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SPREADING THE JAM:

Examining Patterns of Publicly-Funded Firm-University Collaborative R&D Projects Across UK Regions

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Delivered with
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Innovate UK

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About the Innovation and Research Caucus

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Executive Summary

Background

UK policymakers face a longstanding dilemma in funding collaborative Research and Development (R&D) between universities and firms. Funding for cutting-edge research has traditionally been allocated on the basis of scientific excellence. Such excellence tends to cluster in certain geographic areas. Lord Vallance, the former UK science minister, has emphasised this point. Employing a metaphor, he has stated that this type of R&D funding should not be spread evenly across UK regions, like jam across bread. Nevertheless, in recent years UK policymakers have taken definitive steps to spread the jam a little more evenly. This has manifested in targeted programmes to build innovation clusters across the UK, taking advantage of region-specific applied research and commercialisation capabilities. The 2025 Local Innovation Partnerships Fund (LIPF) represents a crystallisation of this process, with £500 million available across 10 earmarked UK regions, as well as a competed strand open to the rest of the UK.

However, despite this recent policy action, relatively little evidence exists on the nature and pattern of firm-university collaborative R&D programmes throughout the UK. This information may be useful to inform the development and implementation of strategically important programmes such as LIPF. To address this issue, this report draws on Innovate UK's publicly available Collaborative R&D data, covering funded projects from 2004 to 2026. This dataset records participating organisations, funding amounts, project locations and lead organisations, allowing analysis of detailed regional collaboration patterns over time. The report examines the 10 LIPF regions. We also include the Oxford-Cambridge Growth Corridor as a region, given its centrality to UK firm-university collaboration.

Based on this, the report examines whether firms collaborate mainly locally or at distance, whether firms outside established innovation clusters tend to lead or partner in projects, and whether repeat participation in funded collaborative R&D projects is associated with leadership progression.

Findings

Greater London and the Oxford-Cambridge Growth Corridor account for 64% of all projects, 61% of funding, and 61.6% of collaborating firms across the sample. This confirms that

excellence-driven funding has, in practice, concentrated heavily in the so-called ‘Golden Triangle’. Moreover, sustained leadership is markedly concentrated, with Golden Triangle firms accounting for 70% of firms that maintained a lead role throughout their participation.

However, several regions earmarked for LIPF funding show strong underlying capability to benefit from targeted support. West Midlands and Cardiff Capital Region record the highest average funding per project nationally. South Yorkshire, Glasgow and West Midlands show the highest rates of repeat collaboration and leadership progression over time. Other regions such as the Belfast-Derry/Londonderry corridor appear to need more targeted support to build up a region-specific innovation cluster.

Local-only collaboration is low across nearly all regions, for both firm-firm and firm-university partnerships. This may indicate a continued reliance on distant, often Golden Triangle-based partners. This suggests a need to build up firms’ R&D capacity in LIPF earmarked regions, as well as the collaboration capacity of university partners in these regions. However, a potentially important point for LIPF development is that project complexity does not track funding scale across regions. London and Oxford-Cambridge show below-average shares of high-complexity projects, despite their dominant funding totals. This suggests that there is substantial capacity for radical research projects throughout the UK, albeit scale remains an issue.

Actionable insights for policy

Continue to invest in the unique scale and density of the Oxford-Cambridge-London region, which allows it to support a concentration of cutting-edge research that smaller regional clusters are not yet positioned to replicate.

Use the LIPF to complement this strength by targeting applied research and commercialisation funding at regions showing unique strengths and collaborative capability.

Build leadership development mechanisms into LIPF programme design. The concentration of sustained leadership within Golden Triangle firms suggests firms in other UK regions may need targeted support to progress into, and remain in, leading R&D collaboration roles.

Monitor LIPF outcomes against identified baseline patterns, particularly repeat collaboration rates and leadership progression, to assess whether the programme succeeds in extending the benefits of applied research and commercialisation beyond the Golden Triangle.

1. Introduction

United Kingdom (UK) policymakers currently face a dilemma on the allocation of government funding for collaborative Research and Development (R&D) projects between universities and firms. This type of funding is recognised as vital for unlocking the cutting-edge knowledge embedded in the higher education system, and also commercially exploiting it through businesses' profit motivation (Bishop et al. 2011; Vanino et al. 2019). While the importance of publicly-funded firm-university collaborations for R&D-driven economic growth is uncontroversial (Ortega-Argilés & Yuan 2026), the implementation of such funding is cause for much debate (Bruneel et al. 2010; Hoole et al. 2025). The dilemma facing UK policymakers was effectively summarised in the recent House of Commons Science, Innovation and Technology Committee (2026, p. 12) inquiry into UK regional innovation:

“In this inquiry we examined whether there is a balance to strike between ensuring that the Golden Triangle remains internationally competitive and raising the level of innovation elsewhere. The science minister and Oxford-Cambridge Innovation Champion, Lord Vallance, told us that funding for cutting-edge, curiosity-driven research had to be allocated solely on the basis of excellence, that excellence would always be clustered in certain areas, and that funding should “absolutely not” be “spread [...] evenly like jam across the place”. However, he accepted that funding for more applied research, and for the commercialisation of ideas, could be more evenly distributed.”

Many have effectively argued that public funding for specific types of R&D should follow scientific excellence, regardless of other concerns such as regional location (DBIS 2011). Leading-edge research projects often hold the highest potential for commercial breakthroughs and competitive advantage, but the risk and uncertainty associated with such projects is acute by nature (Vanino et al. 2026). When embarking on such a research project, neither businesses nor academics know whether a given scientific problem can be solved. Furthermore, if they do solve it, they can't know a priori whether they can transform any breakthrough into a commercially successful innovation. Therefore, concentrating funding support on research projects judged to have the most groundbreaking potential, regardless of regional location remains a convincing principle (House of Commons Science and Technology Committee 2019).

Notwithstanding the above, it is equally true that if scientific excellence is the only basis of funding allocation, certain regions and institutions will be forever privileged (Mulligan et al. 2026). The House of Commons report quoted above draws attention to the so-called ‘Golden Triangle’, which captures a geographical region loosely bounded by the Universities of Oxford, Cambridge and Imperial College London. This region has received over 50% of all UK public R&D investment over a sustained time period (Benneworth 2007; Panjwani et al. 2023). Therefore, using scientific excellence as the only allocation metric for funding strategically important firm-university research collaborations established a large gap in R&D and innovation between regions. Over time, this gap will continue to grow. For many decades this has dictated the shape of R&D and innovation in the UK.

In recent years, UK science policy has tried to overcome this dilemma by taking both courses of action suggested by Lord Vallance simultaneously:

- » Trying to get more out of the unique cutting-edge R&D and high-tech clusters in the Golden Triangle. This has manifested recently in targeted initiatives such as the Oxford-Cambridge Growth Corridor and Supercluster (Oxford-Cambridge Supercluster Board 2025; HM Treasury 2026).
- » While also setting up specific funding programmes targeted at applied research and commercialisation which, to echo the language of Lord Vallance, make a dedicated effort to ‘spread the jam’ of public R&D funding beyond the Golden Triangle.

On the latter of these two points, key early examples of such funding programmes include the Strength in Places Fund (SIPF) and the Innovation Accelerator (IA) programme (Innovate UK 2022; Research England 2025). Launched in 2018 and 2022 respectively, and both running to 2026, these programmes provided approximately £446 million to support the development of innovation clusters, mainly outside of the Golden Triangle. Building on these programmes, in 2025 UKRI launched the Local Innovation Partnerships Fund (LIPF), with a funding amount of £500 million across an earmarked strand for 10 regions and a competed strand open to the rest of the UK (UKRI 2025). The LIPF earmarks funding for the following named UK regions:

- » Greater Manchester
- » West Midlands
- » South Yorkshire
- » West Yorkshire

- » Liverpool City Region
- » North East England
- » Greater London
- » Cardiff Capital Region
- » Glasgow City Region
- » An innovation corridor spanning Belfast and Derry/Londonderry

However, despite all of these recent place-based policy developments, relatively few empirical facts exist that show the historical development of publicly-funded firm-university collaborations. This information is important, as it shows how certain regions perform in terms of collaborative R&D projects. This provides a potentially necessary insight for how we may expect the LIPF earmarked regions to perform in this new policy venture.

To address this issue, this report draws on Innovate UK's publicly available data on Collaborative R&D projects (Innovate UK 2026). Innovate UK is the UK's national innovation agency and a council within UK Research and Innovation (UKRI). They provide funding, expertise and connections to help innovative businesses develop, scale and commercialise new products, processes and services. The Innovate UK funded projects dataset is a publicly available record of Innovate UK grants awarded since 2004. The 'Collaborative R&D' funding captures relationships between businesses, universities, research organisations and other partners within funded innovation projects. The Innovate UK dataset records important features of these projects, including participating organisations, project locations, funding amount, and leadership within the project consortium. This historical information enables our analysis to move beyond standard metrics such as the volume of funding received, and examine detailed patterns of regional collaboration.

Drawing on this data, this report provides information on three questions:

- » Do firms collaborate with nearby or distant universities? This question seeks to determine whether firms can access the necessary university-based knowledge in their region, or need to go further afield to fulfil this need. This is particularly relevant for firms based in the UK's so-called 'other regions', who may seek to collaborate with Golden Triangle universities that receive a large proportion of the available funding.

- » Do firms outside established innovation centres participate mainly as partners in collaborative R&D projects, or do they also lead projects? This question seeks to establish whether it is mainly firms in the Golden Triangle that lead funded collaborative R&D projects, and what research leadership patterns exist in the rest of the UK.
- » Is repeated participation in collaborative R&D projects associated with firms subsequently taking greater leadership roles? This question examines whether firms can learn from experience, and move from a partner to leader over successive collaborations.

These questions closely reflect the objectives of the LIPF. Historical Collaborative R&D patterns can therefore establish a baseline against which changes in local connectivity, participation and leadership can be assessed.

Given the centrality of Oxford and Cambridge to firm-university collaborations in the UK, it would be remiss to ignore these institutions in this report. Therefore, we add one additional region into the analysis:

- » The Oxford-Cambridge Growth Corridor.

The Oxford-Cambridge Growth Corridor is a government-backed economic and innovation corridor linking Oxford, Milton Keynes, Bedford, Cambridge and surrounding areas (HM Treasury 2026). It is designed to build on the region's concentration of universities, science and technology businesses. The current Growth Corridor initiative was formally announced in January 2025, although it builds on earlier efforts to develop the wider Oxford-Cambridge 'Arc' dating back to the early 2000s. As such, it is a relevant region to add to the wider LIPF earmarked region list.

Adding in the Oxford-Cambridge Growth Corridor enhances the historical evidence which can be drawn from the Innovate UK Collaborative R&D data, identifying lessons for the design and evaluation of the LIPF. It is important to point out UKRI's note that its long-term Innovate UK dataset should be interpreted carefully because funding mechanisms, national priorities and technological priorities have changed over time (Innovate UK 2026). As such, the Collaborative R&D category does not capture the same funding programme year-on-year. Nevertheless, persistent geographical patterns can indicate where local innovation systems have developed

strong connections and where important capabilities remain dependent on external relationships.

The remainder of this report is organised as follows. We first provide an overall summary table for each of the 11 regions listed above, providing headline figures for cross-regional comparison of publicly-funded firm-university collaborations. We then provide a dedicated section on each of the 11 regions, providing detailed data tables on firm-university collaboration patterns which go beyond the headline figures. This section also provides a brief narrative discussion of the data tables. Finally, we provide the same detailed pattern analysis, but focus on the distinction between Oxford, Cambridge and London, with the rest of the LIPF regions. The final section offers a conclusion, and suggests actionable insights for policymakers.

2. Collaborative R&D projects by region

The headline figures confirm the concentration of activity described in the Introduction. Of the 13,686 attributable projects, Greater London (5,696 projects, £2.54bn) and the Oxford-Cambridge Growth Corridor (3,070 projects, £2.09bn) together account for 64% of all projects and 61% of total funding, a pattern consistent with the historical dominance of the Golden Triangle in UK R&D investment. The remaining nine regions each fall within a narrower range of 350 to 850 projects.

Funding intensity, however, does not follow the same pattern as volume. West Midlands (£898,254 per project) and Cardiff Capital Region (£902,979 per project) record the highest average project values of any region, exceeding even the Oxford-Cambridge Growth Corridor (£681,925). West Midlands also has the highest proportion of high-complexity projects (29.7%), well above the wider sample. By contrast, Greater London's high-complexity share (16.0%) is below average despite its scale, and Greater Manchester records both the lowest average funding per project (£372,214) and a low complexity share (16.5%). Belfast-Derry/Londonderry has the lowest high-complexity share of any region (12.5%). These figures suggest that project scale and project sophistication are not necessarily aligned.

Table 1: Collaborative R&D Projects by LIPF Region and Oxford-Cambridge

LIPF Region	Total Collaborative R&D Projects	Total Funding	Average Funding per Project	% of high Complexity projects	% of medium Complexity projects	% of low Complexity projects
Greater Manchester	595	£221,467,588	£372,214	16.5%	32.8%	50.8%
West Midlands	758	£680,876,847	£898,254	29.7%	29.9%	40.4%
South Yorkshire	569	£231,853,685	£407,476	14.8%	45.9%	39.4%
West Yorkshire	495	£187,454,183	£378,695	17.0%	33.9%	49.1%
Liverpool City Region	385	£174,997,967	£454,540	20.3%	29.6%	50.1%
North East England	842	£561,576,509	£666,956	17.7%	28.4%	53.9%
Greater London	5696	£2,543,285,772	£446,504	16.0%	27.8%	56.3%
Cardiff Capital Region	352	£317,848,650	£902,979	17.9%	34.9%	47.2%
Glasgow City Region	571	£323,527,494	£566,598	22.9%	40.3%	36.8%
Belfast–Derry/Londonderry corridor	353	£256,535,382	£726,729	12.5%	32.3%	55.2%
Oxford–Cambridge Growth Corridor	3070	£2,093,510,275	£681,925	15.9%	34.1%	50.0%

Note: each project is attributed to the LIPF region of its lead participant. Of the 15,875 projects with at least 1 collaborative firm, 13,686 have a lead participant based within one of the 11 LIPF regions shown above; the remaining 2,189 either have no participant marked as lead in the source data, or their lead participant is based outside all 11 LIPF regions, and are therefore not attributable to any region in this table. The calculation of the complexity score for each region is shown in Appendix 1.

2.1 Greater Manchester

Greater Manchester's 410 collaborating firms report the lowest average repeat-collaboration intensity of any region (3.6 projects per repeat firm), alongside the lowest average project funding nationally (£372,214). Single collaborators make up the majority of the firm population (56.8%), and among repeat collaborators the proportion moving from a lead to a partner role (26.0%) is among the highest recorded, indicating a tendency for firms to step back from leadership over successive projects rather than consolidate it.

On geographic reach, Greater Manchester firms are highly outward-facing. Only 3.4% of single collaborators and 1.2% of repeat collaborators restricted their firm partnerships to the local region, with distant partnerships reaching 51.2% and 40.0% respectively, of which between 17.8% and 27.6% involved the Oxford-Cambridge Growth Corridor or Greater London.

University engagement is comparatively limited: only 49.3% of firms partnered with a university at all, below the wider regional pattern, and local-only university collaboration remained low (4.1% to 6.6%). Taken together, these findings point to a high volume of collaborative activity in Greater Manchester that is not matched by comparable depth, either in repeat engagement or in university connectivity.

Table 2.1: Engagement frequency (Greater Manchester)

Category of firm	Firms	% of firms (n=410)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	410		20.6	24.3
Single collaborators	233	56.8%	19.8	-
- Lead	125	30.5%	12.5	-
- Partner	108	26.3%	28.3	-
Repeat collaborators (2+ projects)	177	43.2%	21.7	24.3
Average projects per firm that are repeat collaborators = 3.6				

Note: This table covers all firms who undertook collaborative projects from Greater Manchester ("Total collaborators"). "Collaborate only once" means the firm has only collaborated on one project, split by the role it held on that project, Lead or Partner. "Repeat collaborators (2+ projects)" means the firm has collaborated on two or more projects. Percentages are calculated out of the full sample of firms in collaborative R&D in Greater Manchester.

Table 2.2: Role trajectory among repeat collaborators (Greater Manchester)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 177)	% of all firms (n = 410)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	34	19.2%	8.3%	23.7	26
Remained Partner throughout	41	23.2%	10.0%	28.9	29.3
Maintained Lead throughout	56	31.6%	13.7%	16.4	24.8
Lead → Partner	46	26.0%	11.2%	20.1	18

Note: This table covers firms with more than one collaboration ("repeat collaborators"); single-project firms are excluded. Categories are based on each firm's first collaboration role compared with its later collaborations: Partner → Lead means the firm started as Partner and went on to lead at least one later collaboration project; Lead → Partner means the firm started as Lead and went on to partner on at least one later collaboration project; Partner throughout means the firm has been Partner on its every collaboration project; and Lead throughout means the firm has been Lead on every collaboration project. Each firm falls into exactly one category. "% of repeat firms" is calculated out of all firms who are Repeat collaborators, while "% of all firms" is calculated out of the full firm population, including firms who collaborate only once.

Table 2.3: Geographic reach of collaboration with firms (Greater Manchester)

	Firms	% of all firms (n=410)
Total collaborators partnering with firms	393	95.9%
Single collaborators partnering with firms	224	54.6%
- Collaborate only locally	14	3.4%
- Collaborate with distant partner firms (beyond LIPF region)	210	51.2%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	73	17.8%
Repeat collaborators partnering with firms	169	41.2%
- Collaborate only locally	5	1.2%
- Collaborate with distant partner (beyond LIPF region)	164	40.0%
• of which, started locally then to distant partner	2	0.5%
• of which, started with a distant partner and again went distant	104	25.4%
• of which, started with a distant partner and then went local	58	14.1%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	113	27.6%

Note: This table covers all firms undertaking collaborative projects from Greater Manchester ("Total collaborators") which involves at least one partner firm. Collaborating firms are first classified as either single collaborators (one project) or Repeat collaborators (two or more projects). For firms that are **single collaborators**, "Collaborate only locally" indicates that the firm's sole collaboration was with a partner firm within the same LIPF region, while "Collaborate with distant partners" indicates that the collaboration includes at least one partner firm outside the firm's LIPF region. For **repeat collaborators**, "Collaborate only locally" refers to firms whose collaborations with firms remained entirely within their own LIPF region. "Collaborate with distant partner (beyond LIPF region)" refers to firms that collaborated with at least one partner firm outside their own LIPF region on at least one project. This group is further classified according to the sequence of collaborations: a) "Started locally then to distant partner" refers to firms whose first collaboration(s) were with partner(s) within their own LIPF region, followed by at least one collaboration with a partner outside the region b) "Started with a distant partner and again went distant" refers to firms whose first collaboration included at least one partner outside their own LIPF region and subsequently undertook at least one further collaboration with a distant partner. c) "Started with a distant partner and then went local" refers to firms whose first collaboration included at least one partner outside their own LIPF region and whose subsequent collaborations were exclusively with partners within their own LIPF region. d) "collaborated with firms in the Oxford-Cambridge growth corridor & Greater London" includes firms which collaborated with firms based in the Oxford-Cambridge growth corridor & Greater London.

Table 2.4: Geographic reach of collaboration with universities (Greater Manchester)

	Firms	% of all firms (n=410)
Total collaborators partnering with universities	202	49.3%
Single collaborators partnering with universities	82	20.0%
- Collaborate with only local universities	17	4.1%
- Collaborate with distant universities (beyond LIPF region)	65	15.9%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	23	5.6%
Repeat collaborators partnering with universities	120	29.3%
- Collaborate with only local universities	27	6.6%
- Collaborate with distant universities (beyond LIPF region)	93	22.7%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	49	12.0%

Note: This table covers all firms undertaking collaborative projects from Greater Manchester ("Total collaborators") which involve at least one university. Collaborating firms are first classified as either Single collaborators (one project) or Repeat collaborators (two or more projects). For firms **that collaborate only once**, "Collaborate with only local universities" indicates that the firm's sole collaboration was with universities within the same LIPF region, while "Collaborate with distant universities (beyond LIPF region)" indicates that the collaboration was with universities outside the firm's LIPF region. For **repeat collaborators**, "Collaborate with only local universities" refers to firms whose collaborations remained entirely with universities in their own LIPF region. "Collaborate with distant universities (beyond LIPF region)" refers to firms that collaborated with universities outside their own LIPF region on at least one project. This is further split into firms which collaborate with universities in the Oxford-Cambridge growth corridor & Greater London.

2.2 West Midlands

West Midlands is one of the stronger-performing regions outside the Golden Triangle. It records the highest average project funding nationally (£898,254) and the highest proportion of high-complexity projects (29.7%). A majority of its 428 firms are repeat collaborators (50.7%), which is notable among the eleven regions, and their average intensity (5.5 projects per repeat firm) is above the wider sample, indicating durable rather than one-off engagement in collaborative R&D.

The region also demonstrates the strongest connectivity to the Golden Triangle of any region considered. Among repeat collaborators partnering with other firms, 34.3% did so with firms in the Oxford-Cambridge Growth Corridor or Greater London, among the highest recorded. The same pattern is evident in university collaboration, where 19.4% of repeat collaborators partnered with Golden Triangle universities, again the highest share among the eleven regions.

University engagement overall is also comparatively strong, with 59.1% of firms partnering with a university.

Local-only firm collaboration remains marginal (1.4% to 1.6%). Considered alongside its funding and complexity figures, West Midlands appears to combine above-average project sophistication with strong external connectivity to the established innovation core.

Table 2.5: Engagement frequency (West Midlands)

Category of firm	Firms	% of firms (n=428)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	428		20.6	21.9
Single collaborators	211	49.3%	20.0	-
- Lead	94	22.0%	13.4	-
- Partner	117	27.3%	25.3	-
Repeat collaborators (2+ projects)	217	50.7%	21.2	21.9

Average projects per firm that are repeat collaborators = 5.5

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.6: Role trajectory among repeat collaborators (West Midlands)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 217)	% of all firms (n = 428)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	54	24.9%	12.6%	25.9	19.2
Remained Partner throughout	55	25.3%	12.9%	28.0	33.1
Maintained Lead throughout	64	29.5%	15.0%	13.2	18.0
Lead → Partner	44	20.3%	10.3%	18.7	16.9

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.7: Geographic reach of collaboration with firms (West Midlands)

	Firms	% of all firms (n=428)
Total collaborators partnering with firms	411	96.0%
Single collaborators partnering with firms	203	47.4%
- Collaborate only locally	7	1.6%
- Collaborate with distant partner firms (beyond LIPF region)	196	45.8%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	94	22.0%
Repeat collaborators partnering with firms	208	48.6%
- Collaborate only locally	6	1.4%
- Collaborate with distant partner (beyond LIPF region)	202	47.2%
• of which, started locally then to distant partner	8	1.9%
• of which, started with a distant partner and again went distant	139	32.5%
• of which, started with a distant partner and then went local	55	12.9%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	147	34.3%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.8: Geographic reach of collaboration with universities (West Midlands)

	Firms	% of all firms (n=428)
Total collaborators partnering with universities	253	59.1%
Single collaborators partnering with universities	92	21.5%
- Collaborate with only local universities	22	5.1%
- Collaborate with distant universities (beyond LIPF region)	70	16.4%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	31	7.2%
Repeat collaborators partnering with universities	161	37.6%
- Collaborate with only local universities	38	8.9%
- Collaborate with distant universities (beyond LIPF region)	123	28.7%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	83	19.4%

Note: Table explanation provided in Section 2.1.

2.3 South Yorkshire

South Yorkshire's principal distinguishing feature is the intensity of repeat collaboration. Firms that collaborate more than once do so an average of 10.6 times, considerably higher than any other region considered, including both Greater London (5.4) and the Oxford-Cambridge Growth Corridor (5.3). This suggests that a relatively small number of firms account for a disproportionate share of regional activity.

On leadership progression, South Yorkshire records among the highest proportion of firms moving from lead to partner status (32.3%) of any region, which may reflect firms scaling into larger, more complex collaborations involving more capable partners over time.

Geographic reach is the widest recorded in the sample. Some 97.9% of firms partnered with other firms, the highest proportion nationally, with only 0.5% to 1.6% doing so exclusively at the local level. Among repeat collaborators, 35.8% partnered with firms in the Oxford-Cambridge Growth Corridor or Greater London, again the highest share recorded. University engagement follows a similar pattern: 62.7% of firms partnered with a university, the highest proportion of the eleven regions, with 17.1% of repeat collaborators reaching Golden Triangle universities specifically. This combination of high repeat intensity and wide geographic reach, set against a comparatively modest funding total (£231.9m), marks South Yorkshire as an intensively networked but financially modest region.

Table 2.9: Engagement frequency (South Yorkshire)

Category of firm	Firms	% of firms (n=193)	Average Project duration (months)	Average between projects(months) gap
Total collaborators	193		22.0	23.7
Single collaborators	97	50.3%	22.4	-
- Lead	38	19.7%	9.7	-
- Partner	59	30.6%	30.5	-
Repeat collaborators (2+ projects)	96	49.7%	21.6	23.7
Average projects per firm that are repeat collaborators = 10.6				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.10: Role trajectory among repeat collaborators (South Yorkshire)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 96)	% of all firms (n = 193)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	23	24.0%	11.9%	22.2	25.3
Remained Partner throughout	17	17.7%	8.8%	31.4	33.6
Maintained Lead throughout	25	26.0%	13.0%	15.3	21.8
Lead → Partner	31	32.3%	16.1%	20.9	18.7

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.11: Geographic reach of collaboration with firms (South Yorkshire)

	Firms	% of all firms (n=193)
Total collaborators partnering with firms	189	97.9%
Single collaborators partnering with firms	96	49.7%
- Collaborate only locally	3	1.6%
- Collaborate with distant partner firms (beyond LIPF region)	93	48.2%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	41	21.2%
Repeat collaborators partnering with firms	93	48.2%
- Collaborate only locally	1	0.5%
- Collaborate with distant partner (beyond LIPF region)	92	47.7%
• of which, started locally then to distant partner	1	0.5%
• of which, started with a distant partner and again went distant	63	32.6%
• of which, started with a distant partner and then went local	28	14.5%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	69	35.8%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.12: Geographic reach of collaboration with universities (South Yorkshire)

	Firms	% of all firms (n=193)
Total collaborators partnering with universities	121	62.7%
Single collaborators partnering with universities	46	23.8%
- Collaborate with only local universities	11	5.7%
- Collaborate with distant universities (beyond LIPF region)	35	18.1%
○ Of which, collaborate with universities in the Oxford- Cambridge growth corridor & Greater London	17	8.8%
Repeat collaborators partnering with universities	75	38.9%
- Collaborate with only local universities	17	8.8%
- Collaborate with distant universities (beyond LIPF region)	58	30.1%
○ Of which, collaborate with universities in the Oxford- Cambridge growth corridor & Greater London	33	17.1%

Note: Table explanation provided in Section 2.1, Table 2.4.

2.4 West Yorkshire

West Yorkshire's 307 firms are predominantly single collaborators (57.7%), with a moderate average repeat intensity of 4.8 projects per firm. Its leadership trajectories favour consolidation over drift: 33.1% of repeat collaborators maintained a lead role throughout their participation, while the proportion remaining a partner throughout is among the lowest recorded of any region (16.9%), suggesting that firms in this region rarely remain confined to a subordinate role indefinitely.

Firm-level collaboration extends well beyond the region's boundaries. Only 2.6% of single collaborators and approximately 0.3% of repeat collaborators partnered solely with local firms, with 54.1% of single collaborators reaching distant partners, of whom 20.2% involved the Oxford-Cambridge Growth Corridor or Greater London.

University collaboration is close to the wider regional average, with 55.7% of firms partnering with a university. Local-only university engagement is modest (3.9% for single collaborators, 6.8% for repeat collaborators) relative to distant engagement (17.9% and 27.0% respectively). With total funding of £187.5m and the second-lowest average project value nationally

(£378,695), West Yorkshire's profile is one of consistent, moderate performance without particular extremes in either funding scale or collaboration depth.

Table 2.13: Engagement frequency (West Yorkshire)

Category of firm	Firms	% of firms (n=307)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	307		20.3	25.1
Single collaborators	177	57.7%	19.2	-
- Lead	86	28.0%	10.8	-
- Partner	91	29.6%	27.2	-
Repeat collaborators (2+ projects)	130	42.3%	21.7	25.1
Average projects per firm that are repeat collaborators = 4.8				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.14: Role trajectory among repeat collaborators (West Yorkshire)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 130)	% of all firms (n = 307)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	30	23.1%	9.8%	25.4	26.1
Remained Partner throughout	22	16.9%	7.2%	30.2	37.8
Maintained Lead throughout	43	33.1%	14.0%	15.6	23.4
Lead → Partner	35	26.9%	11.4%	20.9	18.3

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.15: Geographic reach of collaboration with firms (West Yorkshire)

	Firms	% of all firms (n=307)
Total collaborators partnering with firms	295	96.1%
Single collaborators partnering with firms	174	56.7%
- Collaborate only locally	8	2.6%
- Collaborate with distant partner firms (beyond LIPF region)	166	54.1%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	62	20.2%
Repeat collaborators partnering with firms	121	39.4%
- Collaborate only locally	1	0.3%
- Collaborate with distant partner (beyond LIPF region)	120	39.1%
• of which, started locally then to distant partner	3	1.0%
• of which, started with a distant partner and again went distant	82	26.7%
• of which, started with a distant partner and then went local	35	11.4%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	83	27.0%

Note: Table explanation provided in Section 2.1, Table 2.3

Table 2.16: Geographic reach of collaboration with universities (West Yorkshire)

	Firms	% of all firms (n=307)
Total collaborators partnering with universities	171	55.7%
Single collaborators partnering with universities	67	21.8%
- Collaborate with only local universities	12	3.9%
- Collaborate with distant universities (beyond LIPF region)	55	17.9%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	22	7.2%
Repeat collaborators partnering with universities	104	33.9%
- Collaborate with only local universities	21	6.8%
- Collaborate with distant universities (beyond LIPF region)	83	27.0%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	37	12.1%

Note: Table explanation provided in Section 2.1, Table 2.4.

2.5 Liverpool City Region

Liverpool City Region records one of the highest proportions of repeat collaborators of any region (54.1%), alongside a healthy average intensity of 5.6 projects per repeat firm. Its leadership trajectories are notably fluid: the proportions of firms moving from partner to lead (21.0%), lead to partner (32.4%) and maintaining lead status throughout are all substantial, indicating that role change over successive collaborations is more common here than in most other regions.

On geographic reach, 94.3% of firms partnered with other firms, with only 2.6% of single collaborators and 2.1% of repeat collaborators confined to local partnerships. Among repeat collaborators, half partnered with distant firms, and 29.4% of these involved the Oxford-Cambridge Growth Corridor or Greater London, a reasonably strong connection to the Golden Triangle for a region of this size. University collaboration among repeat collaborators is comparatively strong (39.7%), predominantly with distant institutions (36.6%), of which 16.5% involved Golden Triangle universities specifically, though local-only university ties remain thin (2.6% to 3.1%). With total funding of £175.0m and an average project value of £454,540, Liverpool's profile reflects strong behavioural engagement with collaborative R&D rather than headline financial scale.

Table 2.17: Engagement frequency (Liverpool City Region)

Category of firm	Firms	% of firms (n=194)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	194		19.2	23.0
Single collaborators	89	45.9%	19.0	-
- Lead	48	24.7%	14.5	-
- Partner	41	21.1%	24.3	-
Repeat collaborators (2+ projects)	105	54.1%	19.4	23.0
Average projects per firm that are repeat collaborators = 5.6				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.18: Role trajectory among repeat collaborators (Liverpool City Region)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 105)	% of all firms (n = 194)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	22	21.0%	11.3%	22.2	20.2
Remained Partner throughout	16	15.2%	8.2%	24.4	35.1
Maintained Lead throughout	33	31.4%	17.0%	14.3	19.8
Lead → Partner	34	32.4%	17.5%	20.3	22.4

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.19: Geographic reach of collaboration with firms (Liverpool City Region)

	Firms	% of all firms (n=194)
Total collaborators partnering with firms	183	94.3%
Single collaborators partnering with firms	82	42.3%
- Collaborate only locally	5	2.6%
- Collaborate with distant partner firms (beyond LIPF region)	77	39.7%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	36	18.6%
Repeat collaborators partnering with firms	101	52.1%
- Collaborate only locally	4	2.1%
- Collaborate with distant partner (beyond LIPF region)	97	50.0%
• of which, started locally then to distant partner	1	0.5%
• of which, started with a distant partner and again went distant	61	31.4%
• of which, started with a distant partner and then went local	35	18.0%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	57	29.4%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.20: Geographic reach of collaboration with universities (Liverpool City Region)

	Firms	% of all firms (n=194)
Total collaborators partnering with universities	112	57.7%
Single collaborators partnering with universities	35	18.0%
- Collaborate with only local universities	5	2.6%
- Collaborate with distant universities (beyond LIPF region)	30	15.5%
○ Of which, collaborate with universities in the Oxford- Cambridge growth corridor & Greater London	10	5.2%
Repeat collaborators partnering with universities	77	39.7%
- Collaborate with only local universities	6	3.1%
- Collaborate with distant universities (beyond LIPF region)	71	36.6%
○ Of which, collaborate with universities in the Oxford- Cambridge growth corridor & Greater London	32	16.5%

Note: Table explanation provided in Section 2.1, Table 2.4.

2.6 North East England

North East England has a comparatively large firm population (449) and among the highest project count of any region (842), behind only Greater London and the Oxford-Cambridge Growth Corridor. Single and repeat collaborators are represented in near-equal proportion (51.9% and 48.1%), with an average repeat intensity of 5.0 projects per firm.

The region demonstrates wide firm-level reach: 97.6% of firms partnered with other firms, close to the highest proportions recorded nationally, and only 3.6% of single collaborators and 1.8% of repeat collaborators restricted their partnerships to the local area. Among repeat collaborators, 31.0% partnered with firms in the Oxford-Cambridge Growth Corridor or Greater London, indicating a strong connection to the Golden Triangle.

University engagement is closer to the wider regional average, with 51.7% of firms partnering with a university. Single collaborators show a relatively strong local orientation (6.0% local-only), while repeat collaborators lean more heavily towards distant institutions (25.2% distant against 7.8% local). With total funding of £561.6m and an average project value of £666,956, North East England combines above-average scale with consistently strong external connectivity, placing it among the more well-networked regions outside the Golden Triangle.

Table 2.21: Engagement frequency (North East England)

Category of firm	Firms	% of firms (n=449)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	449		19.0	20.0
Single collaborators	233	51.9%	19.2	-
- Lead	119	26.5%	12.3	-
- Partner	114	25.4%	26.5	-
Repeat collaborators (2+ projects)	216	48.1%	18.7	20.0
Average projects per firm that are repeat collaborators = 5.0				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.22: Role trajectory among repeat collaborators (North East England)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 216)	% of all firms (n = 449)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	48	22.2%	10.7%	22.1	18.9
Remained Partner throughout	39	18.1%	8.7%	22.6	28.6
Maintained Lead throughout	69	31.9%	15.4%	13.1	18.6
Lead → Partner	60	27.8%	13.4%	19.9	17.0

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.23: Geographic reach of collaboration with firms (North East England)

	Firms	% of all firms (n=449)
Total collaborators partnering with firms	438	97.6%
Single collaborators partnering with firms	227	50.6%
- Collaborate only locally	16	3.6%
- Collaborate with distant partner firms (beyond LIPF region)	211	47.0%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	76	16.9%
Repeat collaborators partnering with firms	211	47.0%
- Collaborate only locally	8	1.8%
- Collaborate with distant partner (beyond LIPF region)	203	45.2%
• of which, started locally then to distant partner	5	1.1%
• of which, started with a distant partner and again went distant	123	27.4%
• of which, started with a distant partner and then went local	75	16.7%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	139	31.0%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.24: Geographic reach of collaboration with universities (North East England)

	Firms	% of all firms (n=449)
Total collaborators partnering with universities	232	51.7%
Single collaborators partnering with universities	84	18.7%
- Collaborate with only local universities	27	6.0%
- Collaborate with distant universities (beyond LIPF region)	57	12.7%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	28	6.2%
Repeat collaborators partnering with universities	148	33.0%
- Collaborate with only local universities	35	7.8%
- Collaborate with distant universities (beyond LIPF region)	113	25.2%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	64	14.3%

Note: Table explanation provided in Section 2.1, Table 2.4.

2.7 Greater London

Greater London's scale is unmatched among the regions considered, with 2,883 firms, 5,696 projects and £2.54bn in funding. Its collaboration pattern, however, is somewhat more self-contained than that of smaller regions. It should be noted that the reported figure of 0.0% for university collaboration with 'the Oxford-Cambridge Growth Corridor and Greater London' reflects the fact that London itself forms part of that combined category, and should not be read as an absence of Golden Triangle university engagement.

Single-collaborator share (51.7%) and average repeat intensity (5.4 projects per firm) are close to the wider regional average. On leadership progression, London performs strongly: 45.3% of repeat collaborators maintained a lead role throughout, the highest proportion of any region, reflecting the depth of established, capable lead organisations based there.

Local-only firm collaboration is more common than in most other regions (6.7% for single collaborators, 3.2% for repeat collaborators), which is consistent with London's internal firm density, while 28.0% of repeat collaborators still reached the Oxford-Cambridge Growth Corridor specifically. University engagement, at 44.0% of firms, is the lowest of the eleven regions, and the complexity mix skews towards low-complexity projects (56.3%), the highest such share nationally, indicating that London's collaborative activity is characterised more by breadth than by per-project intensity.

Table 2.25: Engagement frequency (Greater London)

Category of firm	Firms	% of firms (n=2883)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	2883		17.6	19.8
Single collaborators	1490	51.7%	17.8	-
- Lead	891	30.9%	13.8	-
- Partner	599	20.8%	23.7	-
Repeat collaborators (2+ projects)	1393	48.3%	17.5	19.8
Average projects per firm that are repeat collaborators = 5.4				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.26: Role trajectory among repeat collaborators (Greater London)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 1393)	% of all firms (n = 2883)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	241	17.3%	8.4%	21.8	22.8
Remained Partner throughout	209	15.0%	7.2%	23.9	24.9
Maintained Lead throughout	631	45.3%	21.9%	13.4	17.6
Lead → Partner	312	22.4%	10.8%	18.2	18.5

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.27: Geographic reach of collaboration with firms (Greater London)

	Firms	% of all firms (n=2883)
Total collaborators partnering with firms	2726	94.6%
Single collaborators partnering with firms	1419	49.2%
- Collaborate only locally	193	6.7%
- Collaborate with distant partner firms (beyond LIPF region)	1226	42.5%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	437	15.2%
Repeat collaborators partnering with firms	1307	45.3%
- Collaborate only locally	92	3.2%
- Collaborate with distant partner (beyond LIPF region)	1215	42.1%
• of which, started locally then to distant partner	56	1.9%
• of which, started with a distant partner and again went distant	542	18.8%
• of which, started with a distant partner and then went local	617	21.4%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	807	28.0%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.28: Geographic reach of collaboration with universities (Greater London)

	Firms	% of all firms (n=2883)
Total collaborators partnering with universities	1269	44.0%
Single collaborators partnering with universities	440	15.3%
- Collaborate with only local universities	145	5.0%
- Collaborate with distant universities (beyond LIPF region)	295	10.2%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	0	0.0%
Repeat collaborators partnering with universities	829	28.8%
- Collaborate with only local universities	201	7.0%
- Collaborate with distant universities (beyond LIPF region)	628	21.8%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	0	0.0%

Note: Table explanation provided in Section 2.1, Table 2.4.

2.8 Cardiff Capital Region

Cardiff Capital Region records the highest average project funding of any region considered (£902,979), narrowly ahead of West Midlands, despite a comparatively modest project count (352) and firm base (215). This points to a portfolio weighted towards fewer, higher-value collaborations rather than broad volume. Repeat collaborators form a majority of the firm population (51.6%), with an average intensity of 5.5 projects per repeat firm, matching the figure recorded for West Midlands.

On leadership progression, the region shows a clear tendency towards consolidation. 'Maintained lead throughout' is the largest single trajectory category (31.5%), and the proportion of firms progressing from partner to lead (28.8%) is among the higher figures recorded across the eleven regions, suggesting that firms in this region are more likely than most to move into a leadership role over successive collaborations. Geographic reach is wide: 95.8% of firms partnered with other firms, with local-only collaboration close to negligible (2.3% for single collaborators, 0.0% for repeat collaborators). Among repeat collaborators, 29.8% partnered with firms in the Oxford-Cambridge Growth Corridor or Greater London. University engagement is close to the regional average (55.3% of firms), with 13.5% of repeat collaborators reaching Golden Triangle universities specifically. Taken together with West

Midlands, Cardiff's figures suggest that higher per-project funding in this sample is associated with stronger connectivity to the Golden Triangle rather than local self-containment.

Table 2.29: Engagement frequency (Cardiff Capital Region)

Category of firm	Firms	% of firms (n=215)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	215		20.3	25.9
Single collaborators	104	48.4%	20.7	-
- Lead	41	19.1%	13.3	-
- Partner	63	29.3%	25.5	-
Repeat collaborators (2+ projects)	111	51.6%	19.9	25.9
Average projects per firm that are repeat collaborators = 5.5				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.30: Role trajectory among repeat collaborators (Cardiff Capital Region)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 111)	% of all firms (n = 215)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	32	28.8%	14.9%	21.7	21.9
Remained Partner throughout	23	20.7%	10.7%	24.7	34.3
Maintained Lead throughout	35	31.5%	16.3%	14.9	30.2
Lead → Partner	21	18.9%	9.8%	20.5	15.6

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.31: Geographic reach of collaboration with firms (Cardiff Capital Region)

	Firms	% of all firms (n=215)
Total collaborators partnering with firms	206	95.8%
Single collaborators partnering with firms	99	46.0%
- Collaborate only locally	5	2.3%
- Collaborate with distant partner firms (beyond LIPF region)	94	43.7%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	47	21.9%
Repeat collaborators partnering with firms	107	49.8%
- Collaborate only locally	0	0.0%
- Collaborate with distant partner (beyond LIPF region)	107	49.8%
• of which, started locally then to distant partner	1	0.5%
• of which, started with a distant partner and again went distant	61	28.4%
• of which, started with a distant partner and then went local	45	20.9%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	64	29.8%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.32: Geographic reach of collaboration with universities (Cardiff Capital Region)

	Firms	% of all firms (n=215)
Total collaborators partnering with universities	119	55.3%
Single collaborators partnering with universities	47	21.9%
- Collaborate with only local universities	7	3.3%
- Collaborate with distant universities (beyond LIPF region)	40	18.6%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	15	7.0%
Repeat collaborators partnering with universities	72	33.5%
- Collaborate with only local universities	11	5.1%
- Collaborate with distant universities (beyond LIPF region)	61	28.4%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	29	13.5%

Note: Table explanation provided in Section 2.1.

2.9 Glasgow City Region

Glasgow City Region records among the highest proportion of repeat collaborators (57.2% of firms), alongside a strong average intensity of 6.2 projects per repeat firm, second only to South Yorkshire. Its leadership trajectories are somewhat more balanced than most other regions: the proportion of firms remaining a partner throughout their participation (25.2%) is higher than in most of the eleven regions, indicating that a comparatively larger share of Glasgow's repeat collaborators remain in a supporting rather than leading role.

Firm-level collaboration, at 93.6% of firms, is slightly below the wider regional pattern, though local-only collaboration remains low (2.0% to 6.4%). Among repeat collaborators, 35.2% partnered with firms in the Oxford-Cambridge Growth Corridor or Greater London, a figure matched only by South Yorkshire and indicative of a strong pull towards the Golden Triangle for a region of this size. University engagement is comparatively strong at 56.4% of firms, with repeat collaborators reaching distant institutions in 32.0% of cases, of which 16.0% involved Golden Triangle universities. With total funding of £323.5m across 571 projects, an average of £566,598 per project, and among the highest proportion of high-complexity projects nationally (22.9%), Glasgow presents as a smaller but intensively engaged region with above-average project sophistication.

Table 2.33: Engagement frequency (Glasgow City Region)

Category of firm	Firms	% of firms (n=250)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	250		19.0	24.1
Single collaborators	107	42.8%	18.2	-
- Lead	50	20.0%	14.8	-
- Partner	57	22.8%	21.1	-
Repeat collaborators (2+ projects)	143	57.2%	19.6	24.1
Average projects per firm that are repeat collaborators = 6.2				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.34: Role trajectory among repeat collaborators (Glasgow City Region)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 143)	% of all firms (n = 250)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	34	23.8%	13.6%	23.5	22.8
Remained Partner throughout	36	25.2%	14.4%	24.8	37.5
Maintained Lead throughout	40	28.0%	16.0%	13.3	18.3
Lead → Partner	33	23.1%	13.2%	17.5	17.6

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.35: Geographic reach of collaboration with firms (Glasgow City Region)

	Firms	% of all firms (n=250)
Total collaborators partnering with firms	234	93.6%
Single collaborators partnering with firms	99	39.6%
- Collaborate only locally	16	6.4%
- Collaborate with distant partner firms (beyond LIPF region)	83	33.2%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	41	16.4%
Repeat collaborators partnering with firms	135	54.0%
- Collaborate only locally	5	2.0%
- Collaborate with distant partner (beyond LIPF region)	130	52.0%
• of which, started locally then to distant partner	7	2.8%
• of which, started with a distant partner and again went distant	76	30.4%
• of which, started with a distant partner and then went local	47	18.8%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	88	35.2%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.36: Geographic reach of collaboration with universities (Glasgow City Region)

	Firms	% of all firms (n=250)
Total collaborators partnering with universities	141	56.4%
Single collaborators partnering with universities	39	15.6%
- Collaborate with only local universities	12	4.8%
- Collaborate with distant universities (beyond LIPF region)	27	10.8%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	12	4.8%
Repeat collaborators partnering with universities	102	40.8%
- Collaborate with only local universities	22	8.8%
- Collaborate with distant universities (beyond LIPF region)	80	32.0%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	40	16.0%

Note: Table explanation provided in Section 2.1, Table 2.4.

2.10 Belfast and Derry/Londonderry Corridor

Belfast-Derry/Londonderry is the smallest region considered in the report (181 firms), with single and repeat collaborators represented in roughly equal proportion (51.9% and 48.1% respectively) and a comparatively low average of 4.3 projects per repeat collaborator. On the question of leadership progression, the region performs reasonably well: 39.1% of repeat collaborators maintained a lead role throughout their participation, one of the highest proportion recorded across the eleven regions, suggesting a body of established local firms capable of sustained leadership rather than firms cycling repeatedly through a partner role.

On the question of geographic reach, firms based in this region show a pronounced tendency to look beyond their own boundaries. Only 3.3% of single collaborators partnered exclusively with local firms, with 46.4% partnering with distant firms, of which 13.8% involved the Oxford-Cambridge Growth Corridor or Greater London. Among repeat collaborators, 22.1% began with a distant partner before subsequently collaborating locally, the highest proportion of this pattern in the sample. University collaboration is comparatively more locally rooted: 12.2% of repeat collaborators worked only with local universities, compared with just 1.1% doing so for firm partnerships, though only 51.9% of all firms engaged with a university at all.

Table 2.37: Engagement frequency (Belfast-Derry/Londonderry Corridor)

Category of firm	Firms	% of firms (n=181)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	181		19.3	21.3
Single collaborators	94	51.9%	17.5	-
- Lead	62	34.3%	12.8	-
- Partner	32	17.7%	26.5	-
Repeat collaborators (2+ projects)	87	48.1%	21.3	21.3
Average projects per firm that are repeat collaborators = 4.3				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.38: Role trajectory among repeat collaborators (Belfast-Derry/Londonderry Corridor)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 87)	% of all firms (n = 181)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	17	19.5%	9.4%	25.1	21.4
Remained Partner throughout	15	17.2%	8.3%	32.7	34.3
Maintained Lead throughout	34	39.1%	18.8%	13.6	14.6
Lead → Partner	21	24.1%	11.6%	22.6	22.9

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.39: Geographic reach of collaboration with firms (Belfast-Derry/Londonderry Corridor)

	Firms	% of all firms (n=181)
Total collaborators partnering with firms	163	90.1%
Single collaborators partnering with firms	90	49.7%
- Collaborate only locally	6	3.3%
- Collaborate with distant partner firms (beyond LIPF region)	84	46.4%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	25	13.8%
Repeat collaborators partnering with firms	73	40.3%
- Collaborate only locally	2	1.1%
- Collaborate with distant partner (beyond LIPF region)	71	39.2%
• of which, started locally then to distant partner	3	1.7%
• of which, started with a distant partner and again went distant	28	15.5%
• of which, started with a distant partner and then went local	40	22.1%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	29	16.0%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.40: Geographic reach of collaboration with universities (Belfast-Derry/Londonderry Corridor)

	Firms	% of all firms (n=181)
Total collaborators partnering with universities	94	51.9%
Single collaborators partnering with universities	36	19.9%
- Collaborate with only local universities	14	7.7%
- Collaborate with distant universities (beyond LIPF region)	22	12.2%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	3	1.7%
Repeat collaborators partnering with universities	58	32.0%
- Collaborate with only local universities	22	12.2%
- Collaborate with distant universities (beyond LIPF region)	36	19.9%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	16	8.8%

Note: Table explanation provided in Section 2.1, Table 2.4.

2.11 Oxford-Cambridge Growth Corridor

As the other principal hub within the sample, the Oxford-Cambridge Growth Corridor comprises 1,325 firms and 3,070 projects worth £2.09bn, at an average of £681,925 per project. It records the highest proportion of repeat collaborators of any region (59.5%), together with a strong average intensity of 5.3 projects per repeat firm, consistent with a mature and well-established innovation ecosystem.

Leadership trajectories favour consolidation: 37.9% of repeat collaborators maintained a lead role throughout, second only to Greater London, while the proportion remaining a partner throughout is comparatively low (13.3%), suggesting that few firms in this region become permanently confined to a supporting role.

Firm-level reach is wide, with 94.0% of firms partnering with other firms. Among repeat collaborators, 54.3% reached beyond the region, and 39.8% of these involved the Oxford-Cambridge Growth Corridor or Greater London specifically, the highest proportion recorded nationally, reflecting the density of connections within the Golden Triangle itself. University engagement is solid at 55.8% of firms, though the reported 0.0% figure for Golden Triangle university collaboration is again an artefact of the region's inclusion within that category rather than a genuine absence of activity. The complexity mix (15.9% high, 50.0% low) is close to the wider average despite the region's scale.

Table 2.41: Engagement frequency (Oxford-Cambridge Growth Corridor)

Category of firm	Firms	% of firms (n=1325)	Average Project duration (months)	Average gap between projects(months)
Total collaborators	1325		21.2	22.3
Single collaborators	536	40.5%	22.5	-
- Lead	285	21.5%	17.4	-
- Partner	251	18.9%	28.2	-
Repeat collaborators (2+ projects)	789	59.5%	20.3	22.3
Average projects per firm that are repeat collaborators = 5.3				

Note: Table explanation provided in Section 2.1, Table 2.1.

Table 2.42: Role trajectory among repeat collaborators (Oxford-Cambridge Growth Corridor)

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 789)	% of all firms (n = 1325)	Average Project duration (months)	Average gap between projects (months)
Partner → Lead	173	21.9%	13.1%	24.1	22.9
Remained Partner throughout	105	13.3%	7.9%	27.0	32.2
Maintained Lead throughout	299	37.9%	22.6%	15.3	20.4
Lead → Partner	212	26.9%	16.0%	21.2	19.8

Note: Table explanation provided in Section 2.1, Table 2.2.

Table 2.43: Geographic reach of collaboration with firms (Oxford-Cambridge Growth Corridor)

	Firms	% of all firms (n=1325)
Total collaborators partnering with firms	1246	94.0%
Single collaborators partnering with firms	504	38.0%
- Collaborate only locally	37	2.8%
- Collaborate with distant partner firms (beyond OxCam region)	467	35.2%
➤ Of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	233	17.6%
Repeat collaborators partnering with firms	742	56.0%
- Collaborate only locally	22	1.7%
- Collaborate with distant partner (beyond OxCam region)	720	54.3%
• of which, started locally then to distant partner	28	2.1%
• of which, started with a distant partner and again went distant	414	31.2%
• of which, started with a distant partner and then went local	278	21.0%
➤ of which, collaborated with firms in the Oxford-Cambridge growth corridor & Greater London	528	39.8%

Note: Table explanation provided in Section 2.1, Table 2.3.

Table 2.44: Geographic reach of collaboration with universities (Oxford-Cambridge Growth Corridor)

	Firms	% of all firms (n=1325)
Total collaborators partnering with universities	740	55.8%
Single collaborators partnering with universities	204	15.4%
- Collaborate with only local universities	52	3.9%
- Collaborate with distant universities (beyond OxCam region)	152	11.5%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	0	0.0%
Repeat collaborators partnering with universities	536	40.5%
- Collaborate with only local universities	67	5.1%
- Collaborate with distant universities (beyond OxCam region)	469	35.4%
○ Of which, collaborate with universities in the Oxford-Cambridge growth corridor & Greater London	0	0.0%

Note: Table explanation provided in Section 2.1.

3. All LIPF Regions Combined vs. Oxford-Cambridge-London

The combined table reinforces the pattern of concentration evident throughout the report. Of the 6,835 firms collaborating across all eleven regions, 4,208 (61.6%) are based in the Oxford-Cambridge Growth Corridor or Greater London, meaning these two regions account for well over half the national population of collaborating firms despite representing only two of the eleven regions considered.

This concentration is, if anything, slightly more pronounced among repeat collaborators than among the population as a whole. Repeat collaborators represent 50.7% of all firms nationally, and Golden Triangle firms account for 63.0% of this repeat population, a marginally higher share than their overall representation. The pattern is most pronounced in relation to sustained leadership: 'maintained lead throughout' is the largest single trajectory category nationally (38.4% of repeat collaborators), and Golden Triangle firms account for 70% of this group, indicating that the tendency to sustain a leadership role over successive collaborations is disproportionately concentrated within the established core.

University collaboration is somewhat more evenly distributed. Golden Triangle firms represent 58.2% of all firms partnering with a university, a share slightly below their overall population share, suggesting that university-firm connectivity is marginally less concentrated than firm-to-firm collaboration.

Table 3.1: Engagement frequency

Category of firm	Firms	% of firms (n=6835)	Average Project duration (months)	Average gap between projects (months)
Total collaborators	6835		19.3	21.6
of which: Oxford–Cambridge Growth Corridor & Greater London	4208	61.6%	18.8	20.7
Single collaborators	3371	49.3%	19.2	-
of which: Oxford–Cambridge Growth Corridor & Greater London	2026	29.6%	19.0	-
- Lead	1839	26.9%	13.9	-
of which: Oxford–Cambridge Growth Corridor & Greater London	1176	17.2%	14.7	-
- Partner	1532	22.4%	25.6	-
of which: Oxford–Cambridge Growth Corridor & Greater London	850	12.4%	25.0	-
Repeat collaborators (2+ projects)	3464	50.7%	19.3	21.6
of which: Oxford–Cambridge Growth Corridor & Greater London	2182	31.9%	18.5	20.7
Average projects per firm that are repeat collaborators	5.4			
of which: Oxford–Cambridge Growth Corridor & Greater London	5.4			

Note: This table covers all firms undertaking collaborative projects across all 11 LIPF regions combined (“Total collaborators”). “Collaborate only once” means the firm has only collaborated on one project, split by the role it held on that project, Lead or Partner. “Repeat collaborators (2+ projects)” means the firm has collaborated on two or more projects. Percentages are calculated out of the full sample of 6,835 firms. Each main row is followed by an indented, italicised sub-row (“of which: Oxford–Cambridge Growth Corridor & Greater London”) showing how much of that row’s total is accounted for by firms based in these two regions specifically — together the two largest LIPF regions, covering 4,208 of the 6,835 firms (61.6%).

Table 3.2: Role trajectory among repeat collaborators

Trajectory of repeat collaborators	Firms	% of repeat firms (n = 3464)	% of all firms (n = 6835)	Average Project duration (months)	Average gap between projects(months)
Partner → Lead	708	20.4%	10.4%	23.1	22.5
<i>of which: Oxford–Cambridge Growth Corridor & Greater London</i>	414	12.0%	6.1%	22.8	22.8
Remained Partner throughout	578	16.7%	8.5%	25.9	30.0
<i>of which: Oxford–Cambridge Growth Corridor & Greater London</i>	314	9.1%	4.6%	24.9	27.4
Maintained Lead throughout	1329	38.4%	19.4%	14.1	19.2
<i>of which: Oxford–Cambridge Growth Corridor & Greater London</i>	930	26.8%	13.6%	14.0	18.5
Lead → Partner	849	24.5%	12.4%	19.6	18.8
<i>of which: Oxford–Cambridge Growth Corridor & Greater London</i>	524	15.1%	7.7%	19.4	19.0

Note: This table covers firms with more than one collaboration (“repeat collaborators”); single-project firms are excluded. Categories are based on each firm's first collaboration role compared with its later collaborations: Partner → Lead means the firm started as Partner and went on to lead at least one later collaboration project; Lead → Partner means the firm started as Lead and went on to partner on at least one later collaboration project; Partner throughout means the firm has been Partner on its every collaboration project; and Lead throughout means the firm has been Lead on every collaboration project. Each firm falls into exactly one category. “% of repeat firms” is calculated out of all firms who are Repeat collaborators, while “% of all firms” is calculated out of the full firm population, including firms who collaborate only once. Each main row is followed by an indented, italicised “of which: Oxford–Cambridge Growth Corridor & Greater London” sub-row.

Table 3.3: Geographic reach of collaboration with firms

	Firms	% of all firms (n=6835)
Total collaborators partnering with firms	6484	94.9%
of which: Oxford–Cambridge Growth Corridor & Greater London	3972	58.1%
Single collaborators partnering with firms	3217	47.1%
of which: Oxford–Cambridge Growth Corridor & Greater London	1923	28.1%
- Collaborate only locally	310	4.5%
of which: Oxford–Cambridge Growth Corridor & Greater London	230	3.4%
- Collaborate with distant partner firms (beyond LIPF region)	2907	42.5%
of which: Oxford–Cambridge Growth Corridor & Greater London	1693	24.8%
Repeat collaborators partnering with firms	3267	47.8%
of which: Oxford–Cambridge Growth Corridor & Greater London	2049	30.0%
- Collaborate only locally	146	2.1%
of which: Oxford–Cambridge Growth Corridor & Greater London	114	1.7%
- Collaborate with distant partner (beyond LIPF region)	3121	45.7%
of which: Oxford–Cambridge Growth Corridor & Greater London	1935	28.3%
of which, started locally then to distant partner	115	1.7%
of which: Oxford–Cambridge Growth Corridor & Greater London	84	1.2%
London		
of which, started with a distant partner and again went distant	1693	24.8%
of which: Oxford–Cambridge Growth Corridor & Greater London	956	14.0%
London		
of which, started with a distant partner and then went local	1313	19.2%
of which: Oxford–Cambridge Growth Corridor & Greater London	895	13.1%
London		

Note: This table covers all firms undertaking collaborative projects across all 11 LIPF regions which involve at least one partner firm. Collaborating firms are first classified as either single collaborators (one project) or Repeat collaborators (two or more projects). For firms that are single collaborators, “Collaborate only locally” indicates that the firm’s sole collaboration was with a partner firm within the same LIPF region, while “Collaborate with distant partners” indicates that the collaboration includes at least one partner firm outside the firm’s LIPF region. For repeat collaborators, “Collaborate only locally” refers to firms whose collaborations with firms remained entirely within their own LIPF region. “Collaborate with distant partner (beyond LIPF region)” refers to firms that collaborated with at least one partner firm outside their own LIPF region on at least one project, further split by the sequence of collaborations. Each main row is followed by an indented, italicised “of which: Oxford–Cambridge Growth Corridor & Greater London” sub-row, showing the same statistic restricted to firms based in these two regions.

Table 3.4: Geographic reach of collaboration with universities

	Firms	% of all firms (n=6835)
Total collaborators partnering with universities	3454	50.5%
of which: Oxford–Cambridge Growth Corridor & Greater London	2009	29.4%
Single collaborators partnering with universities	1172	17.1%
of which: Oxford–Cambridge Growth Corridor & Greater London	644	9.4%
- Collaborate with only local universities	324	4.7%
of which: Oxford–Cambridge Growth Corridor & Greater London	197	2.9%
- Collaborate with distant universities (beyond LIPF region)	848	12.4%
of which: Oxford–Cambridge Growth Corridor & Greater London	447	6.5%
Repeat collaborators partnering with universities	2282	33.4%
of which: Oxford–Cambridge Growth Corridor & Greater London	1365	20.0%
- Collaborate with only local universities	467	6.8%
of which: Oxford–Cambridge Growth Corridor & Greater London	268	3.9%
- Collaborate with distant universities (beyond LIPF region)	1815	26.6%
of which: Oxford–Cambridge Growth Corridor & Greater London	1097	16.0%

Note: This table covers all firms undertaking collaborative projects across all 11 LIPF regions which involve at least one university. Collaborating firms are first classified as either Single collaborators (one project) or Repeat collaborators (two or more projects). For firms that collaborate only once, “Collaborate with only local universities” indicates that the firm's sole collaboration was with universities within the same LIPF region, while “Collaborate with distant universities (beyond LIPF region)” indicates that the collaboration was with universities outside the firm's LIPF region. For repeat collaborators, the same distinction applies across the firm's full project history. Each main row is followed by an indented, italicised “of which: Oxford–Cambridge Growth Corridor & Greater London” sub-row, showing the same statistic restricted to firms based in these two regions.

4. Conclusion

This report has examined regional patterns of publicly-funded firm-university collaborations, using Innovate UK data from 2004-2026. The purpose of this report is to provide insight on two questions which have gained urgency in recent UK science policy:

- » How can the UK economy get more out of its traditional world-leading clusters of scientific excellence and high-tech industry?
- » How can regions beyond these established innovation clusters be effectively supported to ensure the UK economy can harness their potential?

As detailed in the Introduction, a metaphor has been employed to strongly argue that government funding for cutting edge Research and Development (R&D) projects should not be spread evenly across the UK, like jam across bread. This type of public R&D funding plays a crucial role in establishing and maintaining both academic excellence and industrial competitiveness. However, allocating such funding on the basis of excellence alone runs the risk of inadvertently disadvantaging many UK regions. In response to this, UKRI have recently launched the Local Innovation Partnerships Fund (LIPF). The LIPF earmarks funding for 10 UK regions, targeted at harnessing local specialities, with more of a focus on applied research and commercialisation. To echo the metaphor, this report seeks to establish a historical baseline for how the jam has been spread over the past two decades. This information may provide potentially useful insights to inform the development and implementation of recent policy initiatives such as the LIPF.

The data analysis in this report shows that the jam has, in practice, been piled onto a few regions for a sustained period. Greater London and the Oxford-Cambridge Growth Corridor account for 64% of all collaborative R&D projects, 61% of total funding and 61.6% of collaborating firms in this sample. However, this data analysis indicates that several regions outside the Golden Triangle already show meaningful capacity to benefit from further investment. West Midlands, Cardiff Capital Region, South Yorkshire and Glasgow City Region each display strong repeat collaboration, leadership progression and connectivity to the Golden Triangle, despite considerably smaller funding totals. This suggests the historical concentration of funding reflects established practice as much as regional capability. Therefore, the LIPF has considerable potential to improve regional R&D and innovation performance.

Beyond the heavy concentration of R&D support in the Golden Triangle, but consistent if lower scale potential in other UK regions, the report identifies two salient empirical findings:

- » On local versus distant collaboration, firms across the 10 LIPF regions rely heavily on partners located outside their own region. Local-only engagement is consistently low. One implication from this is that regional innovation systems are not yet self-contained, requiring firms to look towards Oxford, Cambridge or London to access necessary expertise.
- » On leadership, firms outside the Golden Triangle do lead collaborative R&D projects with some regularity. In the West Midlands, Cardiff and South Yorkshire half or more of repeat collaborators progress towards or sustain a leadership role. This may suggest

regional firms are not confined to a permanent partner status. However, sustained leadership remains concentrated within Golden Triangle firms, which account for 70% of this category nationally, indicating that leadership depth remains unevenly distributed across the UK.

Based on these findings, three actionable insights may be offered for UK policymakers involved in designing and delivering initiatives such as the LIPF:

1. Funding allocation should not follow historical volume alone. For example, the West Midlands and Cardiff show high per-project funding and above-average project complexity, despite modest overall scale. Our data analysis may suggest regions such as these can absorb further, targeted investment effectively.
2. It may be beneficial for programmes such as the LIPF to include specific support for building local university and firm capacity, rather than funding projects alone. Consistently low local-only collaboration suggests regional firms remain dependent on distant partners, and this dependence is unlikely to reduce without direct investment in local capability. This insight appears particularly important for regions such as the Belfast-Derry/Londonderry corridor, which show potential but lack scale.
3. LIPF design could usefully include mechanisms that help regional firms progress into and remain in leadership roles, rather than (perhaps implicitly) assuming this will happen unassisted. The concentration of sustained leadership within Golden Triangle firms suggests this capability gap will persist without specific policy design and encouragement.

Taken together, this report suggests the LIPF is well positioned to address a genuine, evidenced gap in regional innovation capacity. Its implementation may be improved by monitoring it against the baseline patterns identified here. In particular, policy effectiveness could be assessed by including repeat collaboration rates, leadership progression and the balance of local versus distant partnership in any assessment process. Including measures such as these should help assessors to gauge the impact of 'spreading the jam' beyond traditional UK innovation clusters.

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APPENDIX

Definition of complexity score:

To support analysis of how collaboration patterns vary across projects and regions, a composite measure of project complexity was developed. The measure reflects several structural characteristics of a project; the number and type of organisations involved, their geographic spread, project duration, and funding scale. Only projects that involved at least one firm were considered in the analysis.

Construction of the component scores

Institutionally-weighted project size

Participants were classified as either an academic institution (Enterprise Size = "Academic") or a non-academic participant (any other Enterprise Size: Micro/Small, Medium, Large, Catapult, PSO/PSRE/RTO, Charity, or Non-UK). Academic institutions were weighted at twice the value of a non-academic participant.

Institutionally-weighted project size score = (number of non-academic participants) + 2 × (number of academic institutions)

Organisational diversity

Diversity score= 1 if the project involves 3 or more distinct Enterprise Size categories (for example, small, medium large etc), otherwise 0.

Geographic dispersion

Using each participant's recorded Address Region, the number of distinct UK regions represented among a project's participants was calculated.

Geographic score= 1 for participants spanning 2 distinct regions, 2 for 3 distinct regions, 3 for 4 or more distinct regions

Project duration

Duration score = 1 for projects of 24 months or longer, 2 for projects of 36 months or longer

Funding scale

Funding score = 1 if total award value is at or above the 75th percentile of the dataset, 2 if at or above the 90th percentile.

Aggregation and classification

The five component scores were summed to produce a single Complexity Score for each project:

Complexity Score = Team score + Diversity score + Geographic score + Duration score + Funding score

The resulting distribution of scores across all 15,875 projects was then examined directly, and cut points were selected to produce a three-tier classification (Low / Medium / High) in which each tier represents a substantively meaningful and analytically useful share of the sample. The project total (n = 15,875) includes all projects involving at least one firm.

Complexity tier	Complexity Score	Projects (n = 15,875)	% of sample
Low	1–2	7,501	47.3%
Medium	3–6	5,007	31.5%
High	7+	3,367	21.2%



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