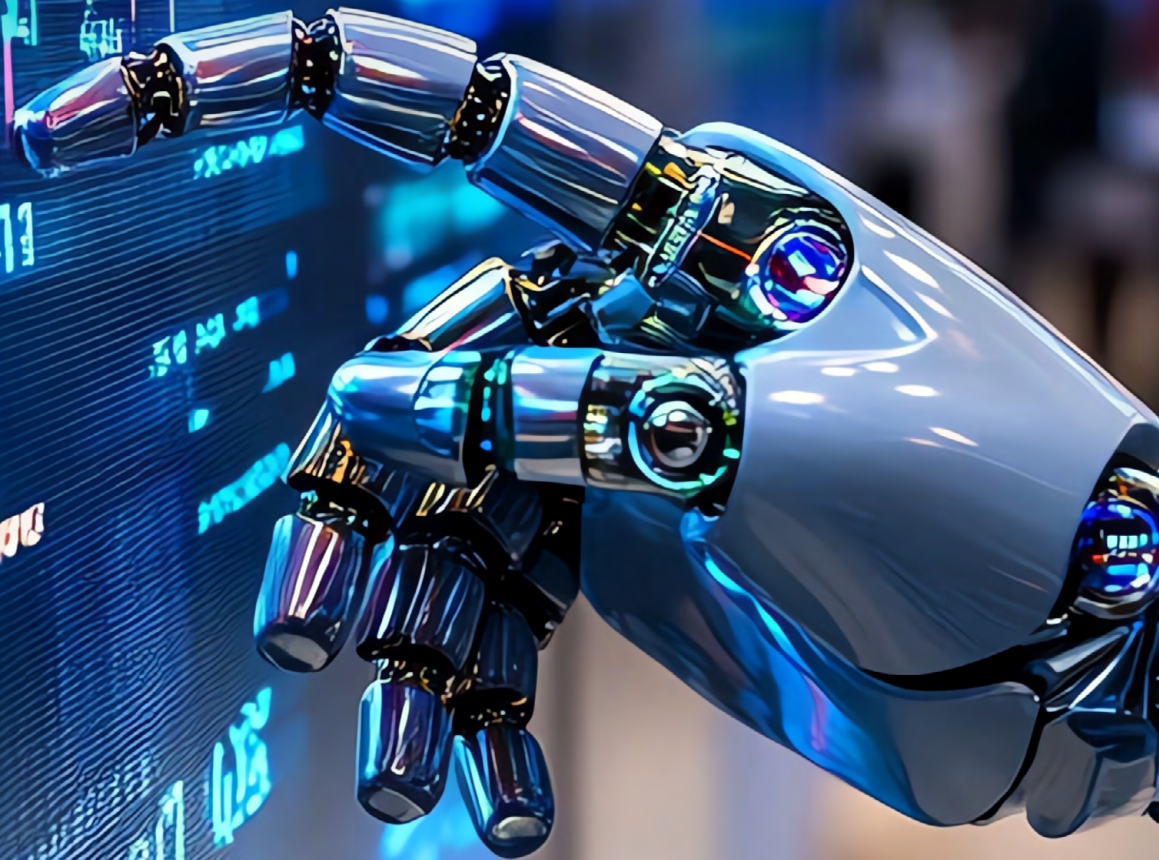


Mapping investors for European innovators

Introducing the Technology Investor Score

January 2025 | Executive summary



Executive summary

Startups play a vital role in transferring university science to industry and advancing ideas that are too disruptive to be commercialised by established firms. They have the potential to drive economic growth, enhance welfare, generate employment and boost productivity through innovative products. However, they face a critical challenge; their reliance on external capital, coupled with inefficiencies in the allocation of financial resources, often hinders their ability to secure the necessary funding.

This challenge is particularly acute in Europe, as highlighted in the 2024 Mario Draghi report, “The future of European competitiveness”. Despite high private sector savings, Europe suffers from underinvestment in key technologies and innovation markets. Fragmented capital markets complicate efforts to mobilise the substantial funding needed for technology development. Compared to the US, venture capital (VC) plays a significantly smaller role in Europe, with a pronounced gap in later-stage funding. This shortfall is critical, as higher investments at this stage are essential to prepare inventions for successful market entry.

Patents play a vital role in helping startups overcome financial obstacles, particularly during the stages of technology and product development, when external funding is critical. However, while patents open doors to funding opportunities, they also present challenges for investors, as radical inventions often carry high risks despite their earnings potential. Investors with strong IP management skills and the capacity to guide inventions from early stages to scaling up are essential.

This study, conducted under the aegis of the EPO Observatory on Patents and Technology, aims to contribute to improving financing opportunities for technology-driven startups in Europe. It introduces the Technology Investor Score (TIS), a novel metric designed to identify investors specialising in tech companies as measured as the percentage of patenting companies in their portfolio. Leveraging this metric, the study creates a comprehensive mapping of specialised technology investors available to European startups and explores key areas of interest for European competitiveness.

Public investors are essential to Europe’s innovation ecosystem, working alongside private investors to drive progress. While private investors such as VCs and investment funds dominate high-TIS investments, public

ones also play a significant role. Notably, private investors are more evenly distributed across moderate and low-TIS categories, whereas public investors are predominantly concentrated in high-TIS companies, reflecting their focus on fostering investments with high social impact. Among public investors, we observe a significant presence of pan-European institutions such as the European Innovation Council (EIC) under Horizon Europe and the European Investment Bank (EIB), national innovation agencies from the Taftie network such as Bpifrance, Innovation UK and Innosuisse, and regional innovation agencies.

Investors with a higher TIS are in principle better equipped to support innovative companies. We examine their connection with key outcomes for European competitiveness, finding that high-TIS investors produce a higher rate of successful exits and scale-ups. However, this relationship is stronger for US investors, reflecting differences in scaling resources, with a more supportive ecosystem for high-growth companies across the Atlantic. Our analysis reveals significant funding gaps between Europe and the US for high-TIS private investors, particularly in critical technology sectors with high growth potential. These gaps are also most evident in the later-stage funding rounds essential for scaling up. Instead, we find a funding surplus for public investors.

The need for growth capital in technology-driven companies has become a priority for European institutions, prompting initiatives like the EIC’s Trusted Investors Network launched in October 2024 to foster public-private collaboration. We analyse co-investor networks to explore how public-private investor relationships influence funding availability throughout the innovation cycle, uncovering key structural differences between Europe and North America. In the US, private late-stage investors hold central network positions, driving extensive scale-up funding, while in Europe public entities focusing on early-stage support dominate. We identify private investors well positioned to collaborate with European public entities, presenting a strong opportunity to bridge funding gaps and bolster Europe’s innovation ecosystem.

Key findings

1. The TIS is an effective tool for identifying investors engaged in tech startups.

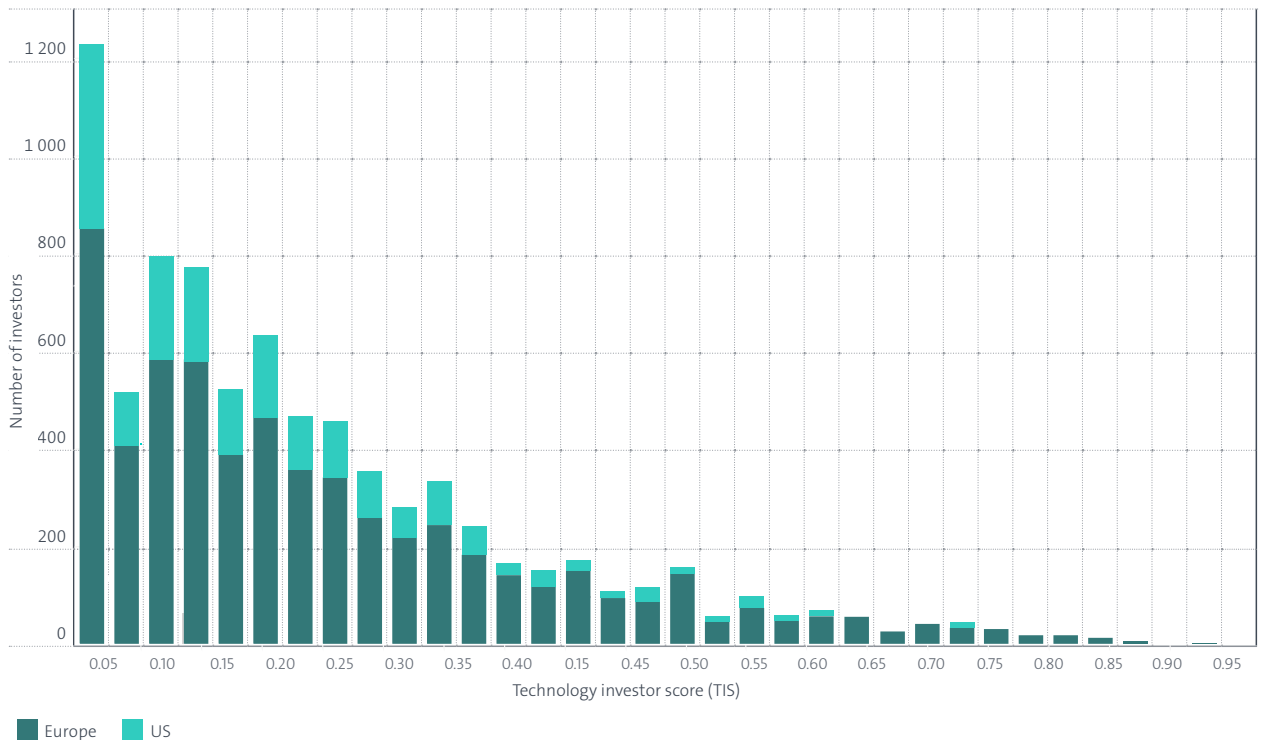
We present the TIS, a new metric that can be used to pinpoint investors with a focus on backing technology-driven companies. The TIS measures the percentage of patenting companies in an investor's portfolio. It ranges between zero and one, with higher values denoting greater engagement in technology-based startups.

Over 6 100 global investors active in Europe are analysed in this study, including both private and public players. To provide a benchmark, we also study over 8 000 investors in US companies.

We find that 88% of European investors have a positive TIS and are therefore involved with innovation. However, the extent of this involvement varies considerably across investors. Although most have a low TIS, 8% have portfolios where more than half of the companies hold patents. US investors present a very similar distribution. The TIS is highly granular, having 1 372 distinct values indicating different degrees of investor engagement in technology-driven startups. This granularity makes it a powerful tool for identifying investors well suited to funding innovation.

Figure E1

European and US investors by TIS



Note: The graph shows the frequency of investors across TIS values for companies headquartered in Europe and the US.

Sources: Dealroom, EPO.

2. The TIS reveals varying degrees of engagement in technology by European investors, with higher values driven by big public programmes and specialised private investors from countries with strong capital markets, like the UK.

A key use for the TIS is to identify key investors for companies seeking funding. We provide a list of investors with a high, moderate and low TIS. Public investors like the EIC and national programmes such as Innovate UK and Bpifrance are among the most active, all with high

scores. Other investors with a high TIS include specialised private players in high-tech industries like health, energy and software.

France, Germany and the UK lead in both total funding and transaction values, with investors in these countries also showing a relatively high TIS. Smaller countries like Belgium, the Netherlands, Norway, Sweden and Switzerland have active risk markets and a high TIS. Southern and Central-Eastern Europe, including Spain—which has a substantial number of transactions and investments—show promising growth potential in TIS and investment levels.

Figure E2

European investors by country and category of TIS



Note: The size of the boxes indicates the number of transactions by investor in each country. The colour of the boxes represents the TIS category. The TIS categories are based on the score's distribution: low (lower tercile, below 0.083), moderate (middle tercile, 0.083 to below 0.2), and high (upper tercile, 0.2 and above). Only investors with at least ten transactions are included. The abbreviated country names of the top 13 countries by number of transactions are provided in the graph. Some investor names are also included in the graph, where possible. For a complete list of the top ten investors in each country, see Annex 2.

Sources: Dealroom, EPO.

3. While private investors account for the majority of investment volumes in Europe, public investors lead in specialising in technology funding.

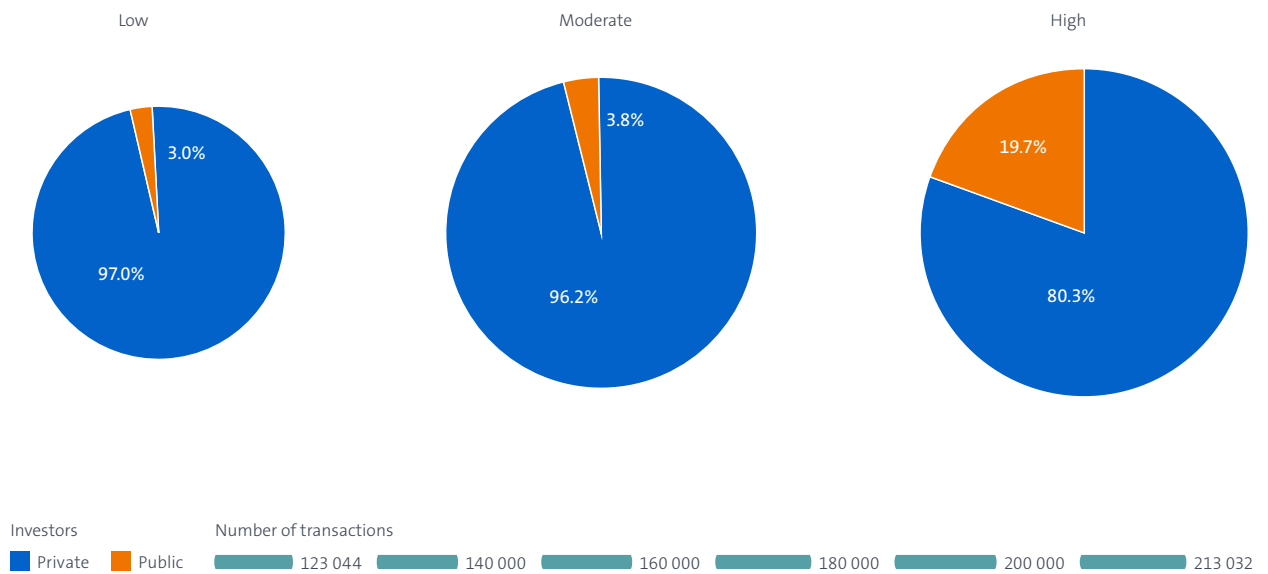
The majority of investments in Europe are from private investors, primarily VCs and other investment funds. However, the majority of these are in the low and moderate categories of the TIS. The majority of transactions by public investors, by contrast, have a high

TIS, which is consistent with the main mission of public programmes; to seed early-stage innovation.

This is particularly evident in investments by European Union programmes such as the EIC, EIB and EIT, which all have above-average levels of involvement with patenting firms. National programmes also show high levels of engagement with technology, falling under the high category for the TIS, but generally at lower levels than EU programmes.

Figure E3

Share of public and private investors by TIS category



Note: The figure shows the percentage of transactions by public/private investors by category of TIS. The size of the pie charts indicates the total number of transactions per TIS category. The TIS categories are based on the score's distribution: low (lower tercile, below 0.083), moderate (middle tercile, 0.083 to below 0.2), and high (upper tercile, 0.2 and above).

Sources: Dealroom, EPO.

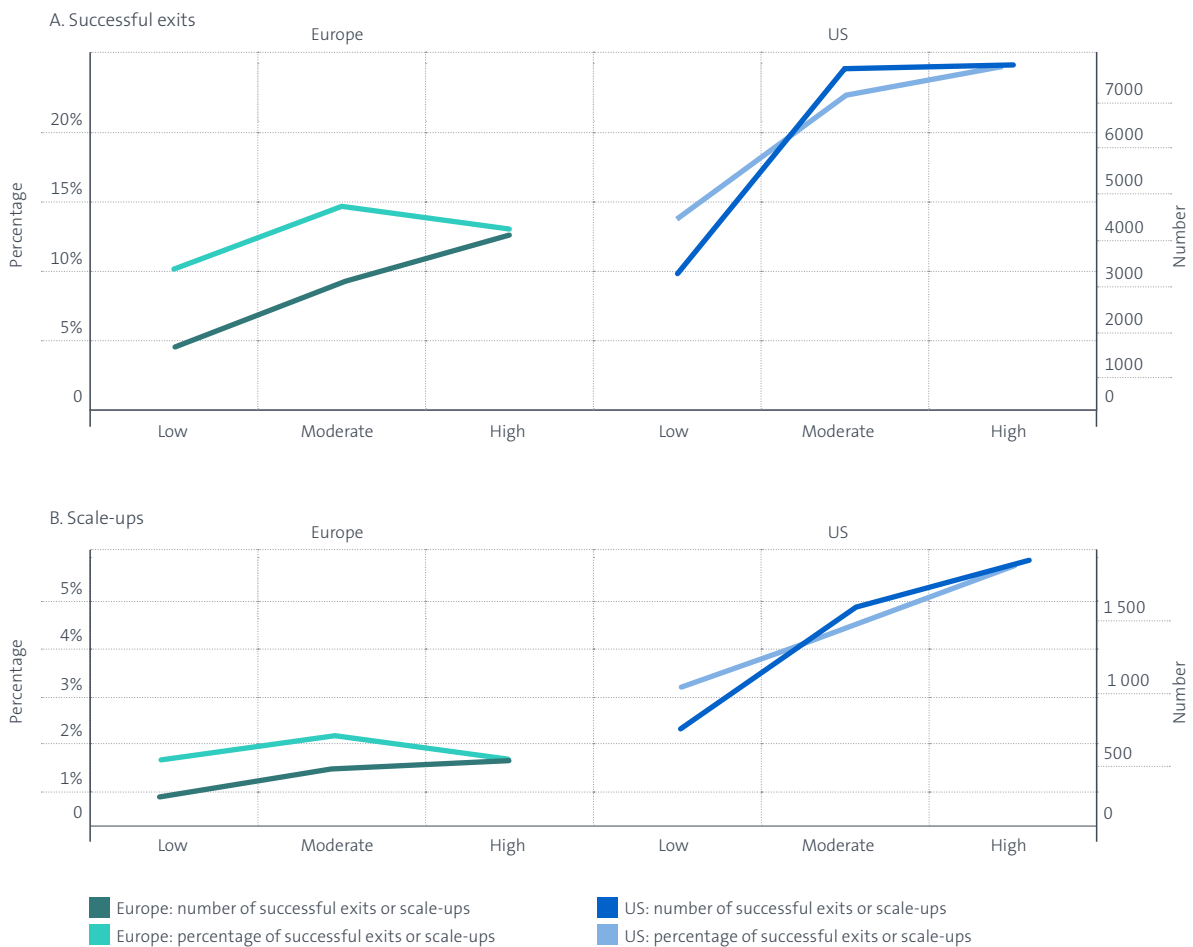
4. Investors with high involvement in technology are more likely to have successful exits and scale-ups, with the US outperforming Europe.

A higher TIS for investors is correlated with more successful exits and scale-ups, emphasising the crucial role played by technology engagement in driving business success. This highlights that investor experience in funding companies with patents can be associated with better investment outcomes.

This relationship is more evident for companies in the US than for European ones, suggesting that European investors may need to strengthen their focus on technology and IP-backed ventures to boost the continent's scale-up ecosystem. The disparity may reflect structural differences in scaling resources available to startups, with investors in the US providing a more supportive ecosystem for high-growth companies.

Figure E4

Successful exits and scale-ups by TIS category



Note: The figure illustrates the number and percentage of successful exits and scale-ups by TIS category for European and US companies. A successful exit is defined as an IPO or acquisition. A scale-up is defined as a company that reaches a valuation of between USD 500m and USD 10bn. The TIS categories indicated in the x-axis are based on the score's distribution: low (lower tercile, below 0.083), moderate (middle tercile, 0.083 to below 0.2), and high (upper tercile, 0.2 and above).

Sources: Dealroom, EPO.

5. Funding gaps between Europe and US companies are particularly wide for high-TIS investors that a) are private, b) specialise in later-stage rounds, and c) invest in high-tech sectors. Public investors show a funding surplus.

We examine funding gaps between Europe and the US across TIS categories. The US operates at a greater scale, with more investors funding more companies and providing larger investments per company. These disparities result in a funding gap by European

companies, which is larger for high-TIS investors.

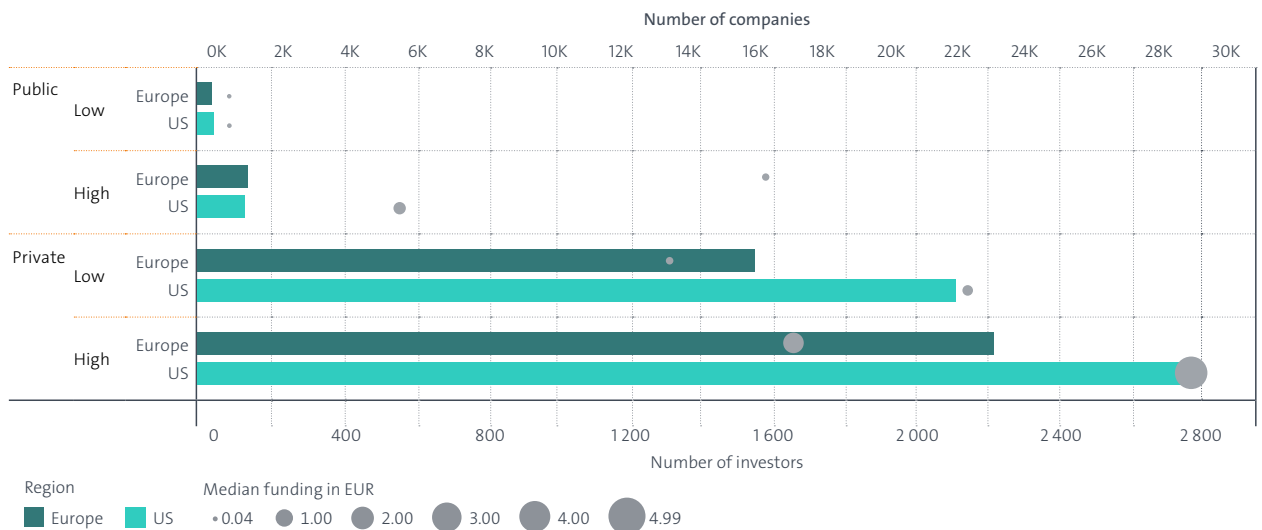
The gaps are most pronounced for high-TIS investors that are private (76%, vs. 59% for low-TIS), invest in later-stage rounds (76%, vs. 59%) or focus on high-tech sectors (74%, vs. 63%). In contrast, public investors in Europe, most of which are high-TIS, show a 20% funding surplus.

These results indicate that high-TIS investors—those best positioned to support highly innovative companies—provide significantly less funding to European firms than to US ones. This shortfall is especially marked in critical technology sectors with the greatest growth potential and in later-stage funding rounds, which are essential for scaling up.

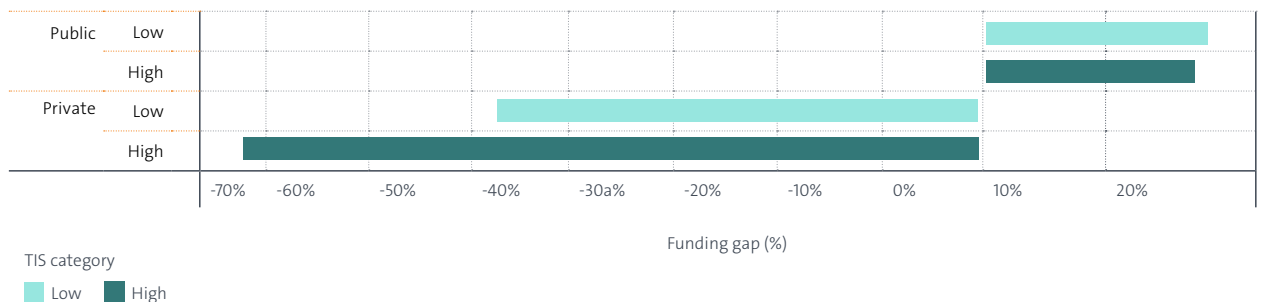
Figure E5

Funding by TIS category

A. Number of investors and funded companies and median funding in EUR million by TIS category



B. Funding gap between Europe and the US by TIS category



Note: Panel A illustrates the number of investors, number of funded companies and median investment per company by TIS category and investor type for companies headquartered in Europe and the US. Bar lengths represent the number of investors (lower axis), dot lengths correspond to the number of funded companies (upper axis), and dot sizes reflect the median funding per company in EUR million. Panel B illustrates the percentage gap in total funding within each TIS category and investor type, calculated as the difference in total funding received by companies in Europe compared to companies in the US, expressed as a percentage of the US total funding. The TIS categories are based on the score's distribution: low (lower tercile, below 0.083), moderate (middle tercile, 0.083 to below 0.2), and high (upper tercile, 0.2 and above).

Sources: Dealroom, EPO.

6. Early-stage public investors occupy central roles in Europe’s co-investor network, while late-stage private investors are central in the US.

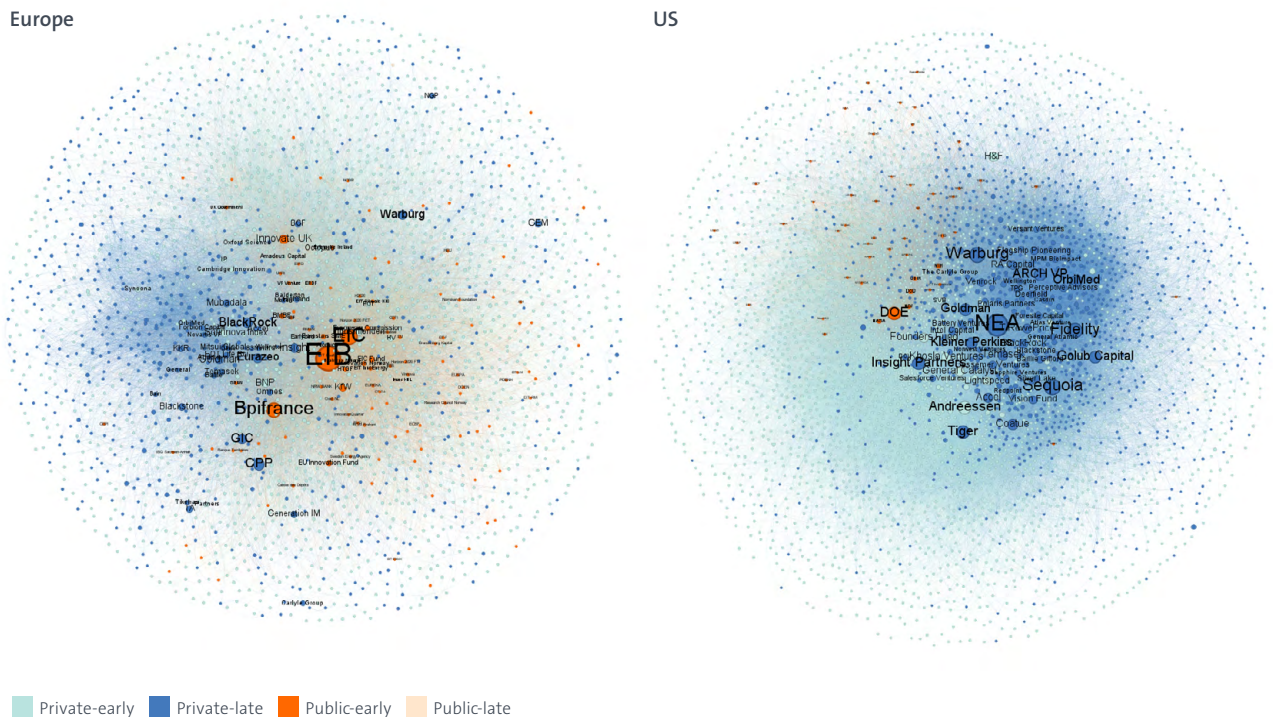
The European and US networks of co-investors reveal distinct structures. In the US, private investors specialising in late-stage occupy central positions, driving a market-oriented environment with extensive scale-up funding. In Europe, public entities dominate, providing early-stage support; growth capital from private investors in later stages is limited. In Europe, the top five investors by network centrality are major public entities: the EIC, Innovate UK, Eurostars SME Programme, Bpifrance, and the European Institute

of Innovation and Technology (EIT). The top 100 also feature 11 additional public entities, mainly pan-European institutions, and national agencies. Among private investors in the top 100, 62% focus on early-stage funding, while only 22% specialise in late-stage, highlighting the limited capital for scaling high-tech companies in Europe.

In the US, private investors account for 98 of the top 100 most central investors, with over half specialising in late-stage funding, reflecting strong private support for scaling high-tech companies. Prominent late-stage investors like Sequoia, NEA and Fidelity occupy central positions. Only two public entities, the National Institutes of Health and the National Science Foundation, are among the top 100.

Figure E6

Network of public and private investors for European and US companies



Note: The graph displays the network of public and private investors for European (left-hand panel) and US (right-hand panel) companies in high-tech sectors (health, semiconductors, energy, space, robotics, consumer electronics and enterprise software). Co-investors are defined broadly as investors that invest in the same company, but not necessarily at the same point in time and transaction round. Private investors include venture capitalists, private equity, corporate funds, and other types of private investment fund. Public investors include pan-European institutions and national or regional agencies from member states. Only investors with a moderate or high TIS are included in the analysis. The network structure was produced using the Fruchterman-Reingold layout algorithm in Gephi. Nodes represent investors and edges represent their connections. The layout reveals clusters and central investors, highlighting the network’s key structures and relationships.

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