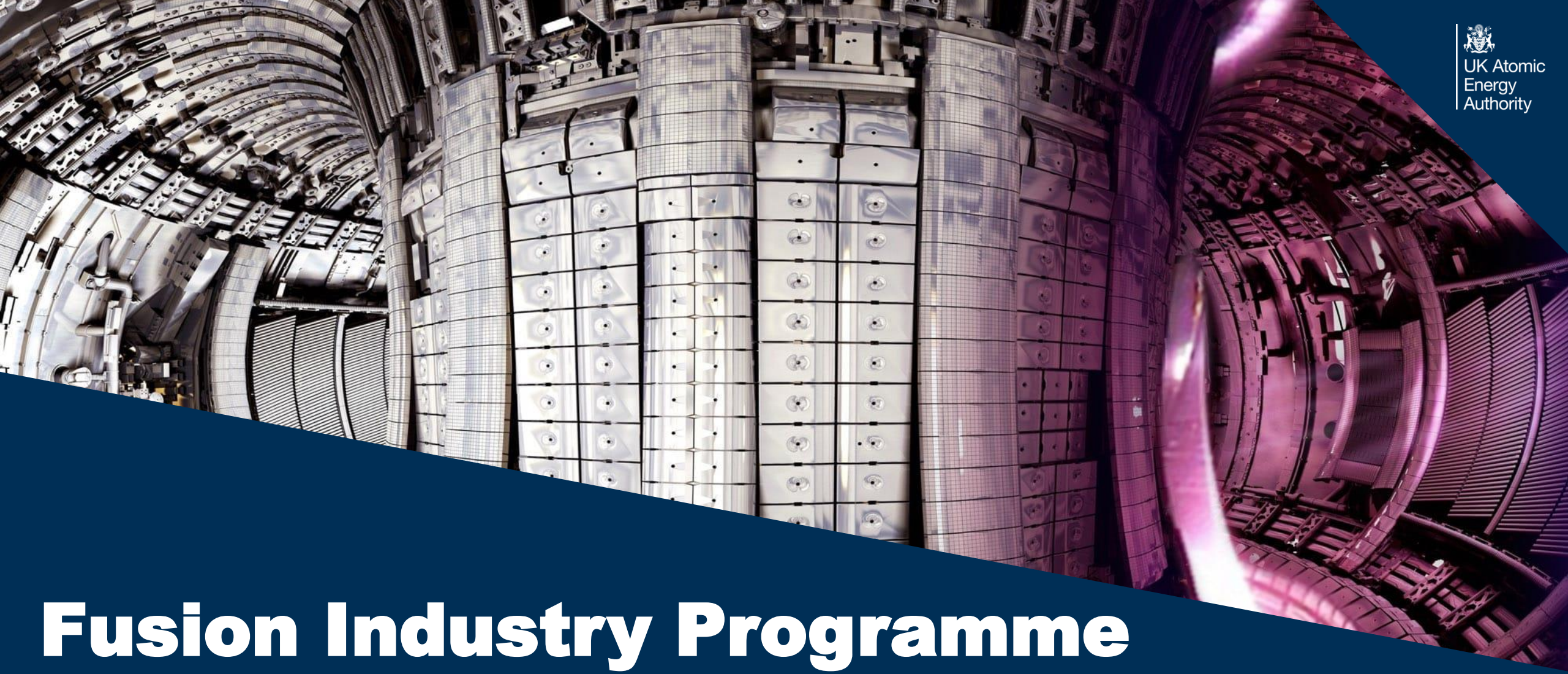

UK Atomic Energy Authority

Fusion Industry Programme (FIP)

Marta Barrabino – Programme Manager

EU Programmes: Announcement of £484m immediate investment for the UK R&D and fusion sectors

Statement made on 21 November 2022

Statement UIN HCWS376

UK Atomic Energy Authority

Statement made by

George Freeman

Minister of State (Minister for Science, Research and Innovation)

Conservative

Mid Norfolk

Commons

Statement

The government is announcing today a package of **up to £484m funding** to invest in the UK R&D sector and to secure the UK fusion sector's commercial leadership and capabilities, while the EU continues to block our association.

The ongoing uncertainty over access to EU Programmes (Horizon, Copernicus, Euratom R&T and Fusion for Energy) is placing increasing pressure on UK universities and research organisations, as well as causing significant issues for the UK's Fusion and Earth Observation sectors.

UK researchers should already be part of these programmes. However the EU have now delayed our association for nearly two years. The UK has done everything it can to secure association, including entering into formal consultations to encourage the EU to implement their obligations

Statement f

Department Energy and I Strategy

UK Atomic Energy Authority
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UKAEA has welcomed the Government's backing for fusion energy research with today's announcement of an additional £126M for the UK fusion programme...

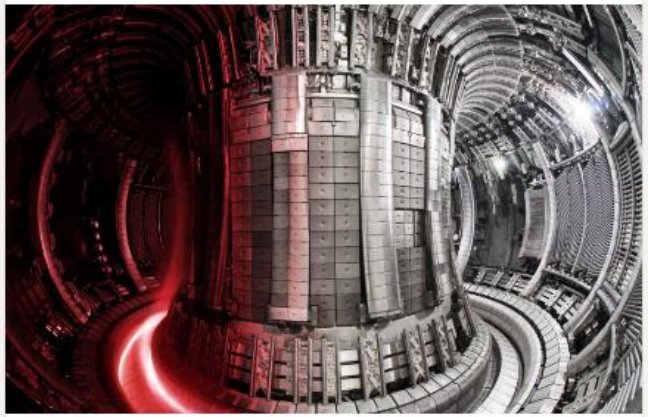
The Government has pledged the investment as part of a £484M package to support the UK R&D sector while agreement is sought with the EU on participation in European research programmes.

The funding will affirm the UK's global position at the forefront of fusion science, allowing UKAEA and European partners to complete all planned experiments and operations at the record-setting Joint European Torus (JET) facility. JET will finish its research programme at the end of 2023, and the remaining tests will inform the international ITER Organization fusion project and the design of UK's prototype fusion plant, STEP.

It will also enable UKAEA to build on the success of its Fusion Industry Programme. This is a challenge fund designed to engage UK businesses in important technical challenges of fusion – helping to foster supply chain capabilities and spur commercial innovation.

Professor Ian Chapman, CEO of UKAEA, said:

"Today's announcement will support and secure the UK's status as a scientific, international and commercial leader in fusion science. It gives welcome assurance that JET can complete its mission with a series of internationally important experiments throughout 2023. It also allows UKAEA to expand the Fusion Industry Programme, working with companies to deliver a thriving UK fusion ecosystem."



Fusion Industry Programme (FIP)

UK Atomic Energy Authority

The Fusion Industry Programme (FIP) will run over the period 2022/23 – 2024/25 with a vision to

‘accelerate the growth of the UK’s fusion industry’

Challenge scheme

Education scheme

Voucher scheme

Equity scheme

Fusion Industry Programme (FIP)

UK Atomic Energy Authority

The Fusion Industry Programme (FIP) will run over the period 2022/23 – 2024/25 with a vision to

‘accelerate the growth of the UK’s fusion industry’

Challenge scheme – engaging and supporting UK businesses in important technical challenges of fusion, developing valuable intellectual assets and capabilities;

Voucher scheme – making it easy for UK businesses to use specialist fusion technical facilities, giving them access to the latest skills and techniques;

Education scheme – increasing the supply of highly-skilled students and researchers into the fusion sector.

Equity scheme – investing in promising business opportunities arising from fusion technology, developing a portfolio of new high-growth businesses;

Fusion Industry Programme (FIP)

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The Fusion Industry Programme (FIP) will run over the period 2022/23 – 2024/25 with a vision to

‘accelerate the growth of the UK’s fusion industry’

21/22

- FIP Year 1 Project delivered
  - Challenge Scheme – Cycle 1 Phase 1
  - Equity trial
  - Voucher Scheme Trial (MRF)

22/23

- Multi-year programme Launched
- Challenge Scheme – Cycle 1 Phase 2 launched
- Challenge Scheme – Cycle 2 Phase 1
- Voucher scheme expanded across all Business Units
- Education Scheme launched
- Equity scheme increased

23/24

- Challenge Scheme – Cycle 1 Phase 2 delivered
- Challenge Scheme – Cycle 2 Phase 2 launched
- Education Scheme increased
- Voucher scheme delivered at scale

24/25

- Challenge Scheme – Cycle 2 Phase 2 delivered
- Equity scheme delivered at scale
- Education Scheme delivered at scale
- Voucher scheme delivered at scale

Fusion Industry Programme (FIP)

'accelerate the growth of the UK's fusion industry'

UK Atomic Energy Authority

- **Challenges:**

The Challenge Scheme is the majority component of the Fusion Industry Programme. The Challenge Scheme will engage the private sector around technical challenges of fusion, in a concept-agnostic manner, thereby supporting the delivery of sustainable fusion energy whilst developing valuable intellectual assets and capabilities.

The Challenge Scheme is now in its down-selection second year; the following challenges were launched in Cycle 1:

- Accelerating fusion power plant design with next-generation digital tools
- Production and handling technology for Hydrogen isotopes

Cycle 2 first stage was kicked-off September 2022 and the challenges are:

- Driving up fusion power plant performance with innovative heating and cooling systems
- Improving fusion power plant availability with novel fusion materials, technology, and manufacture.

33 contracts have been awarded across the two initial concept phases (1) for an aggregated value of £5M with new suppliers representing around 40% of the awards.

Phase 2 will down-select ~8 to 10 awarded organisations to work on commercial development from the initial concept idea. The awards will scale up between £1 to £3m for a period between 18 to 24 months.

- **Voucher Scheme**

UKAEA has developed facilities which offer sophisticated and highly specialized technical resources.

FIP will offer Technical Assistance Vouchers to provide up to £50k of specialist support to understand facility options and design viable experiments, followed by access to the specific UKAEA facilities to run initial experiments.

This scheme will make it easy for UK businesses to make use of specialist fusion technical facilities, giving them access to the latest skills and techniques.

*Further FIP details contact **Marta Barrabino**, FIP Programme Manager: marta.barrabinoclemente@ukaea.uk

Fusion Industry Programme (FIP)

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- **Education Scheme**

There is a continued need to provide appropriately skilled employees to the fusion community. FIP will Increase the supply of highly-skilled students into the fusion sector, through funding undergraduate placements each year for projects within companies engaged in fusion-related technology.

These placements will be typically eight weeks duration and will be encouraged from a broad range of subjects.

Host applications are now open for Summer Placements 2023.

*6 month placements, Future , secondments etc are under programme exploration.

*Further education scheme or host application details contact: FIPSummerPlacement@ukaea.uk

- **Equity Scheme:**

The Fusion Fund has been set up to invest in exciting business opportunities arising from fusion technology, developing a portfolio of new high-growth businesses.

The Fusion Fund invests in early-stage commercial opportunities

1.arising from UKAEA’s activities

2.with products or services pertinent to fusion energy

Fusion Fund is part of the successful UK Innovation and Science Seed Fund: https://ukinnovationscienceseedfund.co.uk/

UK INNOVATION & SCIENCE SEED FUND

*Further FIP details contact **Marta Barrabino**, FIP Programme Manager: marta.barrabinoclemente@ukaea.uk

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'accelerate the growth of the UK's fusion industry'

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Challenge 1 & 2 – Phase 1 Awards:

AqSorp
first light
CALGAVIN
3SCI
Full Matrix
assystem
IDOM
CRA risk analysis
TWI
Alloyed
DUALITY QUANTUM PHOTONICS
IDOM
Full Matrix
University of BRISTOL
GENCOA
FRAZER-NASH CONSULTANCY
ATL Advanced Coating Solutions
ASTRAL NEUTRONICS
cage capture
iSi
CAE TECH
OXFORD SIGMA
CASTINGS TECHNOLOGY
Jacobs
Q
MANCHESTER 1824 The University of Manchester Dalton Nuclear Institute
UNIVERSITY OF BIRMINGHAM
LAS LASER ADDITIVE SOLUTIONS
HYBIRD
Swansea University Prifysgol Abertawe