



**MIDLANDS
ENGINE**

NUCLEAR

MIDLANDS CLUSTER SNAPSHOT 2023

Nuclear



This is a growing cluster centred around Derby and with significant activity also in greater Birmingham, Stoke and Leicester. Nuclear expertise and businesses in the Midlands are set to see growth through the new Small Modular Reactor (SMR) scheme being delivered by Rolls-Royce; while other future opportunities exist in nuclear fusion following the successful bid for the government's Spherical Tokamak for Energy Production (STEP) project to be located at West Burton (Nottinghamshire).

Existing expertise is spread across a number of organisations, but most notably the Nuclear Advanced Manufacturing Research Centre in Derby. Investment figures in this cluster unknown, however, with approximately 15% of the UK's nuclear workforce located in the Midlands, and a remarkable 29% growth rate of the sector in the region compared to a national average of 2.9% (as reported by kMatrix), the cluster is poised to expand significantly.

The 2023 report, "Review of Nuclear & Related Industries in the Midlands", dives into more detail on the region's Nuclear cluster.

Cluster in context

-  Over 2,000 jobs; 15% of national.
-  10% of Midlands university graduates in 2021 studied relevant subjects to nuclear, including from 4 of the top 25 UK universities for Engineering and Technology, and Natural Sciences.
-  Almost 100 businesses; 27% of the UK total and 55% growth since 2013.
-  4 high growth companies (24% of UK) and 2 £100m+ turnover companies (33% of UK).
-  Over 28% of Innovate UK funding to nuclear businesses since 2005 has been awarded to those with a Midlands address.

Business Ecosystem


- Total Cluster Business Count:** 79
27% of UK total; the second largest number of any region. 55% growth since 2013.¹

- £100m+ Turnover Companies:** 2
33% of all in the UK have a Midlands location.²

- High Growth Companies:** 4
26% of all in the UK have a Midlands location.³

- Incorporations 2017-22:** 15
26% of UK nuclear incorporations between 2017 and 2022 have a Midlands location.⁴

- Foreign-owned enterprises:** 20%
16 are known to be foreign-owned; Higher proportion of foreign-owned than national average (11%).⁵



Earlier in 2023, a Midlands Engine commissioned [report into nuclear & related industries](#) in the Midlands was published, following on from other regional publications into this cluster – for example this [MEO factsheet](#). These reports utilise [Nuclear Industry Association \(NIA\) data](#), a central source of reputable evidence for the nuclear cluster in the Midlands. The data presented in this snapshot complements and visualises this wider work; but differences between the NIA and the Data City data are acknowledged (for example 2,000 jobs in Data City vs almost 5,000 jobs through NIA) – this is likely due to the method for allocating jobs per location in this project (an equal distribution across addresses), and differences in methodology for capturing what is defined by being part of the nuclear cluster.

^{1,2,4,5} Data City 2023, ³ Data City 2023: 20%+ company growth percentage per year.

NUCLEAR - Business Counts

MIDLANDS ENGINE



NUCLEAR - Turnover

MIDLANDS ENGINE



Nuclear



Innovation Ecosystem



Accelerator Engagement:¹ **17**

Relevant Cluster Organisations:

Nuclear Industry Association; Nuclear Advanced Manufacturing Research Centre; Midlands Nuclear.

Relevant spinouts:² **1**

Relevant high performing HEI research:

Universities of Birmingham, Coventry, De Montfort, Keele, Leicester, Loughborough, Nottingham, Nottingham Trent, Warwick

9 Midlands universities with high research ranking in relevant subjects.³

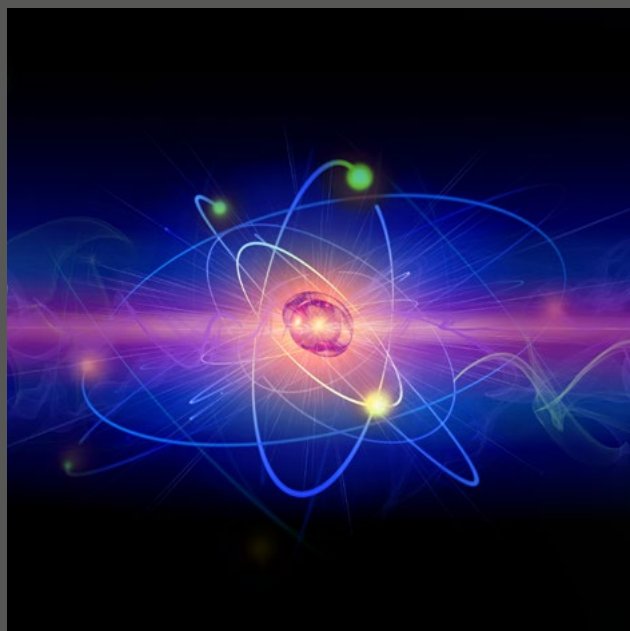
Significant Innovation Hubs:

Nuclear Advanced Manufacturing Research Centre; Infinity Park Derby; Energy Research Accelerator

High Growth Company Grants:⁴ **14**

Innovate UK funding: **£1.1m** since 2005

28% of Innovate UK funding to nuclear businesses had a Midlands location.⁵



¹Beauhurst 2022: High growth companies utilised accelerators from broad 'energy' area. ²Beauhurst, 2022. ³REF 2021 GPA >3.0 in Earth systems and environmental sciences; Architecture, built environment and planning; Geography and environmental studies; Chemistry; Earth systems and environmental sciences; Engineering; Mathematical sciences; Physics, ⁴Beauhurst, 2022 (Broad energy definition), ⁵Data City 2023.

Investment Ecosystem



Investment/Venture Capital Firms: **200**

Funds HQ'd in Midlands Engine area

313 Funds have offices in the region.¹

FDI into High Growth Companies: **36%**

30 of 84 investments in 'energy' High Growth Companies.²

Fundraising Volumes:

Mean av. **£2m** fundraising investment

£168.8m in 84 investments 'energy' (inc. £7.1m across 40 seed investments; £51.4 across 23 venture investments).³



¹Beauhurst 2022, ²Beauhurst 2022, ³Beauhurst 2022.

Nuclear



Talent Ecosystem



Estimated Employees:

2,020

15% of UK total.¹

University Graduates:

14,480

10% of ME graduates studied relevant subjects to nuclear.⁵

Earnings:

Average salary £34,530

Energy national average £38,280 (9.8% lower in Midlands).²

Graduate Retention: change over 3 years:

89.2%

Net loss of graduates working in utilities (the wider relevant sector) - other regions perform slightly better but numbers are small.⁶

Further Education Leavers:

18,630

More FE leavers (including higher level) in relevant subjects than all other regions.³

Relevant HEI High-Ranking Department:

Universities of Nottingham; Birmingham; Warwick; Loughborough

4 universities high ranked: international presence and expertise.⁴

¹Data City, 2023, ²ONS ASHE, 2021, ³DfE Unit for Future Skills: Further Education leavers 18/19 in relevant fields, ⁴QS 'Engineering and Technology' & 'Natural Sciences' world subject ranking 2022 - institutions appearing in UK top 25, ⁵Graduates from relevant subjects 2021 (HESA), ⁶165/185 first degree graduates 'Electricity, gas steam and air conditioning supply' in 3 years of graduating in 2019 (DfE Graduate Outcomes by Industry).

NUCLEAR - Employees





COMMENTARY

- 1 DDI project at \$21.76m in UK from 2017-2021.
- The Midlands hosts important components of the UK's nuclear skills base. This includes Rolls-Royce as the project lead for the Small Modular Reactor (SMR) programme at a branch of the Nuclear Advanced Manufacturing Research Centre, Nuclear Advanced Manufacturing Research Centre (NAMRC), also located in Derby. This is underpinned by supporting supply chain firms.
- Rolls-Royce has opened a Nuclear Skills Academy at Infinity Park Derby, working closely with the NAMRC.
- West Burton, North Nottinghamshire, has been selected as the home of the ambitious multi-billion pound STEP fusion energy programme, underpinning an industry expected to be worth billions to the UK economy.
- In June Rolls Royce announced an investment to double the size of the Raynesway (Derby) Nuclear Submarine site, creating 1,170 new jobs.

**MIDLANDS
ENGINE**
OBSERVATORY


datacity

wavteq

Beauhurst



This data has been compiled from multiple sources, using classifications based on clusters as proposed by Midlands Engine Partners. Where necessary wider sector data has been used as a 'best proxy'. Unless otherwise stated, all data is contemporary as of May 2023, and is an aggregation of all known counts/data within the Midlands Engine's 65 Local Authorities. Unless otherwise stated, business, employee and turnover figures have been calculated via DataCity based on trading addresses within the Midlands Engine.