how to prevent accidents/incidents which could impact the department".*

Health and safety web pages 2024/2025

The health and safety home page got nearly 25% of all the traffic to the website and the top 3 web pages on the whole site were health and safety related.

Bearing in mind that unlike most of our content, these pages are viewable by members only, this is another strong performance.



In-house health and safety

SSERC has continued working with Croner (our external HR and safety partner), mainly via their BrightSafe health and safety management system, to help us with aspects of in-house health and safety. With their assistance we have continued to review and develop our practices and documentation, in particular, implementing a more formalised programme of staff development in health and safety. We now have monthly health and safety updates for Staff after our regular Monday Staff meeting as well as an annual inspection from Croner.

This year's inspection was even better than the last one. There was so little found that was wrong that Croner decided to dispense with the formal report and just sent a letter complimenting us on our policies and procedures.

Looking forward

We will continue to support our members with advice relating to all aspects of safety in schools and colleges and provide guidance to ensure that practical based STEM activities can once again become a core part of the curriculum at all stages.

We will further expand our self-study professional learning offerings and examine what additional support we can provide to other practical-based curriculum areas.

Radiation Protection

In 2024/2025 our radiation protection team continued to deal with a large volume of enquiries as part of the SSERC advisory service and facilitated several training courses, both online and face-to-face, for which demand remains high. Our radiation protection team represented SSERC and Scottish schools at meetings of the Scottish Non-Nuclear Industries Liaison Group (SNNILG), hosted by SEPA and attended by other key regulators such as the HSE and ONR (Office for Nuclear Regulation). A member of the team also sits on the SRP's Research and Teaching Committee. This committee is comprised of members in similar roles, including other secondary school RPAs from the rest of the UK, giving the opportunity to liaise with peers and have valuable discussions on how we interpret and give advice on the regulations in our sector. These links ensure that our knowledge is kept current and we are abreast of any upcoming regulatory changes. We constantly keep our documentation under review to ensure it reflects the most current guidance and during the 2024/2025 time period the example contingency and incident plans we provide for schools to use were extensively updated.

Our guidance continues to be greatly appreciated by the schools we support:

> *"I am a new science technician. I just wanted to say thank you so much for delivering the training yesterday. It was incredibly insightful, especially as I have no previous experience working with radioactive sources. The session really helped me to understand the basic requirements for handling them safely."*

STEM Engagement

Aim
To increase the breadth and impact of the STEM engagement offering.

STEM education – integrating Science, Technology, Engineering, and Mathematics – promotes critical thinking, problem-solving, and innovation. By emphasising hands-on learning and real-world applications, it prepares learners for future careers in a fast-changing, technology-driven world.

At SSERC, our STEM engagement activities are designed to enhance and enrich STEM learning across both formal and informal education settings. Our work spans a wide range of initiatives that promote early exposure, community engagement, and industry collaboration, including:

- **The Young STEM Leader Programme**, which empowers young people to inspire and lead STEM activities within their schools and communities.
- **Education-Industry Partnerships**, which foster meaningful collaborations between schools and employers to highlight real-world STEM applications and career pathways.
- **The Resource Lending Library**, offering access to interactive, high-quality STEM resources to support practical and engaging learning experiences.
- **STEM Ambassadors Network**, which enables professionals to connect with learners by supporting STEM fairs, competitions and other outreach events, contributing to inclusive curriculum design and broadening participation.

Together, these activities help ensure equitable access to inspiring STEM experiences, thereby nurturing the next generation of innovators and problem solvers across Scotland and beyond.

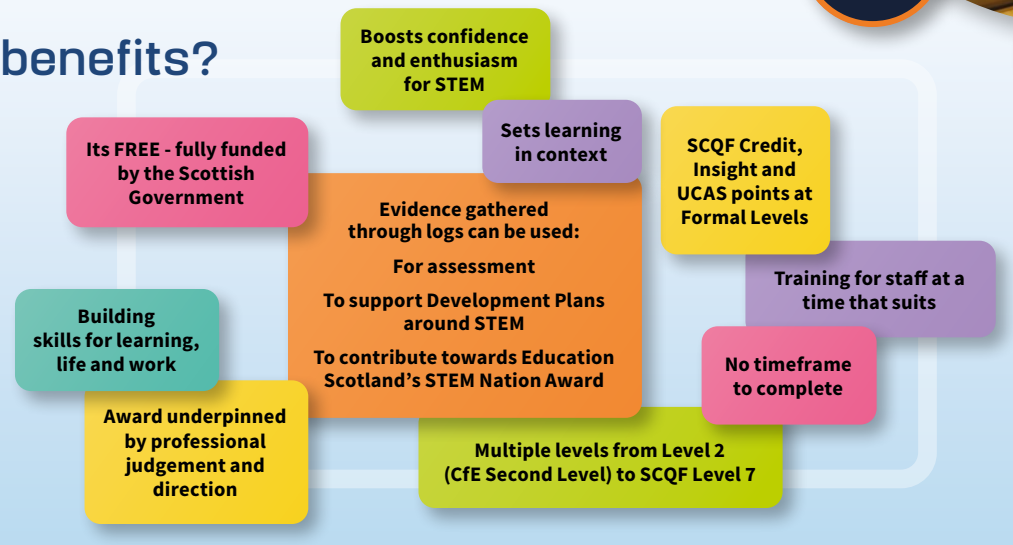
Young STEM Leader Programme (YSLP)

Scottish Government
Riaghaltas na h-Alba
gov.scot

The Young STEM Leader Programme (YSLP) continues to grow and develop, and remains a free and open award for all young people in Scotland. Generously supported by the Scottish Government, its aim is to use STEM as a platform to inspire young people to develop leadership skills and share their learning.

The programme supports learners from Levels 2 (CfE aligned), up to SCQF Level 7, to lead STEM within their schools, youth groups, families and communities. Thanks to support from Ocean Winds the STEM Leader 7 Award has been available to anyone aged +16 across the country, adding an additional level to the YSLP family.

The benefits?



By completing the programme, young people gain a nationally recognised award that boosts confidence in STEM, whilst building wider employability skills.

The free programme is delivered in schools, colleges, universities and community groups across Scotland, with over 30 000 young people engaging since the programme's launch in 2019. For more information on the YSLP visit www.youngstemleader.scot.

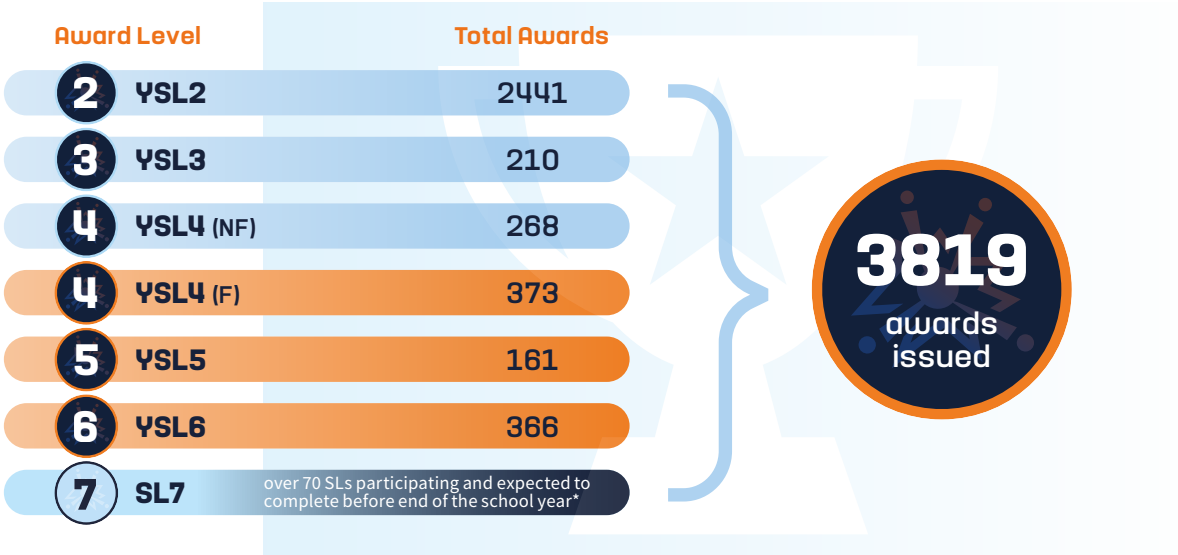
Programme participation

This financial year has seen the highest ever number of Awards achieved with 3819 completing, a 35% increase on last year.

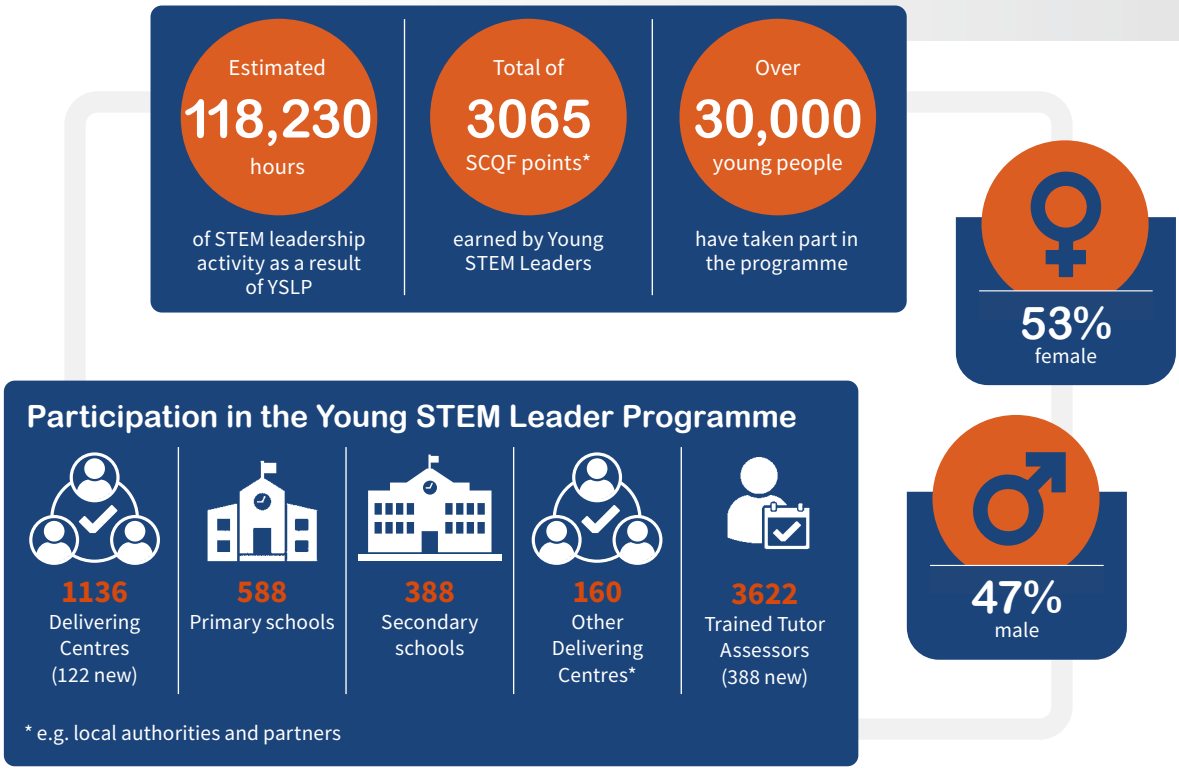
The programme continues to reach across all Local Education Authorities in Scotland and begins at CfE aligned levels 2-4, which are termed the Non Formal Awards. The Formal Awards are credit rated by the SQA, offering SCQF credits and Insight point at Levels 4-7.

Level	Specific themes	LOs	SCQF Credit points	Insight points	UCAS points
YSL4(F) SCQF 4	The impact of STEM and its ability to solve problems; Scotland's role in STEM	8	3	3	
YSL5 SCQF 5	Opportunities, pathways and futures in STEM; YSL's own potential in STEM	8	3	5.5	
YSL6 SCQF 6	Challenging stereotypes, misconceptions and outdated views in STEM	8	4	18.7	7
SL7 SCQF 7	Generating and leading a project question; Analysing and presenting findings	6	6	51	

Award certificates by level for Financial Year 2024/2025



*SL7 figures not included as not yet complete.



Examples of Young STEM Leaders delivering and engaging with the Young STEM Leader programme can be found on @YoungSTEMLeader and @YoungSTEMLeader.bsky.social.

STEM Leader Level 7 (SL7) launch

The SCQF Level 7 Award in STEM Leadership, powered by Ocean Winds, enables candidates +16 years (STEM Leaders) to improve their leadership skills and qualities through ownership and development of a STEM research project. Leadership is embedded throughout the programme as candidates:

- Develop a project question of their choice considering the UN Sustainable Development Goals.
- Gain the support of an individual, group or organisation who will inform, advise or contribute.
- Answer their project question through research and activity.
- Share their findings in a format of their choice.

During this financial year 2024/2025, we have at least 70 candidates engaged in SL7 working on projects such as:

- How can we get more children interested in STEM and what are the barriers involved in doing so?
- How can we produce biofuels most efficiently?
- Are all major aspects of the computing industry sustainable?

STEM Leaders have been working to include information from campaigns, reports, literature or, some with mentors (in academia and industry) to help set their projects in the context of the wider world. Certifications will be sought upon completion of the programme at the end of the school year.

Celebrating Young STEM Leader Week

The fifth annual **#YoungSTEMLeaderWeek** took place in October/November 2024. With a focus on celebrating curiosity as the driving force behind the Young STEM Leader Programme. **'The Power of Curiosity'** event ran from 28th October to 1st November with Young STEM Leaders (YSLs) across the country sharing activities and suggesting resources that could be used to deliver STEM activities. The idea was that other Young STEM Leaders across the country would be inspired to replicate these activities with their own audiences. The whole week encapsulated the YSLP philosophy, **'for young people by young people'**. Each day a new Young STEM Leader(s) led activity with supporting resource sheets available to download. Centres were selected to cover a broad geographical reach and diversity in sector type.

In addition to Young STEM Leaders being involved, STEM Ambassadors also supported with input. Many were interviewed or provided an engagement opportunity. These sessions helped to highlight STEM career opportunities and possible pathways into various STEM fields.

Day	Delivering Centre	Topic	STEM Ambassador and Topic
Monday	Our Lady of the Mission Primary, East Renfrewshire	**The Red Cabbage pH Indicator Test** In this experiment, YSLs showed us how red cabbage water can be used as a pH indicator.	**Jess Taylor-McKaig, Scottish Sea Farms,** told us about her role in salmon farming and her love of biology. **Zoe Clark, Spire** **Natasha Cosgrove, BAE Systems** Teachers were invited to a free Professional Learning session to learn more about the Scottish Space sector and exciting opportunities available to young people.
Tuesday	Livingston Village Primary School, West Lothian	**Catapult Challenge** YSLs showed us how to make and test a catapult and explored how different factors affect the path of the projectile.	**Jamie Halls, RAF Pilot,** shared his experience and learning journey in the RAF.
Wednesday	Govan High School, Glasgow	**Can Lemons Power a Lightbulb?** YSLs showed us the power of lemons in this electricity experiment.	**Maria Gutierrez-Mecinas, University of Glasgow,** shared the amazing work she is doing in pain relief research as a PostDoc.
Thursday	Argos Youth Centre, Fife	**Lemon volcanoes** Fizzy fun! Watch YSLs create lemon volcanoes with a colourful chemical reaction.	**Simon Norris, MVV Baldovie,** told us all about the energy from waste industry and had some great advice for Young STEM Leaders.
Friday	Montrose Academy, Angus Council	**Science is magic!** YSLs worked with light and perception and we watched as they make objects "disappear" using refraction.	**Hali Joli, University of Dundee,** shared her work in drug discovery.

Throughout the week Young STEM Leader and Tutor Assessors were encouraged to engage via social media **#YoungSTEMLeaderWeek**.

There were more than 13 000 views of content on X with around 5500 people engaging with the young people's videos. Many other centres shared their own activities too.

For more information on the Young STEM Leader Programme, look out for our YSLP Annual Report, which will be published in October 2025 and will be located at: SSERC | Reports and Accounts.

STEM Ambassadors in Scotland

In October 2024 STEM Learning confirmed a new 2-year contract for SSERC to deliver the STEM Ambassador programme in Scotland. This is the first time in over 8 years that the contract has been longer than a single year, providing an opportunity to try and test exciting new ideas and instilling confidence in the STEM Ambassador in Scotland team.

This expansion has allowed us to re-open our resource lending library, bringing interactive hands-on STEM kits to volunteers across Scotland.

We have also started working on some longer-term projects and developing some pre-existing programmes; for example, you can find out more about the Solarpunk Island Innovation Project and Tick Talk Initiative below.

The team have also coped well with a range of changes over the last 12 months, including a significant increase in key performance indicators - some increasing by as much as 50% - as well as the introduction of several new PVG systems and regular monthly updates to manage. Not only were these changes taken in the team's stride, but they have also consistently achieved targets and thought of different ways to support organisations. This includes work with several universities to support large scale onboarding of learners.

Below shows some key achievements and increases from the previous year:

April 2024 - March 2025

2121
New STEM Ambassadors registered on the digital platform (647 more than 2023/2024)

37668
Volunteer hours were completed (1284 up from 2023/2024)

40.67%
of Primary schools engaged with the programme (8.33% up from 2023/2024)

86.81%
of Secondary schools engaged with the programme (0.23% up from 2023/2024)

Building Community

Scotland spotlights

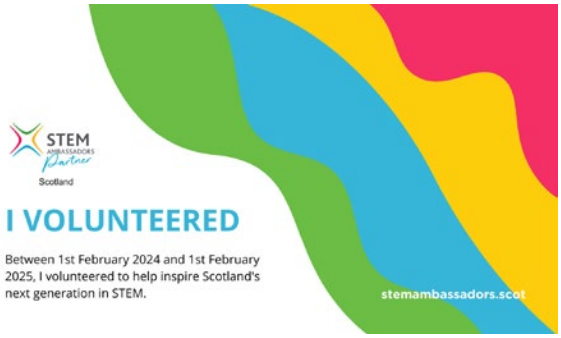




As the programme moves to more centralised support from STEM Learning with an increased focus on online training and activities, the STEM Ambassador in Scotland team wanted to ensure that Scottish STEM Ambassadors continue to feel a strong sense of community. The team aimed to create opportunities for Ambassadors to connect with one another and the team, reinforcing that they are part of something larger. Building on previous years, they continued to deliver **Scotland Spotlight sessions** on a bi-monthly basis, averaging 15 volunteers per online session and allowing people the opportunity to ask questions and share experiences.

STEM Ambassador in Scotland Week 2025

One of SSERC's biggest successes since holding the STEM Ambassador contract for the entirety of Scotland is STEM Ambassador in Scotland Week, and this year was no exception. We worked with several partners, including Tech She Can, Marine Conservation Scotland, Go Construct STEM Ambassadors, Institute of Physics, Lyme Resource Centre, MCR Pathways, STEMazing and DYW. Hear straight from the STEM Ambassadors about what they got out of it:



"I think we don't like to pat ourselves on the back in Scotland, but being recognised by a teacher, and then here during this week as well, it's really meaningful."

"With the arrival of STEM Ambassador in Scotland Week 2025, that can only mean another fabulous year being part of STEM Ambassadors in Scotland is in the bag! It's been a very fun and rewarding 12 months."

"I've had the pleasure of being part of the STEM Ambassador Programme for a number of years, and it's been an incredible journey inspiring others about the wonders of civil engineering... If you're passionate about STEM and want to help inspire others, I highly recommend joining... It gives you the opportunity to make a real difference!"

Networking and working with partners
This year has been the year of community building, and this is done through our wonderful partners! In-person networking sessions were delivered with RAISE and SPE. Attendees were very enthusiastic after the events, and we look forward to seeing the activities they inspire.

We continue to work closely with Developing the Young Workforce (DYW). This year, there has been a strong drive from DYW North East encouraging their partners to engage with the programme. In support of this, we contributed to two major events – one held online and one in person.

Food and Drink Federation Scotland (FDFS) continues to be one of our most engaged and enthusiastic partners, through their delivery of the Scottish Food and Drink Ambassador Scheme. We have worked with them on multiple events and have seen a steady growth in actively volunteering STEM Ambassadors.

An exciting new partnership for this year is with the Lyme Resource Centre (LRC) called Tick Talk. This initiative supports STEM Ambassadors to volunteer with LRC to increase people's awareness of ticks and Lyme disease in Scotland. As part of this we delivered online recruitment sessions and training. Overall, 20 STEM Ambassadors registered with LRC and Tick Talk and we are excited to see what these volunteers will do. Some plans include presenting information to colleagues, as well as delivering a public presentation – in a pub!

Solarpunk Island Innovation Project 2024 to 2026

The STEM Ambassador Targeted Intervention funding covers a project running from October 2024 to September 2026. The aim of this project is to monitor a select group of learners throughout its duration and track the impact on their engagement and development.

SSERC's project involves following a group of around 60 S3 learners to explore whether their perceptions of engineering change over time. The project uses the Solarpunk Island resources, developed by Daydream Believers, to allow learners to apply their engineering skills in a creative and practical context. In partnership with CPI's Medicine Manufacturing Innovation Centre (MMIC) and Daydream Believers, participants will be given the opportunity to learn about engineering on a smaller scale than traditional civil engineering examples - like building bridges - and within the context of a Life and Chemical Science company. The participants will be selected based on their interest in Biology and Environmental Sciences, with the aim of increasing their interest in engineering-related subjects such as Mathematics and Physics.

The project will launch in June 2025 and run in schools throughout the 2025/2026 academic year, concluding with a showcase event. Throughout the project, learners and teachers will be supported by STEM Ambassadors.

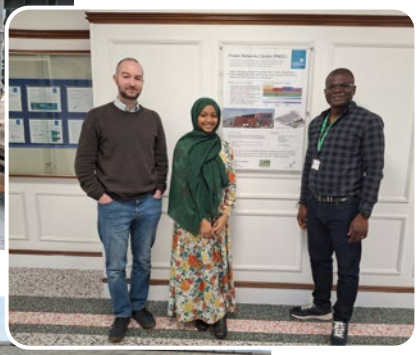
Research Placements & Experiences Programme

SSERC is delighted to continue co-ordinating the Research Placements & Experiences Programme in Scotland, providing **engaging, real-life research experiences for S5 pupils from disadvantaged backgrounds**. Formerly called the Nuffield Research Placement Programme, this provides a fantastic opportunity for learners to apply skills and knowledge learned at school while providing a meaningful contribution to the work of researchers and industry professionals.

Starting the application process in early January 2025, 50 young people from across Scotland were selected to participate in two-week research placements over the summer. Learners had the opportunity to apply for a placement in their preferred STEM subject area and over 70% were selected for their first choice of project. Working with mentors in a university or industry environment, learners worked on active research projects such as Development of an AI-Ready Knowledge Base for Electrochemical Strip Technology, Impact of Maternal Gestational Diabetes on offspring, Exploring linguistic diversity in Glasgow and Aerodynamic performance testing of a mixed flow fan. After placement, each learner produced a scientific report and poster, which they will display at the Celebration Event on 18th September at the University of Glasgow.

In addition to developing their leadership skills and qualities, learners are given the opportunity to work towards a STEM Leader Level 7 Award as part of their research placement. 28 students were successful in gaining this additional qualification and will be presented with their SL7 Award alongside their Research Placement Programme Award.

Applications for Research Placements in Summer 2026 will open in December.



Scottish STEM Placement Programme - Teacher Education

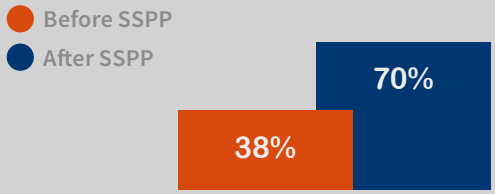
SSPP with Life and Chemical Sciences Companies
In 2024 the SSPP for Teacher Education had a focus on Life and Chemical Sciences and was funded by the STEM Ambassador programme targeted intervention funding. Six companies from across Scotland - including Dundee, Edinburgh, Glasgow and Inverness - were recruited to host 2-day work experience placements. The following companies participated:

Abbott | cpi | MERCK
charles river | Lifescan | Roslin CT

22 teachers attended the placements, which took place in May and June 2024, with around 50 STEM Ambassadors supporting throughout. Following the placements, over 250 young people directly engaged with activities as a result of the programme, and we anticipate the impact will be even wider as the teachers have the opportunity to embed their learning into their practice. Below shows the impact of the programme on teachers (the full case study can be found here):

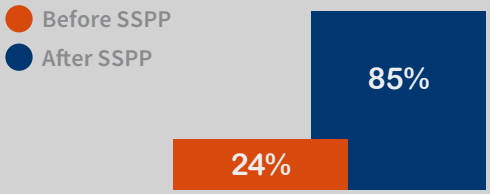
How confident are you in your knowledge of STEM jobs?

Percentage of educators who answered moderately or extremely confident



How confident are you in your ability to make links to a diverse range of jobs in your teaching?

Percentage of educators who answered moderately and extremely confident



SSPP with Go Construct STEM Ambassadors CITB
In 2025 the SSPP for Teacher Education is supported by CITB and will focus on construction companies. The programme is funded by CITB through the Go Construct STEM Ambassador Programme.

citb | Construct STEM Ambassadors

ROBERTSON | Wills Bros

Two construction companies - Robertson based in Aberdeen, and Wills Bros, based in Motherwell will host 2-day placements in June 2025. Funding will continue through to the end of 2025 to support educators and STEM Ambassadors in delivering in-school activity following the placement. Find out more about the programme here.

ESERO

SSERC continues to support ESERO (European Space Education Resource Office) and STEM Learning to increase opportunities for young people to participate in engaging learning within the context of space. Over 300 STEM Ambassadors in Scotland are members of the Space Inspirations scheme; these volunteers are employed in the space sector or are passionate about space, working to inspire and enthuse the next generation of space professionals through outreach in schools and in the community.

This year, SSERC and a cohort of Space Inspirations STEM Ambassadors supported the delivery of six 'Space Days' at primary schools across Scotland in partnership with Aero Space Kinross. Over 600 P4-P7 learners took part in hands-on activities detailing the impact of light pollution as well as a mobile planetarium show, with volunteers from the space sector linking the learning to all the opportunities available in Scotland and answering learners' questions on anything from rocket fuel to black holes.

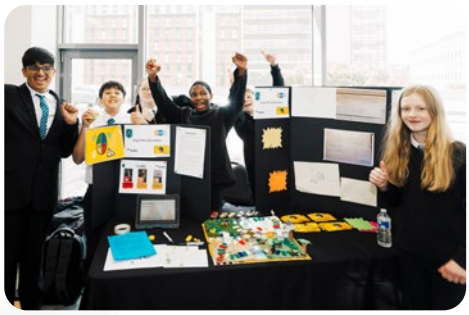
If you would like a Space Inspirations STEM Ambassador to inspire your learners in any topic related to space, please contact stemambassadors@sserc.scot.

Partnership working

In 2025, SSERC continued to strengthen its role as a bridge between education and industry, fostering meaningful partnerships that bring STEM learning to life. By working closely with schools, colleges, universities, and a wide range of industry partners, we ensured that **learners and educators benefit from real-world expertise, resources, and opportunities**. These collaborations not only enrich STEM education but also help inspire the next generation of scientists, engineers, and innovators, while supporting Scotland's future skills needs.

Leidos STEM Challenge

SSERC's Education/Industry Partnership (EIP) with Leidos Innovations UK is in year four with more to come. Year four of the Leidos/SSERC STEM Challenge enabled us to partner with a mix of seven secondary and one primary school across Glasgow and the West. Both staff and learners benefitted tremendously from working with Leidos STEM Ambassadors-through careers-based professional learning opportunities, working on the Young STEM Leader Award, visits to Leidos HQ and working as a team to design a solution for a challenge linked to Leidos' Core Values. Coming together to celebrate their achievements at Leidos HQ in Glasgow, learners enjoyed the opportunity to showcase their projects to their families and mentors.



Ocean Winds

The Education Industry Partnership between Ocean Winds and SSERC continued in 2024/2025, building on the success of this well-established EIP. Through continued support for STEM programmes in schools, Ocean Winds is demonstrating their commitment to facilitating the skills transition required by the offshore wind industry.

FIRST® LEGO® League Challenge for 8 secondary schools in Moray.

Key successes include

OW supported:

- Roll out and further development of STEM Leader 7 Award. As the top level of the Young STEM Leader Award, this is primarily aimed at young people in the senior phase of secondary school. It is now also available to any learner at any age or stage.
- FIRST® LEGO® League Challenge for 8 secondary schools in Moray including training, robot kits, challenge kits and Regional Final at UHI Moray.
- EDT Industrial Cadets Bronze registration for S1/S2 learners Fraserburgh Academy.
- Work experience for learners from schools in Aberdeen/Aberdeenshire to find out more about careers in the offshore wind industry.
- Two Research Placement Projects and mentors as part of the Research Placement & Experiences Programme.
- Development and delivery of new SSERC Environmental Science Course for secondary school Geography teachers. Resource box of equipment provided to all attendees.
- Provision of STEMOVATOR Climate Smarter kits and STEM Ambassador support for Edinburgh schools participating in this project.

Babcock International

A new EIP started mid 2025 to assist with management of their STEM Ambassador volunteers and create new resources for CfE Level 1 and Level 2 learners. These resources will be used by their STEM Ambassadors to inform, educate and inspire young people in topics related to Babcock's line of business.

International activity

Aim
To participate in a range of international activity linked to SSERC's three core functions.

Although our international work is one of our newest strategic areas, we have already made meaningful progress in both professional learning delivery and broader engagement related to STEM education and training.

As we move into the new financial year, we are committed to further developing this area of work. Key initiatives will include the introduction of a new SSERC International Membership category and the continued expansion of our professional learning and engagement activities with partners worldwide.

International membership

We were pleased to welcome two international members: **The International School of Dakar** and the **International School of Haarlem** both benefited from access to a range of SSERC products and services. We look forward to welcoming new international members in the year ahead. For more information about international membership, visit SSERC | International members.

International activity

In partnership with the **British Council in Spain**, the Early Years and Primary team piloted the delivery of SSERC Meets to a bilingual teaching audience. Such was the success that further plans are being made for the new financial year.

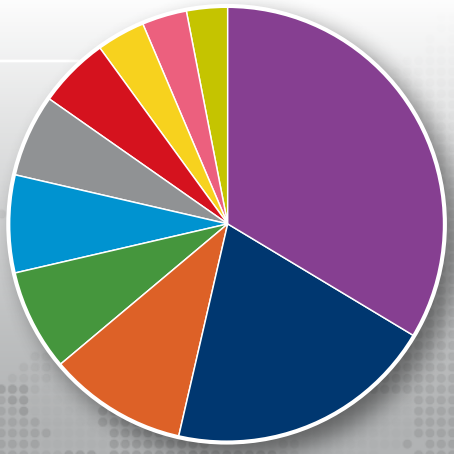
We were involved in discussions with the University of Glasgow and Helsinki City regarding urban development activities, with SSERC providing support for discussions related to education pathways. For more information on our international activities, visit SSERC | Our International Activity.

We have significant international activity via SSERC TV channels, the SSERC website, and SSERC social media, as illustrated below.

SSERC Website

The website was viewed by people in 186 different countries. The top 10 are:

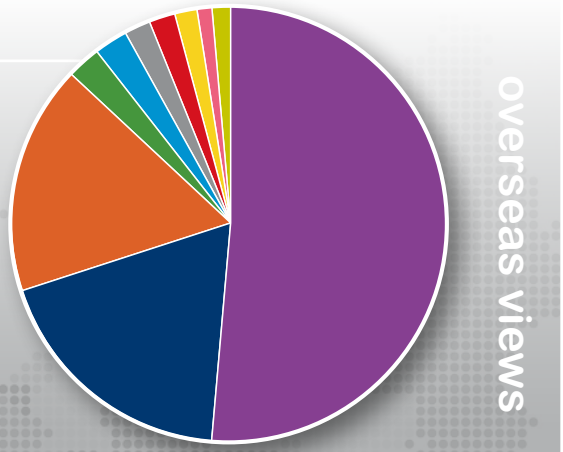
Country	Users	% of total
United States	6019	5.76
India	3596	3.44
Australia	1850	1.77
Philippines	1337	1.28
Germany	1290	1.23
Canada	1101	1.05
Malaysia	910	0.87
Ireland	635	0.61
Hong Kong	610	0.58
Singapore	533	0.51



SSERC Chemistry - YouTube

SSERC Chemistry had viewers from 46 countries. The top 10 are:

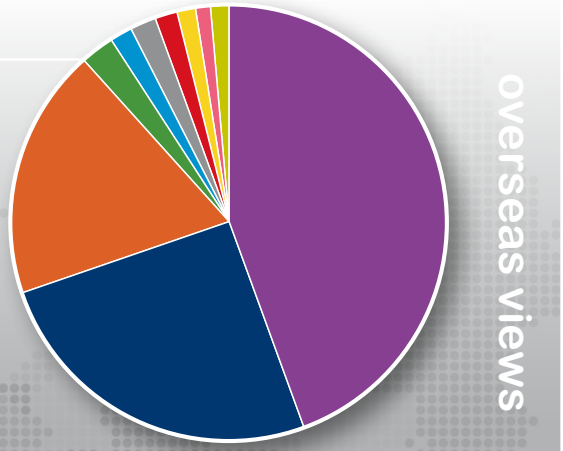
Country	Views	% of total
India	24951	28.03
UK	8948	10.05
USA	8225	9.24
Australia	1266	1.42
Canada	1120	1.26
Philippines	1040	1.17
Kenya	938	1.05
Singapore	730	0.82
Malaysia	597	0.67
Zambia	590	0.66



Figures combined with SSERC TV

SSERC YouTube Channels overseas views. The top 10 are:

Country	Views	% of total
India	24951	23.5%
UK	8948	13.2%
USA	8225	9.9%
Australia	1266	1.2%
Canada	1120	1.0%
Philippines	1040	0.9%
Hong Kong	481	0.9%
Kenya	938	0.8%
South Africa	590	0.6%
Singapore	730	0.6%



Business development activity

Aim
To increase income streams from non-traditional sources to allow for increased capability and activity.

At SSERC, our business development activity is focused on generating additional income from a range of sources to support and strengthen STEM education and training across Scotland. By diversifying our revenue streams – through strategic partnerships, consultancy services, commissioned projects, and bespoke professional learning – we are able to build a sustainable model that reinforces our commitment to educational excellence and innovation.

All additional income is reinvested directly to enhance the quality, accessibility, and reach of STEM learning experiences for educators, learners, and the wider community. This reinvestment enables us to respond dynamically to national priorities, support professional learning at scale, and pilot new initiatives that address emerging needs within the education system.

As part of our broader commitment to corporate social responsibility, we also actively promote outdoor learning and healthy lifestyles. This year, we have established a further garden space at SSERC HQ designed to support outdoor education and encourage healthy eating. These spaces provide opportunities for hands-on learning in areas such as plant biology, sustainability, food education, and wellbeing, and will form part of our future engagement with local primary schools in our area.

Looking ahead, we will continue to seek out mission-aligned opportunities that not only support our financial sustainability but also advance our vision for an inclusive, impactful, and future-ready STEM education ecosystem in Scotland.

Finance commentary

We continue to seek new avenues to expand the range and diversity of our products and services, by improving internal business processes and seeking additional income streams from new funders.

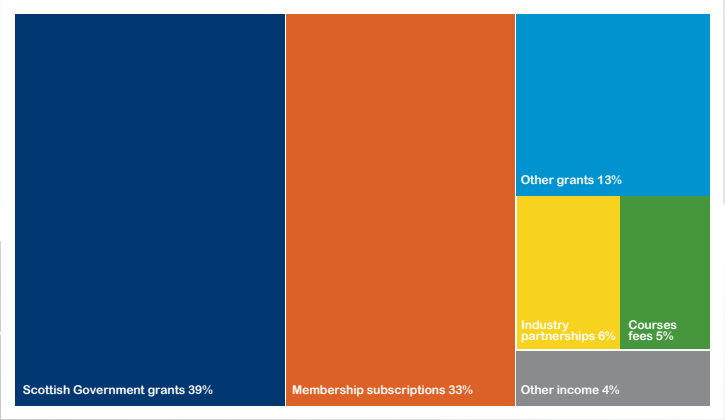
Our funders

Every £1 donated by the Scottish Government earns an extra £0.57 from other funders, which is invested in supporting STEM education and training in Scotland.

Environmental sustainability

Where practical, SSERC encourages staff to apply for 'hybrid' working patterns, where they can work some days a week from home. As well as improving the work/life balance for staff, the reduction in commuting has the added benefit of lower carbon emissions.

Income 2024/2025



	£'000s	%
Scottish Government grants	986	39
Membership subscriptions*	835	33
Other grants	335	13
Industry partnerships	166	6
Courses fees	136	5
Other income	97	4
Total income	**£2555**	**100**

* Local Authorities, colleges and independent schools.

Expenditure* 2024/2025

	£'000s	%
Staff	1722	68
Property costs	215	8
Supplies and services	260	10
Other operating and administration costs	308	12
Other	38	1
Total expenditure	**£2543**	**100**

* Expenditure before pension scheme interest, current service costs and actuarial remeasurements.

Other activity

Venue hire

We continue to provide office space to the Rock Trust, and offer some of our SSERC office spaces for event hire. For more information on availability, go to SSERC | Venue Hire.

SSERC, 1-3 Pitreavie Court, South Pitreavie Business Park, Dunfermline KY11 8UU. Telephone 01383 626070, email: enquiries@sserc.scot, website: www.sserc.scot.

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