



# Scottish Deep Tech Report 2026

May 2026

# The Scottish Deep Tech Story

When heavy industry declined in the 1960s, Scottish development agencies made a deliberate bet on electronics. Over the following decades, “Silicon Glen” grew into a significant hub for semiconductor manufacturing and electronics assembly. At its peak in the mid-1990s, Scotland produced over a third of Europe's PCs and employed 55,000 people in the sector. The 2000 downturn hit manufacturing hard, and much of that work moved offshore. But something important remained: a technical workforce, an engineering culture oriented around precision manufacturing, and research capabilities that had developed alongside industry. Today's strengths in photonics, quantum technologies, and semiconductors trace directly to that era.

That same period saw parallel development in other fields. Scotland's life sciences sector grew around its strong medical schools and NHS infrastructure, while the space sector emerged from a combination of geography, satellite data expertise, and engineering capabilities. These different threads have produced a distinctive profile and a strong foundation for so-called Deep Tech – that is, technology which is based on tangible engineering innovation or scientific advances and discoveries applied for the first time as a product, often aiming to solve society's biggest issues.

Today, nearly sixty percent of venture capital invested in Scotland goes to deep tech – a concentration second only to Switzerland among comparable economies. There is genuine depth across multiple sectors, a healthy early-stage pipeline, and a committed base of domestic investors and funding schemes. However, challenges remain in translating these strengths into scaled outcomes. Per capita deep tech investment still lags global leaders significantly. Operationally, companies often struggle to access the laboratory space and manufacturing infrastructure needed to move from prototype to production. And as ventures mature, many must look beyond Scotland for growth-stage capital and commercial expertise suitable for technically sophisticated ventures that are oftentimes based on complex scientific discoveries.

These challenges are recognised, and meaningful work is underway: The Critical Technologies Supercluster is building coordination across Scotland's photonics, quantum, and semiconductor strengths. The Deep Tech Supercluster programme is developing manufacturing pathways for hardware ventures to move from prototype to large-scale production. Initiatives and organisations like Techscaler, the National Robotarium, and the Scottish National Investment Bank are each strengthening important parts of the ecosystem, and the policy environment is increasingly aligned around Deep Tech as a national priority. In this report, we capture the state-of-play in Scottish Deep Tech, highlighting its many strengths while pointing out important opportunities for growth.

To ensure we play our part in actualizing Deep Tech's potential, we as a University have established the Deep Tech Innovation Centre at the Adam Smith Business School. Our goal is to contribute through research into how the operational and strategic challenges hindering Scottish Deep Tech from realising its full potential might be addressed – including through the exploration of alternative approaches to funding, ownership, governance, and pathways to market. Alongside this, we are developing targeted education programmes – integrating cutting-edge commercial expertise and sector-specific technical foundations – to empower the next generation of Deep Tech leaders. We see this as one piece of Scotland's broader Deep Tech infrastructure. The pages that follow present the evidence base that informs our approach.



**Dominic Chalmers**  
Professor of Entrepreneurship  
and Innovation



**Jillian Gordon**  
Professor of  
Entrepreneurship



**Felix Honecker**  
Lecturer  
in Management



**Gemma Milne**  
Lecturer in Technology and  
Innovation Management

# 1 Introduction

2 The Scottish Deep Tech Ecosystem

3 Sector Deep Dives

4 Recommendations

# What you need to know.

## Scottish VC- backed deep tech startups are now worth a combined \$7.9B

Startups founded since 2015 have experienced the most significant growth. Worth a combined \$5.5B, they have grown 97x in the last decade.

Deep tech is still relatively underfunded with ~75% of startups receiving less than \$15M in funding.

## Deep tech funding makes up 57% of all Scottish venture capital flow

Venture capital investment has grown 7.8x in the last 10 years to reach the third highest year for Deep tech funding ever with \$323M in 2025.

Between 2020 and 2025, 6 out of every 10 venture dollars invested in Scotland went to Deep Tech startups, well above the European average of 32% and similar sized ecosystems like Sweden.

## Biotech, Pharma and AI - Scotland's leading deep tech sectors

Scotland's deep tech pipeline is heavily concentrated at the early stage, particularly in Biotech and AI, highlighting a strong research-driven pipeline.

AI is becoming an increasingly important driver of deep tech activity. AI startups have raised \$216M since 2020, and AI now represents 21% of deep tech VC investment in 2025. A

## Deep tech spinouts contribute 56% of total ecosystem value

University spinouts are a cornerstone of Scotland's deep tech ecosystem. More than 80 university spinouts account for 43% of all VC-backed deep tech startups in Scotland.

Scottish universities rank strongly in the UK and Europe for deep tech entrepreneurship, highlighting Scotland's strong academic foundation for innovation.

# Five Priorities for Scotland's Deep Tech Ecosystem

## 1 Develop deep tech leaders specifically built for scale

Scotland needs structured team formation programmes, sector-specific commercial talent pipelines, and postgraduate and executive education designed for the scale-up phase, equipping not just founders but the operational and commercial leaders that deep tech ventures need to grow.

## 2 Build commercial and technical literacy across the full value chain

Skills investment should extend beyond the innovator to every actor deep tech ventures depend on — investors, procurement officers, supply chain partners, and regulators — so that the wider ecosystem can engage with and support deep tech companies as they scale.

## 3 Fix the infrastructure access problem

Scotland's deep tech facilities are underutilised not because companies cannot find them but because pricing, design, and governance models do not serve the companies that need them. Operating models need to change as much as investment levels do.

## 4 Make Scotland a first customer for its own innovations

Scotland's public sector procurement power should be directed toward creating first-customer pathways for domestic deep tech companies: anchoring innovations at home before they follow investment elsewhere.

## 5 Develop a distinctively Scottish understanding of deep tech innovation futures

Scotland needs sustained social science research into how deep tech actually functions here – from the institutions and financing structures; to the organisational models, and governance arrangements that shape it – so that future ecosystem interventions can be designed from Scottish conditions rather than imported from contexts that don't apply.

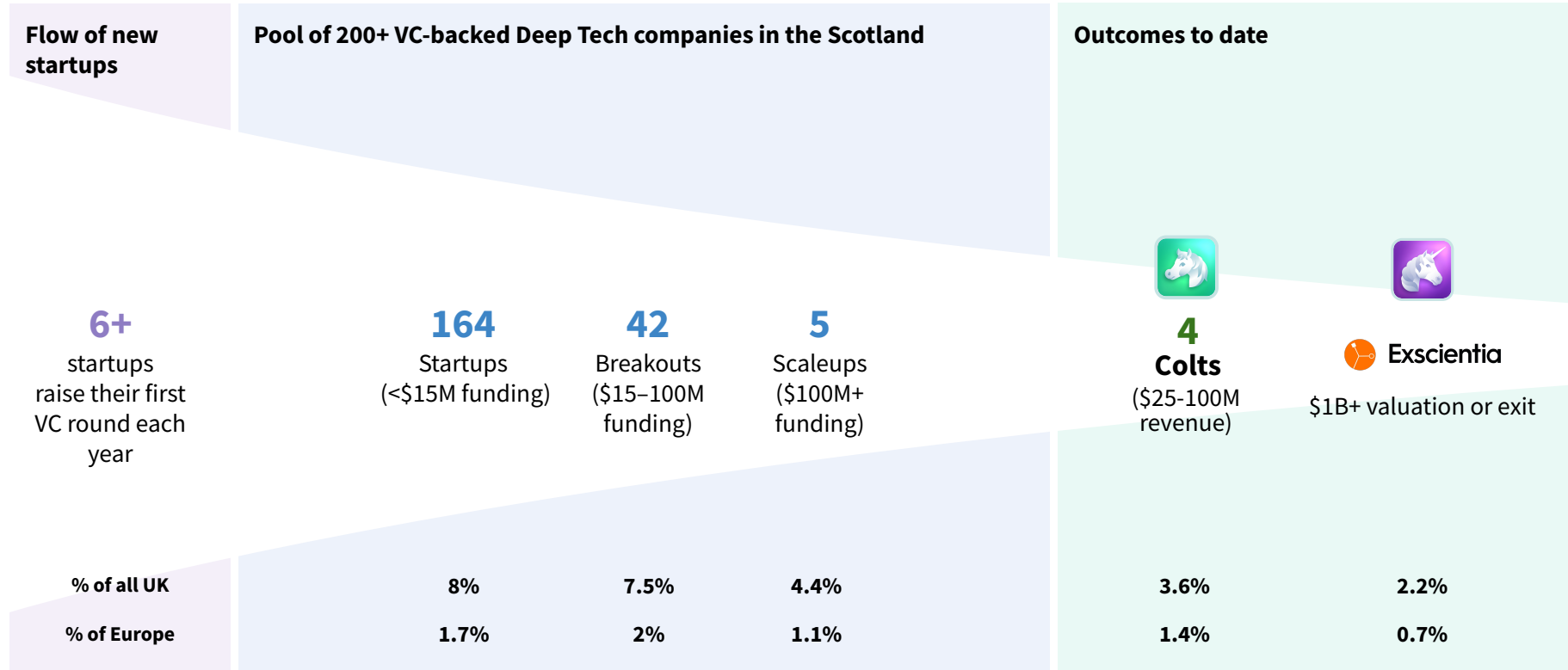
1 Introduction

## 2 **The Scottish Deep Tech Ecosystem**

3 Sector Deep Dives

4 Recommendations

# The Deep Tech startup funnel in Scotland is highly concentrated at early stages



**Scotland's deep tech funnel is heavily tilted toward the early stages, with over 200 startups and breakouts but just 5 scaleups. At the top end, 4 colts and a unicorn in Exscientia represent solid outcomes for an ecosystem of Scotland's size, but the middle of the funnel is conspicuously thin.**

Stakeholders across the ecosystem point to two interconnected challenges behind this tilt. First, companies tend to plateau at 20–30 employees before either being acquired — typically by foreign buyers — or stalling entirely, leaving a pronounced gap between micro-enterprises and large multinationals. Second, the founders best placed to develop breakthrough technologies are not always best placed to scale the businesses built around them.

Scientific and engineering talent is widely recognised as abundant, but commercial leadership capable of navigating the transition from lab to market to scale is commonly cited as scarce. Building pathways to domestic scale and embedding commercial capability earlier are seen as critical to converting Scotland's strong research pipeline into lasting economic value.

“

*We have this strange demographic of companies; lots of micro or small SME enterprises at one end, then a small number of large multinational, anchor companies at the other, all foreign owned. There's really nothing in the middle.”*



**Alastair  
McInroy**  
CEO

technology  
SCOTLAND

“

*In science and engineering, we have individuals with an entrepreneurial mindset, but generally they're not the best people to be the CEO. My students say 'I do not want to spin out because I don't know anything about business.' In truth there should be someone else who is able to fill that spot.”*



**Mark Symes**  
Professor of  
Electrochemistry,  
Programme Director, ARIA

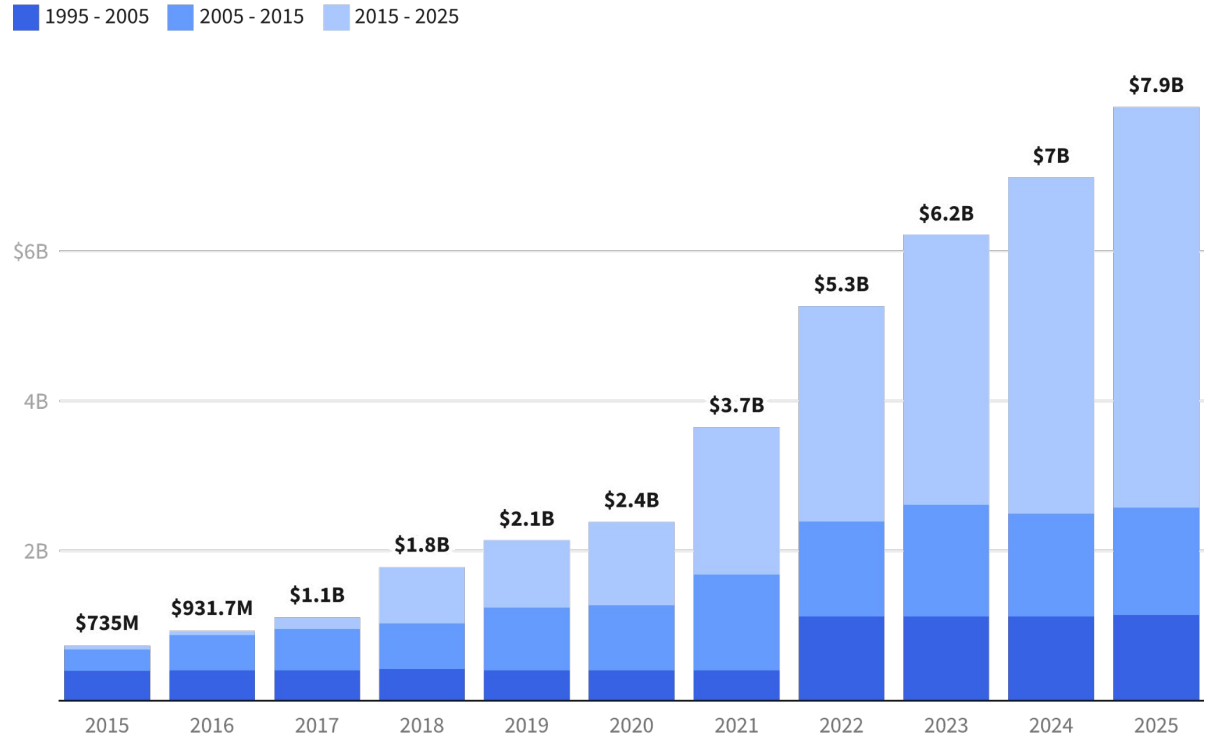
University  
of Glasgow

# Private Scottish Deep Tech startups are now worth nearly \$8B, up 10.7x in a decade

Scottish Deep Tech makes up 5.4% of all UK Deep tech.

When acquired and publicly listed companies are added, Scottish Deep Tech ventures have generated \$10B in enterprise value.

Combined enterprise value of privately-held Scottish Deep Tech VC-backed startups  
[» view online](#)



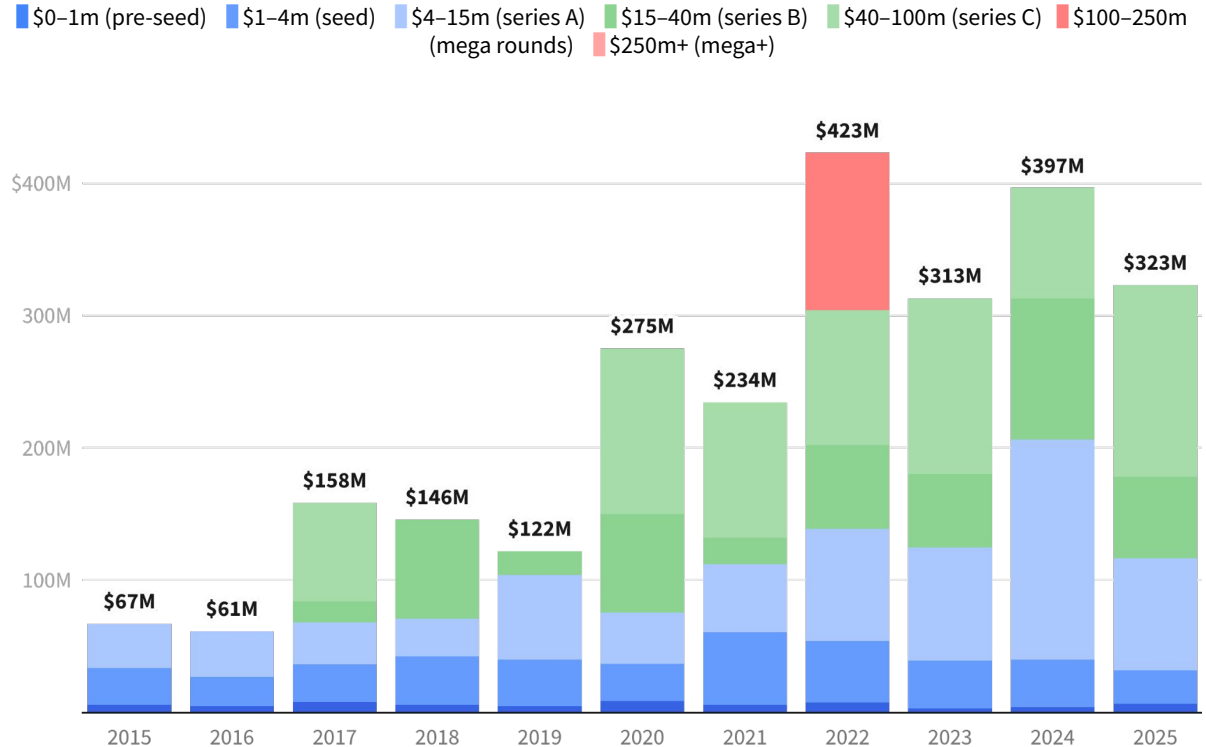
Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom

# Deep Tech funding in Scotland has grown 5x in the last decade

2025 was the third most active year for Deep Tech funding in Scotland with \$323M.

2022 saw the largest round raised to date with a \$119M Late VC mega round raised by TauRx Pharmaceuticals.

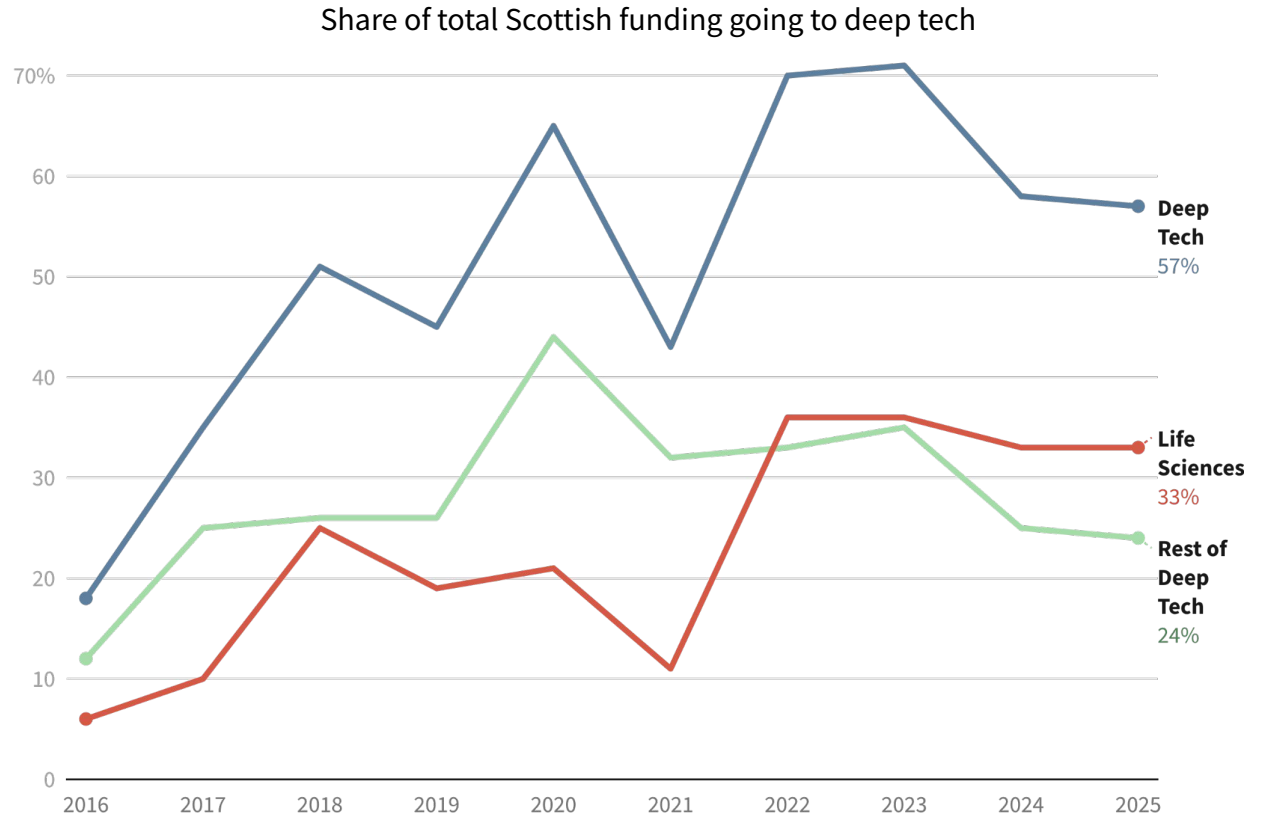
Scotland deep tech VC funding by stage » [view online](#)



Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom

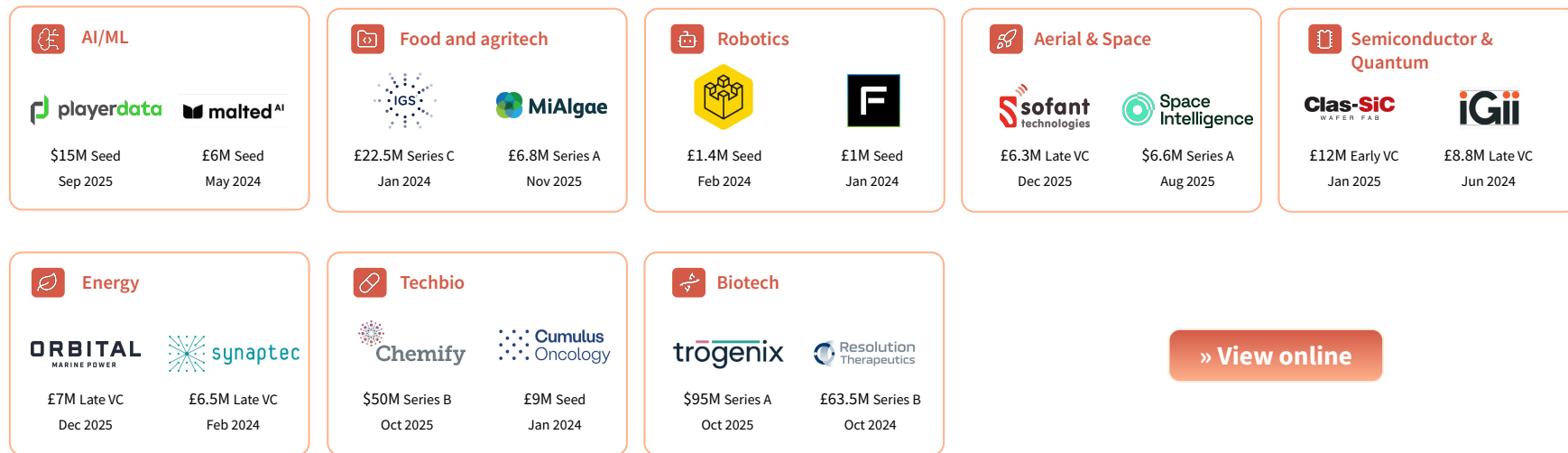
**Deep Tech now accounts for the majority of Scottish funding, reaching 57% of the total in 2025.**

**Life Sciences alone made up one third of Scotland funding in 2025.**



Source: Dealroom.co This chart separates Life Sciences from the Rest of Deep Tech to reflect its unique regulatory and investment pathways. In the broader definition used throughout the report, Life Sciences is included within the Deep Tech category and within the overall total shown. Rest of Deep Tech refers to all remaining Deep Tech segments.

# The Scottish ecosystem has seen notable VC rounds across all Deep Tech segments in 2024-2025

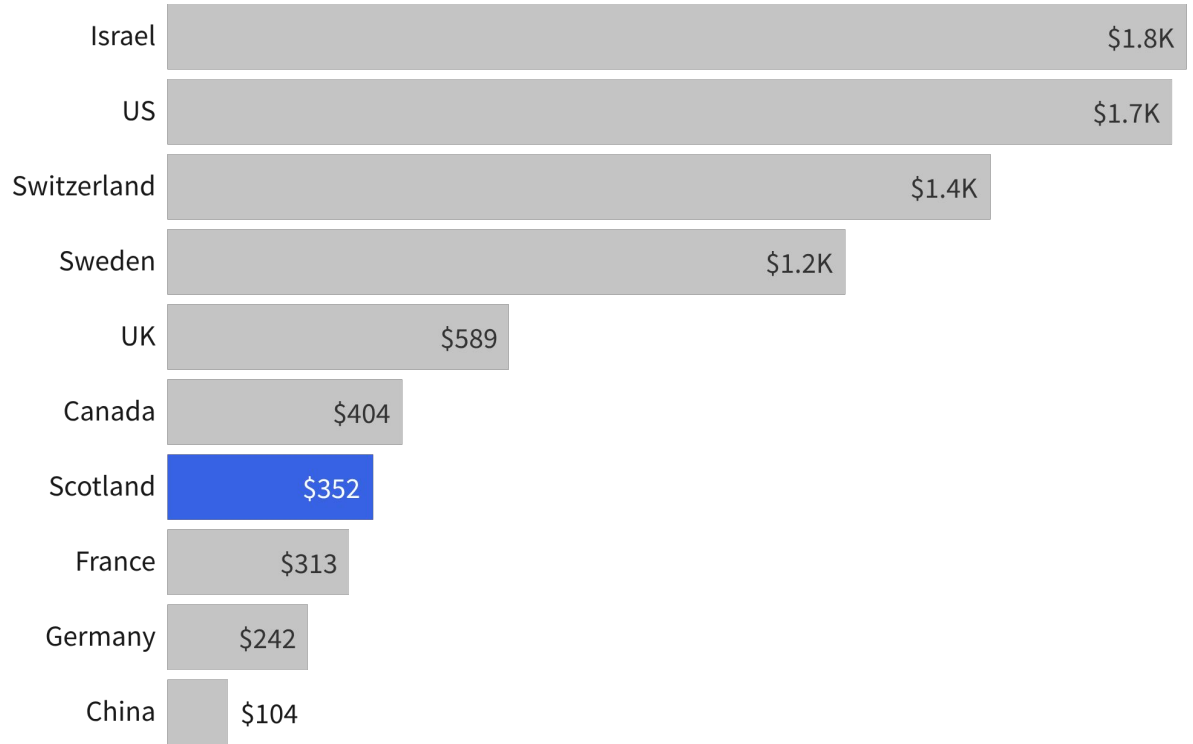


[» View online](#)

# Deep Tech investment in Scotland trails global leaders in per capita funding but beats several major economies

The gap to top performers is large enough to suggest structural or scale challenges

Deep tech VC funding per capita (2020 - 2025)

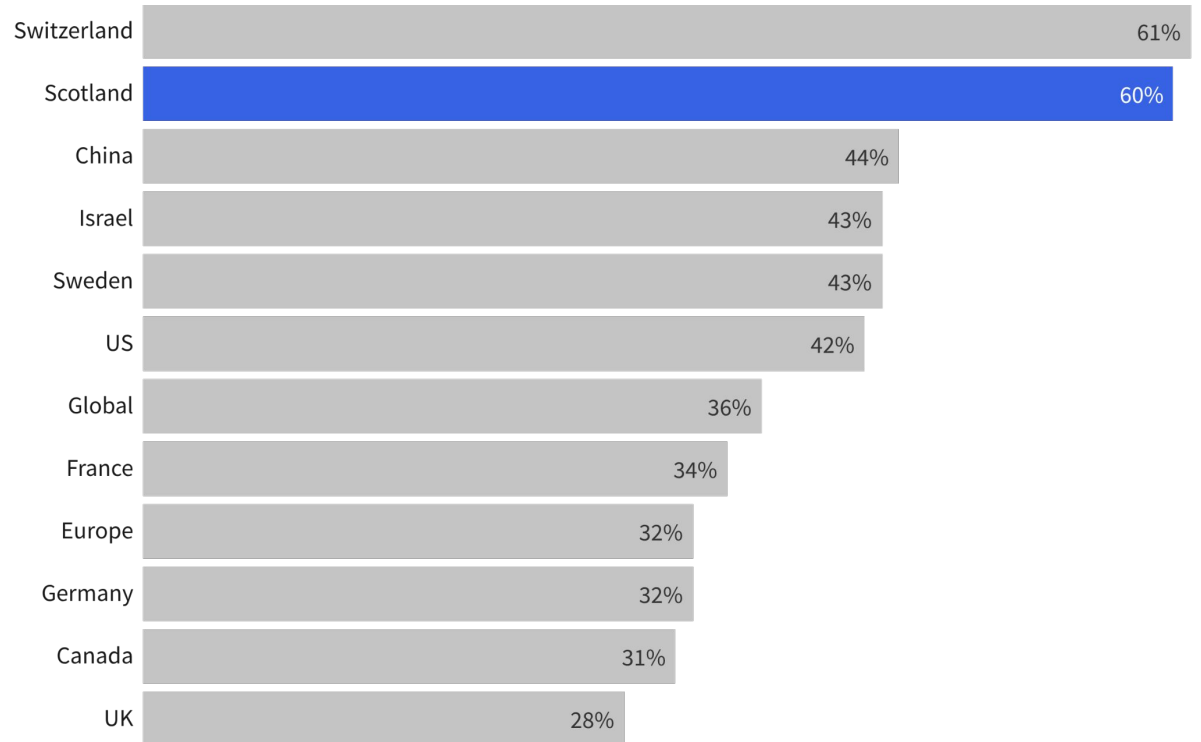


Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom

# Scotland is one of the top globally for share of VC funding in Deep tech

Between 2019 and 2025, 6 out of every 10 venture dollars invested in Scotland went to Deep Tech startups

Share of total funding going to deep tech amongst global nations (2020 - 2025)

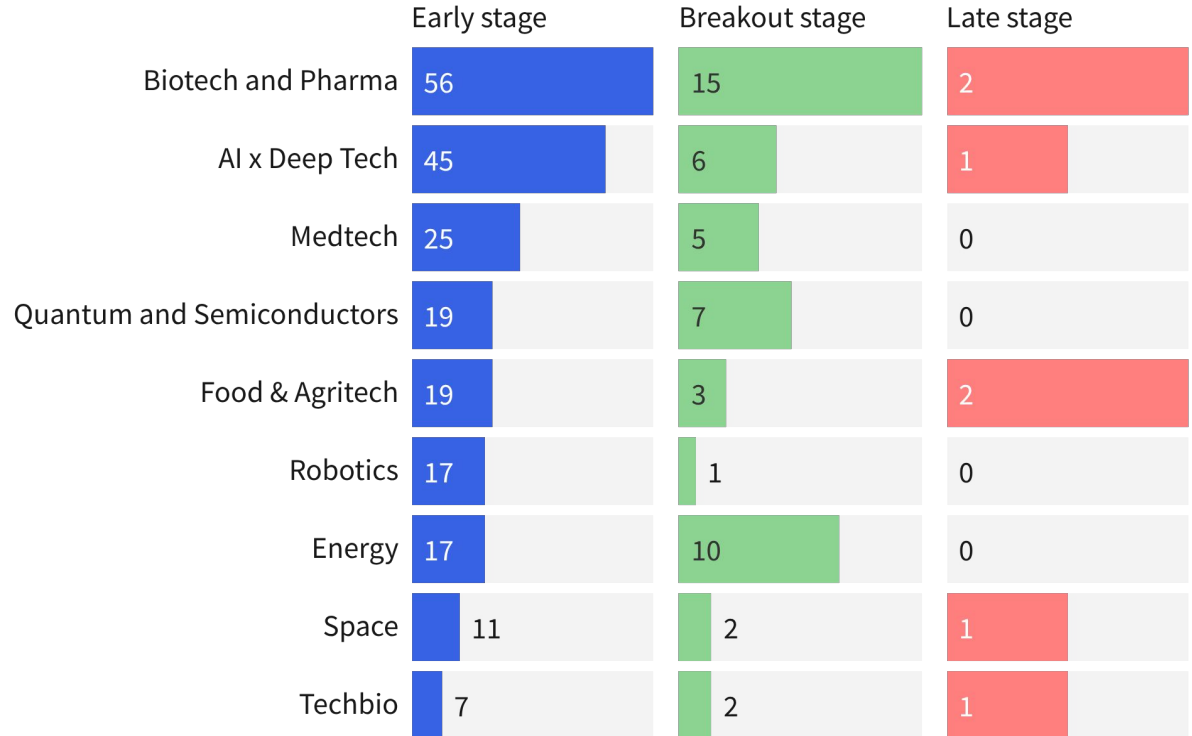


Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom

# The Scottish deep tech pipeline is heavily concentrated at the early stages in Biotech and AI

Medtech and Quantum and Semiconductors also show a strong early and mid-stage startup scene, while Food & Agritech created two late-stage outcomes.

Scottish Deep Tech startups across segments by stage\*



Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom. Early stage includes startups that have raised <\$15M, with team <50, valued <\$100M. Late stage includes startups that either raised \$100M+ or are valued above \$500M. Breakout are between these early and late stage criteria.



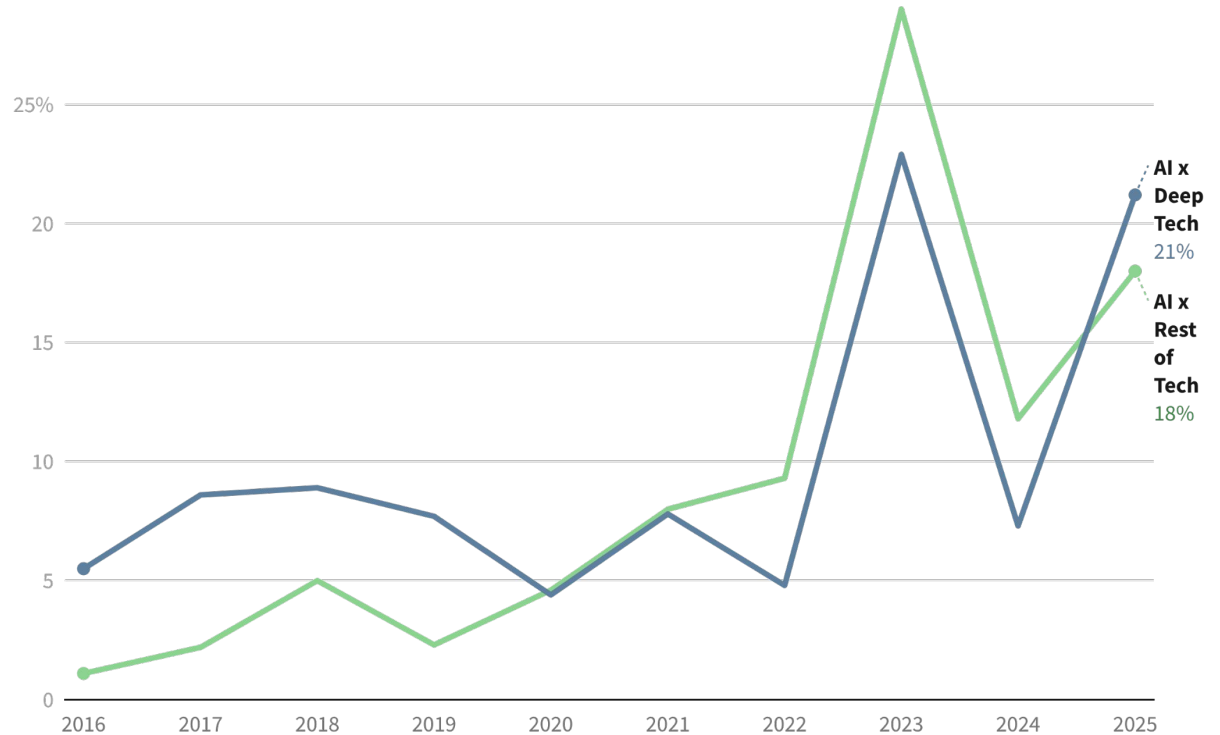
# Biotech & Pharma lead in scale, while AI and Techbio drive the fastest funding growth in Scotland deeptech

Sector	Number of VC-backed startups ▼	Enterprise Value	Funding (2020-2025)	% of UK funding (2020-2025)	Funding 2025
Biotech and Pharma	73	\$3.7B	\$628.7M	7%	\$114.9M
AI	52	\$1.7B	\$215.8M	2%	\$66.1M
Medical Devices	30	\$847.3M	\$145.4M	4%	\$21.7M
Energy	27	\$1B	\$241.2M	6%	\$35.5M
Quantum and Semiconductors	26	\$591.6M	\$111.2M	6%	\$29.5M
Food & Agritech	24	\$877.8M	\$367.5M	29%	\$19.1M
Robotics	18	\$174.5M	\$18.1M	2%	\$364.0K
Space	14	\$632.5M	\$212.1M	8%	\$42.4M
Techbio	10	\$1.2B	\$154.5M	3%	\$50.3M

# AI accounts for a growing share of Deep Tech activity

AI has become increasingly prevalent within Deep Tech over the past decade, with sustained growth and renewed momentum in 2025. While AI adoption has expanded across the wider tech ecosystem, Deep Tech continues to show higher and more consistent levels of AI integration.

AI as % of Deep Tech and Rest of Tech VC in Scotland



Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom

# 260+ Deep Tech startups in Scotland mapped

» Explore the landscape

## BioTech

Combined funding \$ 1.2B

- Green Crop Tech
- Glen Clova Scie
- MI:RNA Diagnost
- Outrun Therapeu
- Fitabeo Therape
- Iceni Pharmaceu
- SiMologics
- Ten Bio
- ILC Therapeutic
- RoukenBio
- Amphista Therap
- Medannex
- Aurum Bioscienc
- Parkure
- Nanogenec Solut
- Roslin Technolo
- TC Biopharm
- Sistemic
- Ubiquigent
- Trogenix
- Prozymi Biolabs
- Biomara
- Lentitek
- Portage Glasgow
- Resolution Ther
- Dyneval
- SOLASTA Bio
- The Antibody Co
- Roslin Cells
- Xelect
- ScotBio
- NovaBiotics
- ProFactor Pharm
- ENOUGH
- NodThera
- Causeway Therap
- Nandi Proteins
- TauRx Pharmaceu
- Lario Therapeut
- Quas Drinks
- Rostra Therapeu
- Kynos Therapeut
- Tay Therapeutic
- Ogibiotec
- Novel Technolog
- Pheno Therapeut
- Myounourish
- Oceanium
- Pneumagen
- NexaBiome
- Elasmogen
- Beta Bugs
- EnteroBiotix
- AdoRx Therapeut
- Mironid
- Cara Therapeuti

## Climate & Energy

Combined funding \$ 542M

- Mhor Energy
- AevaSpec
- RX Watt

## TechBio

Combined funding \$ 835M

- Concinnity Gene
- Samastar
- Cytochroma
- Wobble Genomics
- Biomage
- DxCover
- BioAscent
- Synpromics
- Glox Therapeuti
- OracleBio
- Wellfish Tech
- SpeakUnique
- Macomics
- Neurocentrx
- uFraction8
- Fios Genomics
- Xias Bio
- Chemify
- Carcinotech
- Screenin3D
- Cumulus Oncolog
- Cytomos
- Exscientia
- Aridhia Informa

## MedTech

Combined funding \$ 175M

- Prothea Technol
- Inhaler
- Microplate Dx
- IntelliPalp Dx
- Emblation
- OrganLike
- Sansible Wearab
- Clyde Bioscienc
- ReproCELL Europ
- Vit
- Aircraft Medica
- NeuroVLC
- Mygo4ward
- PneumoWave
- Simple Online P
- BioCaptiva
- Edinburgh Molec
- Ambicare Health
- ReactivLab
- Symbiosis Pharm
- Invizius
- Touch Bionics
- Optos
- Nami Surgical
- Aureum Diagnost
- FC Labs | Brain
- Giraffe Healthc
- NebuFlow
- Epipole
- Mode Diagnostic
- Ocutec
- Quotient Diagn
- Anacail
- Solus Scientifi
- Clinpal (eClini

## Robotics

Combined funding \$ 109M

- RideScan
- Kingdom Technol
- Crover
- Wootzano
- CYBERHAWK Innov
- Frontier Roboti
- BioLiberty
- HonuWorx
- Robotical
- Danu Robotics
- Air Control Ent
- Touchlab
- Innovair Limite
- ROVOP

## AI/ML

Combined funding \$ 38M

- Malted AI
- weeteq
- Taveo
- Kythera
- Mercuna
- Speech Graphics
- Focalise
- FD Intelligence
- PhysioMedics Lt
- Dimensional Ima
- MyCustomerLens
- Digital Barrier
- Sequetrics
- ilosta
- IceRobotics
- PlayerData
- Inbest.ai

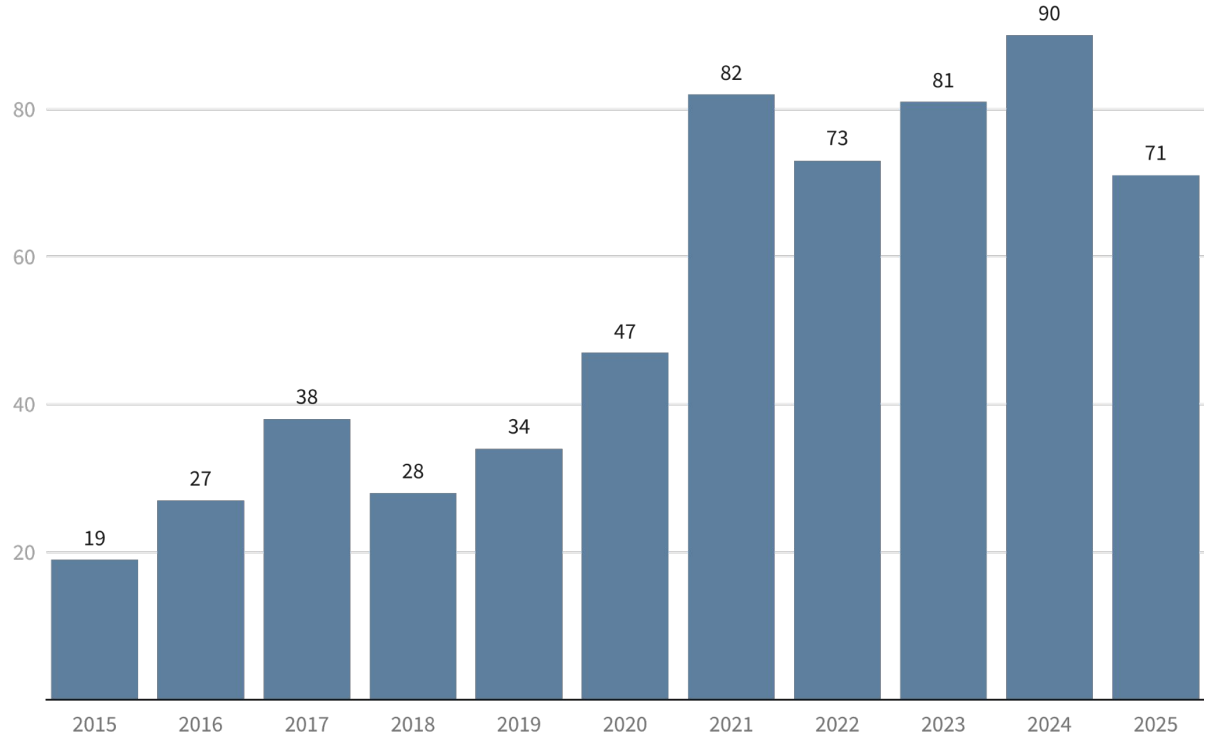
## Aerial & Space

Combined funding \$ 309M

- Aurora Avionics
- Nuclevolve
- Gibson Robotics
- Omanos Analytic
- Skyrora
- AAC Clyde Space
- Orbital Impulse
- Earth Blox
- Space Intellige
- Craft Prospect
- Lynekos Technol
- Orbex Space
- Thistle Rocketr
- Braided Communi
- EOLAS Insight
- Flowcopter
- Shot Scope
- Zonda

**Investor interest  
has been rising  
steadily in the  
last decade, ~3x  
more**


Number of unique investors in Scotland Deep Tech per year



Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom. Includes all investors participating in at least one round in each respective year. Investors counted only once within the year, regardless of the frequency of their investments.

# The top investors in Scottish Deep tech in the last 5 years have been national early stage investors

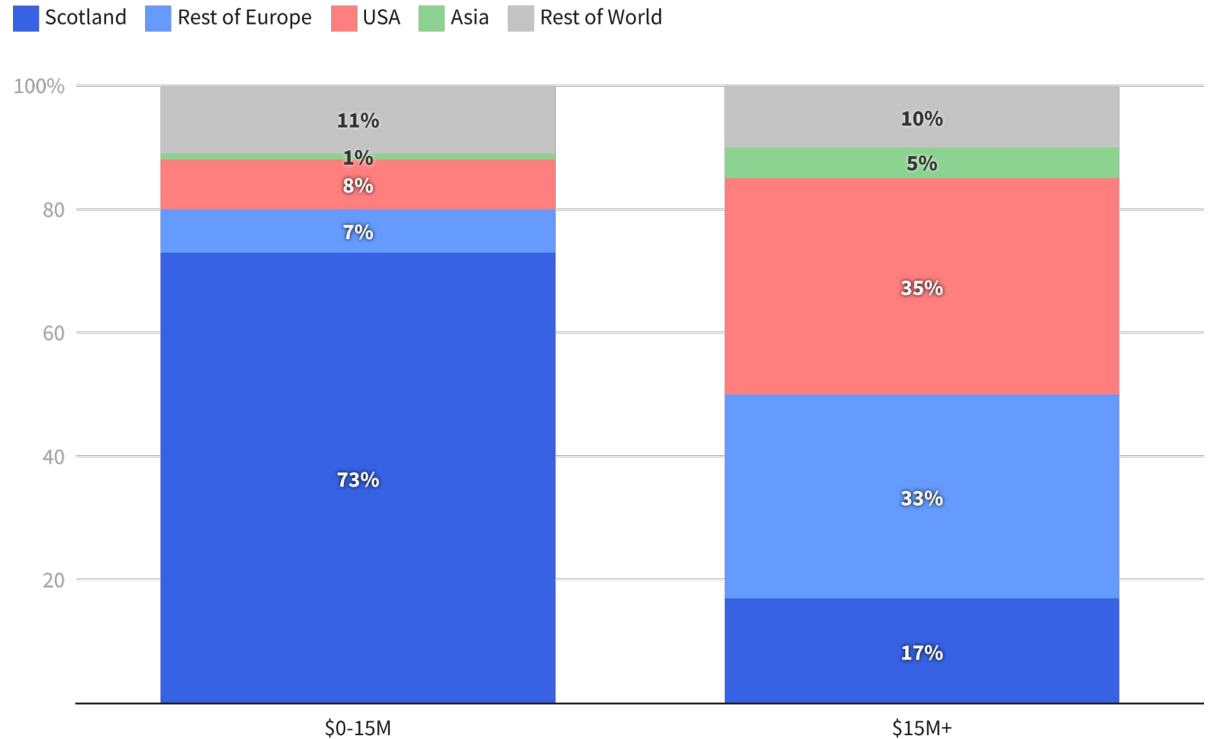
Top investors in Scotland Deep Tech

Investor	Preferred round	Round 2020 - 2025	Rounds 2025
 Scottish Enterprise Growth Investments	SEED	98	5
 Eos Advisory	SEED	22	2
 Archangels	SEED	22	3
 Old College Capital	SEED	22	3
 Par Equity	SEED	19	3
 Equity Gap	SEED	18	3
 Kelvin Capital	SEED	16	2
 SIS Ventures	SEED	15	1
 Scottish National Investment Bank	DEBT	14	0
 Tricapital	SEED	12	0

Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom

**Scottish investors account for 73% of early-stage funding, while larger rounds rely heavily on international capital**

Source of VC investment by investor location



Source: Dealroom.co Deep Tech in this report includes both Deep Tech and Life Sciences in Dealroom

# The early-stage ecosystem is working but the challenge is keeping companies in Scotland as they scale

“

*What usually happens in Scotland is great research, great at the translational piece to early stage, and then people leave. They take the companies to America where the investment is, or down South. That has been, ever since I've lived in Scotland — probably 20 years now — a huge issue.”*



**Liz Fletcher**  
Director of Impact  
and Deputy-CEO



“

*We are not quick enough to be early adopters of our own innovations. We too often encourage people to go and try things outside of Scotland and then bring it back, but by that point it's too late — they've gone.”*



**Emma Loedel**  
Senior Enterprise  
Manager



“

*Scotland's technology investment community is quite generalist. They're willing to have a punt on seed funding, but they don't often have the depth of sub-sector knowledge required for Series A type investment. The substantial levels of funding required by Deep tech companies in later rounds requires specialist investors with a deep understanding of the particular sub-sector and strong international connections.”*

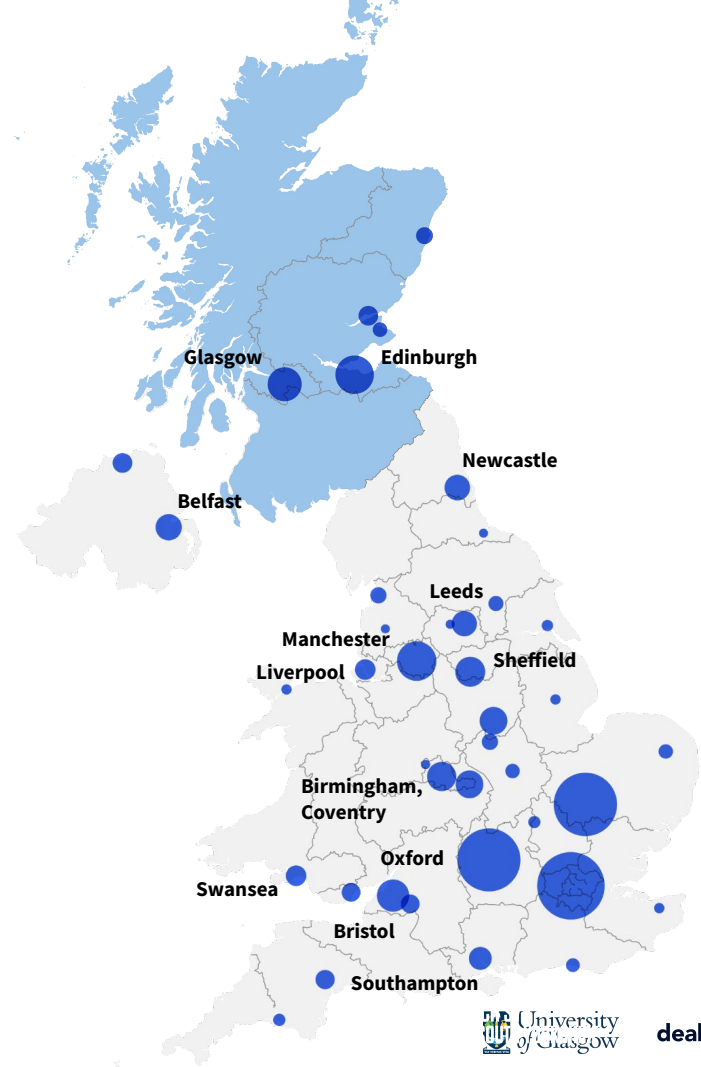


**Mark Western**  
Technology Sector  
Team Leader



# Scotland is host to some of the most notable spinout hubs such as Glasgow and Edinburgh

Number of Deep tech & Biotech spinouts by hubs



Source: Dealroom.co

# Scotlands Deep tech university spinouts

Deep tech spinouts in Scotland are now valued \$4.3B (up from \$323M in 2014) indicating that Universities are building research, education, and innovation centers to strengthen talent and operational capacity.

## Notable Scottish spinouts



-ONATE



Spinouts valued at  
**\$4.3B**  
in 2025

**80+ spinouts**  
43% of all Scottish  
VC backed Deep tech  
startups

Deep tech  
spinouts  
contribute **56%**  
of Scotland's total  
ecosystem value

“Deeptech research competes on a global level — we just need to find a way to unlock it with the right infrastructure. Business schools could be much more embedded at an earlier stage in trying to develop a pipeline of commercial champions.”



**Emma Loedel**  
Senior Enterprise Manager



[View Online](#)

Source: Dealroom.co. A spinout is a startup in which a university holds equity or licensing rights, confirmed by a reliable source linking it to university-developed technology. Corporate spinouts are excluded, and alumni status or university incubation alone does not qualify.



## The UK University Deep tech Spinout Ranking

4 of the top 20 UK universities for deep tech & life science research-driven entrepreneurship are Scottish universities

Ranked across six metrics:

number of VC-backed spinouts, number of spinouts since 2022, number of spinouts that raised \$10M+ funding, number of unicorns, total VC funding raised, and combined enterprise value.

Explore the full European list, with all the underlying details:

» Full List

RANK UNIVERSITY

- #1 University of Oxford
- #2 University of Cambridge
- #3 UCL
- #4 University of Bristol
- #5 Imperial College London
- #6 University of Dundee
- #7 King's College London
- #8 University of Manchester
- #9 University of Sheffield
- #10 University of Edinburgh

RANK UNIVERSITY

- #11 University of Nottingham
- #12 Newcastle University
- #13 University of Glasgow
- #14 University of Strathclyde
- #15 University of Birmingham
- #16 University of Leeds
- #17 Royal College of Art London
- #18 Queen's University Belfast
- #19 Cardiff University
- #20 Queen Mary University of London

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## Aerial & Space overview in Scotland

Satellite Manufacturing, Launch services, In-orbit servicing, Earth observation, Space data and communications.

### Notable companies



### Key Stats

12

VC-Backed startups

\$220M

VC funding since 2020

\$601M

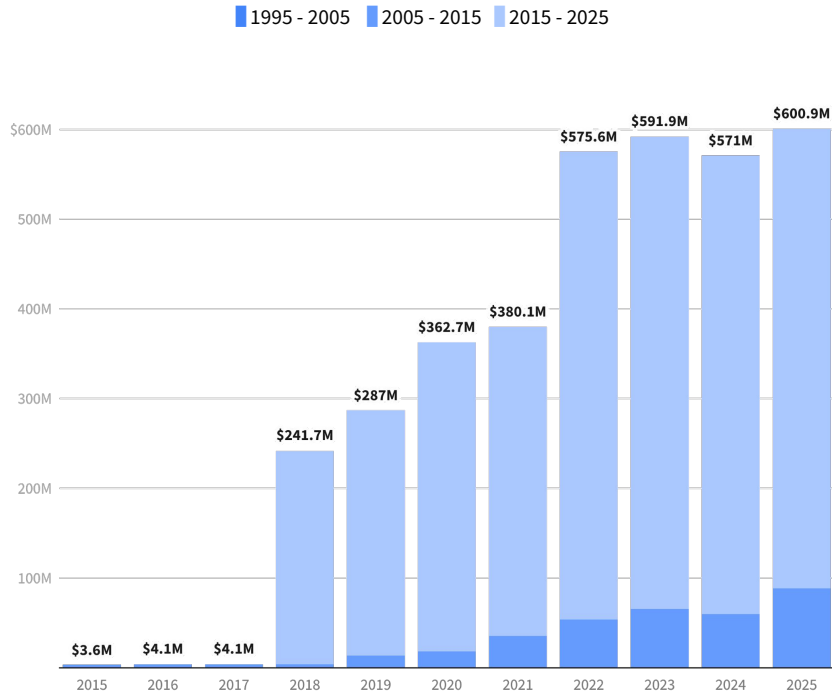
Combined Enterprise Value in 2025

### Key insights

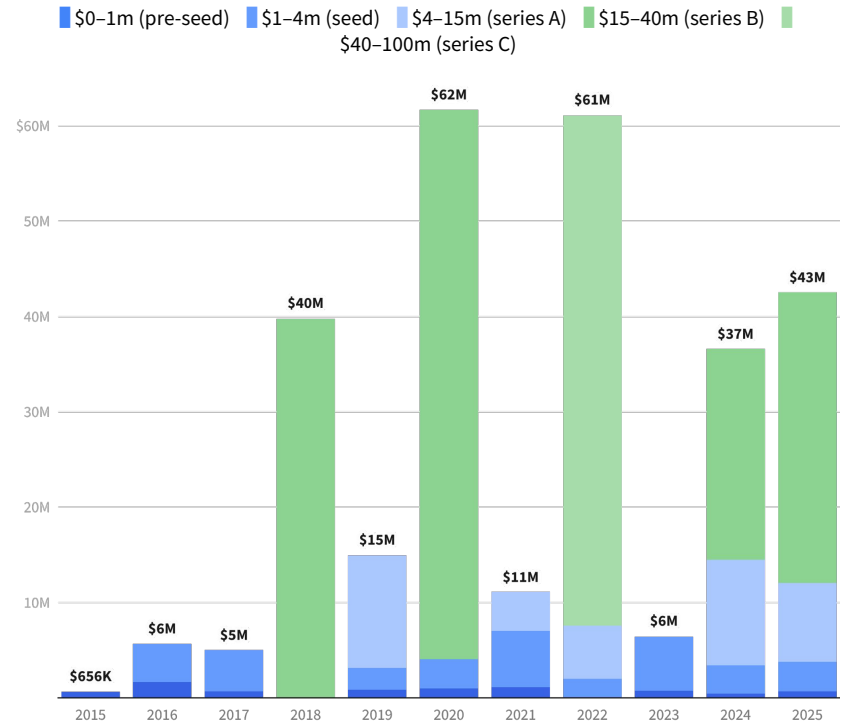
- Glasgow is the **largest hub for small satellite manufacturing** outside of California, attracting major players like US-based Spire Global to **set up R&D and manufacturing locally**.
- Scotland is home to **34 space companies**, including 12 VC-backed startups that have **raised over \$285M since 2015**, with funding accelerating sharply in the last two years.
- The **combined enterprise value of private space tech startups has surged from \$287M in 2019 to over \$600M in 2025**, a 2.1x increase in under a decade.
- Scotland benefits from a **coordinated policy environment** through Space Scotland, the West of Scotland Space Cluster, and the Scottish Space Leadership Council (SSLC), **bridging government, academia, and industry**.

# Scotland's space sector has scaled from \$4M to \$600M in enterprise value, with funding maturing into later-stage rounds

Combined Enterprise Value of privately owned Space companies in Scotland



Scotland Deep Tech Space VC funding by stage



## Quantum and Semiconductors overview in Scotland

Semiconductor chip design, manufacturing and materials, including photonics and neuromorphic chips. Quantum hardware, software, cryptography, communication and sensing.

### Notable companies

 WOOTZANO™

 Clas-SiC  
WAFER FAB

 neuramics

 CRAFT  
PROSPECT

 sivers  
SEMICONDUCTORS

### Key Stats

20

VC-Backed startups

\$110M

VC funding since 2020

\$575M

Combined Enterprise Value  
in 2025

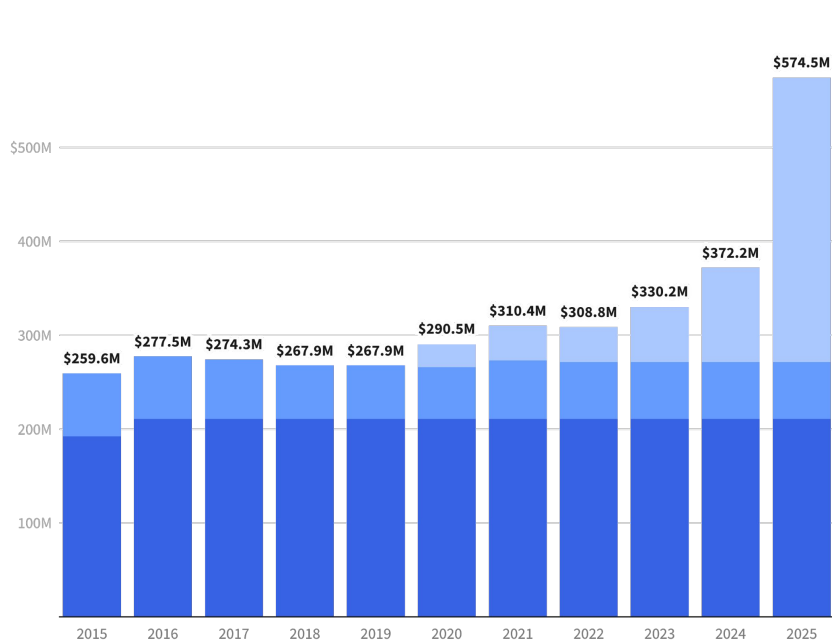
### Key insights

- Scotland hosts **2 of the UK's 5 national Quantum Technology Hubs**: the University of Glasgow (positioning, navigation & timing) and Heriot-Watt (quantum networks), giving local firms and researchers **direct access to national funding and collaboration**.
- The sector is home to **20 VC-backed startups with a combined enterprise value of \$575M, having raised \$110M in VC funding since 2020**, though much of the ecosystem remains early-stage and university-anchored.
- Dedicated infrastructure like the **James Watt Nanofabrication Centre at the University of Glasgow** provides shared cleanroom and nanofab facilities, **lowering entry barriers for early-stage** quantum and semiconductor ventures.
- The **Photonics and Quantum Accelerator (PQA), a £4.7M UKRI initiative, is accelerating the transfer of photonics and quantum R&D** into commercial applications, with an ambition to grow the sector to £4B by 2030.
- Deep research strengths in photonics and quantum are concentrated across Glasgow, Strathclyde, Heriot-Watt, and St Andrews, but the **key challenge remains scaling from research prototypes to investable product companies amid global competition for specialist talent**.

# From research base to investable sector, enterprise value doubling since 2020 with Series B rounds now appearing

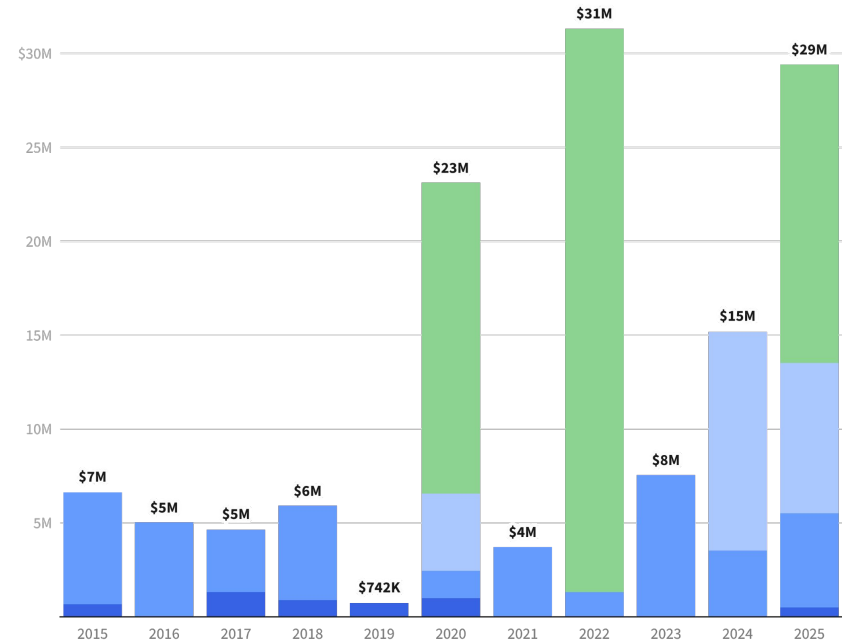
Combined Enterprise Value of Private Semiconductor and Quantum companies in Scotland

■ 1995 - 2005 ■ 2005 - 2015 ■ 2015 - 2025



Scotland Deep Tech Semiconductor and Quantum VC funding by stage

■ \$0-1m (pre-seed) ■ \$1-4m (seed) ■ \$4-15m (series A) ■ \$15-40m (series B) ■ \$40-100m (series C)



# Health and Life Sciences overview in Scotland

Biotech, Medtech, Digital Health, Precision Medicine, Future Medicines  
Manufacturing, Industrial Biotechnology, Diagnostics, Health Data / AI

## Notable companies



## Key Stats

**44** VC-Backed startups

**\$173M** VC funding since 2020

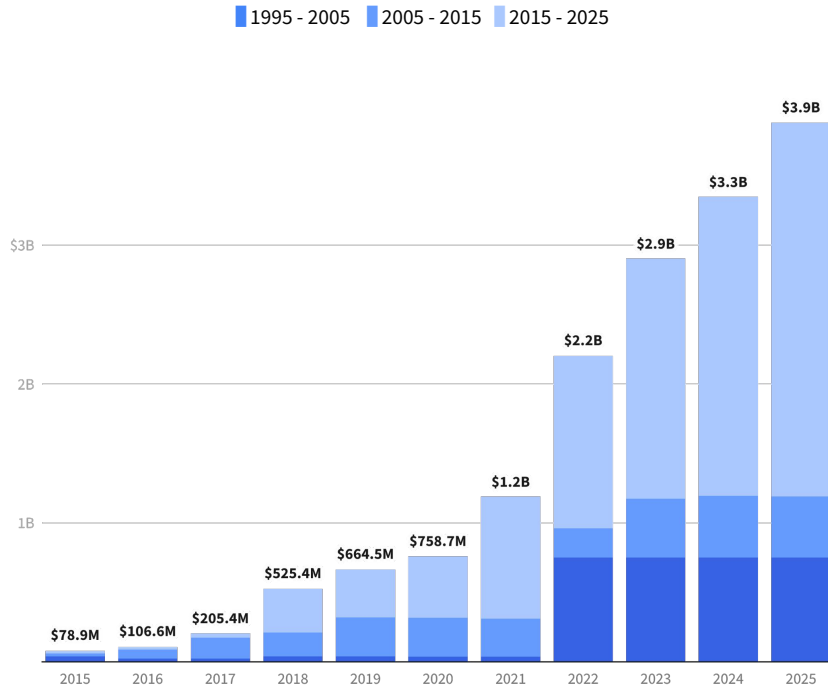
**\$3.9B** Combined Enterprise Value in 2025

## Key insights

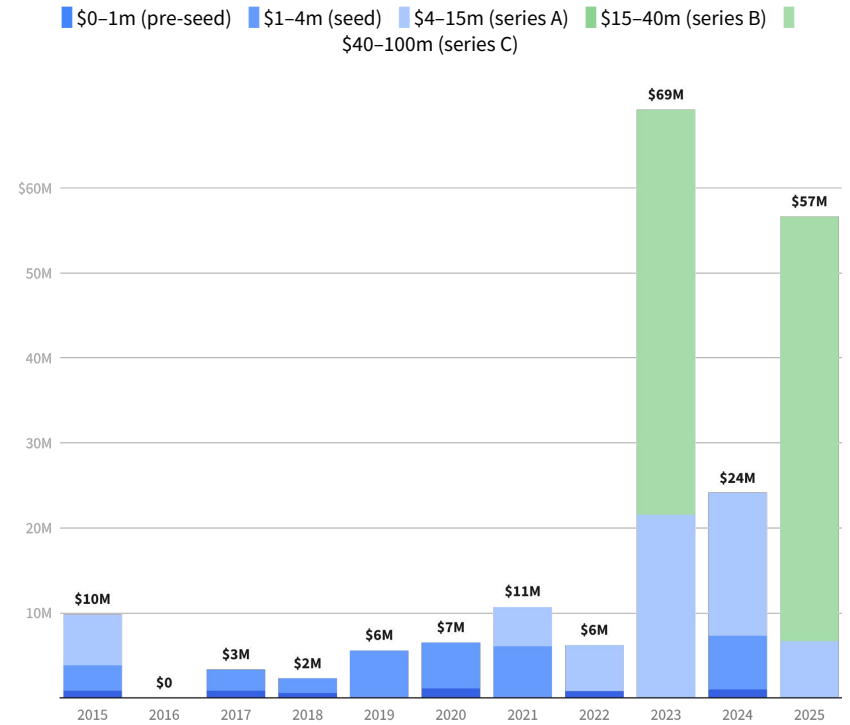
- Scotland **hosts one of Europe's largest life sciences clusters**, over 750 organisations and 40,000+ employees spanning biotech, medtech, pharma and digital health, anchored by life-science parks co-located with universities and hospitals.
- The ecosystem includes **44 VC-backed startups with a combined enterprise value of \$4.2B** (up from under \$80M in 2015), having **raised \$173M in VC funding since 2020**.
- **Major infrastructure investments** are reinforcing Scotland's commercialisation capacity: the £88M Medicines Manufacturing Innovation Centre (backed by AstraZeneca & GSK), the £40M ONE BioHub in Aberdeen, and a £25M Tayside Biomedical Cluster in Dundee.
- Dense clinical-academic partnerships, across Edinburgh BioQuarter, Glasgow's Clinical Innovation Zone, and Dundee's medtech ecosystem, make Scotland a **strong testbed for precision medicine, diagnostics, and industrial biotech**.
- **Key challenges remain:** slow and fragmented health-system procurement, and bridging the "valley of death" between grant-funded R&D and commercial scale-up for high-risk therapeutics.

# Scotland's life sciences startups are building scale, \$3.9B in enterprise value and growing Series C activity

Combined Enterprise Value of Private Health and Life Sciences companies in Scotland



Scotland Deep Tech Health and Life Sciences VC funding by stage



# Climate tech overview in Scotland

Sustainable solutions for emission and environmental impact reduction across energy, transportation, industry & advanced materials, food & agritech, water tech, carbon removal and much more.

## Notable companies



**ENOUGH**<sup>®</sup>



## Key Stats

**120**

VC-Backed startups

**\$726M**

VC funding since 2020

**\$3.1B**

Combined Enterprise Value in 2025

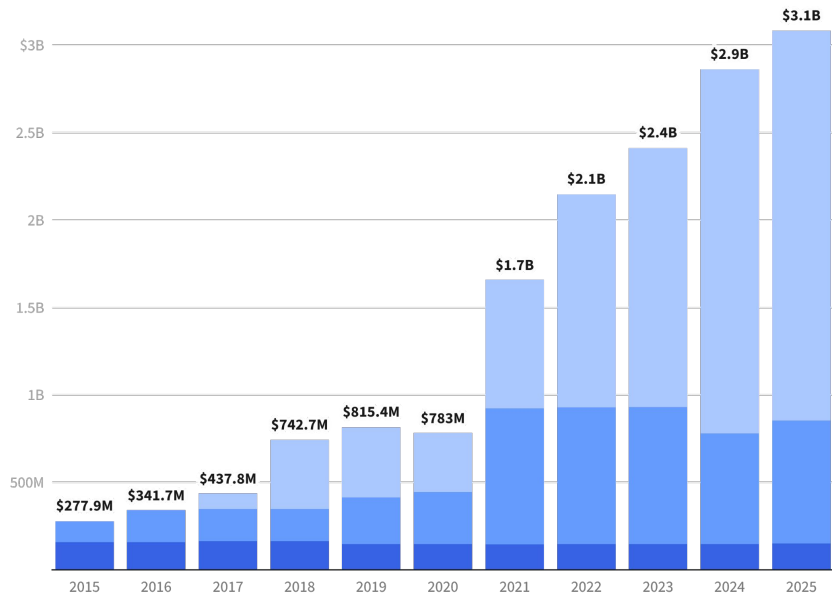
## Key insights

- Scotland's climate tech sits at the intersection of its net-zero targets, energy transition, and natural-asset base, with public policy committing at least £1.8B for heat and energy-efficiency upgrades, within a broader £33B+ estimated investment need for decarbonising buildings by 2045.
- The sector includes **120 VC-backed startups with a combined enterprise value of \$3.1B** (up from \$278M in 2015), having raised **\$726M in VC funding since 2020**.
- **Dedicated accelerators** like "Powering the Future" (delivered by Sustainable Ventures with Barclays and Glasgow City Innovation District) provide **tailored support and investor access** to help roughly 30 climate-tech SMEs scale.
- Clear policy direction and regionally focused challenges (e.g. CivTech energy challenges) create **early customers for climate solutions**, complemented by horizontal initiatives like the Deep Tech Supercluster.
- **Key challenges include** capital-intensive infrastructure gaps between pilot and deployment, complex multi-stakeholder decision cycles, and high mortality. One accelerator notes only around 40% of climate tech startups survive their first three years without targeted support.

# From \$278M to \$3.1B in enterprise value, with \$90M+ in annual funding since 2020 shows Scotland's climate tech is scaling consistently

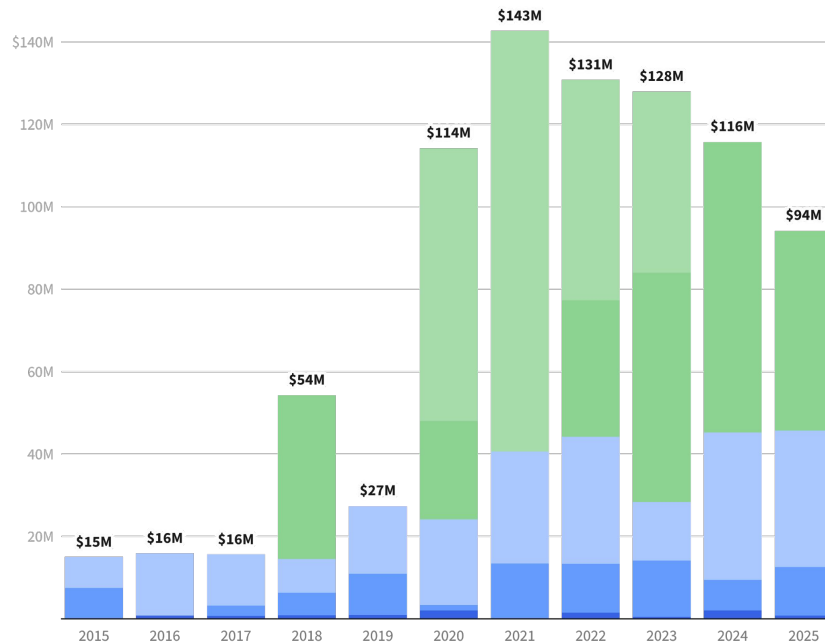
Combined Enterprise Value of Private Climate tech companies in Scotland

■ 1995 - 2005 ■ 2005 - 2015 ■ 2015 - 2025



Scotland Deep Tech Climate tech VC funding by stage

■ \$0-1m (pre-seed) ■ \$1-4m (seed) ■ \$4-15m (series A) ■ \$15-40m (series B) ■ \$40-100m (series C)



# Ecosystem support needs to match the ambition

Across all four segments, Scotland is now piloting a Deep Tech Supercluster Programme led by Scottish Enterprise and partners including the National Robotarium, Smart Things Accelerator Centre and National Manufacturing Institute Scotland, focused on helping deep-tech companies move from prototype to market through investment-readiness, manufacturing access and partner expertise.

But common structural challenges persist: long R&D-to-market cycles, dependence on UK-wide funding frameworks, shortage of scale-up capital for capital-intensive hardware, and competition for specialised talent.

Stakeholders point to specific gaps in infrastructure design, procurement pathways, and the specificity of entrepreneurial support as areas where the ecosystem still needs to evolve.

“The infrastructure is patchy, it's fragmented. A lot of these shared assets have been built around large open plan spaces. They look stunning but from an IP perspective they're a disaster. Investors won't look at them because their IP is too exposed.”



**Alastair McInroy**  
CEO

technology  
SCOTLAND

“I think procurement is often a stranglehold on deep tech innovation. Access to upfront capital, small-scale manufacturing space or something similar to a maker's space — wetlab, mechanical lab where people can just build, prototype and collaborate freely.”



**Emma Loedel**  
Senior Enterprise Manager

Royal Academy  
of Engineering

“There is a lot of generic entrepreneurial skills training. In fact, I think there's too much making it quite confusing for people. There's great training from Converge and Scottish Edge and the universities yet even those remain too generic.”



**Liz Fletcher**  
Director of Impact  
and Deputy-CEO

IBioIC

“Rather than Scotland trying to copy elsewhere, we should be building our own model of what a successful deep tech sector is and building that from the ground up, rather than trying to impose something from the top down.”



**Colin McInnes**  
James Watt Chair,  
Professor of Engineering Science

University  
of Glasgow

- 1 Introduction
- 2 The Scottish Deep Tech Ecosystem
- 3 Sector Deep Dives

## 4 Recommendations

This section sets out **five priorities** for converting Scotland's deep tech research pipeline into lasting economic value, as **gathered by the academics at the University of Glasgow** co-authoring this report.

# 1 Develop deep tech leaders specifically built for scale

Scotland's deep tech pipeline produces world-class science and a steady flow of early-stage companies. What it does not reliably produce is **the commercial leadership needed to take those companies through the difficult transition from 20 employees to 200**. The problem is not a shortage of entrepreneurship training: ecosystem discussions were consistent that there is already a lot of it, and that much is **too generic for deep tech innovation development**. The more fundamental gap is structural: Scotland **lacks the ecosystem of experienced operators, serial entrepreneurs, and commercially-fluent talent** that has accumulated around deep tech clusters elsewhere, and has **no systematic mechanism for connecting that expertise** with the scientists and engineers who need it.

**A matching and pairing model** has high potential – the kind of approach used by organisations like Entrepreneur First, Deep Science Ventures, Oxford Science Enterprises and more, where **technically-minded and commercially-minded people are brought together at the pre-formation stage**, rather than trying to retrofit business skills onto scientist founders who neither want nor need to become CEOs. The barrier for many technically excellent people is not ambition but **the belief that spinning out means having to figure out the business side alone**. The answer is not more training for scientists. It is **building the conditions in which the right people find each other**.

Alongside this, Scotland needs **education programmes explicitly designed for the scale-up phase**: not the spinout moment, but the harder transition that follows. This means developing the next generation of deep tech leaders who understand **the specific commercial, operational, and financial challenges of growing a capital-intensive, IP-rich, technically complex business**: people who can sit alongside founding scientists and take ventures from promising early-stage companies to **scaled, Scottish-owned enterprises**. Postgraduate and executive programmes that **integrate deep technical literacy with commercial leadership** – covering venture financing, IP strategy, market development, and the organisational challenges specific to deep tech – are a meaningful part of this picture, and represent a lever that **Scotland's universities, particularly its business schools, are well-placed to pull**.

## Build commercial and technical literacy across the full value chain

*The dominant approach to skills development in Scotland's deep tech ecosystem focuses on the innovator: teach the scientist to pitch, train the engineer to think commercially, equip the founder to build a company. This is necessary but insufficient. Deep tech ventures depend **on a much wider cast of actors** – from investors, procurement officers, and clinicians, to suppliers, regulators, feedstock providers – and **many of these actors lack the understanding needed to engage effectively** with what deep tech companies are doing and what they need.*

*Ecosystem discussions surfaced concrete examples of this gap at every node of the value chain. In engineering biology and industrial biotech, **supply chain partners often lack the technical literacy to understand what deep tech ventures need from them**, creating friction that slows scale-up before a company has even reached the market. In the investment community, a willingness to back seed-stage ideas sits alongside **a notable absence of the specialist deep tech expertise needed to make Series A decisions confidently** – partly a fund size problem, but also **a knowledge problem that targeted education and exposure could meaningfully address**. In public sector procurement, the people responsible for commissioning decisions **frequently lack the frameworks to evaluate and engage with early-stage deep tech companies**, even when policy intent is clearly aligned with what those companies are doing.*

*Scotland should develop **capability-building programmes targeted at every node of the deep tech value chain**, not just at entrepreneurs. This means **investor education in specific deep tech sectors**: programmes that build the technical literacy needed to evaluate photonics, quantum, or synthetic biology ventures with genuine confidence. It means **procurement officer training in commissioning from and engaging with early-stage technology companies**. And it means **supply chain development programmes** that bring the commercial and technical understanding of deep tech's upstream and downstream partners up to the level that growing ventures actually need.*

## Fix the infrastructure access problem

Scotland has more deep tech infrastructure than most people in the ecosystem realise: world-class fabrication facilities, shared equipment, mixed-use innovation spaces, and specialist labs distributed across its universities and enterprise estate. The instinctive response to complaints about access is to call for better coordination – a map, a database, a matching service. Whilst these are crucial for navigating what's currently available, **what needs work are the operating models** of Scotland's various infrastructure.

Facilities **don't function well for IP-sensitive work**: open-plan spaces that investors will not accept because proprietary research is too exposed. **Publicly-funded facilities charging at full economic cost rates** that pre-revenue deep tech companies simply cannot afford, leaving world-class equipment underutilised while the companies it was designed to serve go elsewhere or go without. Specialist facilities unknown to potential users despite sustained marketing efforts, **variously not oriented toward commercial engagement with private companies**. And a **persistent gap at the 10-50 person company stage**: reasonable provision at the very early stage and for established players, a lack of facilities suitable for companies that have outgrown a university desk but cannot yet justify their own facility; companies that need **mixed office, lab, and light manufacturing space on flexible terms with genuine IP protection**.

Scotland should treat this as **an organisational design problem**. New and existing facilities need to be assessed not just for what equipment they contain, but for **whether their governance, pricing, physical layout, and commercial orientation actually serve the companies they were built for**. The **Science Creates model in Bristol** – independently operated, physically proximate to but legally separate from the university, purpose-built for company use, financially self-sustaining through rental income and reinvested returns – offers an interesting reference point. The lesson is that the **design logic matters as much as the investment**: a facility built around the needs of a growing company will behave very differently from one built around the needs of an academic institution, even if the equipment inside is identical.

## Make Scotland a first customer for its own innovations

Scotland consistently generates deep tech innovation and **consistently fails to retain it**. The pattern is visible in the data: a crowded early stage, very few scaleups, and a company demographic with micro businesses at one end, large foreign-owned multinationals at the other, and **almost nothing Scottish-owned in between**. Much of this is attributed to the investment gap, and that gap is real. But ecosystem discussions point to an equally important and less-discussed driver: **Scotland is not quick enough to be an early adopter of its own innovations**.

Companies are too often encouraged to prove themselves in external markets first and return later, by which point it is too late and they have gone. **The first anchor customer is frequently the decision point between a company staying in Scotland and following the money elsewhere**. If that customer is domestic – a health board, a public agency, an energy operator – it creates a gravitational pull. If the only route to a first customer runs through London or Boston, the company follows.

This is not only a Scottish problem. Zinc Innovation Partners' recent paper *Innovation without Walls* makes a compelling case for **demand-pull public procurement as one of the most powerful and underused levers in the innovation system** – drawing on evidence that public procurement has

as large an impact on innovation success as university knowledge spillovers, and that **outcome-based procurement commitments can effectively call new markets into existence**. Their proposed Civic Enterprise Building model, in which public sector anchor institutions make conditional procurement commitments in priority sectors, creating the market confidence that early-stage ventures need to attract private investment, offers a directly applicable framework for Scotland. Scotland's public sector has **significant procurement power across precisely the domains where its deep tech strengths are concentrated**: health, energy transition, food and agriculture, and public infrastructure.

Scotland should develop a **domestic early-adoption agenda**: systematic reform of procurement pathways to create **accessible first-contract routes for deep tech companies**; strategic challenge programmes with genuine procurement outcomes attached; and **an explicit commitment from Scottish Government and its agencies to being early customers for Scottish deep tech**. This is not protectionism. It is recognising that **anchor customers are infrastructure**, and that Scotland is currently exporting that infrastructure by default.

## Develop a distinctively Scottish understanding of deep tech innovation structures

Much of the policy conversation around deep tech in Scotland is conducted in borrowed language, Silicon Valley benchmarks, Golden Triangle comparisons, per capita VC and unicorn counts. The implicit question is always: how can Scotland close the gap? This framing has value, but it obscures a more important question: **what kind of deep tech ecosystem does Scotland actually want to build, and on whose terms?**

The evidence in this report suggests that Scotland's most important barriers are **not primarily empirical gaps but conceptual and institutional ones**: ways of organising deep tech development, financing research, structuring IP, and governing the relationship between science and society that have not yet been seriously examined, let alone tried. The current global moment is unusually fertile for this thinking. **The limits of the Silicon Valley model are increasingly visible**, and alternative approaches, from **Focused Research Organisations and Perpetual Purpose Trusts to IP commons and mission-oriented public procurement**, are being actively developed elsewhere. Scotland, with its compact geography, strong university base, distinctive policy environment, and existing commitments to a just economy, is **well-positioned to be a serious contributor to this conversation rather than a perpetual borrower from it.**

A consistent thread across ecosystem discussions was frustration with the tendency to reach for external models first, to ask how Scotland can be more like somewhere else rather than **how it can be better at being itself.**

The aspiration that emerged was for a **distinctively Scottish approach to deep tech**: built from the ground up around Scotland's actual conditions, strengths, and values rather than imposed using frameworks developed for contexts that don't apply.

This requires **sustained investment in the social science of deep tech**: rigorous, interdisciplinary research examining how deep technologies are actually shaped — not just by technical possibility, but by regulatory systems, institutional logics, financing structures, public imaginaries, and the decisions of policymakers, investors, and entrepreneurs who are rarely scrutinised as carefully as the technologies themselves. It means **studying organisational models beyond the standard VC-backed spinout** — alternative structures for funding, owning, and governing deep tech — and asking seriously which are applicable in Scotland. And it means **generating the evidence base to design ecosystem interventions from first principles** rather than perpetually adapting foreign frameworks.

Scotland's social scientists have an important role here — **not as cheerleaders for the ecosystem, but as rigorous, independent analysts of it.** The goal is not another report on what Scotland lacks. It is **the sustained, patient intellectual work of understanding what Scottish deep tech actually is, how it functions, and what genuinely different futures might be available to it.**

# Methodology

## What are startups and scaleups?

Startups are companies designed to grow fast. Generally, these companies are backed by VC investments and, sometimes, can become very big, (e.g. with \$1B+ valuations). When startups are successful, they develop into **scaleups**. In this report, scaleups are considered companies that raised above \$15M in total VC investment and/or are companies that reached \$1B valuation. This also includes unicorns and \$1B exits. Only companies founded since 1990 are included in this report.

» [Read definition](#)

## What is a unicorn?

Unicorns are former startups that have reached \$1B in valuation or achieved an exit of \$1B or more.

» [Read definition](#)

## Scottish based

In this report we consider as Scottish-HQ startups those that have their headquarters in Scotland and maintain a significant presence in the country. We also include companies that might be registered elsewhere solely for legal reasons, but whose entire C-team and operations are in Scotland. The nationality of the founders and the origin of the technology are not relevant to being considered Scottish startups. Scottish founders who have started a company fully abroad are not in scope. In addition to this, we look at founding location. This is used to track startups that used to have their HQ in Scotland but later moved their headquarters elsewhere. These companies are included only in some statistics; in those cases the label will say “HQ and founded”.

## Venture Capital, Investors

Investments are referred to by their round labels, such as Seed, Series A, B, C, late stage, and growth equity. VC investments exclude debt, non-equity funding, lending capital and grants. Exits (M&A, IPOs) are not considered part of VC financing and are analyzed separately.

## Deep Tech definition

Deep Tech is defined as novel scientific or engineering breakthroughs making their way into products and companies for the first time.

The technology is based on tangible engineering innovation or scientific advances and discoveries applied for the first time as a product, often aiming to solve society’s biggest issues.

» [Read definition](#)

In this report we look also at Life Sciences in a broader scope of Deep Tech.

## Underlying Data

Dealroom’s proprietary database and software aggregate data from multiple sources: harvesting public information, user-submitted data verified by Dealroom, data engineering. All data is verified and curated with an extensive manual process. The data on which this report builds is available via [app.dealroom.co](https://app.dealroom.co). For more info please visit [dealroom.co](https://dealroom.co) or contact [support@dealroom.co](mailto:support@dealroom.co).

# Deep Tech defined

Deep Tech is technology that is based on **tangible engineering innovation or scientific advances and discoveries** applied for the first time as a product, often aiming to solve society's biggest issues.

**Practically**, a company is considered Deep Tech based on:

## Primary criteria

**Time to market / Complexity:** The company is working with a technology that takes a **long time to reach market-ready maturity** due to the **complexity and novelty of the research and development** involved. It thus employs a lot of highly educated staff early on and may create novel hardware or intellectual properties.

**Capital requirement:** The company's technology should **require substantial investment** to fund the research, development, testing, and scaling of the product or service.

## Secondary criteria

**IP and spinouts:** companies holding significant IP and commercializing research innovations are more likely to be Deep Tech.

**Scope of this report:** We explore innovations in **Deep Tech**, as defined above, as well as in the **Life Sciences sector** described in more detail at the end of this report.

Differences in risk profile Deep Tech vs Regular Tech startups

## Development times

Longer initial development phase

## Capex intensity

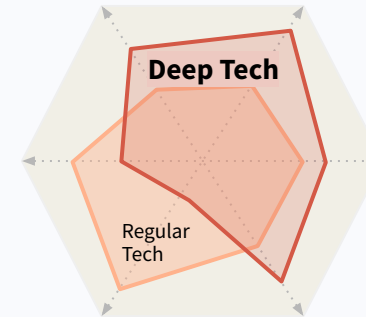
Often heavy CapEx ahead of revenues and PMF

## Market risk

If the technology solves one of the world's biggest problems, there will be ample demand

## Team risk

Academic and scientific backgrounds may have less commercial experience



## Competition risk

Often the strong technology edge prevents competition

## Technology risk

New technologies don't always work as expected

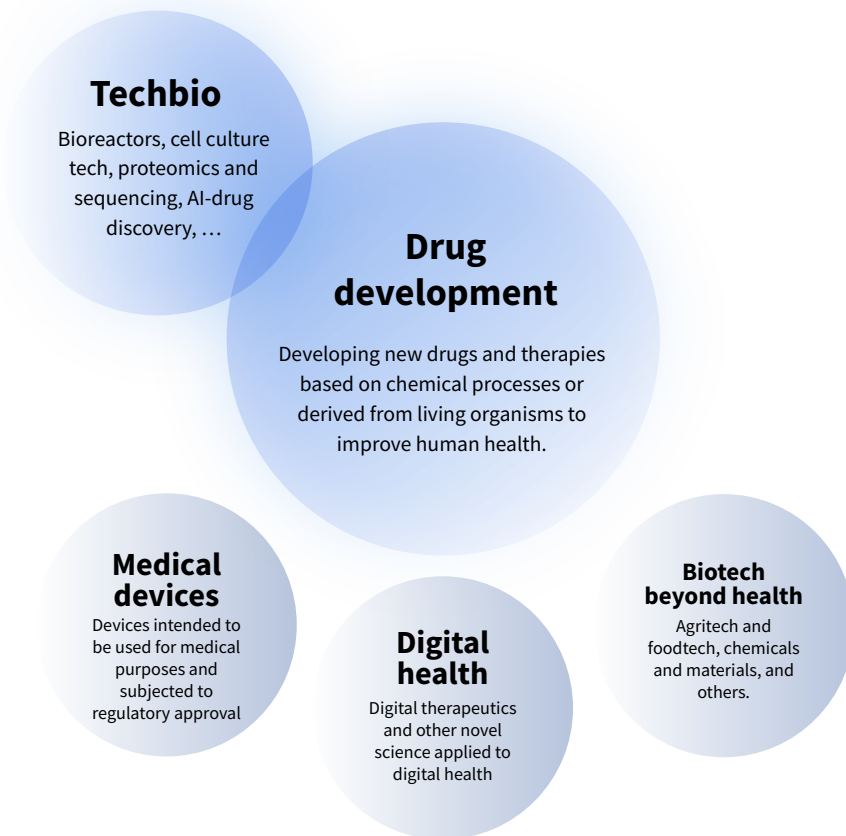
# Life sciences defined

Startups in (Health) Life Sciences, also commonly referred to as Biotech and Pharma, focus on **developing new drugs and therapies** based on chemical processes or derived from living organisms **to improve human health**.

This also includes companies whose primary focus is software and hardware products for the Life Sciences sector, such as bioreactors, cell culture technology, proteomics and sequencing, or AI drug discovery. These companies, sometimes referred to as **TechBio**, are often considered to be both Life Sciences and Deep Tech; in this report, they are assigned to Life Sciences to avoid overlaps.

Life Sciences does **not include** Health sectors such as Medical Devices (device intended to be used for medical purposes and subjected to regulatory approval) and Digital Therapeutics (evidence-based therapeutic interventions driven by software to prevent, manage, or treat a medical disorder or disease), which are instead included in Deep Tech if they fit the criteria of time to market, complexity, capital requirement and research-intensiveness.

It does **not include** biotech applications in **sectors beyond health**, such as agritech and foodtech (e.g. crop engineering, cultivated meat, precision fermentation), chemicals and materials (e.g. biomaterials and biomanufacturing), among others. Those biotech companies are included in Deep Tech if they meet the criteria of time-to-market, complexity, capital requirements, and research intensity.





### **Global startup & venture capital intelligence platform.**

Dealroom.co is the foremost data provider on startup, early-stage and growth company ecosystems in Europe and around the globe.

Founded in Amsterdam in 2013, we now work with many of the world's most prominent investors, entrepreneurs and government organizations to provide transparency, analysis and insights on venture capital activity.



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The University of Glasgow is one of the world's top 100 universities and a member of the Russell Group. Founded in 1451, it is the fourth oldest university in the English-speaking world, with a long history of pioneering research across science, engineering, medicine, and the social sciences.

Home to over 35,000 students and a research community working at the frontiers of disciplines from quantum technology and precision medicine to engineering biology, Glasgow is a major driver of Scotland's deep tech research pipeline. Its researchers and policy experts contributed the qualitative ecosystem analysis and strategic recommendations in this report.



University  
*of* Glasgow