



The UK's National Nuclear Laboratory

# Our Science and Technology Agenda

Unleashing Innovation and  
Meeting the UK's Climate  
Change Targets

Nuclear Science to Benefit Society

#NewClearFuture

2021-2026

Briefing to JAEA Tues 17<sup>th</sup> August 2021

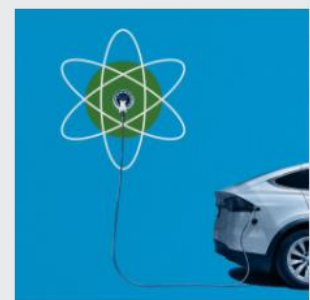


# Delivering for the New Nuclear Landscape

The nuclear landscape has changed.

## Focus Areas

We are building on the world-class solutions and successes we have already delivered to create a new agenda with four Focus Areas.



### Clean Energy

*Securing the UK's place as a global leader in the clean energies of the future by developing advanced nuclear technologies and leading their deployment*



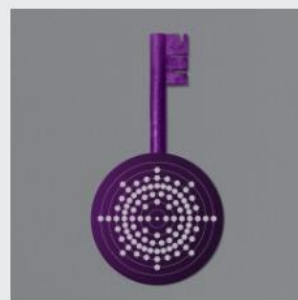
### Environmental Restoration

*Driving a step change in the way legacy and future wastes are processed by applying innovative science and breakthrough technologies*



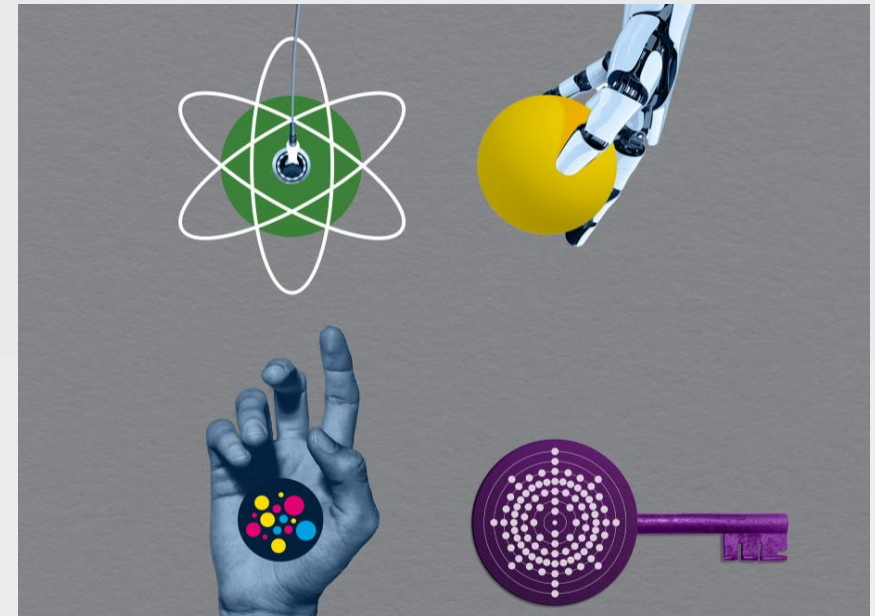
### Health and Nuclear Medicine

*Establishing an indigenous UK supply of vital medical radioisotopes*



### Security and Non-Proliferation

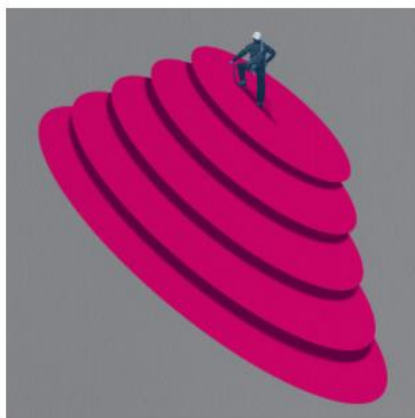
*Facilitating the global deployment of new nuclear technologies by ensuring security and non-proliferation*



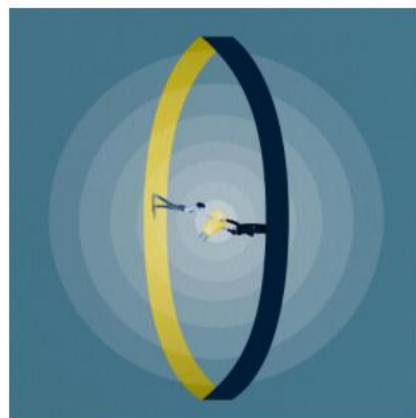
NATIONAL NUCLEAR  
LABORATORY

**Nuclear Science to Benefit Society**  
**#NewClearFuture**

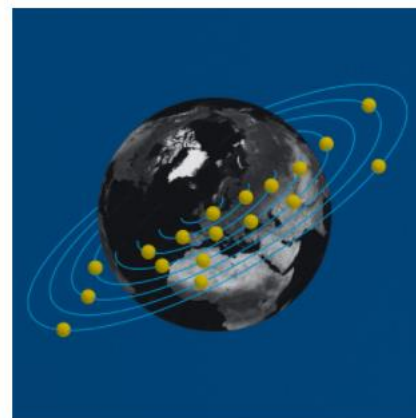




Core Science



Innovation



Strategic Research

## Collaboration in Numbers

We are currently involved in

**12**

EU programmes

with a combined value of

**€75 million**

and recently won

**all six**

of our bids for **Horizon 2020** funding

Each year, we engage with

**30+**

international events

and collaborate with a range of **international partners** including the

**IAEA & NEA**

as well as other national laboratories in **Canada, France, Japan and the USA**

In 2020, we supported around

**100**

PhD students

and

**25**

postdoctoral research assistants (PDRAs)

at

**20**

universities

In 2020, we supervised

**25 researchers**

on behalf of the **Nuclear Decommissioning Authority (NDA)**

involving a team of

**60+**

industrial experts

Since 2015, researchers from

**35**

different organisations

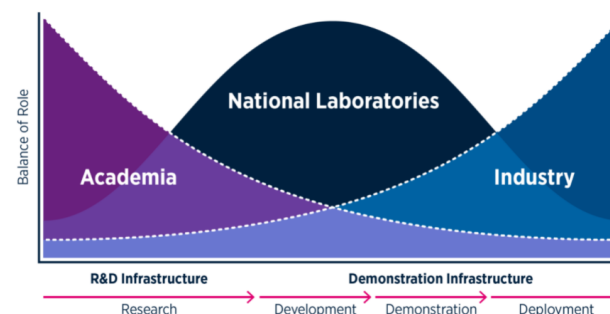
have accessed our facilities, with

**30+**

different nationalities represented

## Collaboration

*We recognise that we cannot hold these three pillars up alone. The foundation that underpins all our work is Collaboration: working with academia, industry partners and our national and international collaborators to bring together key skills, infrastructure and financial resources, ensuring that we can successfully deliver our Science and Technology Agenda.*



# Core Science

Core Science is focused on pushing the boundaries of nuclear science, building NNL's technical reputation and delivering knowledge and capabilities for our stakeholders.



Advanced Recycling Isotope Separations (ARIS)



Environmental Radiochemistry



Post Irradiation Evaluation (PIE) & Materials Performance



Reactor Chemistry (& Corrosion)



Advanced Fuels



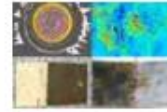
Thermal Treatment



Nuclear Safety



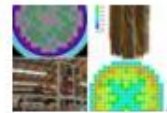
Structural Integrity



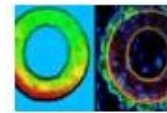
Decontamination Science



Health and Nuclear Medicine



Reactor Technology



Irradiated Fuel Characterisation