MIDLANDS ENGINE

CONNECTED DEVICE TECHNOLOGY

MIDLANDS CLUSTER SNAPSHOT 2023

Connected Device Technology

Midlands New Economy Cluster

From 5G and Industry 4.0 to applied connected and automated mobility (CAM), connected device technology is a pan-regional specialism with clusters of business, talent and innovation in the Midlands Engine. With a strong pipeline of around 19,000 HE and FE graduates annually, there are notable clusters around Worcestershire and Herefordshire's Cyber Valley, and in the wider West Midlands around automotive and other applied industries.

Derby is home to high growth businesses working on Internet of Things (IoT). With Wavteq forecasting a $7.58bn FDI capex into the UK in this area by 2025, there are major opportunities to increase the Midlands market share of inward investment (2017-21).

Notably, the majority (71%) of early stage fundraising investments in high growth companies have come from foreign investors.

The strength of cluster organisation through sites such as Malvern Science Park, Skylon Park, Space Park, and high performing universities in computer science (Warwick, Birmingham, Nottingham, Loughborough, Coventry, Leicester and Lincoln) with 10 current spin-outs, make the Midlands a strong investment proposition. Department for Business and Trade (DBT) have allocated CAM modelling and simulation a High Potential Opportunity across the Midlands.

Cluster in context

- **Over 5,000 jobs; 9% of UK total.**
- **6% of Midlands university graduates in 2021 studied subjects relevant to connected device technology, including from 4 of the top 25 UK universities for Computer Science and Information Systems.**
- **Over 400 businesses; 18% of UK total and 79% growth in business numbers since 2013.**
- **29 high growth companies (13% of UK) and five £100m+ turnover companies (20% of UK).**
- **25% of Innovate UK funding awards since 2005 relating to connected device technology have been made to Midlands-based businesses.**
- **14% of UK connected device technology relevant Foreign Direct Investment Capex and 3% of UK connected device technology relevant Domestic Direct Investment Capex 2017-2021.**

Business Ecosystem

Total Cluster Business Count: **434**
18% of UK total; 79% growth since 2013.[1]

£100m+ Turnover Companies: **5**
20% of all in the UK have a Midlands location.[2]

High Growth Companies: **29**
13% of all in the UK have a Midlands location.[3]

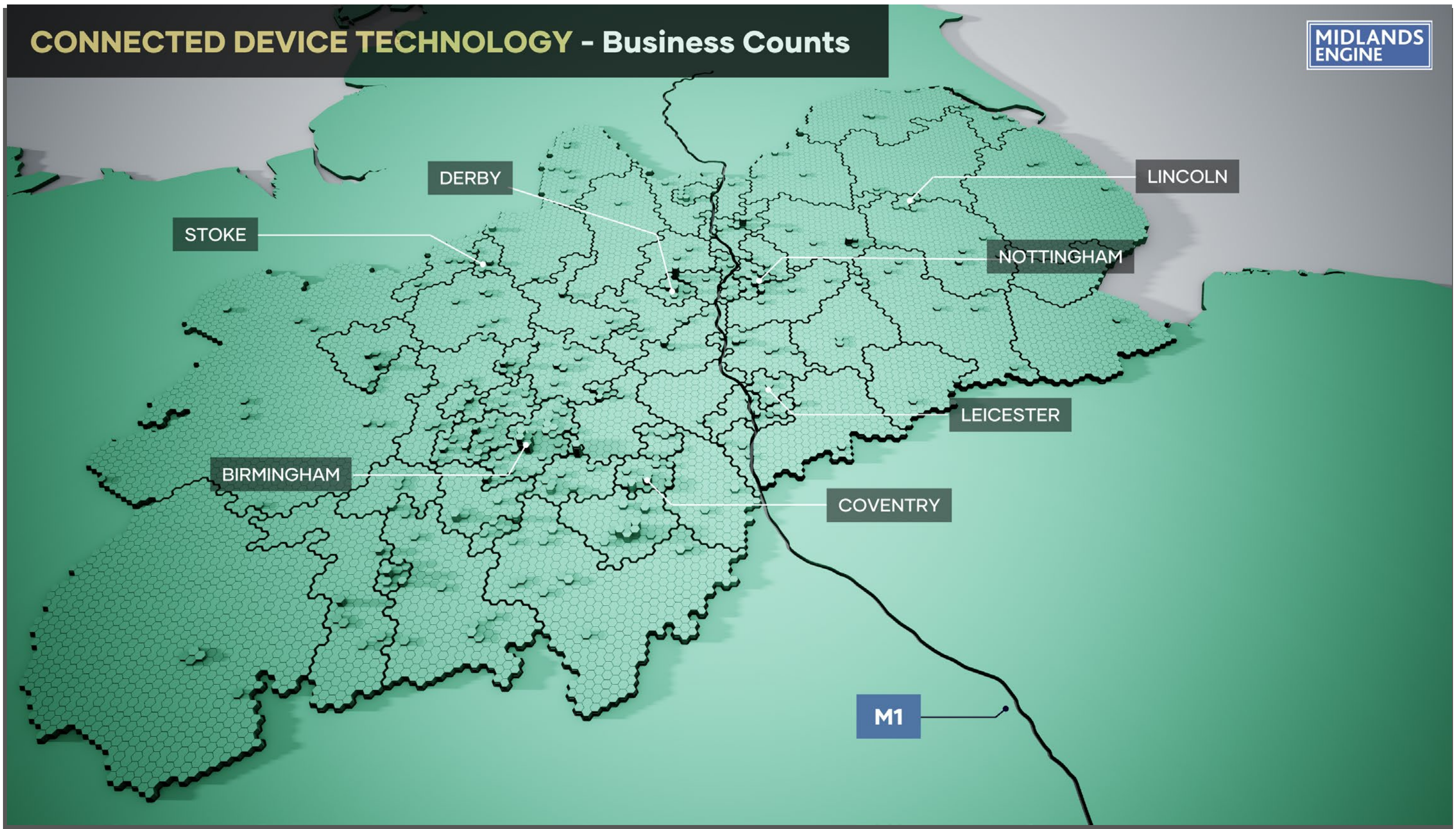
Incorporations 2017-22: **115**
15% of UK connected device technology incorporations between 2017 and 2022 have a Midlands location.[4]

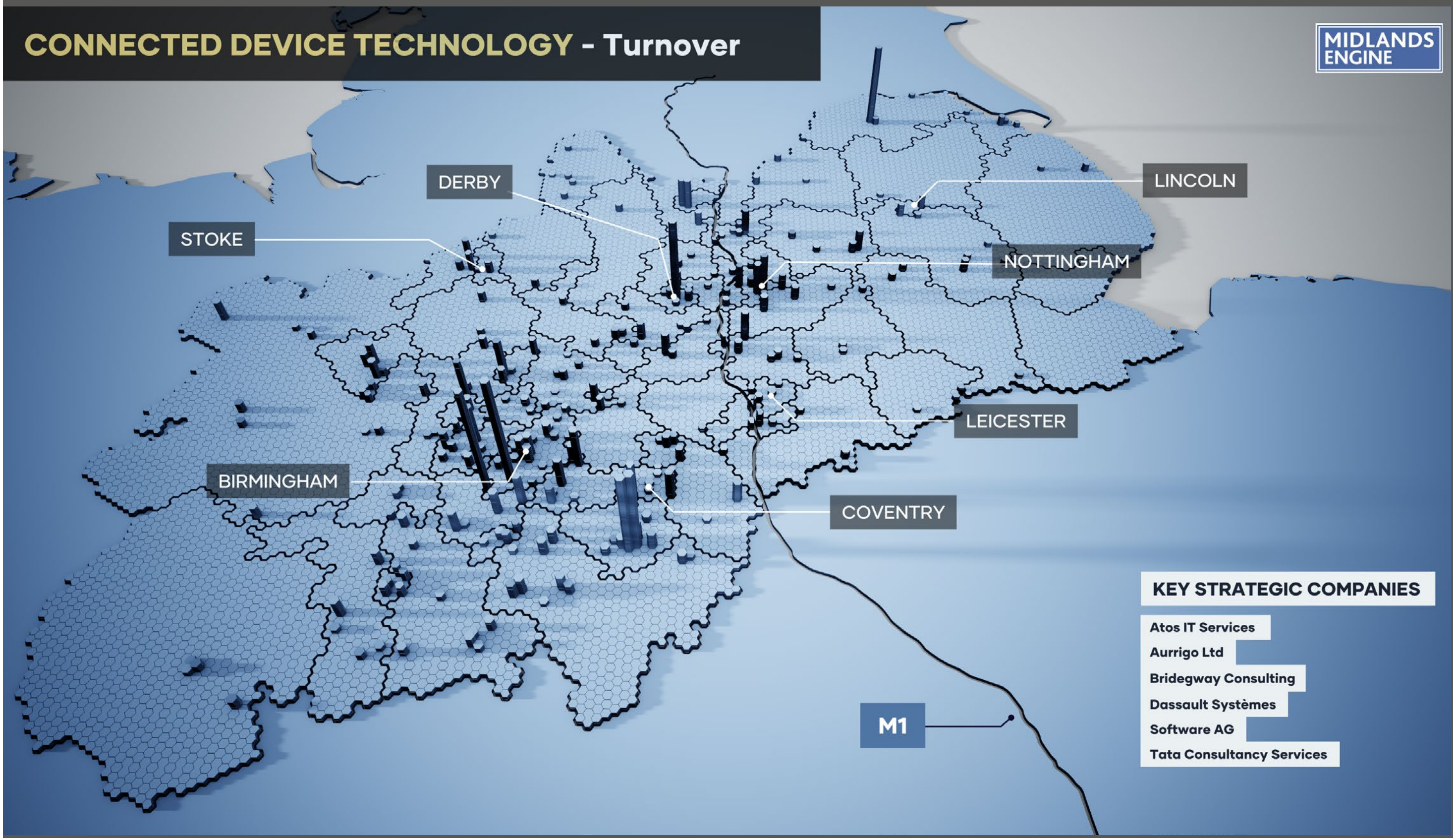
Foreign-owned enterprises: **12%**
51 are known to be foreign-owned; Higher proportion of foreign-owned than national average (11.4%).[5]

MIDLANDS ENGINE OBSERVATORY

Connected device technology is a relatively nascent and undefined industry with relatively few studies or data attached to it, thus the data presented should be taken with caution and in full knowledge of limitations.

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





The height of spikes in single postcodes within North Lincolnshire, Derby and Birmingham is likely to be exaggerated by a single large company, which is unlikely to generate the level of turnover accounted for just in these locations, or indeed just related to connected device technology. So, while these locations have "real" connected devices activity due to this company, the level of connected devices turnover is exaggerated (because of the methodology for splitting data equally by trading addresses).

MIDLANDS ENGINE OBSERVATORY

Connected Device Technology

Innovation Ecosystem

Accelerator Engagement:[1] 33

Relevant Cluster Organisations:
Cyber Valley; Skylon Park; Malvern Science Park; Society of Motor Manufacturers and Traders (SMMT); Space Park; Midlands Future Mobility; Innovation Alliance for the West Midlands

Relevant Spinouts:[2] 10

Relevant high performing HEI research:
Universities of Warwick; Birmingham; Nottingham; Loughborough; Coventry; Leicester; Lincoln

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

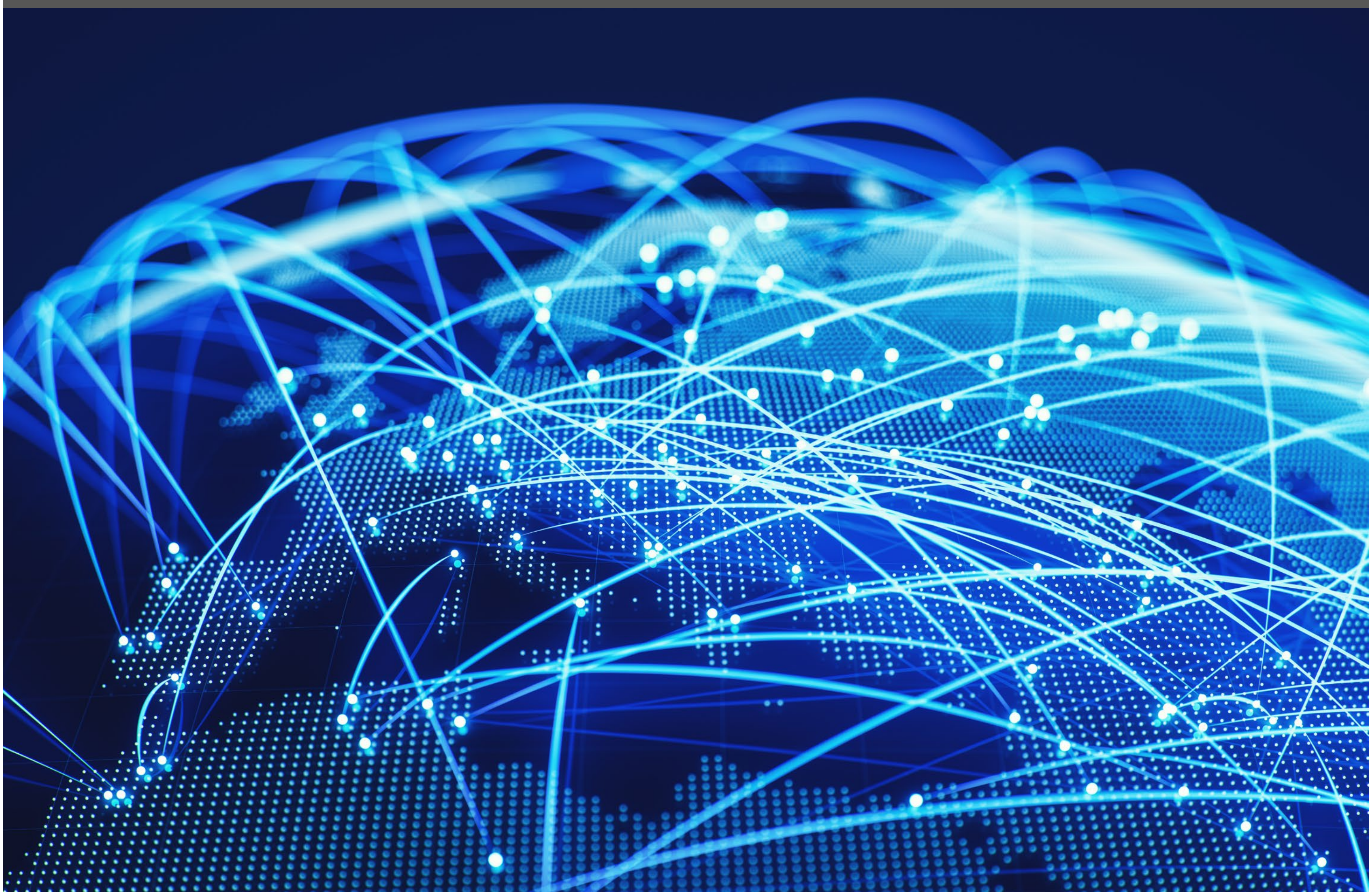
Significant Innovation Hubs:
Manufacturing Technology Centre; Warwick Manufacturing Group; Malvern Hills Science and Technology Park; Space Park; Skylon Park; MIRA Technology Park; Advanced Propulsion Centre; Centre for Connected Autonomous Automotive Research (CCAAR)

High Growth Company Grants:[4] 40

Innovate UK funding: £13m since 2005

25% of Innovate UK funding awards relating to connected device technology were made to Midlands-based businesses.[5]

[1]Beauhurst 2022: High growth companies utilised accelerators, [2] Beauhurst, 2022 [3]REF 2021 GPA >3.0 in any of Computer science and informatics; Mathematical Sciences [4]Beauhurst 2022 [5]Data City 2023.



Connected Device Technology

Talent Ecosystem

Estimated Employees: 5,196

9% of UK total.[1]

Earnings: Average salary £42,570

National average £51,999 18.1% lower in Midlands).[2]

Further Education Leavers: 9,500

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

Relevant HEI High-Ranking Department:

Universities of Warwick; Birmingham; Nottingham; Loughborough

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

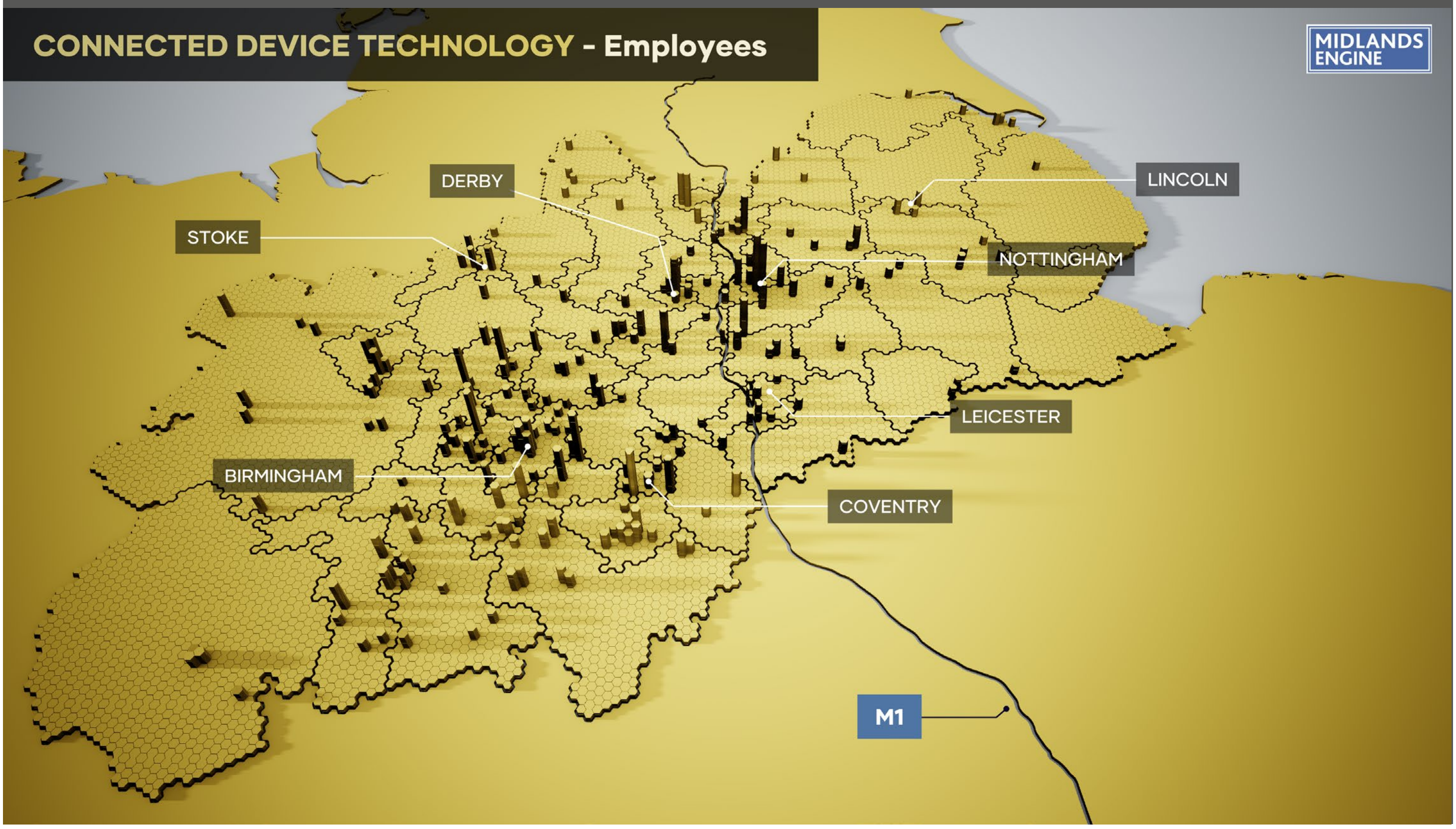
University Graduates: 8,385

6% of Midlands graduates in 2021 studied subjects relevant to connected device technology.[5]

Graduate Retention: change over 3 years: 64.2%

Relatively low retention rate.[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 'Computer Science and Information Systems' world ranking 2022 - institutions 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.



Connected Device Technology

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: 71%
53 of 75 UK investments in High Growth Companies.[2]

FDI Capex 2017-21: $323m
14% of UK total.[3]

DDI Capex 2017-21: $6.9m
3% of UK total.[4]

Fundraising Volumes:

Mean av. £563,821 fundraising investment
£42.2m in 75 investments (inc. £1.9m across 28 seed investments; £21.3m across 25 venture investments).[5]

FDI Jobs 2017-2021: 1,352 jobs
24% of UK total.[6]

DDI Jobs 2017-2021: 218 jobs
12% of UK total.[7]

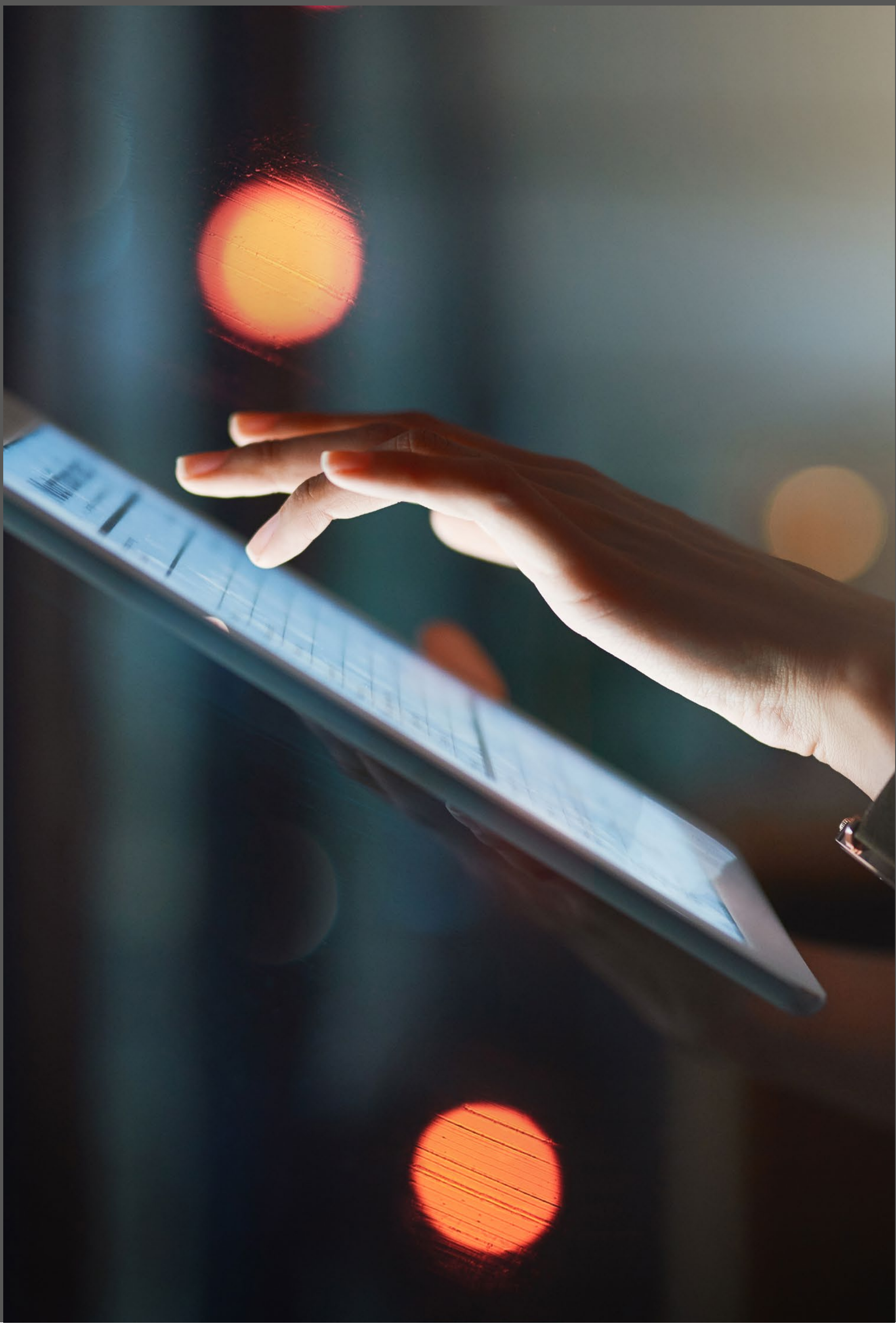
FDI Projects 2017-2021: 13 projects
11% of UK total.[8]

DDI projects 2017-2021: 3 projects
6% 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

- Telecommunications services and internet of things (IoT) companies in the Midlands received 2.31% of the total equity received in the UK from 2017 to 2021 by high-growth companies in this sector, despite making up 15.3% of the sector's business population. These companies also received just 4.51% of all grant money received by companies in this sector.
- Wavteq forecast $7.58bn FDI capex in this cluster in the UK in 2025.
- The top countries for foreign ownership counts are the USA, Australia, France, Sweden, and Germany.



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.