AWE NUCLEAR SECURITY TECHNOLOGIES

Partnering for National Defence 2025/26

Working together to deliver the mission

Contents

About AWE

At AWE, we understand the critical importance of our role in the defence of the UK and our allies. We have been at the heart of the UK's nuclear deterrent since the Continuous at Sea Deterrent (CASD) began in the late 1960s. Throughout this time, our purpose – to protect the UK through nuclear science and technology, has remained the same. In a changing global landscape, our mission to design and manufacture warheads and provide nuclear services that meet the needs of defence and government is vitally important to keep the nation safe.

We are at a pivotal time in our history, with a once-in-a-generation challenge ahead. We must maintain our current warhead, design and manufacture a replacement warhead, recapitalise our ageing infrastructure and continue to be ready to provide support to national security.

This year, we proudly commemorate 75 years since AWE commenced work on the UK's deterrent programme at Aldermaston. Over that time, we've led the way in pioneering technological innovation and cutting-edge nuclear research, playing a critical role in safeguarding our nation against the most significant threats to our democratic way of life.

To protect our nation for the next 75 years and beyond, we must work collaboratively with industry, academia, wider government and the broader public sector. We remain committed to building purposeful, effective and enduring partnerships across industry and academia, founded on the principles of trust and collaboration.

These strategic partnerships are crucial to our success and to STEM research and innovation – strengthening the UK's capabilities to remain credible on the world stage.

Nick Elliott CB MBE
AWE CEO

Foreword

As we reflect on another year of innovation, collaboration and growth in support of AWE's mission, it is with immense pride that in this report we celebrate our key partners and our people, who play a vital role in our mission and the wider defence enterprise.

This year has been marked by significant accomplishments that have not only advanced our strategic ambitions, but have also strengthened our commitment to building meaningful relationships with our partners across academia, industry and beyond.

Some of the key highlights described in this report include the launch of new strategic alliances with the University of Strathclyde and The University of Manchester where we are investing in cutting-edge technologies and capabilities – creating a dynamic and vibrant ecosystem that promotes academic excellence and drives groundbreaking advancements. We have also been working with the High Value Manufacturing Catapult network to expedite our R&D capabilities and nuclear skills agenda. This reflects our aim to be a leader in technological development and application which drives real benefits.

Another notable achievement is our enduring relationship with industrial partners in which we continue to support an environment of learning – sharing best practice, insights, and knowledge to meet the skills needs of the future whilst boosting the UK's economy. An example of this is AWE joining RAICo alongside UK Atomic Energy Authority (UKAEA), Nuclear Decommissioning Authority (NDA), Sellafield Ltd and The University of Manchester to develop robotics and AI technologies solutions for the nuclear sector.

During this year, we have also worked with the Defence and Security Accelerator (DASA), a cross-Government team from a range of backgrounds including defence, security, the private sector and academia, to explore opportunities for innovation while actively engaging with suppliers who have ambitions to work with government. Creating innovations which enable us to stay ahead of the threats the nation faces, not just now, but in the future, is key to our national security.

Furthermore, you will see incredible examples of achievements from our people and collaborators with some appointed to prestigious academic positions.

It cannot be overstated that our partnerships with academia and industry are vital to defence and keeping our nation safe.

Mandy Savage
AWE EXECUTIVE DIRECTOR, ENGINEERING & P3M

Partnering to support the National Endeavour

AWE's partnerships across government and multiple agencies are vital to supporting the National Endeavour, underpinning a concerted and continued commitment to the defence and security of the UK.

DEFENCE NUCLEAR ENTERPRISE (DNE)

AWE is a member of the DNE, a partnership of organisations including the Defence Nuclear Organisation (DNO), Royal Navy and Submarine Delivery Agency (SDA) that operate, maintain, renew and sustain the UK's Continuous-at-Sea Deterrent – delivering nuclear capability that deters threat and protects the nation. This collaborative effort spans government, industry, and military sectors, ensuring access to cutting-edge technology and nuclear expertise, sustaining a highly skilled workforce and bolstering the UK's defence capabilities.

As an arm's length Non-Departmental Public Body (NDPB) wholly owned by MOD, we work in close collaboration with the DNO, who set our requirements.

Furthermore, we continue to work with partners across Government to ensure that our complex infrastructure programmes are delivered effectively, safeguarding our unique capabilities into the future.

Defence Nuclear Organisation

Ministry of Defence

AWE partners with international organisations, which include some of the US National Laboratories and other nuclear plants, while in France, we work with French Alternative Energies and Atomic Energy Commission (CEA) jointly operating EPURE, the France-based radiographic and hydrodynamics testing capability. These global collaborations enable AWE engineers and scientists to access resources and expertise, which are critical to delivering our mission and in advancing scientific discovery and innovation.

PROTECTING OUR NATION

We work with government to protect our country from radiological and nuclear threats and provide advice on issues relating to national security – including counterterrorism, nuclear forensics and detection, treaty verification and arms control, border control, and emergency preparedness and response.

A recent example of work undertaken to safeguard our nation was Exercise Diamond Dragon, an international multi-agency operation between the UK and US – involving a complex simulation during which the UK's national emergency arrangements were successfully demonstrated.

HM Government

Academic partnerships

Our experts and specialists, some of whom are world renowned, collaborate with universities across the UK. Together, we deliver research projects, create innovations, and pursue new opportunities to benefit national defence and advance the Government's STEM agenda. Our relationships with academia are essential for enhancing AWE's technical programme, promoting interdisciplinary collaboration and bridging the gap between theory and practice.

124 Postgraduate & Postdoctoral research contracts across PHYSICS, MATERIALS & ANALYTICAL SCIENCE, ENGINEERING and NUCLEAR SECURITY

6 Strategic Alliance university partners

Engaged with **31** DIFFERENT UNIVERSITIES across the UK

190 papers published across STEM journals and conferences in 2024/25

10 William Penney Fellows

AWE supported **17** new Centres for Doctoral Training (CDTs) in the last year

- **7** Physics
- **5** Engineering
- **5** Materials & Analytical Science

115 visiting **academic positions**

of which **17** are visiting **professors**

Strategic Alliance university partners

AWE has Strategic Alliances with six universities – each providing technical expertise and knowledge that are mutually beneficial for our partnerships, the national skills agenda, future capability and wider UK academia.

THE UNIVERSITY OF MANCHESTER

We are working with The University of Manchester to develop innovative modelling and simulation solutions, and advance nuclear chemistry and materials science to address complex scientific challenges. Through close collaboration and interaction, this partnership will inspire current and future generations of mathematicians and scientists in a shared mission to support the security of the UK.

MANCHESTER 1824
The University of Manchester

UNIVERSITY OF BRISTOL

The University of Bristol hosts the Nuclear Threat Reduction Network (NTR-Net) designed to drive research and development into national nuclear security and keeping the UK safe. Elsewhere at the university, research areas relating to supercomputing, materials science and non-destructive evaluation support our wider technical programme.

University of BRISTOL

NTR network

CRANFIELD UNIVERSITY

We are working with Cranfield University on major areas of defence and security to train and develop the next generation of scientists and engineers, covering topics as diverse as aerospace, energetics and precision engineering.

We partner with the university to deliver the MSc Defence Nuclear Safety Engineering course.

UNIVERSITY OF STRATHCLYDE

Engaging with the University of Strathclyde is furthering our interests in advanced manufacturing techniques alongside pulsed power, satellite and sensor research allowing the university to provide technical solutions that support AWE's programmes.

HERIOT-WATT UNIVERSITY

We partner with Heriot-Watt University to support our unique sensing and metrology capabilities, manufacturing, and through-life programme. Our collaboration centres on on photonics, including optical sensors and analysis, and aims to leverage expertise being developed at The National Robotarium, the UK's centre for Robotics and AI.

IMPERIAL COLLEGE LONDON

We are collaborating with engineers and physicists at Imperial College London to understand the behaviour and characteristics of materials – utilising high-fidelity testing and plasma regimes that are vital to scientific research and development.

Established research groups

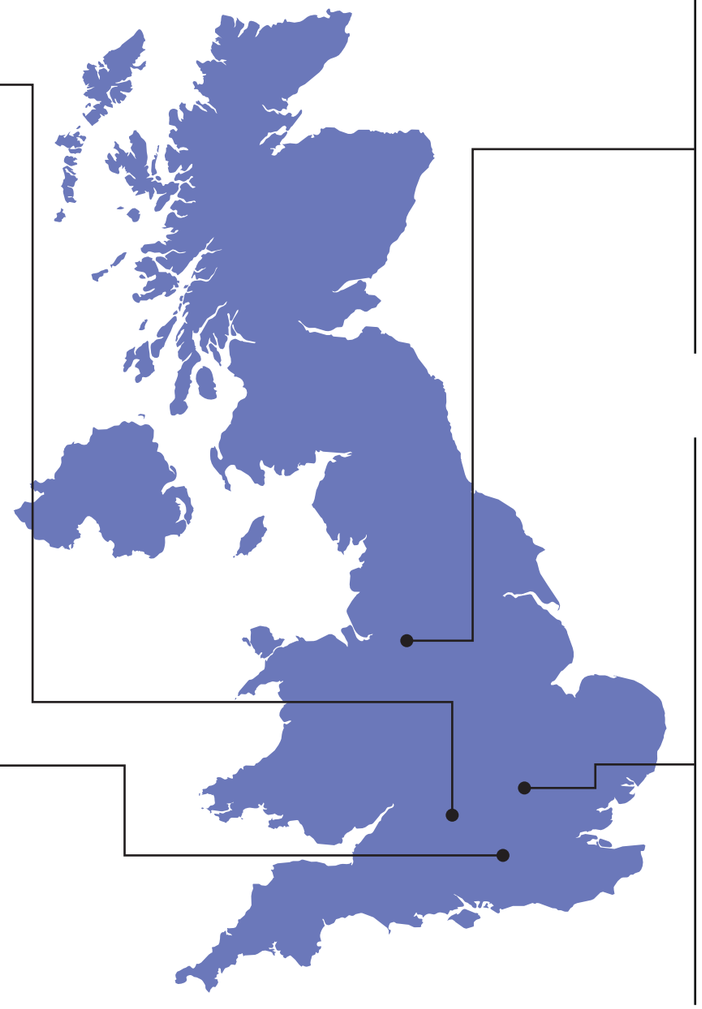
AWE has a number of established research groups that deliver technical expertise through academic, postgraduate and postdoctoral activities – covering engineering, materials science, physics and nuclear security.

UNIVERSITY OF OXFORD:
Oxford Centre for High Energy Density Science (OxCHEDS)

OxCHEDS based at the University of Oxford brings together research groups from the atomic and laser physics areas, with an enduring focus on advancing AWE's understanding of the behaviour of matter at extraordinary temperatures and pressures usually encountered only in planetary or stellar interiors – which is critical to our research in plasma physics.

UNIVERSITY OF SURREY:
Materials Ageing, Performance and Lifetime Prediction (MAP-Life)

The MAP-Life Centre of Excellence at the University of Surrey is focused on a range of technical themes, resulting in the expansion of mission-centred projects and the development of bespoke training approaches – delivered through increased collaboration between staff, doctoral researchers, undergraduates and visiting fellows from AWE.



THE UNIVERSITY OF MANCHESTER:
Materials Modelling Research Hub

AWE's collaboration with the Materials Modelling Research Hub at The University of Manchester continues to support our knowledge and understanding of computational modelling and simulation – vital to theoretical understanding of experimental studies in engineering and science.

CRANFIELD UNIVERSITY:
Centre of Excellence in Energetic Materials (CoEEM)

AWE's collaboration with CoEEM continues to champion energetic materials as an essential national capability through our sponsorship of the International Explosives Conference (IEC-2024). This event brought together experts in energetics and explosives to debate cutting-edge technological advances and innovations.

Orion long-pulse beamlines in Laser Hall

ORION ACADEMIC ACCESS

Our state-of-the-art Orion laser facility at AWE Aldermaston, which conducts high-energy density physics research, provides up to 15% of its system campaign time for collaborative experiments led by UK academics.

Researchers at the University of Oxford investigated the extreme conditions prevalent in the universe, with a particular focus on instabilities and magnetic field generation. Such experiments help us to further our understanding of the fundamental nature of our universe.

Introduction to Centres of Excellence

AWE is investing in strategically important Centres of Excellence across nuclear science and technology, that support our research and innovation, to deliver future capability requirements.

In the next five years, AWE has an ambition to expand our Centres of Excellence to deliver strategic and collaborative R&D across academia, national laboratories, the Catapult network and UK industry.

1

Centre of Excellence for Scientific Computing (ScCoE)

Developing unique techniques and methods to enhance AWE's capability in physics, covering novel architectures, code efficiencies, algorithms, and large-scale computer modelling.

2

Centre of Excellence for Future Systems Materials Technology (FSMT)

Enhancing AWE's expertise in non-nuclear components and associated technologies.

3

Quantum Centre for Nuclear Defence and Security (QCNDS)

Creating different methods to enable a better understanding of quantum sensing and quantum computing, and how the technologies could potentially be applied to AWE's programme.

4

Centre of Excellence for Actinides (ACE)

Ensuring that AWE maintains and grows its knowledge and capability in actinides research.

5

Centre of Excellence for Nuclear Data (ND)

Providing essential inputs in the form of calculations and other data that underpin the safety, performance and reliability of AWE's product.

Industry Advisory Boards (IABs)

AWE actively contributes to IABs across engineering, where our subject matter experts support the development of academic programmes to align with industry needs, facilitating course accreditation and fostering research links. Through guest lectures, project guidance and academic engagement, we help strengthen the skills pipeline and promote collaboration between industry and academia.

ONE ENGINEERING

17 STAFF COVER **29 IABs** at 26 universities

- General engineering
- Civil engineering
- Mechanical engineering
- Aerospace engineering
- Electrical & electronic engineering
- Design engineering
- Automotive engineering

University of East London

Pioneering Futures since 1898

Your guest lecture provided an invaluable real-world perspective on control and instrumentation. Topics which are often abstract in textbooks were brought vividly to life through your industry examples and case illustrations. Your interactive approach and willingness to engage with questions created an inclusive learning environment that students found both enjoyable and motivating, sparking enthusiasm for roles in C&I engineering. Such valuable engagement from AWE through its membership of our General Engineering Industrial Advisory Board.

Dr Paola Falugi
Senior Lecturer
Department of Engineering & Construction
UNIVERSITY OF EAST LONDON

UNIVERSITY OF PORTSMOUTH

AWE is a vital partner in advancing engineering education at the University of Portsmouth. As an active member of the School of Electrical and Mechanical Engineering's Industry Advisory Board, they help align our curriculum with industry needs and future challenges. Their contribution goes beyond advice – from programme design to offering year-long placements and graduate positions – creating clear pathways from the classroom to impactful careers.

Professor David Ndzi
Head of School of Electrical and Mechanical Engineering
UNIVERSITY OF PORTSMOUTH

BUCKINGHAMSHIRE NEW UNIVERSITY
EST. 1891

I would like to extend my sincere gratitude for your insightful manufacturing lecture today and to your colleague who 'sits' on our Industrial Advisory Board, who facilitated this contact. Your real-world examples made the session highly relatable, and the discussion on methods and their applications was incredibly beneficial. The opportunity to see and interact with actual products added a practical and immersive dimension to the students' learning experience. Thank you so much for bringing these resources and sharing your expertise.

Dr Rajesh Madarkar
Lecturer in Engineering
School of Engineering & the Built Environment
BUCKINGHAMSHIRE NEW UNIVERSITY

Brunel University of London

This year AWE supported two undergraduate dissertation projects in our Department, facilitated through its Advisory Board membership. AWE provided a clear industrial context for the projects, supporting the students in developing experience in the application of their knowledge. The technical mentoring and feedback from the AWE subject matter expert was highly valued by the students.

Dr James Campbell
Reader in Structural Integrity Department of Mechanical and Aerospace Engineering
BRUNEL UNIVERSITY OF LONDON

BU
Bournemouth University

AWE's involvement through the IDEAS Board and student projects has been key in aligning our engineering programmes with industry needs and future skills. Their input has enriched our curriculum, enhanced professional accreditations, and deepened student engagement through events like the Festival of Design and Engineering.

Dr Diogo Montalvão
Head of Department of Design & Engineering
BOURNEMOUTH UNIVERSITY

Industrial and public sector partnerships

Industrial and public sector partnerships are fundamental to AWE's approach to external engagement and building our defence and security capabilities, whilst also benefitting the UK economy and skills pool nationwide.

AWE has a number of different collaborative agreements with industry, government partners, the public sector and the UK's network of High Value Manufacturing Catapult centres, each of which is designed to support our mission through effective partnering and shared ambitions. Our partnerships are also providing AWE with access to the UK supply chain and expertise to support he requirements of our work and capability – now and in the future.

CATAPULT
High Value Manufacturing

AWE works with the HVM Catapult, a strategic research and innovation hub for industry, commercialising the UK's most advanced manufacturing ideas.

University of Sheffield /AMRC
Advanced Manufacturing Research Centre

UNIVERSITY OF SHEFFIELD ADVANCED MANUFACTURING RESEARCH CENTRE

AWE has been a Tier 1 member of the AMRC, a world-leading cluster for research, innovation and training, since June 2015. The AMRC collaborates with industry and R&D experts to develop and de-risk innovative solutions for companies across the globe, leading manufacturing towards a smart, sustainable and resilient future.

ncc
innovating for industry

NCC

Since joining as a Tier 1 member in November 2023, AWE has continued to strengthen its collaboration with NCC. NCC will become a centre of defence innovation in advanced materials, manufacturing, and digital technologies shaping a secure, sovereign, and sustainable defence future.

CENTRE FOR PROCESS INNOVATION (CPI)

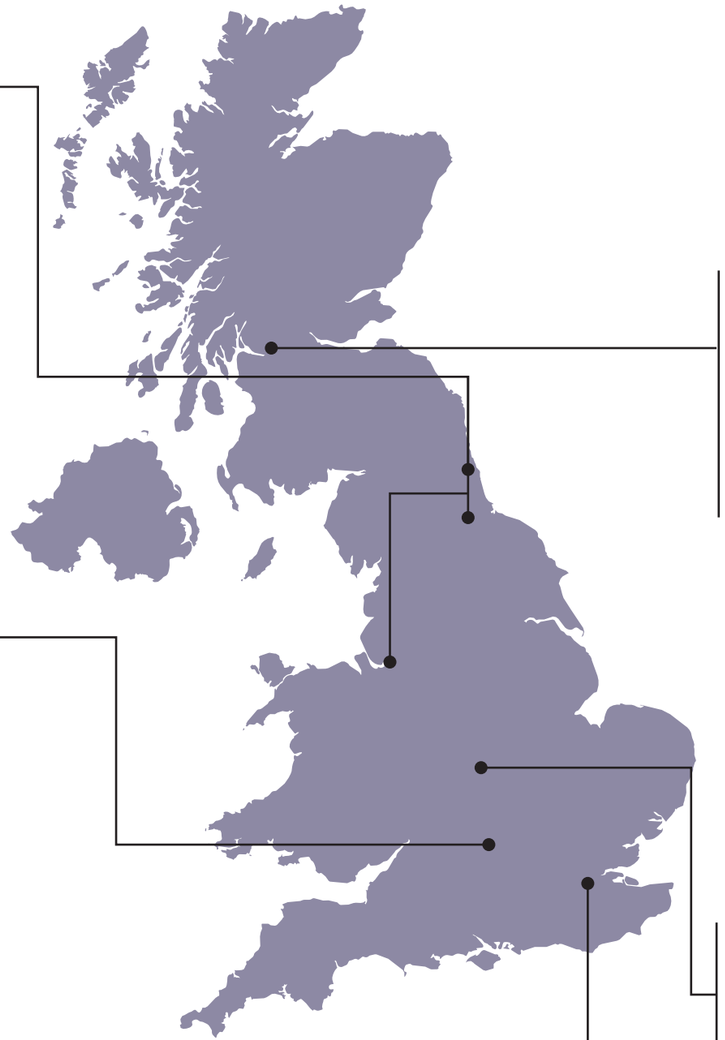
Our partnership with translational research and innovation organisation CPI is providing the platform to accelerate technology adoption and enhance AWE's readiness in advanced materials and engineering solutions – vital to our capabilities in materials ageing and performance as part of our nuclear services to meet the needs of defence.

SATELLITE APPLICATIONS CATAPULT

The Satellite Applications Catapult offers AWE the opportunity to explore space technology and satellite-enabled services – allowing our experts and technical communities to address real-world challenges aligned with our mission.

DIGITAL CATAPULT

Our collaboration with Digital Catapult provides AWE with the valuable opportunity to explore and develop the practical adoption of deep tech capabilities – supporting innovation, nuclear skills and accelerating digital-first solutions that will streamline operations and processes, enhance communication and promote an agile work environment.



ADVANCED FORMING RESEARCH CENTRE (AFRC)

AWE joined the University of Strathclyde's AFRC in January 2024, a facility that specialises in forming and forging metals characterised by its unique knowledge, advanced capability, innovative processes and strong industry collaboration.

MANUFACTURING TECHNOLOGY CENTRE (MTC)

The MTC, an HVM Catapult Centre specialising in solving manufacturing challenges, has continued to work closely with AWE since June 2015, supporting innovation, product design, development and process optioneering – delivering pioneering technical solutions and systems.

Science and Technology Facilities Council

SCIENCE AND TECHNOLOGY FACILITIES COUNCIL (STFC)

We are partnering with STFC to explore ways in which our experts can benefit from deeper and wider engagement – with increased access to major technological facilities such as the Harwell Space Cluster, and Energy Tech Cluster.

Defence and Security Accelerator

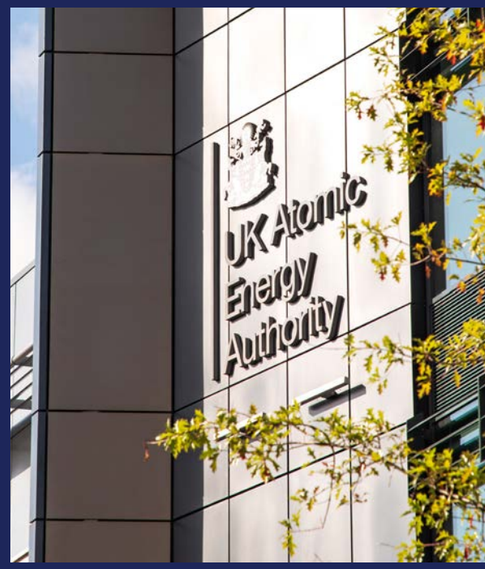
DEFENCE AND SECURITY ACCELERATOR (DASA)

Our experts are partnering with DASA to bring mission relevant, technical challenges to UK industries. DASA specialises in a range of technology readiness levels, enabling AWE to access businesses large and small to leverage and accelerate innovations which meet our specific needs. Our growing links with DASA provide a rich network of expertise across academia and industry from which we can derive real benefit.

UK Atomic Energy Authority

UK ATOMIC ENERGY AUTHORITY (UKAEA)

Our relationship with UKAEA is addressing challenges in technologies and materials operating in extreme conditions – through sharing best practice in radiological protection, robotics, automation, manufacturing, fusion technologies and supporting nuclear skills.



NPL National Physical Laboratory

NATIONAL PHYSICAL LABORATORY (NPL)

Our experts collaborate with NPL on the application of metrological standards, technical data and research to support key capabilities in materials science and engineering – as well as generating training opportunities through secondments and graduate placements.

[dstl] Delivering Mission Success

DEFENCE SCIENCE AND TECHNOLOGY LABORATORY (Dstl)

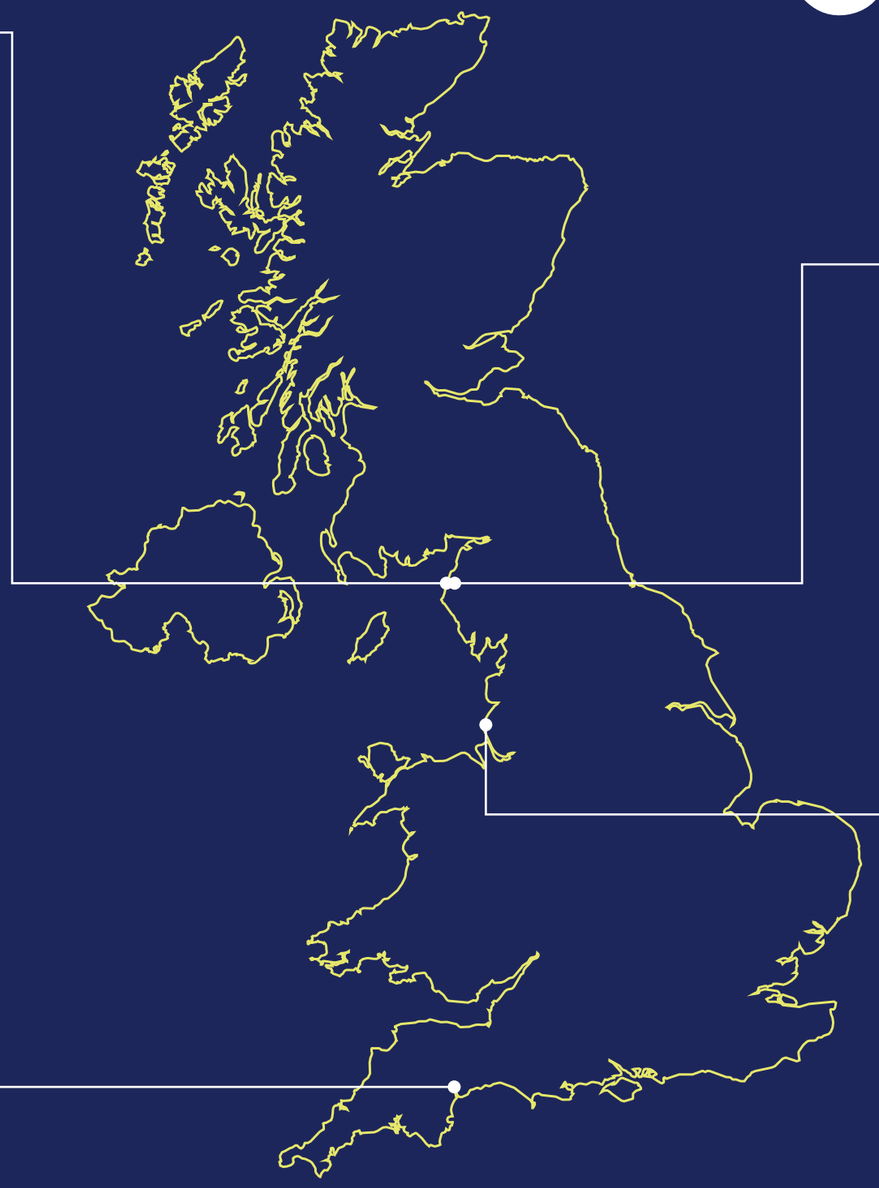
As part of a long history of working together, AWE and Dstl have a mutual interest in areas such as advanced materials, strategic systems and energetics – with the aim to collaborate further in support of the Government's National Endeavour.

United Kingdom
National Nuclear
Laboratory

UKNNL

The AWE-UKNNL collaboration focusses on mutual support and collaboration for critical national security programmes, while simultaneously developing advanced nuclear skills essential for achieving Britain's nuclear objectives.

As part of this collaboration, UKNNL has developed a bespoke solution for processing AWE material, enabling safer long-term storage. This approach creates available space at AWE facilities and reduces environmental risks, allowing AWE to concentrate on protecting the UK through nuclear science and technology.



NDA

Department for Energy, Security and Net Zero

Nuclear Skills Plan
ATTRACT • RETAIN • ENABLE

Sellafield Ltd

ONR

United Kingdom
National Nuclear
Laboratory

AWE NUCLEAR SECURITY TECHNOLOGIES

Dounreay

ALPHA RESILIENCE AND CAPABILITY (ARC)

AWE continues to partner with the Alpha Resilience and Capability (ARC) programme, a collaboration between government and the nuclear industry, which is strengthening the UK's nuclear resilience through engagement and innovation – advancing capabilities in the safe handling and management of alpha-emitting materials.

RAICo
ROBOTICS AND
AI COLLABORATION

ROBOTICS AND ARTIFICIAL INTELLIGENCE COLLABORATION (RAICO)

In 2025, AWE began collaborating with RAICo, which unites the nuclear decommissioning sector's leading robotics and AI experts to strengthen national capability, in these emerging technologies, to support safety and security.

Met Office

MET OFFICE

AWE and the Met Office are addressing respective challenges in the field of high-performance computing using some of the most powerful supercomputers. Our organisations are also collaborating on the provision of essential climate services to enable site operations, whilst leveraging knowledge in the global technical community.

SPACE PARK LEICESTER

AWE has been partnering with Space Park Leicester for over a year, and during that time there have been a number of accomplishments enabled by our long-standing relationship with the University of Leicester, particularly in the field of environmental testing and analysis.

One of many highlights has been the deployment of secondees at Space Park Leicester who have been undertaking operational work for mutual benefit.

Another has been AWE's recruitment campaign, which has led to the employment of skilled professionals from the East Midlands region – many of whom are in the early stages of their career and are making a valued contribution to a range of technical projects.

Some major areas of joint research include determining a deeper understanding of radiation modelling, exploring the dynamics of laser-plasma interactions using the Orion laser facility, and developing transferable skills from the satellite and space domain.

The AWE-Space Park Leicester partnership will continue to foster the exchange of knowledge and expertise – expanding our collaborative footprint and investing in recruiting local talent to fulfil future skills and capability that has wider benefit for the UK.

Business partnerships

AWE has strategic business partnerships with organisations, institutions and the supply chain across the UK, delivering value in our operations, practices, processes, new build and infrastructure projects. These relationships are essential for ensuring AWE's continued commitment to delivery of our mission and providing maximum impact for the benefit of the UK.

We work with our regulators to ensure we continue to comply with the highest standards of safety and security in everything we do. The support of our recognised Trade Unions is equally important in representing the interests of our people and championing their welfare.

We invest in our people through our relationships with professional institutes who provide globally recognised qualifications and training as well as events and mentoring schemes. Two of our most recent corporate memberships are the **Chartered Management Institute** and **Institute of Collaborative Working** – demonstrating continuous improvement in the professional development and progression of our people.

ROYAL UNITED SERVICES INSTITUTE (RUSI)

Our long-standing relationship with RUSI gives us access to high quality insight, knowledge and analysis on critical issues in international defence and security. A highlight of our partnership is AWE's participation in the annual UK Project on Nuclear Issues (PONI) Conference – bringing together a cross-generational network which encourages scholars and professionals, in the early stages of their career, to engage with established experts on contemporary nuclear issues.

> The PONI Annual Conference was a unique opportunity to build my confidence in public speaking, research a new topic, and meet new people from across the UK – it was insightful to hear fresh perspectives and contribute to the nuclear policy dialogue.' – Participant from the 2024 PONI Annual Conference.

NATIONAL LABORATORIES ALLIANCE (NLA)

AWE is a member of the NLA, a network of 12 public sector research establishments that provides a unique connected service for national good – strengthening the nation's resilience to external threats, leading on projecting the UK's science and technology internationally, and supporting business and trade.

INFRASTRUCTURE INDUSTRY INNOVATION PARTNERSHIP (i3P)

AWE joined i3P as a Client Member in March 2024 and has since embraced the opportunity to collaborate with peers across the infrastructure sector within i3P. Together with other members, we are working to foster innovation and shared learning to tackle the challenges of sustainability and construction in shaping the future of UK infrastructure.

ALLIANCE MANCHESTER BUSINESS SCHOOL (AMBS)

We have partnered with AMBS to develop comprehensive and bespoke leadership education that provides assessment-based training to our senior and mid-level leaders in delivering large-scale, complex projects and programmes – giving them the right skills, tools and techniques to succeed in a demanding environment.

Investing in our community and future skills

Through our partnerships with educational institutions and programmes across the UK, we continue to invest in a skilled, diverse workforce and future talent pipeline – creating exciting career opportunities in nuclear science and technology, which is at the heart of our mission and being a high-performance organisation.

Meanwhile, we recognise that our local community is fundamental to our success as an organisation, which is why we are working with them to deliver social value and change alongside our vital core mission.

OVER **50,000** YOUNG PEOPLE reached in primary, secondary schools and colleges in the academic year

In 2025, AWE has hired from **41** UNIVERSITIES across the UK

AWE has more than **350** STEM AMBASSADORS

OVER **£3.4M** of social value generated through our work in schools

Over **110** schools reached in the same **academic year**

Sponsorship of the Primary Science Centre at Queen Mary's College, Basingstoke, that is providing free science lessons has reached over **3,400** children in the academic year

93 Evolve Graduates joining AWE

240 Joiners across our Three early careers PROGRAMMES DURING 2025 EVOLVE GRADUATES YEAR-IN-INDUSTRY APPRENTICES

82 Apprentices **Joining AWE in 2025**

65 **Year-in-Industry STUDENTS** joining from **27** universities

67 **DSUS** graduates joining for our nine-week summer programme

Our industry-leading early careers programme

Our flagship early careers programme partners with leading universities across the UK to hire the next generation of talent and leaders across AWE for our Evolve Graduate Scheme and Year-in-Industry Programme. Candidates rotate across the business within their chosen discipline, gaining vital skills and experience on our diverse graduate pathways which include Engineering, Science, Corporate and Operations, Health and Safety, Environment and Quality, Project Management and Finance.

Meanwhile, AWE's Apprenticeship Programme varies from Level 2 to Level 6 Bachelor's degree covering a spectrum of skills; from engineering to project management. Candidates learn the skills and behaviours that will set them up for the future, all while earning a qualification and contributing to AWE's mission.

Defence STEM Undergraduate Sponsorship (DSUS) Scheme

We are partnering with the MOD to sponsor the studies of the next generation of STEM professionals and offer them an exciting career supporting our national security. We host DSUS undergraduates on a nine-week summer programme, equipping them with knowledge and experience to succeed when they return to AWE as graduates.

Nuclear Skills Plan
ATTRACT ◦ RETAIN ◦ ENABLE

Securing a skilled workforce and inspiring future generations

AWE is a delivery partner of the Nuclear Skills Plan - an industry and government-backed plan, launched in May 2024, to address the national nuclear skills shortage. The plan sets out targeted action to help create the nuclear workforce of the future to drive growth and ensure energy and national security. Nuclear Skills Plan includes over 15 projects that the sector's prime civil and defence nuclear organisations have committed to delivering with the aim of attracting new talent, retaining skilled and experienced individuals, and enabling the nuclear sector to perform at its best.

Investing in construction skills for the future

AWE is supporting the development of future professionals in construction through its sponsorship of the new BSc Construction Management course at the New Model Institute for Technology and Engineering (NMITE), a specialist higher education provider focused on practical, industry-led learning.

NEW MODEL INSTITUTE FOR TECHNOLOGY & ENGINEERING

"We are proud to be working in partnership with AWE, whose support exemplifies the innovative role employers and industry play in shaping our curriculum and training the engineers the UK urgently needs. We are deeply grateful for AWE's sponsorship of students on our new BSc Construction Management course and for their wider commitment to addressing the national skills challenge with us."

James Newby
President and Chief Executive
NEW MODEL INSTITUTE FOR TECHNOLOGY & ENGINEERING

Secretary of State for Defence, The Rt Hon John Healey MP visiting AWE.

Outreach events

AWE hosted several high-profile events and conferences that promote our partnerships and collaborations across industry and academia in support of our mission.

PHYSICS STUDENT CONFERENCE

AWE hosted its annual student conference for our sponsored postgraduate physics community, which brought together PhD students from a range of leading UK universities. The students showcased their research on many areas of physics and had the opportunity to network with fellow students and AWE experts – proudly celebrating their contribution to our mission.

REGIONAL DEFENCE & SECURITY CLUSTER EVENT

AWE held an event with our partners at the Oxfordshire, Buckinghamshire and Chilterns Regional Defence and Security Cluster (OBC RDSC) and the Science and Technology Facilities Council (STFC).

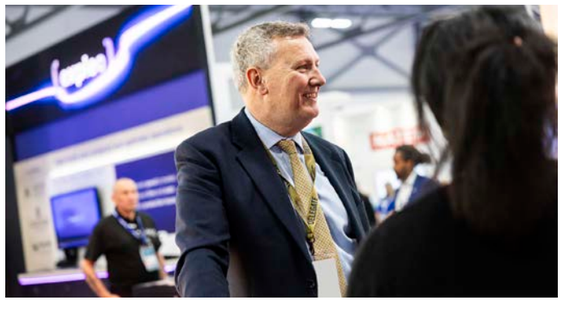
The event focussed on the theme 'Delivering the UK's nuclear warhead: a National Endeavour' – to engage regional defence and other high-technology businesses and explore exciting partnering opportunities with industry and academia.

FARNBOROUGH AIRSHOW 2024

AWE was proud to be amongst the exhibitors at the Farnborough Airshow 2024 for the first time.

With around 75,000 trade visitors and more than 1,250 exhibitors from aerospace, defence and space, the Farnborough International Airshow is a key business-to-business event.

The AWE team, drawn from across the business, drove five days of engagement around our mission, our programmes, our people and our supply chain opportunities to aid our future technical programmes.



COMPUTING INSIGHT UK CONFERENCE

AWE sponsored and exhibited at Computing Insight UK (CIUK), a prestigious conference for the UK's academic and industry leaders to discuss and debate the field of high-performance computing (HPC) and associated technologies of interest to our mission.

Organised by the Science and Technology Facilities Council (STFC), with which we collaborate, AWE subject matter experts presented our new and future Centres of Excellence, which will develop our long-standing engagements with the UK's academic community in multiple fields including HPC research.

STRATEGIC ALLIANCES PARTNERS CONFERENCE

Senior representatives from AWE, the Defence Nuclear Organisation, the National Centre for Universities and Business and the university community gathered at the recently held Strategic Alliances Partners Conference to discuss and debate areas of STEM that support our mission.

Held at Armourers' Hall in London, the two-day event brought together eminent academics to look at ways to build on our collaborations with universities across the UK and consider how we can continue to jointly engage in supporting future technologies, research, innovation, skills and recruitment across the defence sector and beyond.

NUFOR 2024

Founded by AWE, NuFor is a unique multidisciplinary conference specialising in nuclear forensics and nuclear security.

Now sponsored and co-organised by AWE with the Institute of Physics, NuFor 2024 proudly marked its sixth anniversary and continues to dedicate its focus on promoting career opportunities in nuclear forensics and nuclear security for STEM students – from school to early-career professionals.

NuFor has grown into a major event, attracting participation from eminent figures in nuclear security, law enforcement, policy making, and national laboratories in the UK and US.

NuFor has been previously recognised by the prestigious MOD Chief Scientific Advisor's Award for Communications in Science – cementing the event as a highly respected forum in national nuclear security.

DPRTE

AWE continues to engage with DPRTE (Defence, Procurement, Research, Technology, Exportability), the UK's leading defence procurement and supply chain forum, with the aim of strengthening our supplier partnerships to support delivery of our major investment programmes.

Our ENGINEERING EXPO 2025

ENGINEERING EXPO 2025

AWE hosted the inaugural Engineering Expo 2025 during which over 1,300 people, including industry leaders, VIPs and academics, explored a range of displays showcasing the work undertaken across the company with our partners.

The two-day exhibition demonstrated the latest technological advancements – with interactive workshops and hands-on exhibits across various STEM disciplines.

The event also showed how we are expanding our relationship with the High Value Manufacturing Catapult centres, our strategic university partnerships and inspiring the next generation through collaboration.

Recognising our people and our partners

Our people and our partners continue to make invaluable contributions to national defence and security - fostering a culture of recognition, celebration and engagement whilst strengthening our collaborations to drive success and growth.

AWE'S DEFENCE INDUSTRY EARLY CAREERS ENGINEERING PRIZE

AWE, in collaboration with the Worshipful Company of Engineers and the Engineers Trust, awarded the 2025 prize to Catherine Smith of Reliance Precision for her pioneering work on the NeoSAT stepper motor gearbox project for Airbus Defence and Space, and her innovative work on Hirth couplings. This recognition highlights AWE's ongoing commitment to fostering engineering talent and advancing UK defence innovation through strategic partnerships.

> I am over the moon to have won the Early Careers in the Defence Industry Award; it was completely unexpected considering the calibre of engineers out there. I'm excited to continue my work within the defence industry as there are so many opportunities to learn new skills.
>
> Catherine Smith

WICE AWARDS

The European Women In Construction & Engineering Awards

BREAKING DOWN BARRIERS AND BUILDING NEW HEIGHTS

2025 WOMEN IN CONSTRUCTION & ENGINEERING (WICE) AWARDS

For the first time, AWE colleagues entered the European WICE Awards, which promotes greater female representation in the industry. Competing against 154 finalists from over 35 nominations across 12 countries, three AWE engineers took part — two of whom, Mel Rechert and Nicky Cox, won in the Mentor and Civil Engineering categories.

2025 WOMEN'S ENGINEERING SOCIETY (WES) TOP 50 AWARDS

Two AWE engineers, Anna Terry and Davina Urquhart, have been named among the Top 50 Women in Engineering (WE50) in the UK, recognising their outstanding contributions to the field. These honours, awarded by the Women's Engineering Society, celebrate the power of collaboration and the positive impact of engineering on society.

AWE'S UNDERGRADUATE WINS YEAR-IN-INDUSTRY PRIZE

Chloe McAlister, an undergraduate from the University of Brighton, won the prestigious Year in Industry Prize-sponsored by the Worshipful Company of Armourers and Brasiers, following a successful placement at AWE. Chloe's work enhanced AWE's environmental monitoring, including enrolling a local dairy farm and reviewing sampling protocols – demonstrating the value of early-career talent in driving excellence in regulatory and environmental practices.

> Thank you to everyone who helped make my placement year as enjoyable as it was, I truly believe the people around me helped to make me achieve everything I have this year.
>
> Chloe McAlister

AWE COLLEAGUES RECOGNISED IN THE KING'S BIRTHDAY HONOURS 2025

Professor Andrew Randewich CBE

AWE Executive Director Science, Professor Andrew Randewich, was made a CBE for services to defence and has enjoyed an illustrious career since joining AWE in 1997. Appointed as a Visiting Professor at Imperial College London in 2012, Andrew is a Chartered Physicist, a Chartered Engineer, a Fellow of the Institute of Physics and recently became a Fellow of the Royal Academy of Engineering.

> It is wonderful to be honoured in this way, which came as a complete surprise to me. This award is really a recognition of the amazing work done by the remarkable people at AWE, and that's something of which I am incredibly proud.

Giles Hartill MBE

AWE Chief Technologist, Giles Hartill, was awarded an MBE for services to engineering including his voluntary work for the Institution of Mechanical Engineers of which he is a Fellow and past President.

> I always wanted to make a difference in whatever I committed myself to, and I have been incredibly fortunate to do so with the help of so many amazing people who have supported me throughout my life-long learning journey in engineering – both at AWE and more broadly with the Institution of Mechanical Engineers. I am incredibly thankful to the friends and colleagues who nominated me, and I am deeply honoured to receive this recognition from the King.

John Whitaker OBE

Retired from AWE only recently after nearly 50 years supporting the UK's nuclear deterrent, John was recognised with an OBE for services to defence. John's work inspired ongoing advancements, which continue to assure the viability of the UK's nuclear deterrent and in developing the next generation of nuclear defence engineers.

> This was a surprise, and I am deeply honoured to receive this award. I have proudly spent most of my career in supporting the Government's mission in nuclear deterrence and I have always had a clear vision of AWE's contribution to that endeavour. It is thanks to the dedication and professionalism of the incredible people at AWE that I have been recognised in this way.

STEM FOR BRITAIN 2025

Two AWE physicists were honoured as finalists at STEM for Britain 2025, an annual competition which provides a unique platform for early-career scientists, engineers and mathematicians to present groundbreaking work to policymakers, industry leaders and academics.

Max Merrett and Wayne Lack, both theoretical scientists, joined over 120 of the UK's brightest emerging STEM research finalists in Parliament, captivating MPs and expert judges with their pioneering research projects.

Max Merrett

"The STEM for Britain event at the Houses of Parliament was a great opportunity to showcase some of the work being done at AWE. I spoke to the MPs for Reading West and Mid-Berkshire, and Newbury, as well as industry sponsors, university professors, and fellow research scientists. I am grateful to have won the Gold Medal in the physics category, and to further be put forward as a finalist for the Westminster Medal."

Wayne Lack

"I felt honoured to be a finalist at this event, and it was fantastic to see the judges and the MPs in attendance take a genuine interest in everyone's hard work. I made several new connections and got to see such a fascinating and diverse range of research being carried out. Congratulations to Max who thoroughly deserved the award for his work!"

ACHIEVEMENTS

Caroline Bull

AWE engineer, Caroline Bull, has continued to lead the UK Research Centre in Non-destructive Evaluation (RCNDE) as its Director, a highly successful strategic collaboration, launched in 2003, between industry and academia – matching world-leading research to industry requirements in non-destructive evaluation.

"I was honoured to take over as Director of RCNDE in 2022 and lead the centre which comprises 14 industry members, eight universities and over 45 associate members, many of whom have links with AWE. I started work in non-destructive testing at UKAEA during the early stages of my career. With hard work, dedication and the excellent support of colleagues at AWE, I am extremely proud of my achievement!"

Ian Vernon

Professor of Statistics at Durham University, Ian Vernon, was appointed a William Penney Fellow, in recognition of his leadership and expertise in statistics and mathematical sciences – and their application to AWE's research in nuclear physics and other areas of interest.

"AWE is at the forefront of industrial use of High-Performance Computing for simulation. The opportunity to combine this expertise with state-of-the-art uncertainty quantification methodology developed at Durham University paves the way for advances, which will benefit scientific disciplines across the UK."

ACHIEVEMENTS

Nick Bazin

AWE scientist, Nick Bazin, became a Visiting Professor at the University of Surrey in honour of his knowledge in materials science and engineering.

> It came as a complete surprise and immense privilege to be asked to take the position of Visiting Professor at Surrey. This is a title I only ever dreamed of when I was younger! My interactions will involve managing undergraduate projects, supporting researchers and supervising PhD students. The appointment also provides me with the unique opportunity to network Surrey with other universities to promote scientific research.

Scott McCulloch

AWE scientist, Scott McCulloch, was appointed a Visiting Professor at the University of Strathclyde in recognition of his work in materials science and associated technologies.

> I am deeply honoured to be recognised by the University of Strathclyde in this way which reflects my long-standing interactions with the university, while also providing an opportunity to further strengthen technical collaboration between our two organisations. At Strathclyde, I conducted research in fibre optic sensor technology, and I was able to later use this expertise to guide and influence the direction of sensor development at AWE.

Mark Whiting

AWE's Director of the Centre of Excellence for Materials Ageing, Performance and Lifetime Prediction (CoE MAP-Life) and William Penney Fellow, was appointed to full Professor at the University of Surrey.

> It has been a privilege to help evolve the Centre of Excellence – with continuing support from fantastic AWE experts – to the point where the first doctoral researchers have completed their research. We've welcomed seven visiting researchers to the University of Surrey and seen around 150 scientists and research managers attend our flagship events.

Roy Awbery

AWE scientist, Roy Awbery, was appointed Honorary Professor at Bangor University, in recognition of his exceptional contribution to nuclear science, national security and international collaboration.

> I'm delighted to be appointed an Honorary Professor at Bangor University. This role reflects the importance of collaboration between academia, industry and government in nuclear science. I'm excited to support the Nuclear Futures Institute and look forward to promoting and advancing the UK's future capability and the many opportunities it presents for the next generation.

James Benstead

AWE physicist, James Benstead, was appointed Visiting Professor at the University of Surrey in recognition of his outstanding expertise in science.

> I am really pleased and honoured to be recognised by AWE and the University of Surrey in this way. Working with the university also allows our people to gain access to cutting-edge research and a greater network of potential collaborators – delivering benefit not only for Surrey but also to government and industry.

Looking ahead

In a dynamic global environment, effective, safe and secure delivery of our mission is vital to the UK and for international security. To achieve this, we must continue to cultivate partnerships with industry and academia, harnessing world-leading knowledge and expertise to keep our country safe.

The UK prides itself on being at the forefront of global academic research, and our universities provide AWE with a rich and resourceful knowledge hub where ideas can be explored, nurtured and converted into real-world solutions. The intrinsic connection between academic research and industrial application cannot be underestimated.

Relationships between different industries are equally important in promoting best practice and sharing access to resources, facilities and opportunities that demonstrate greater impact across the UK's industrial base.

Our collaborations are also fundamental for driving innovation, encouraging new thinking and supporting recruitment that will benefit both industry and academia and wider society. Beyond industry and academia, we also partner extensively with UK Government and the broader public sector to deliver our mission as a joint enterprise – pursuing opportunities for efficiency and working collaboratively to solve problems and overcome challenges.

It is only through working in collaboration with our educational institutions and industrial partners that collectively we can maximise our impact in fulfilling both the roles of delivering the Government's growth and economic agenda, and inspiring future generations.

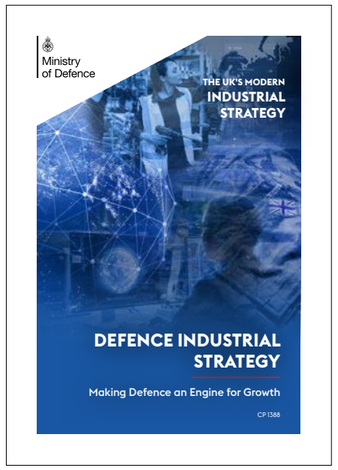
Partnering effectively in support of our National Endeavour is a critical ambition to which AWE remains fully committed.

Sam Laidlaw
AWE CHAIRMAN

What AWE offers to our partners and collaborators

By working in collaboration with academia and industry, we are investing in knowledge, skills and expertise for the nuclear defence sector and the UK's STEM pipeline.

More from our partners



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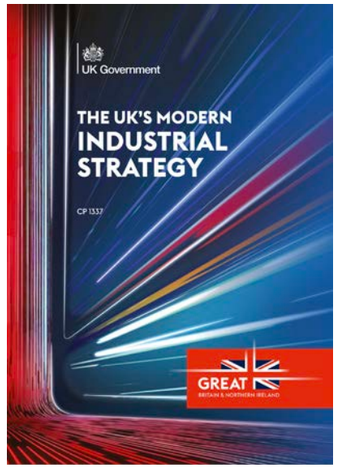

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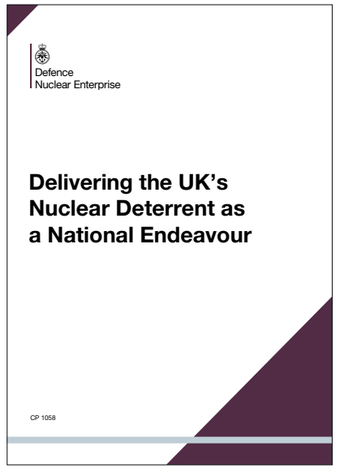

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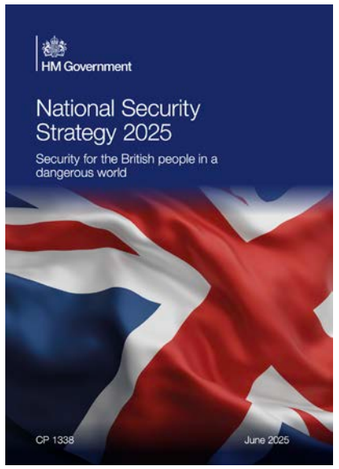

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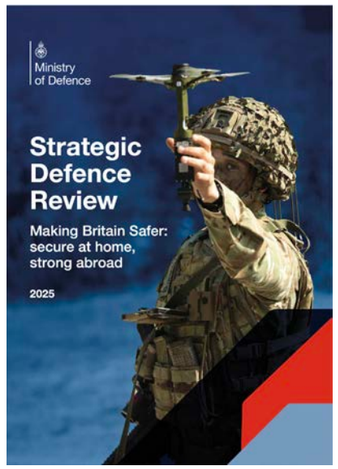

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Contact us

We want to expand our links with academia and industry to support the future of national defence and security.

If you wish to find out more about AWE's collaborations and want to come and work with us, please contact the External Technical Partnerships Office (ETPO).

etp@awe.co.uk

AWE NUCLEAR SECURITY TECHNOLOGIES

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WWW.AWE.CO.UK

@AWE_PLC