MIDLANDS ENGINE

ADVANCED MANUFACTURING

AEROSPACE

MIDLANDS CLUSTER SNAPSHOT 2023

Advanced Manufacturing Aerospace

Midlands Established Cluster

The Midlands is home to the largest Aerospace cluster in the UK with 30% of aerospace businesses based here and more than half of domestic investment going to aerospace companies in the Midlands. This means the Midlands is also home to 7% per cent of Europe's and 3% of the world's aerospace industry.

With defence and civil elements, Aerospace enterprises are 87% domestically owned - however new and high growth companies benefit from high levels of foreign investment, with 42% of fundraising at seed and venture stages from international sources.

Major strategic companies such as Rolls-Royce in Derbyshire and a thriving innovation network (building on internationally significant research strengths in Warwick, Nottingham, Birmingham, Loughborough, Leicester, Nottingham Trent and Keele) have a pipeline of some 24,000 FE and HE graduates annually (with a high retention rate). Key cluster organisations such as the Midlands Aerospace Alliance and MakeUK connect. Key aerospace clusters are found around Derby and the West Midlands Combined Authority Area, supported by supply chains across the Midlands. The Midlands aerospace cluster overall also has a higher average annual wage than the national average.

Cluster in context

- **Over 56,000 jobs; 22% of UK total and largest region outside of London and SE.**
- **6% of Midlands university graduates studied relevant subjects to aerospace, including from 4 of top 25 UK universities for Engineering & Technology.**
- **Over 1,500 businesses; 30% of UK total and most of all regions. 48% growth since 2013.**
- **74 high growth companies (26% of UK) and 22 £100m+ turnover companies (34% of UK).**
- **81% of Innovate UK funding to aerospace businesses since 2005 has been awarded to those with a Midlands address.**
- **7% of UK aerospace Foreign Direct Investment Capex and 49% of UK aerospace Domestic Direct Investment Capex 2017-2021.**

Business Ecosystem

Total Cluster Business Count: **1,524**
30% of UK; the largest region of all. 48% growth since 2013.[1]

£100m+ Turnover Companies: **22**
34% of all in the UK have a Midlands location.[2]

High Growth Companies: **74**
26% of all in the UK have a Midlands location.[3]

Incorporations 2017-22: **285**
27% of UK aerospace incorporations between 2017 and 2022 have a Midlands location.[4]

Foreign-owned enterprises: **13%**
199 known to be foreign owned; Higher proportion of foreign-owned than national average (12%).[5]

[1,2,4,5] Data City 2023, [3] 20%+ company growth percentage per year.

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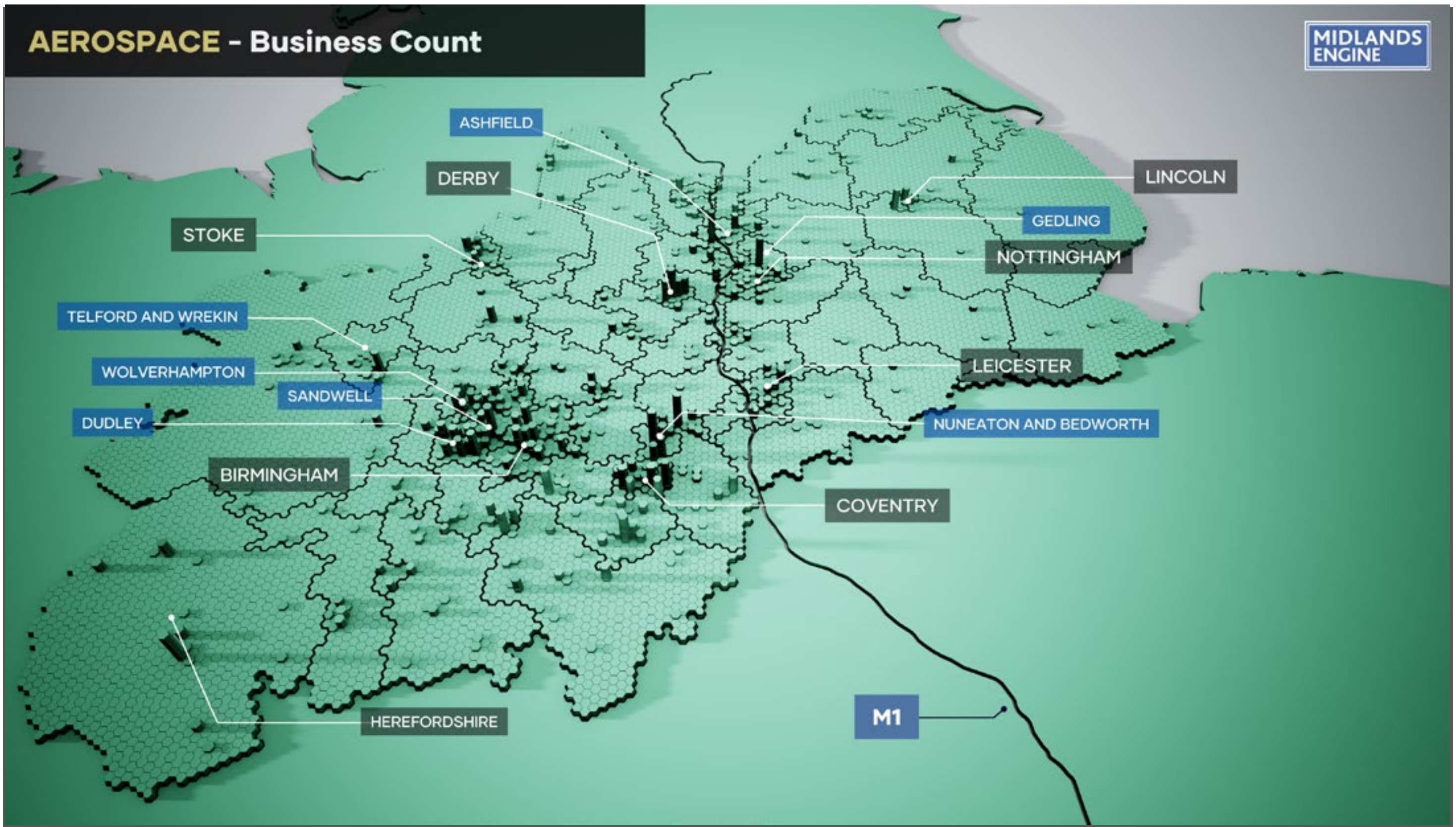
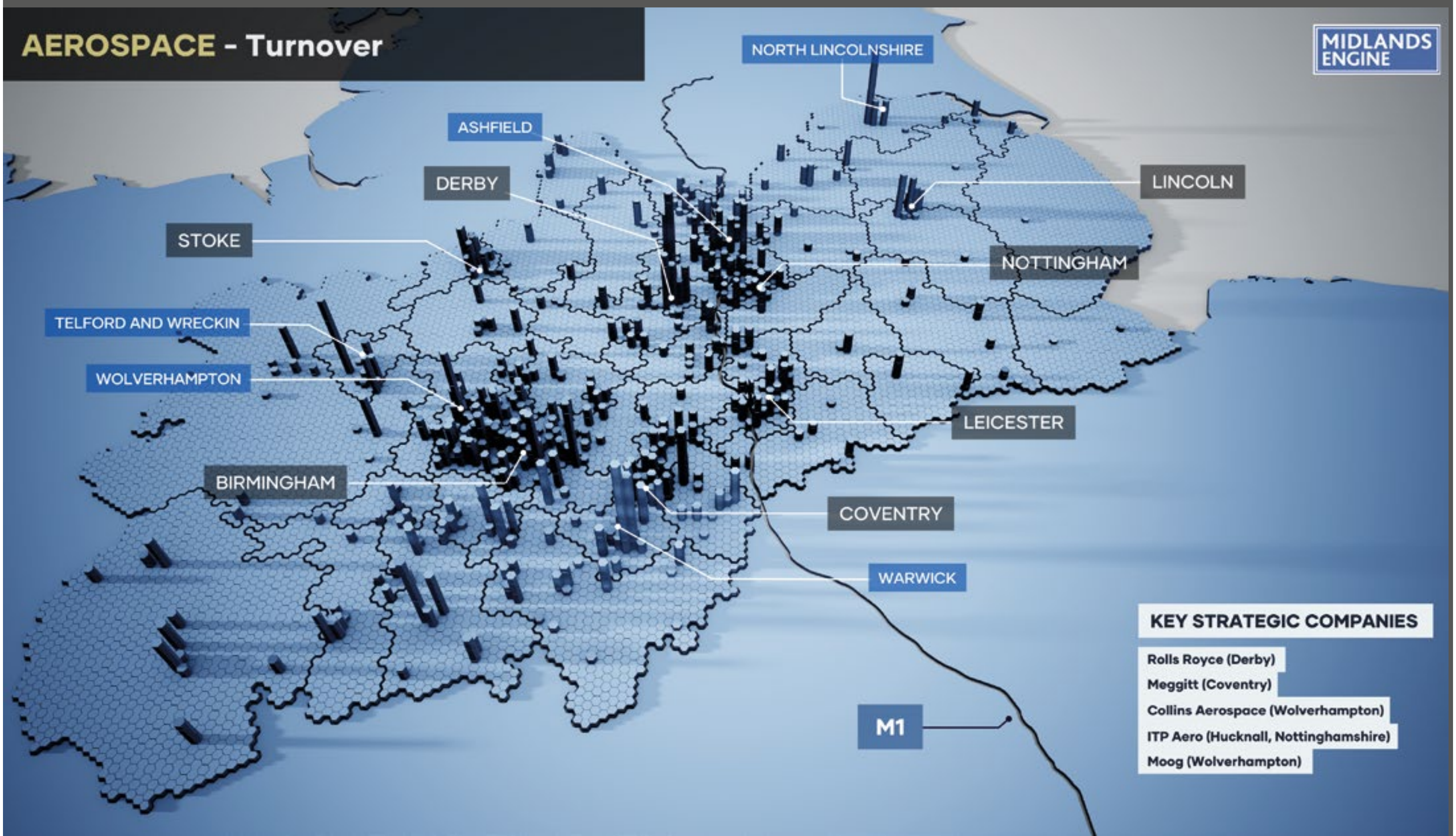
The aerospace cluster data and mapping presented provides broad estimates based on compiled company-level data using Data City's methodology. This provides a strong baseline and visual understanding of the cluster across the Midlands. Together with the Midlands Aerospace Alliance (MAA), Midlands Engine Observatory (MEO) is currently also working on an even deeper research project related specifically to the size and scale of the Midlands aerospace cluster and looking into the level of innovation funding received across the industry. This will be published in late Summer 2023, providing additional detailed insight to what has been presented in this illustrative, "first cut" analysis. For example, the number of businesses and employees is likely to be slightly overestimated in the Data City data due to company address discrepancies and company duplicates. Initial estimates from the MEO / MAA project suggest around 50,000 jobs and almost 700 business units being active in Midlands aerospace, while innovation / R&D funding is found to be highly concentrated in a small number of large or academic organisations. The broad results and visualisations of the research projects are similar, and the projects complement each other.





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The height of the graph in a single postcode within both North Lincolnshire and Telford & Wrekin is likely to be exaggerated by a single large company, which is unlikely to generate the level of turnover accounted for just in this location, and indeed unlikely to all be related to aerospace. So, while North Lincolnshire and Telford and Wrekin retain a notable, "real" level of aerospace activity, the level of aerospace turnover identified to these 2 specific postcodes (the highest spikes) should be disregarded.

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Innovation Ecosystem

Accelerator Engagement: 2

Relevant Cluster Organisations:

Midlands Aerospace Alliance; MakeUK; Innovation Alliance for the West Midlands; ADS[1]

Relevant high performing HEI research:

Universities of Keele; Loughborough; Nottingham Trent; Birmingham; Leicester; Nottingham; Warwick

7 Midlands universities with high research ranking in relevant subjects.[2]

Significant Innovation Hubs:

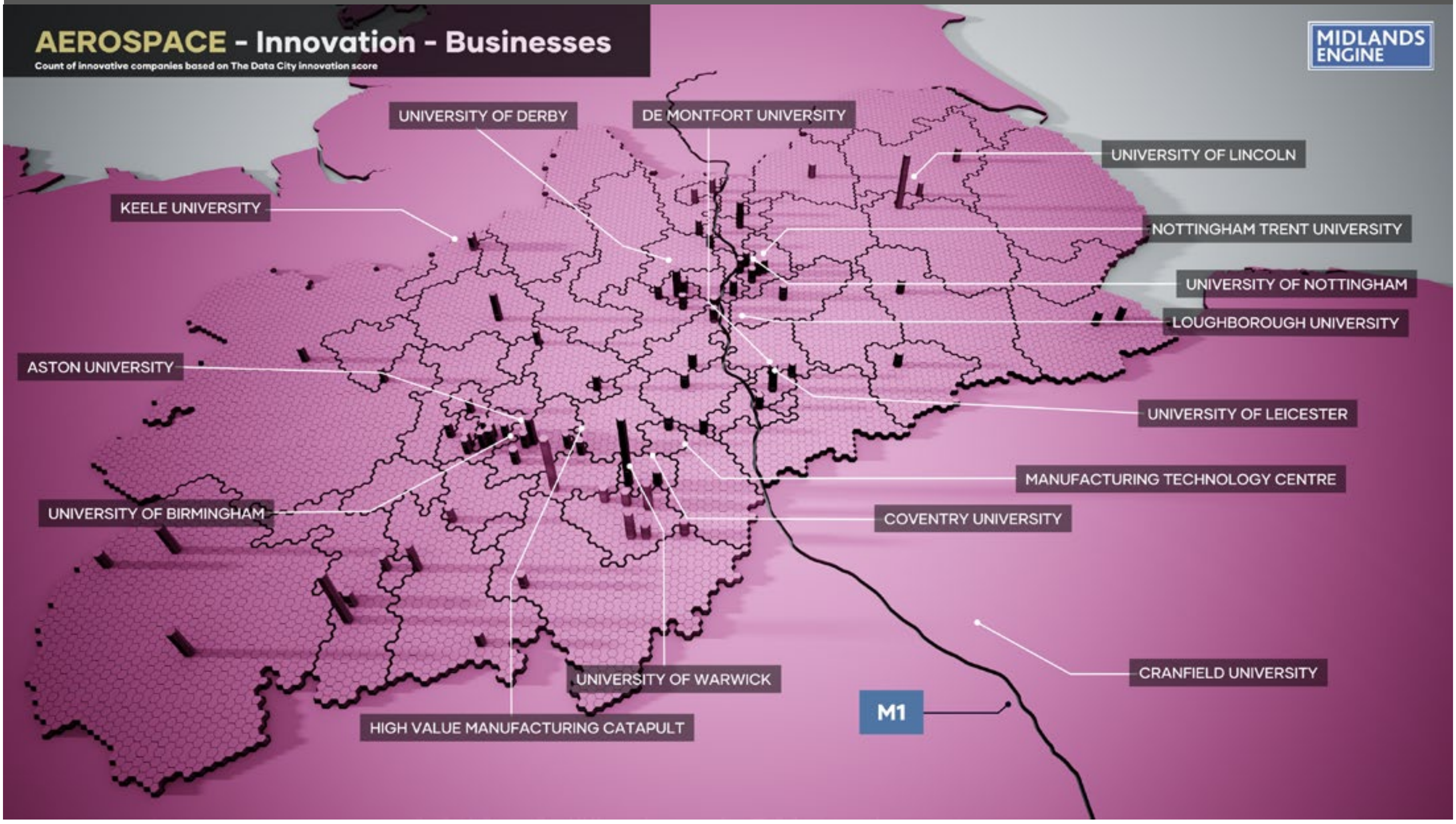
Manufacturing Technology Centre; Infinity Park Derby; Space Park; Warwick Manufacturing Group

High Growth Company Grants[3]: 23

Innovate UK funding: £894m since 2005

81% of Innovate UK funding to aerospace had a Midlands location.[4]

[1]Beauhurst 2022: High growth companies utilised accelerators [2]REF 2021 GPA >3.0 in Physics; Engineering, [3]Beauhurst 2022, [4]Data City 2023.



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Talent Ecosystem

Estimated Employees: 56,445

22% of national; largest region outside of London & SE.[1]

Earnings: Average salary £44,617

National average £43,556 (2% higher in Midlands).[2]

Further Education Leavers: 15,230

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]

University Graduates: 8,560

6% of Midlands graduates studied relevant subjects to aerospace.[5]

Graduate Retention: change over 3 years: 97.3%

West Midlands has the strongest manufacturing retention outside of London and the East regions.[6]

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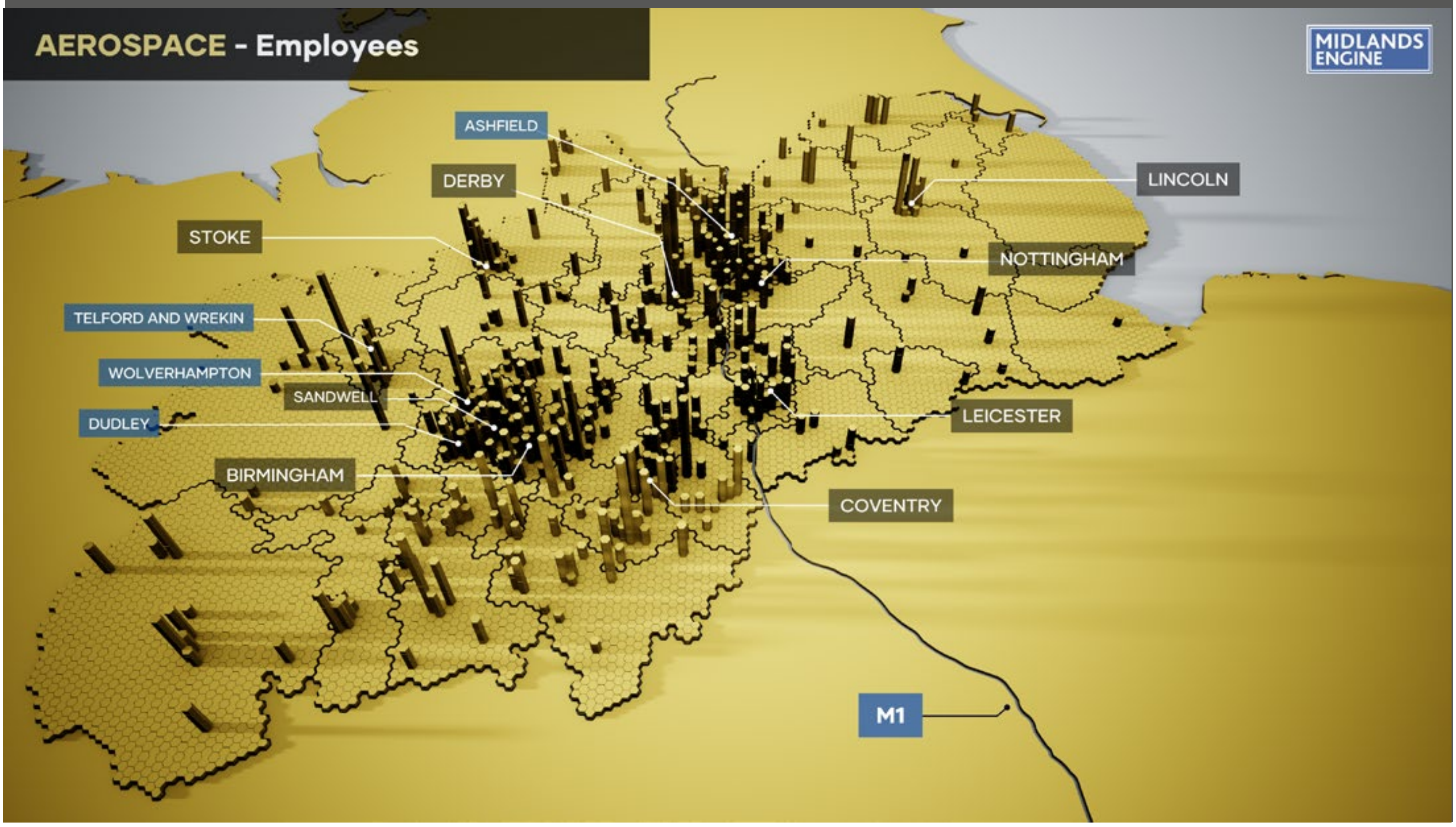
The height of the graph in a single postcode within Telford & Wrekin is likely to be exaggerated by a single large company, which is unlikely to generate the level of employees accounted for just in this location, and indeed unlikely to all be related to aerospace. So, while Telford and Wrekin does retain a notable, "real" level of aerospace activity, the level of aerospace employees identified to this specific postcode (the highest spike) should be disregarded.

[1]Data City, 2023, [2]ONS ASHE, 2021 - relevant sectors, [3]DfE Unit for Future Skills: Further Education leavers 18/19 in relevant fields, [4]QS 'Engineering and Technology' world subject ranking 2022 - institutions appearing in UK top 25, [5]Graduates from relevant subjects 2021 (HESA), [6]2,015/2,070 graduates trained in region remain in 'Manufacturing' 3 years of graduating in 2019. First degree only. (DfE Graduate Outcomes by Industry).



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Investment Ecosystem

Investment/Venture Capital Firms:
Funds HQ'd in Midlands Engine area **200**
313 Funds have offices in region.[1]

FDI into High Growth Companies: **42%**
15 of 36 investments in High Growth Companies.[2]

FDI Capex 2017-21: **$99.3m**
7% of UK total.[3]

DDI Capex 2017-21: **$217.09m**
49% of UK total.[4]

Fundraising Volumes:

Mean av. £630,933 fundraising investment
£22.7m in 36 investments (inc. £50k across 15 seed investments; £360k across 7 venture investments).[5]

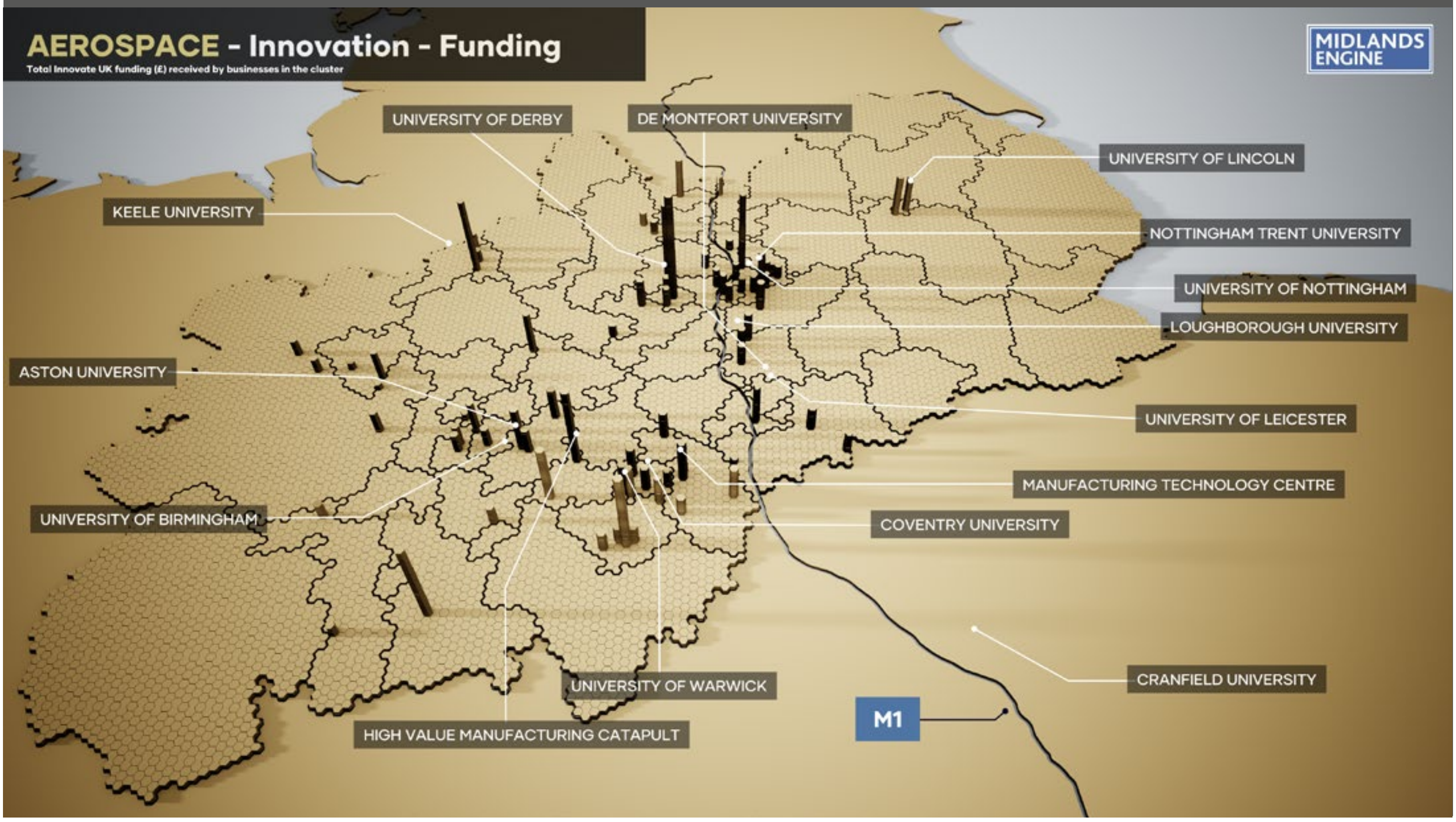
FDI Jobs 2017-2021: **218 jobs**
6% of UK total.[6]

DDI Jobs 2017-2021: **1,237 jobs**
51% of UK total.[7]

FDI Projects 2017-2021: **6 projects**
11% of UK total.[8]

DDI projects 2017-2021: **9 projects**
22% of UK total.[9]

[1]Beauhurst 2022, [2]Beauhurst 2022, [3]Wavteq 2022, [4]Wavteq 2022, [5]Beauhurst 2022, [6]Wavteq 2022, [7]Wavteq 2022, [8]Wavteq 2022, [9]Wavteq 2022.



COMMENTARY

- The Midlands DDI market share of Capex in this sector in the UK was 99% in 2017, this is however only based on 3 projects. In 2021 the Midlands market share was 31%, this was based on 9 total projects in the UK during that year.
- Midlands-based businesses in the manufacturing and engineering sector received just 7.44% of equity investment raised in the UK from 2017 to 2021, despite making up 18.7% of the high-growth companies in this sector. However, Midlands-based companies received 22.9% of all grant money received by high-growth companies in manufacturing and engineering, suggesting that the Midlands companies in the sector are being recognised for their innovation. This may reflect the Midlands' historical strengths in manufacturing and engineering.
- Wavteq forecast $414mn FDI capex in this sector in the UK in 2025.
- The top countries for foreign ownership counts are the USA, Germany, and China.

Roundtable: cluster-specific challenges & recommendations

Access to the EU export market has been a challenge for the Midlands' aerospace sector post-Brexit. Businesses pointed to aerospace as a slow-moving sector, with the returns on investment often being long-term. As such, one of the key asks from businesses was more coordinated efforts across the region, including proactive support by mayors, to retain and attract investment from Airbus, Rolls Royce, and other North American investors.

Nationally, businesses point to a need for specialist aerospace expertise in the Department for Business & Trade, and greater support for trade through more events and investor visits. SME support for innovation is a key gap as R&D funding from the Aerospace Technology Institute is focused on large businesses.

Recommendations for Midlands Engine Partnership:

1. **Finance:** Increase funding for Midlands Aerospace Alliance to drive and promote the cluster internationally.

Recommendations for UK policy:

1. **Investment:** Provide financial subsidies for capital investment and innovation to attract FDI and maintain the UK's competitiveness internationally in the aerospace supply chain.

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.