MIDLANDS ENGINE

DATA DRIVEN HEALTHCARE INNOVATION

MIDLANDS CLUSTER SNAPSHOT 2023

Data Driven Healthcare Innovation

Midlands New Economy Cluster

Data-driven healthcare innovation to develop patient-centred solutions with applications in diagnostics, devices and digital applications, is a growing cluster in the Midlands. There are dedicated Life Sciences Opportunity Zones at the Birmingham Health Campus (BHIC) and Charnwood Campus, Leicestershire.

The cluster focuses on population data in deriving new healthcare interventions, utilising the strong innovation infrastructure through Medilink Midlands and the Health Innovation East Midlands and Health Innovation West Midlands.

A growing investment opportunity, the Midlands has a hotbed of talent: 10 universities within the region achieved more than 3.0GPA in REF 2021 relevant fields, there are around 31,000 relevant HE and FE graduates annually across healthcare and digital subjects, and over 200 companies in the Midlands are operating in this space.

The Department for Business and Trade have allocated 'data-driven health innovation in Greater Birmingham and Solihull' a High Potential Opportunity, with notable clusters of high growth businesses also found in Nottingham and Leicester - supplemented by academic and research excellence in these places.

Cluster in context

Over 5,500 jobs; 9% of UK jobs.

8% of Midlands university graduates studied in 2021 relevant subjects to data driven healthcare, including from 4 of the top 25 UK universities for Life Sciences and Medicine.

Over 200 businesses; 14% of UK total and 62% growth in business numbers since 2013.

17 high growth companies (11% of UK) and eight £100m+ turnover companies (14% of UK total).

11% of Innovate UK funding to data driven healthcare since 2005 have been awarded to businesses with a Midlands address.

3% of UK data driven healthcare-relevant Foreign Direct Investment Capex and 15% of UK data driven healthcare-relevant Domestic Direct Investment Capex 2017-2021.

Business Ecosystem

Total Cluster Business Count: **222**

14% of UK total; 62% growth since 2013.[1]

£100m+ Turnover Companies: **8**

14% of all in the UK have a Midlands location.[2]

High Growth Companies: **17**

11% of all in the UK have a Midlands location.[3]

Incorporations 2017-22: **44**

11% of UK data-driven healthcare innovation incorporations between 2017 and 2022 have a Midlands location.[4]

Foreign-owned enterprises: **30%**

67 are known to be foreign-owned; Higher proportion of foreign-owned than national average (24%).[5]

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

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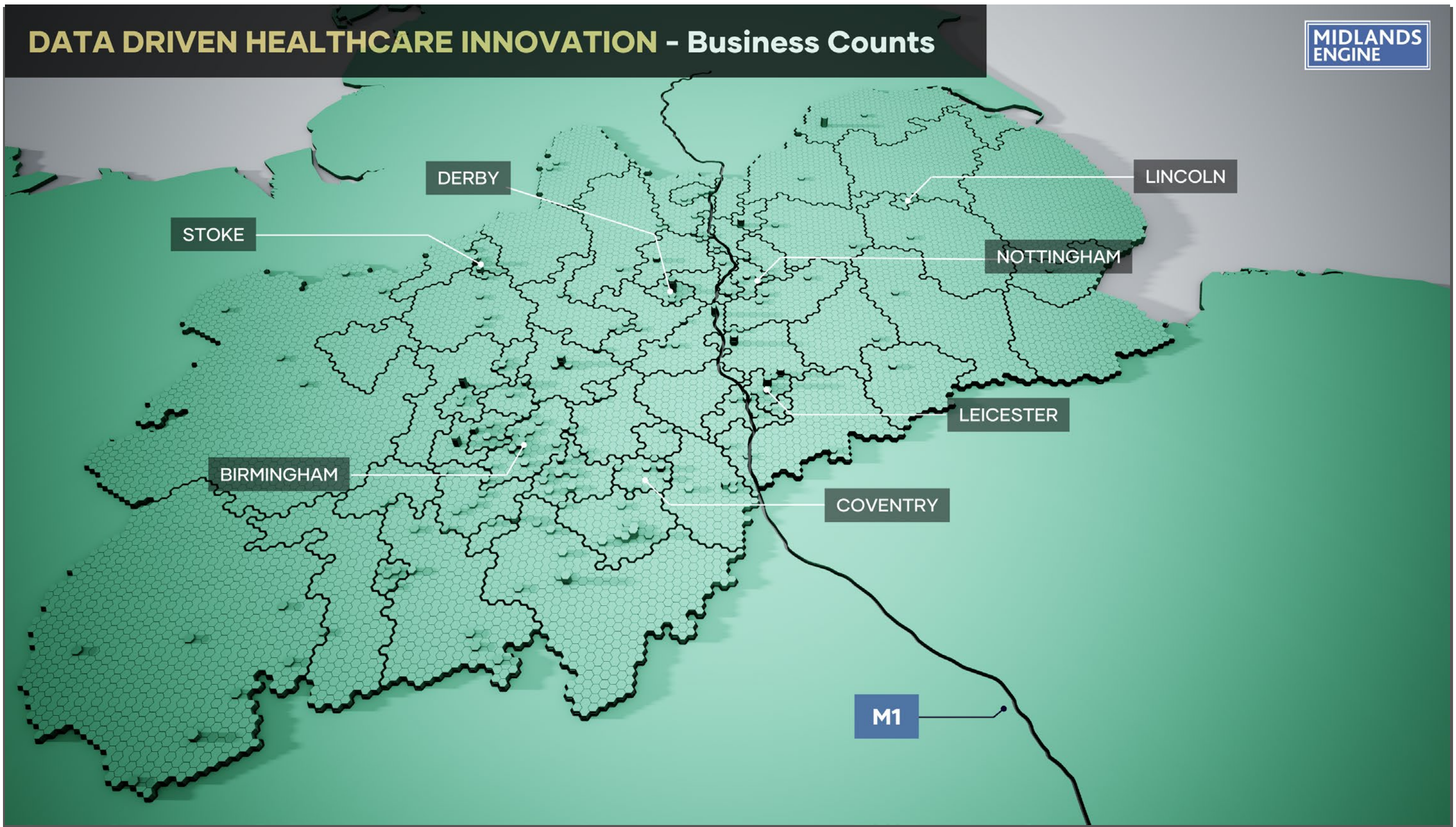
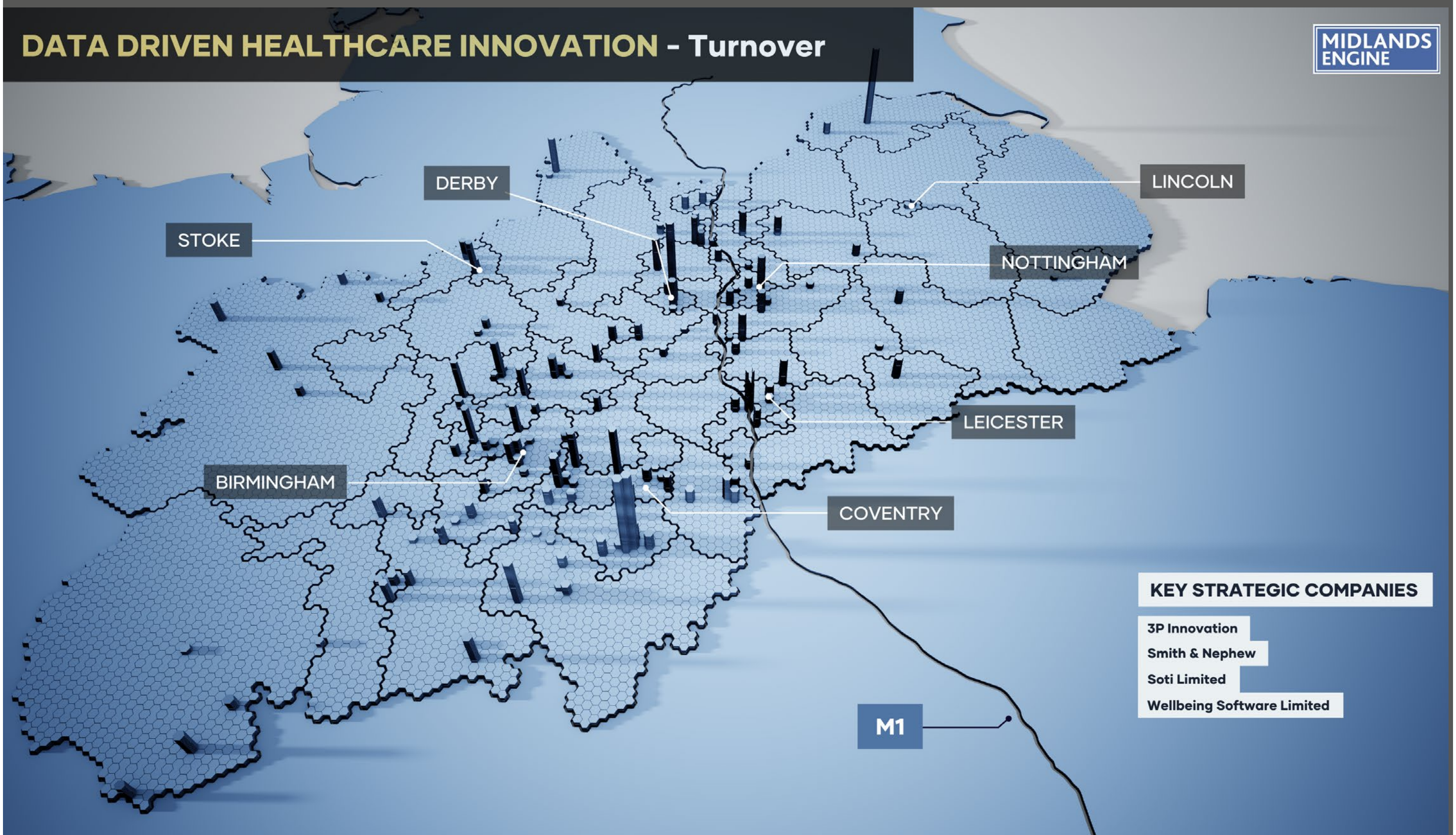
Health and life sciences is a difficult cluster to define and quantify, hence some discrepancies between the data - particularly the number of jobs - presented here and previous work; for example the Midlands MedTech sector analysis, which uses Office for Life Sciences (OLS) data, and previous Midlands Engine Observatory publications related to health and life sciences, e.g. this factsheet. The latter takes a broader definition of health than this cluster project, incorporating public healthcare and social care service jobs, while the difference between the OLS data and the Data City estimates for the Midlands (32,000 jobs vs 18,000 jobs) is likely due to the method for allocating jobs per location in this project (an equal distribution across addresses). In this case the number of actual Midlands jobs in health and life sciences is likely to be underestimated by the Data City data (18,177) due to company account structures, specifically addresses. This is validated somewhat by the number of total employees in companies with a Midlands Engine address being as high as over 68,000. Therefore, as per the OLS company-level data, the number of employees in health and life sciences in the Midlands Engine are more likely to be in excess of 30,000 and beyond, while moving forward, MEO will continue to work with partners to best identify and track the cluster moving.





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The height of the graph in a single North Lincolnshire postcode 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 data-driven healthcare innovation. The level of data-driven healthcare turnover in this specific area should therefore be disregarded.

Data Driven Healthcare Innovation

Innovation Ecosystem

Accelerator Engagement:[1] **26**

Relevant Cluster Organisations:

Medilink Midlands; West Midlands Health and Wellbeing Innovation Network; Precision Health Technologies Accelerator; Innovation Alliance for the West Midlands; Midlands Innovation Health; Midlands Health Alliance; West Midlands Health Technologies Cluster

Relevant Spinouts:[2] **5**

Relevant high performing HEI research:

Universities of Aston; Birmingham; Coventry; Keele; Leicester; Lincoln; Loughborough; Nottingham; Nottingham Trent; Warwick; Health Data Research UK Midlands

10 Midlands universities with high research ranking in relevant subjects.[3]

Significant Innovation Hubs:

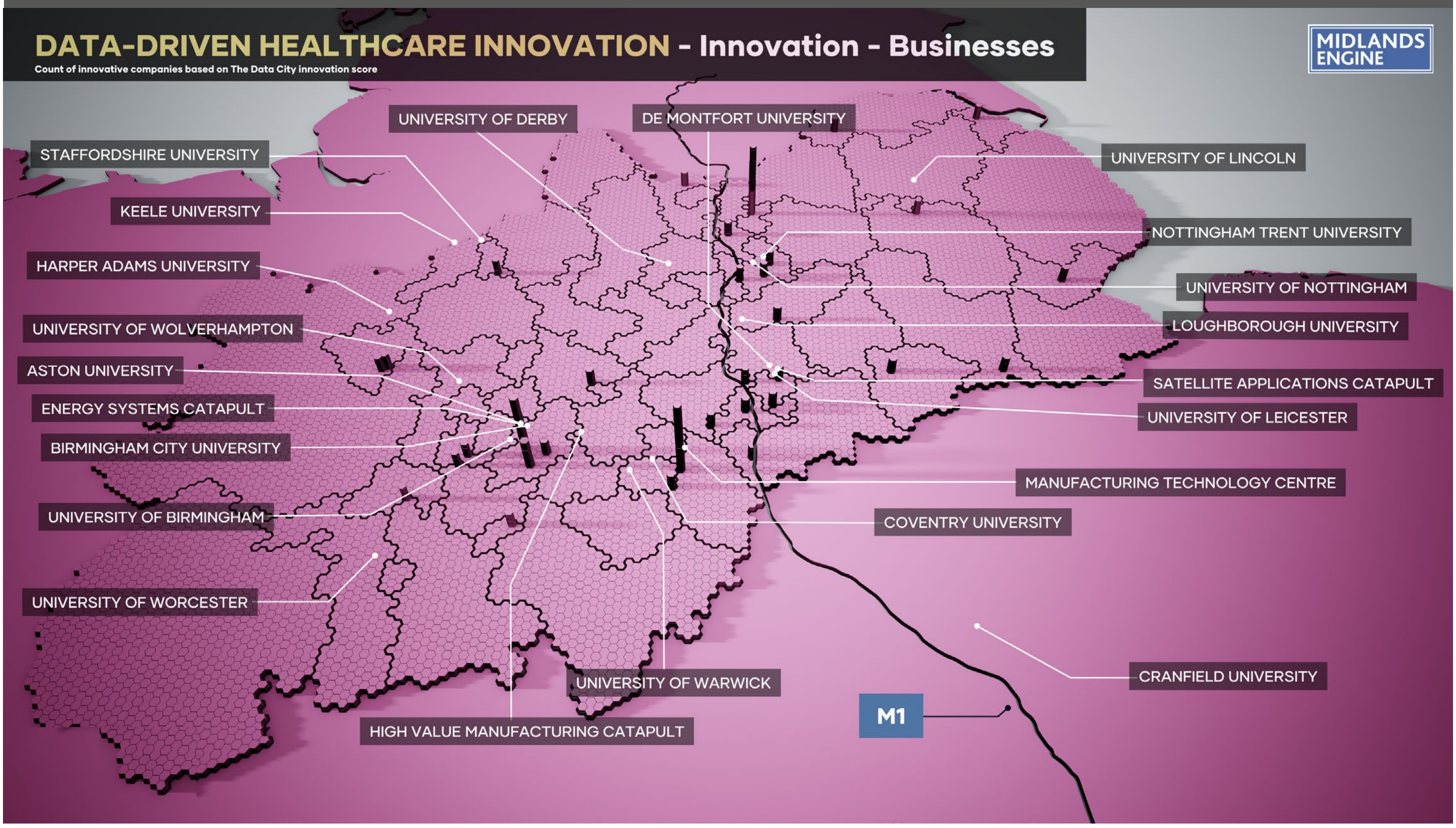
Birmingham Health Innovation Campus; Charnwood Campus; BioCity Nottingham

High Growth Company Grants[4]**:** **14**

Innovate UK funding: **£16m since 2005**

11% of Innovate UK funding awards were to businesses with a Midlands location.[5]

[1]Beauhurst 2022: High growth companies utilised accelerators [2]Beauhurst, 2022, [3]REF 2021 GPA >3.0 in relevant fields [4]Beauhurst 2022, [5]Data City 2023.



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Talent Ecosystem

Estimated Employees: 5,552

5% of UK total.[1]

Earnings: Average salary £34,131

National average £46,894 (27.2% lower in Midlands).[2]

Further Education Leavers: 19,830

More FE leavers (including higher level) in relevant subjects than in any other region.[3]

Relevant HEI High-Ranking Department:

Universities of Nottingham; Birmingham; Warwick; Leicester

4 universities high ranked: international presence and expertise.[4]

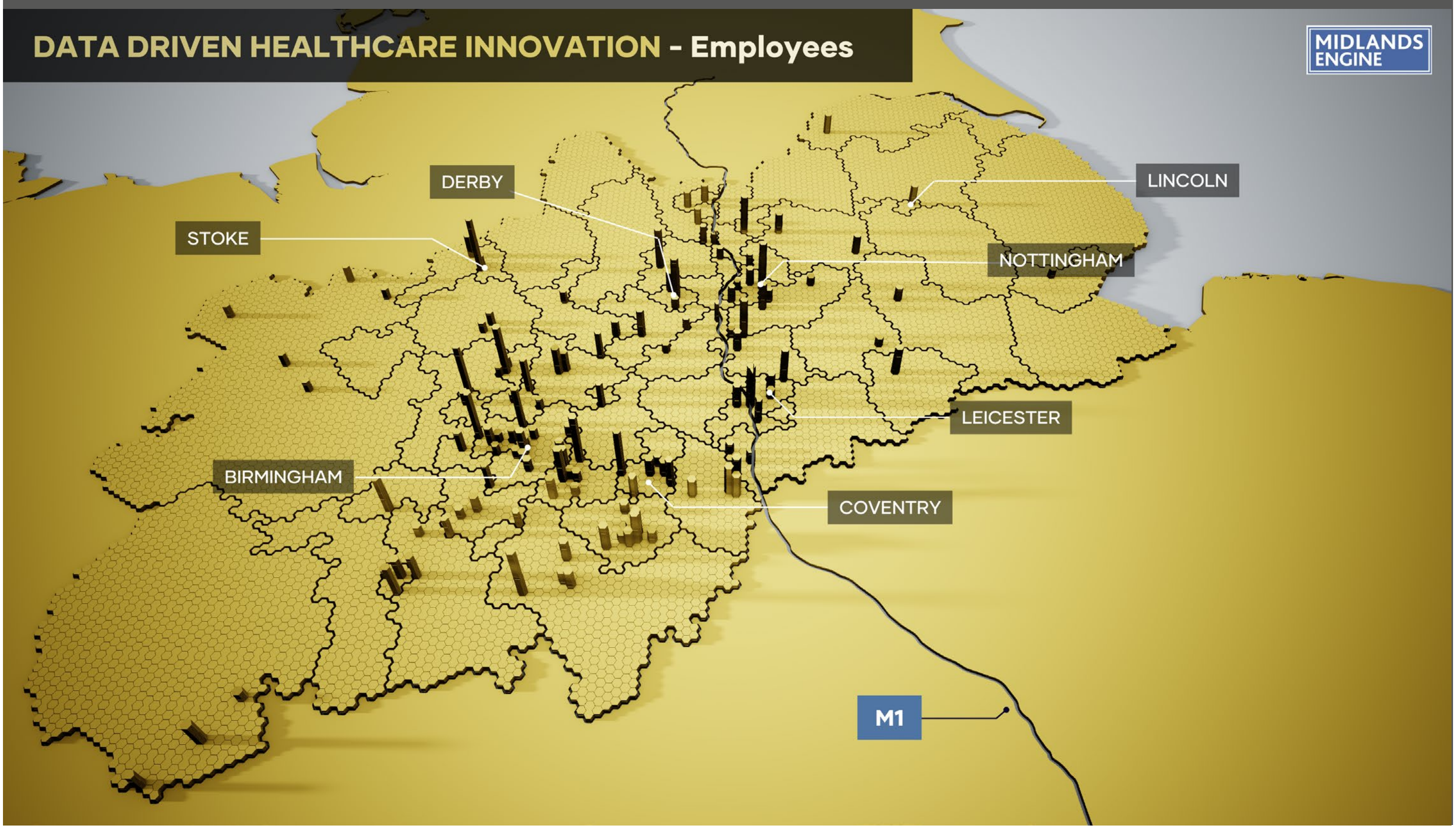
University Graduates: 11,735

8% of Midlands graduates studied subjects relevant to data-driven healthcare innovation.[5]

Graduate Retention: change over 3 years: 83.8%

Negative balance for aspects of health innovation across Midlands.[6]

[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 'Life Sciences & Medicine' world subject ranking 2022 - institutions appearing in UK top 25, [5]Graduates from relevant subjects 2021, [6]7420/8855 first degree graduates trained in region remain in 'Information and Communication; Health & Social Work Activities' in 3 years of graduating in 2019.



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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: 40%
43 of 108 UK investments in High Growth Companies.[2]

FDI Capex 2017-21: $266.3m
3% of UK total.[3]

DDI Capex 2017-21: $544.21m
15% of UK total.[4]

Fundraising Volumes:

Mean av. £1.2m fundraising investment
£134m in 108 investments (inc. £107m across 62 seed investments; £26.8m across 33 venture investments).[5]

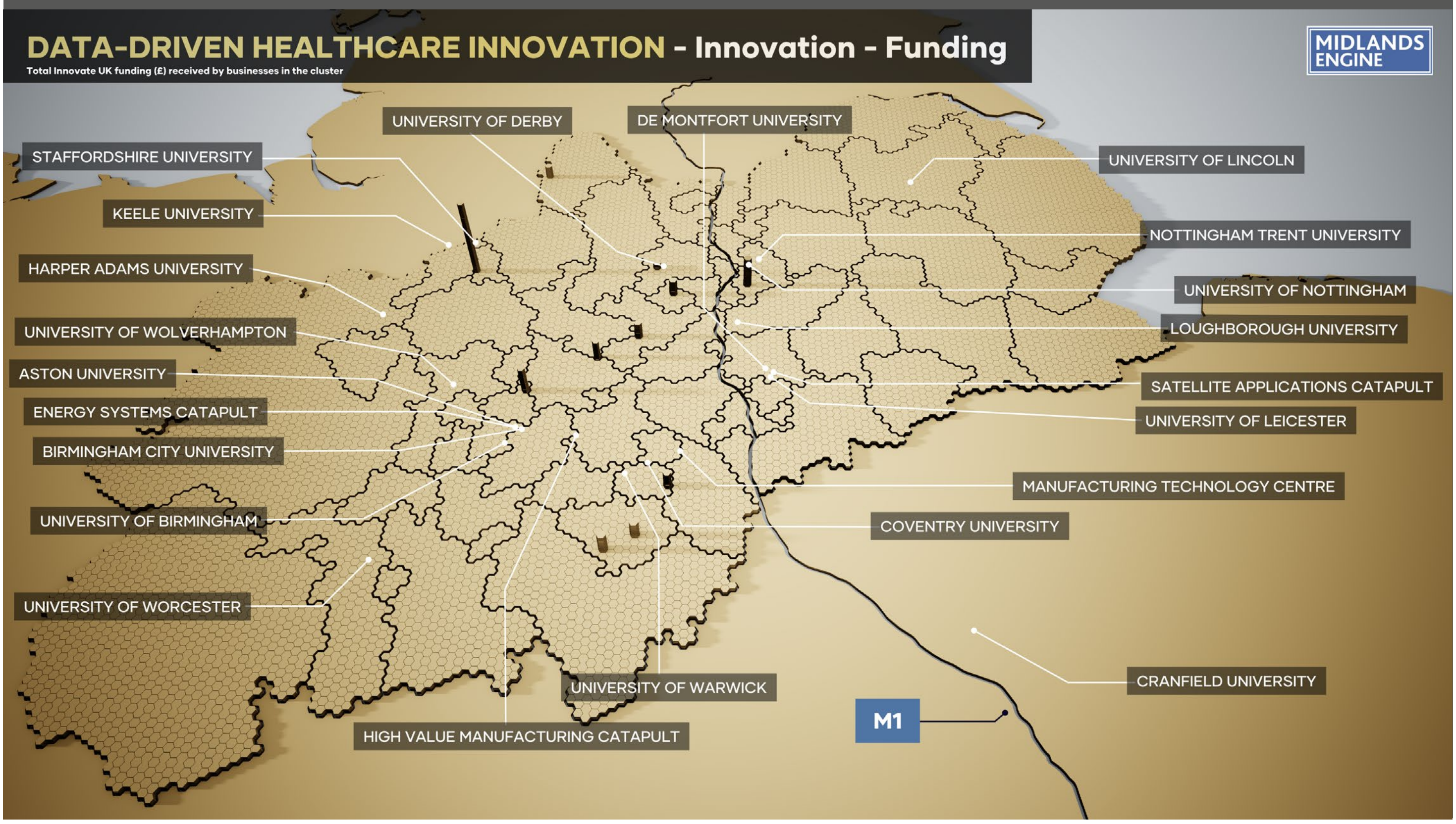
FDI Jobs 2017-2021: 889 jobs
5% of UK total.[6]

DDI Jobs 2017-2021: 3,321 jobs
17% of UK total.[7]

FDI Projects 2017-2021: 27 projects
7% of UK total.[8]

DDI projects 2017-2021: 47 projects
20% 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

- Personal healthcare businesses based in the Midlands raised just 5.09% of the total equity raised by this sector in the UK from 2017 to 2021, despite making up 16.9% of high-growth businesses in this sector. They also received just 5.54% of all grant money received by companies in this sector.
- The top countries for foreign ownership counts are the USA, Germany, Sweden, France, Australia.

Roundtable: cluster-specific challenges & recommendations

Access to NHS procurement has been a key frustration for many Midlands businesses in the sector. Businesses point to a need for cultural changes within the NHS to embrace new products and ideas, and to engage more with SMEs. Participants also believed that national procurement should focus on UK products and solutions, instead of seeking cost-efficiencies elsewhere.

Recommendations for Midlands Engine Partnership:

1. **Strategy:** Develop a strategy around healthcare for the Midlands, linked into new data in healthcare and national strategy.
2. **Finance:** Increase access to pre-seed grant funding for proof of concept/ prototype, providing a bridge to commercial sales and financial sustainability.

Recommendations for UK policy:

1. **Procurement:** Improve procurement processes within the NHS to better engage with UK and Midlands businesses, particularly SMEs, and to embrace new solutions and products, new processes to reduce waste going to landfill, and to routinely use and re-purpose data.
2. **Regulation:** Support in navigating and adapting to a complex new regulatory environment post-Brexit, including support with streamlining processes and improving data collection. To support this, a UK Centre for Excellence for Regulatory Science and Innovation could be created in the region.

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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.