

# Delivering a secure future for all

## WHO IS AWE?

AWE's mission is to design and manufacture warheads and provide nuclear services to meet the needs of defence.

You may have heard of 'Trident', which is a nuclear-weapons system that is part of the UK's Continuous At Sea Deterrent. The Trident system consists of missiles and warheads, fitted on a submarine. At least one nuclear-armed ballistic missile submarine patrols the seas undetected at all times, ready to respond to the most extreme threats to the UK.

As an arms-length body of the Ministry of Defence (MoD), we design, develop, manufacture and maintain the warheads for the UK's Continuous At Sea Deterrent, at our sites at Aldermaston and Burghfield.

The UK's independent nuclear deterrent has existed for over 60 years to deter the most extreme threats to our national security and way of life, helping to guarantee our safety, and that of our NATO allies.

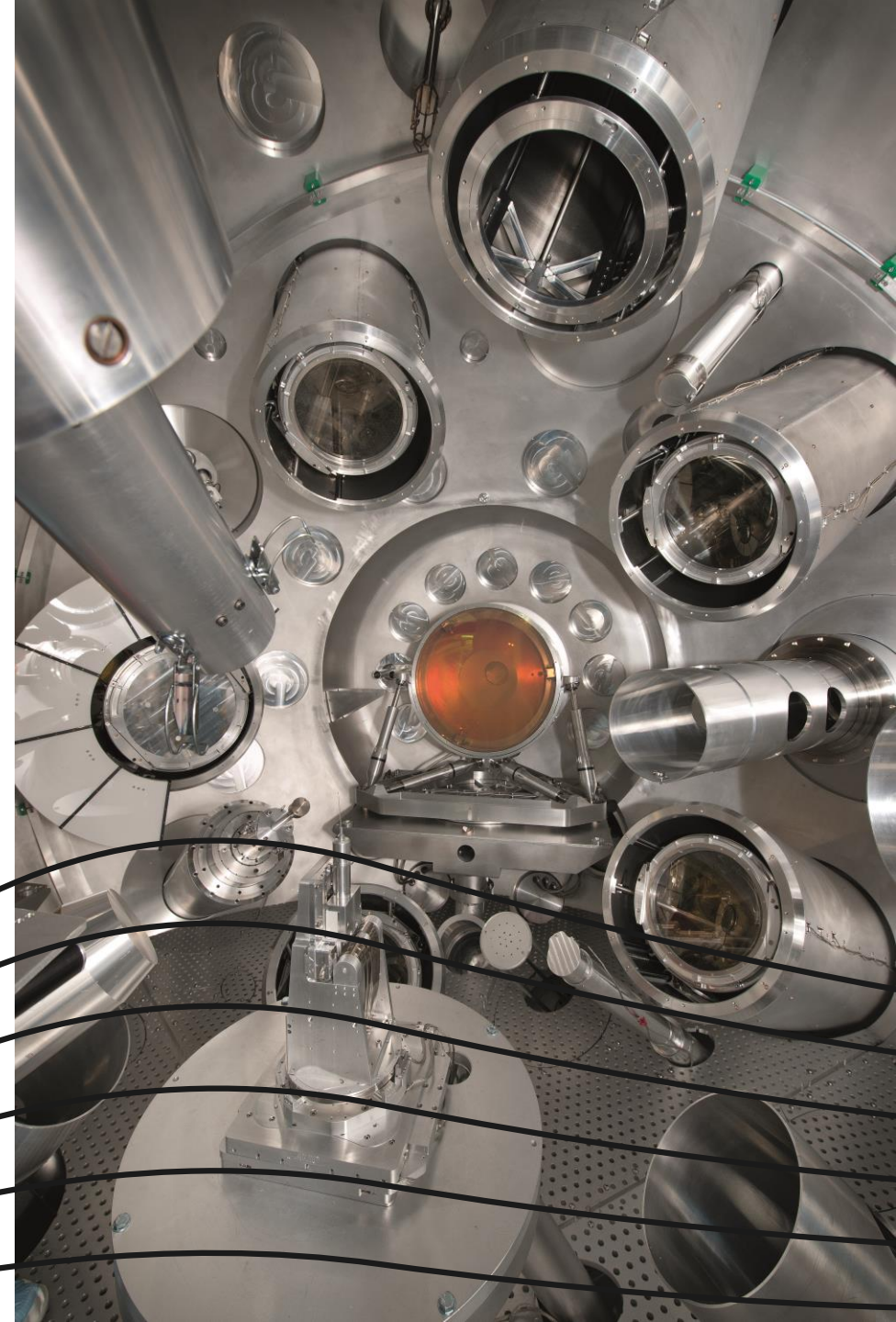
Our Nuclear Threat Reduction specialists also work with government to protect our country from radiological and nuclear threats.

# WHAT IS NUCLEAR DETERRENCE?

The purpose of nuclear deterrence is to preserve peace, prevent coercion and deter aggression.

Potential aggressors know that the costs of attacking the UK, or our NATO allies, could far outweigh any benefit they could hope to achieve. This deters states from using their nuclear weapons against us or carrying out the most extreme threats to our national security.

It is wrong to say that the UK's nuclear deterrent is never used. The reality is that it protects us every hour of every day. By providing a credible and effective response option to extreme aggression, our nuclear deterrent reduces the likelihood of such an attack taking place.



# THE HISTORY OF AWE

For more than 70 years, AWE has played a crucial role in protecting the nation through nuclear science and technology.

The UK's post-war atomic weapons programme was established at Aldermaston.

The Atomics Weapons Research establishment (AWRE) designed and developed warheads for RAF Bomber Command and later the Royal Navy's Resolution-Class submarines carrying the Polaris ballistic missile system.



AWRE merged with the neighbouring Royal Ordnance Factory (ROF) Burghfield and ROF Cardiff and was renamed AWE.

1950



1980



Trident announced, work began on significant new manufacturing facilities and development of a new warhead.

1987



2021



In July, AWE transitioned to become an arm's length non-departmental public body under the Ministry of defence (MoD).

The MoD owns the AWE sites, and AWE is responsible under a contract with the MoD for operating the sites safely and securely as well as delivering a safe, effective and efficient nuclear warhead programme. AWE employs the workforce, holds the nuclear site licences, environmental permits and other regulatory permissions.



# AWE TODAY

Our diverse workforce is 7,000-strong and brings together globally respected and exceptional professionals, many of whom live in the surrounding towns and villages.

We have a cohort of 3,500 scientists and engineers working with industrial, government and academic partners, and run flagship apprenticeship and graduate programmes that mean young people in our area can work at the forefront of nuclear technology and innovation.

No other organisation can perform AWE's unique and vital role in protecting the UK. We must continue to secure and build our capability and retain the right nuclear skills to deliver our mission.

The UK government has committed to investing in AWE so that we continue to support the UK's nuclear deterrent and nuclear threat reduction activities.



**7,000**

Workforce



**3,500**

Scientists & engineers



Apprenticeship and  
graduate programmes



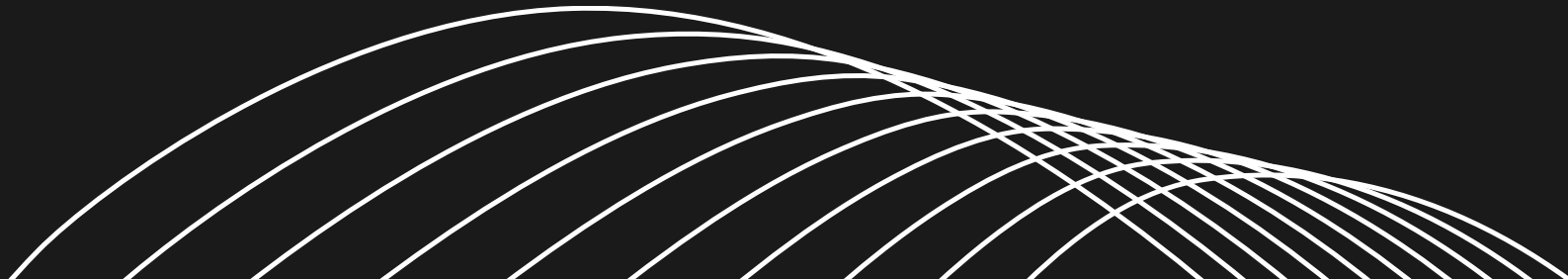
# Worldclass nuclear science and technology

## SCIENCE AND ENGINEERING

We design and manufacture warheads and provide nuclear services to meet the needs of defence.

We are the only organisation in the UK that performs this role, with our teams fulfilling some of the most challenging design requirements that are scientifically achievable. We work at the extremities of science and engineering to understand the performance of nuclear warheads and assure the safety, security, and effectiveness of our products.

In 1996 the UK committed to not conduct nuclear weapon test explosions. Instead, AWE has developed capabilities in modelling and non-nuclear testing to ensure safety and efficacy are maintained. We use unique and advanced technologies from purpose-built lasers to some of the most powerful supercomputers in the UK.



# Worldclass nuclear science and technology

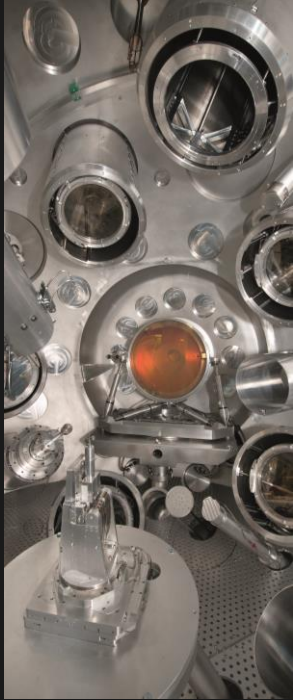


## TECHNOLOGY

Our 'Orion' laser helps our physicists and scientists research the physics of those extreme temperatures and pressures found in a nuclear explosion to better understand the safety, reliability and performance of nuclear warheads.

Supercomputing is a crucial capability, enabling simulations that allow us to develop a safe, assured warhead without detonation. We have recently commissioned a supercomputer named Valiant, one of the most powerful computers in the UK, to validate the design, performance and reliability of our nuclear warhead.

These facilities will be used to bring our next warhead into service, upholding the UK government's voluntary moratorium on nuclear weapons test explosions.





# Our role in your community

AWE's roots are firmly within the local community, with the town of Tadley being built for the explicit purpose of housing AWRE workers in the 1950s.

## LOCAL LIASON COMMITTEE

The Local Liaison Committee provides an important platform for local people to gain a better understanding of AWE's activities and to raise questions through their elected representative on the Committee.

The Local Liaison Committee members represent around half a million residents who live in the boroughs and parishes around the AWE sites.

Committee meetings provide members with an overview of our operations, updates on emergency planning as well as details of our environment, safety and health performance.

Representatives of AWE's independent regulators – the Office for Nuclear Regulation (ONR) and the Environment Agency – also attend the meetings, giving independent updates on company performance and progress. They also produce a summary performance report, which is shared with members at the meetings and published on their websites.

# STEM



# SCHOOLS

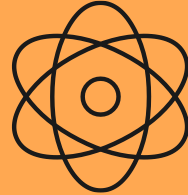
We are one of the largest Science Technology Engineering & Maths (STEM) employers in the area and work closely with our local primary and secondary schools to inspire the next generation.

In the academic year 2023/2024, we reached 60,000 primary, secondary and college students with our schools programme, and nearly all of the schools visited were a source of applications into our apprentice scheme.

Working in partnership with local educational charities, we engage with thousands of students from primary age right through to sixth form, providing a wide range of support including inspirational talks, events, workshops and mentoring. All designed to inspire young people to pursue STEM careers.

About 150 AWE employees have volunteered to be STEM ambassadors. They are trained to visit schools and colleges to speak to young people about the opportunities open to them.

All AWE employees are given three days of special leave to undertake STEM ambassador activities.



A large STEM employer in the area



60,000

Primary, secondary and college students reached





# A KEY LOCAL EMPLOYER

We have a workforce 7,000 strong, the majority of whom live within 20 miles of our site.

We have a wide programme of engagement with 37 UK universities, and five strategic alliances with the universities of Bristol, Cambridge, Cranfield, Heriot-Watt and Imperial. In addition, 93 'year in industry' posts are provided to UK universities by AWE.

We also have an apprenticeship and graduate programme where successful applicants benefit from the opportunity to work in world-class facilities. Those completing our programmes have gone on to a wide variety of roles within AWE. Our Skills Academy has a long and proud history, with thousands of young people completing their apprenticeships since it opened its doors more than 70 years ago; many are now in senior leadership roles at AWE.

Our recently appointed Executive Director of Estates and Liabilities, Mark Hedges, began his career with us in 1985 as an apprentice. Almost 40 years later he is still with us, driving change but now at executive level.



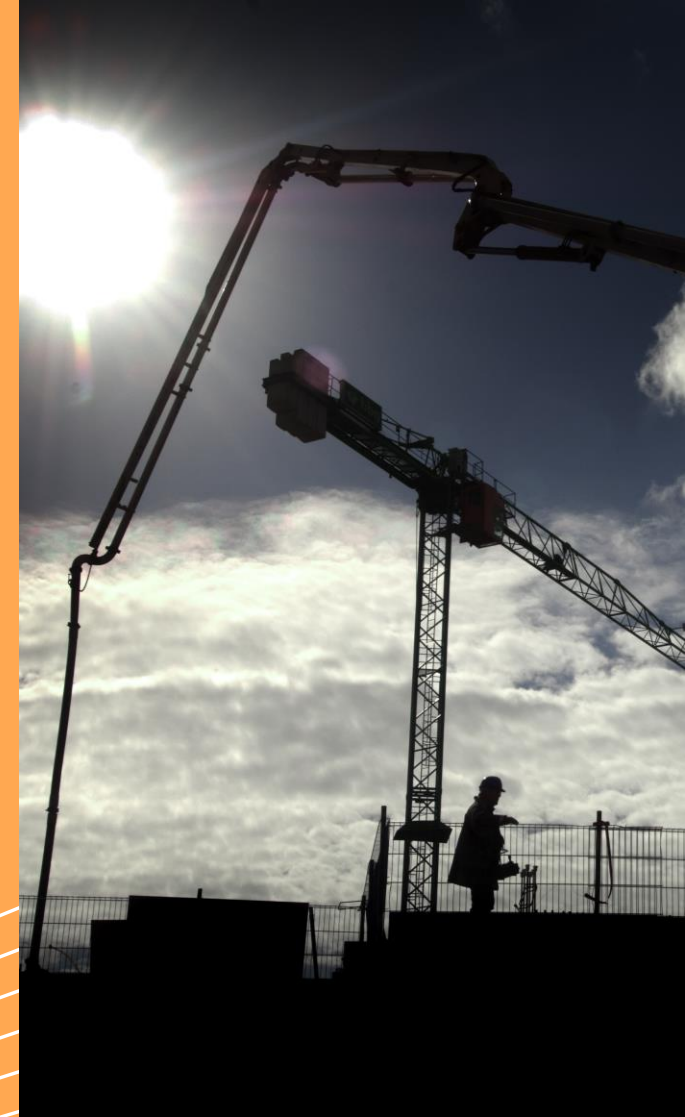
37

UK universities engaged



150

AWE employees are  
STEM ambassadors



# Investing in our facilities

As part of a Ministry of Defence (MoD) renewal programme, the UK will replace its existing nuclear warhead, and it is our highly skilled teams here at AWE that will do this. As well as people, we need to make sure we have the right facilities too.

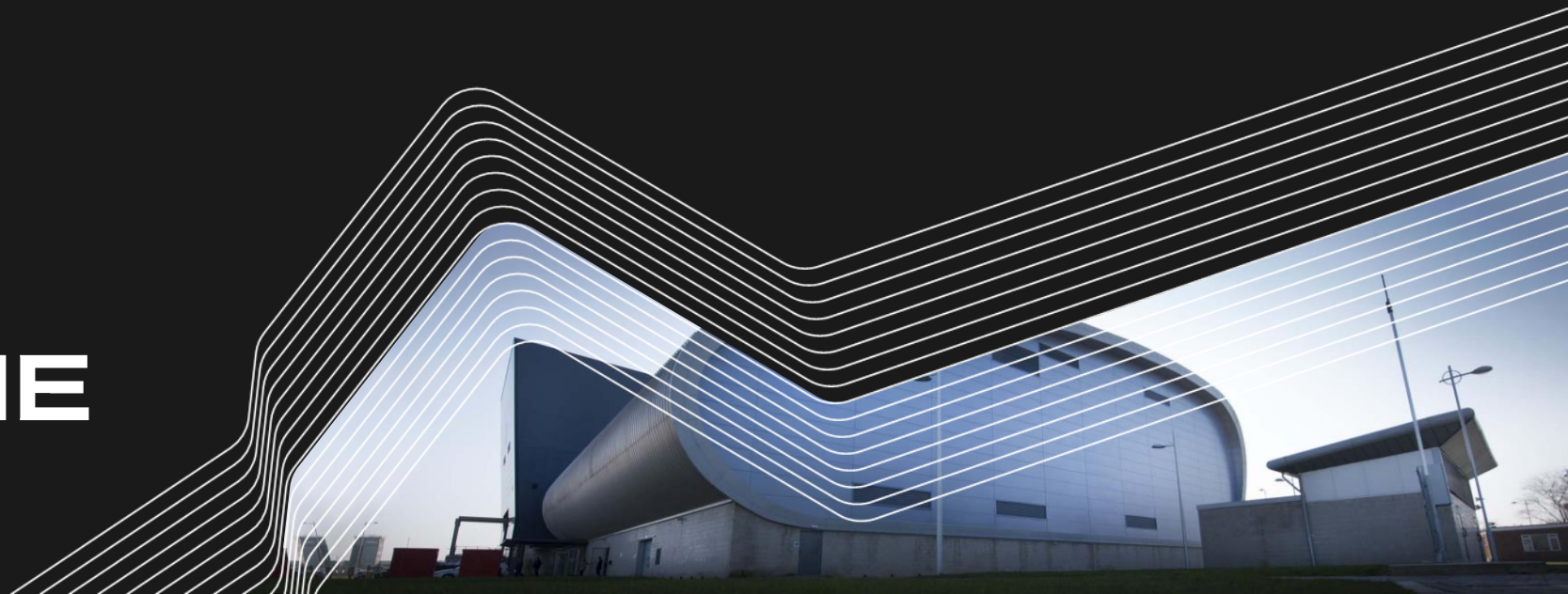
Our site infrastructure will undergo transformation to contribute to the continued delivery of the current and next generation warheads, supporting the UK to become a world-leader in new nuclear technologies.

These facilities will be located on our existing site at Aldermaston and, as part of this, we will be building the Future Materials Campus (FMC).

This significant investment means AWE will continue to be a major employer and neighbour in the local area for many years to come.

We plan to put in a planning application for these works during 2025.

## RENEWAL PROGRAMME





# Investing in our facilities

New facilities will be required, providing cutting-edge, state of the art science capabilities in support of the replacement warhead programme.

In spring 2024 the Secretary of State for defence presented the Command Paper to Parliament, 'Delivering the UK's Nuclear Deterrent as a National Endeavour'.

The Command paper said:

“ There will be significant investment in AWE's infrastructure in Aldermaston, including the Future Materials Campus (FMC). This programme will renew existing facilities for the manufacture and storage of nuclear components, improve science and analysis capabilities, and invest in renewed capability for material recovery.

The multi-billion-pound programme of investment requires significant engagement of the wider industrial base to address specific manufacturing, delivery and assurance capability needs. The FMC will contribute to the UK's skills development, creating jobs in the local area and across the UK supply chain. This will drive innovation in both construction and science. ”

## WHY NOW?



Defence  
Nuclear Enterprise

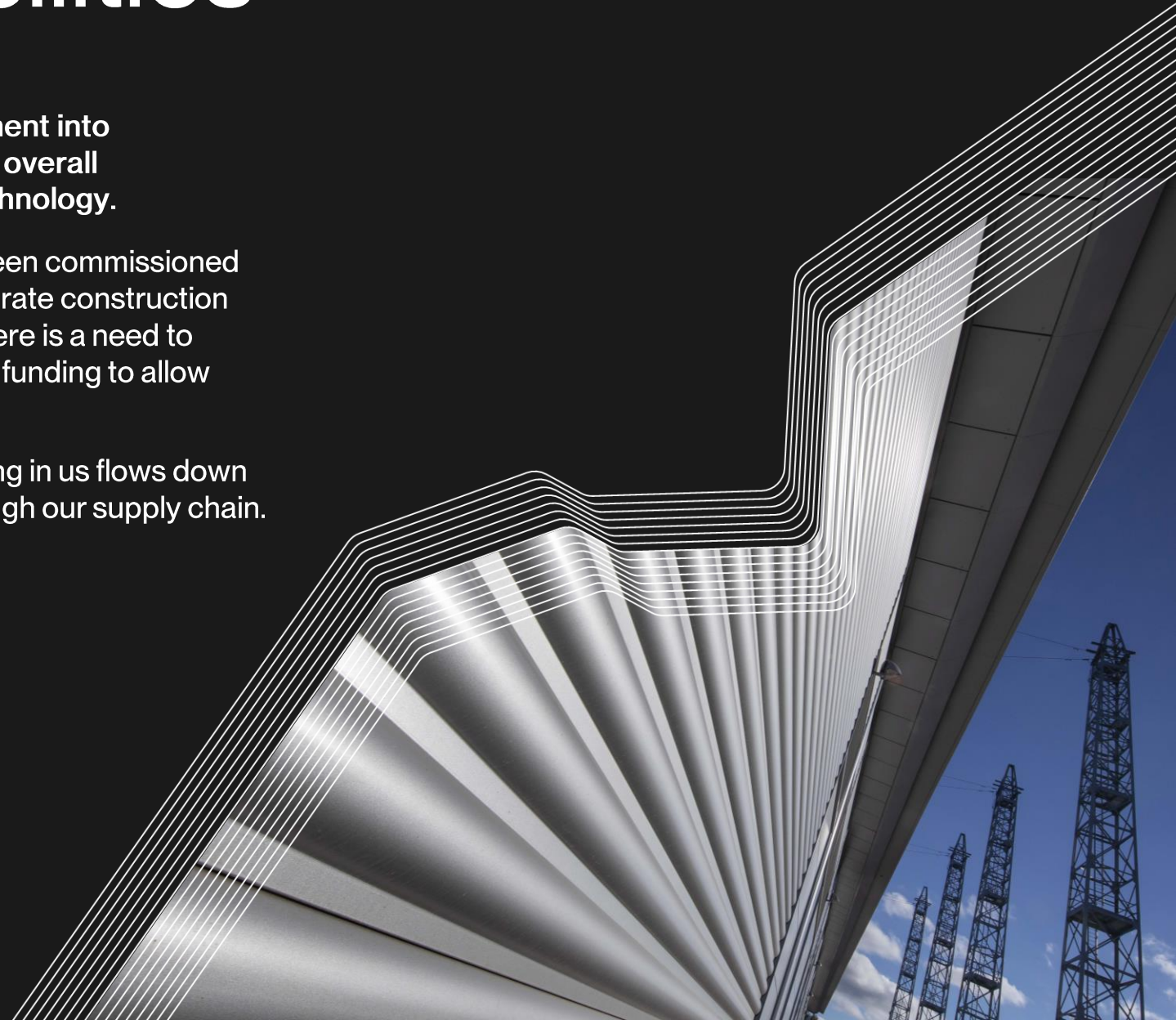
# Investing in our facilities

Our Future Materials Campus (FMC) is a significant investment into infrastructure over multiple years that will support us in our overall purpose to protect the UK through nuclear science and technology.

Over the years in Aldermaston, development of facilities has been commissioned on a building-by-building basis and has been managed as separate construction projects. Moving forward and for this significant investment, there is a need to consolidate works. The government agrees and will ring-fence funding to allow us to deliver the constructions needed across the whole site.

We will work to ensure the investment the government is making in us flows down into the local community, through direct employment and through our supply chain.

## THE FUTURE MATERIALS CAMPUS





# Potential impact of this development

**We know that while infrastructure programmes like ours bring local benefits with direct employment and local business, they also bring challenges that people living nearby will quite rightly expect us to understand as well as take action on.**

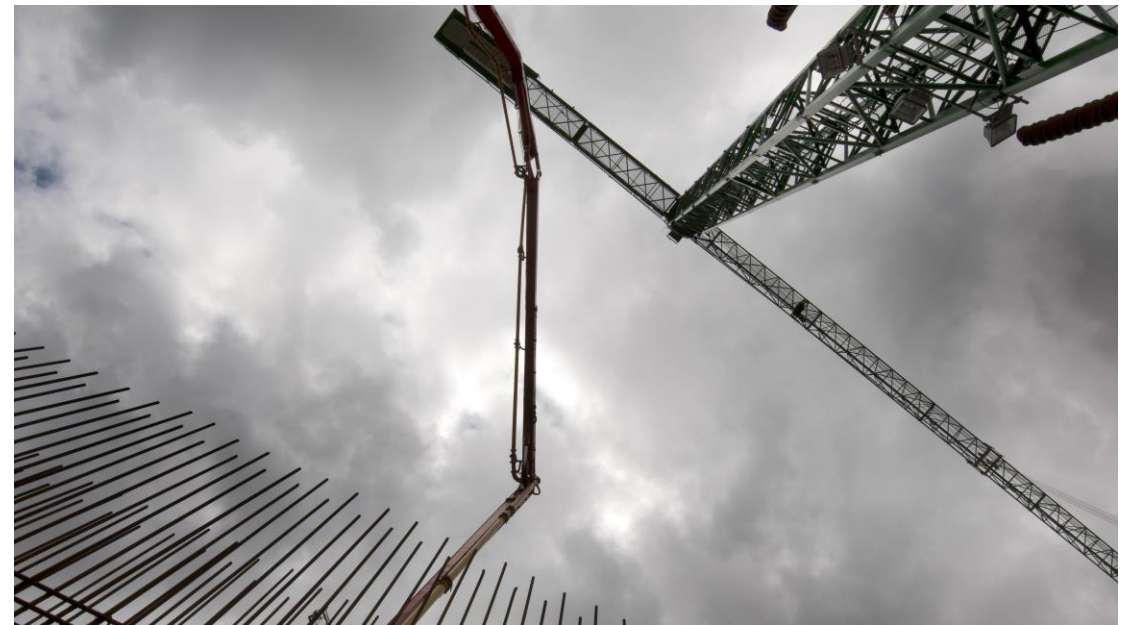
It is too early in our assessments to be able to tell you now what we think the potential impacts will be, but we do think it is likely there will be more people coming to work at Aldermaston, and more vehicles accessing the site. As with all construction projects, it is likely there will be noise and dust within our site, and we will need to monitor noise and air quality.

We're thinking about how we manage potential impacts from FMC and other construction projects already in progress. We're planning into the future and already taking action – for example opening satellite offices to relocate some teams out of Aldermaston.

We will also use the FMC programme as an opportunity to take a site-wide look at how we manage vehicle movements and see if we can do this better – for example by installing monitoring systems to manage the flows of traffic. We're assessing how people, materials and equipment move around our Aldermaston grounds, as well as specifics such as traffic and travel management, parking and construction routes, on and off our site.

We know traffic is a concern for residents. We are early on in our assessments but will share more with you as we develop our plans.

## CONSTRUCTION

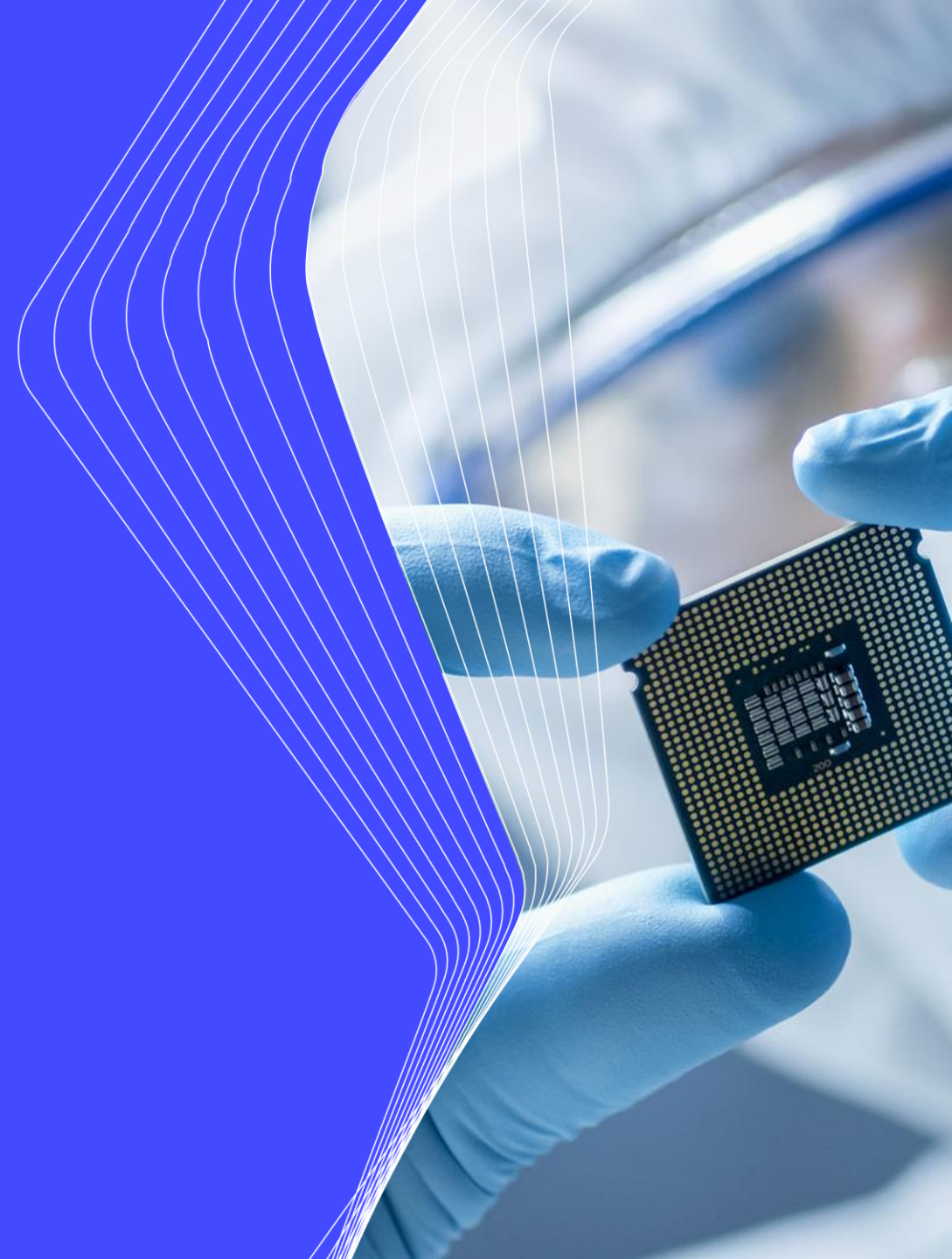


# Potential impact of this development

The FMC provides a unique and exciting opportunity for the UK to push forward its expertise in science and technology.

It will create job opportunities through the suppliers we will bring in. They will contribute to the local economy through local businesses and local recruitment. We will also be training and developing the scientists and engineers of the future, right here in Berkshire and Hampshire.

## SOCIO-ECONOMIC IMPACT





# ENVIRONMENT

We aim to leave our sites in better condition after development activities than before and will be implementing plans across the Future Materials Campus to make this a reality.

We're really lucky at Aldermaston to have a wealth of nature on our land, including specially protected creatures such as woodlark, peregrine falcons, great crested newts and bat species, along with veteran oak trees.

We're carrying out assessments to understand the environment (e.g. habitats, wildlife, water quality) currently on the future FMC site, and from there we can work out what we may need to do to lessen any potential environmental impacts and make environmental improvements.



# CARBON REDUCTION

AWE has an ambition to achieve Net Zero Carbon by 2050. All works within the FMC are subject to documented efforts to reduce carbon, in both the design and construction phases. These include (but are not limited to) reduction in the quantities of materials needed via innovative design, replacement of carbon-intense materials with more environmentally benign ones, reuse of recycled materials on site, and changes in materials formulation (e.g. concrete) to reduce our carbon footprint.



# Building together

Keeping our nation, our environment, plus everyone and everything around us safe and secure is our top priority.

This brings with it a high level of safety and security around our sites and means information you might ordinarily expect to see when organisations start major projects (such as detailed timelines and designs) will not be available for the FMC.

We appreciate this can be frustrating, but we will do our best to give you as much information as we can. It's important to us that we work alongside you as our Future Materials Campus plans are developed.

If you can spare a few moments, we'd welcome your feedback. We would like to use this information to start developing an 'AWE Community Charter', that we will share with you and that you can hold us to.

## OUR FIRST CHARTER COMMITMENT

We will do our best to give you as much information as we can, but in a way that also protects our people, our work and our nation's security.

## NEXT STEPS

We will come back to you with further information on our proposals in 2025.

## STAYING IN TOUCH

As the Future Materials Campus programme moves forward there may be times where you'll want to contact us directly. Please fill out our feedback form as it asks how you would like to be able to contact us in the future.



Scan here for further information:

<https://awe.citizenspace.com>



Scan here to share your feedback or email us:

[communityandschools@awe.co.uk](mailto:communityandschools@awe.co.uk)

# OUR WORK AT AWE IS VITAL TO NATIONAL SECURITY