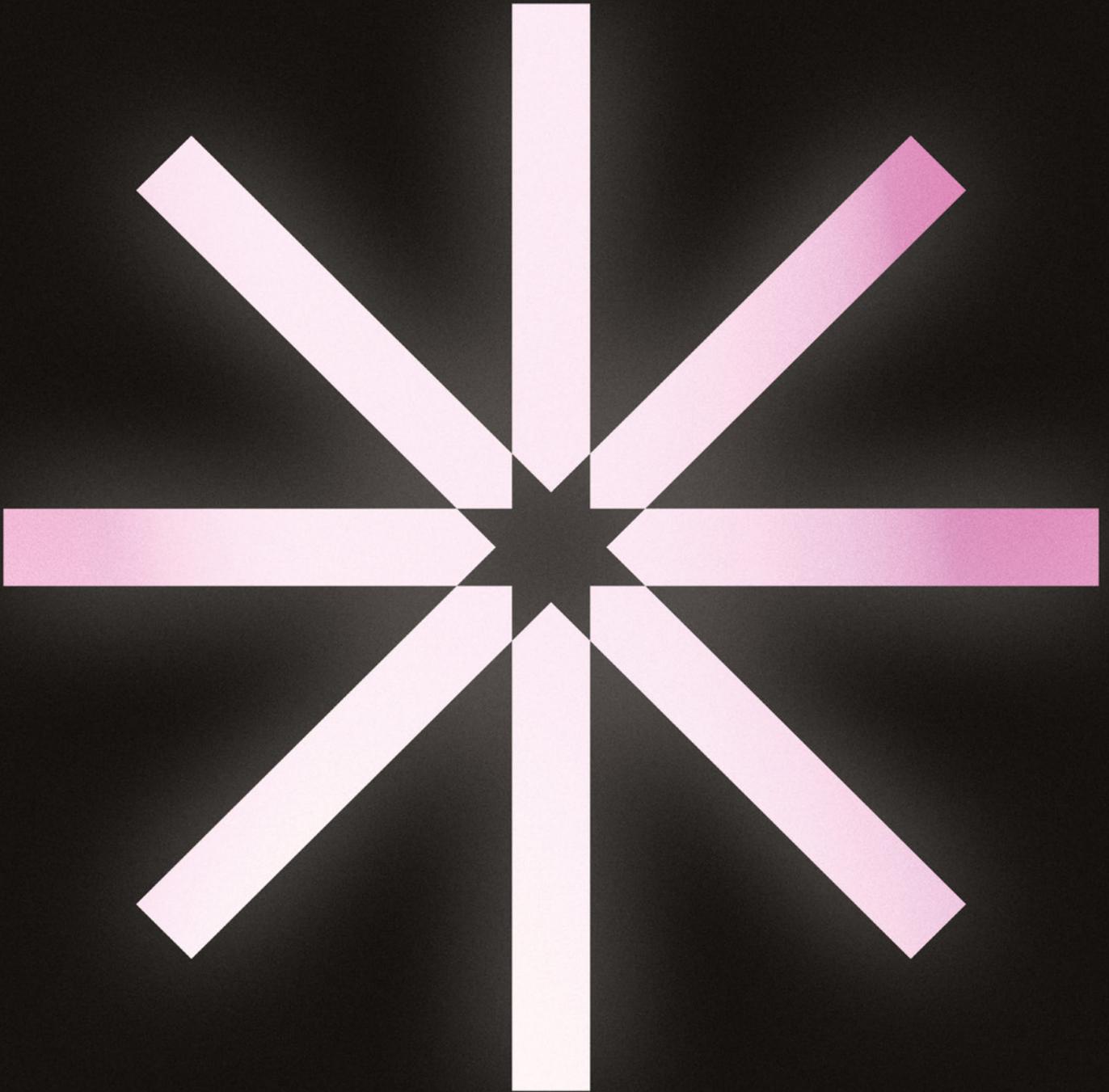
 THE  
FUSION  
CLUSTER



The Fusion Cluster  
Directory **October 2022**

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 NOVINTEC + NUCLEAR AMRC + NUCLEAR INDUSTRY ASSOCIATION  
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 OMNISEALSOLUTIONS + OPENS PDM + OPTIMASYSTEMS CONSULTANCY  
 + ORANO + OXFORD INNOVATION + OXFORD SCIENCE ENTERPRISES  
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 + PORVAIR FILTRATION GROUP + POTENTIARY + PRECISION CERAMICS +  
 PRORSUS + QDOT TECHNOLOGY + RED ENGINEERING + RENAISSANCE  
 FUSION + ROLLS ROYCE SUBMARINES + SCX SPECIAL PROJECTS +  
 SIKA + STEEL DYNAMICS + STFC + STUDSVIK + SWANSEA UNIVERSITY  
 + SWIFTOOL PRECISION ENGINEERING + SWMAS + TOKAMAK ENERGY +  
 TORION PLASMA CORPORATION + TURNER AND TOWNSEND +  
 TUV NORD + TWI + UKAEA + UKI2S + ULTIMA FORMA + UNIVERSITI  
 TEKNOLOGI PETRONAS + UNIVERSITY OF OXFORD + UNIVERSITY OF  
 YORK + VEOLIA + WESTINGHOUSE + WOODRUFF SCIENTIFIC + WSP

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\* Fusion energy primes in UK, US and Europe and suppliers across the UK who provided details.

\* Information correct at time of going to press.

# THE FUSION CLUSTER BRINGS THE RIGHT ORGANISATIONS AND PEOPLE TOGETHER TO GET TO FUSION FASTER.



Valerie Jamieson  
Development manager  
The Fusion Cluster

**Fusion is the energy of the future. Our vision is for fusion to become a practical energy source working with renewables to provide the sustainable power the world needs.**

Fusion energy is too complex for any one person, organisation, or even sector to achieve alone. So The Fusion Cluster brings together businesses, academia, investors, and government, to create the conditions for success. It brings the right minds, skills and experience together. Combining all the elements needed to help achieve fusion faster.

The cluster is open to anyone in the UK working to realise the potential of fusion energy. It creates connections, facilitates knowledge sharing and helps organisations find the partners they need to advance their work on fusion.

From its beginnings in October 2021, The Fusion Cluster has grown to over 140 organisations. Over the next 46 pages, discover the breadth of capabilities and depth of expertise that exists across the UK.

We won't achieve fusion power immediately, there are still challenges to overcome, but recent breakthroughs and accelerating progress means that for the first time fusion power is within our reach.

If your organisation is working on fusion, join us at [thefusioncluster.com](https://thefusioncluster.com)

## ABOUT THE CLUSTER

# Who is in the cluster?

Since October 2021, The Fusion Cluster has grown from a handful of companies to more than 140 organisations working in fusion energy.

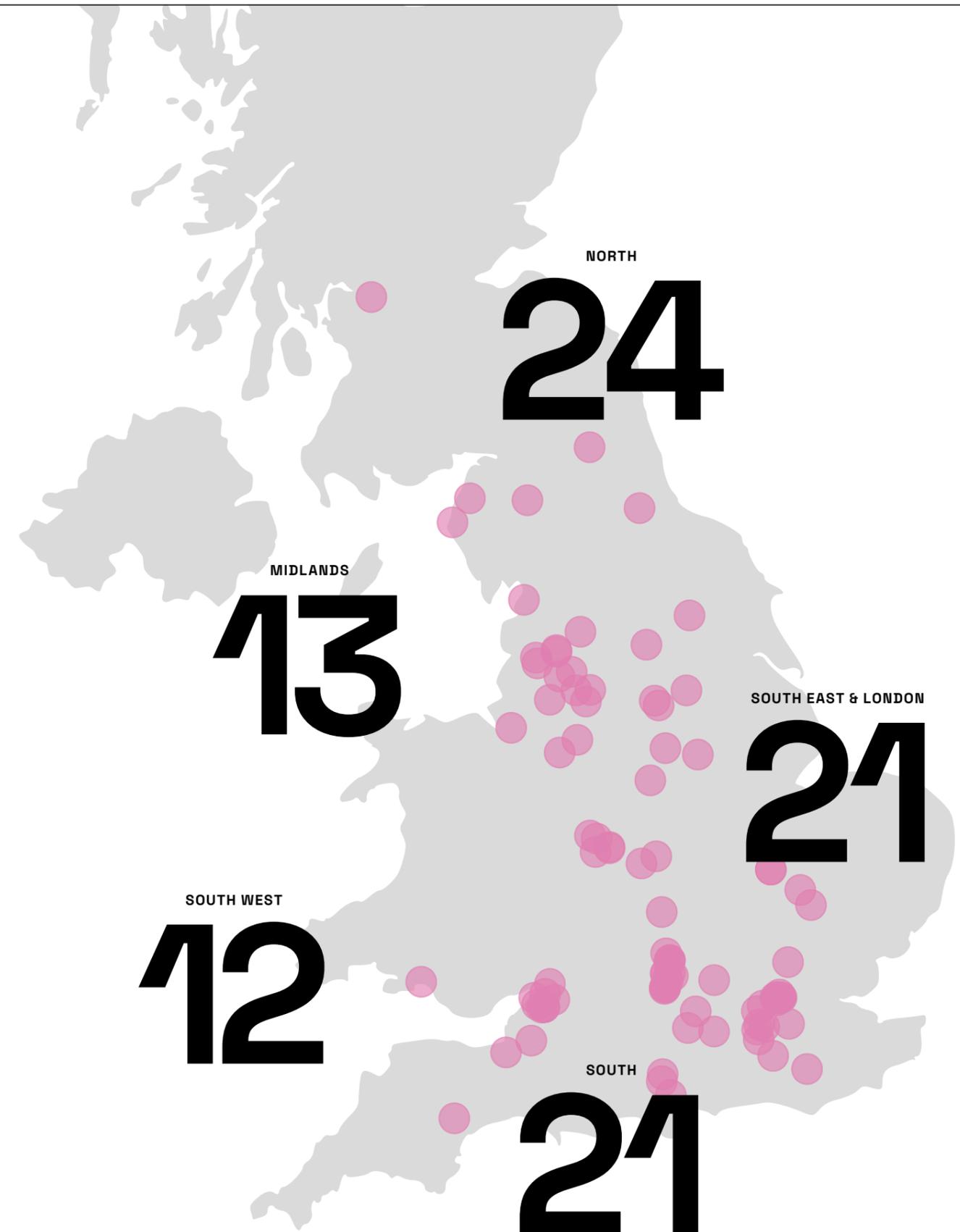
7 private fusion start-ups in the cluster

7

\$2.7b

Together they have declared over \$2.75 billion in investment

Source Fusion Industry Association 2022 report



## OUR START-UP ADVISORY BOARD

## The people behind the cluster



**TIM BESTWICK**

CO-CHAIR

Tim is chief technology officer and director of strategy, communications and business development at the UK Atomic Energy Authority.



**GREG WILLETTS**

CO-CHAIR

As vice president technology and cyber solutions at Jacobs, Greg is responsible for a business with around 700 consultants who provide specialist services to a range of markets.



**MIKE CAPPELLO**

As senior vice president of prototype deployment, Cappello is managing the construction of General Fusion's demonstration plant at Culham, Oxfordshire.

**MATT GALLIMORE**

Matt is chief sales officer at leading fusion engineering company Assystem. He also chairs the Nuclear Industry Association's fusion working group.

**DAVID GANN**

David is pro-vice chancellor of development and external affairs at the University of Oxford, professor of innovation and entrepreneurship at Saïd Business School, and chair of the UK Atomic Energy Authority.

**BARBARA GHINELLI**

Barbara is Harwell Campus business development director at UKRI-STFC where she oversees the development and management of clusters on the Harwell and Daresbury campuses.

**WILL GOODLAD**

As a founding principal of Oxford Science Enterprises, Will is responsible for investments in deep tech companies spun out of Oxford University including First Light Fusion.

**ALASTAIR GRUNDY**

Alastair is head of business development at the UK Atomic Energy Authority. He is also the UK's industrial liaison officer for ITER.

**ANGUS HORNER**

In 2009 Angus established Prorus, a property development and investment company that supports the UK knowledge economy.

**ANTONIA JENKINSON**

Among her roles as UKAEA's chief financial officer, director of property and corporate services, Antonia is responsible for growing and developing the authority's national innovation campuses.

**ROSS MORGAN**

Ross joined leading fusion energy company Tokamak Energy in 2016 and is responsible for directing the company's overall commercial and intellectual property strategy.

**DAVID BRYON**

David is chief financial officer of First Light Fusion. The company's new approach to fusion promises to be simpler, more energy efficient, and has lower physics risk.

**ROBBIE SCOTT**

Robbie is a senior plasma physicist at STFC's Rutherford Appleton Laboratory. He chairs the committee responsible for the UK inertial fusion roadmap 2021-2035.

**MARK WHITE**

Mark is investment director and investment committee member of the UK Innovation & Science Seed Fund. He has over 20 years experience in investment with extensive periods in UK investment banking and emerging markets.

**MELANIE WINDRIDGE**

As founder of Fusion Energy Insights, Melanie helps fusion companies talk about their complex science and busy professionals understand the growing fusion energy industry.

# ABOUT FUSION

# A landmark year for fusion across the UK.

**FEB 2022**

**JET ANNOUNCES NEW FUSION ENERGY RECORD.**

**APR 2022**

First Light Fusion announces world first fusion result, proving unique new target technology (achieved in Nov 2021)

**JUN 2022**

**UK GOVERNMENT PUBLISHES REGULATORY FRAMEWORK FOR FUSION.**

**OCT 2022**

Tokamak Energy and UKAEA sign collaboration agreement.

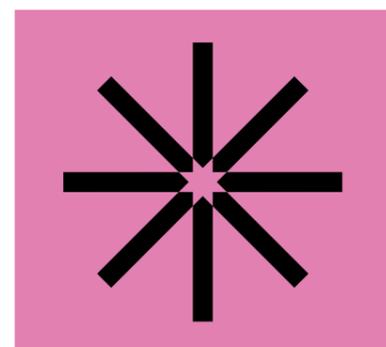
West Burton announced as home for STEP.

**OCT 2021**

UK government publishes national fusion strategy.

The Fusion Cluster establishes start-up advisory board.

General Fusion prepares to build fusion demonstration plant at Culham.



**JAN 2022**

Five sites shortlisted for STEP fusion energy power plant.

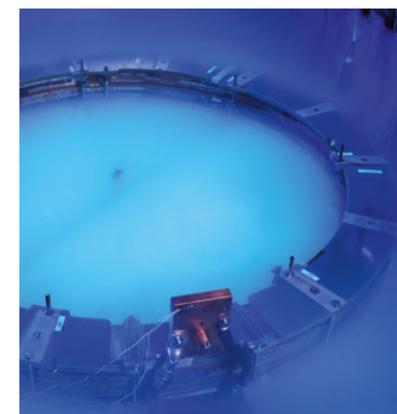
General Fusion's plasma compression prototype in Canada reaches performance goals.

**DEC 2021**

**TOKAMAK ENERGY ANNOUNCES SUPER-CONDUCTING MAGNET BREAKTHROUGH.**

**MAR 2022**

Tokamak Energy accomplishes plasma temperature of 100 million degrees.



**JUL 2022**

**100th**

company joins The Fusion Cluster.

**THE FUSION CLUSTER WEBSITE LAUNCHES.**

Commonwealth Fusion Systems and UKAEA sign collaboration agreement.

100m

# 140+ organisations

# One

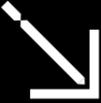
Bringing together businesses, scientists, investors,  
and government to realise the potential of fusion faster.

# mission

## COMPANY DIRECTORY



FUSION PRIME



## COMMONWEALTH FUSION SYSTEMS

Commonwealth Fusion Systems (CFS) was spun out of MIT's Plasma Science and Fusion Center to combine decades of fusion research with the innovation and speed of the private sector. Supported by the world's leading investors in breakthrough energy technologies, the CFS team is uniquely positioned to deliver the fastest path to commercial fusion energy.

CFS has assembled a world-class team to design and build fusion machines. This team includes experts in magnets, manufacturing, and plasma physics dedicated to the mission of delivering clean, limitless fusion power to the world.

**Michael Segal**  
Head of open innovation  
michael@cfs.energy  
www.cfs.energy

### ACTEMIUM

Our primary focus has been on the provision of design services for mechanical and construction engineering and inspection to the UK nuclear industry. In recent years we have diversified into the defence and nuclear new-build markets, working on projects of national strategic importance. In addition, with our industry partners, we provide HVAC; civil, structural and architectural; industrial process engineering; and asset management services. We cover the full project lifecycle, from initial front-end concept design, all the way through to supporting the commissioning of the final product. We utilise the latest 2D and 3D design packages, computational modelling, and stress analysis, together with rigorous compliance and engineering checks throughout the project stages.

**Aidan McManus**  
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### ANSALDO

Ansaldo Nuclear's history starts in the 1950s with the first nuclear power plants. We are proud to be one of the few nuclear companies in the UK to provide in-house capability covering the full lifecycle of bespoke solutions – design, engineering, manufacturing, assembly, testing, commissioning, site installation and integrated logistics through-life support. We work seamlessly with our sister company in Italy, Ansaldo Nucleare. Together we have accumulated 30 years of experience supporting fusion reactor projects, including JET, STEP, DTT, DEMO and ITER. At ITER, we have secured multi-million pounds design and supply contracts as sole supplier or lead supplier in partnerships. These include the tokamak assembly and divertor validation programme. Ansaldo Nuclear supports all sectors of the nuclear industry from new builds and operational sites to decommissioning in both the civil and defence markets. Ansaldo Nuclear is a part of the Italian group Ansaldo Energia, which has a worldwide workforce of more than 3,500. Ansaldo Energia is a globally recognised brand in power generation with an installed capacity of more than 176 GW over 1,800 projects completed in over 90 countries.

**Charles Mendes**  
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www.ansaldoenergia.com

### ARCHER TECHNICOAT LTD

ATL is an SME providing and developing coating technology and equipment. Our materials include SiC coatings and SiC based composites, oxide coatings such as yttria and erbia for tritium permeation barriers, tungsten coatings and tungsten-based composites. We are part of the UKAEA nuclear SiC/SiC working group and provide SiC composites/manufacturing equipment for both aero-engine and nuclear customers. We specialise in developing materials at lab scale and taking the process right through to industrial production equipment.

**Calvin Prentice**  
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## COMPANY DIRECTORY

### ASSYSTEM

Assystem is a global engineering company focused on delivering the energy transition projects that will reduce the impact of climate change. It is a leader in the development of innovative low-carbon technologies and holds major contracts at ITER, where it has been architect engineer since 2005, including for the design of the divertor remote handling system. Assystem has been awarded two contracts by the UKAEA to support the development of STEP. In the first contract, Assystem has been selected as key partner on the STEP fuel cycle tritium engineering framework. Assystem's expertise in thermal energy management, electricity conversion and safety expertise in high-hazard environments will be instrumental to this work, which will concern the inside of the plant where temperatures are expected to reach around 150 million°C. The second contract involves the assessment of different designs for STEP's breeder blanket, the first-of-a-kind component responsible for creating the tritium fuel required for successful fusion.

**Gary Reed**  
Transitional energy business manager  
greed@assystem.com  
www.assystem.com

### ATG SCIENTIFIC LTD

A specialist in laboratory products and equipment solutions, including noise reducing enclosures and gas blending/mixing instruments.

**Andrew Graham**  
Director  
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atgscientific.co.uk

### ATKINS

Atkins is one of the world's largest design, engineering and project-management consultancies. Within the nuclear and clean energy sector we are a trusted end-to-end solutions provider across the project lifecycle for all fission reactor types. We're now leveraging our industry-leading capabilities to deliver fusion on a commercial scale; developing safe, limitless and environmentally responsible energy as architect engineer in the Engage consortium for the ITER project. We're also a tier 1 supplier to the UK Atomic Energy Authority, supporting fusion research and development through strategic appointments on the STEP programme and as designer of the tritium recycling loop within the world-leading H3AT facility. Our services include: systems integration and architect engineer roles; project management and cost modelling; supply chain engagement, collaboration and management; process engineering; mechanical engineering; materials and corrosion; electrical, controls and instrumentation; civil, structural and architectural; safety case and regulatory; shielding, transportation, radiological protection and neutronics; human factors and ergonomics; nuclear robotics and digital techniques; waste planning and management.

**James Goodenough**  
Business lead new nuclear technologies  
james.goodenough@atkinsglobal.com  
www.atkinsglobal.com

### BAY FUSION

Based in Lancaster, Bay Fusion is a dedicated regional fusion cluster organisation helping the north of England's business, academic and public sector to engage and participate in the growing global fusion industry. Bay Fusion previously coordinated the STEP siting bid for Heysham and is now bringing stakeholders together to support fusion development activities, helping bring the UK closer to the industrialisation of fusion technology. Located within the north-west nuclear arc, and reaching into the Northern Powerhouse, we build on the proud industrial heritage and wealth of industrial experience found in the north and aim to support existing businesses already engaged with the nuclear sector transition to support fusion, as well as helping businesses that are new entrants to the sector. We aim to help our cluster find opportunities in fusion development, promote collaboration, share knowledge and promote investment. We are keen to help businesses access supply chain opportunities across the developing fusion industry, especially SMEs in the region. We also work closely with academia across the region, including Lancaster University to help businesses engage with research and create further opportunities, facilitating the exploitation of learning outcomes. Finally, we promote engagement, STEM and learning, including skills bootcamps.

**Rich Grant**  
Director  
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www.bay-fusion.co.uk

### BURGES SALMON LLP

Burges Salmon LLP is a UK law firm with an unrivalled understanding of the nuclear sector. We have worked on almost all of the UK's public nuclear licensed sites, and alongside operators at all levels of the supply chain. We are now bringing this expertise and experience to bear (drawing parallels and distinctions) when advising participants in the burgeoning fusion industry on matters such as strategy and project development; siting and consenting; supply chain and other contracting arrangements; and considerations stemming from the developing regulatory regime for fusion.

**Peter Ramsden**  
Senior associate  
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www.burges-salmon.com

### CENTRONIC LIMITED

Centronic is a leading manufacturer of detectors based in Croydon, UK. It manufactures gas-filled radiation detectors, silicon photodiodes, Geiger-Müller tubes, coil-wound components and precision engineered items. Serving customers worldwide, applications for Centronic's products are as diverse as industrial control; non-invasive medical examination; research and satellite navigation; as well as one of its core businesses, the nuclear industry.

**Kate Fairweather**  
Sales office team leader  
kfairweather@centronic.co.uk  
www.centronic.co.uk

## COMPANY DIRECTORY

### CFMS

The Centre for Modelling and Simulation (CFMS) is an independent digital engineering consultancy providing technical expertise to help organisations create better solutions by pioneering new approaches to product development. With a full portfolio of digital capabilities, including design and analysis services, consultancy and IT infrastructure, CFMS uses digital innovation to help develop more effective engineering solutions across industrial sectors critical to the UK economy. Working with commercial and research organisations of all sizes, CFMS is at the forefront of scientific and engineering development. Our experts in model-based engineering, data science, and advanced simulation and computing use digital tools to challenge the performance of commercially-available tools, and provide balanced opinions on how to optimise designs and processes, resulting in better productivity and lower costs. Our projects include: automated designs to improve operational efficiency; simulating real-world events to optimise defences, saving millions in construction costs; optimised production-line inspection using artificial intelligence to improve quality. CFMS collaborates across industry, academia and research organisations, including research projects funded through Aerospace Technology Institute, Advanced Propulsion Centre, i3P, FlyZero, WECA and more.

**Vickie Heyward**  
Business development  
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### COMSOL LTD

COMSOL is a provider of simulation software for product design, engineering, and research in technical enterprises, labs, and universities. COMSOL Multiphysics is an integrated environment for creating physics-based models and simulation applications. Optional add-on modules add discipline-specific tools for mechanical, fluid, electromagnetics, and chemical simulations, plus CAD interoperability. Specifically in the field of fusion, areas of use include: electromagnetic coils (tokamaks); superconductors; magnetohydrodynamics (liquid metal); and system heat transfer control and effects, including thermal structural stress.

**Matt Nicholls**  
Senior marketing executive  
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www.comsol.com

### CREATEC

Createc is an applied research and technology organisation with core capabilities in imaging/sensing, robotics and radiometrics. Createc has patented technology associated with a unique capability to map radiation in 3D using a range of tools and software processing. At Createc, we make technology happen. We're the team behind some of the world's most advanced applications of emerging sensor technology, robotics, and software. By collaborating with both academia and industry, we are uniquely able to uncover, shape and bring to life innovative ideas to solve real-world problems. Createc operates primarily at Technology Readiness Level (TRL) 4-8. Typically, TRL 9 requires an industrial partner to develop a fit-for-market product. Createc has on occasion taken this step itself, for example self-funding the N-Visage range of gamma radiation mapping hardware and software. Createc has a track record of industry firsts including deploying on-site UAVs in a nuclear radiation contaminated area and open platform robotics systems integration. The main products and services are: research, development, and consultancy in the fields of sensing, radiometrics and robotics; systems and software integration of sensors and robotics; ready-to-use radiometric instruments and software; ready-to-use robotics and sensing technologies.

**Mark Sharpe**  
Sales director  
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www.createc.co.uk

### CULHAM INNOVATION CENTRE

As an innovation centre we support early stage and SMEs in the fusion industry, we offer free business support via our innovation director, with access to funding and grants.

**Shelley Furey**  
Centre director  
sfurey@oxin.co.uk  
www.culham-ic.co.uk

### CUSTOM CAMERAS LTD

Custom Cameras Ltd is a UK-based product manufacturer of radiation tolerant camera systems and associated control equipment. We have been developing and supplying camera systems to high-energy physics facilities and nuclear power facilities around the world for over 40 years. Our range of products has been developed to withstand high levels of nuclear radiation and designed to operate in hostile environments including extremes of temperature and underwater operations. To support our specialist radiation tolerant camera systems we have also designed and manufactured radiation tolerant peripheral products such as pan and tilt units, lighting units including a high-powered solid state underwater illuminator, bespoke mirror assemblies and microphones. We enjoy engagement directly with the customer communities or equally through collaboration with prime contractors.

**Andy Brownlow**  
Director  
andybrownlow@customcameras.co.uk  
www.customcameras.co.uk

### DASSAULT SYSTÈMES UK LTD

Dassault Systèmes is the world leader in design, engineering and simulation software. At the very heart of our business, our purpose is to enable our customers to innovate sustainably, enabling product, nature and life to work in harmony. Our goal in fusion is to continue supporting fusion companies, the supply chain and workforce of the future to ensure the UK is maintaining its position as the pioneer in fusion technology.

**Aston Smith**  
Account manager  
aston.smith@3ds.com  
www.3ds.com



## COMPANY DIRECTORY

### DELKIA

Delkia is a specialist systems integrator operating throughout the UK and internationally for mission critical and highly regulated sectors including nuclear, defence, aerospace and maritime. Our offering includes digital engineering, systems and technical consultancy, systems integration, engineering design, build-to-print, control panel build, and complex control systems support. All of these are harnessed specifically for each project's needs, maturity and technology requirements. Our approach is to build long-lasting partnerships with our clients through the right expertise and approach. This enables us to know your exact needs, add value and innovation, as well as providing you the right services, at the right time, both tactically and strategically.

**Sheena Burns**  
Tender support officer  
sburns@delkia.co.uk  
www.delkia.co.uk

### DIGILAB

digilab is an innovation company operating at the frontiers of data science. We deliver decision intelligence to our customers by enabling them to exploit the value locked in their models and data through the creation of customisable digital twins. We operate in aerospace, utilities and energy. The science of fusion must be solved largely in-silico, making expensive models a central focus. Due to the prohibitive cost of solving them repeatedly, smart techniques for Uncertainty Quantification (UQ) are required. In July 2022, digilab began a 5-year collaboration with UKAEA to deploy an open and interoperable UQ pipeline to accelerate fusion reactor design. Being simulator agnostic, it provides a way to plug models into the UQ framework.

**Anhad Sandhu**  
Co-founder and CEO  
anhad@digilab.co.uk  
www.digilab.co.uk

### DOOSAN BABCOCK

Doosan Babcock has a 70-year heritage in nuclear, transforming from a boiler OEM into a supplier of specialist services and equipment, supporting both existing and new-build power plant. We operate across the full project lifecycle, providing services ranging from full EPC delivery, mechanical and electrical site delivery expertise, access and waste management services, specialist welding development, manufacturing integration, supply of nuclear pressure equipment, project delivery and NDT services. We are currently supporting the UK's fusion programme as part of the UKAEA's industrial site services framework, providing a year-round core team at Culham Science Centre, manufacturing integration services and one of the tier 1 manufacturing framework partners for the STEP programme. We see the potential for fusion to provide clean and reliable energy generation, and are excited to be involved in the delivery of the manufacturing, construction, maintenance and reliability services that will be required for future commercial fusion plants. Our work is underpinned by our peoples' dedication, strong customer relationships and existing site presence.

**Fraser Wood**  
Business development manager  
fraser.wood@doosan.com  
doosanbabcock.com



FUSION PRIME

## FIRST LIGHT FUSION

First Light Fusion is a fusion company, researching clean-energy generation through inertial confinement fusion. Based in Oxford, First Light Fusion was founded in June 2011 by Yiannis Ventikos and Nicholas Hawker with the mission to solve the problem of fusion power with the simplest machine possible. First Light is an innovative deep-tech business pushing the boundaries of science and theoretical modelling by taking a new approach to inertial fusion, called projectile fusion. The company was founded as a spin-out from the University of Oxford, raising seed capital from IP Group plc, Parkwalk Advisors Ltd, and private investors.

First Light is one of the recent great British start-up success stories, raising over £78 million of capital over the last 11 years. The business has grown from a research-focused university project to a fully-fledged company that has developed not only a new approach for how to make fusion energy work, but also a sustainable business model based on the technology. It is now regarded as one of the leading fusion companies in the world, widely covered by **The New York Times**, **The Financial Times**, **The Sunday Times**, **Bloomberg**, **BBC**, **Forbes** and more.

enquiries@firstlightfusion.com  
firstlightfusion.com

## COMPANY DIRECTORY

### EGB ENGINEERING

EGB Engineering provides expertise in the field of power. Our research into nuclear energy puts our knowledge and expertise at the forefront of clean sustainable energy for next generation civil nuclear power plants. We are knowledge-led and collaborative. We focus on industry and academia, and predominantly research, conceptualise, design and develop cleaner and sustainable solutions for various sectors including nuclear. Our capabilities in fusion include process and mechanical engineering, materials sciences and computer-based modelling and simulation. These capabilities have been used to deliver projects for UKAEA's STEP programme. Our in-house tool, HYPER-ION, aims to increase the understanding of nuclear power plant (NPP) design by using a bespoke in-house modelling and simulation solution. HYPER-ION bridges the technical, economic and risk gaps when analysing a NPP by using defined algorithms that represent various cycle configurations and operations. They aid the decision-making process of choosing the best economic plant configuration. The modelling and simulation aims to provide a better understanding of how critical parameters affect the overall design and cost of the plant. This allows the NPP to be optimised during the initial conceptual phases, to reduce costs and improve efficiency.

**Arnold Gad-Briggs**  
Executive director  
info@egb-eng.com  
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### ENERGY SYSTEMS CATAPULT

Working with government and industry, ESC leads the UK's energy system approach to achieving net zero.

**Tim German**  
Senior strategic relations manager  
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### ENVIRONMENT AGENCY

The Environment Agency regulates radioactive disposals, including the discharge of gaseous and aqueous radioactive wastes, on and from nuclear site licensees. On non-nuclear sites, the Environment Agency regulates the keeping and use of radioactive material and accumulation and disposal of radioactive waste.

**Mike Webley**  
Senior advisor  
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environment-agency

### EUCALYPTUS CONSULTING LTD

Eucalyptus Consulting advises businesses on strategy and sustainability, specialising in bringing new cleantech innovations to market.

**Gareth Jones**  
Director  
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www.eucalyptus.ltd

### FAITHFUL AND GOULD

Faithful and Gould is a world-leading integrated project and programme management consultancy. We build strong relationships by understanding the challenges our clients face, sharing their ambition and helping them transform potential into reality. Our core suite of digital platforms and tools underpin our service delivery model. Through innovation, standardisation and automation, we maximise efficiencies for our clients to save time and money. We advise and support public and private sector clients with the delivery of complex, outcome-focused projects, building relationships based on understanding, integrity and collaboration.

**Lisa Street**  
Region director Energy  
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### FRAMATOME

Framatome's Technical Centre supports nuclear power plant and fusion businesses through its expertise and state-of-the-art laboratories. We cover materials, corrosion, welding; radiochemistry and hot-cell laboratories; equipment qualification; and thermal-hydraulic and component-testing loops.

**Kelvin Roynon**  
Business development  
and proposal manager  
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## COMPANY DIRECTORY

### FRAZER-NASH CONSULTANCY

Frazer-Nash, part of the KBR family, is a leading systems, engineering and technology company. We help organisations deliver innovative engineering and technology solutions to make lives safe, secure, sustainable, and affordable. We are a tier 1 supplier on the engineering design services, tritium and manufacturing frameworks with UKAEA.

**Steven Lawler**  
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### FTI LTD

Supplier of instrumentation products and services to various customers involved in fusion projects.

**Karl Kingston**  
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www.ftipv.com

### FUJIKURA EUROPE

Fujikura is one of the world's leading suppliers of high quality high-temperature superconducting (HTS) tapes. We were the original developers of the IBAAD manufacturing process which is now widely adopted by other HTS suppliers. We are headquartered in Japan but our European office is in London. We employ 60,000 staff and are involved with a wide range of technologies from optical communication to consumer electronics.

**Simon Richardson**  
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### FUSION ENERGY INSIGHTS

Fusion Energy Insights is a membership for professionals who want to keep up to date with developments in the growing fusion industry so that they can see opportunities emerging. To members we offer monthly insights Q and A events, with special expert guests on various topics relating to the commercialisation of fusion energy and the energy transition, insights summary documents, and member networking. Selected insights on news stories and event topics are available on the blog and by weekly email.

**Melanie Windridge**  
Founder and CEO  
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### GARDINER AND THEOBALD LLP

Gardiner and Theobald is an independent construction and property consultancy working across all sectors of the built environment. We focus on minimising risk and creating opportunities to maximise the value of our clients' development and property assets. We deliver project leadership, commercial success, construction excellence and specialist consultancy, operating from our network of offices across the UK and USA. We contribute to an extensive range of energy sector projects across both the public and private sectors, where we provide our clients with specialist business case development, supply market management, procurement, commercial, cost and contract management, P3M and PMO and assurance services. Our team has experience in the whole nuclear cycle from building new power stations and associated developments to decommissioning and demolition, waste management and final disposal. We work with research organisations in the UK as well as advanced modular nuclear reactor vendors. We regularly support organisations evaluating complex business case decisions, improving the success rate of proposals and ensuring that deliverables are met at every stage of the programme lifecycle on time and budget. Among the clients we work with are XLCC, Affinity Water Ltd, Amentum, Thames Water, National Nuclear Laboratory, Sellafield, Nuclear Decommissioning Authority and National Grid.

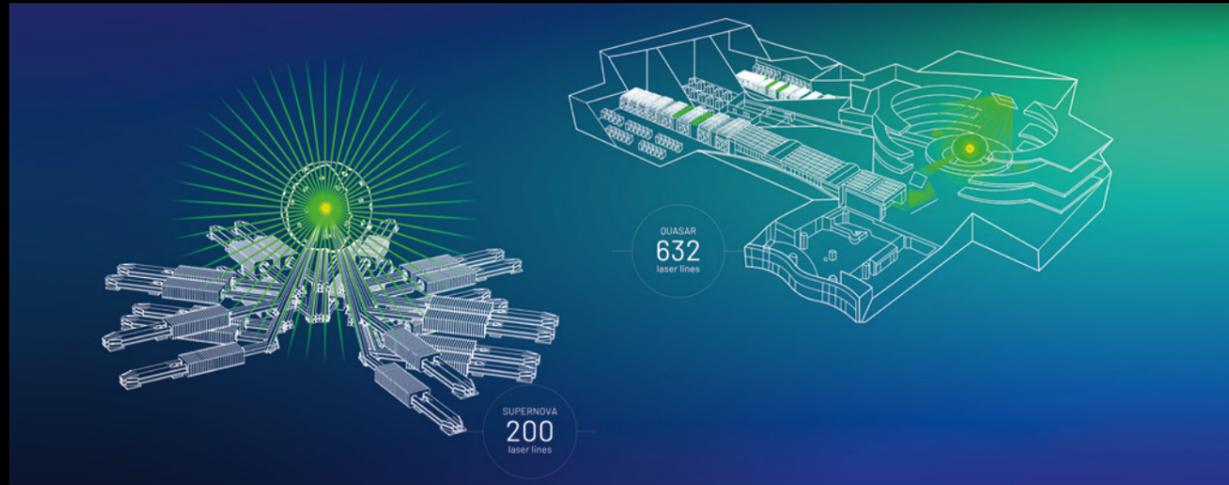
**Mark Mills**  
Partner  
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### GOODFELLOW CAMBRIDGE

As a leading global supplier of metals, alloys, ceramics, glasses, polymers, composites and compounds, we take our work very seriously. In fact, we've spent over 75 years facilitating scientific innovation. We have a vast range of 70,000 catalogue products, all of which are underpinned by the most rigorous quality accreditations.

**Adam Sells**  
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## COMPANY DIRECTORY



FUSION PRIME

## FOCUSED ENERGY

Focused Energy is a German-US company founded in 2021 with locations in Austin, Texas, USA and Darmstadt in Germany. The company aims to use the best of both sides of the Atlantic to develop fusion energy as a clean, reliable, and sustainable energy source for humankind based on modern laser technology.

Focused Energy seeks to demonstrate laser-based fusion energy by the end of this decade and a commercially-attractive, first power plant during the middle of the next decade.

Focused Energy leverages results from laser fusion experiments over the past 30 years by adding the proton fast ignition concept to reduce the required laser

energy and improve the energy output. The company also uses modern 21st century laser technology to provide the required repetition rate and laser efficiency to match competing technologies with respect to cost of electricity.

Among possible approaches to fusion energy, we regard our approach as the most credible. The founders and employees of Focused Energy are deeply embedded in the international science and research community in the field of fusion research.

**Thomas Forner**  
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focused-energy.world

### GRAHAM ENGINEERING LIMITED

Graham Engineering Ltd (GEL) is a multi-faceted manufacturer of quality, complex projects in stainless and exotic steels for highly regulated industries. Clients include UKAEA, AWE, the NDA Estate, and companies from the aerospace, medical and the security sectors. GEL is most renowned for its 40-year history of manufacturing containers for the storage and production of nuclear waste up to 3 cubic metres in size but it also manufactures a diverse range of products varying in size/thickness. GEL specialises in early collaboration with clients to understand design intent, remote process handling interfacing, and product longevity and specifications. This embedded approach facilitates effective production, operational efficiency, accuracy, reliability, maintainability, and quality assured products, aligning with technical specifications, engineering drawings and quality requirements – and the identification of cost saving opportunities for the entire life-cycle of products. GEL can accommodate a full range of new product development services and offers a multitude of engineering processes and skills. GEL's impressive capability includes precision materials cutting, deep drawn pressings, fabrication, machining, robotic laser welding suites, and NDT. GEL is able to self-certify products providing full traceability via LTQRs, manufacturing records, or clients' specific requirements.

**Michael Hubbert**  
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### GSF UK

GSF UK is a specialist cleaning and associated services company. We specialise in complex environments and constantly develop new methodologies to enable our clients to focus on their business rather than their facility.

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### HATCH UK

Hatch believes that the development of fusion power is a crucial step towards solving the world's sustainable energy challenges. We embrace our clients' visions as our own, and build long-term relationships to develop smarter, more efficient, and innovative ideas. Our experience spans over 150 countries worldwide in the energy, metals, infrastructure, digital, and investments market sectors. We are employee-owned and independent. Our exceptional, diverse teams combine vast engineering and business knowledge, and work in partnership with our clients to develop market strategies, manage and optimise production, develop game-changing technologies, and design and deliver complex projects. We also work closely with the communities in which we serve to ensure that our solutions optimise environmental protection, economic prosperity, social justice, and cultural vibrancy. Hatch provides a full range of engineering, procurement, and construction management services that enable fusion technology companies to grow their core technologies into fully functional energy solutions. Through our current partnership with General Fusion on design and construction for their fusion demonstration plant at the UKAEA Culham Centre for Fusion Energy, we are actively working to eliminate the remaining technology barriers and bring deployable fusion energy solutions to the world.

**Tom McGarry**  
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## COMPANY DIRECTORY

### I4CNC

Our heritage rests with the production and maintenance of specialist hardware to be found within complex scientific instrumentation. We manufacture build-to-print, and bespoke, precision-engineered components, electro-mechanical assemblies, and hybrid fusions of mixed technologies and materials. Operating CNC and lapping machinery, we also offer metal-working and welding solutions. Our fields of professional interest extend into electronics, electromagnetic assemblies, high-vacuum constructions and most other multifaceted engineering requirements demanded by industrial scientific research and production. Whilst striving to meet our Industry 4.0 objectives, we are also ISO 9001 and Cyber Essentials accredited. Our core competencies are: experienced team of problem-solving engineers from the scientific community; consistent exposure and support to a global community of instrument end-users; flexible service contract relationships.

**Damon Moran**  
European relations manager  
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### IDOM

IDOM has developed more than 145 references relating to fusion activities at JET, STEP, ITER and IFMIF DONES among others. IDOM started work for ITER in 2007 with a civil and structural analysis contract. Three years later we began working as part of the Energhia Consortium in the role of "support to the owner", reviewing the design and assessing compliance with the technical requirements of ITER. In the UK, we have been involved in several projects with UKAEA, collaborating in the engineering design services framework and fuel cycle framework as a tier 1 contractor. We have brought our skills in mechanical engineering (including structural analysis, material selection and manufacturability assessment); computer-based modelling and simulations (including stress analysis of STEP components using FE analysis codes, neutronics analysis and electromagnetic analysis of the magnet systems); power transmission and distribution; and control and instrumentation. Our highly professional team of engineers has a track record of successfully demonstrating its capabilities in fuel cycle, in-vessel components and materials in the area of research and development, design and engineering.

**Beatriz Echeveste**  
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### INDUCHEM GROUP

Induchem Group was established in 1982. Today, with over 35 years' experience, we have earned a reputation as a reliable, responsible partner within the global process and nuclear industries. Supplying valves, actuators, PTFE-lined pipe, automation, pumps, safety devices and pneumatic valves, we can also provide boiler maintenance and lightning conductors.

**Ewan Turnbull**  
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### INNOVATE UK KTN

Innovate UK KTN exists to connect innovators with new partners and new opportunities beyond their existing thinking, to accelerate ambitious ideas into real-world solutions. Innovate UK KTN is part of the Innovate UK Group, the UK's innovation agency. We help to drive innovation, widen supply chains and create diverse connections in both the fission and fusion energy communities.

**Ray Chegwin**  
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### JACOBS

Our commitment to fusion dates back more than 30 years. Since we began work on the Joint European Torus for the UK Atomic Energy Authority in the 1980s, we have remained at the forefront of design and engineering support for advanced research. We are the delivery organisation for UKAEA's CHIMERA, a world-first machine for testing fusion energy components, and we have worked for ITER from its inception to the present day, providing on-site delivery and support on engineering design, robotics, materials science and component manufacturing. On a similar timescale, we have provided critical project delivery and engineering to the Lawrence Livermore National Laboratory's National Ignition Facility in the US. Jacobs delivers high-end solutions for some of the most complex fusion projects, drawing on decades of experience and our capabilities in scientific, engineering and technology innovation.

**Stuart Codling**  
Group director fusion  
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jacobs.com

### JAMES WALKER UK LTD

James Walker holds a respected reputation as a leading force in the application of specialised fluid sealing products and other materials technology to provide effective solutions to operational issues in critical applications. Based on our unrivalled experience, we precisely match materials, product design and component manufacturing methods to meet customers' exact specifications and operational requirements. With more than 40 years of service to the energy sector, our materials and products are used across a broad range of applications. Supplying only the highest integrity materials and specialised fluid sealing products to the energy industry, our capabilities are firmly based on our knowledge of the processes involved, their highly specialised sealing requirements, plus the need for exacting quality control and assurance regimes. We are at the forefront of development and application of high performance elastomers. In addition to working with industry standard materials and customers' own proprietary materials, our materials technology centre is continually working on new formulations to meet customer specific operational parameters and to advance our own product ranges. The result is materials for sealing-related products that work efficiently and for longer at extremes of temperature and pressure, with improved resistance to chemicals, abrasion, or ionising radiation.

**Joe Gardias**  
Product specialist  
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## COMPANY DIRECTORY

### JCS NUCLEAR SOLUTIONS

JCS provides nuclear radiation sensing and shielding solutions for fusion, fission, research, medical, and defence applications. JCS has been supporting fusion research since 1975.

**Oliver Caunt**  
 Managing director  
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### JOHN ELLISON ELECTRONICS

We research, design, approve and manufacture machines and instrumentation. Our research emphasis is carbon reduction and improving public health. We are nuclear industry trained and currently working with UKHSA Centre for Radiation, Chemical and Environmental Hazards.

**John Ellison**  
 Managing Director  
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[johnellison.co.uk](http://johnellison.co.uk)

### KLOECKNER METALS UK

KloECKner Metals UK is one of the largest mill-independent multi-metal stockholder and distributors in the UK. Operating in all major market sectors across the UK, KloECKner Metals UK is committed to supporting the delivery of all new nuclear power stations in the country, whilst continuing to support all existing operational nuclear sites and the NDA's decommissioning programme.

**Steve Tyrer**  
 Business development manager  
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### KONECRANES

Konecranes is a world-leading group of lifting businesses, serving a broad range of customers. Regardless of a customer's lifting needs, Konecranes is committed to providing lifting equipment and services that increase that business's value and effectiveness. The fusion and nuclear industries depend on equipment that is designed to operate safely, reliably, and in compliance with stringent quality and regulatory requirements. With more than a half-century of nuclear and more than 100 years of general industry experience adhering to the standards for the design of lifting equipment, Konecranes has the experience to meet the most stringent requirements. Konecranes can expertly provide all material handling equipment, engineering services, onsite services, spare and replacement parts, and equipment modernisations worldwide. We can also supply the capability to service any manufacturers' equipment within fusion power plants, nuclear waste storage and fuel processing facilities, including the most critical safety-related lifting equipment. Our organisation brings the expertise of Konecranes Nuclear Equipment and Services to provide equipment designed specifically for fusion and nuclear applications, combined with our Konecranes Demag UK experience in providing cost effective designs with shorter delivery periods using our state-of-the-art COTS crane components, which are especially suited to decommissioning and general applications.

**Mark Bidwell**  
 Regional sales manager, nuclear equipment  
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[www.konecranes.com/industries/nuclear](http://www.konecranes.com/industries/nuclear)

### KUKA SYSTEMS UK LTD

KUKA UK specialise in robot automation systems for the nuclear decommissioning industry. The KUKA competence centre for nuclear applications is based at our facility in the UK where all nuclear projects for KUKA are completed. We offer full design, build, test and installation of our systems. Supported by training and full nuclear-level document support, KUKA also has an active interest in fusion and new build programmes.

**Dave Burns**  
 Nuclear technical sales  
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[www.kuka.com](http://www.kuka.com)

### KYOTO FUSIONEERING

Kyoto Fusioneering is a privately-funded technology start-up founded in 2019, with its headquarters in Kyoto, Japan. The company is focused on developing advanced technologies for commercial fusion reactors, including gyrotron systems, tritium fuel cycle technologies, and breeding blankets for tritium production and power generation. Kyoto Fusioneering is developing innovative solutions that are simultaneously high performance and commercially viable. Supporting both public and private fusion developers around the world, the company is accelerating the realisation of fusion as the ultimate energy source for humankind.

**Richard Pearson**  
 Chief innovator  
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[www.kyotofusioneering.com/EN](http://www.kyotofusioneering.com/EN)

## COMPANY DIRECTORY

### LASER 2000 UK

Supplier of laser and optical components and equipment for nuclear diagnostics, Laser 2000 UK also offers fibre sensing systems for temperature, strain and vibration measurements. These systems are suitable for harsh environments, from cryogenic temperatures of  $-196^{\circ}\text{C}$  up to temperatures found in furnaces and chemical reactors of  $600^{\circ}\text{C}$ .

**Lisa Thomson**  
Field sales engineer  
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www.laser2000.co.uk

### LASER ADDITIVE SOLUTIONS LTD

Laser Additive Solutions Ltd is a precision engineering company based in Doncaster that uses state-of-the-art laser-based equipment to produce cost effective solutions to engineering and production problems encountered in a wide range of industrial sectors. We specialise in laser welding, laser surface hardening, laser 3D cutting and laser-direct energy deposition (L-DED) additive manufacturing using both wire and powder. Our workload involves the processing of many difficult materials, such as duplex stainless steels, Ni-base alloys including Inconel 718 and Inconel 625, and refractory metals such as tungsten and molybdenum. Our customers include internationally recognised companies such as Rolls-Royce, Siemens, and Sulzer. We carry out both commercial repair and manufacture work, and academic research and development activities, and we understand the often urgent and confidential nature of the work we undertake. We have recently completed a project for UKAEA to develop a deposition process using our new L-DED cell that includes a TRUMPF 3001 TruDisk laser and a KUKA high accuracy robot to repair pure tungsten plate using both tungsten wire and powder. The company operates a ISO 9001 quality management system approved by BSI.

**Peter Brown**  
Managing director  
peter.brown@laseradditivesolutions.co.uk  
www.laseradditivesolutions.co.uk

### LEYBOLD UK LTD

Delivering vacuum pumps, systems, accessories, services and tailor-made vacuum solutions for more than 170 years, we offer a broad range of advanced vacuum solutions for use in manufacturing and analytical processes, as well as for research purposes. These span laboratory-to-industrial and rough-to-UHV pressure range which includes turbomolecular, cryogenic and ion pump solutions. We also offer market-leading leak detection equipment. We focus on the development of application and customer-specific systems for the creation of vacuums and the extraction of processing gases. Fields of application are coating technologies, thin films and data storage, analytical instruments and industrial processes.

**Andrew Smart**  
R&D sales  
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www.leybold.com



FUSION PRIME

## GENERAL FUSION

General Fusion pursues a fast, efficient, and collaborative path to practical fusion power. The company is completing an aggressive development plan to deliver economical carbon-free fusion energy with its proprietary Magnetized Target Fusion technology by the early 2030s. General Fusion is building a first-of-a-kind fusion demonstration at the UK Atomic Energy Authority's Culham Centre for Fusion Energy. The demonstration facility will confirm the performance and economics of the company's integrated Magnetized Target

Fusion technology at 70 per cent scale of a fusion machine for a commercial power plant. The facility is designed to create fusion conditions in a power-plant relevant environment without electricity. General Fusion is headquartered in Vancouver, Canada, with additional centres co-located with internationally recognised fusion research laboratories near London, UK and in Oak Ridge, Tennessee, USA.

**Michael Cappello**  
Senior vice president, Technology delivery  
michael.cappello@generalfusion.com  
www.generalfusion.com

## COMPANY DIRECTORY

### M5TEC

M5tec is a multidisciplinary engineered solutions provider and consultancy located in County Durham, England. Our team consists of experienced and enthusiastic engineers who are dedicated to supplying high-assurance industries with new and innovative solutions to engineering challenges. We are committed to delivering engineering excellence on every project. We have a strong history in designing remote handling solutions for hazardous environments including fusion, nuclear and subsea. We are a tier 1 supplier on the UKAEA's engineering design services framework and a tier 2 supplier on the UKAEA's embedded engineering resource framework. M5tec's experience within the fusion industry includes: feasibility studies to assist with the electrical design of UKAEA's STEP power plant; market surveys on remote maintenance solutions; rotary actuator upgrades and improvements for remote handling solutions; concept design of shielding solutions for tokamaks; consultancy on long-reach tooling upgrades and improvements; literature reviews on tokamak core fuelling technologies; manufacturing plans for tokamak in-vessel components; design of remotely operated segmentation tooling for tokamak decommissioning; detailed technical report into the use of fasteners within a fusion environment; procurement and assembly of mechanical components for use in a fusion environment; and providing engineering design resource to embed within fusion industry design teams.

**Craig Chalder**  
Managing director  
craig.chalder@m5tec.com  
m5tec.com

### MAGDRIVE

Magdrive is developing the next generation of spacecraft propulsion for low Earth orbit satellites. With high thrust and high efficiency, the propulsion systems are designed to foster the sustainable use of space, and open entirely new business models such as orbital manufacturing and servicing. Magdrive is working with companies in The Fusion Cluster to space-qualify the high quality electronics and components developed there for use in space. Magdrive intends to lead the propulsion market with a high-power electric plasma thruster, leveraging technology developed in the fusion industry. Magdrive's CTO and cofounder Dr Thomas Clayson studied plasma laboratory astrophysics at Imperial College London, and worked at First Light Fusion where he helped to design and build Europe's largest pulsed power machine for fusion research.

**Mark Stokes**  
CEO  
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www.magdrive.space

### MIRION TECHNOLOGIES

Mirion Technologies has a proud tradition of supporting fusion projects in the UK and worldwide. As a world-leading supplier of radiometric equipment and services, we recognise the importance of fusion research and investment. Based in Harwell, we support many UK fusion projects with our products, services and expert consultancy. Mirion's services include: supply of off-the-shelf and custom radiometric instruments for all radiation types; measurement systems for special radionuclides such as tritium and carbon-14; supply of high-temperature and high-radiation tolerant cameras and systems; consultancy to determine optimum radiometric strategy for customers' plants, process, active waste, fuel processing and decommissioning; feasibility studies including concept designs and performance assessments, to develop new assay systems and characterisation processes for operations and decommissioning; operation of suites of assay equipment for customers, including mobile characterisation services, incorporating setting up, operations and QA procedures, and reporting; in-situ gamma-imaging measurements using portable gamma camera equipment; development and implementation of complete in-situ waste activity characterisation and dose-rate mapping solutions using combined measurement techniques; expert data review of assay results, including interpretation of results and recommended action; modelling for shielding calculations, assay system performance using specialist codes.

**Jas Singh**  
Business Development Manager  
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### MOTT MACDONALD LTD

We're a global engineering, management and development consultancy with 7,800 UK staff in programme delivery, energy, defence, water, environment, transportation and the built environment. Our key points are: £1.6bn revenue and 16,000 global staff working in more than 135 countries with over 150 years of heritage; employee-ownership is at the heart of our culture with a focus on long-term sustainability; developing the best staff, raising the bar, adding value with experienced people, focusing on technical excellence; attracting the brightest talent, including apprenticeships and graduate programmes; leading the formation of an industry coalition towards net-zero by 2050 and working towards carbon neutrality in our business operations by the end of 2020; maximising the opportunity that digital delivery provides. We believe our focus on technical development to deliver excellence sets us apart.

**Dan Mistry**  
Executive business development  
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www.mottmac.com

### NUMERICAL ALGORITHMS GROUP

The Numerical Algorithms Group (NAG) is a company with a purpose; to serve engineering, science, and business through technical excellence. Our expertise is delivered through a combination of products and services including the world-renowned NAG Library, automatic differentiation software and our world class high-performance computing (HPC) and cloud cost-to-solution optimisation services. The NAG Library is the largest and most comprehensive commercially available collection of mathematical and statistical algorithms. We design and build custom algorithms that exactly meet your needs and solve your complex problems better. We can provide a flexible arrangement whereby clients can utilise NAG HPC & Cloud HPC expertise for a range of services including: application profiling and performance optimisation (software modernisation service); algorithm design, implementation and testing; application modernisation, scalability, performance and capability enhancements (software modernisation service); HPC benchmarking and technology evaluation; software porting and tuning; cloud cost-to-solution services (NAG cloud HPC migration service). We can also provide a managed technical support service for HPC applications and HPC systems & infrastructure.

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### NEOS CONSULTANCY

NEOS Consultancy provides supply chain support to companies wishing to engage in the fusion sub-sector.

**Nick Chown**  
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## COMPANY DIRECTORY

### NICHOLS GROUP

As an independent, leading UK consultancy, Nichols Group has the creativity, innovation and capability to fulfil all complex programme and project management needs. For more than 47 years we have advised on large, iconic programmes, complex projects and major business change initiatives in a wide range of industries, especially energy, regeneration, infrastructure and technology. We work collaboratively with clients, providing small high-calibre teams or individuals who operate as trusted advisors, partners and deliverers. Together, we design a fresh, creative approach that focuses on bespoke needs to ensure successful and positive outcomes. Our teams' backgrounds range across the disciplines needed for fusion with expertise from physics to collaboration, and systems engineering to the Green Book. We aim to maximise value for our clients and provide them with confidence, assurance, clarity and success. We have significant experience and expertise in the nuclear decommissioning sector. We have undertaken strategic reviews, improved assurance and programme management support to the Nuclear Decommissioning Authority (NDA), enabling them to achieve their goals safely and effectively. We have also provided NDA sites, such as Sellafield, Dounreay and Bradwell, directly with strategic support and expertise, bringing clarity and confidence to a number of highly complex and challenging programmes.

**Aidan Talbott**  
Principal consultant  
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### NORTON STRAW

Norton Straw specialises in engineering simulation services, including advanced mathematical modelling, data science, and artificial intelligence to solve complex challenges in a wide variety of industry sectors; working with the UKAEA to develop a concept divertor design, risk-based component qualification and peridynamics capability. Our simulation tools, data analytics, and modelling capabilities accelerate our clients' research and development initiatives. This allows them to optimise the design process giving the best possible products, realise processing and manufacturing efficiencies, and enhance industrial and commercial competitiveness. Our services include advanced finite element analysis; computational fluid dynamics; discrete element modelling; and data science, which are augmented with additional high-performance computing, scientific programming, and software development capabilities. We have expertise in structural mechanics, fluid mechanics, heat and mass transport, materials science, mechanical engineering, machine learning, and the design of experiments. We can develop customised simulation tools using C#, Python, and C++ and have extensive experience with ABAQUS, ANSYS, Star CCM+ and several other open-source software tools that support simulation activities. Our modelling and simulation services combined with our vast testing capability gives our clients a new dimension to generate the data for input to the models, and product testing to validate any model data.

**Amelie Crouzet**  
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### NATIONAL PHYSICAL LABORATORY

NPL is the UK's national metrology institute with 1000 scientists and 380 laboratories across 30 diverse science groups. NPL underpins measurement methods, materials and data that are used in the design and operation of complex systems, such as fusion. NPL also ensures traceability to the SI units. In practical terms, we can validate and verify the performance of the materials and systems, as well as characterising related behaviour and performance, to support the design challenges and innovation required to achieve a commercialised fusion plant design. This may include support of the tritium fuel cycle, magnet system design and performance, engineering design, materials selection, sensors, inspection, decommissioning and condition monitoring challenges. NPL represents the UK on a number of international committees, organisations and arrangements, so we can help develop measurement standards supporting operational and process measurement methods. We have over a century of experience meeting the requirements of the international measurement community. NPL is committed to supporting UK industry and the low carbon technologies required on the route to net zero.

**Andy Duncan**  
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### NUCLEAR AMRC

NAMRC is owned by the University of Sheffield and supported by UK Government. We, along with our sister organisation the AMRC, are two of seven high value manufacturing catapults targeted at bridging the gaps between academic research, commercial products, and solving manufacturing problems. We have capabilities in the following areas: machining, welding and cladding, metrology and inspection, visualisation, control and instrumentation. We also have two satellite centres: a modularisation centre and a digital/C & I centre. In essence, think large-scale rather than lab-scale, e.g. machining 80 tonne components, welding 150 mm steel in a single pass using power beam welding.

**Phil Monks**  
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### NUCLEAR SOUTH WEST

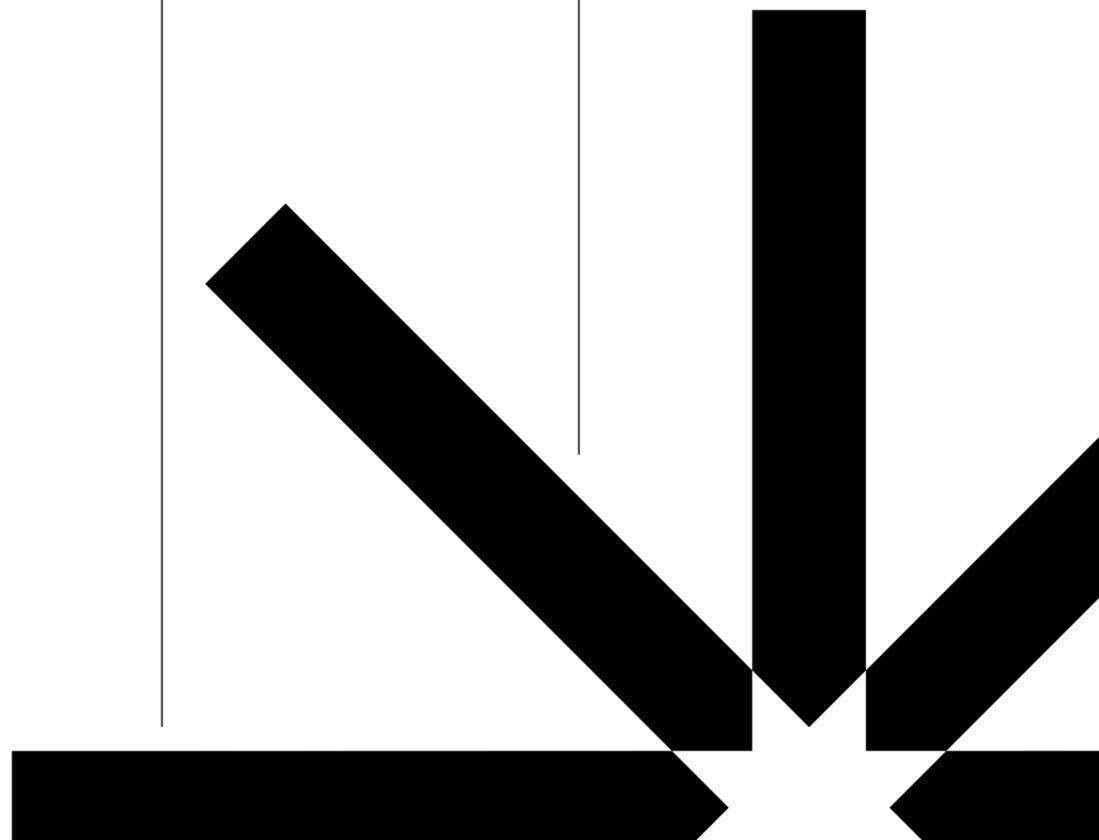
Nuclear South West is a public-private partnership of industry, academic and the public sector, established to champion new nuclear in south-west England. We are committed to supporting the UK government's fusion strategy and the wider global drive to develop commercially viable fusion energy at scale. Fusion-related capabilities being developed in south-west England include; high temperature reactor expertise in Gloucestershire; sustainable lithium production in Cornwall; construction and welding excellence as part of Hinkley Point C in Somerset; digital engineering design and robotics at Bristol; skills development at the National College for Nuclear, University Technical College Berkeley Green, University of Bristol.

**Andy Bates**  
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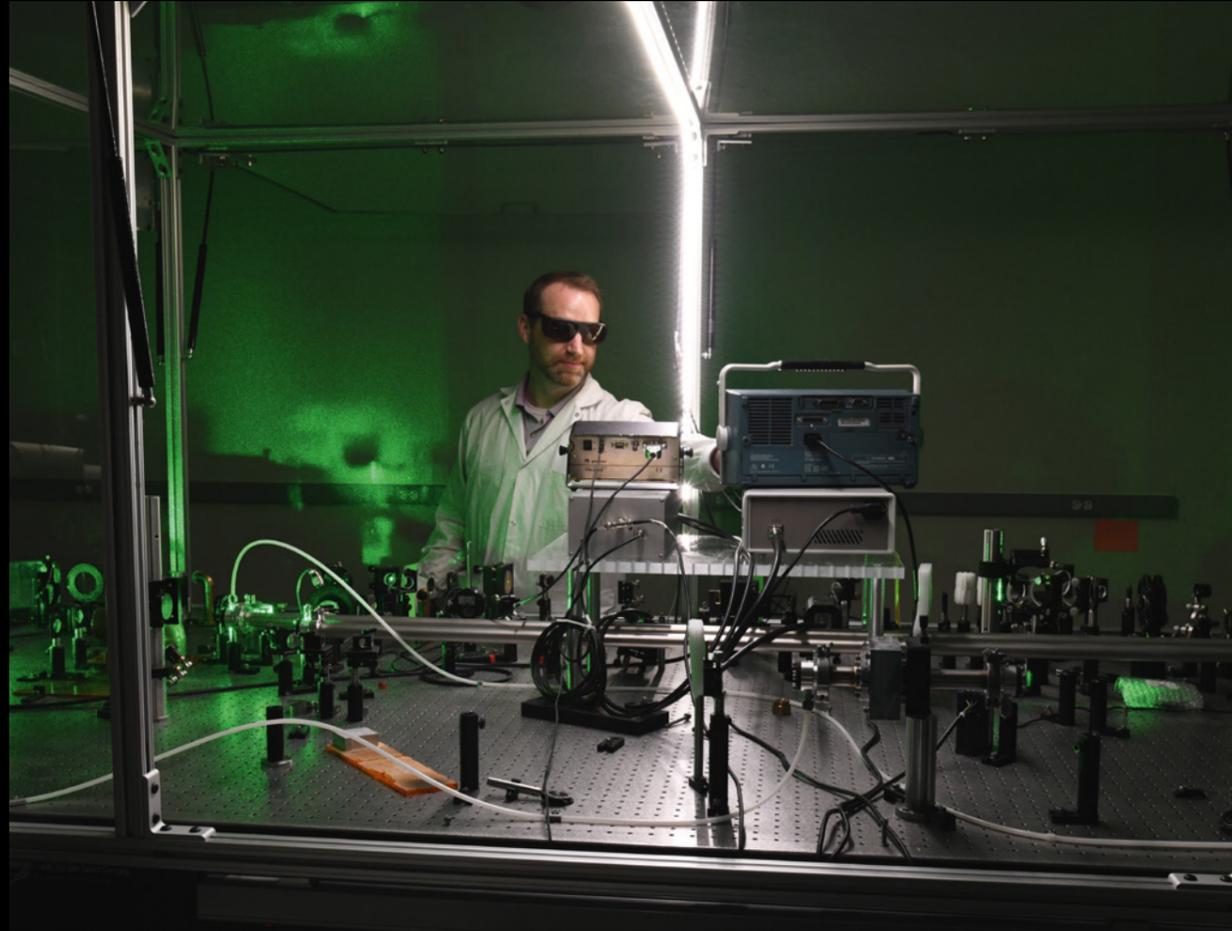
### NUVIA

NUVIA's vision is to support the commercialisation of fusion technology to provide safe, clean energy. NUVIA can offer full life-cycle support to the fusion industry including front-end services, engineering design, build and operate capabilities. NUVIA is part of VINCI Construction.

**David Price**  
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## COMPANY DIRECTORY



FUSION PRIME


**MARVEL FUSION**

Marvel Fusion pursues a non-thermal direct drive inertial confinement approach with the goal of commercialising fusion energy using low-neutronic fuels. Highly intense short-pulsed lasers and proprietary nano-structured fuel targets enable a highly efficient fusion process with a clear path to commercialisation.

**Jannik Reigl**  
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**OPENSPDM  
LTD**

Research and development of a fusion reactor and a fusion power plant requires many large numerical simulations. These models work to numerous different fidelities of the science and engineering of fusion. The recent US Department of Energy workshop on the management and storage of scientific data ([doi.org/10.2172/1843500](https://doi.org/10.2172/1843500)) concluded that FAIR (Findable, Accessible, Interoperable, Reusable) data management of simulation data, processes and results is needed to provide confidence in results, to enable the large-scale, traceable use of artificial intelligence and machine learning, and to enable functional digital twins. Simulation data management is a technology which provides FAIR management of scientific and engineering simulation data. openSPDM is an open-source SDM solution built on the Aras Innovator open PLM platform. This solution was prototyped at UKAEA in 2020, and reported at the NAFEMS World Congress 2021 in the presentation Next Generation Information System Architecture for Simulation-led Engineering of a Fusion Reactor. openSPDM can help you get your simulation data under control, based on the methodology in the NAFEMS publication **How to get Started with Simulation Data Management**.

**Mark Norris**  
Director  
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openspdm.com

**OPTIMA SYSTEMS  
CONSULTANCY LTD**

Optima is a systems engineering and engineering management consultancy based near Bristol with clients across the UK. We work primarily in the defence and nuclear sectors, and have past and present clients in both public and private sectors. Optima has supported the UK's fusion sector since 2018, when it won a place on UKAEA's systems engineering framework. Since then, it has provided systems engineering expertise to many of UKAEA's programmes: JET, H3AT, RHSME, MAST-U, STEP, FTF and RACE. At Optima, we believe that today's complex systems and large organisations require a structured systems-thinking approach in order to manage complexity, develop balanced systems and deliver success. We work on some of the world's most complex engineering and organisational challenges, using a broad systems thinking methodology that transcends sector. Our structured approach means that we insist on viewing the problem end-to-end and within the widest context, ensuring that no potentially critical element is missed. We pride ourselves on providing high-calibre, experienced engineering consultants. We engage at an individual level with our customers to ensure the best possible support is provided, working flexibly and in partnership to adapt to changing requirements and emerging technology.

**Steve Armitage**  
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**ORANO  
LIMITED**

Orano transforms nuclear materials so that they can be used to support the development of society, first and foremost in the field of energy. The group offers products and services with high added value throughout the entire nuclear fuel cycle, from raw materials to waste treatment. These activities, from mining to dismantling, as well as in conversion, enrichment, recycling, logistics and engineering, contribute to the production of low-carbon electricity. Globally, Orano and its 16,000 employees bring to bear their expertise and their mastery of cutting-edge technology, as well as their permanent search for innovation and unwavering dedication to safety, to serve their customers around the world. In the UK, Orano offers a unique gateway to this global expertise, while combining this with four decades of on-the-ground experience with the UK nuclear and nuclear technology landscape. Orano is committed to supporting the development of the energy of the future, offering innovation and decades of expertise to the fusion sector. It offers expertise and experience that can be adapted, focused and implemented across the entire lifecycle of facilities. It has significant experience at ITER, and is well positioned to service the UK fusion market.

**Phil Sansom**  
Business manager  
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www.orano.group/uk

## COMPANY DIRECTORY

### OXFORD INNOVATION SPACE

Oxford Innovation Space helps to transform local economies by creating environments where dynamic and innovative businesses come together and thrive. In these spaces, we design and deliver environments and support systems which foster communities of entrepreneurs, stimulate enterprise and innovation and provide ambitious small businesses with the space and support they need to succeed.

**Shelley Furey**  
Centre director  
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oxfordinnovationspace.co.uk

### OXFORD SCIENCE ENTERPRISES

Oxford Science Enterprises (OSE) is an independent, billion-pound investment company, created in 2015 to found, fund and build transformational businesses via its unique partnership with the University of Oxford. This partnership enables OSE to work with the brightest academic minds tackling the world's toughest challenges and guarantees unrivalled access to their scientific research. In collaboration with its global network of entrepreneurs and advisers, OSE shapes and nurtures these complex ideas into successful businesses, while targeting attractive returns for shareholders. Actively focused on a core portfolio of around 40 companies spanning three high-growth, high-impact sectors – life sciences, health tech, and deep tech – the company adopts a flexible, long-term investment approach, recognising that the path from ground-breaking research to global markets takes time and resilience. To date, OSE has invested £0.5 billion in over 80 ambitious companies built on Oxford science. A key player in Oxford's entrepreneurial ecosystem, OSE is highly motivated to foster an environment that catalyses pioneering research and steers it to commercial success.

**William Goodlad**  
Principal  
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oxfordscienceenterprises.com

### OXFORD SIGMA LTD

Oxford Sigma develops novel technologies for fusion energy, provides solutions in advanced nuclear energy, and supports the defence industry. We also provide technical and regulatory-based consultancy.

**Thomas Davis**  
President and CTO  
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www.oxfordsigma.com

### OXLEP

OxLEP's role is to champion Oxfordshire's economic potential, acting as a catalyst and convener to drive a dynamic, sustainable and growing economy. Oxford and Oxfordshire is a world leading centre for science and technology innovation, R&D and commercialisation. We have supported development of the Fusion Energy High Potential Opportunity being launched in 2022 and are a founding partner of the Ox to Zero Summit held in September 2022. We provide business and skills support to companies who are based in Oxfordshire. Our inward investment service provides confidential and tailored assistance to help businesses from across the globe to locate, relocate and grow within Oxfordshire. The inward investment service identifies commercial premises for businesses; arranges property viewings, tours of key facilities and meetings with sector specialists; connects businesses with professional service providers; signposts to business support organisations and sector specific networks; provides on-going aftercare to Oxfordshire companies. If you are an international investor, we can connect you to investment opportunities. Our team works closely with the Department of International Trade combining access to local and national support to help overseas business locate in Oxfordshire and to help businesses secure international investment and trade.

**Sebastian Johnson**  
Head of innovation and investment  
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www.oxfordshirelep.com

### PILLSBURY WINTHROP SHAW PITTMAN LLP

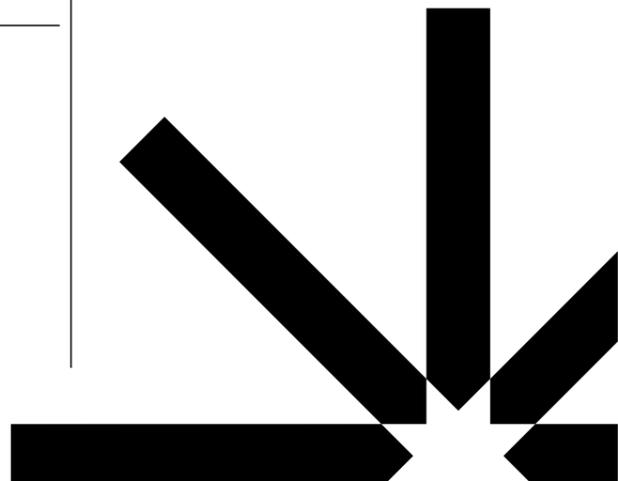
Pillsbury is a global law firm and a thought leader in the area of fusion energy. Pillsbury is widely recognised as one of the world's top law firms for nuclear energy and was the first firm to establish a dedicated nuclear energy practice over 50 years ago. While fusion energy and nuclear power are fundamentally different, the technical and regulatory requirements to advise on the legal frameworks of these advanced energy technologies are similar. Pillsbury's comprehensive fusion energy practice aligns with its commitment to advance clean energy technologies and complements our well-established focus on the energy transition. Pillsbury is actively advising companies on the role fusion energy will play in the energy transition, including advising commercial fusion developers on regulatory, commercial, public policy, and intellectual property matters, giving established companies and utilities guidance on fusion's role in meeting decarbonisation goals, serving as regulatory counsel to the Fusion Industry Association, collaborating with international and national agencies to develop guidelines for the global deployment of fusion, and working with the investment and finance communities on how fusion fits into their overall sustainability programs. Our fusion energy practices web page is <https://bit.ly/3SeHfr6>

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www.pillsburylaw.com

### PORVAIR FILTRATION GROUP

Porvair has been designing and supplying high quality bespoke filtration solutions and other equipment to the global nuclear industry since the 1980s. We also offer bespoke solutions to the power generation, fuel production, reprocessing, decontamination and decommissioning and waste packaging sectors. As an engineering company in the filtration industry, we are able to take an initial discussion to a fully optimised solution, meeting material, code, technical and quality requirements to provide a total solution to a specific problem. We have the capability to provide everything from a single, specialised, retrofit element to a complete, packaged system to meet the precise needs of a complex application, together with on-site support and a complete after sales service. In addition to our acknowledged leadership in both engineering and quality, we also have the capability to offer the services of our extensive laboratory, development and testing facilities. We can provide custom designed filtration solutions using a wide range of metallic and non-metallic filtration media. Also available is a range of media surface treatments to further enhance the chemical, temperature and solids abrasion resistance of the media within a particular application.

**Xavier Jahouel**  
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www.porvairfiltration.com



## COMPANY DIRECTORY

### PRORSUS

Prorsus offers knowledge economy support, investment and partnership; technology ecosystems and collaborative clusters establishment, growth and stewardship; specialist real estate delivery and technical project management. Prorsus has 8 years' experience and investment as a private sector shareholder in the Harwell Campus Partnership (2013-21). In that time it has grown the interdisciplinary community, science infrastructure, and balance sheet values on the campus, and contributed to the wider UK GDP impact from Harwell. It has also provided pro bono strategic advice in Oxfordshire and for HM Government in the science and innovation spheres; multi-sector ongoing investment of both venture capital and real estate; and has interest and experience in space, energy, life sciences, quantum, agriculture and food technology.

**Angus Horner**  
 Founder  
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### QDOT TECHNOLOGY

Qdot Technology Ltd, is an Oxford University spin-out. Our mission is to enable clean energy generation and use by leveraging thermal management expertise. The founding team's first innovation was a heatsink design for a fusion power plant divertor target, a component that must endure 100,000 times the power of the sun. Building on this background and the team's expertise Qdot has developed new IP in thermal management systems for high power density batteries and compact heat exchangers using advanced design and manufacturing methods. Qdot Technology provides engineering consultancy for high heat flux device development. Combining internationally renowned expertise in thermal design, modelling, and simulation with practical testing and verification to provide demonstrable performance. Then using specialised materials and manufacturing know-how with pioneering novel processes, test devices can be validated by at-scale full performance testing.

**Alasdair Morrison**  
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### RED ENGINEERING

RED Engineering is an award-winning SME with a mission to make hazardous operations safer, quicker and cheaper. Core expertise encompasses mechanical engineering including design of equipment for deployment in an active environment; robotics and process automation; agile product development – the rapid development and delivery of first-of-kind engineering solutions and equipment. Our capability is delivered via three linked services: engineering consultancy; equipment supply; testing services. These services can be provided individually or on a sequential basis to develop first-of-kind equipment to enable the most challenging construction, maintenance, and decommissioning projects. Over the past 14 years we have successfully delivered over 500 projects for clients in the energy industries including Sellafield, DSRL, GE Oil & Gas and TechnipFMC. We can add value in the following areas: mechanical handling equipment – design, manufacture, delivery, and testing of equipment for deployment on site; high integrity enclosures – including delivery of systems with an alpha containment capability as evidenced by our DPACC project which featured a C5 process cell; material handling systems – our track record is centred around the delivery of specialist materials handling systems to allow successful remote operations in hazardous environments.

**Alistair Kitching**  
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### SCIENCE AND TECHNOLOGY FACILITIES COUNCIL

The mission of the Science and Technology Facilities Council (STFC) is to deliver world-leading national and international research and innovation capabilities and, through those, discover the secrets of the universe. Our major research and innovation campuses at Harwell, Daresbury, and facilities across the UK support fundamental research in astronomy, physics, and space science. Our large-scale facilities provide a range of research techniques using neutrons, muons, lasers and X-rays, and high performance computing. They are used by scientists across a huge variety of science disciplines ranging from the physical and heritage sciences to medicine, biosciences, the environment, energy, and more. STFC holds expertise in many of the technological challenges facing the fusion industry, including large-scale magnet design, high radiation environments, thermal modelling, high precision manufacturing, and extreme scale computing. STFC is collaborating with organisations in the fusion sector to make fusion energy a commercial reality. STFC is part of UK Research and Innovation, a non-departmental public body funded by a grant-in-aid from the UK Government.

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 Business development manager,  
 technology department  
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[www.ukri.org/councils/stfc](http://www.ukri.org/councils/stfc)

### SCX SPECIAL PROJECTS

SCX delivers engineering solutions to mechanical handling challenges in demanding environments. Our systems are in use in nuclear and defence applications, requiring high integrity handling systems that are reliable, safe and always fit for purpose.

**Darren Falkingham**  
 Market engagement manager  
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[scx.co.uk](http://scx.co.uk)

### STEEL DYNAMICS

Steel Dynamics Ltd is the world's first metal service centre to receive ISO 19443 accreditation for supplying products and services important to the civil nuclear sector. We believe that involving Steel Dynamics at the design stage of your projects will create a meaningful competitive advantage and lowest total acquisition cost thanks to our economy of scale and added-value processes. Our 6000 tonnes of inventory is coupled with processes including de-coiling of plate supported by a 14m x 4m water jet, laser processing up to 8m x 2.5m and CNC-machining to 4m x 2m x 1m. We provide one-touch solutions ensuring lowest total acquisition cost, while best value and best practice are realised using our supply chain management system. This structured, systematic approach guarantees to streamline, removing cost and waste from your supply chain and allowing you to focus on your core competencies. Our purpose is to work together to reduce our customers' costs and ensure that we develop beneficial business partnerships that lead to mutual growth and prosperity.

**Lee Nicklin**  
 Business development manager  
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[www.steel-dynamics.co.uk](http://www.steel-dynamics.co.uk)

## COMPANY DIRECTORY

### SWANSEA UNIVERSITY

Swansea's expertise in materials has secured a project on rapid alloy-development for nuclear technologies to explore new formulations of nuclear steels with higher operating temperatures. These would contribute towards higher reactor efficiencies. Our expertise in computational-mechanics-driven machine learning, image-based simulation, digital twins, physics-informed neural networks and deep learning has led to the development of several fusion related projects with the UKAEA. Projects include an EPSRC manufacturing fellowship, focusing on the development of NDE 4.0 methods for virtual qualification of fusion energy plant components. A EUROfusion engineering grant is developing a platform to perform analysis of the non-linear impact to component behaviour due to nuclear irradiation. Additionally, Swansea currently has seven part-funded PhD studentships supported by UKAEA focused on topics that include investigating fundamental challenges of physics-informed neural networks for thermomechanical problems and inducing multiple solutions in inverse problems. Our focus areas going forwards involve the development of dynamic digital twins for fusion applications. We anticipate this research will support and accelerate fusion R&D and provide a tool to not only design and predict the present status of fusion systems, but also accurately forecast their future status.

**Abi Lewis**  
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### SWMAS

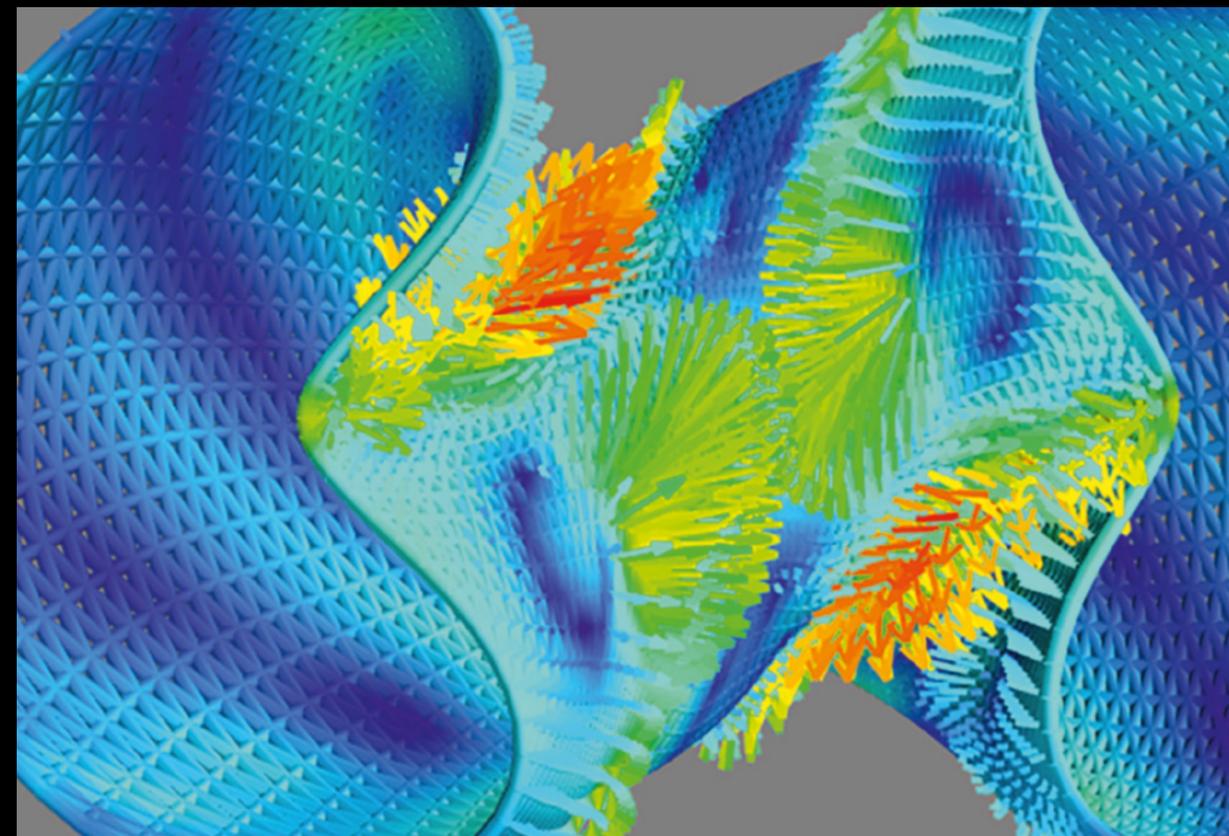
At SWMAS we design and deliver programmes of support that enable ambitious businesses to increase their productivity, improve operational efficiency, develop skills and reach their growth potential. We work directly with manufacturers, on the shop floor delivering improvement programmes, and at board level developing and refining strategy. We provide consultancy services, run public funded programmes, deal with complex funding arrangements and support businesses to leverage UK and European funding for growth and innovation. Our work is supported by a team of specialists, many are recognised experts in their fields and all are experienced and passionate about the services we provide and the difference we make. We have expertise in both manufacturing and business support programme design and implementation. To help businesses get ready to tender for Hinkley Point C contracts, we deliver a range of support enabling them to develop their capabilities and meet the stringent requirements demanded when working in the nuclear sector. Currently focusing on the MEH phase, we're liaising with tier 1 HPC contractors to identify the work packages and split them into opportunities of the appropriate size and scale for SME businesses. We link those opportunities to relevant businesses based in the South West and Wales.

**Samantha Orchard**  
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### THE MANUFACTURING TECHNOLOGY CENTRE

The MTC provides integrated manufacturing system solutions for customers large and small, across sectors as diverse as automotive, aerospace, rail, informatics, food and drink, construction and civil engineering, electronics, defence and power, and energy. Within the power and energy sector MTC is working with key organisations on a broad range of challenges facing the sector. These include power generation, transmission, distribution and end use, from improving our existing infrastructure and running safe and reliable networks to key long term activities such as decommissioning in the oil and gas and civil nuclear sectors, delivering new and advanced nuclear power, developing low-carbon hydrogen production capacity, enhancing offshore wind power development, and enabling a rapid energy transition to net zero. Located at Culham Science Centre near Abingdon, Oxfordshire Advanced Skills opened in September 2019 and is a partnership between the UKAEA and the STFC, managed by MTC Apprenticeships. The organisations have a history of apprentice training in science and engineering stretching back more than 70 years. MTC's advanced engineering apprenticeship helps learners develop the skills needed for delivering the technologies of the future in the high value manufacturing sector.

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www.the-mtc.org



FUSION PRIME

## RENAISSANCE FUSION

Renaissance Fusion is making the stellarator concept reactor-ready by quadrupling the magnetic field and simplifying the design using proprietary high-temperature superconductors (HTS) manufacturing. It uses flowing liquid metal walls to protect the stellarator and the delicate HTS from neutrons, and to keep the level of radioactivity as low as in a radiology department in

a hospital. In the shorter term, the company plans to commercialise its technologies in energy storage and medical imaging.

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COO  
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stellarator.energy

## COMPANY DIRECTORY

### TURNER AND TOWNSEND

We are a UK firm with a global footprint. We have a broad service offering across multiple sectors, with our key focus on the set-up and delivery of major programmes. We are rapidly growing our presence in fusion and the sector is one of our strategic priorities because its ambition, transformative potential and benefits align perfectly with our own direction of travel. We are a supplier for two lots on the UKAEA project delivery services framework, and separately we are providing a range of P3M services for General Fusion.

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### TÜV UK LTD (TÜV NORD)

For over 150 years, the name TÜV NORD has been recognised for safety and technical competence. TÜV NORD is a leading nuclear inspection and certification entity providing independent safety assessments, verification, and consultancy services in all matters related to nuclear energy, nuclear operations, radiation protection and nuclear waste management. Our international and diverse teams of engineers and scientists are committed to providing our customers with neutral, independent, and reliable services that are focused on the client's needs. TÜV NORD is able to offer customised solutions that are based on our years of hands-on experience and the diversity of our workforce. Our in-depth knowledge and understanding of international regulations and guidelines, codes and standards, as well as our experience from the licensing, operation, and decommissioning of nuclear facilities worldwide gives us a unique perspective of what nuclear safety needs to look like. TÜV NORD stands ready to meet the challenges that new technologies in the energy sector bring. To this end, we collaborate with our TÜV NORD partners in order to provide innovative solutions and specialist nuclear services support to the ITER and STEP fusion programmes. We are committed to an environmentally responsible, sustainable and clean energy future.

**Susan Hewish**  
Business development director  
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### TWI LTD

TWI is a world leading research and technology organisation with bases in the UK, North America, South East Asia, China, Australia, Central Asia, India and the Middle East. With around 600 staff, TWI offers a single, impartial source of services for joining engineering materials. It is internationally renowned for its multidisciplinary teams that implement established or advanced joining technology solving problems at any stage from initial design, materials selection, production and quality assurance, through service, performance, and repair. TWI also supports technologies such as material science, structural integrity, NDT, surfacing, electronic packaging and cutting. Further services include generic research, contract R&D, technical information, consultancy, standards drafting, training and qualification.

**Steve Dodds**  
Nuclear sector manager  
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### UK INERTIAL FUSION CONSORTIUM

The UK Inertial Fusion Consortium was founded to facilitate the formation of a commonly-agreed UK research strategy, to coordinate research collaboration, to create a collective voice for researchers, and provide a focal point for interactions with bodies such as the UK Government.

**Robbie Scott**  
Senior plasma physicist  
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www.inertial-fusion.co.uk

### UK INNOVATION AND SCIENCE SEED FUND

The UK Innovation and Science Seed Fund (UKI2S) is a £73m venture fund that is focused on the first stages of a company's life ("pre-seed" and "seed" funding rounds). The fund has a broad "deep tech" remit and has built a portfolio of over 50 companies across fields from gene therapy to fusion energy. The fund has close links with many of the major public research bodies in the UK, including UKAEA who was a founding partner nearly 20 years ago. Fusion is an area of increasing interest and we are working closely with UKAEA on a focused initiative to support start-ups in the fusion field.

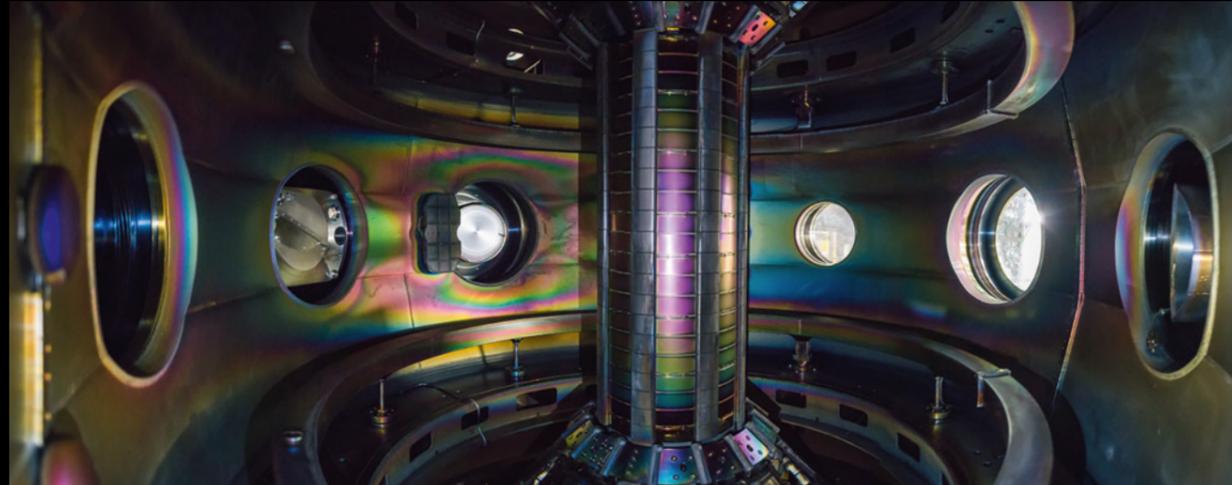
**Mark White**  
Investment director  
mark.white@midven.co.uk  
ukinnovationscienceseedfund.co.uk

### ULTIMA FORMA

Ultima Forma is an engineering technology business specialising in the electroforming of advanced components, systems and coatings for demanding applications. We have patented technology for hydrogen containment and can produce products that excel in thermal management, lightweight structures, RF, mirrors and coatings. A wide range of material properties including functional engineered materials are used. Our work is complemented by a CAE, CAD and design for manufacture team. We are working in the energy, aerospace, space, defence, medical and automotive sectors.

**Steve Newbury**  
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www.ultima-forma.com

## COMPANY DIRECTORY



FUSION PRIME


**TOKAMAK ENERGY**

Tokamak Energy is a leading global commercial fusion energy company whose mission is for fusion to be an affordable and readily-available energy source for all humanity.

The company is developing the fusion power plants of tomorrow while commercialising the technology applications of today. Tokamak Energy is pursuing fusion through the combined development of spherical tokamaks, with high-temperature superconducting magnets. The company has spent more than a decade advancing the technology behind spherical tokamaks. The company, founded in 2009 as a spin-off from the Culham Centre for Fusion Energy, currently employs

a growing team of more than 200 people with talent from the UK and experts from around the world. It combines world leading scientific, engineering, industrial and commercial capabilities. The company has more than 65 families of patent applications and has raised \$250m of private investment, putting Tokamak Energy in an elite group of fusion developers that have raised upwards of this amount. Once realised, fusion energy will be clean, low cost, and globally deployable – a key enabler for meeting world energy requirements and climate policy goals.

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[www.tokamakenergy.co.uk](http://www.tokamakenergy.co.uk)

**UNIVERSITY OF YORK**

The nuclear physics group at the University of York has significant expertise in developing radiation detectors for bespoke applications. We have also generated commercial impact through fruitful academia-industry partnerships. We would be happy to discuss any radiation detection challenges and opportunities relevant to the fusion industry. We also undertake research into fusion plasmas and, more widely, robotics and social sciences aspects. We are the lead for the Fusion Centre for Doctoral Training and Fusion Industry School, and we deliver an MSc in fusion energy, magnetic and inertial fusion energy.

**Howard Wilson**  
 Professor  
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[www.york.ac.uk/physics-engineering-technology/research/nuclear](http://www.york.ac.uk/physics-engineering-technology/research/nuclear)

**VEOLIA NUCLEAR SOLUTIONS**

Veolia Nuclear Solutions (VNS) aims to be the future leader in the decontamination and decommissioning of nuclear installations. It offers the most comprehensive range of technologies and services for facility management, decommissioning, and the treatment of radioactive waste, all nurtured by nuclear experts and backed by thousands of Veolia staff worldwide. It is helping to clean up significant global environmental threats by providing bespoke technologies and services for the most challenging environmental cleanup and decommissioning and dismantling projects. As a spin-off from JET, VNS UK has been supporting ITER since 2005 to bring its remote handling expertise to the unique challenge of the ITER complex operation, from the design of remote handling machinery in extreme radiation to the optimisation of control interfaces and architecture. We bring this unique remote handling experience and expertise from the fusion industry to multiple global markets including some of the industry's most high-profile deactivation and decommissioning projects at Sellafield and Dounreay in the UK, for the CEA and EDF in France, at Hanford and Oak Ridge in the US, and Fukushima in Japan.

**Steven Hickey**  
 Programme manager  
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[www.nuclearsolutions.veolia.com](http://www.nuclearsolutions.veolia.com)

**WOODRUFF SCIENTIFIC**

Woodruff Scientific builds bespoke pulsed power systems (from joules to megajoules), custom copper, water-cooled magnet coils (from millitesla to 10 teslas), and provides simulations for a range of physics relevant to fusion energy development (including magnetohydrodynamics, finite element modelling for magnetics, heat, and force analysis). We have a lab in Santa Fe, New Mexico, USA and offices at the Harwell Innovation Centre in the UK.

**Simon Woodruff**  
 President  
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[woodruffscientific.com](http://woodruffscientific.com)

## COMPANY DIRECTORY



FUSION PRIME

**UKAEA**

UK Atomic Energy Authority carries out fusion energy research on behalf of the UK Government. We believe fusion will be an important part of the world's future energy mix. Achieving this is a major technical challenge that involves working at the forefront of science, engineering, and technology. UKAEA's programmes include the MAST-U fusion experiment and the JET fusion research facility, operated by scientists from around Europe at Culham Campus. Record results using JET, announced in February 2022, showed the potential for fusion energy to deliver

safe and sustainable low carbon energy. Another UKAEA programme is STEP, which aims to design and build a prototype fusion power plant producing net electricity, building on UKAEA's long experience and expertise. UKAEA undertakes cutting edge work with academia, other research organisations and the industrial supply chain in a wide spectrum of areas, including robotics and materials.

Alastair Grundy,  
Head of business development  
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[www.gov.uk/ukaea](http://www.gov.uk/ukaea)

ACTEMIUM DESIGN + ALEMNIS + ALGY CONSULTING + ALTEN  
+ AMEG + AMPEGON POWER ELECTRONICS + ANSALDO NUCLEAR +  
ARCHER TECHNICOAT LTD + ASSYSTEM + ATG SCIENTIFIC + ATKINS  
+ AVI + BAY FUSION + BE4FUSION + BEIS + BIRCH FONTAINE +  
BOOTH INDUSTRIES INTERNATIONAL + BURGESS SALMON + C E TURNER  
+ CDTI + CENTRONIC LIMITED + CFMS + COMMONWEALTH FUSION  
SYSTEMS + COMSOL + CREATEC + CUSTOMCAMERAS + DAES + DASSAULT  
SYSTEMESUK + DELKIA + DIGILAB + DOOSAN BABCOCK + EAST INNOVATE  
+ ECCLESIAN CONSULTING + EGB ENGINEERING + EGIS + ELEMENT SIX +  
ENERGY SYSTEMS CATAPULT + ENVIRONMENT AGENCY + EUCALYPTUS  
CONSULTING + FAITHFUL AND GOULD + FIRST LIGHT FUSION +  
FOCUSED ENERGY + FRAMATOME + FRAZER NASH CONSULTANCY + FTI  
+ FUJIKURA EUROPE + FUJITSU + FUSENET + FUSION ENERGY INSIGHTS  
+ FUSION INSTRUMENTS + GARDINER AND THEOBALD + GENERAL  
ATOMICS + GENERAL FUSION + GOODFELLOW CAMBRIDGE + GRAHAM  
ENGINEERING + GSF UK + HARWELL CAMPUS + HATCH + I4CNC + IBM +  
ICD APPLIED TECHNOLOGIES + IDOM + INDUCHEM GROUP + INNOVATE  
UK + JACOBS + JAMES WALKER UK + JCS NUCLEAR SOLUTIONS + JOHN  
ELLISON ELECTRONICS + KARLSRUHE INSTITUTE OF TECHNOLOGY +  
KBHF + KC CONTROLS + KLOECKNER METALS UK + KOGNITIV SPARK  
+ KONECRANES + KUKA SYSTEMS UK + KYOTO FUSIONEERING +  
LASER 2000 UK + LASER ADDITIVE SOLUTIONS + LEYBOLD + M5TEC  
+ MACE + MAGDRIVE + THE MANUFACTURING TECHNOLOGY CENTRE  
+ MARVEL FUSION + MIRION TECHNOLOGIES + MOTT MACDONALD +  
NAG + NAMRC + NATIONAL PHYSICAL LABORATORY + NELSON TOOL CO  
+ NEOS CONSULTANCY + NICHOLS GROUP + NIS + NORTON STRAW +  
NOVINTEC + NUCLEAR AMRC + NUCLEAR INDUSTRY ASSOCIATION  
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