



**MIDLANDS
ENGINE**

ADVANCED MANUFACTURING

RAIL

MIDLANDS CLUSTER SNAPSHOT 2023

Advanced Manufacturing Rail



Derbyshire is the main UK rail cluster, with the largest concentration of locomotive and rolling stock manufacturers in the UK. There are further significant location quotients of high growth companies around Derbyshire, but also in the West Midlands Combined Authority (WMCA) area, Stratford-upon-Avon and wider Warwickshire, and Staffordshire.

The cluster has a strong pipeline (22,400) of relevant HE and FE graduates annually, but is best characterised by significant manufacturing facilities and extensive innovation support, including Warwick Manufacturing Group, the Very Light Rail National Innovation Centre (Dudley), Long Marston Rail Technology Centre (Warwickshire), Birmingham Centre for Railway Research and

Education, and Network Rail's two Rail Innovation and Development Centres (Leicestershire and Nottinghamshire).

The strength of innovation in this space is evidenced by the 33 spin-outs currently being tracked by Beauhurst. HS2 is bringing about major investment in stations and infrastructure initially to Birmingham and Solihull but later to the East Midlands too.


Captured investments into rail are relatively low but there is a significant number (27) of High Growth Companies to watch, reflecting new technology opportunities across the value chain. The Midlands rail cluster overall also has a higher average annual wage than the national average.

Cluster in context

-  Almost 4,000 jobs; 12% of UK total and the most of any region outside London and the South East.
-  27 high growth companies (14% of UK) and eight £100m+ turnover companies (47% of UK).
-  5% of Midlands university graduates studied in 2021 relevant subjects to rail, including from 4 of the top 25 UK universities for Engineering & Technology.
-  71% of Innovate UK funding to rail businesses since 2005 has been awarded to those with a Midlands address.
-  Over 600 businesses; 12% of UK total and most of all regions. 327% growth in business numbers since 2013.
-  12.1% of UK rail Foreign Direct Investment Capex and 0.2% of UK rail Domestic Direct Investment Capex 2017-2021.

Business Ecosystem

- Total Cluster Business Count:** 641
12% of UK; the third largest regional number. 327% growth since 2013.¹
- £100m+ Turnover Companies:** 8
47% of all the UK have a Midlands location.²
- High Growth Companies:** 27
14% of all in the UK have a Midlands location.³
- Incorporations 2017-22:** 384
11% of UK rail incorporations between 2017 and 2022 have a Midlands location.⁴
- Foreign-owned enterprises:** 1%
22 known to be foreign owned; Same proportion of foreign-owned than national average (1%).⁵

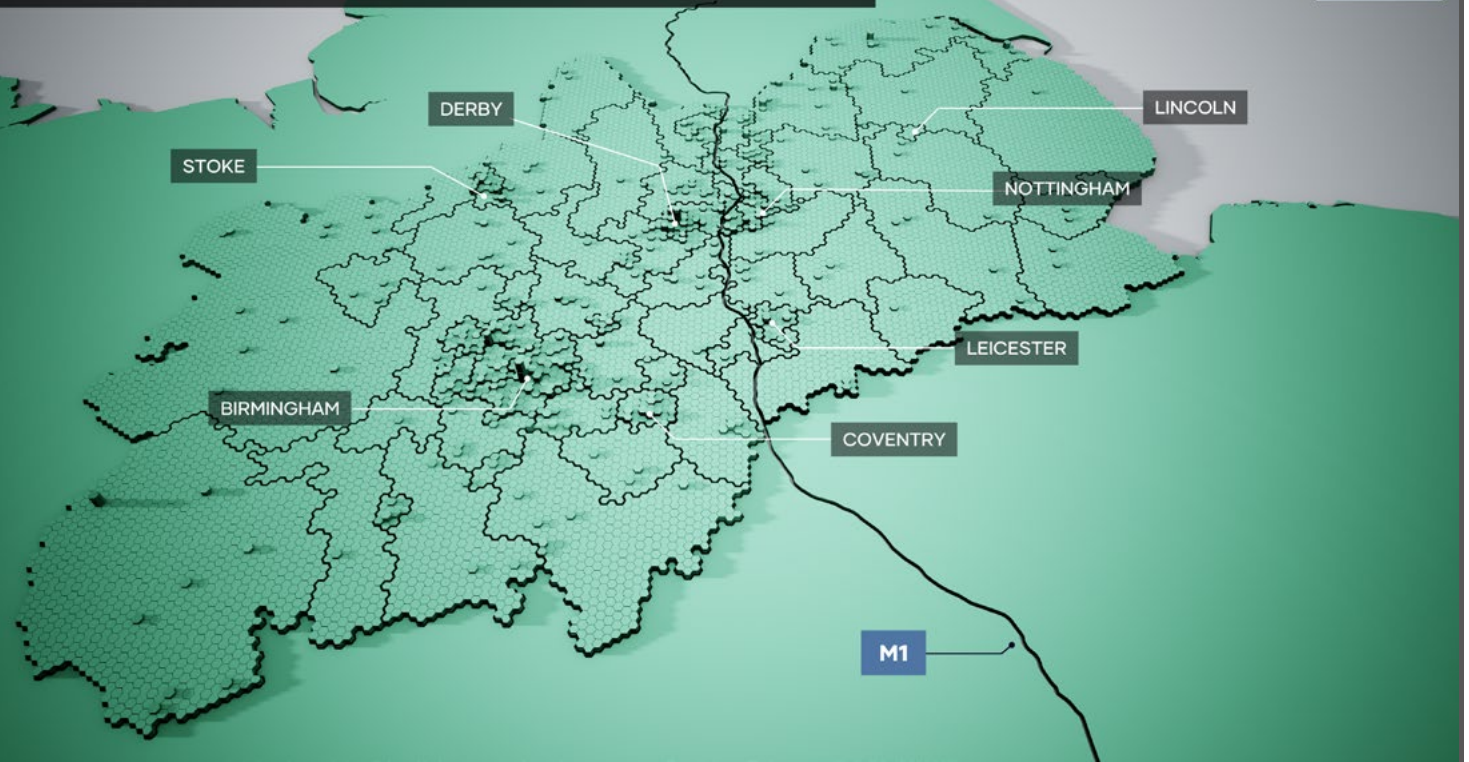


In this project, rail has been defined in a narrow way using two SIC codes: 30200 (Manufacture of railway locomotives and rolling stock) and 42120 (Construction of railways and underground railways). This was intentional to focus on the manufacture of rolling stock and the construction of railways (where the Midlands' strength lies), and it explains the difference in the figures presented in this project, compared to other broader studies – such as a [2021 report from Oxford Economics](#). These wider reports should be used in conjunction with the data presented here for a rounded understanding of the rail cluster.

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

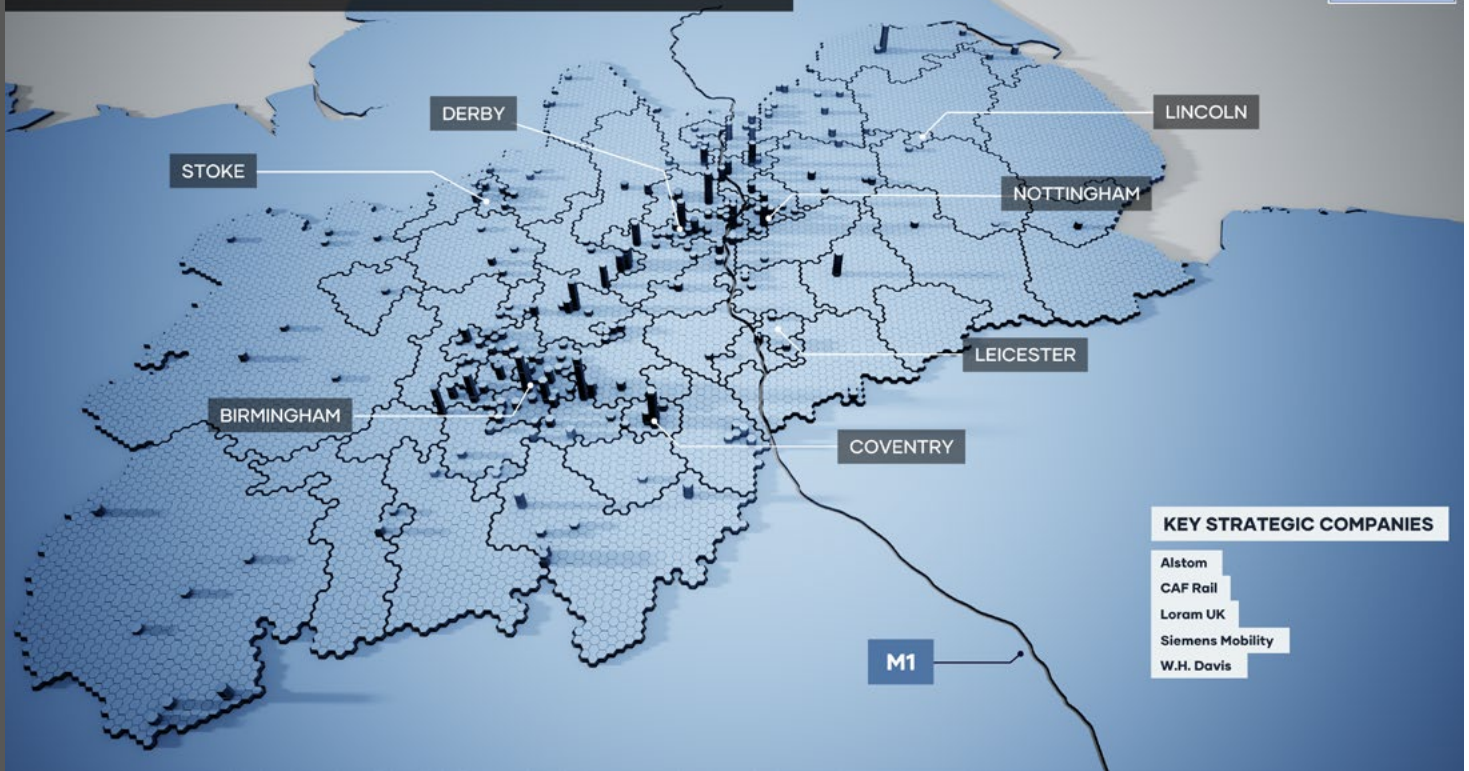
ADVANCED MANUFACTURING RAIL - Business Counts

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ADVANCED MANUFACTURING RAIL - Turnover

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Innovation Ecosystem



Accelerator Engagement:¹ **2**

Relevant Cluster Organisations:

MakeUK; RBD Community (formerly Rail Alliance); Rail Industry Association; Rail Forum; Innovation Alliance for the West Midlands

Relevant spinouts:² **33**

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.³

Significant Innovation Hubs:

Manufacturing Technology Centre; Warwick Manufacturing Group; Birmingham Centre for Railway Research and Education; Very Light Rail Innovation Centre; UK Rail Research and Innovation Network & Centre; Rail Innovation and Development Centre Melton; Long Marston Rail Technology Centre

High Growth Company Grants:⁴ **4**

Innovate UK funding:

£2.1m since 2005

71% of Innovate UK awards for rail were to businesses with a Midlands location.⁵

¹Beahurst 2022: High growth companies utilised accelerators, ²Beahurst, 2022, ³REF 2021 GPA >3.0 in Physics; Engineering, ⁴Beahurst, 2022 (Broad energy definition), ⁵Data City, 2023.



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Talent Ecosystem



Estimated Employees:

3,724

12% of UK total; the most of any region outside London and the South East.¹

University Graduates:

7,205

5% of Midlands graduates in 2021 studied subjects relevant to rail.⁵

Earnings:

Average salary **£44,617**

National average £43,556 (2.4% higher in Midlands).²

Graduate Retention: change over 3 years:

97.3%

West Midlands has the highest rate of manufacturing graduate retention outside London and the East of England.⁶

Further Education Leavers:

15,230

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

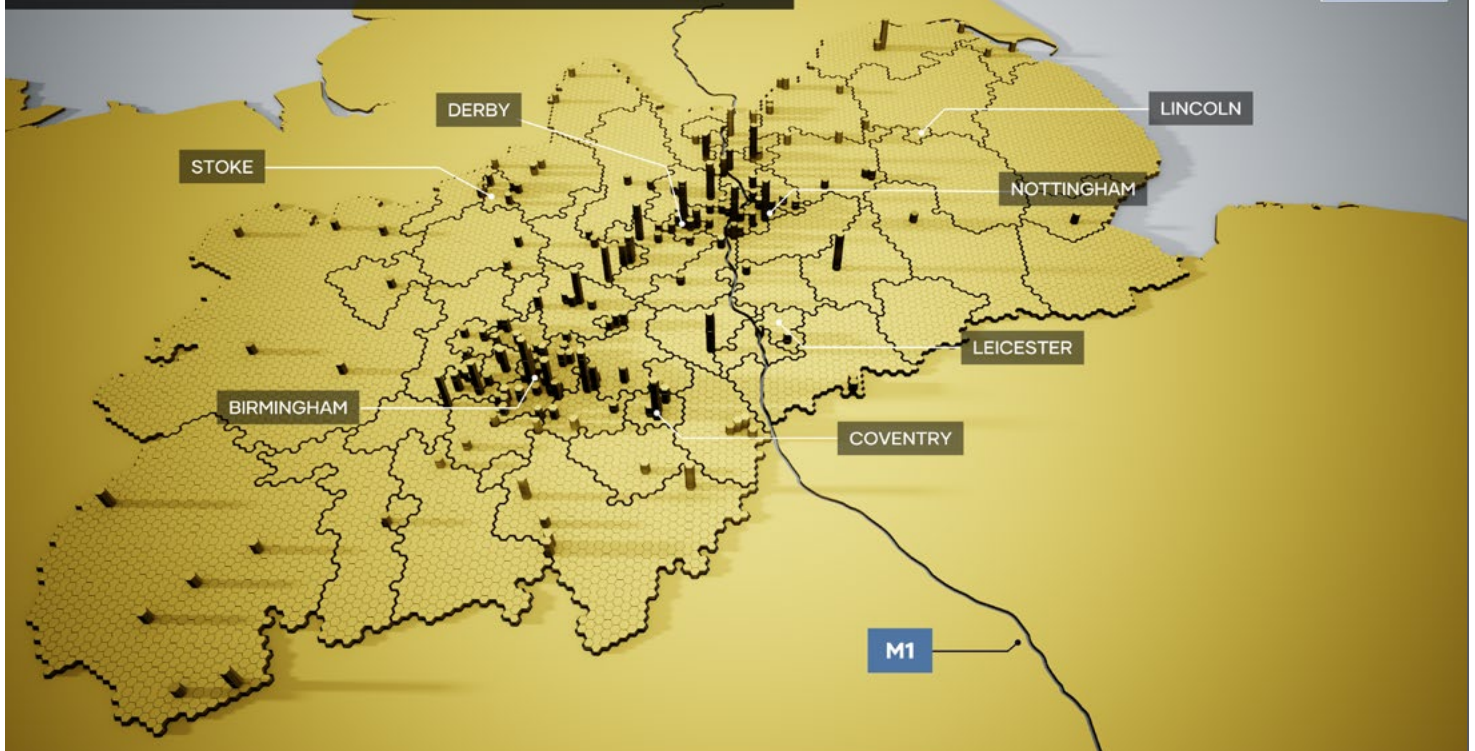
Relevant HEI High-Ranking Department:

Universities of Nottingham; Birmingham; Warwick and Loughborough

4 universities high ranked: international presence and expertise.⁴

¹Data City, 2023, ²ONS ASHE, 2021, ³DfE DfE Unit for Future Skills: Further Education leavers 18/19 in relevant fields, ⁴QS 'Engineering and Technology' world subject ranking 2022 - institutions appearing in UK top 25, ⁵Graduates from relevant subjects 2021 (HESA), ⁶2,015/2,070 first degree graduates trained in region remain in 'Manufacturing' 3 years of graduating in 2019. First degree only.

ADVANCED MANUFACTURING RAIL - Employees



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Investment Ecosystem



Investment/Venture Capital Firms: Funds HQ'd in Midlands Engine area 313 Funds have offices in region. ¹	200	FDI Jobs 2017-2021: 14% of UK total. ⁶	506 jobs
FDI into High Growth Companies: 2 of 3 UK investments in High Growth Companies. ²	67%	DDI Jobs 2017-2021: 1% of UK total. ⁷	19 jobs
FDI Capex 2017-21: 12.1% of UK total. ³	\$114.9m	FDI Projects 2017-2021: 22% of UK total. ⁸	10 projects
DDI Capex 2017-21: 0.2% of UK total. ⁴	\$0.47m	DDI projects 2017-2021: 12% of UK total. ⁹	4 projects
Fundraising Volumes:			
Mean av. £166k fundraising investment			

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





COMMENTARY

- The UK's share of global FDI capex in this cluster fluctuated significantly during this period. From 14% in 2017 to 9.4% in 2018, to 2.2% in 2019 and then to 8.1% in 2020 and 2% in 2021.
- Wavteq forecast \$210mn FDI capex in this sector (non-automotive transport OEM) in the UK in 2025.
- Derby has the highest locomotive and rolling stock manufacturing company count in the UK.
- The top 5 countries for foreign ownership counts are the USA, France, Netherlands, Canada and Spain.



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.