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United Kingdom Atlas

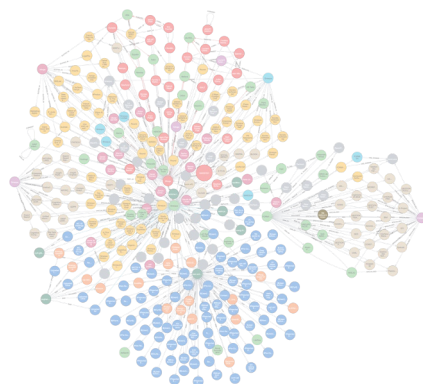
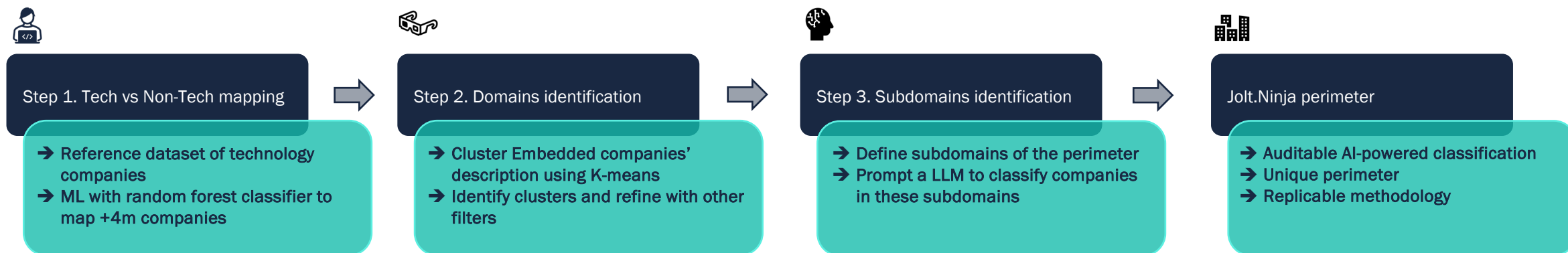
By Jolt.Ninja



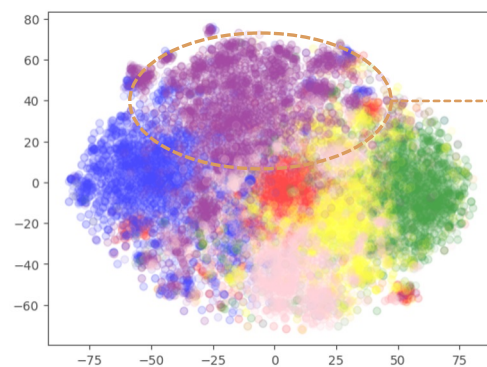
Methodology

Jolt.Ninja AI-powered classification : A unique Perimeter

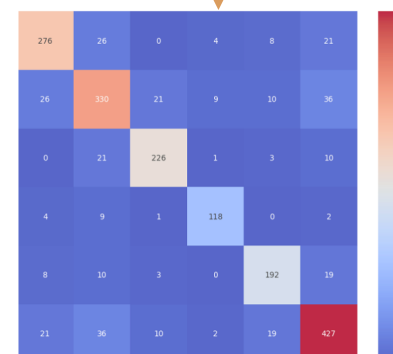
Jolt.Ninja AI-powered search and classification methodology is based on textual data from companies (business descriptions, patents, website, etc.) and can be applied in any language



Jolt.Ninja database : +4m companies
(web scrapping, dealroom, pitchbook, capital IQ, LinkedIn, etc...)



Cluster identified with K-means
(visualized in language 2d using t-SNE)



Co-occurrence matrix of subdomains

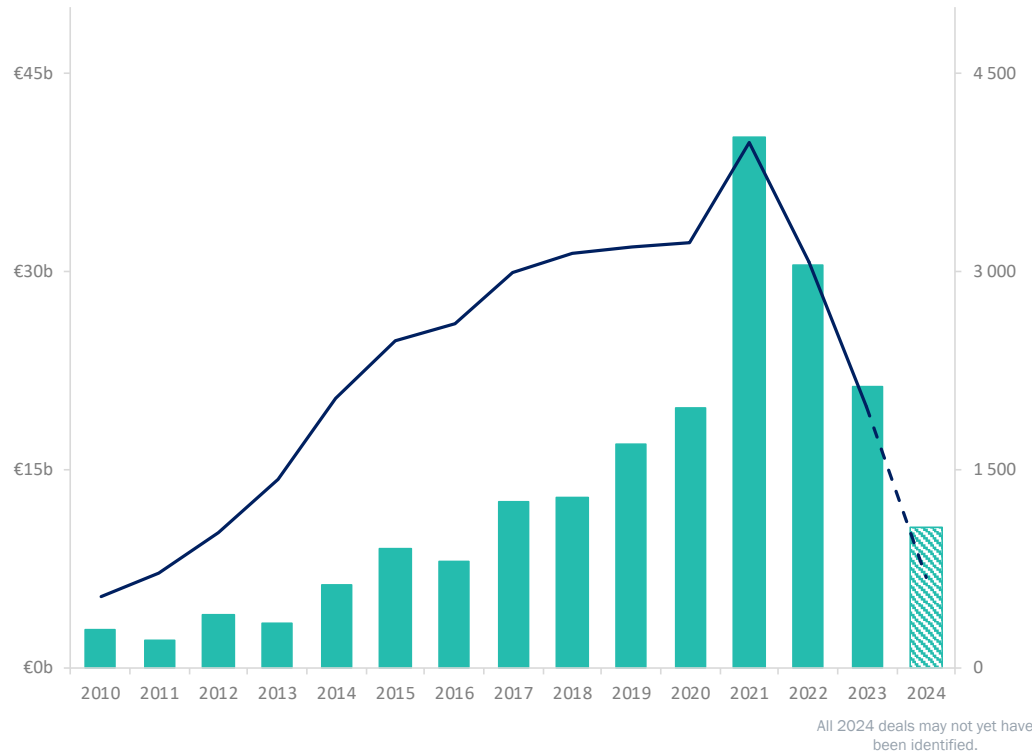


United Kingdom

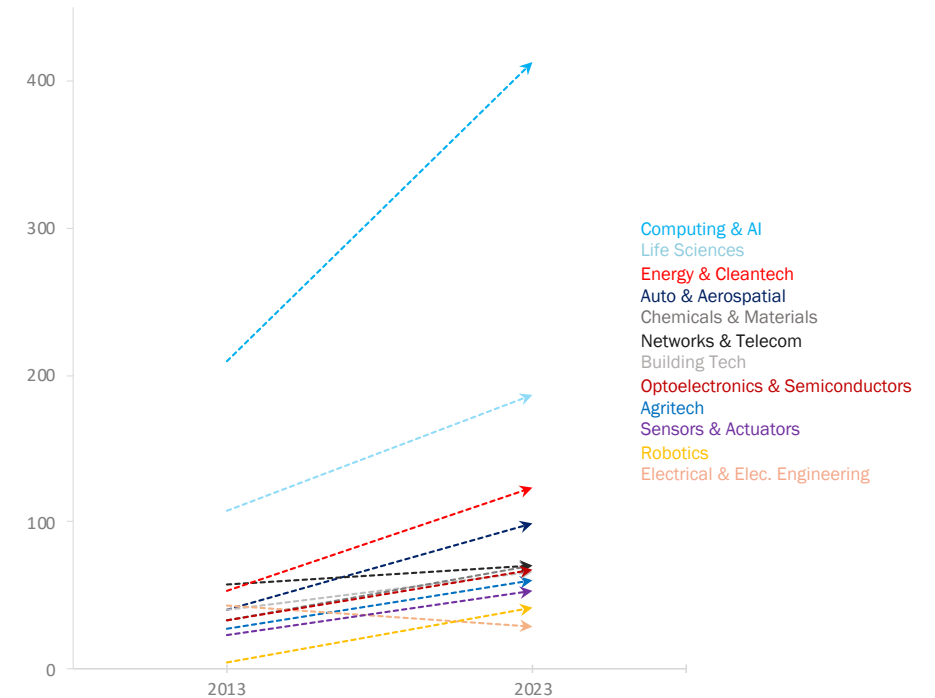
Investment Universe

Investment Rounds in the United Kingdom

VC/Growth Investment Rounds in UK companies accross sectors...
€b raised (green) and # deals (dark blue)

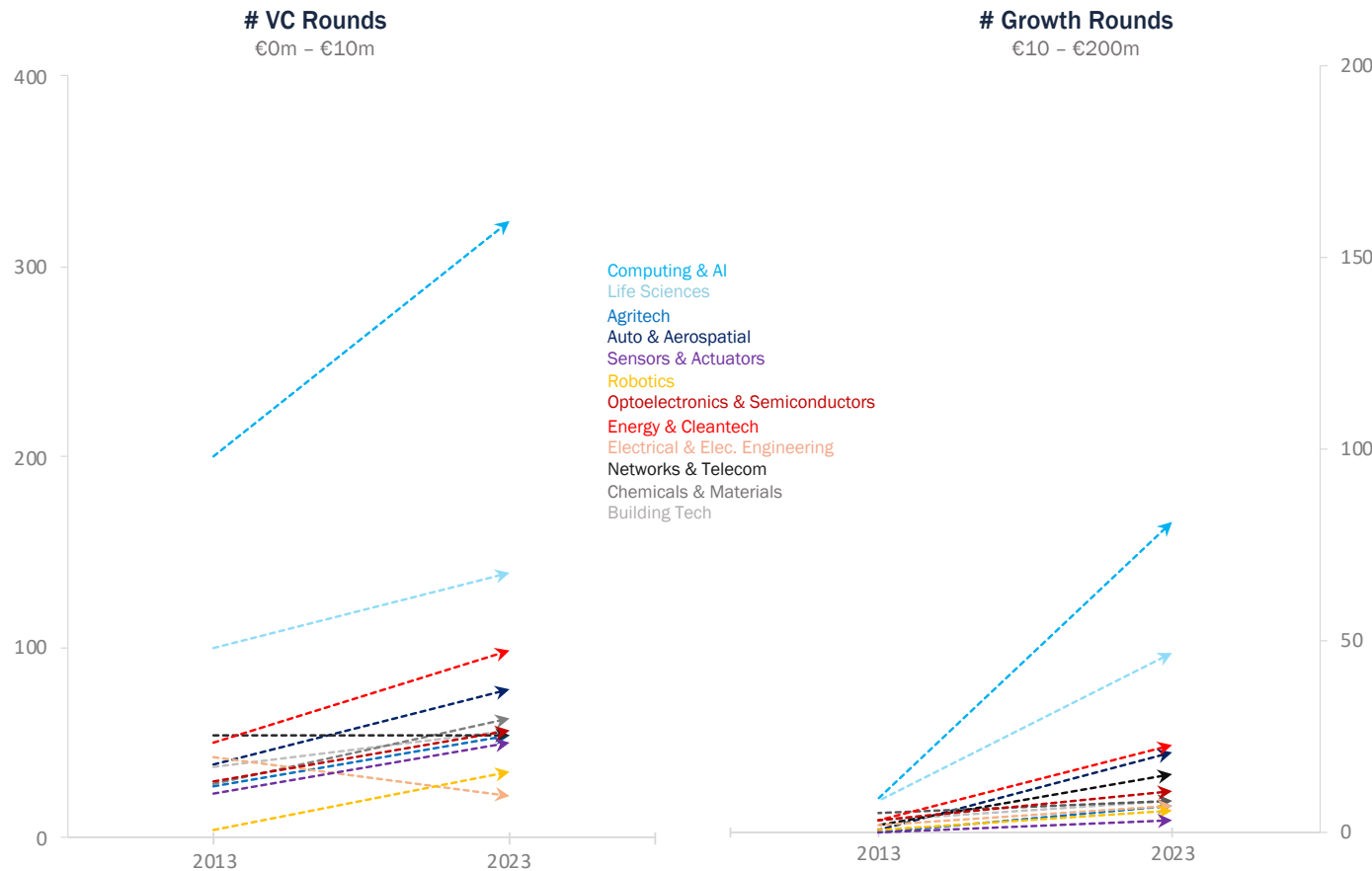


...# Rounds by sector exposure (Deeptech Space)



- Over the past 10 years, more than €180b of accumulative capital has been invested in UK companies (only equity – excl. exits) across sectors for approx. +27k deals.
- Within this investment universe the Deeptech space accounts for approx. [50]% as shown on the right chart.
- We estimate the sector exposure of these investments using the Jolt.Ninja AI-powered search and classification methodology.

Investment Rounds in the UK Deeptech Sector



- While the share of UK growth rounds was very low prior to 2021 (<8% on average), it is around **14%** of the number of deals in 2023.
- In term of sector exposure :
 - **Computing & AI and Life Science** represents the highest number of growth deals (463 deals in 2023).
 - **Electrical and Electronic Engineering or Sensors and Actuators** experienced slower growth (even a decline for the first one mentioned for VC rounds).

Takeaway 1 :

Computing & AI companies attracts the highest share of deals in both VC and growth rounds (around 16% of the total number of deals).

Examples of Deeptech Companies by Sector

Cleantech & Energy



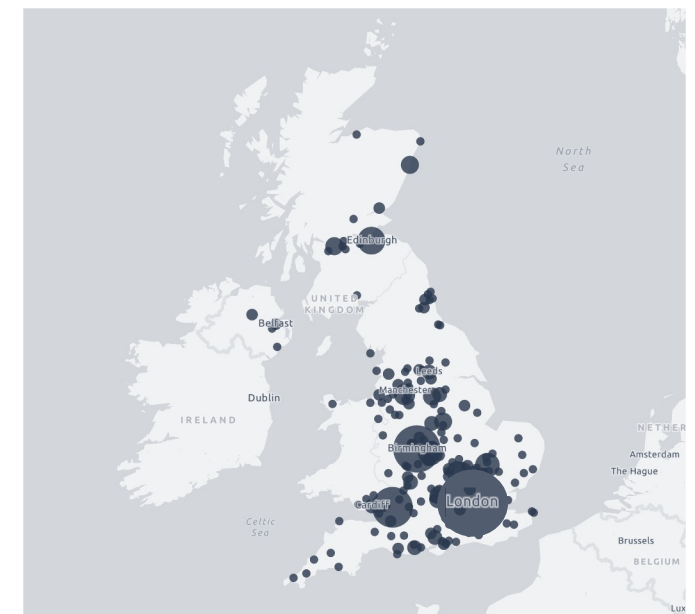
Founded in 2006, Aeristech is a manufacturer of automotive components designed for high-speed electric motors used to compress air for Hydrogen fuel cells, internal combustion engines, and other industrial applications.

AI & Computing



Founded in 2015, Luminance is a developer of AI technology designed for the legal processing of contracts and documents. The company platform uses and develops algorithms from a range of ML areas, including NLP, transformers, etc.

Auto & Aerospace



Founded in 2013, All.Space is a developer of smart terminal technology designed to improve enterprise mobility across land, sea and air from the operational capability to the passenger experience.

Examples of Deeptech Companies by Sector

Life Science



healx

Founded in 2014, Healx is an AI-powered, patient-inspired tech company intended to accelerate the discovery and development of treatments for rare diseases.

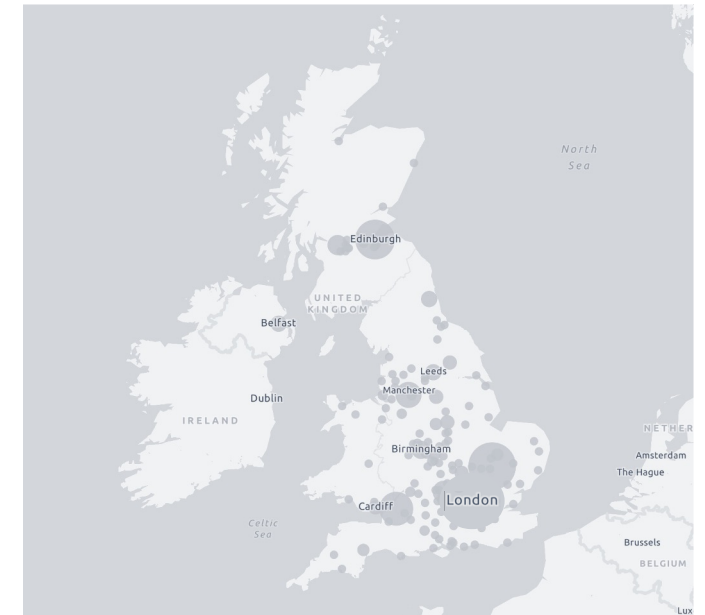
Optoelectronics & Semiconductors



XMOS®

Founded in 2005, XMOS is a semiconductor company and developer of speech interface technology that enables voice-enabled services for a wide range of applications and consumer devices.

Sensors & Actuators

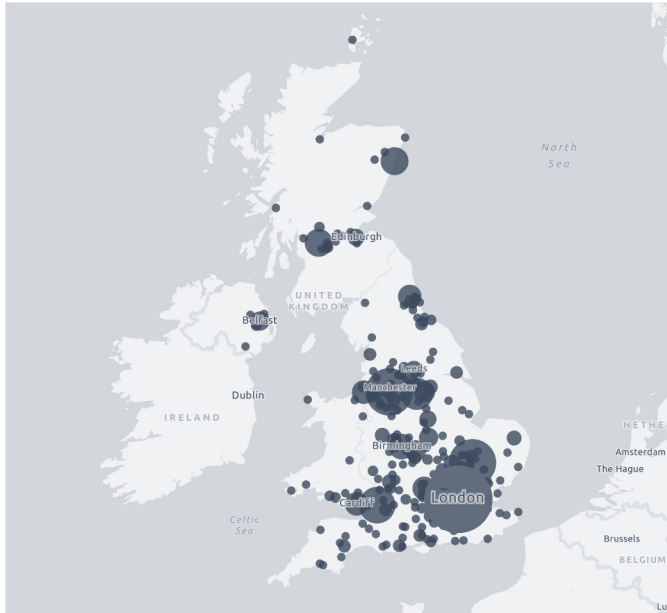


PYREOS

Founded in 2007, Pyreos is a developer of infrared sensor components designed to cater to the needs of industrial analysis, medical diagnostics, and consumer mobile applications.

Examples of Deeptech Companies by Sector

Chemicals & Materials



Founded in 2004, P2i is a developer of nano-technology based coatings intended for electronics and medical industries.

Networks & Telecom.



Founded in 2016, AccelerComm is a manufacturer of semiconductor IP-core products intended to provide patent-pending channel coding solutions for communication standards.

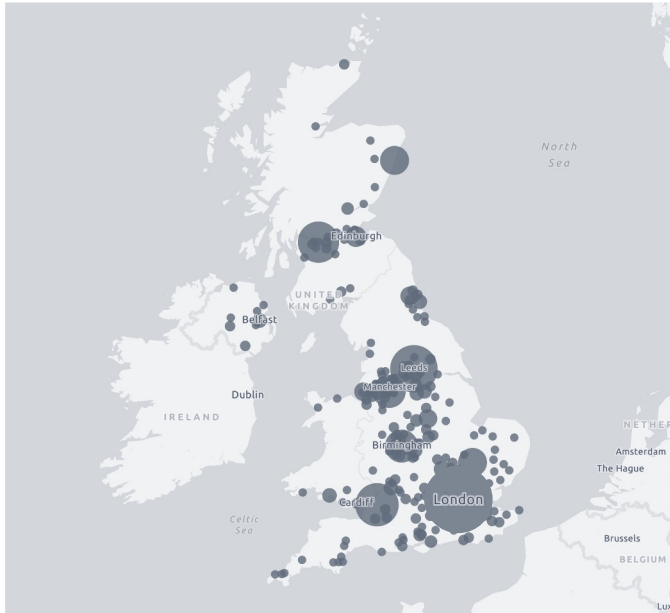
Electric. & Electronic Engineering



Founded in 1995, Cambridge Mechatronics is an operator of a multidisciplinary engineering company intended to leverage materials to design and develop miniature motors, also known as actuators, for use across a variety of applications.

Examples of Deeptech Companies by Sector

Building & Construction



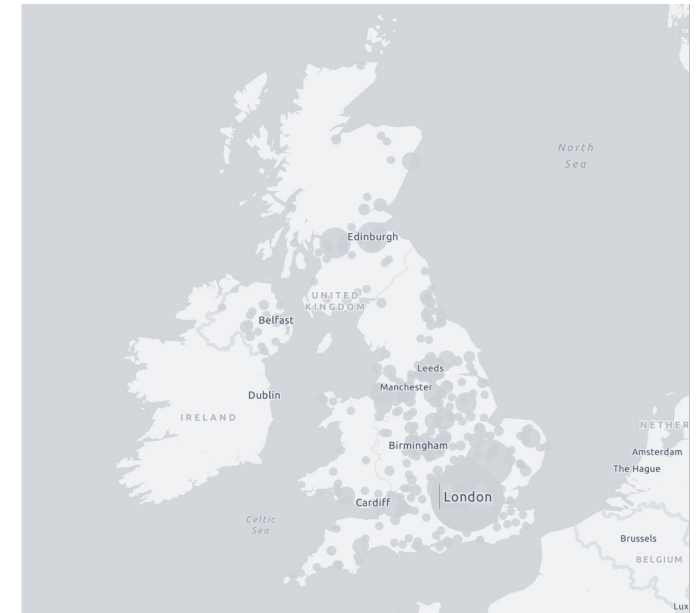
Founded in 1999, Causeway Technologies is a developer of enterprise software designed to help transform the commercial performance of the construction industry.

Robotics



Founded in 2014, Open Bionics is a developer of 3D-printed robotic limbs designed to help under-elbow amputees regain mobility.

AgriTech



Founded in 2015, Arborea is a developer of an organic farming system that offers a bio-solar leaf that grows microscopic plants to produce healthy food ingredients and sequester carbon dioxide.

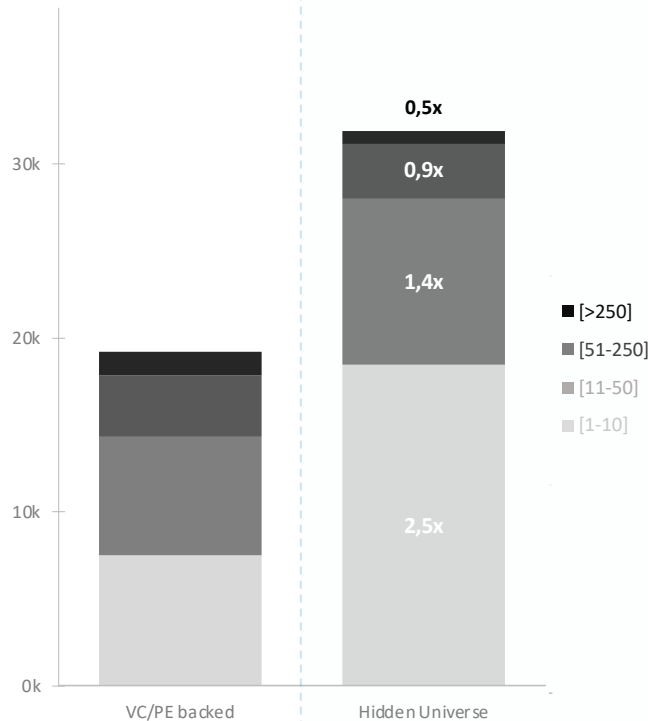
Hidden Universe

Hidden Universe* in the United Kingdom

→ *Hidden Universe refers to companies that have not raised (or disclosed) funds from a VC/PE investor since 2000.

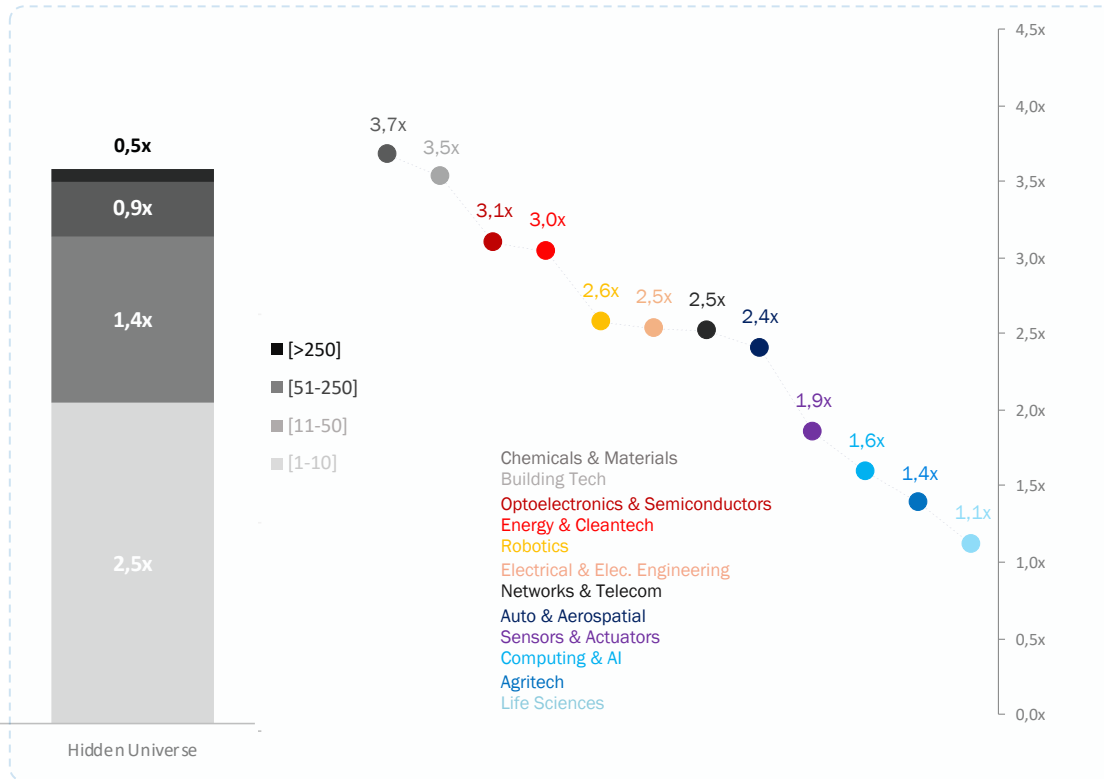
VC/PE backed companies vs Hidden Universe...

Multiple = # Hidden Companies / VC/PE backed companies



...Multiple by Sector Exposure (Deeptech Space)

Multiple = # Hidden Companies / VC/PE backed companies



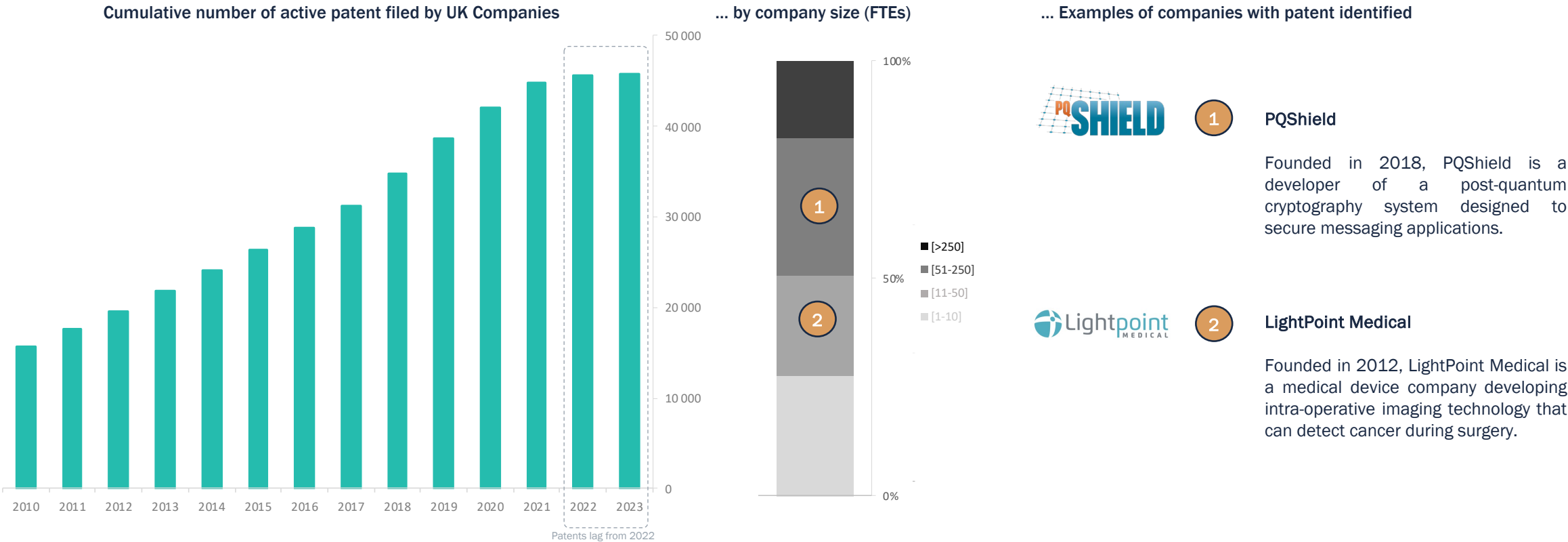
- When Jolt.Ninja distinguished between **VC/PE backed companies** (the funded ones) vs the **Hidden Universe**, it showed that:
 - The **Hidden Universe** represents a stock of more than 30k companies ;
 - Among them, **10%** reach a medium business sized [51-250].
- In term of sector exposure :
 - Among UK companies, **Life Sciences, Computing & AI and Agritech** have the lowest ratio of Hidden companies.
- For Hidden companies financing may come from non-dilutive sources (grants, public support, etc.), through a bespoke business structure or from customers (dual business model, upfront/down payments, etc.) or undisclosed fundings (e.g. family office, corporate stake, etc.)

Takeaway 2 :

There is significant untapped potential in UK Deeptech space and a growth funding gap to be filled. In fact, 60% of the companies identified have not received equity funding (or not disclosed - at least since 2000).

Intellectual Property

United Kingdom Intellectual Property



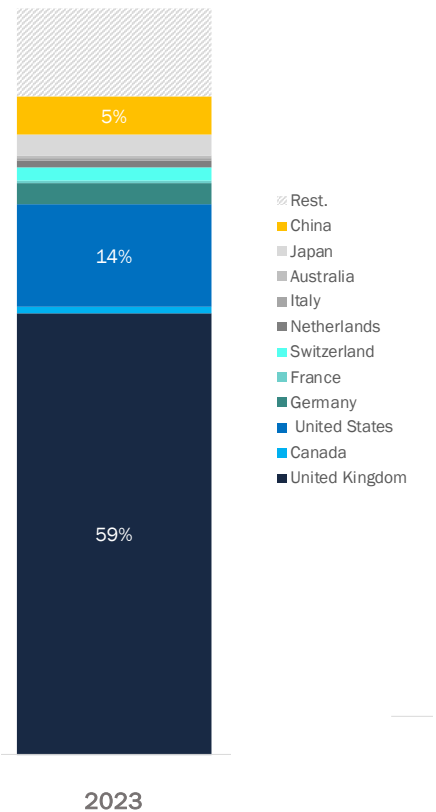
- There are roughly **+45k active patents filed by UK companies**. Active patents are granted patents that are not in the public domain a priori.

Takeaway 3 :
UK small and medium-sized ([11-250] FTEs) develop a high proportion of intellectual property, filling +50% of the active patents.

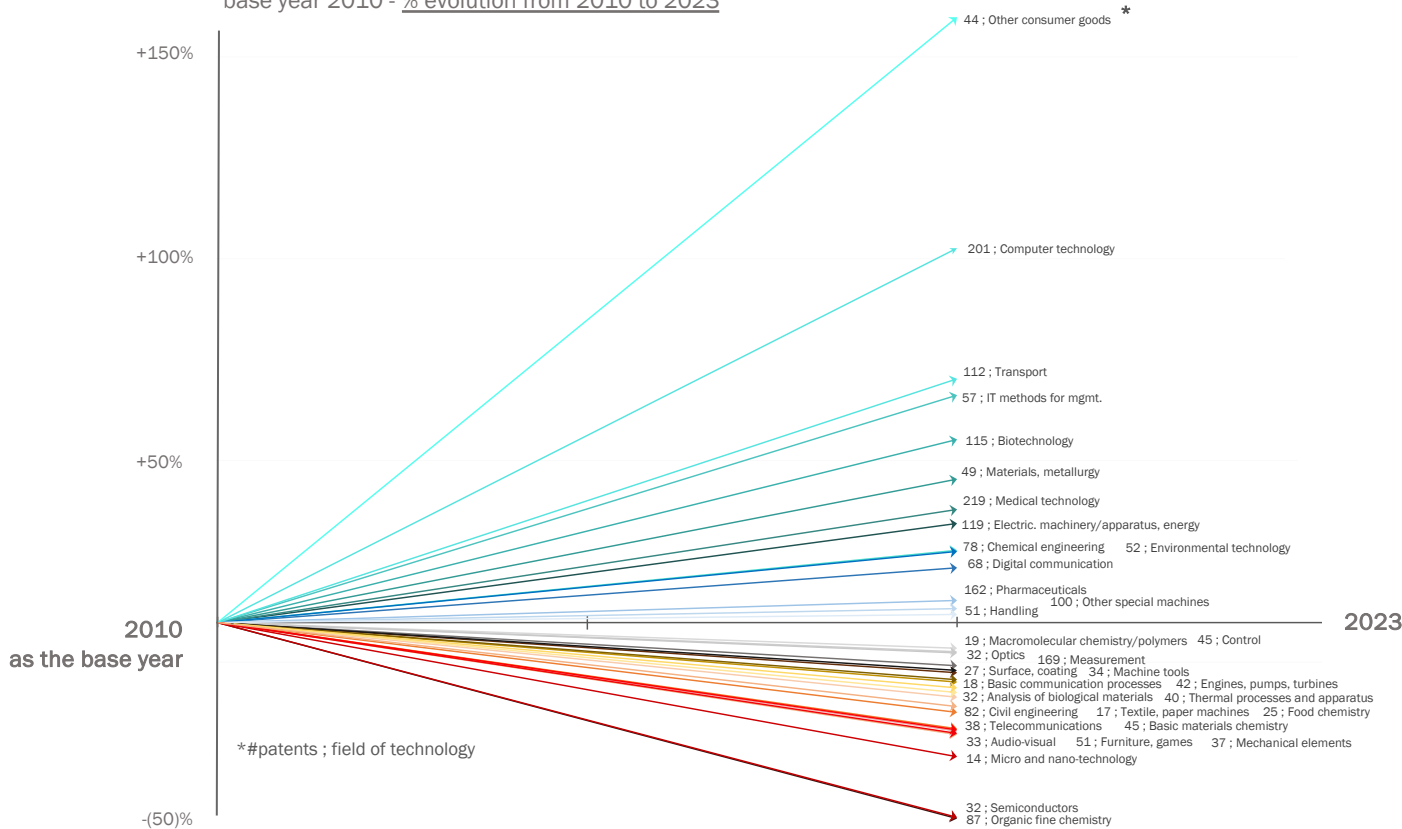
United Kingdom Intellectual Property

PCT patents are "international" patents, which make it possible to seek patent protection for an invention in a large number of countries (>100) at the same time

Patent Applications in the UK
by applicant origin



PCT Patent Applications by Technologies
base year 2010 - % evolution from 2010 to 2023



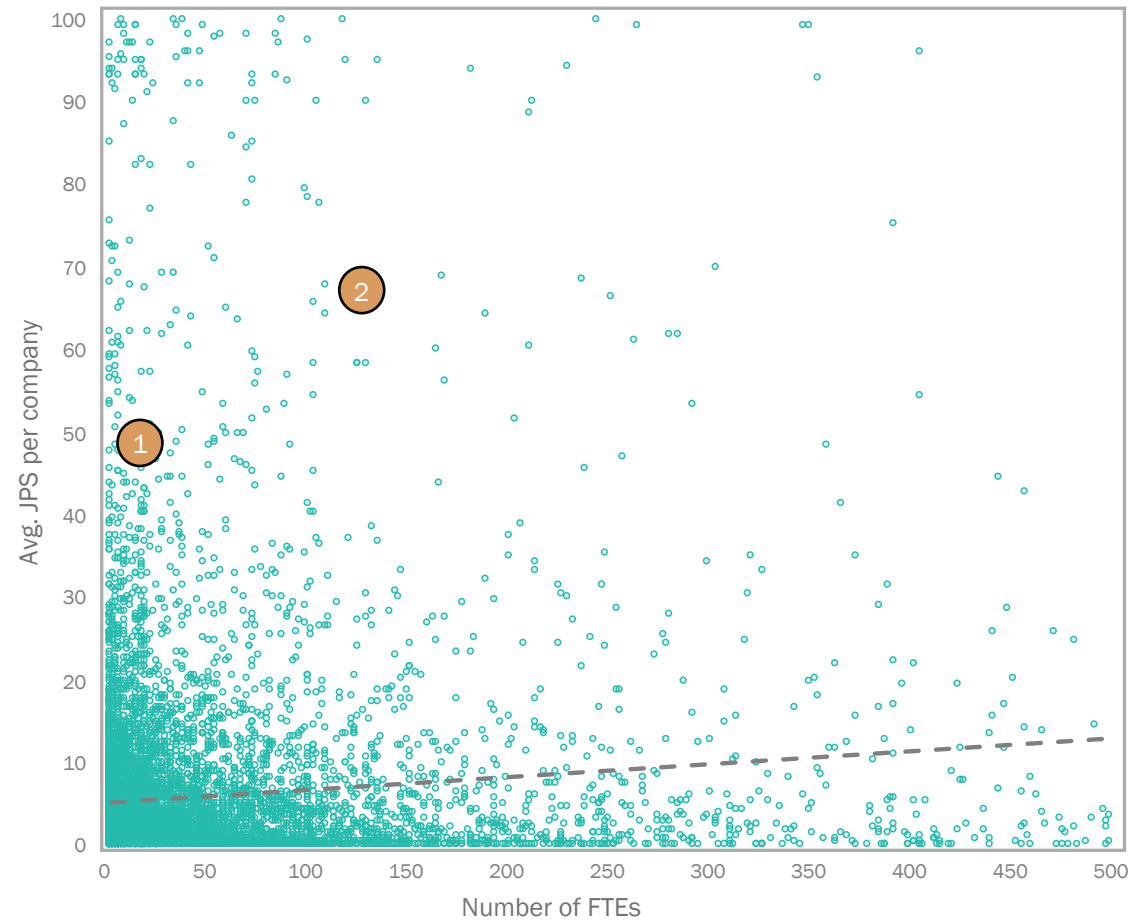
Takeaway 4 :

UK innovation ecosystem slows down in key strategic technologies such as semiconductors, nanotechnology and chemicals.

Jolt Patent Ranking of UK Companies with IP

→ The Jolt Patent Score is based on information contained in patent documents. It is a combination of territorial coverage, life expectancy, patent quality and innovation.

JPS Analysis of United Kingdom Companies with IP



Jolt
Patent Score

JPS

Monopoly
Power

MP

Patent
Power

PP

=

x

The **Monopoly Size** is based on the territorial coverage, life expectancy, and freshness of the patent.

The **Patent Power** is based patent on the quality and innovation of the patent

... Examples of companies with a JPS score > 0

1

((xihelm)

Founded in 2016, Xihelm is using deep learning, computer vision and artificial intelligence to develop an automated robot for the agricultural industry.

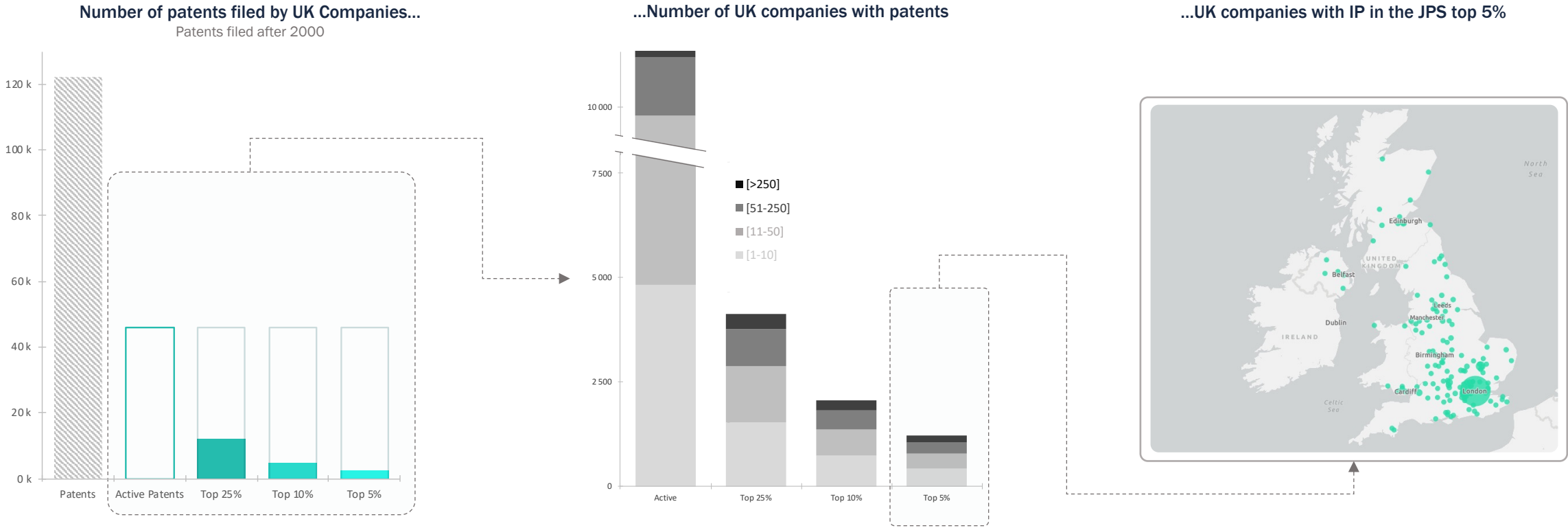
2

ALL.SPACE

Founded in 2013, All.Space is a developer of smart terminal technology designed to improve enterprise mobility across land, sea and air from the operational capability to the passenger experience.

Jolt Patent Ranking of UK Companies with IP

→ The Jolt Patent Score is based on information contained in patent documents. It is a combination of territorial coverage, life expectancy, patent quality and innovation.



Takeaway 5 :

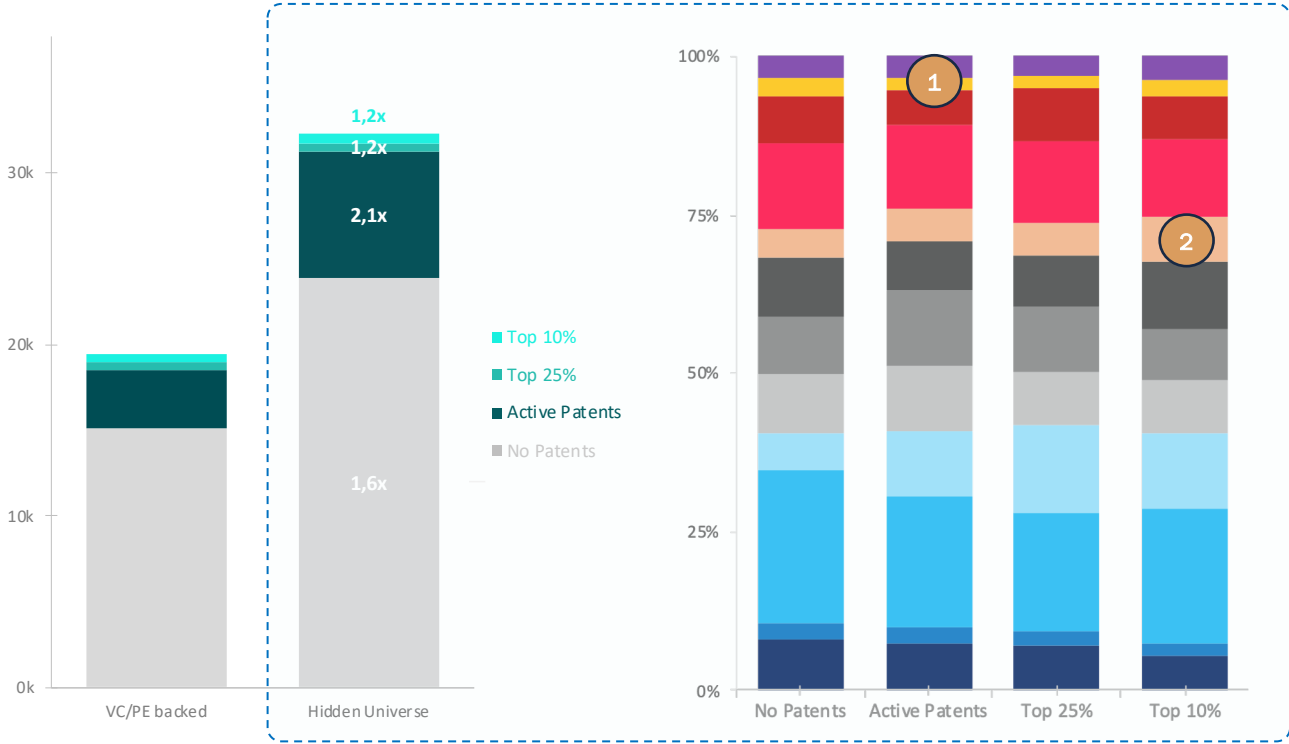
UK small and medium-sized companies ([11-250] FTEs) represent an increasing share of companies with IP and of high-quality IP.

Jolt Patent Ranking of UK Companies with IP

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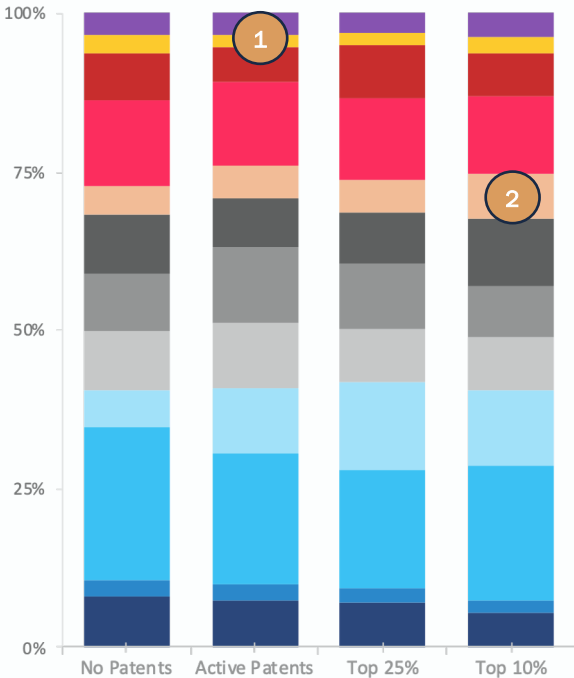
VC/PE backed companies vs Hidden Universe...

Multiple = # Hidden Companies/ VC/PE backed companies



...Sector Exposure of the Hidden Universe

based on IP portfolio



... Examples of companies



1

Bee Robotics

Founded in 1999, Bee Robotics is a manufacturer of handling robotic solutions intended for laboratory automation in the biotech industry.



2

Meridian Audio

Founded in 1977, Meridian Audio designs, engineers, and manufactures audio and video systems.

Takeaway 6 :

Strong IP has been found in both VC/PE backed companies and in the Hidden Universe.



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