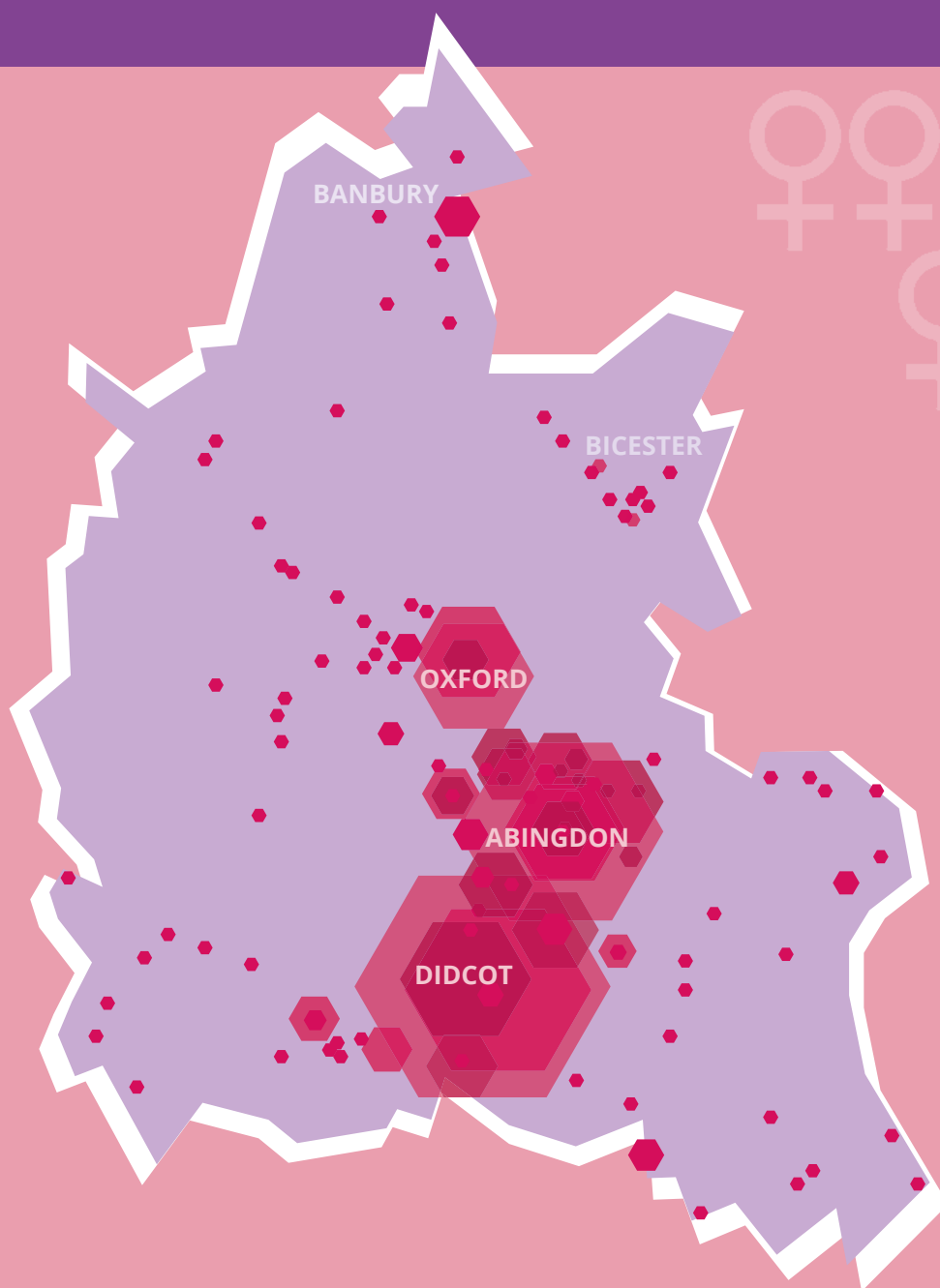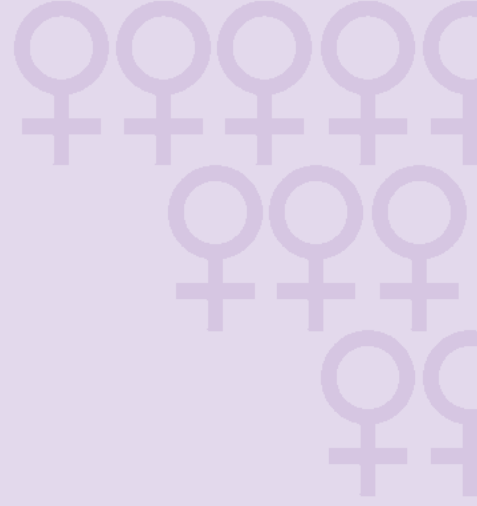# OXFORDSHIRE'S INNOVATION ENGINE 2023

What contribution is Gender Diversity making to the scientific super-cluster?

Advanced Oxford

Contents

Foreword

OXFORDSHIRE'S INNOVATION ENGINE 2023
What contribution is Gender Diversity making to the scientific super-cluster?

The Oxfordshire Innovation Engine report, *Realising the Growth Potential*, was published in the autumn of 2013. It was followed two and a half years later by an 'Update Report' that assessed progress against the actions and recommendations proposed in 2013. Ten years on, Advanced Oxford, working with the International Center for the Study of Research at Elsevier, has produced *Oxfordshire's Innovation Engine 2023*, which reassesses the region's science and technology ecosystem, looking forward, but also looking back over the last decade. Has the growth potential been realised – have challenges been addressed and the opportunities pursued?

Perhaps not surprisingly, the 2013 and 2016 reports did not look at equality, diversity or inclusion issues. As Advanced Oxford has taken stock of the dynamics of the region's innovation economy, culminating in the report, *Oxfordshire's Innovation Engine 2023* (*OIE 2023*), the opportunity to look at one measure of diversity – gender – has been seized.

OXFORD NANOPORE TECHNOLOGIES

The region has a good record on starting and retaining science and technology-focused businesses, but they still tend to be male dominated, in both their formation and leadership. If there is still a long way to go on gender equality, it seems likely that other diversity characteristics also need attention and action.

This paper is presented as a companion to *Oxfordshire's Innovation Engine 2023*. It provides more data and deeper analysis, underpinning the summary which is presented in *OIE 2023*. *OIE 2023* contains a number of recommendations, although none is presented relating to gender diversity. Nevertheless, Advanced Oxford and Oxford Brookes University are committed to shining a light on the poor levels of female representation in founding and leadership teams. This commitment is cemented in our collaboration on research, through a PhD studentship, into the issue. The findings from this PhD research will be communicated and taken forward in the autumn of 2023 and into 2024. In the meantime, this paper identifies gender diversity as a key challenge, to be addressed alongside the other actions set out in *OIE 2023*.

Introduction

In 2021 Oxford Brookes University in collaboration with Advanced Oxford looked at a sample of 110 innovation and knowledge-based companies within Oxfordshire to investigate women's participation as founders and leaders of these companies.[1] This analysis revealed that only 13.6% of the companies examined have at least one female founder. This paper expands upon that investigation to examine all Oxfordshire companies in the Technology/IP-based businesses sector, which are tracked by data platform Beauhurst. It compares and contrast gender diversity in the Oxfordshire innovation ecosystem to the national picture. *Oxfordshire's Innovation Engine 2023* identifies the stock of knowledge-based companies as being 2,950, with a sub-set of these, around 1,500, being the most innovation and R&D focused. The Beauhurst platform does not track all of these companies – the cohort of tracked companies is around one third of the innovation-focused group identified by Advanced Oxford. However, the ability to examine data relating to gender of founders and leadership teams, using Beauhurst tracking, provides useful insight into the dynamics of companies within Oxfordshire's innovation landscape.

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1. Discussion paper: *A snapshot of Gender Diversity in Oxfordshire*
https://www.brookes.ac.uk/research/units/obbs/projects/women-and-spinouts/reports/

Methodology

The Beauhurst company database was used to obtain numbers of companies in Oxfordshire and nationally, examining companies identified as being within Technology/IP-based sectors, as defined within data platform. This group of companies was used, as the Technology/IP based company definition in Beauhurst aligns well with the company definitions used in OIE 2023, where different datasets have been used to identify 'high-tech', 'knowledge-economy' and 'R&D intensive companies'.[2] Companies are tracked by Beauhurst at all stages of evolution. Approximately 490 companies were identified in Oxfordshire and 16,450 companies across the UK.

The following characteristics were counted, companies with:

- At least one female founder

- All female founders

- At least 30% female key people (females identified as being part of senior leadership teams or C-Suite)

- No female founders

Hereafter, these four groups are referred to a 'gender categories'.

These companies were then further broken down by the following stages of evolution (excluding companies classified as dead) as defined by Beauhurst:[3]

- Seed

- Venture

- Growth

- Established

- Zombie

- Exited

The gender characteristics above were then compared, for each stage of evolution, between Oxfordshire and nationally, to understand how gender diversity changes with different levels of company maturity.

The advanced search function within the Beauhurst platform was used to obtain these data.

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2. *Oxfordshire's Innvation Engine 2023: A scientific super-cluster, looking back, looking forward* (www.advancedoxford.com)

3. Definitions of each stage of company evolution can be found on Beauhurst website and in annex 1 to this paper.

Results

Overall picture

The overall picture for all gender categories, when all data from each stage of company evolution are combined, is similar between Oxfordshire and the national average (shown in Figure 1). The difference between the proportion of companies in each of the gender categories, when comparing the county-level data with the national level for each group, is less than 4%.

Note, data do not add up to 100% as 'all female-founder' companies are also included in the 'at least one female founder' group. 'Female key people' refers to female participation in senior leadership teams, which may differ to founding teams, particularly in later stages of company evolution. This is the case for all data presented in all the figures within this paper.

FIGURE 1:
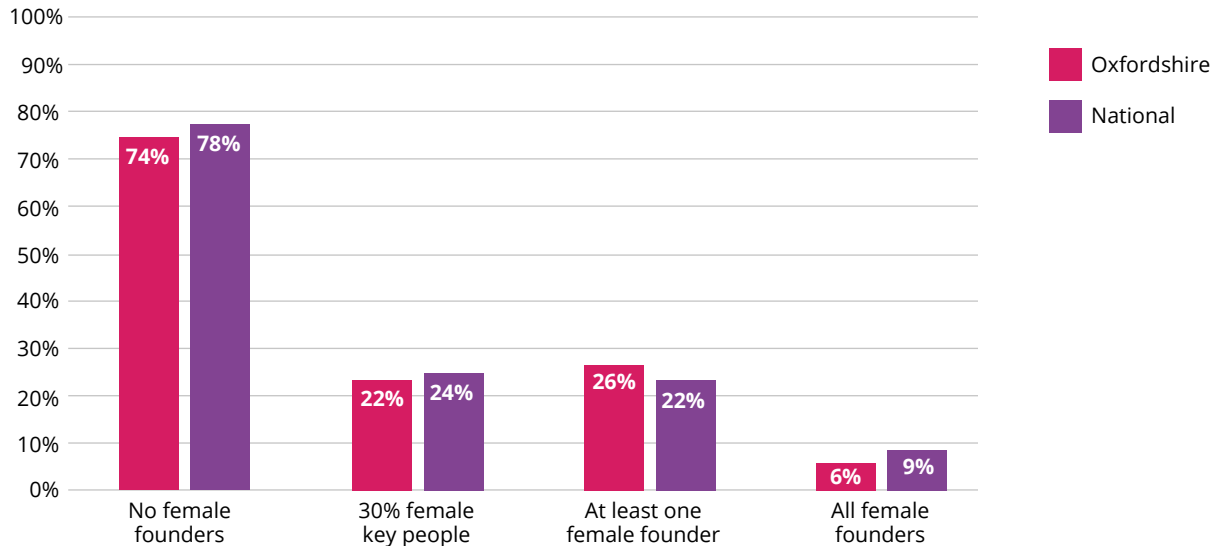**Proportion of companies at all stages of evolution** (except companies identified as 'dead')
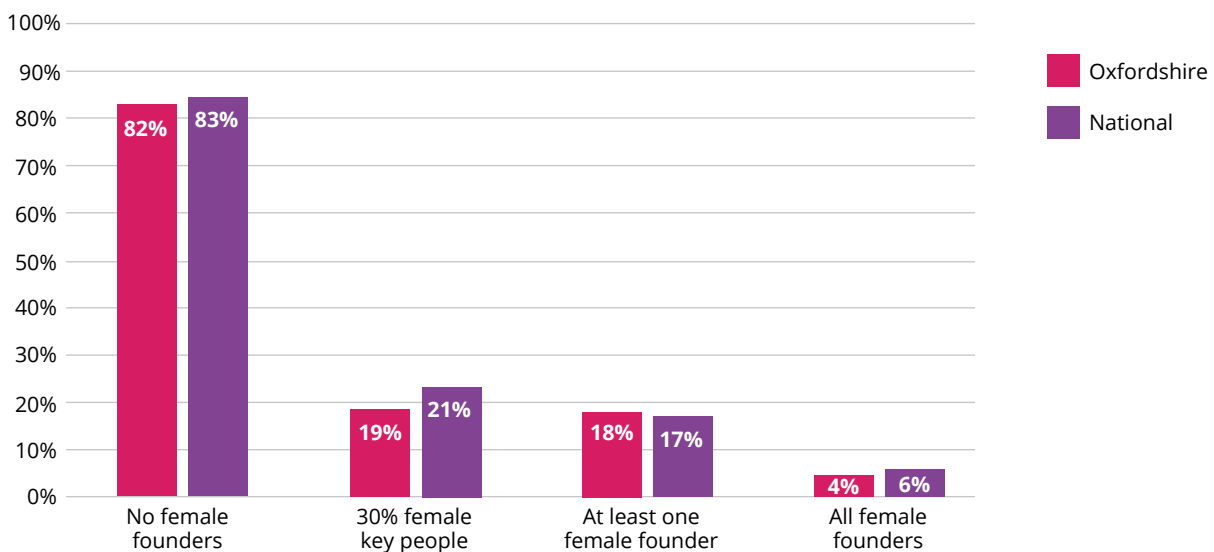
Comparing data for Oxfordshire with data from the whole of the UK.

Seed-stage companies

The proportion of seed-stage companies in each of the gender categories (shown in Figure 2) are broadly similar when comparing the national and county-level averages, with Oxfordshire potentially having a 4% lead in the "at least one female founder" category (26% and 22% respectively). All other categories differ by less than this.
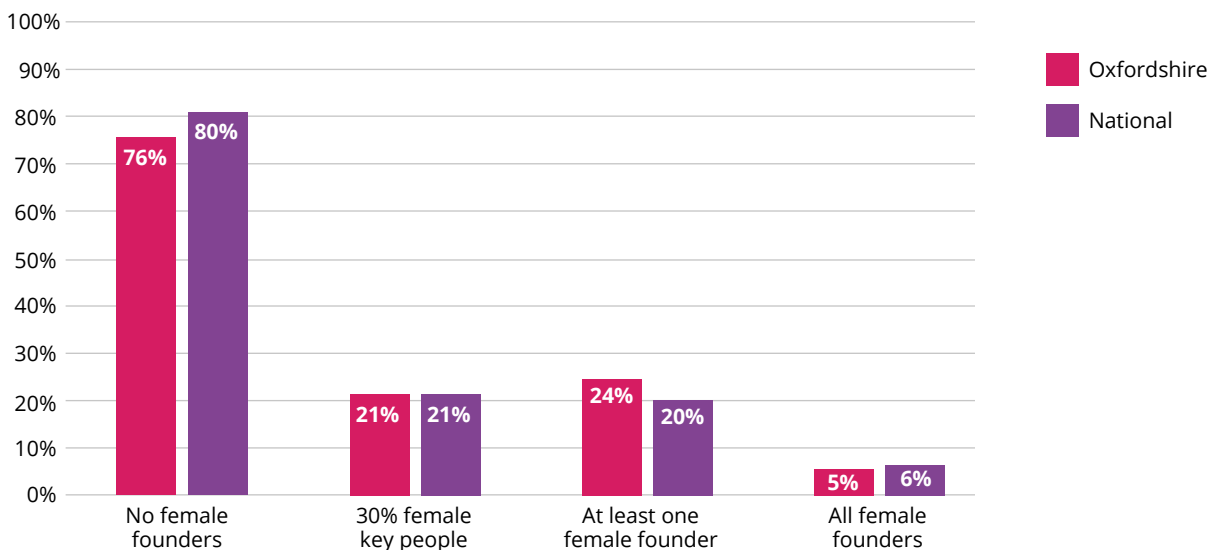
FIGURE 2:
Proportion of companies at seed-stage

Comparing data for Oxfordshire with data from the whole of the UK.

Venture-stage companies

The proportion of companies at venture-stage (shown in Figure 3) also presents a similar distribution between county and national averages to that of seed-stage companies. Oxfordshire has 4% more companies with female founders compared to the national average (24% and 20% respectively). The difference between other categories was less significant.

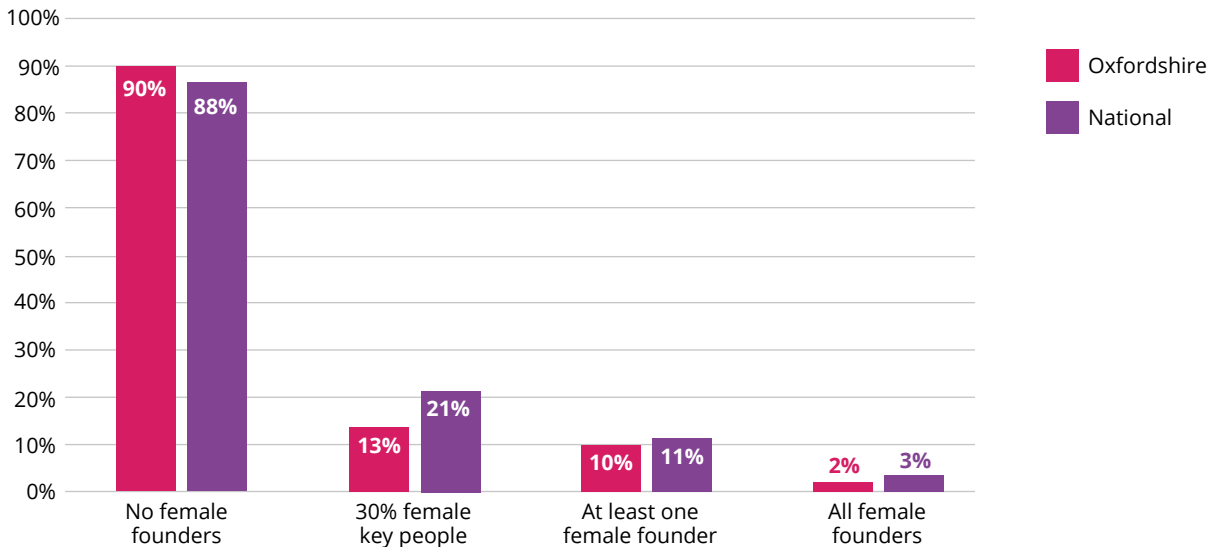**FIGURE 3:**
Proportion of companies at venture-stage

Comparing data for Oxfordshire with data from the whole of the UK.

Growth-stage companies

Oxfordshire significantly lags behind the national average in the proportion of companies with at least 30% female key people (shown in Figure 4) when growth-stage companies are considered. Only 13% of Oxfordshire companies meet this criteria compared to 21% of companies nationally, equating to an 8% difference. All other categories do not have significant differences between Oxfordshire and national averages.

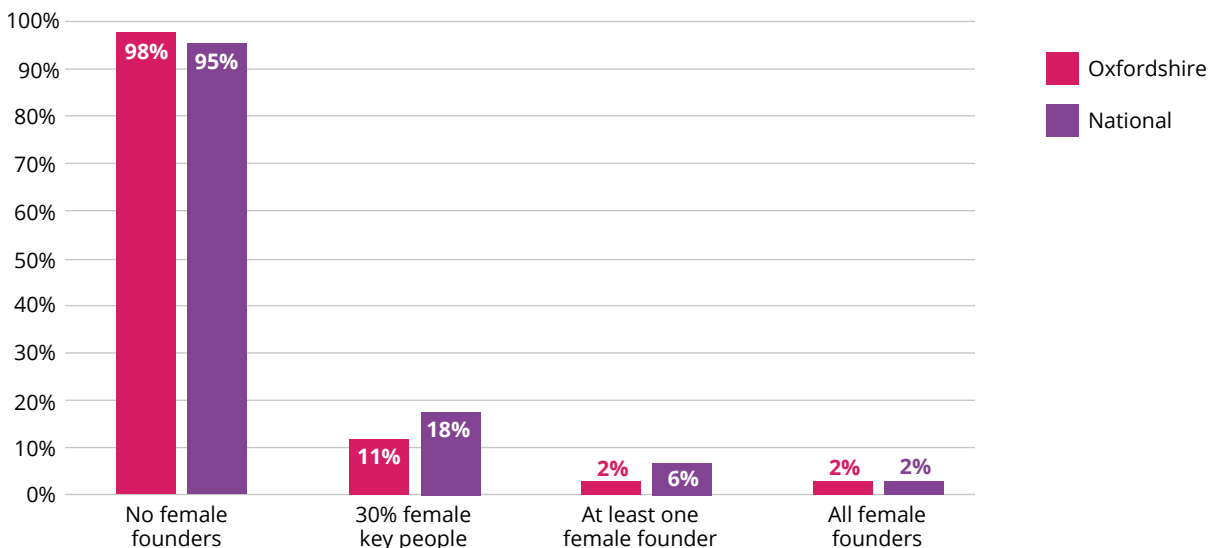**FIGURE 4:**
Proportion of companies at growth stage

Comparing data for Oxfordshire with data from the whole of the UK.

Established-stage companies

At the established-stage of company evolution, (see Figure 5), Oxfordshire has 7% fewer companies with at least 30% key female people than the national average (11% and 18% respectively), which is similar to the difference for growth-stage companies. Oxfordshire also appears to be behind in regard to companies with at least one female founder, compared to the national average by 4% (2% and 6% respectively), which in itself is a very small proportion of Technology/IP-based companies. It is notable that companies at this stage of evolution, whether it be at the regional level (98% with no female founder), or the national level (95% with no female founder), tend to have no female founders, although participation in senior leadership is somewhat more likely.

FIGURE 5:
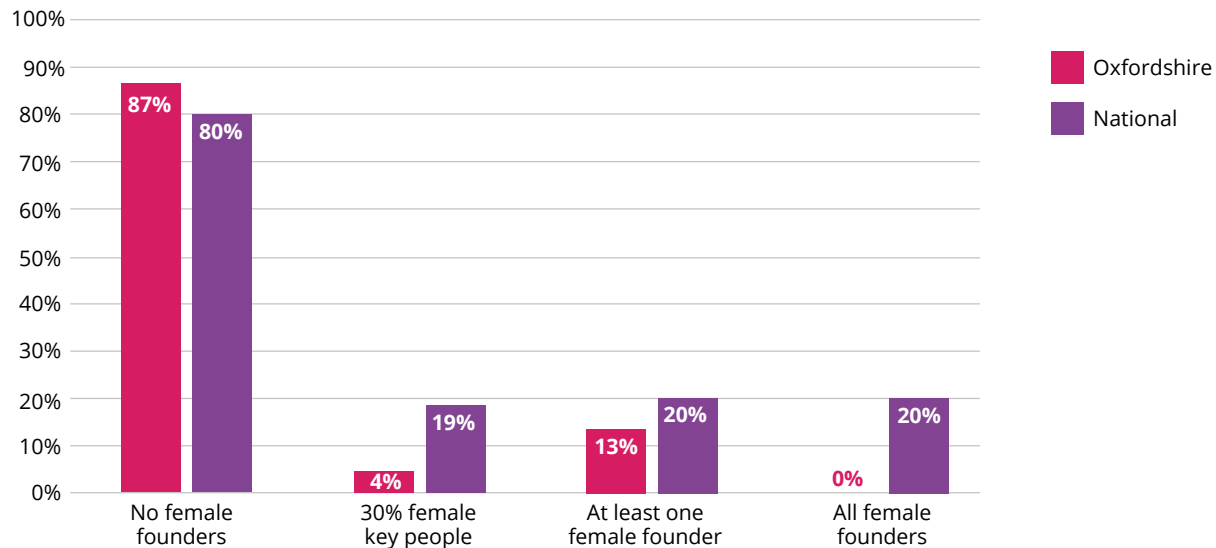Proportion of companies at established-stage

Comparing data for Oxfordshire with data from the whole of the UK.

Zombie companies

Oxfordshire has significantly fewer companies at the zombie stage (see Figure 6) with any level of female involvement. Oxfordshire has no companies at zombie stage with all female founders, compared to a national average of 7%. The county also has 7% fewer companies than the national average in this category with at least one female founder (13% and 20% respectively). The biggest difference is in the "at least 30% female key people" category where Oxfordshire has 15% fewer companies than the national average (4% and 19% respectively).

FIGURE 6:
Proportion of companies at zombie stage

Comparing data for Oxfordshire with data from the whole of the UK.

Exit-stage companies

Oxfordshire has no all-female founder companies that have exited – an exit in this case refers to an acquisition or a listing of shares on a public market - but this is not a significant finding since the national average (2%) is also very low. The proportion of exited companies with at least 30% female key people in Oxfordshire is 9% higher than the national average (23% and 14% respectively). This is despite the proportion of exited companies with no female founders, or at least one female founder, in Oxfordshire-based companies being identical to the national average.

FIGURE 7:
Proportion of companies at exit-stage
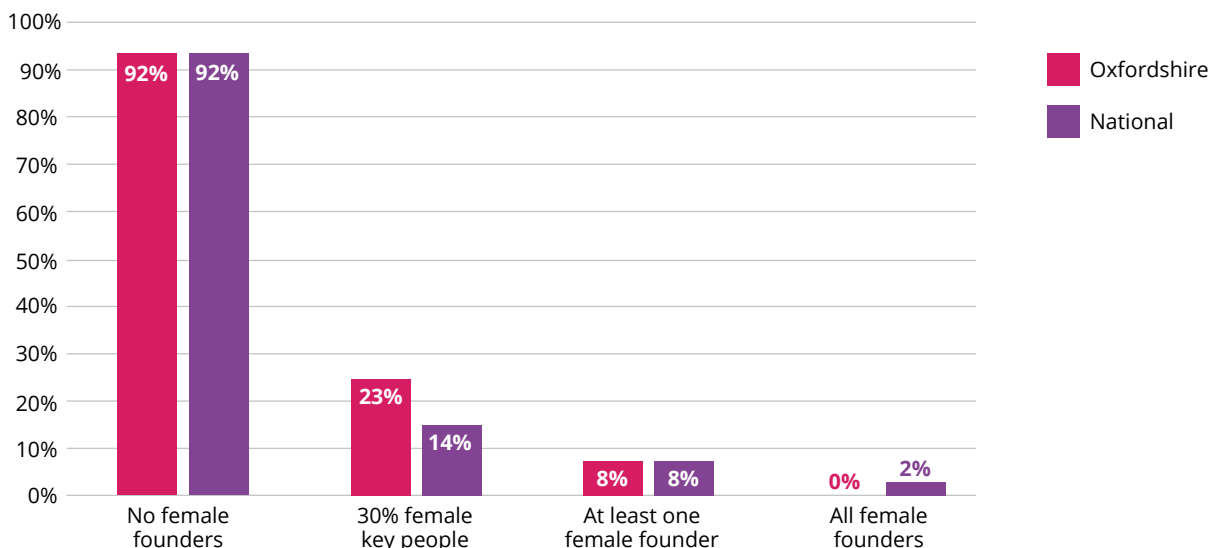
Comparing data for Oxfordshire with data from the whole of the UK.

Reflections

Overall, the Oxfordshire innovation ecosystem gender diversity metrics closely match the national average. There is only a marginal difference (+4%) in the number of companies in Oxfordshire with at least one female founder in recently founded companies (those within seed and venture stages, and therefore likely to be companies founded more recently) when compared to the national picture. There is also a significant gap in female representation in key leadership/C-suite positions in mature companies in Oxfordshire, when compared to the national average: 8% fewer in growth stage companies and 7% fewer in established companies. National averages for companies in the Technology/IP-based sector, with women participating either as founders or as 'key people', is rather low anyway, so the fact that the Oxfordshire position is worse is disappointing. This data suggests that, in spite of the resources and capabilities existing in the Oxfordshire ecosystem, described in the *Oxfordshire Local Industrial Strategy*[4] as the 'UK's innovation engine', women remain largely excluded.

However, on a more positive note, when companies in Oxfordshire do have at least 30% of women in key leadership positions, the data indicate that they result in 15% fewer zombie-stage companies, compared to national average, and 9% more successful exits, suggesting that when women are present in the C-Suite this may lead to better results for companies.

There is scope to continue monitoring progress moving forward through similar data analysis. There is also an opportunity for a more in-depth analysis, to better understand women's experiences as company founders, and as 'key people', to examine what kind of companies they lead, and to better understand the challenges and opportunities for the Oxfordshire innovation ecosystem if it is to become more gender inclusive.

There is clearly much more to do to ensure that participation of women, in both the founding and leading of Technology/IP-based companies, is improved. As noted at the beginning of this paper, if there is still a long way to go on gender equality, it seems likely that other diversity characteristics also need attention and action.

4. https://www.oxfordshirelep.com/lis