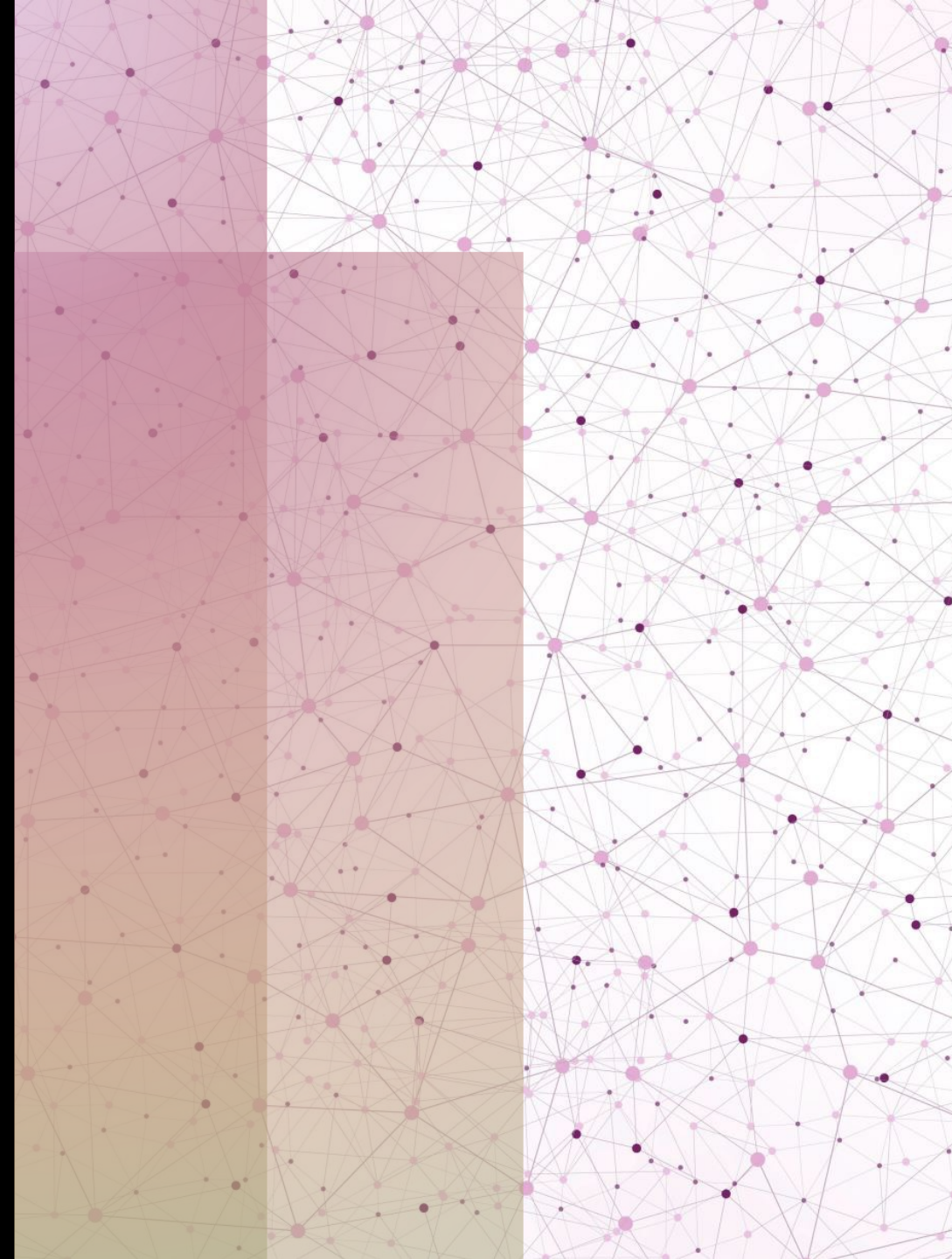


# Business models and capabilities of companies in UK with Circular Economy oriented business models

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# Why is this research important?

- It will provide a comprehensive overview of the state of the art in circular economy business models in the UK manufacturing sector.
- It will identify the key factors that are associated with the adoption of these models.
- It will describe the most common circular actions or initiatives taken by companies in this sector.
- It will develop text analytics techniques for identifying circular actions or initiatives.
- It will identify the specific capabilities and practices that are essential for companies in this sector to successfully adopt and maintain circular economy business models.

# Introduction

- Our linear 'take-make-waste' economy is rapidly reaching its ecological limits as global population and consumption continues to rise.
- The circular economy presents an alternative model that decouples economic activity from finite resource use. By designing out waste and keeping resources in use, it offers significant opportunities for sustained economic growth along with environmental benefits.
- Countries like the UK aim to seize the economic opportunities of this new model. Research shows UK manufacturing alone could save £100 billion by 2030 through circular practices.

# Methodology

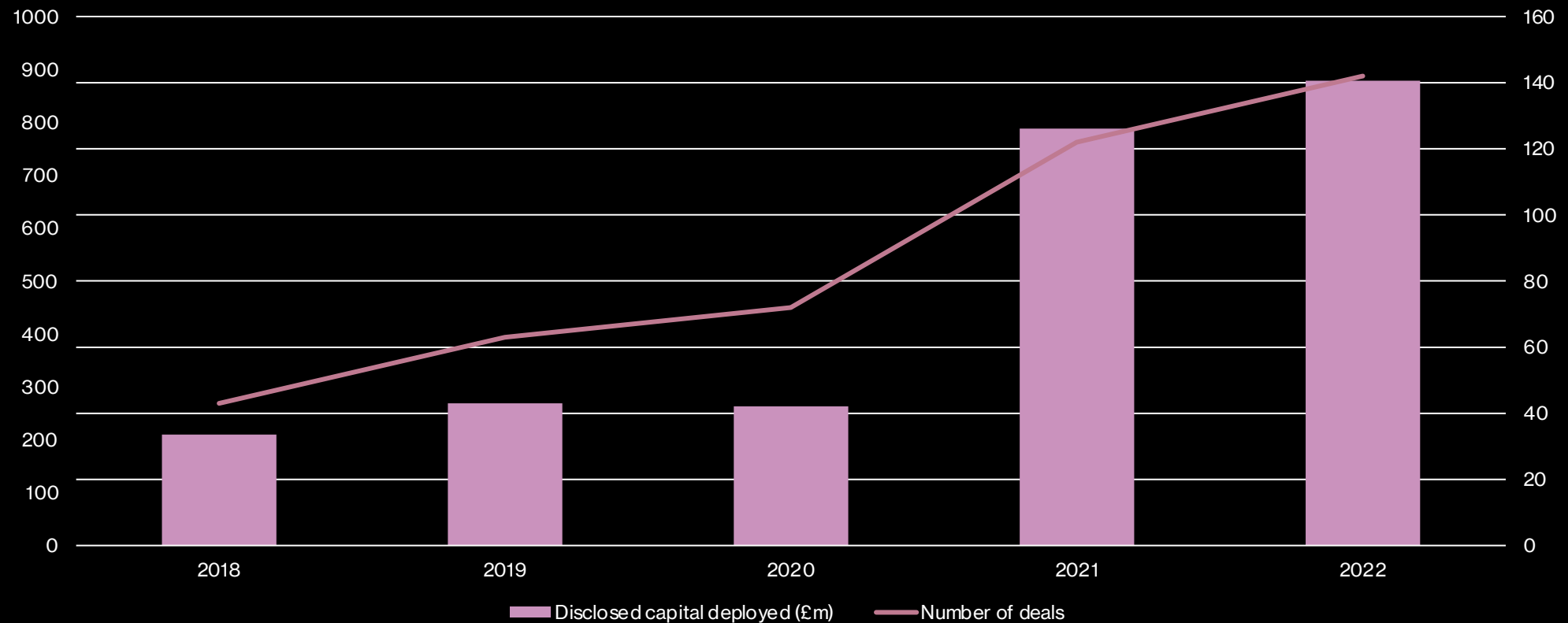
- Sample selection criteria: SMEs in the UK with < 250 employees and < £50M turnover, and clear evidence of circular business practices through multiple sources. 51 SMEs selected.
- Data collection: Relevant company information collected in Excel including name, location, description, sector, growth stage, etc. Additional research of strategies, impacts through company reports.
- Data analysis: Large language models used to analyse unstructured data and identify trends. In-depth case studies developed for 6 exemplary companies. Descriptive statistics analysed relationships between variables.
- Limitations: Results may not be generalizable to all UK SMEs as only publicly available information was collected. No longitudinal analysis conducted of company performance over time.

**QR code: Map of SMEs**

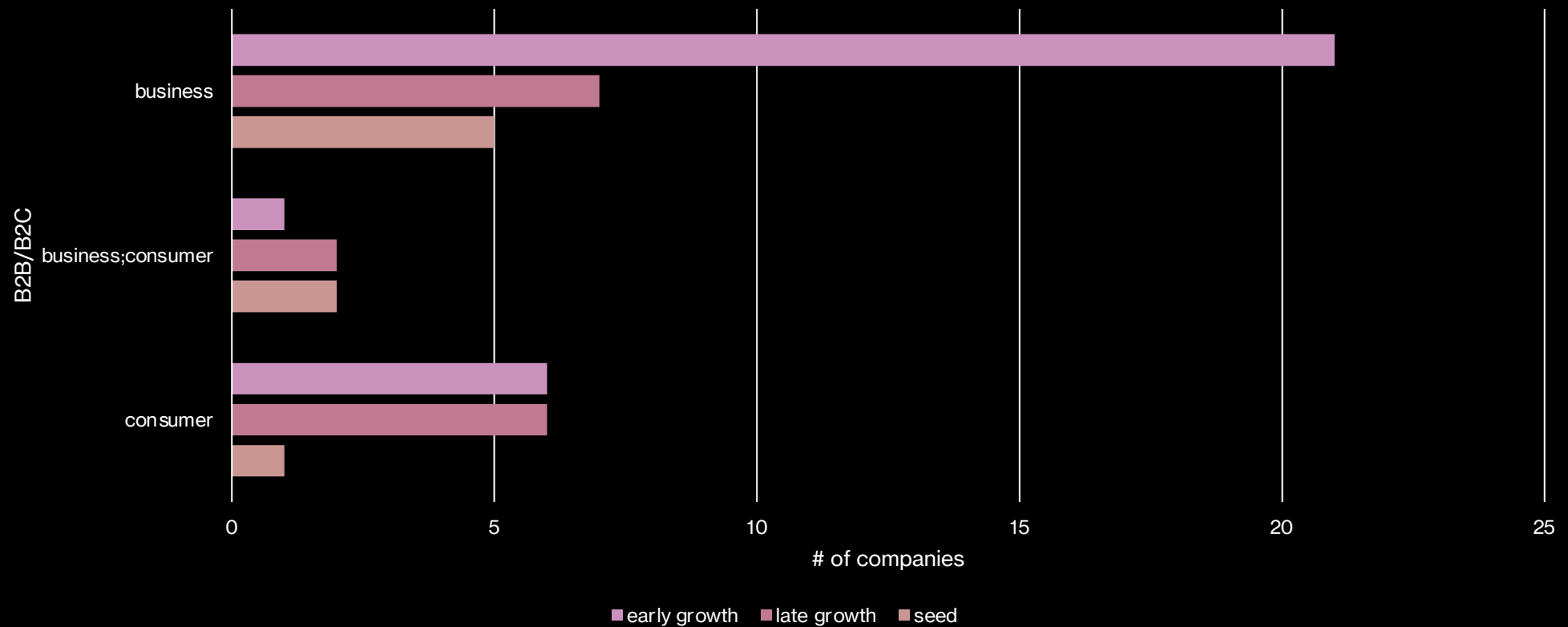


**SCAN ME**

**Figure 1:** Increase in investments in circular economy projects with an increasing number of deals over the past 5 years in the UK.



# Figure 3: More than half of early growth SMEs have chosen B2B strategy.



# Key Findings

- Top 3 sectors adopting circular models are energy, food, and textiles due to potential for large waste reductions in those industries.
- Majority (88%) of SMEs are based in England, with concentration in London (43%). Remainder in Scotland. Reflects access to resources and markets.
- Common revenue models are manufacturing (73% outside London due to costs) and prevalent sub-industries are waste solutions and upcycling.
- Case studies highlight exemplary circular models like Radiant Matter's upcycling of cellulose waste and Ocean Bottle's collection of ocean plastic for reuse.
- Capabilities enabling success include innovation, expertise in the circular economy, proprietary processes, and industry partnerships.
- B2B strategy is more prevalent than B2C for early growth SMEs, offering product-as-a-service approaches.
- Growing investments, number of SMEs, and wider geographic distribution over time indicates sector is gaining momentum in the UK.

# Case Study: Ocean Bottle

Ocean Bottle makes reusable water bottles from recycled ocean plastic partnering with social enterprises to collect and recycle ocean plastic.

- Reduce plastic pollution in oceans by collecting ocean plastic
- Reuse by producing reusable water bottles instead of single-use plastics
- Recycle ocean plastic into new water bottle products



# Success Factors

- Traceability of materials throughout full lifecycle from sourcing to end-of-use. Ensuring materials don't become waste and are reused or recycled efficiently.
- Strong recycling and reuse infrastructure to handle return of products and components for remanufacturing. Effective collection, sorting, and repair networks.
- Partnerships across value chain to enable closed-loop processes from design to consumption. Collaboration reduces costs and risks.
- Focus on fair labour practices to engage workforce and communities in circular activities like disassembly, refurbishment, material recovery. Social dimension builds sector legitimacy.

# Case Study: Circular



- Circular provides a blockchain-based digital platform to trace materials through supply chains, used by automakers to track cobalt batteries' sustainability.
- Their digital product passports include origin, suppliers, transportation of a product to reduce environmental impact and meet regulations.
- Challenges include educating companies on benefits and coordinating complex supplier networks, overcome through user-friendly platform.
- Real success example with BMW tracking cobalt sourcing from mines using Circular's technology, positioned for future growth expanding into new industries.

# Trends and the Future of Circular Economy

- Growing investments in CE startups, with increasing number of deals and cumulative funding over the past 5 years indicating rapid sector growth.
- Advancements in digital technologies like AI, IoT and blockchain playing a pivotal role in optimizing circular design, business models, infrastructure and logistics networks.
- AI in particular enhancing areas like automated recycling sorting, predictive maintenance to extend product lives, and circular-aligned farming and food systems.
- Future opportunities lie in expanding CE platforms to new industries, continuously innovating features to help companies better track sustainability impacts and achieve goals through digital solutions.

# Conclusion

- UK SMEs are making strides in adopting circular business models, concentrated in high-waste sectors, with examples demonstrating commercial and environmental benefits.
- If policy and investment continue supporting circular innovation, technologies like AI accelerating data-driven solutions, the circular economy transition shows strong potential to realize meaningful resource and cost savings while stimulating sustainable economic activity.

**Thank you!**

