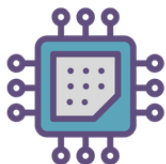




SPARKING STEM FUTURES



2025

**END OF PROJECT
IMPACT REPORT**





FOREWORD BY BRANDON JONES, SKILLS MANAGER

“South Wales is already home to a world-leading compound semiconductor cluster, but its long-term success depends on the talent we grow today. The Sparking STEM Futures (SSF) initiative is our commitment to young people—showing them that the chips powering satellites, smartphones and net-zero technologies can be designed and made right here in Wales.

By giving pupils first-hand, project-based experiences and clear pathways through the right qualifications to join the industry at every level, we’re not only widening horizons; we’re building a resilient local skills pipeline that will keep high-value jobs and innovation in our communities for decades to come.

The year one project has laid strong foundations, and we're looking forward to building on that success as the programme continues.”



INTRODUCTION

Developing the next generation of STEM talent is essential to securing Wales' future as a global leader in compound semiconductors (CS). The programme was established to help address the future skills gap within Wales' CS sector, inspiring learners from primary age through to further and higher education and ultimately, employment within the industry. Through SSF, CSconnected is helping to inspire young people by connecting them with one of the country's most innovative and strategically important industries.

The programme brings together industry, universities and leading STEM education providers to deliver engaging, hands-on experiences that introduce learners to the technologies shaping the modern world. From electronics workshops and science shows to STEM clubs and careers activities, participants gain practical skills while discovering the exciting opportunities available within STEM.

Made possible with funding from Cardiff Capital Region (CCR) and UKRI's Strength in Places Fund (SiPF), SSF delivers activity across the CCR and Swansea Bay City Region, ensuring young people throughout South Wales can access high-quality STEM experiences. Central to the programme is collaboration between education and industry, with partners including Techniquet, EESW, UKESF, Oriel Science and Iungo Solutions working together to inspire learners through real-world applications of CS technology.

This report celebrates the achievements of the programme's inaugural year, showcasing the impact that has laid the foundations for its continued growth. As the programme evolves, it will continue to play an important role in ensuring STEM education remains relevant, inclusive and aligned with the future skills needs of Wales.



IMPACT IN NUMBERS

STUDENTS REACHED

40

COLLEGE

110

HOMESCHOOLED

290

OTHER (E.G. LIBRARIES)

5,986

PRIMARY SCHOOL

6,919

HIGH SCHOOL

13,345

TOTAL

By engaging over 13,345 learners across South Wales, SSF is helping build the future talent pipeline for Wales' CS cluster, giving young people an early insight into the opportunities and career pathways the sector offers.



OUTREACH DELIVERY PARTNERS

The delivery partners for SSF introduced STEM concepts to primary aged learners, such as polarity, conductors, insulators, and semiconductors.

Secondary school students were shown how STEM subjects translate into rewarding careers, particularly within Wales' internationally recognised compound semiconductor cluster.



TECHNIQUEST

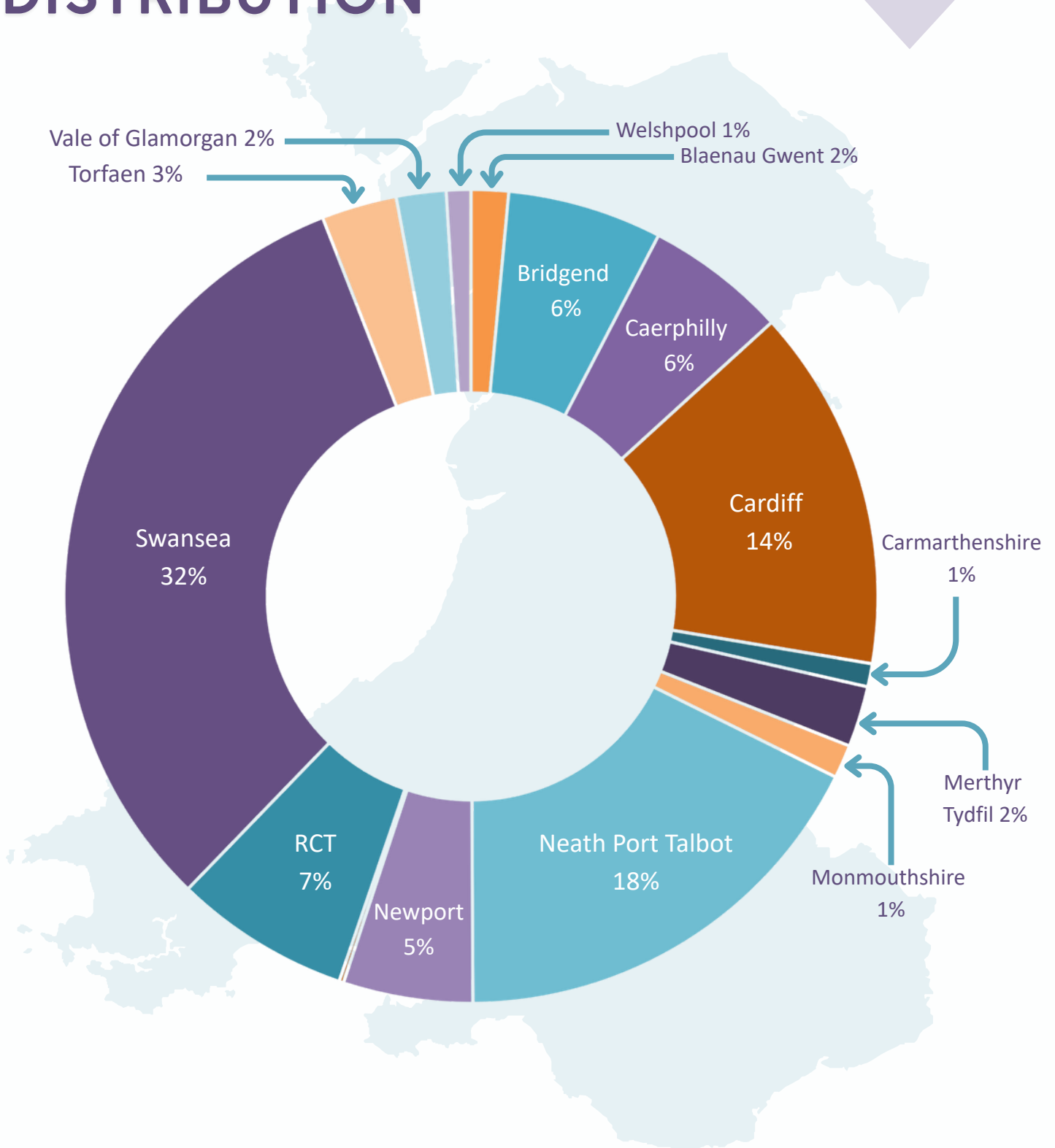


ORIEL
SCIENCE





SOUTH WALES DISTRIBUTION

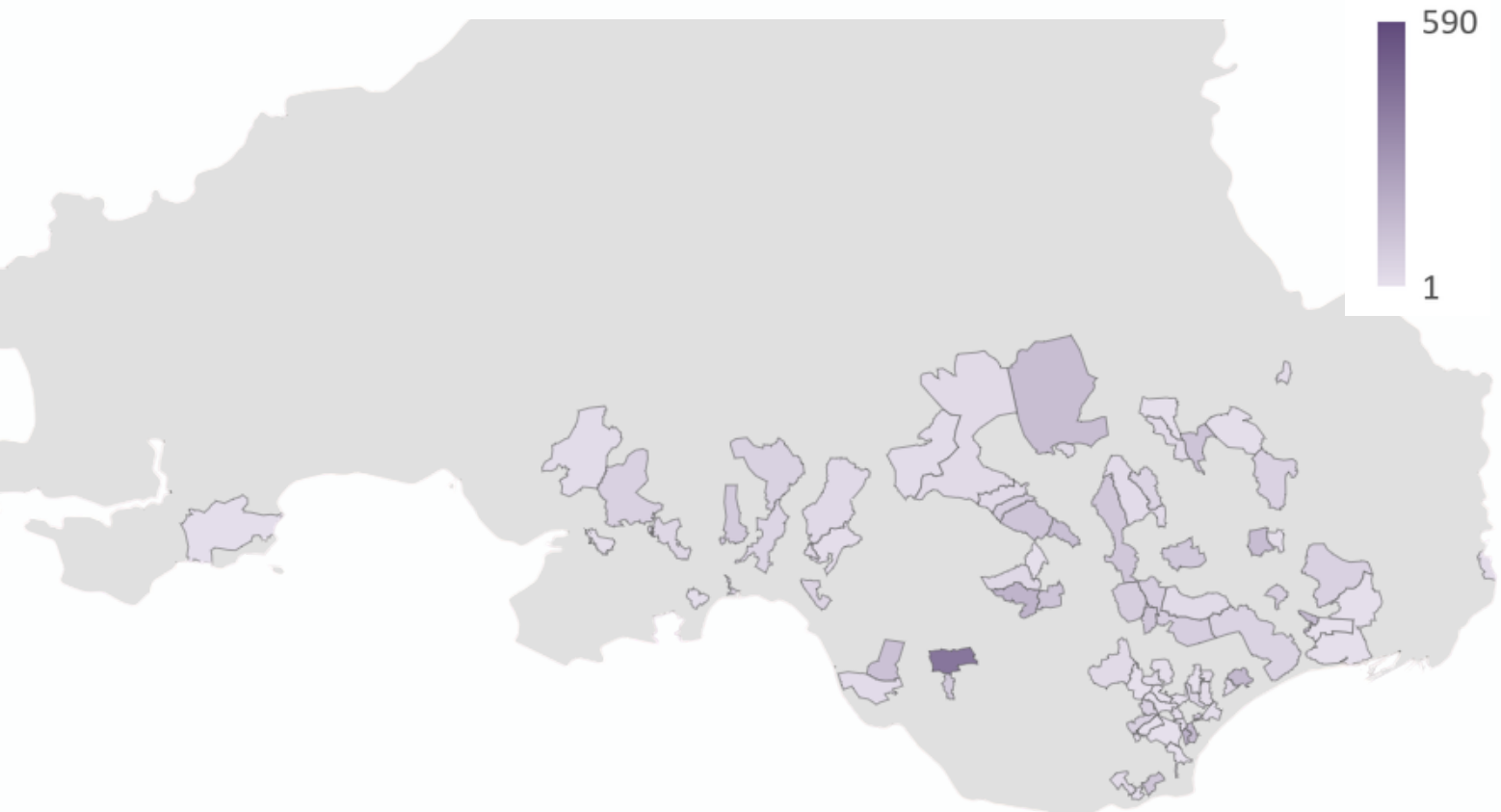




ACTIVITIES OVERVIEW

- In-school workshops across primary and secondary schools in South Wales
- STEM experiences - theatre shows, STEM clubs, engineering challenges & STEM workshops
- Public engagement - interactive displays and exhibits

OUTREACH ACROSS SOUTH WALES





CASE STUDY - EESW

EESW developed and delivered two new hands-on STEM workshops to introduce young people to the exciting world of CS technology and engineering. The workshops - Circuit Explorers for primary schools and Sustainable Homes for secondary schools - engaged 2,784 pupils and approximately 69 teachers across the CCR and Swansea Bay (SIPF) region.

The Circuit Explorers workshop gave pupils their first introduction to electrical circuits and the role of semiconductors through practical activities using batteries, LEDs and sensors. Whereas the Sustainable Homes workshop challenged pupils to design, build and programme smart home systems using micro:bit technology, demonstrating how coding, electronics and semiconductor technologies can help address real-world sustainability challenges.

Teachers praised the workshops for their strong alignment with the curriculum for Wales, while pupils benefited from engaging, hands-on activities that connected classroom learning with future careers in technology.

The impact has been significant - every secondary teacher who took part rated the Sustainable Homes workshop as Good or Excellent, with consistently high levels of pupil engagement reported across both programmes. Teachers also highlighted the real-world relevance of the workshops and the opportunity for learners to work with concepts and technologies they would not otherwise encounter.



TESTIMONIALS

Over 94% of teachers rated the **Techniquest** workshops 9/10 or higher

Following a session from **EESW**, a teacher from Garnteg Primary School said, “Pupils left the session enthusiastic and keen to explore careers in the areas of science. It provided an opportunity for pupils to work with experts in a scientific field, raising their aspirations for themselves as learners. It provided opportunities for collaborative learning, problem solving and oracy skills development alongside the main objectives.”

A student from **IUNGO’s** session said, “The soldering techniques were very interesting and the health and safety information is extremely important not just for semiconductors. Brad's delivery was engaging and the use of stories during explanation made for concepts to be easily understood.”





COMMUNICATIONS IMPACT

Outreach activities and providers were promoted across the CSconnected communications channels.



243
newsletter subscribers



3,198 followers
1,698 organic impressions



Sparking STEM Playlist
Views: 152



over 10k visits in 2025

*Organic impressions is the number of times that piece of content has been on a user's screen, without running paid promotion or advertising on the platform.



FUNDERS

The first year of the SSF programme has had a significant impact across both the CCR and Swansea Bay City regions. This impact was made possible with funding from CCR and UKRI SiPF.



**UK Research
and Innovation**



**Prifddinas
Ranbarth
Caerdydd**

**Cardiff
Capital
Region**