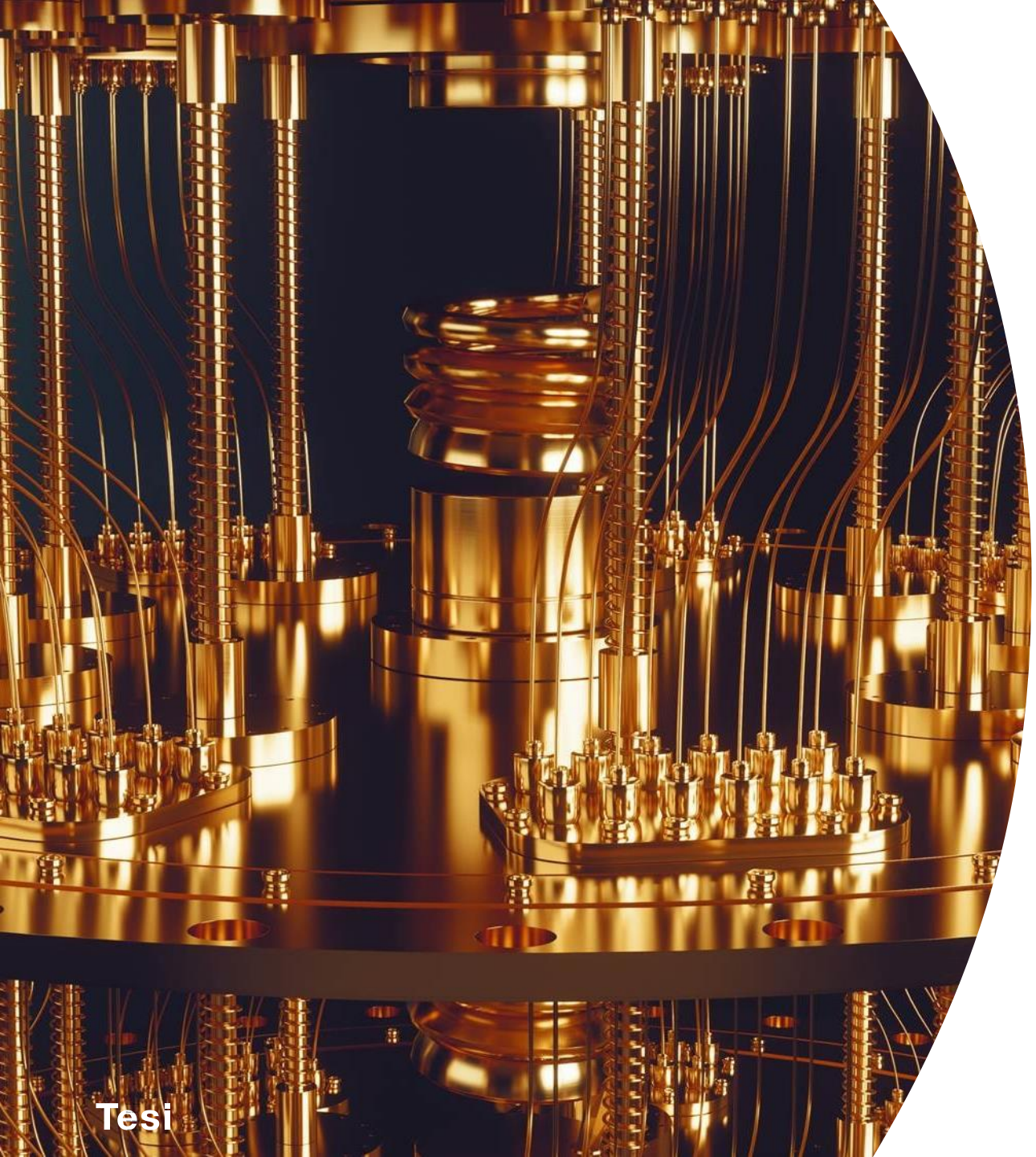

Deep Tech -study Finland 2022

December

Tesi

Foreword

Deep tech refers to technologies that are based on scientific and engineering breakthroughs, such as artificial intelligence, biotechnology, and quantum computing. These technologies have the potential to drive significant economic and societal impact, and as such, they are an important area of focus for many countries, including Finland.

Finland has a strong tradition of research and development, and has been at the forefront of many deep tech developments. The country has a number of world-class universities and research institutes that are working on cutting-edge technologies in areas such as AI and quantum computing. Additionally, there is a growing ecosystem of deep tech startups in Finland that are developing innovative technologies and products.

The overall development of Finnish deep tech has been positive in recent years. There has been an increase in the amount of invested capital and the number of funding rounds for deep tech companies in Finland. This shows that there is growing interest and support for the deep tech sector in the country.

However, it is important to note that the development of deep tech in Finland cannot be achieved by any one stakeholder alone. The government, investors, corporations, and universities all have a role to play in strengthening and growing the deep tech ecosystem in the country. For example, the government can provide support through funding and regulatory frameworks, while investors can provide the capital that is needed to develop and scale deep tech companies. Universities and research institutes, on the other hand, can provide the expertise and knowledge that is necessary for deep tech companies to succeed.

It is also important to note that investing in deep tech requires specialized skills and expertise. Deep tech companies often take longer to scale than traditional startups, and as such, they may not fit into the traditional venture capital or growth investor mindset. As a result, investors in the deep tech sector need to have a deep understanding of the technologies and markets in which they are investing.

Looking to the future, the development of deep tech in Finland is likely to continue to be a key focus for the country. The government, investors, and other stakeholders will need to work together to support the growth of the deep tech ecosystem in Finland. This will involve providing the necessary funding and expertise, as well as creating a supportive regulatory environment that allows deep tech companies to thrive. Ultimately, this will help to drive economic growth and innovation in Finland, and position the country as a global leader in deep tech.

- Chat GPT, the Open AI algorithm when it was asked to create foreword based on our findings and obesrvations of finnish deep tech

We agree

Henri Hakamo
Chief Digital Officer

Juha Lehtola
Director, Venture Capital

Tuomas Rekonen
Investment Associate

Klaus Majanen
Analyst

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Scope of the Research

Background & Demand

- Relevant reseach on Finnish deep tech companies barely exist
- Deep tech companies are not readily available on public domain
- None of the market participants has a comprehensive view of the whole deep tech ecosystem development
- Challenges of the deep tech companies (and the ecosystem) are barely recognised

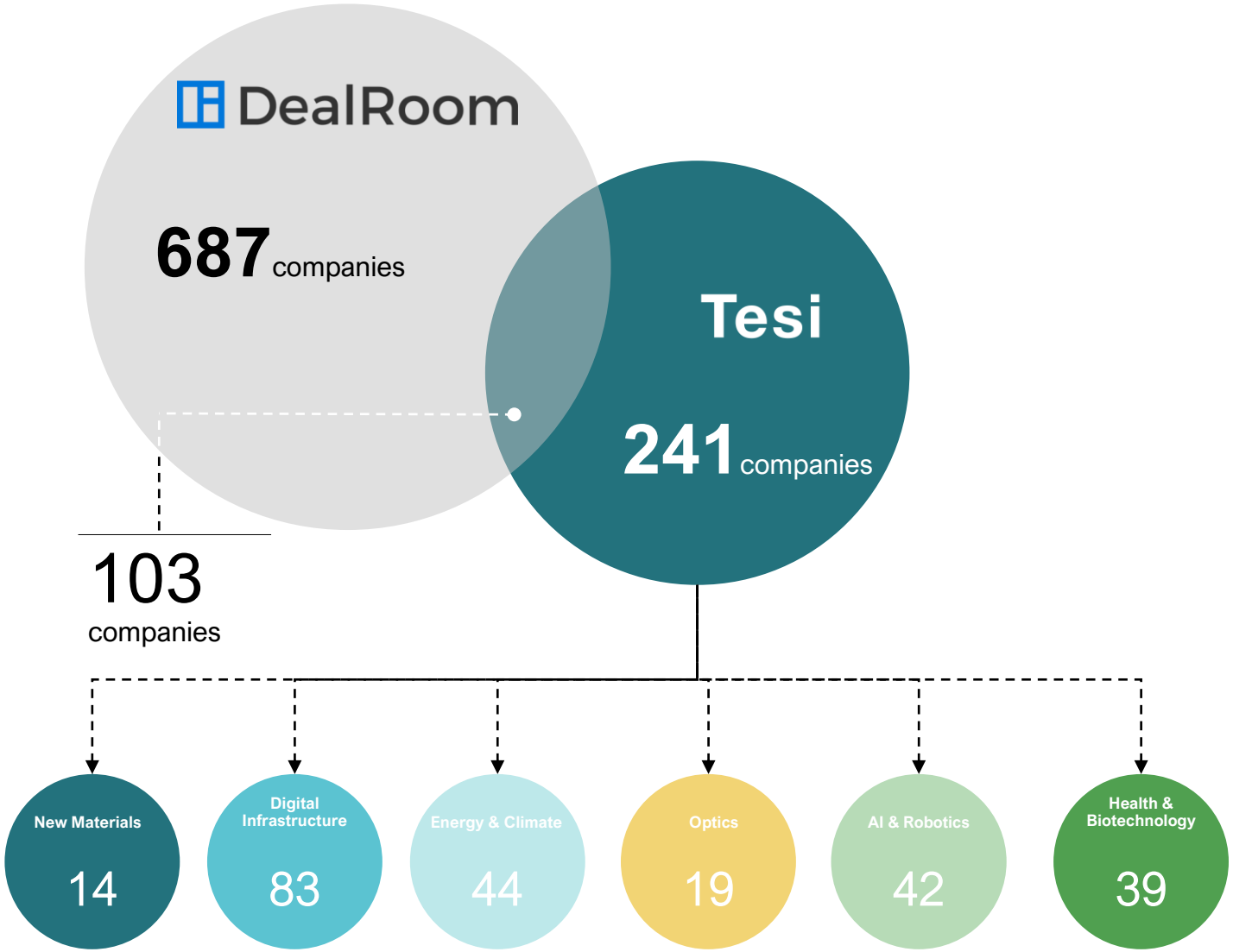
Objectives

- The primary goal of the research is to create fundamental understanding of the Finnish deep tech ecosystem: founding, funding, developement of syndicates, and financial performance
- We are particularly interested in possible under-funding of deep tech companies, or other challenging areas of the ecosystem

Limitations

- Analysis and conclusions are Tesi's own
- We do recognize that our study does not include all deep tech companies in Finland and lists are always subjective. However, we we would like to cooperate within the industry in coming years to create public, up-to-date and more holistic list. We are also commited to ongoing research agenda within the field.
- Tesi's data model is used as main datasource, which includes multiple different datasources, including Pitchbook, Dealroom, Talouselämä, Bureau van Dijk (Orbis), Mergermarket, and other datasources. The data utlizied may be partially incomplete or faulty. Research also includes already bancrupted companies.

Tesi's Definition of Deep Tech



- **Tesi's selection is hand-picked from the Finnish ecosystem, mainly from (VC-) funded companies. These companies have been manually screened and categorised as "deep tech" by our investment team members.**
- Tesi's sample differs from other market study samples in many ways. For example, the market research by Dealroom has identified 687 deep tech companies in Finland. However, Tesi takes a different approach. According to our estimate, there are 241 deep tech companies in Finland, in which 103 of them mutually overlap with Dealroom's sample.
- Further, our research finds that "Digital Infrastructure" forms the largest category of deep tech in Finland with 83 companies, while the smallest category is New Materials with only 14 companies.

Tesi's Deep Tech Description and Taxonomy

We consider companies to be deep tech if they are based on important scientific or engineering innovation with strong disruptive potential and high barriers to entry

New materials

Companies developing new materials through technological innovations, including for example sustainable subsitites for cement, plastic and textiles

INFINITED FIBER
SPINNOVA®
PAPTIC®

Digital infrastructure

Companies developing physical and/or digital systems, including sensors, IoT, (embedded) systems, computing, networks and electronics

IQM
ICEYE
picosun

Energy & Climate technology

Companies developing new energy and/or climate related technologies, for example carbon capture, new energy storage technologies

soletair power
BETOLAR
GEYSER BATTERIES

Optics

Companies developing optics and imaging solutions including the generation, detection and manipulation of light

ELFYS
EMBERION
Detection Technology

AI & robotics

Companies developing artificial intelligence and robotics, inclunding computer vision, machine learning, speech recognition

ZENROBOTICS®
INSCRIPTA®
MVISION
- Artificial Intelligence in Medical Imaging -

Health & Biotechnology

Companies developing biotechnological applications for healthcare and medicine, and technologically advanced medical devices

nanoform
small is powerful®
finnadvance
SYNOSTE

Key Observations

Finnish deep tech is growing fast

Investments, companies, and the deep tech investor pool are all growing fast. Large investment rounds have gathered the attention of foreign investors, which have increased their presence significantly in deep tech investment rounds. At the same time the companies and the ecosystem is growing at a remarkable pace. Fundraisings of finnish vc funds, imply considerable growth in dry powder eligible for deep tech investments.

Investments have grown significantly, and likely continue to grow

€1,9 bn total invested capital

429 investments to 176 companies

Deep tech ecosystem is growing fast

Total revenue of deep tech has grown approximately 47% (CAGR) per year since 2010

Investor activity is increasing

Number of investors per year have grown approximately 15% (CAGR) per year since 2011

Variable development in deep tech ecosystem

There are weak signs of decreasing number of new deep tech companies being founded annually. Also, only limited number of companies scale up and are able to raise larger B+ rounds. Even in such cases, development takes 10 to 15 years.

Underwhelming development in number of deep tech companies being founded

Ecosystem development takes time

Median time to 1 mEUR of revenue is 6,1 years

Outcomes are heavily concentrated

Deep tech follows the pareto principle in many aspects

The Dilemma of large investment rounds

Finnish investors lack the capacity to fill large investment rounds on their own. Furthermore, clear lead investors are missing from larger rounds, which leads to wide and diversified syndicate stuctures.

Finnish funds do not have capacity to lead large investment rounds

Almost all (80-90 %) funding rounds over 10 mEUR include foreign investors

All investor types are needed

Syndicate diversity increases as the round size increases

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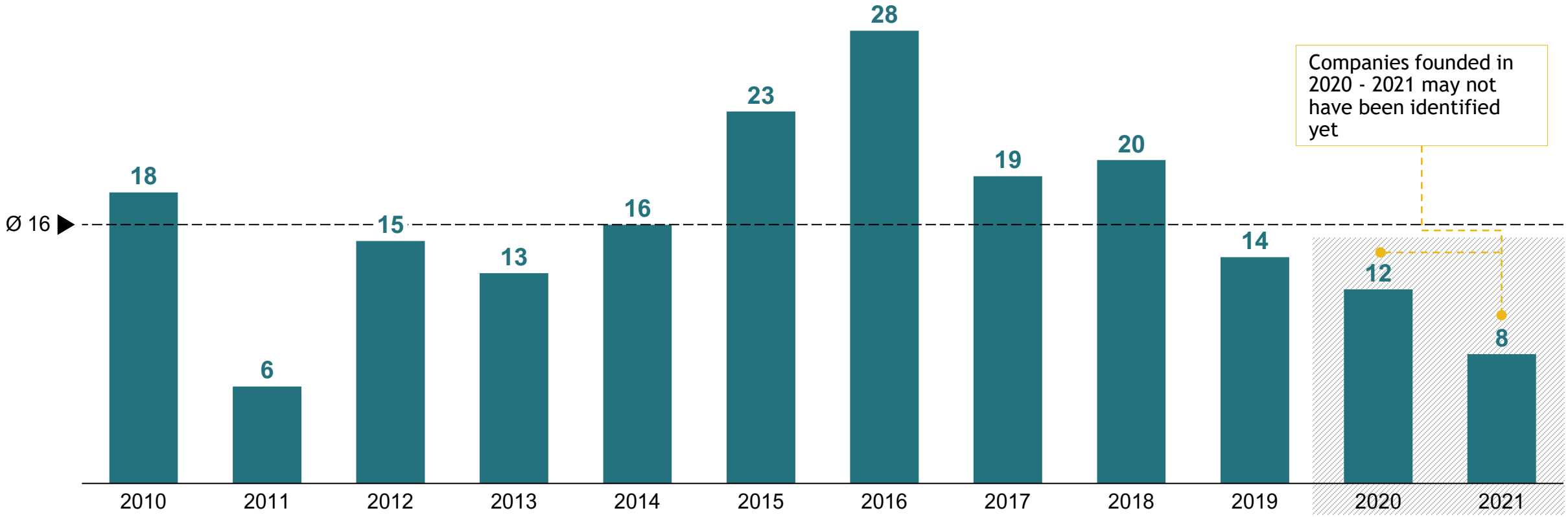
Approximately, 15–20 Deep Tech Companies are Founded Yearly

241 *companies*

16 *companies are founded yearly on average*

Number of founded deep tech companies

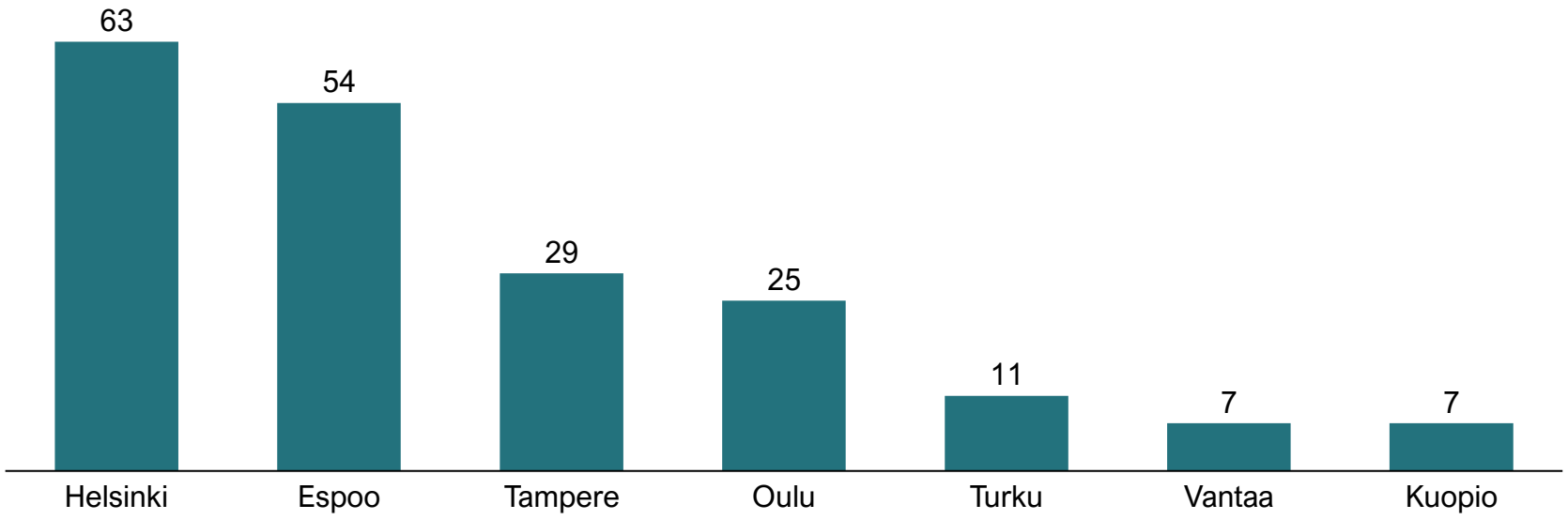


Geographical Distribution of Finnish Deep Tech

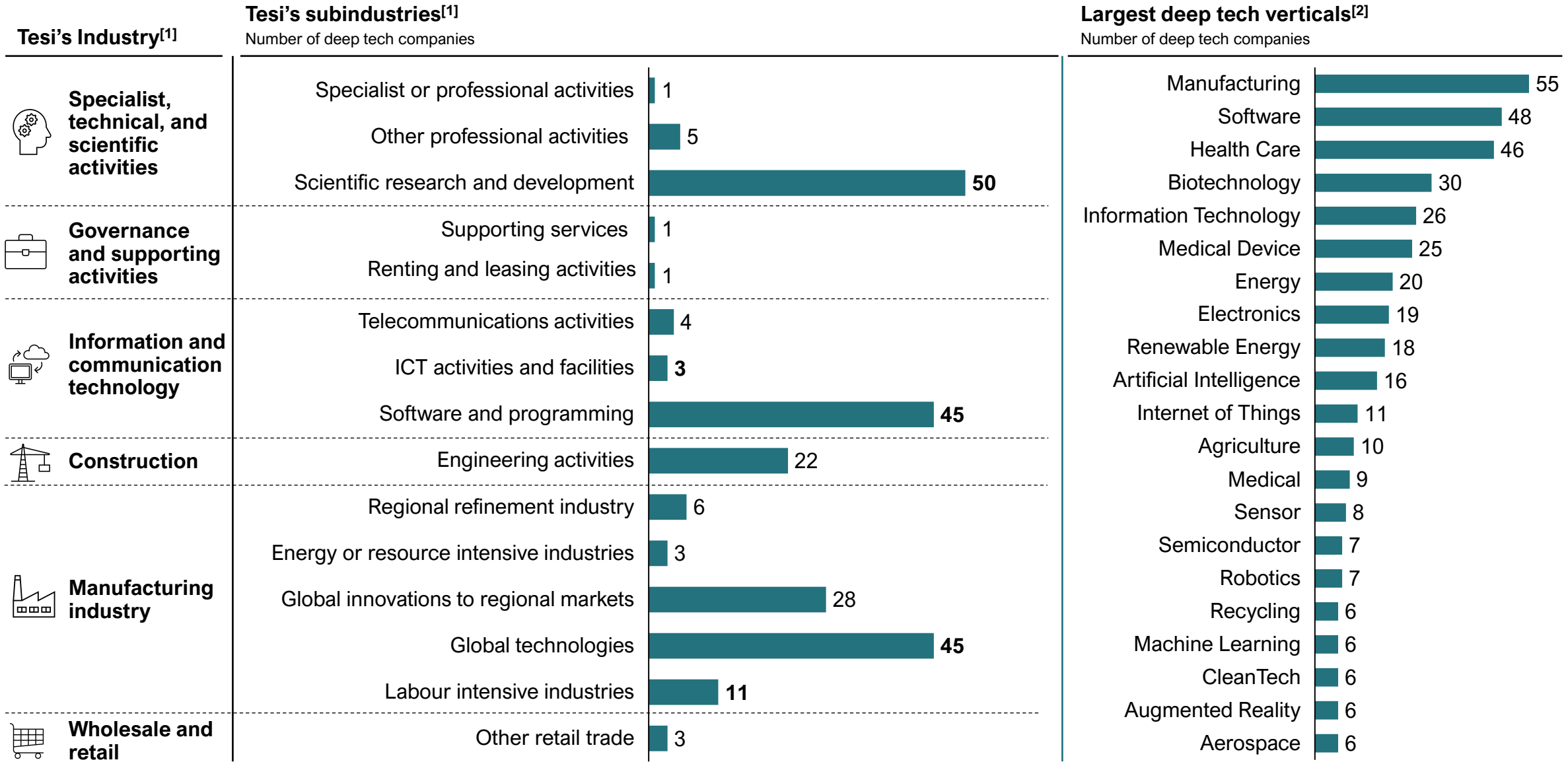
- Deep tech companies are heavily concentrated in the Helsinki metropolitan area
- Over half of the identified deep tech companies have been founded in this region
- On comparing cities within this region, Helsinki ranks first (**63 companies**), Espoo ranks second (**54 companies**), and Vantaa ranks third (**7 companies**)
- Outside of the Helsinki metropolitan area, Tampere (**29 companies**), Oulu (**25 companies**), and Turku (**11 companies**) account for the majority of deep tech company locations
- The location of deep tech companies is concentrated in larger and/or growing cities and quite often in close proximity to the largest universities in Finland

Number of deep tech companies per cities, ranked

Number of companies



Distribution of Deep Tech Companies Amongst Conventional Industries and Verticals



[1] Exact methodology on appendix [2] One company can belong in three different verticals in this analysis

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Investments into Deep Tech have Increased Significantly Since 2011

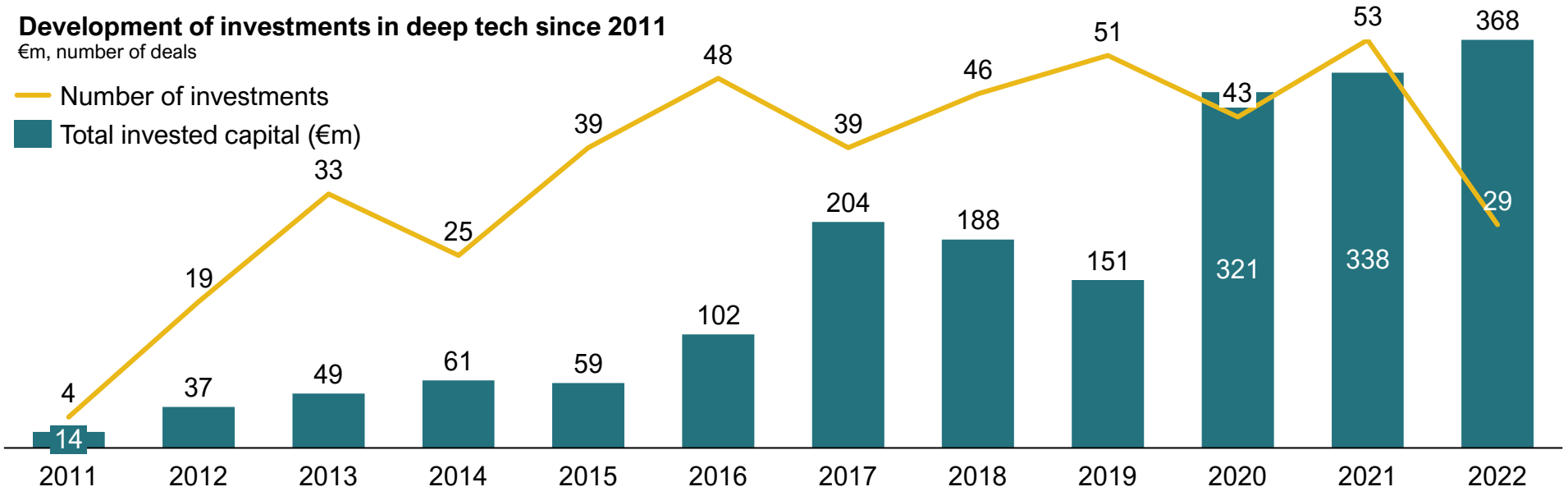
€1,9 bn

total invested capital through 2011-2022

429

investments in 176 companies

- The number of deals and amount of invested capital have increased significantly during 2011–2022. The total invested capital grew by 34% (CAGR) per year during this period.
- Investment activities have increased especially since 2017, the year invested capital increased by over 100%
- So far in 2022, deep tech companies have already received a record amount of funding as the total funding exceeded €350 million



34 %

CAGR 2011-2022

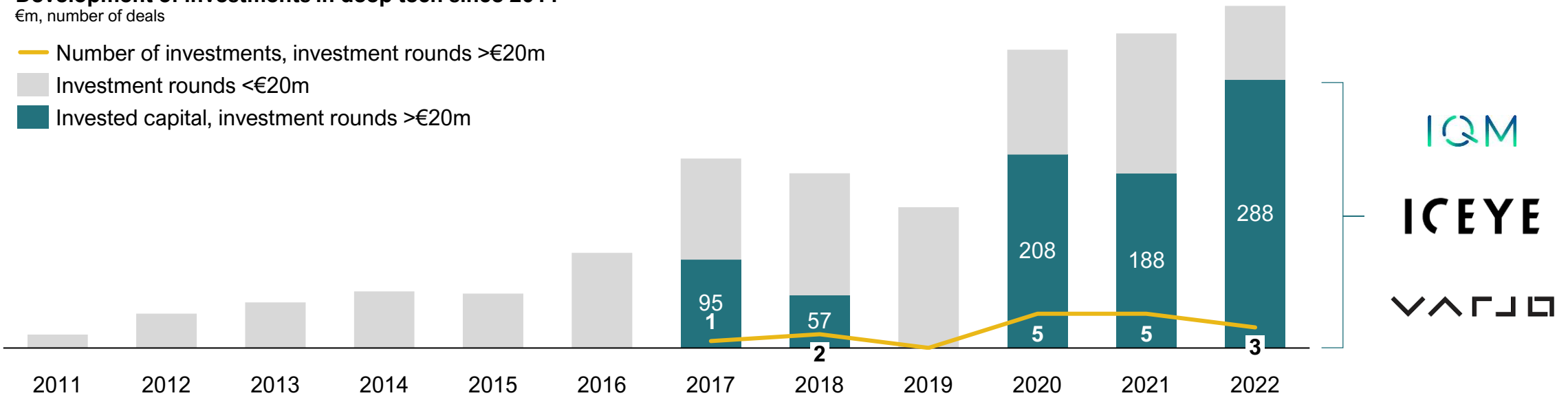
10 x

growth from 2012

Increased Funding is Driven by Growth in Large Investment Rounds

- As previously stated, the median size of deep tech investment rounds and the total investment amount have increased significantly since 2011
- This positive development is due to increase in large investment rounds (investment rounds >€20m). Since 2017, the proportional weight of large investment rounds have increased significantly.
- So far in 2022, approximately 80% of total invested capital was allocated in three large investment rounds (Varjo, Iceye, and IQM)

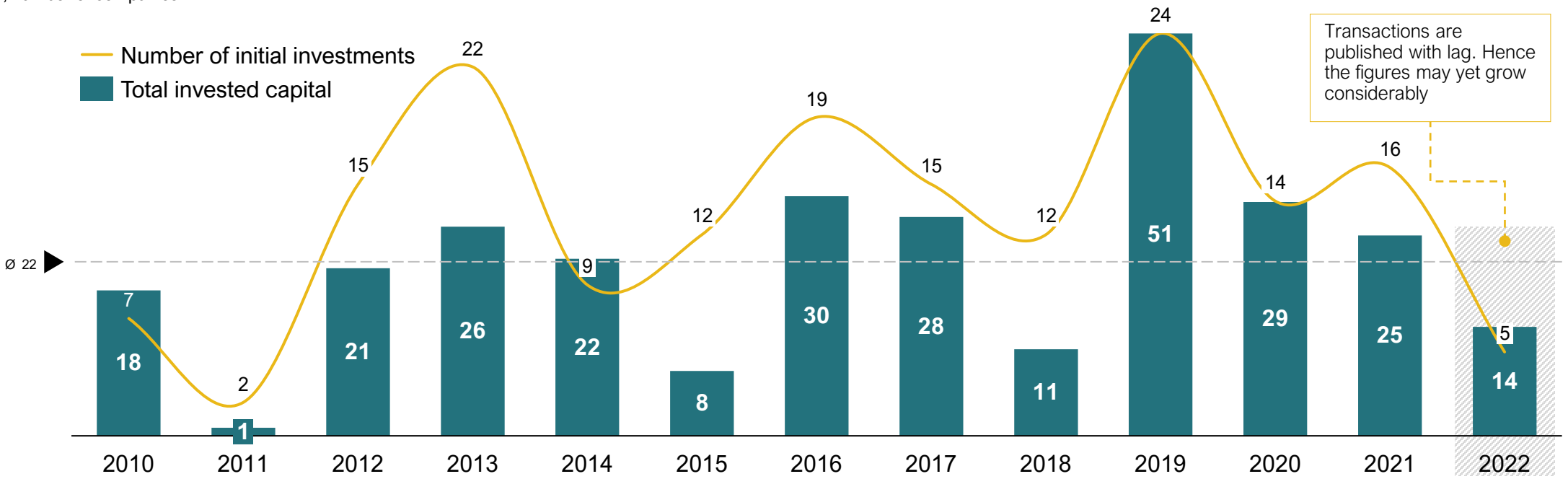
Development of investments in deep tech since 2011
€m, number of deals



Initial Investments into Deep Tech are Stable

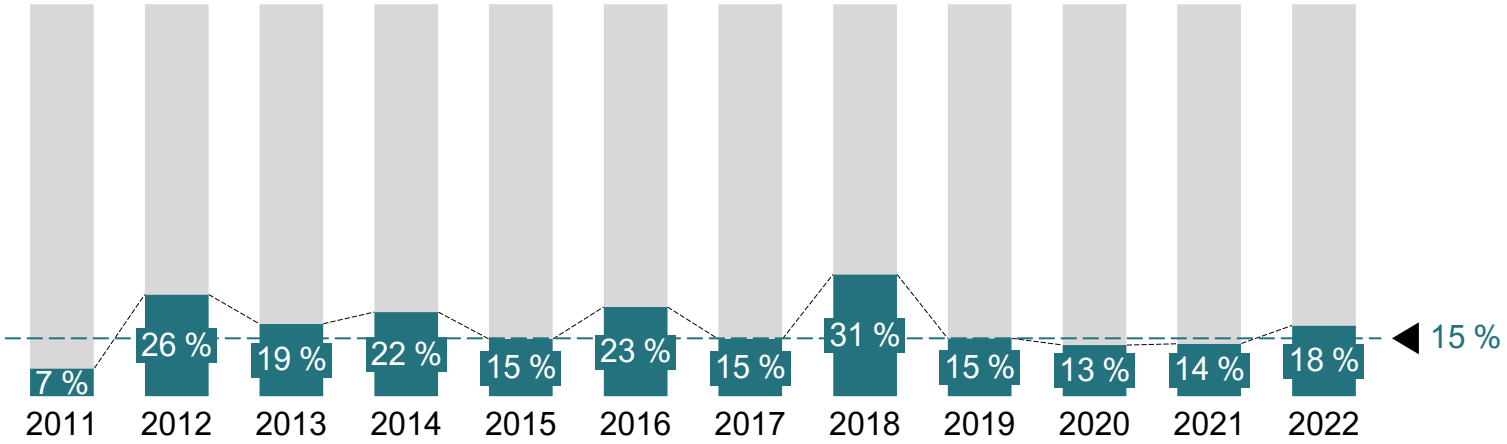
- On average, approximately 10 deep tech companies raise their first round each year. The average total capital invested per year in the initial rounds is approximately €22m.
- Overall, first investments have been relatively stable through the observed time period, especially when compared to the growth of total capital invested into deep tech companies

Development of first investments to deep tech through 2010-2022
€m, number of companies

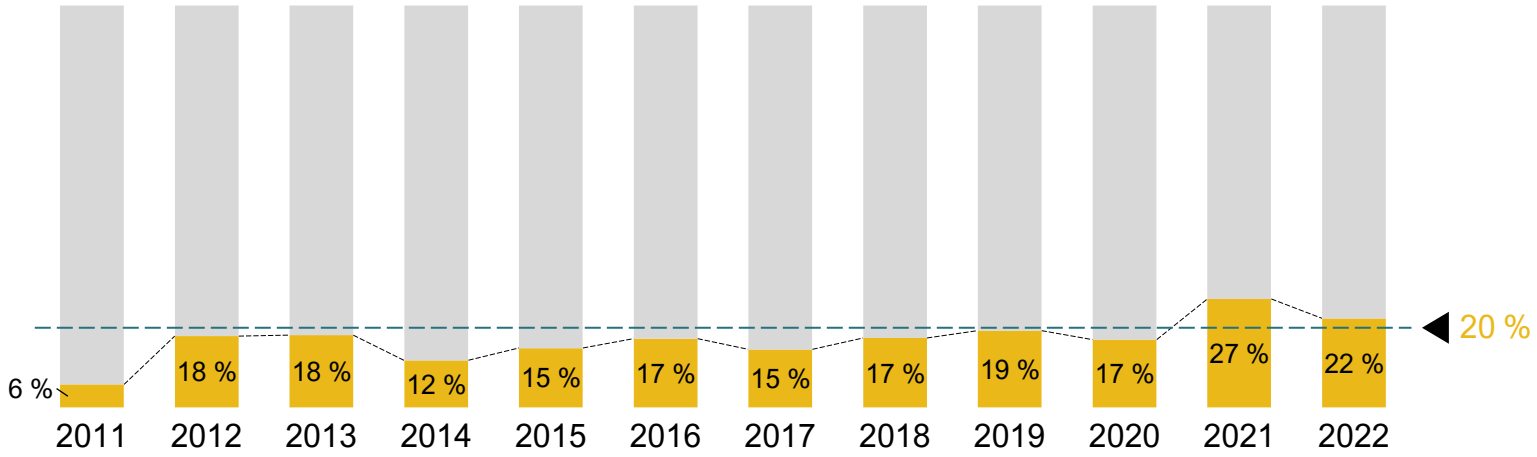


Funding Increasingly Directed to Deep Tech

Share of deep tech of total invested capital
(Growth, and venture capital investments)



Share of deep tech of number of transactions
(Growth, and venture capital investmentrounds)



Comments

The significance of deep tech companies amongst the Finnish private equity markets is increasing

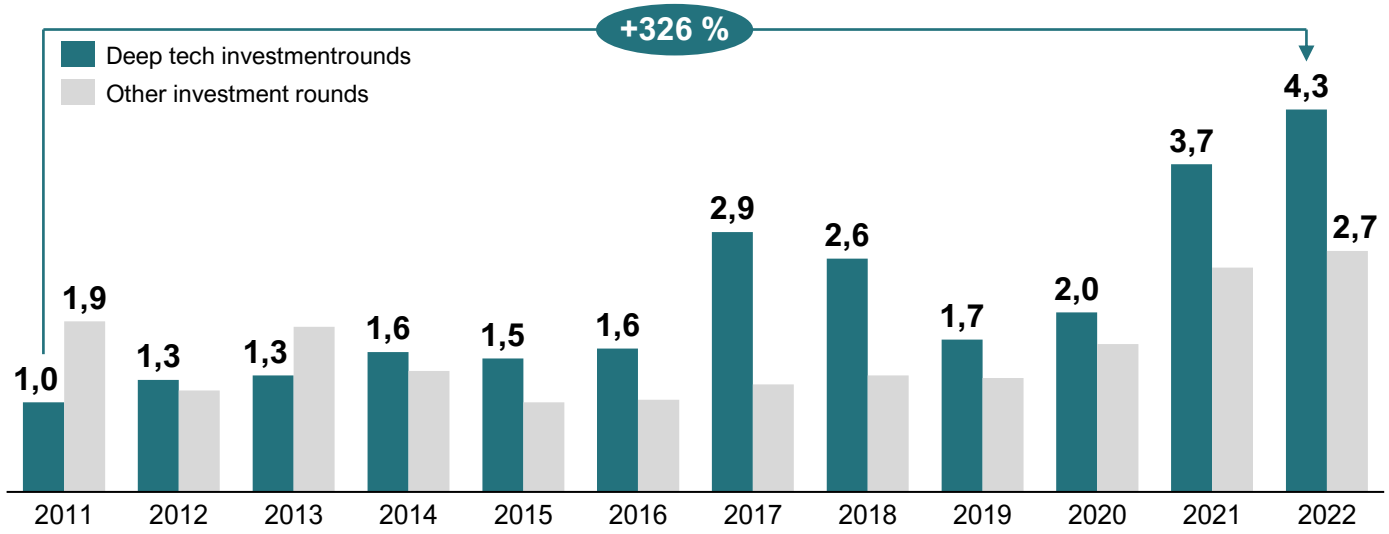
- The share of deep tech in total invested capital varies year by year as deep tech investments are increasingly concentrated into a few large investment rounds. This concentration increases the volatility of yearly invested capital as compared to the total market.
- Therefore, the share of deep the number of transactions can more reliably assess the relative weight of deep tech companies. **Deep tech's share of transactions has increased from 15% to approximately 20%.** The relative weight of deep tech has increased the most in recent years as deep tech's share has broken 20% of the total market.

All in all, deep tech companies command relatively large amounts of capital compared to others, as the average share of total invested capital is larger than the average share of transactions

Median Deep Tech Investment Round Size Grew by 326% Between 2011 and 2022

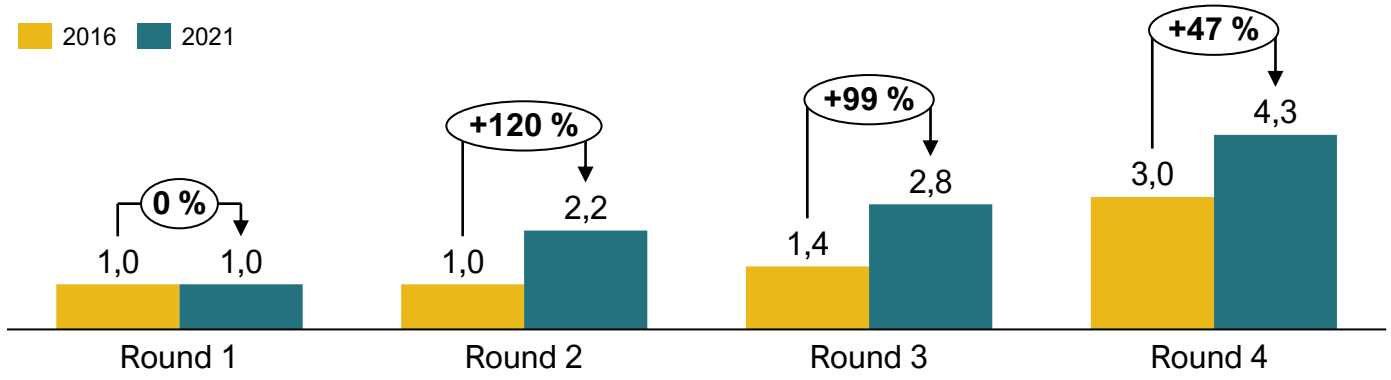
Size of median deep tech investment round since 2011

€m



Size of median DT investment round by round number

€m



Comments

Deep tech investment rounds are growing in size:

- The median size of deep tech investment rounds has increased from approximately €1m in 2011 to over €4m in 2022 (growth of 326%)
- Meanwhile, the median size of other rounds grew from €1,9m in 2011 to €2,7m in 2022 (growth of 41%)

The growth of round size focused mostly on later rounds. Notably, the size of first rounds stayed very similar troughout the researched time period.

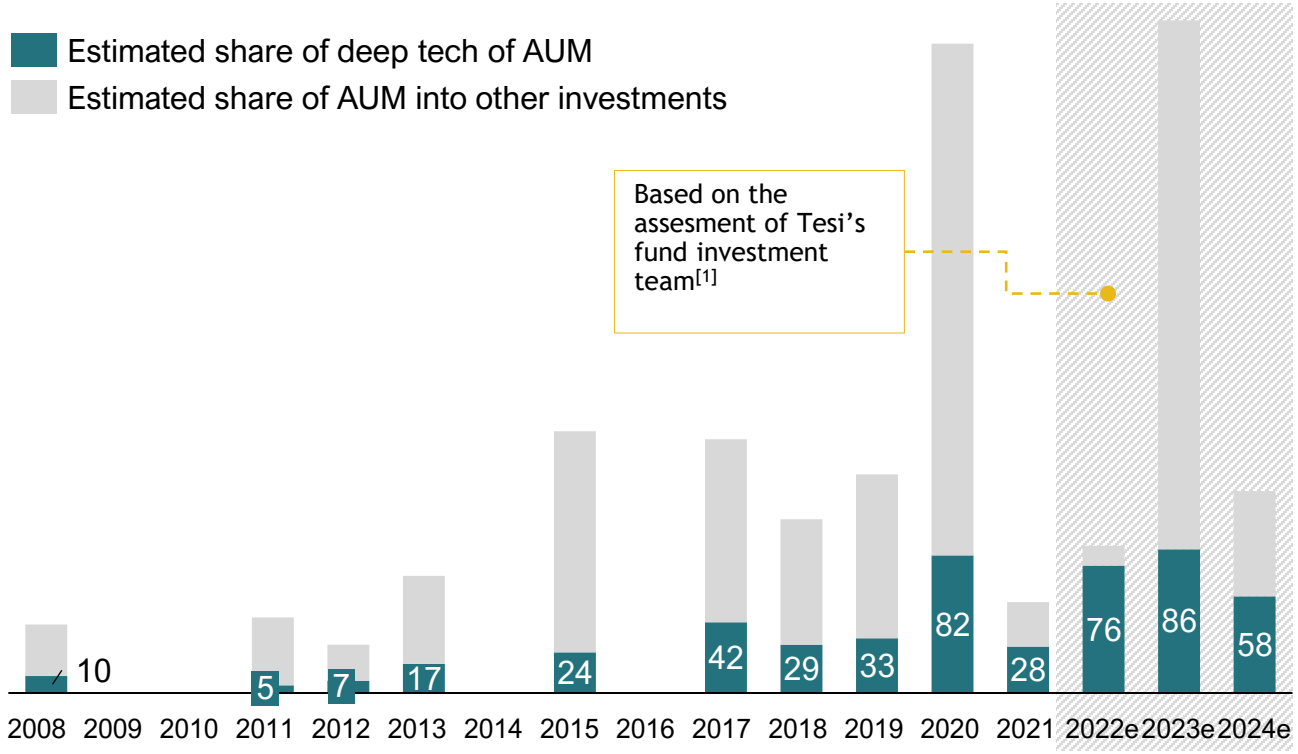
- Interestingly, median size of investment rounds grows the highest between the 2nd and 3rd rounds

More Domestic Capital Available for Deep Tech

- Finnish deep tech investors (or investors with an appetite for deep tech) are fundraising and investing actively
- Prior to 2017, the activity was low, but has been picking up since
- There will be an estimated ~€190m* of new dry powder in the Finnish market allocated to deep tech investments between 2022–2024. However, this is estimated to target the early stage companies and with <€10m rounds.

Estimated share of deep tech in Finnish VC funds portfolios
% of AUM allocated to deep tech

- Based on our estimate, there is an increasing amount of capital available for deep tech ventures in the Finnish market from domestic investors. More investors are focusing on or looking at deep tech as a potential investment sector.
- However, those domestic investors, or potential investors, willing to invest in the Finnish deep tech tend to be early stage investors
- There is a funding gap in the market as capital for large rounds is scarce

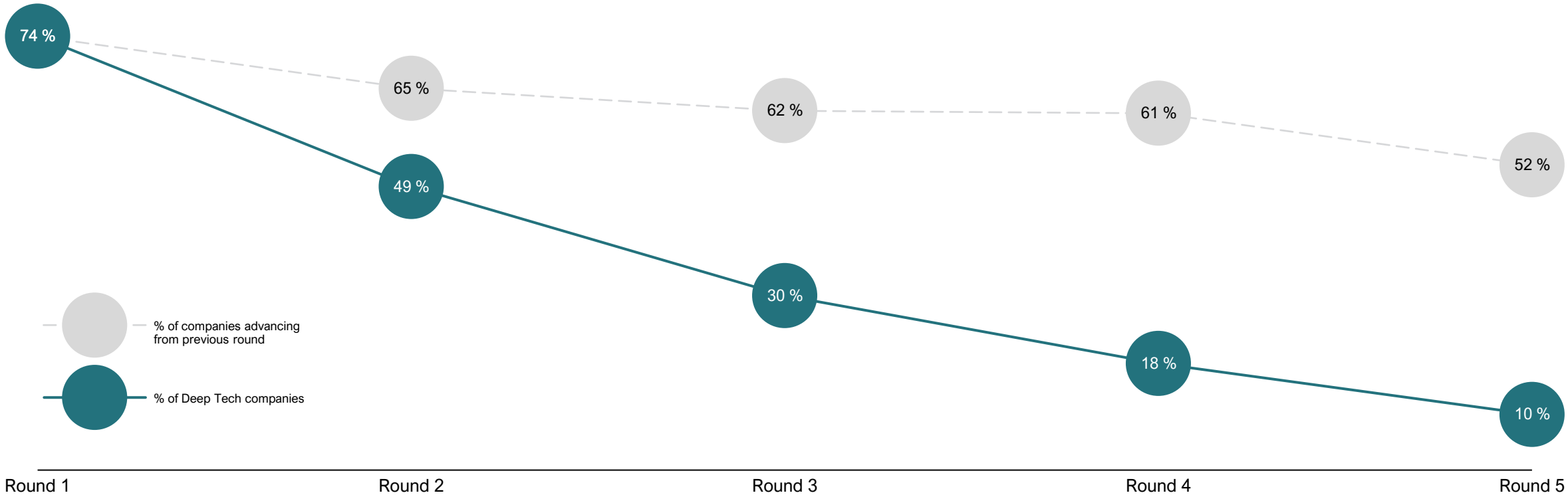


[1] Sum of AUM allocated to deep tech 2022-2024 net of 15% management fee assumption

Deep Tech Graduation Rate

- Graduation rate for deep tech companies seems to be relatively high, i.e. succesful deep tech companies seem to be able to raise multiple funding rounds
- Approximately 60% of companies advance from each round onwards, the ratio notably decreases in later rounds

Graduation rate of deep tech companies[1]
% of deep tech companies

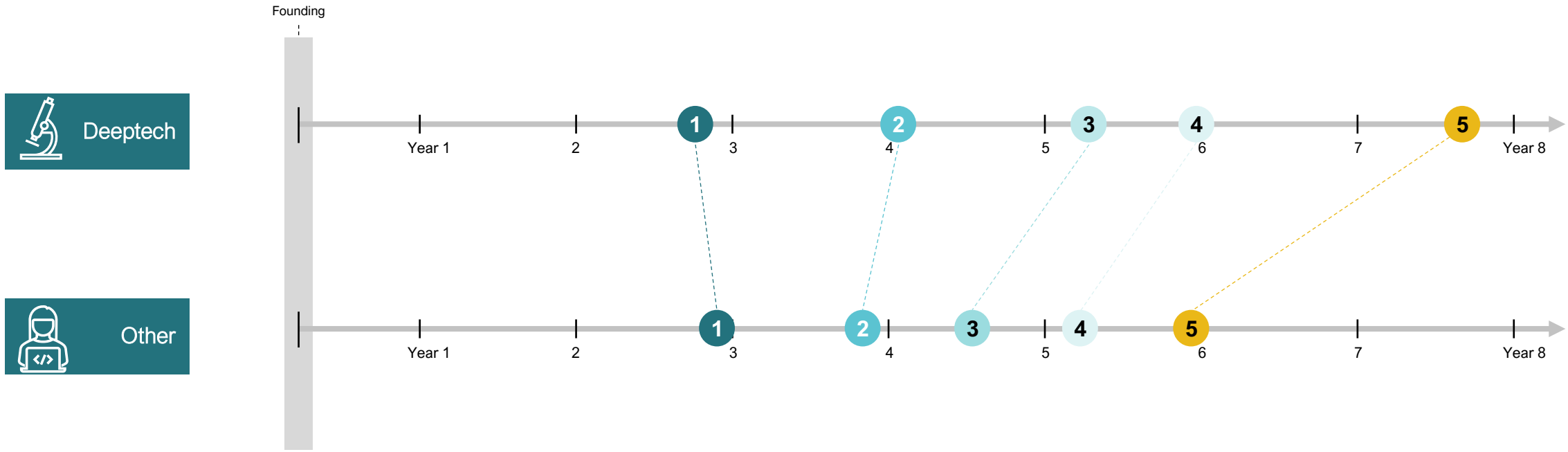


[1]Whole sample is included – recently founded companies may skew the results slighlty

Timeline of Funding Rounds to Deep Tech Companies

Comparing average timing of funding for Deep Tech companies, and other investments by investment round

years



Comments

The funding round timeline differs between the deep tech and non-deep tech companies

- Deep tech companies seem to receive the first and second investments at a similar rate compared to other companies, but the subsequent rounds seem to delay. In particular, round 5 occurs significantly later than that in other companies. This might be in part due to increasing syndicate sizes, which we will discussed in the next segment.

Public Funding of Deep Tech Companies (Business Finland)

€425 m

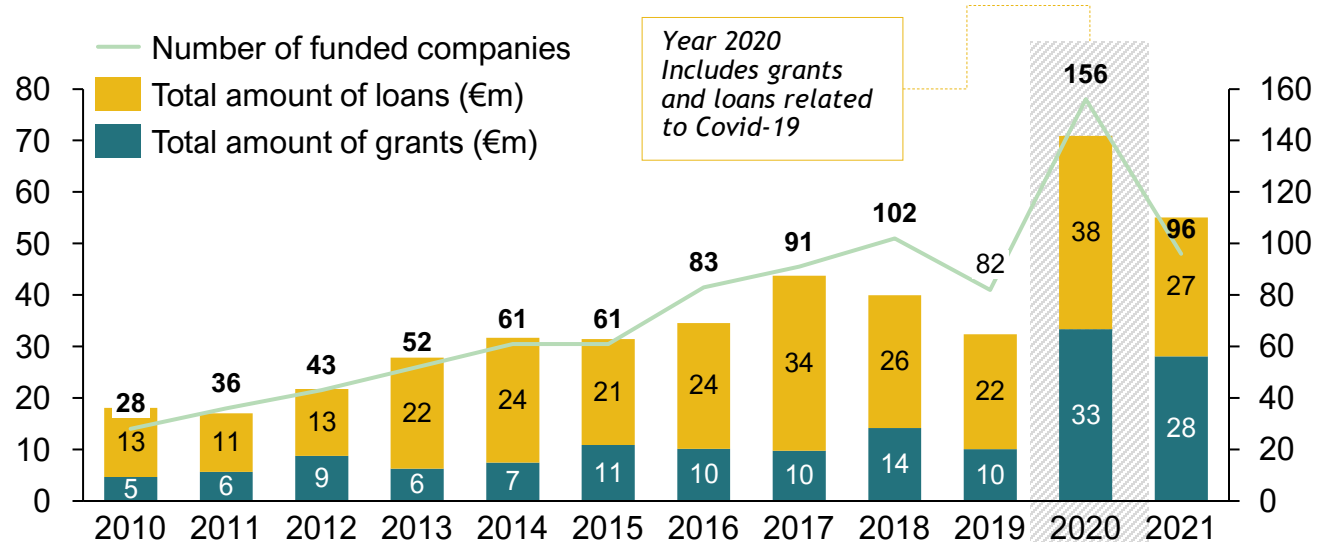
Total Funding Through 2011-2021

- 95% of deep tech companies have received some sort of funding from Business Finland
- In total, deep tech companies received over €420m from Business Finland of which €275m or 65% were loans

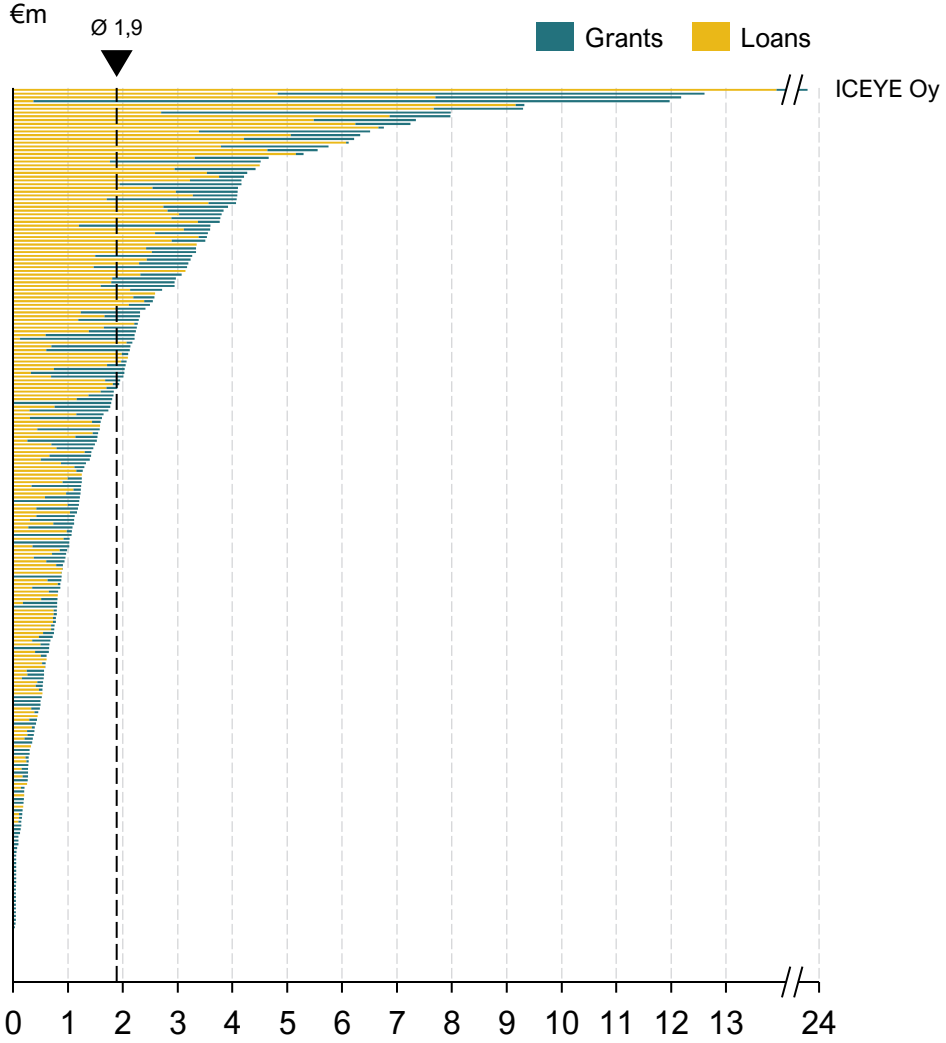
- Business Finland's funding does not distribute evenly through DT companies. Some companies received over €10m of funding, while the median amount was approximately €156 thousand. ICEYE gathered most funding from Business Finland with total funding close to €24m.

Business Finland's funding directed to deeptech through 2010-2021

€m, amount of funded companies



Deep tech companies ranked by total amount of BF funding



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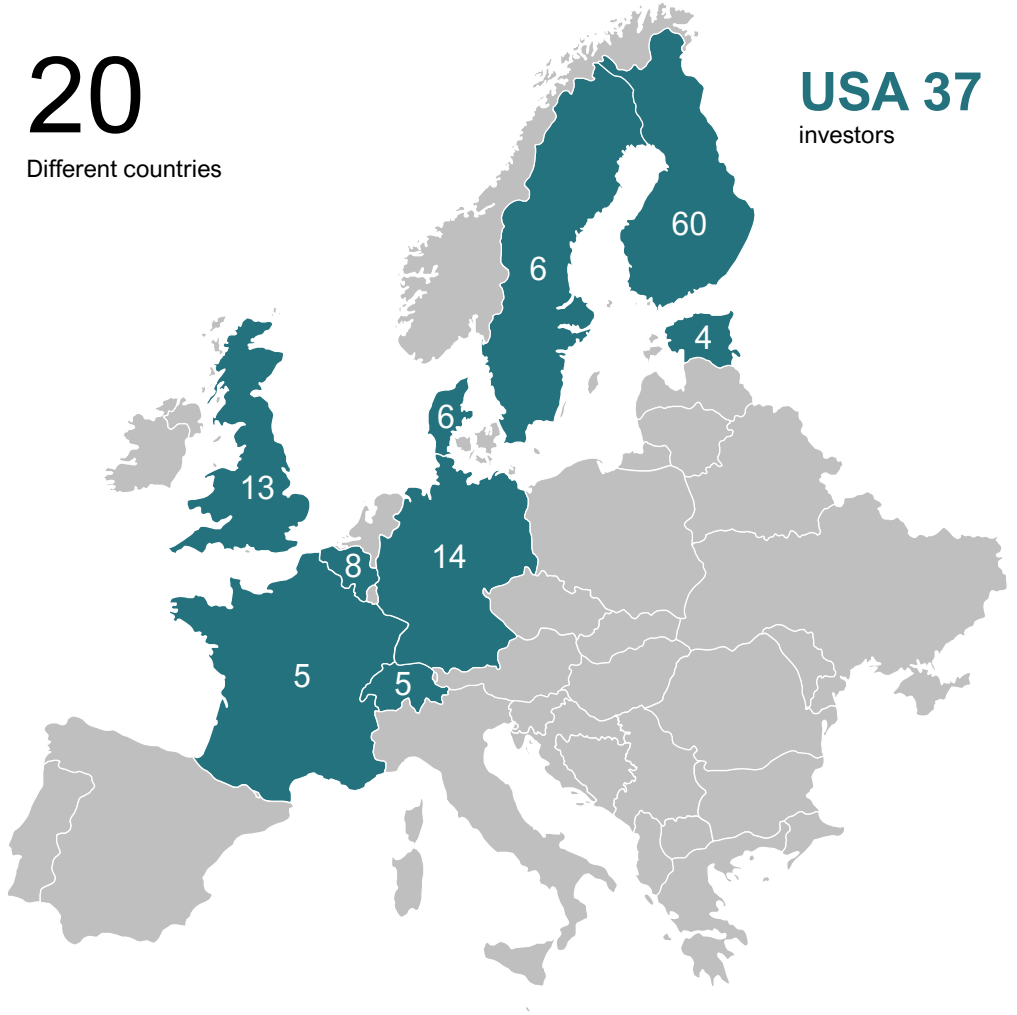
Deep Tech Investor Summary

Investor types…	Include…	With…	
Private Funds	Venture Capital, Growth, and Buyout funds	117[1] Investors	150 Investments
Goverment	Goverment institutions	6[1] Investors	101 Investments
CVC	Corporate venture capital, corporations	24[1] Investors	24 Investments
Other	Family offices, Angel investors, Accelerators etc.	54[1] Investors	72 Investments

From…

20
Different countries

USA 37
investors



[1] Investor data includes only transactions available on Pitchbook. The Data consists of 265 transactions (of 429) or 62 % of total sample

Most Notable Investors During Researched Time Period

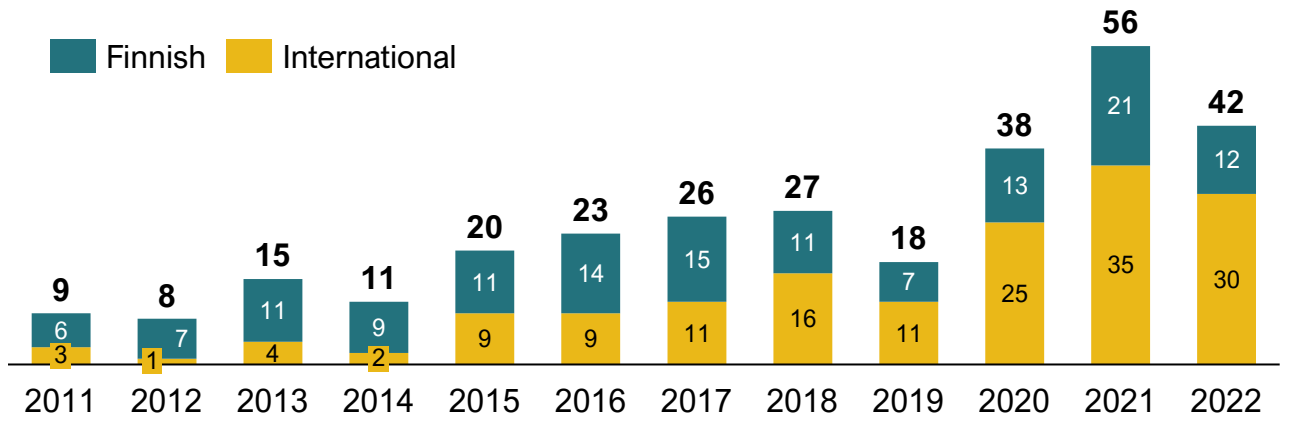
No longer active in deep tech investing

	Private Funds	Goverment	CVC	Other
Finnish investors	Voima Ventures, innovestor, MAKI.VC, LIFE LINE VENTURES, Butterfly, inventure	Tesi, FINNVERA, SITRA	fortum, Fazer, BERNER	SPRINGVEST, SPARK FINLAND, Startup Sauna, ANGELS, A? Aalto University
Foreign investors	emerald Technology Ventures, TRIND, Sofinnova partners, TIGERGLOBAL, VITO VENTURES, Capital·A	European Commission	SAMSUNG VENTURE INVESTMENT, VOLVO, Husqvarna, BOSCH Robert Bosch Venture Capital GmbH	PLUGANDPLAY, LIFE SCIENCE ACCELERATOR Baden-Württemberg, EnergySpin, MASSCHALLENGE

More Investors Are Investing in Finnish Deep Tech

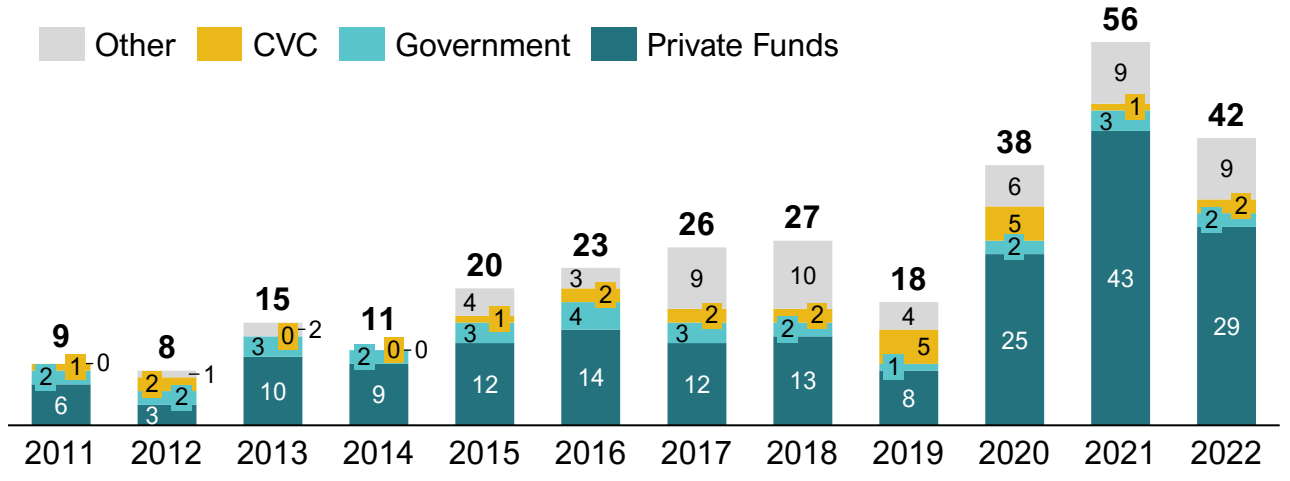
Nationality of Finnish deep tech investors

Number of investors



Type of investors investing in Finnish deep tech markets

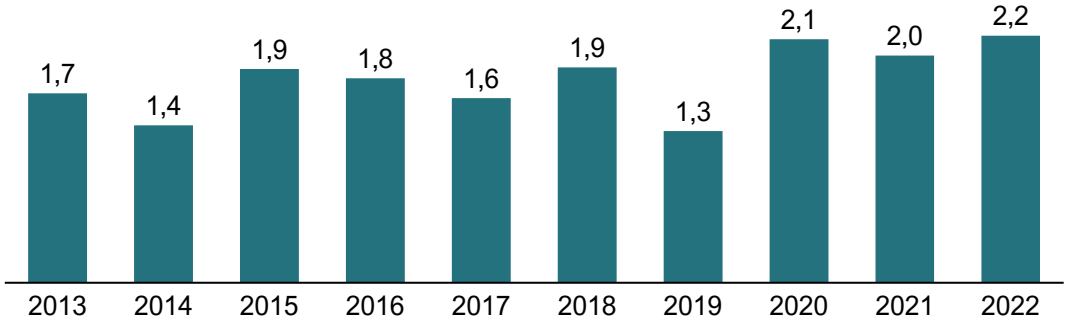
Number of investors



- Number of deep tech investors in the markets is increasing. While foreign investors have increased significantly (~10x in the researched time period), the number of Finnish investors has grown only slightly. **Since 2018, there have been more foreign than domestic investors.**
- Number of private funds (which includes private venture capital, growth, and buyout funds) that invest in the Finnish deep tech have increased significantly since 2019 (from ~8 investors to ~25–43)
- **Most of the growth has happened in the number of foreign private funds,** but in many cases (16%), foreign investors participate only in one (larger) investment round

16 % Of foreign private funds have more than one investment in the Finnish deep tech

Syndicate Size Development (overview)

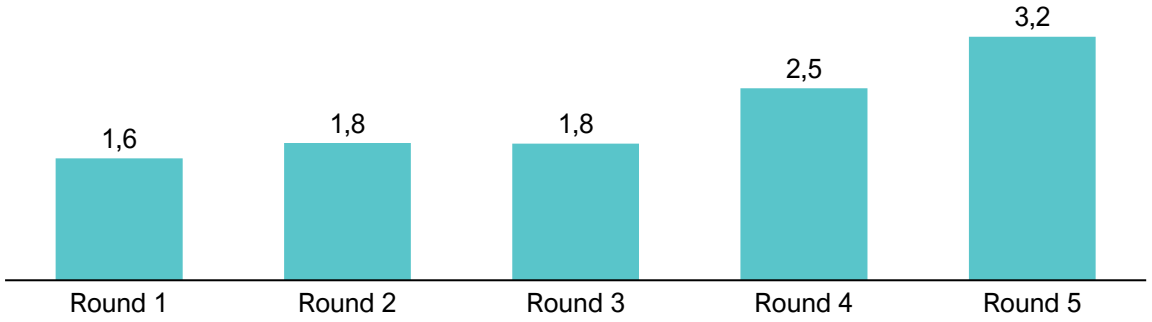


Average syndicate size development

- Syndicate remained flat until 2020. But after 2020, their sizes have grown moderately.
- This increase is partly due effect of large investment rounds as larger round sizes have become more common

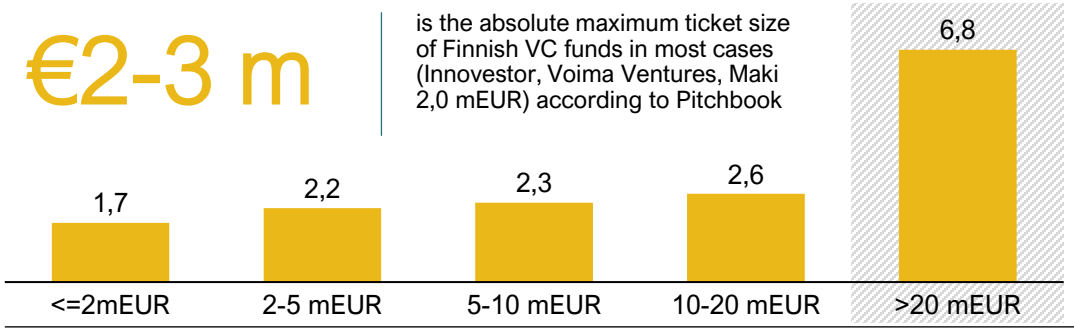
Average syndicate size by round number

- Syndicate size increasing with subsequent rounds, i.e. broader investor syndicates for later stage deep tech rounds



€2-3 m

is the absolute maximum ticket size of Finnish VC funds in most cases (Innovestor, Voima Ventures, Maki 2,0 mEUR) according to Pitchbook



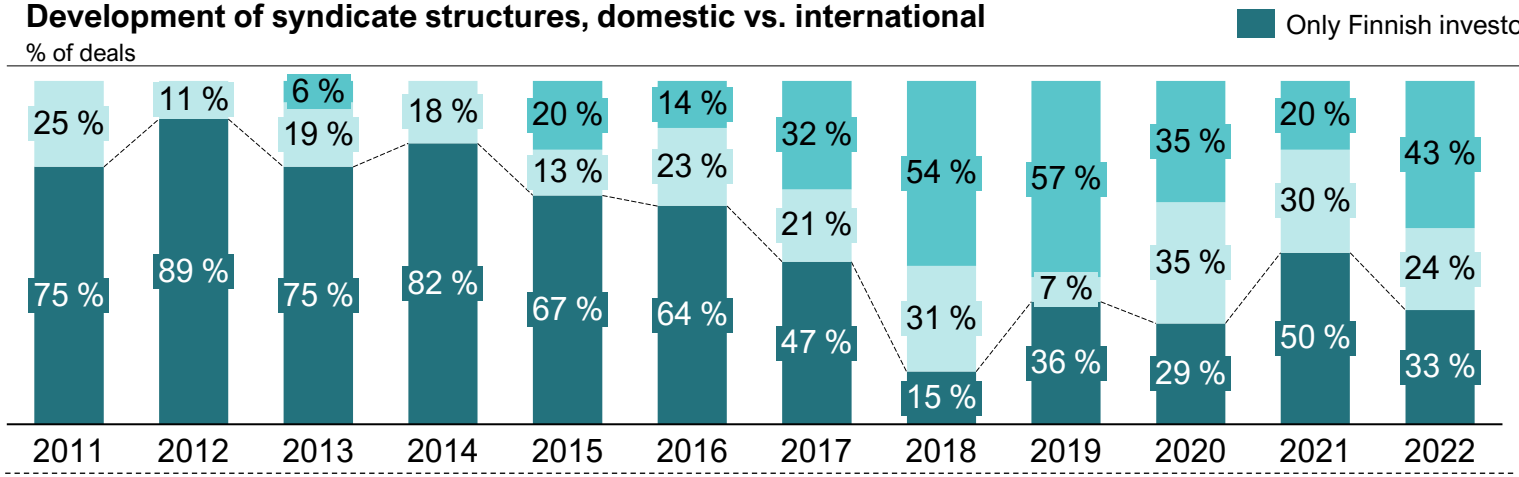
Average syndicate size by round size

- Median syndicate size increases significantly as the round size increases. For rounds exceeding €20m, the syndicate sizes more than doubles compared to smaller round sizes.
- **There doesn't exist clear lead investors for larger rounds**

Foreign Investors are Increasingly Participating in Deep Tech Funding

Development of syndicate structures, domestic vs. international

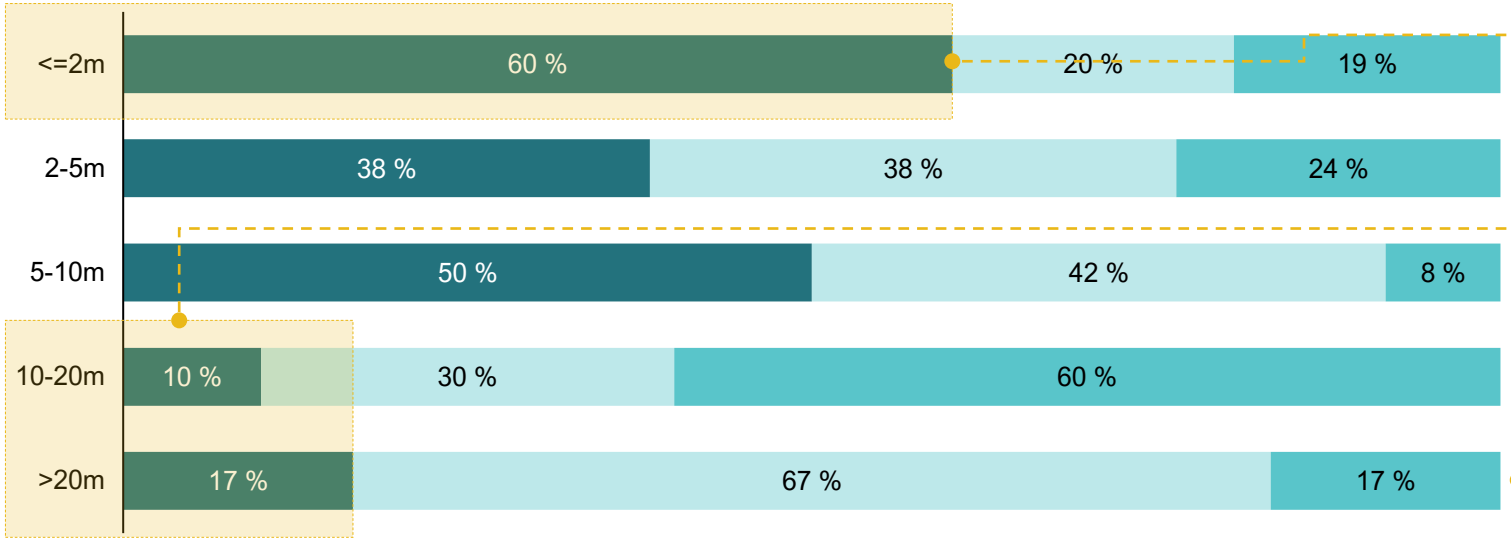
% of deals



- **The incidence of international investments has increased**. The largest influx of international investors occurred in 2018.
- **Foreign investors are essential in the larger investment rounds**. Larger investment rounds are rarely possible without foreign investors.

Syndicate structures by round size

% of deals in the deal size class



Finnish investors handle most of small investment rounds (<=2mEUR)

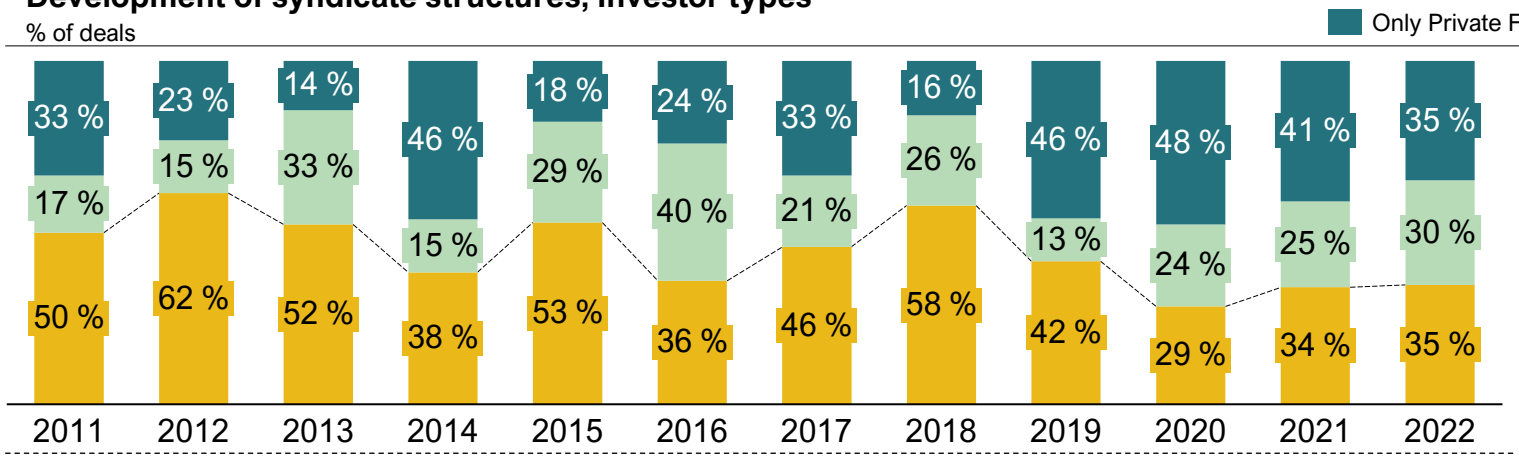
Investment rounds over 10 m EUR very rarely exclude any foreign investors

Investment rounds over 20 m EUR requires both Finnish and foreign investors to fill the round

All Investor Types are Needed in Deep Tech Funding

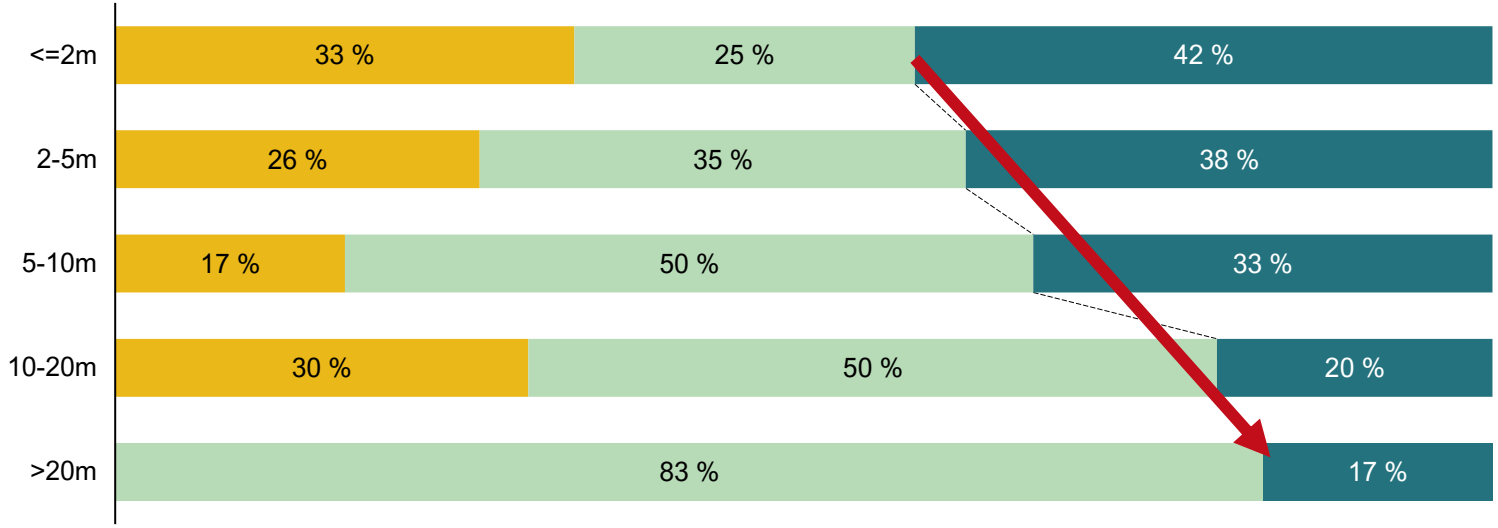
Development of syndicate structures, Investor types

% of deals



Syndicate structures by round size

% of deals in the deal size class



- **The participation of private funds in deep tech has increased,** especially since 2019. A majority, that is two-thirds, of the investment rounds has involved private funds.
- Especially foreign private fund activity have increased
- Even though private funds manage considerable amount of assets, **the need for other investor types remains strong.** Especially larger investment rounds (>€10m) seem to need funds from all investor types. The percentage of rounds, including only private funds, decreases almost linearly as the round size increases.

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Financials Summary

Key numbers

€572 m

Of total sales in 2020

4367

Employees in 2020

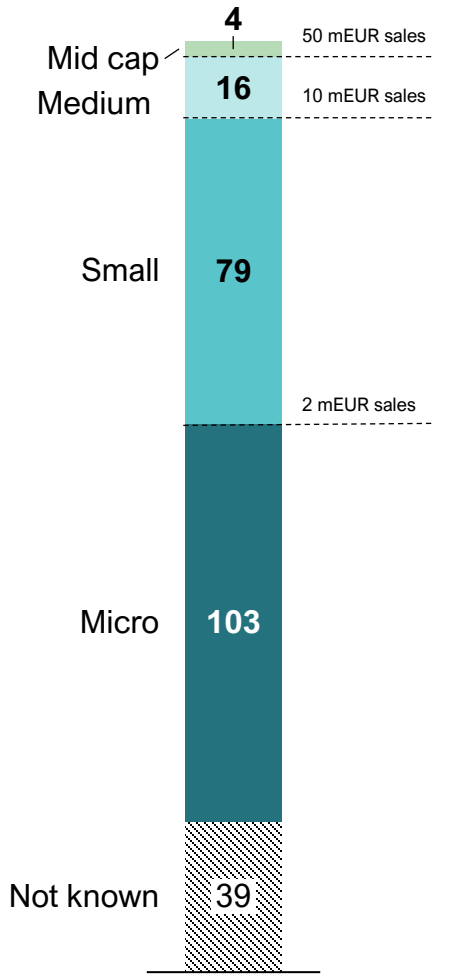
29 %

Median sales growth through 2013-2020

€168 m

Of added value[3] in 2020

Size Distribution[2]



Common features

Negative Cashflow[1]

On median negative cashflow equals sales first 4-5 years of business in size

Deep tech companies follow the power law

Outcomes are heavily concentrated, i.e. only a few companies scale

Long time to revenue

Revenue generation can take years. Reaching medium size (10 m EUR revenue) takes 5 to 15 years even for the fastest and most succesful startups.

Comments:

- Deep tech ecosystem is still small in relation to conventional industries or economy, but its significance is growing fast as the growth rate of deep tech companies vastly outpace the conventional industries.
- Most deep tech companies are still relatively small. Only 20 companies had sales over 10 m EUR in 2020.
- Long and heavy R&D processes create long time to revenue, increase the riskyness of the business, create slow asset turnover, and risk large negative cash flows for extended periods of time.
- Deep tech companies follow the Pareto distribution in many aspects

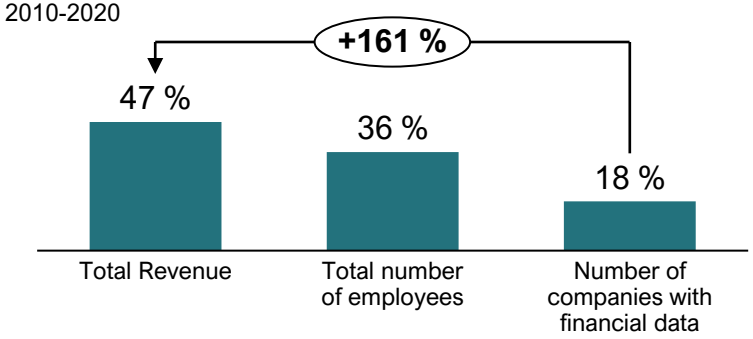
[1] Operating cashflow [2] At the end of 2020 [3] Gross value added at basic prices

Deep Tech Ecosystem is Growing Fast

- Total revenue of deep tech companies has increased from 13 m EUR to ~4,4 b EUR (47% CAGR)
- Concurrently, the total number of employees working in deep tech has grown from ~210 to ~4,4 thousand
- This growth of total revenue is mostly irrelevant to the increase in deep tech companies as the revenue and employee growth significantly outpace the growth in the number of companies

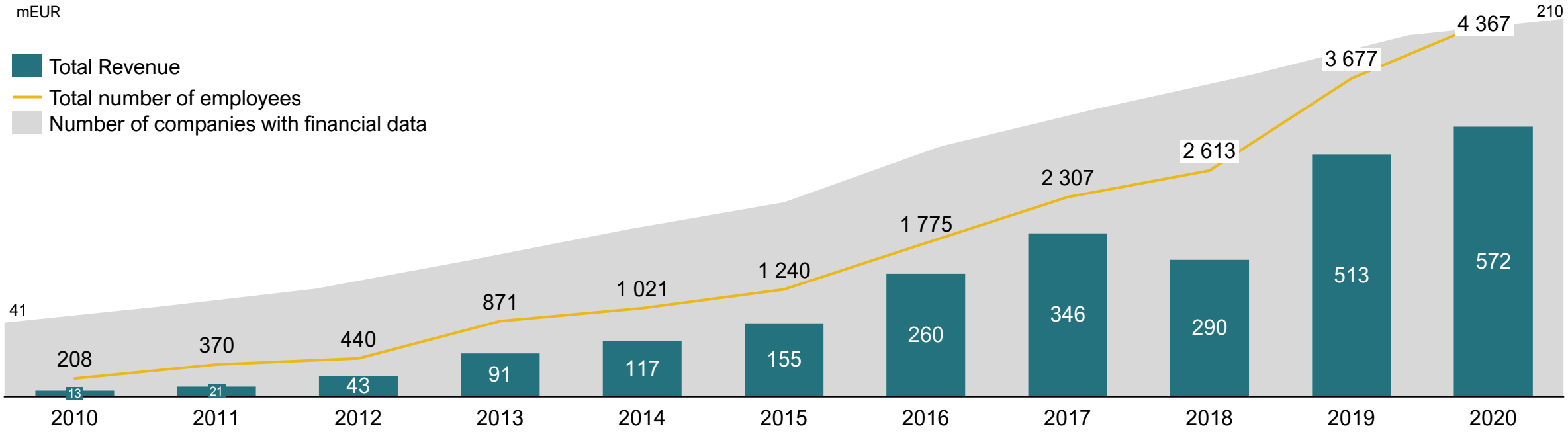
Compound annual growth rates

2010-2020



Development of total revenue and total number of employees in Deep Tech

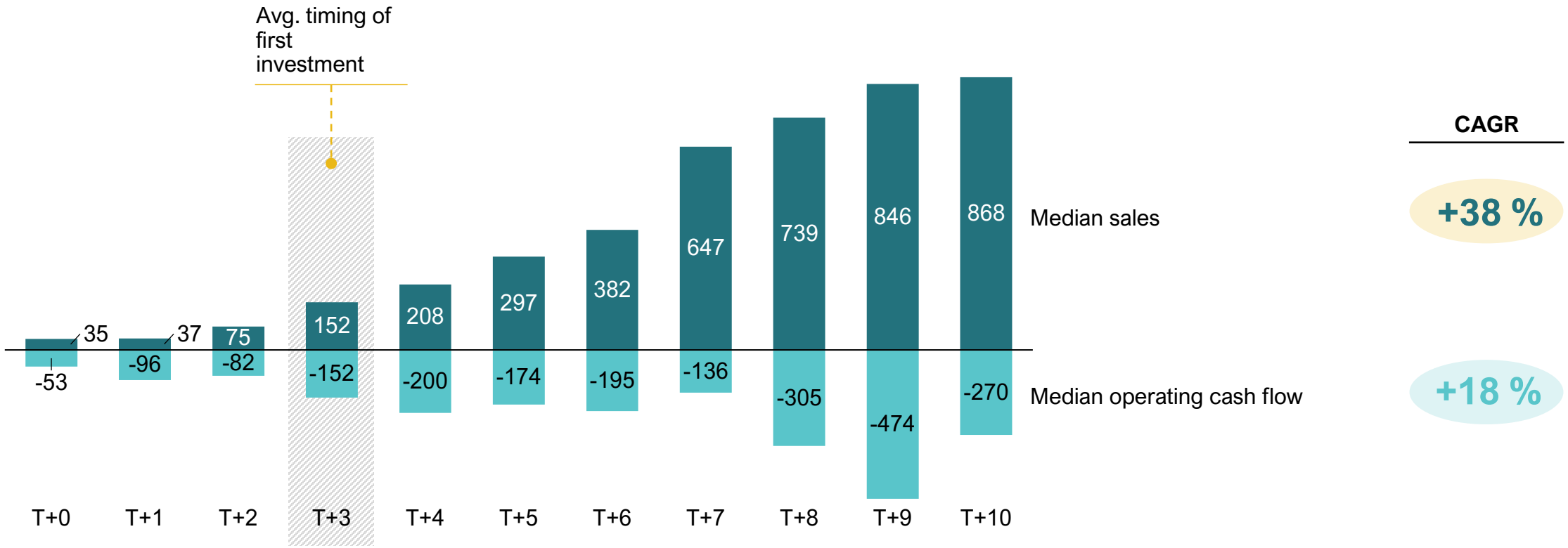
mEUR



Median Development of Revenue and Cash Flows

- For the first 4 years, the negative cash flows equal the sales in size. From years 5 to 9, the negative cash flow grows slower than sales (in absolute terms). And finally on year 10, the negative cash flow decreases in absolute terms.
- In some cases, the negative operating cash flow can exceed the sales by multiple times in absolute terms for extended periods of time

Financial metrics overview

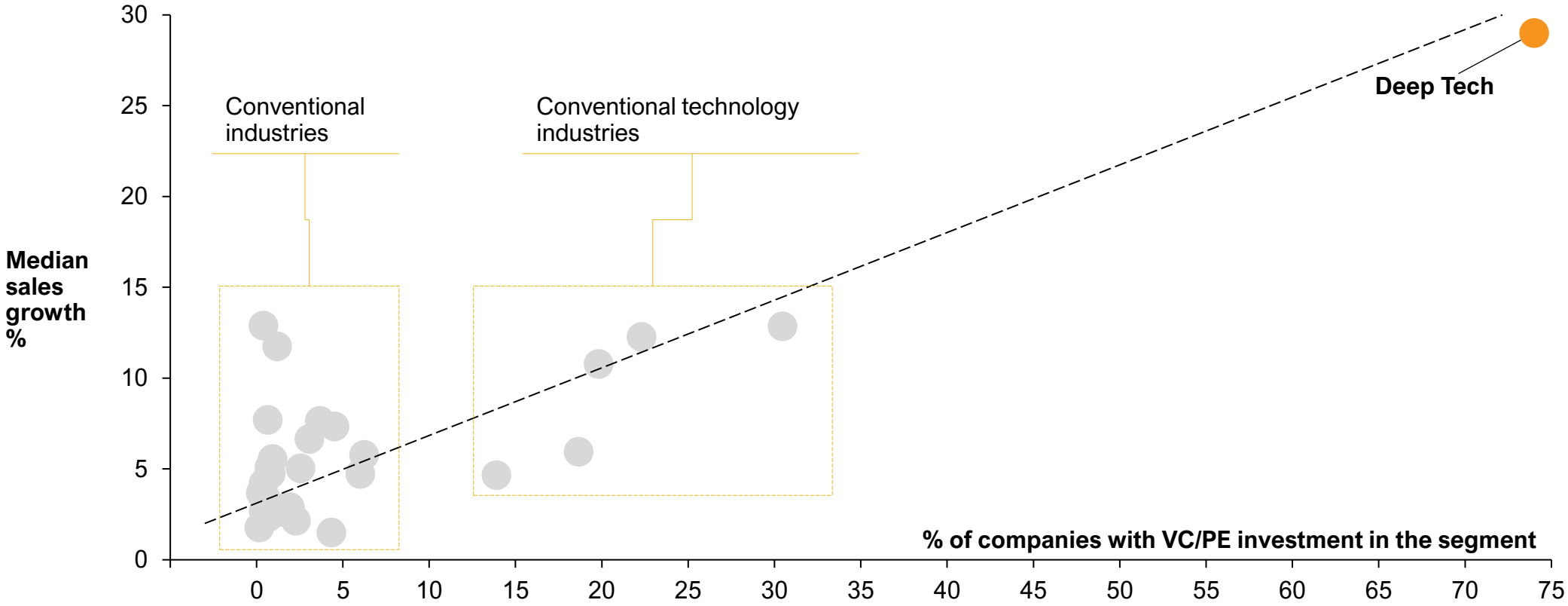


Comparing Deep Tech To Conventional Industries

- Deep tech as a segment differs from more conventional companies in many ways. Both Investment intensity and sales growth differ vastly from other segments.

Comparing investment intensity, and sales growth of deep tech to conventional industries[1]

Including small and midsized companies from years 2013- 2020

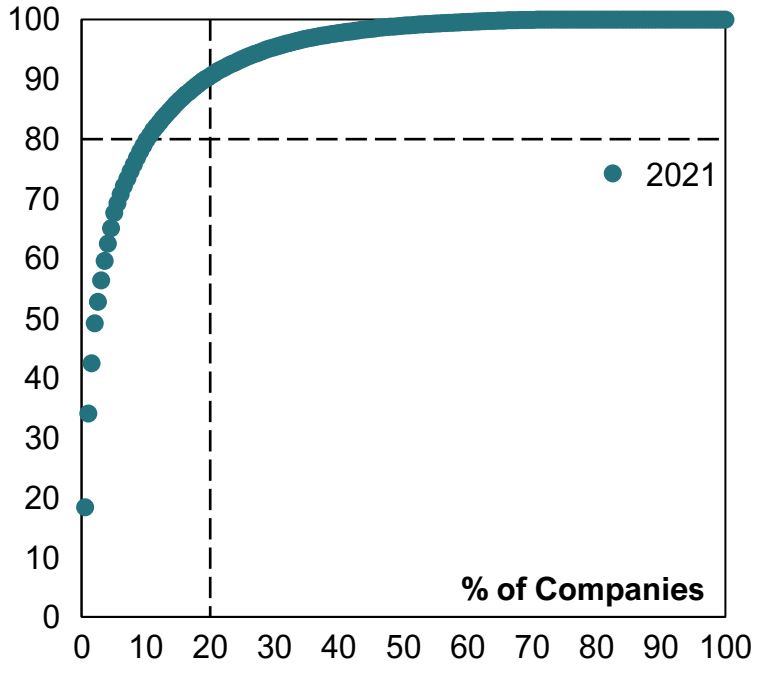


[1] Sample includes only small and midsized companies through 2013-2022. VC-investments, Buyout and growth investments, and angel investments are included in this analysis

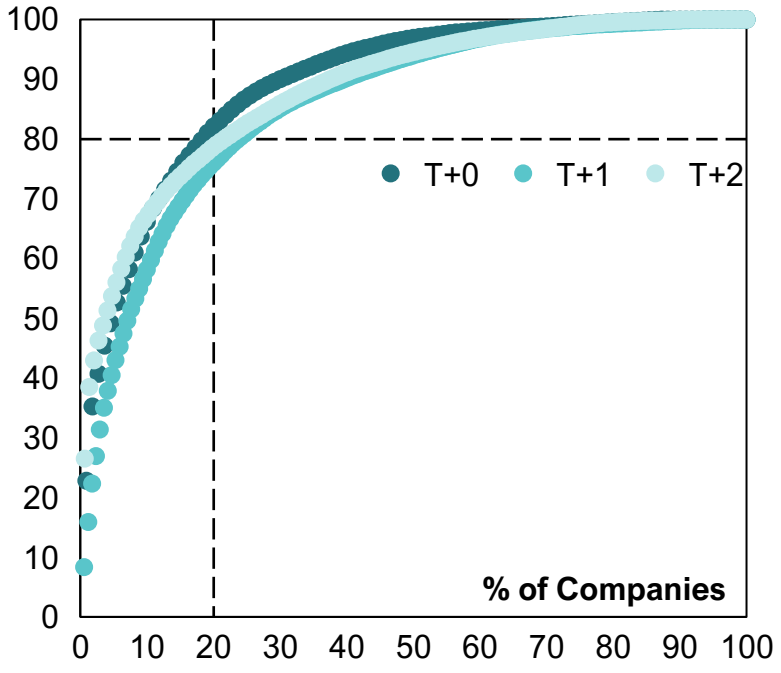
Deep Tech Companies Follow the Power Law in Many Aspects

- According to the power law (or the Pareto distribution), 80% of outcomes in a sample come from 20% of reasons. In private equity (especially in venture capital), this is accepted to mean that a few portfolio companies will produce all the returns in it.
- Deep tech companies align with the power law in many sectors: sales, amount of funding raised, and number of employees. Sales are even more concentrated than what the power law describes, while in the case of the amount of employees, slightly less. However, the distribution of invested capital follows the power law exactly.
- This property emphasizes the role of private equity investors in the funding of deep tech companies. Such a risky segment is not ideal for other types of investments.

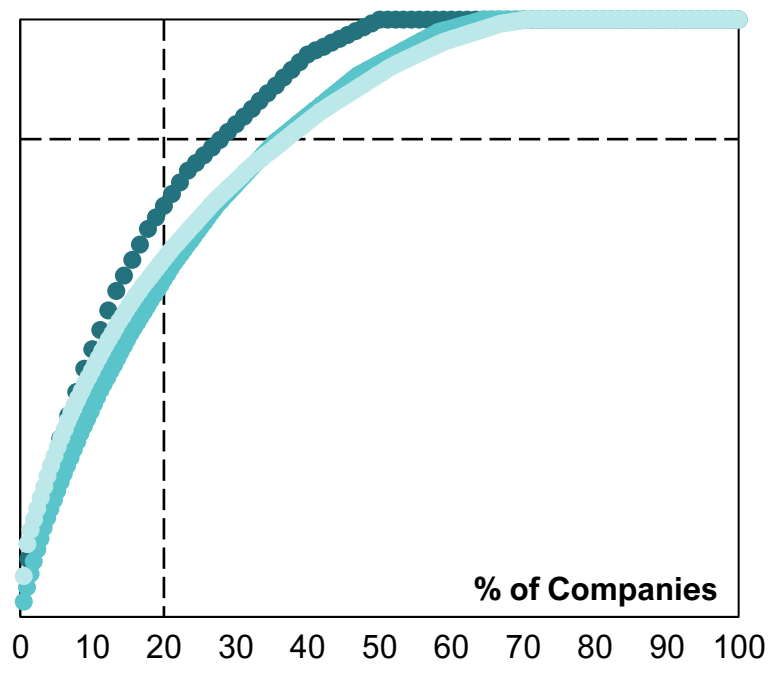
% Total sales



% Total invested capital



% Total number of employees



Innovation Takes Time

Within 5 years of foundation

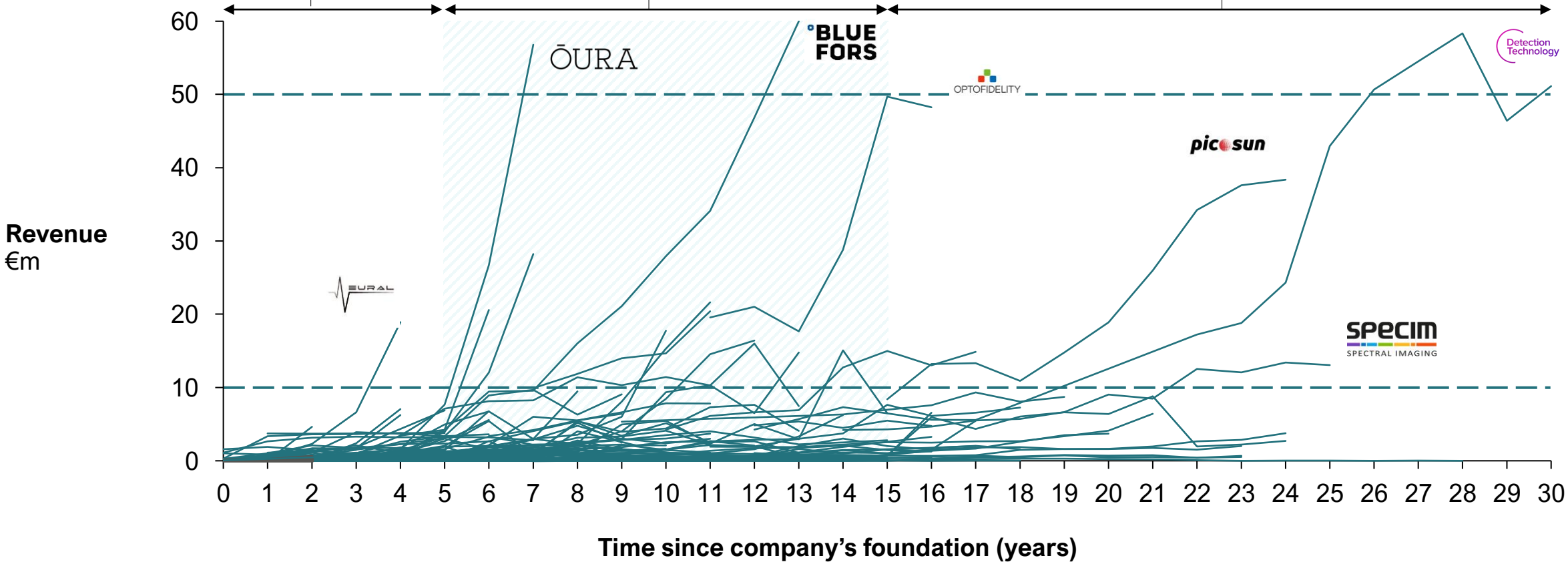
Growth starts approx. 3–4 years from foundation; the majority of companies do not start to scale before year 5

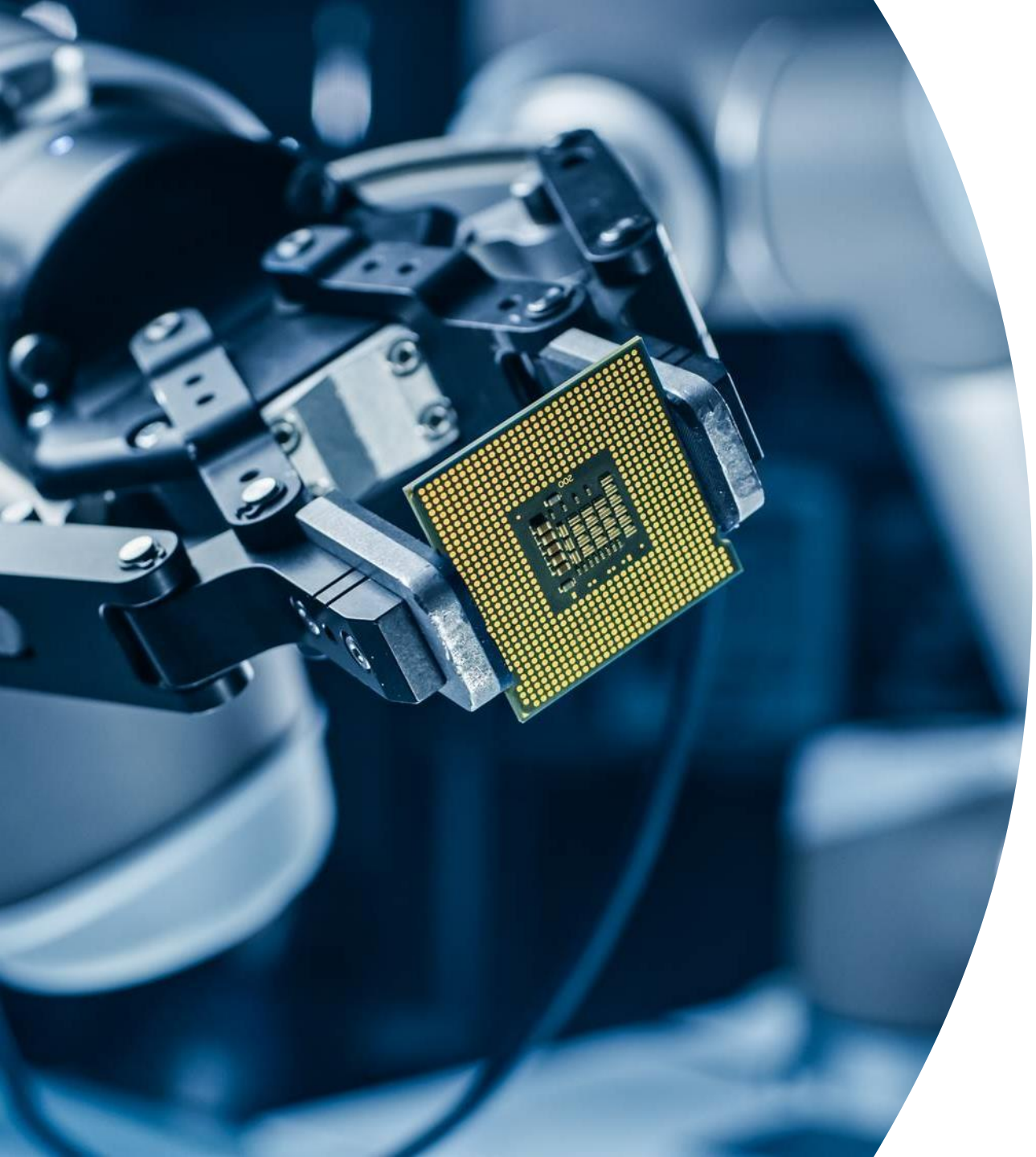
5–10 years since foundation

The majority of thriving deep tech companies scale (or begin scaling) between 5–10 years since their foundation

15+ years since foundation

Some companies scale much later. Innovation and R&D takes considerably long for these companies. Sectors such as optics and biotech are represented in this group.





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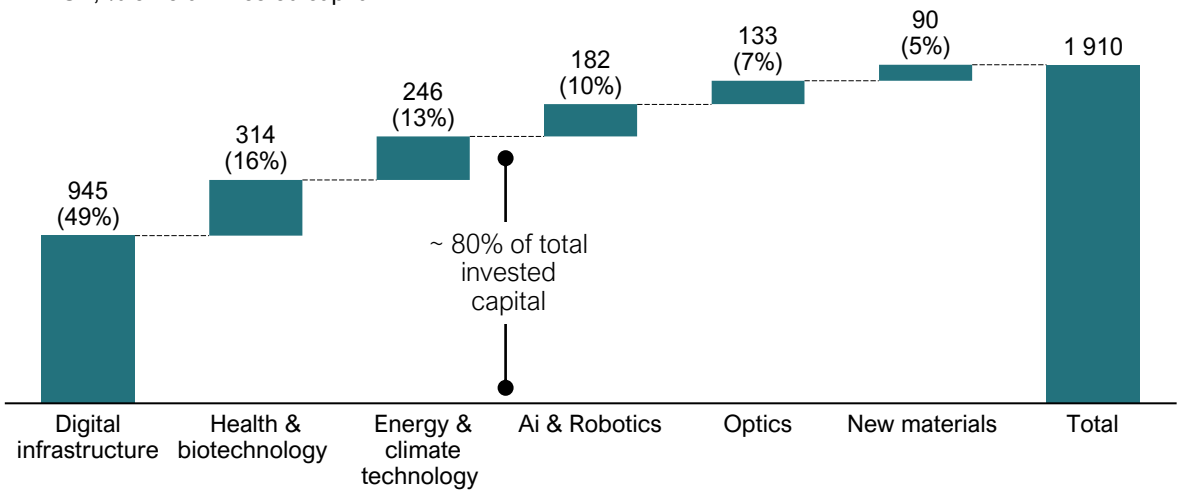
- **Comparing Deep tech Categories**
- New Materials
- Digital Infrastructure
- Energy & Climate Technology
- Optics
- AI & Robotics
- Health & Biotechnology

Appendix

Comparing Deep Tech Categories – Funding

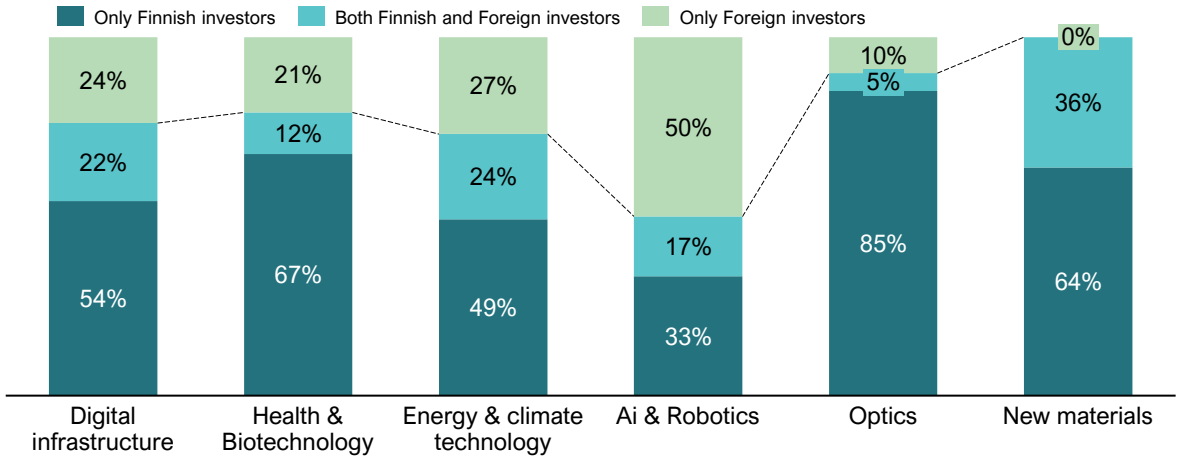
Invested Capital by Category

mEUR, % of total invested capital



Syndicate composition by category

% of deals



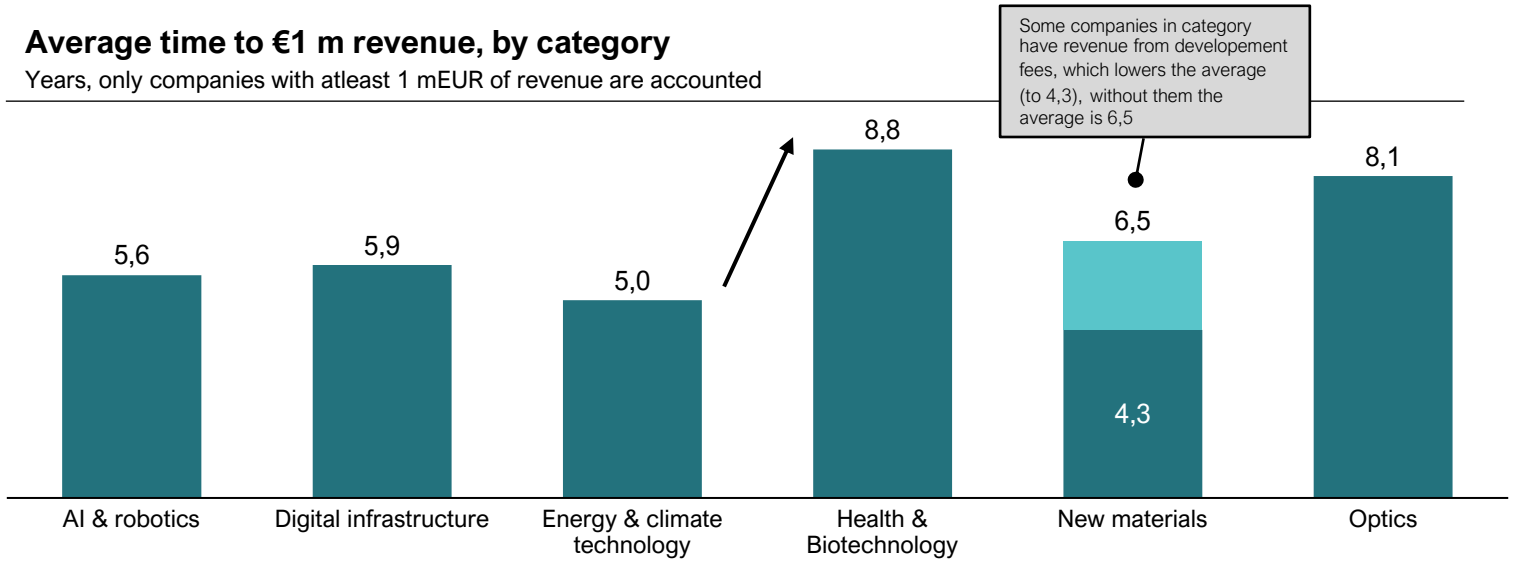
- Funding is distributed unevenly amongst categories
- “Digital Infrastructure” secures 49% of all invested capital and 34% of the total number of deals. This category includes companies with large rounds, which especially causes high total of invested capital.
- Meanwhile, “New Materials” has only 5% (90 m EUR) of total invested capital and 6% of number of deals
- “Digital Infrastructure”, “Health & Biotechnology”, and “Energy & Climate Technology” have secured approximately 80% of the total invested capital

- There exists differences on syndicate compositions between deep tech categories
- “AI & Robotics” is the most popular category amongst foreign investors, even though its companies haven’t gathered large investment rounds (foreign investors are more focused on larger rounds)
- “Optics” and “New Materials” have secured considerably less investment rounds with more foreign investors than other categories

Comparing Deep Tech Categories – Time To Revenue

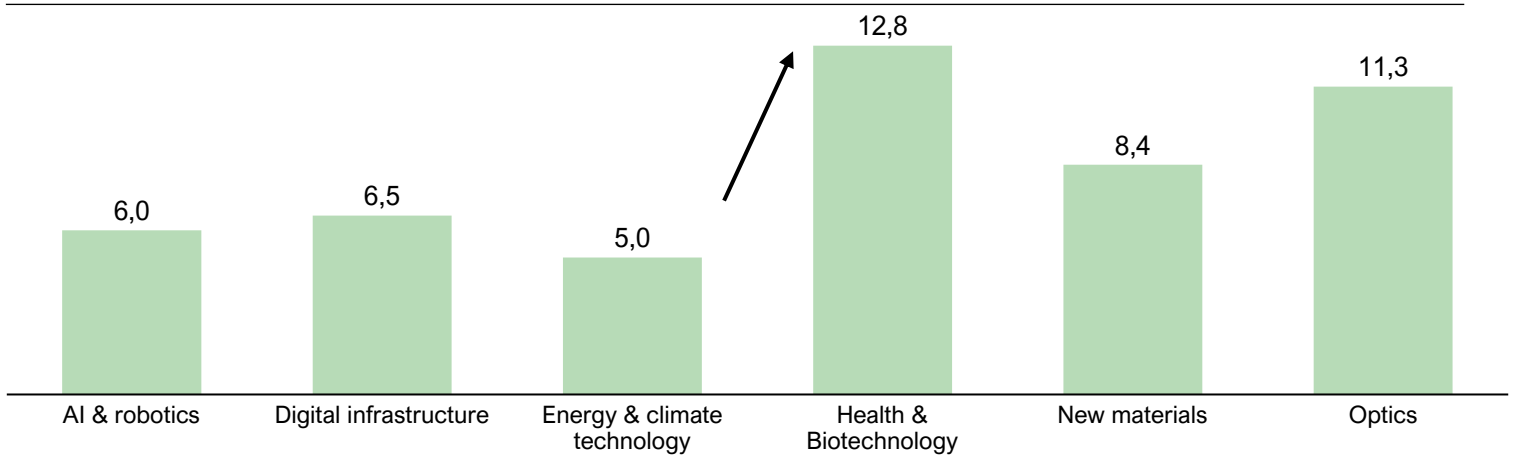
Average time to €1 m revenue, by category

Years, only companies with atleast 1 mEUR of revenue are accounted



Average time to first year of pos. operating cash flow, by category

Years, minimum value 3 years as scaling the business model often starts after 3-4 years

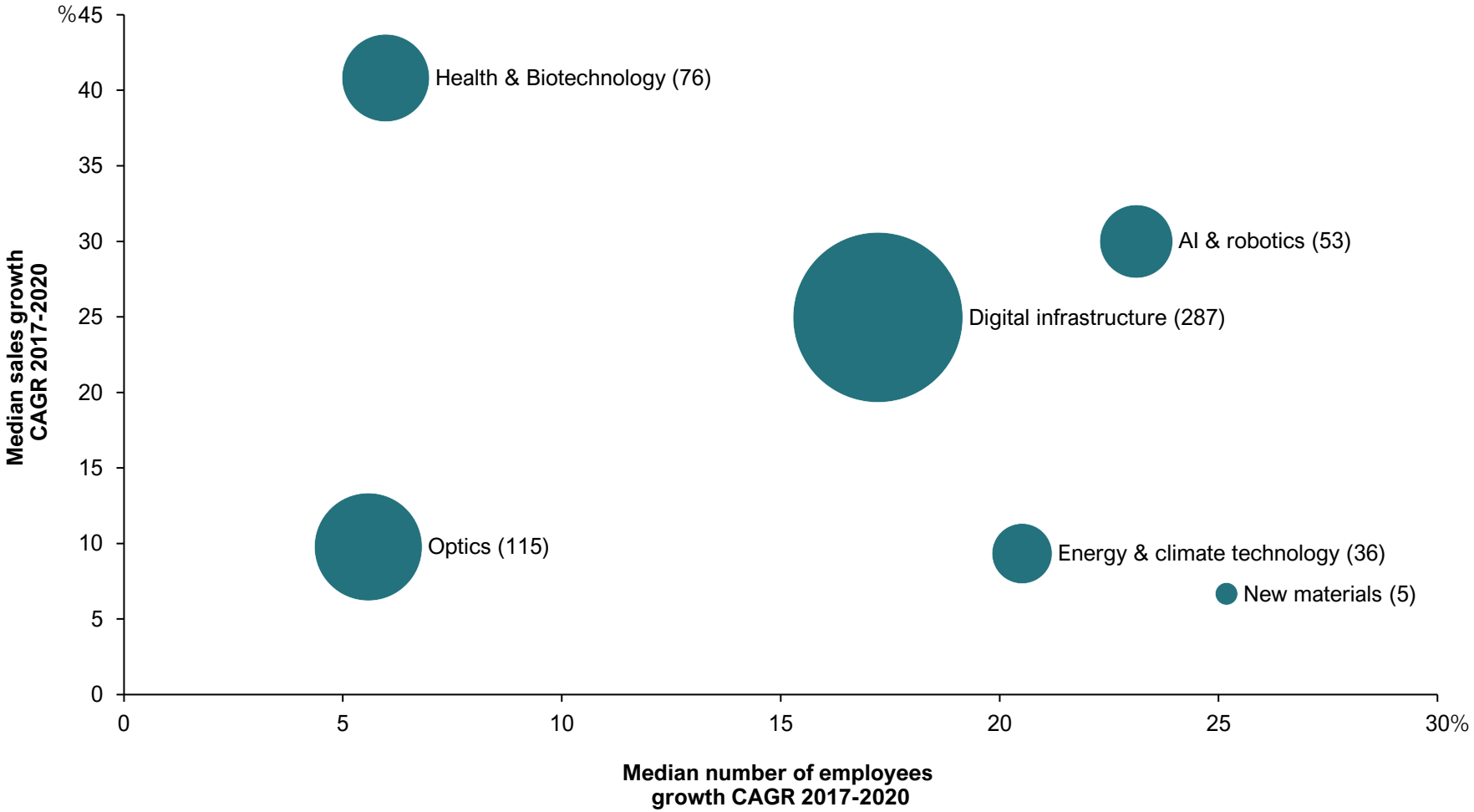


- "Health & Biotechnology", "Optics", and "New Materials" to some degree are clearly distinguished from other categories and require longer time to scale their businesses
- Companies in "Health & Biotechnology", as well as "Optics", have typically long and heavy R&D processes compared to companies in other categories
- "New Materials" companies, on the other hand, often produce physical products (materials) in large scale. This specialty demands the need for building production capabilities, which eventually extends the time to revenue considerably. For example, Spinnova is building manufacturing facilities in Jyväskylä, which has taken the company over 2 years.

Comparing Deep Tech Categories – Financial Performance

Size and growth by category

% (CAGR tduring 2017-2020), €m (at the end of 2020)



Comments

- "Digital Infrastructure" is the largest category based on sales (€287 m) and number of companies incorporated (83). It is also the fastest growing category on the basis of number of employees.
- "New Materials" is the smallest category based on total sales (€5 m)
- "Optics" is considerably dependent on Detection technology as the revenue it produces is 71% (€82 m) of the total revenue of the category (in 2020)

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- Optics
- AI & Robotics
- Health & Biotechnology

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New Materials - Summary

Overall development

- Overall, the category “New Materials” is still relatively small and novel in Finnish deep tech industry. New companies in the category are founded rarely, and any signifcant improvement is hardly observable in data.
- The median growth rate of the category (-1,3%) is the slowest of all deep tech categories
- However, its development may not be as grim as it looks as multiple companies in the category are currently ramping up their production, while at the same time investment activity is also increasing

Investors summary

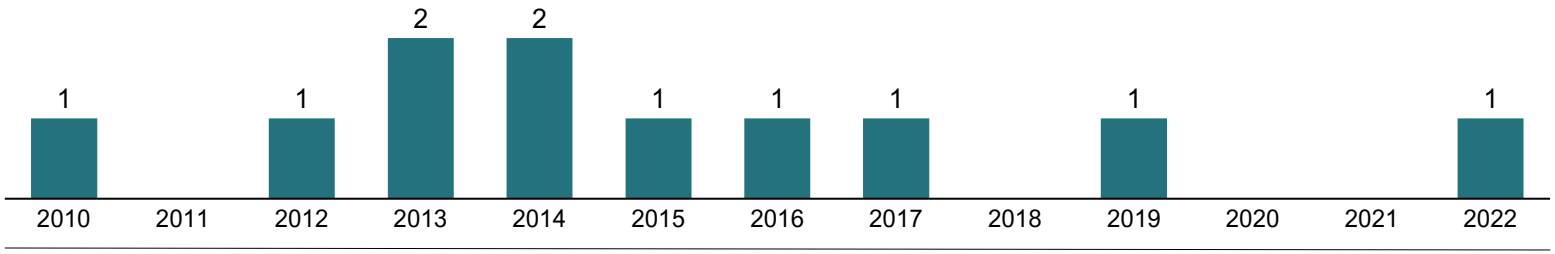
- 21 investors have invested in different companies within the category
- Most of the investors are domestic and private funds
- Domestic investors play significantly larger roles in funding “New Materials” companies than their other deep tech counterparts. The government’s role is also more prominent than in other deep tech companies.

Funding Balance

- Overall, companies in “New Materials” category are moderately well funded. Even though the investment activity has increased significantly after 2018, only 2 new companies have been founded in the category. As of 2022, companies have already gathered a record-breaking investment sum (20 m EUR).
- Median round size is largest within all Deep Tech categories in recent years (2020-2022)
- Total invested capital exceeded 90 m EUR between 2012 and 2022

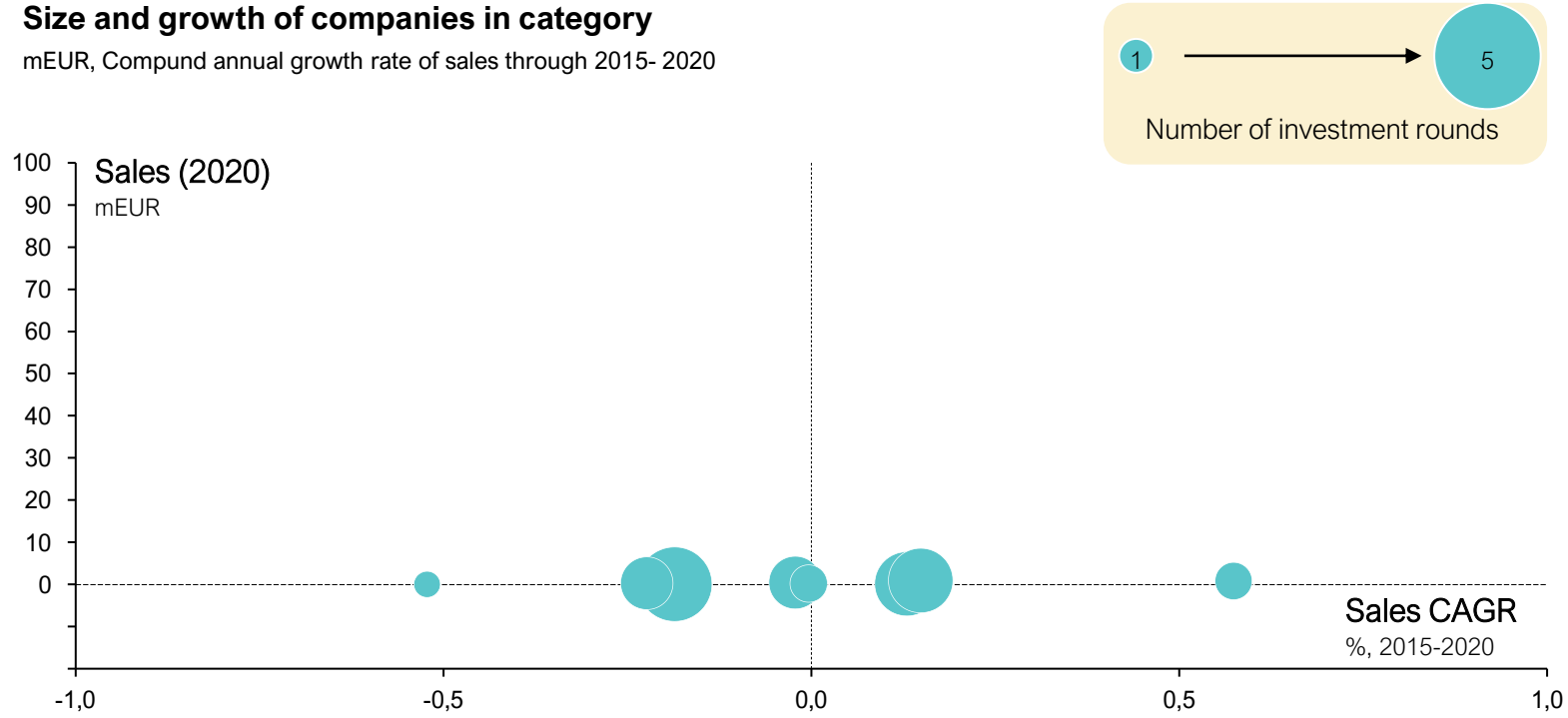
New Materials – Description Of The Category

Number of Founded companies per year since 2010



Size and growth of companies in category

mEUR, Compund annual growth rate of sales through 2015- 2020



- "New Materials" is the smallest category in deep tech, with only 14 companies present
- There is **no clear trend in the foundation of new companies** in this category. Only 2 companies have been founded since 2018. The frequency of companies being founded might be slowing down.
- No companies in the category have attained midsize (over 10 m EUR sales). The growth rates amongst the companies seem to vary widely: **median growth rate is -1,3%** (CAGR, 2015–2020), which is the lowest amongst all categories.

14
Companies in the Category

0
Midsized or Larger Companies in Category

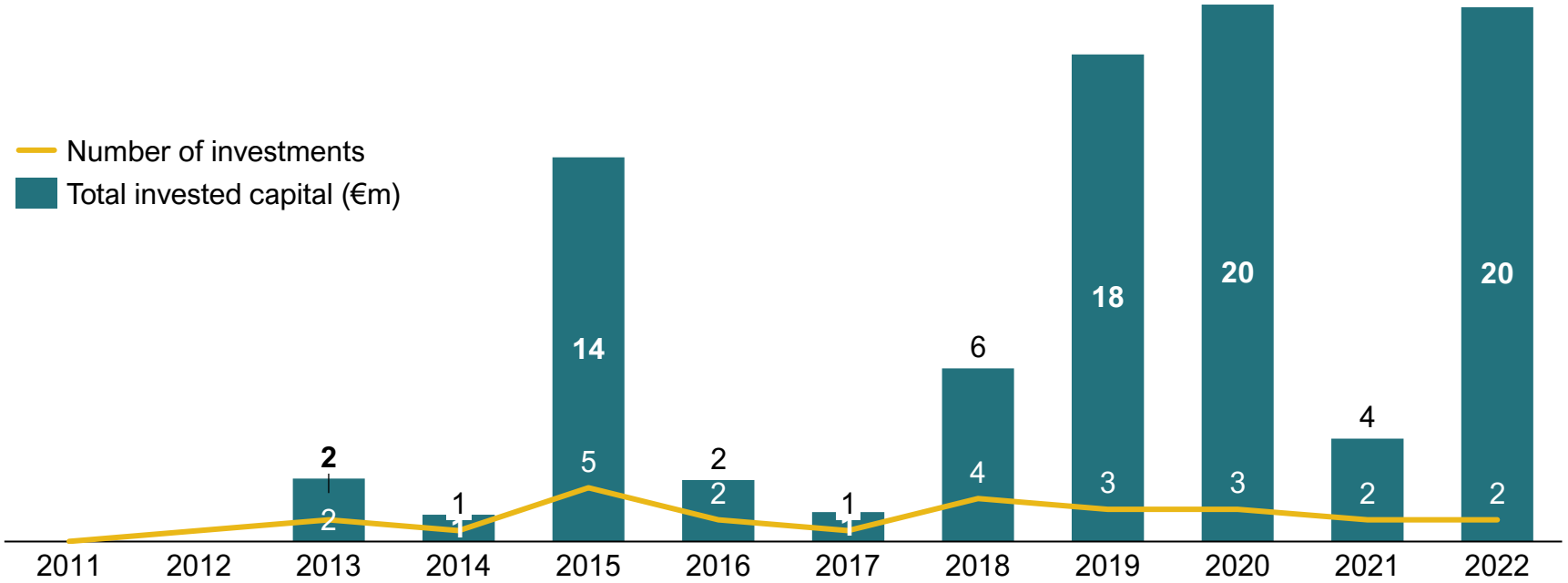
New Materials – Development of Investments

- In total, companies in "New Materials" category received **26 investments (in 12 companies), exceeding 90 m EUR in total invested capital**
- At the same time, **median round size grew by 413%,** while the median deep tech round size grew by only 134%
- Companies in this category may require large investment rounds as the business models often require investments in production capabilities

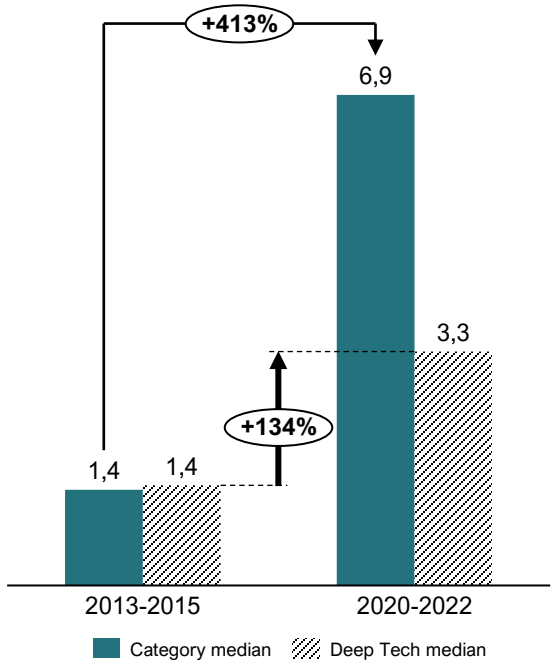
€90 m
Total Capital Invested During 2011–2022

26
Investments in 12 Companies

Development of investments in deep tech since 2011
€m, number of deals

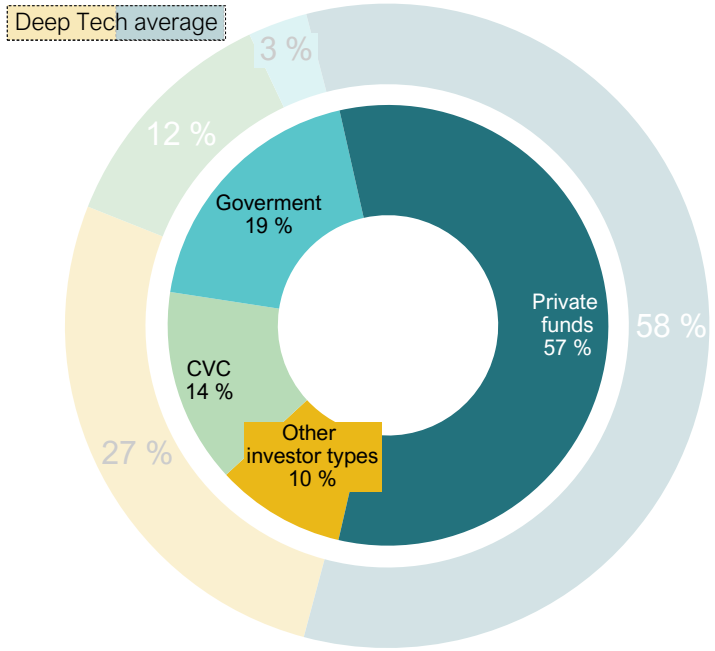


Development of round size
Median, €m

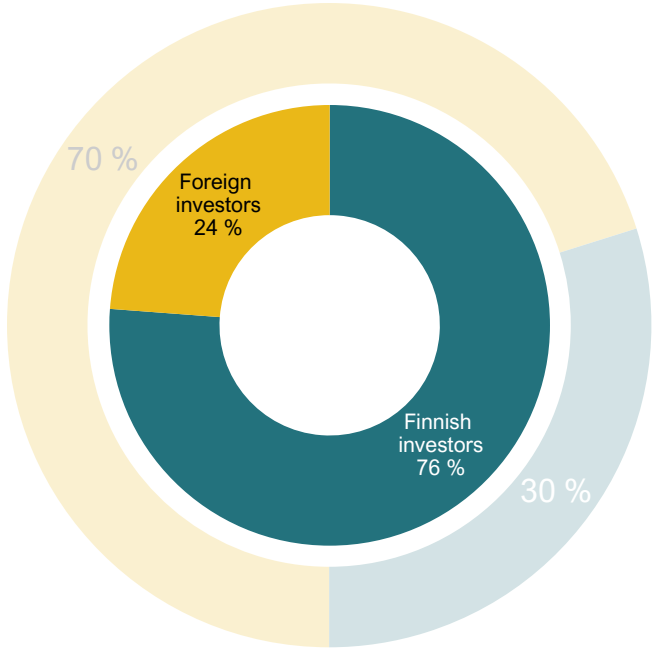


New Materials - Investors

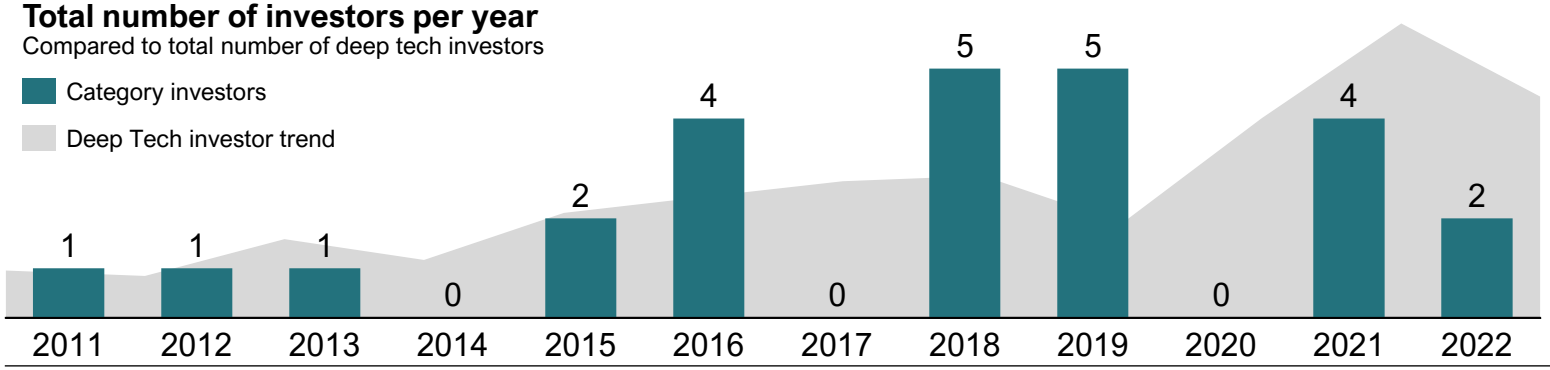
Share of different investor types
% of total number of investors



Share of domestic and foreign investors
% of total number of investors



Total number of investors per year
Compared to total number of deep tech investors



21

Investors in Category

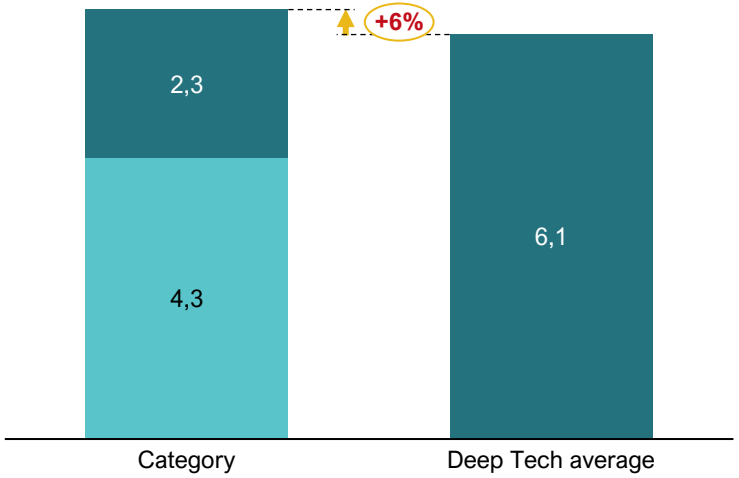
Notable investors

innovestor · LIFE LINE VENTURES · Voima Ventures · atomico · Besodos

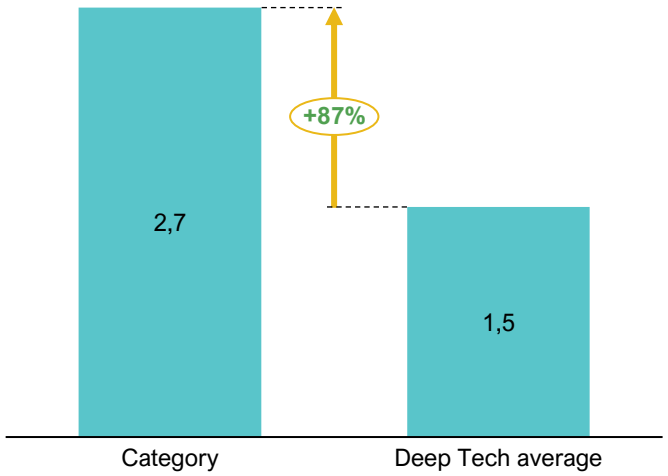
- The growth trend of number of investors in the entire deep tech industry compared to that of **"New Materials" is different**
- Investors in "New Materials" category are **mostly Finnish (76%),** while most investors in the overall deep tech industry are foreign-based (70%).
- **Government generally has more significant role in the "New Materials" category** than in deep tech because the pool of investors (and the overall size of the category) is smaller
- Some of the notable private funds (domestic and foreign) investing in "New Materials" include Innovestor, Lifeline, Voima ventures, Atomico, and Besodos Investors

New Materials - Characteristics

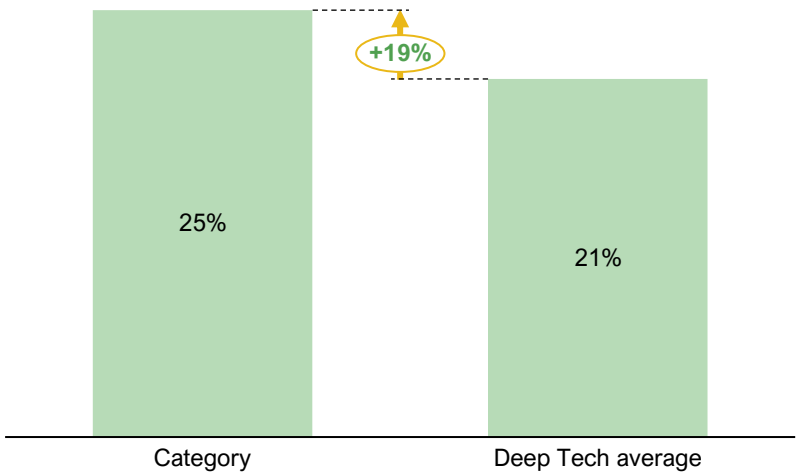
Time to 1 mEUR of revenue
Average, Years



Patent applications per company
Average

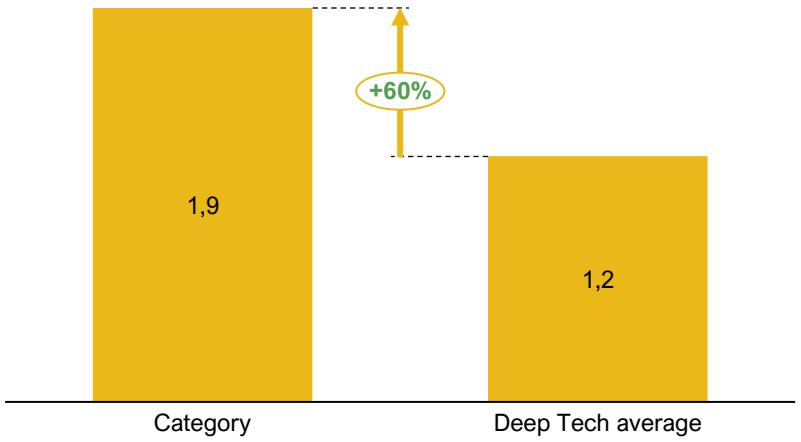


CapEx of Sales
%, only companies with sales over 1mEUR, average



- **Overall, time to revenue in** the "New Materials" category **is slightly longerthan in Deep Tech,** as production ramp-up often requires manufacturing facilities
- On the other hand, companies in this category have higher capex relative to revenue, which might indicate that the companies need more capital than their other deep tech counterparts.
- A large number of investors state that this category's investor pool is less concentrated than the average investor pool in deep tech. On average, the traditional Finnish venture capital funds have considerably smaller roles in funding such companies than their deep tech counterparts.

Total number of investors divided by number of deals
Average, only deals with investor data are counted



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- Optics
- AI & Robotics
- Health & Biotechnology

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Digital Infrastructure - Summary

Overall development

- Overall, the category “Digital Infrastructure” is the largest and relatively well-established in the Finnish deep tech ecosystem
- The median growth rate of the category (25%) is close to the deep tech median
- “Digital Infrastructure” resembles the deep tech on many other key metrices: investor profiles, developement of investments, and key characteristics
- All in all, the development of the underlying companies in this category, including the funding enviroment, seems highly positive

Investors summary

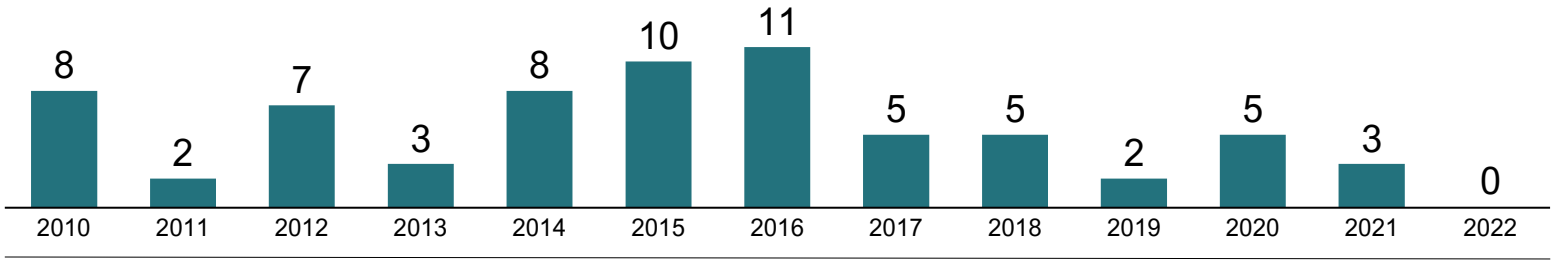
- 78 investors have invested in the companies within this category
- Most of the investors are either foreign-based entities or private funds
- Investor profiles, along with its increasing trend, look similar to that of the deep tech average
- The investor pool is relatively more concentrated on traditional investors, i.e. the category is more popular amongst traditional venture capital and other private funds than other categories

Funding Balance

- Overall, the companies in this category are well funded. The annual capital investments have broken records every other year since 2015, but at the same time no significant growth can be seen in the number of emerging companies. Mostly, larger investment rounds have driven the growth of invested capital.
- Median round size is one of the largest within all deep tech categories in recent years (5 m EUR during 2020–2022)
- Total invested capital exceeded 945 m EUR between 2011 and 2022

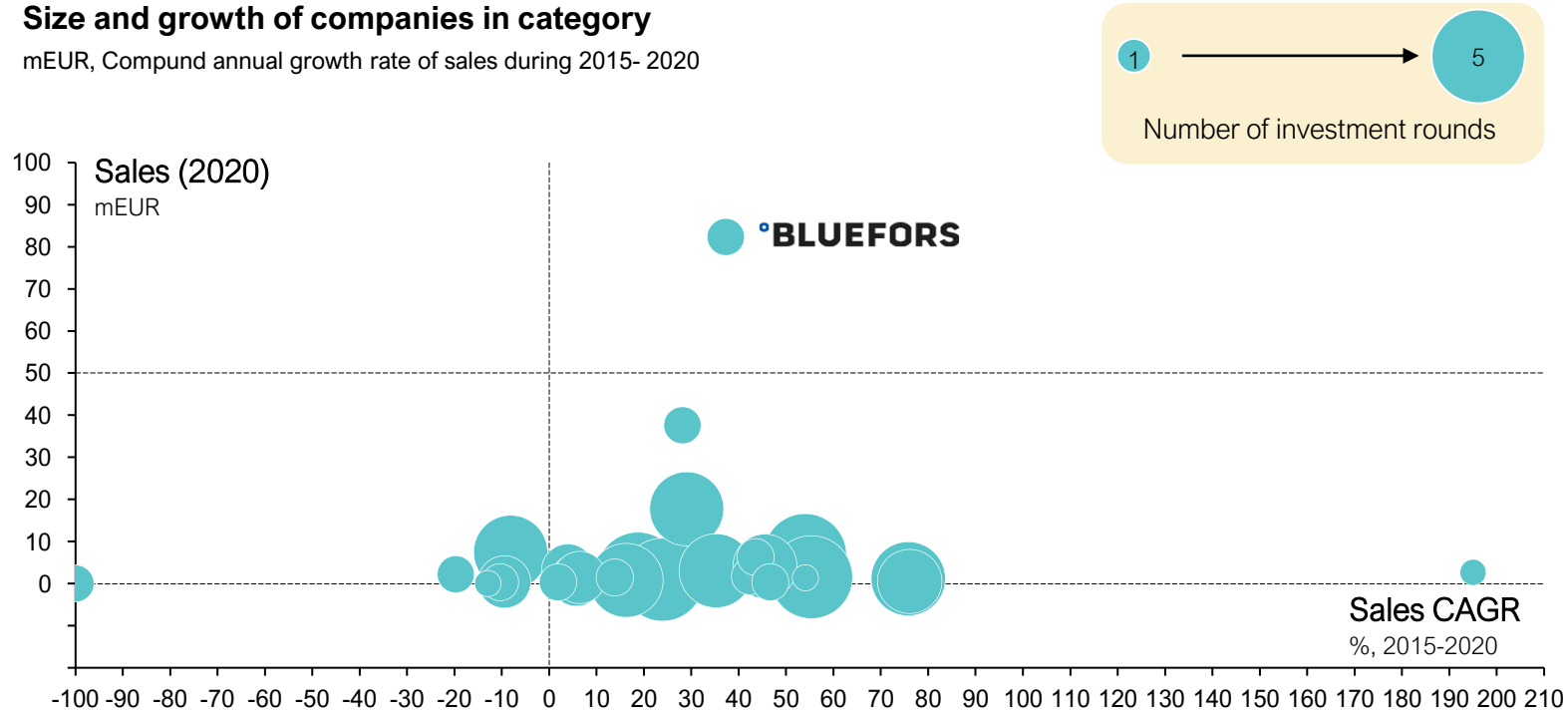
Digital Infrastructure – Description of the Category

Number of Founded companies per year since 2010



Size and growth of companies in category

mEUR, Compund annual growth rate of sales during 2015- 2020



- "Digital Infrastructure" is by far the largest category in Deep Tech with 83 companies
- There is **no clear trend in the foundation of new companies** in the category. Only a few companies have emerged since 2018.
- 10 companies in the category have reached midsize (with over 10 m EUR sales)
- Many of the companies in the category are growing fast, with a **median growth rate of 26%** (CAGR, 2015–2020)

83
Companies in the Category

10
Midsized or larger Companies in Category

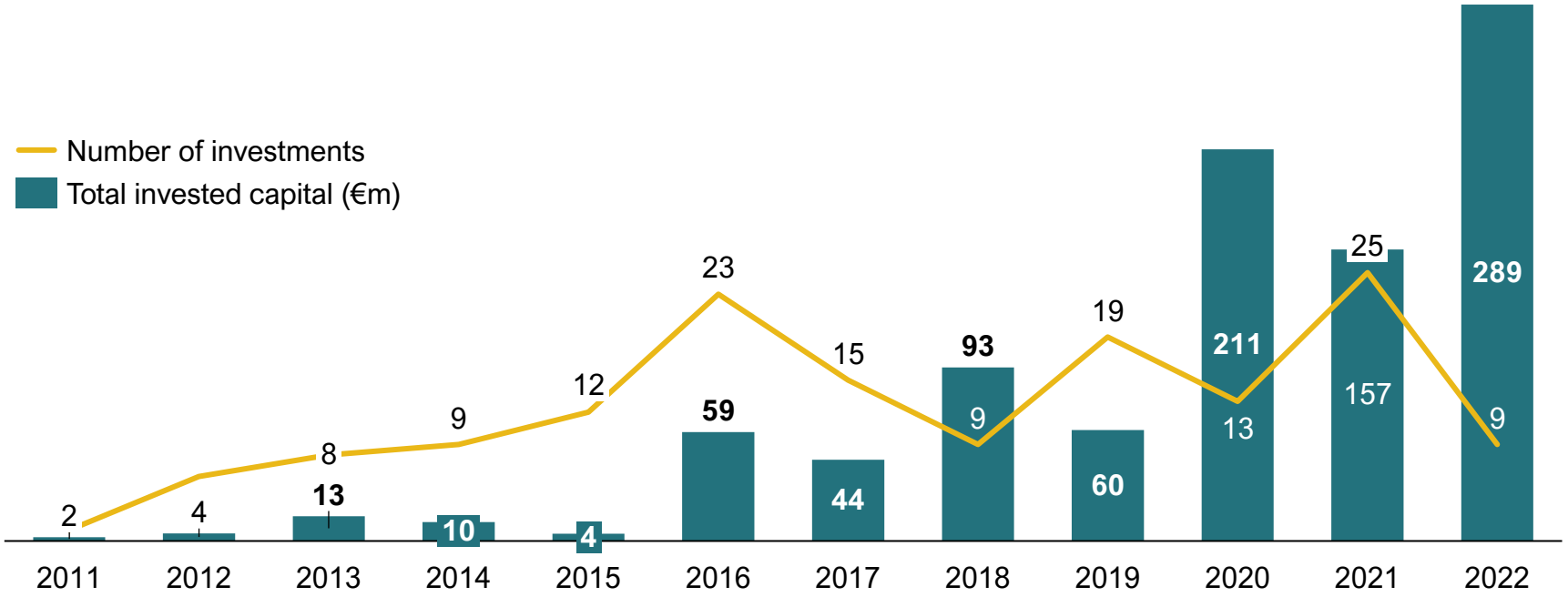
Digital Infrastructure – Development of Investments

- In total, companies in ”Digital Infrastructure” category received **149 investments (in 62 companies), exceeding 945 m EUR in total invested capital**
- At the same time, the **median round size in new materials increased by 400%, while** the median deep tech round size grew by only 134%
- Investments to “Digital Infrastructure” have increased significantly in recent years, mostly because larger investment rounds have become more common

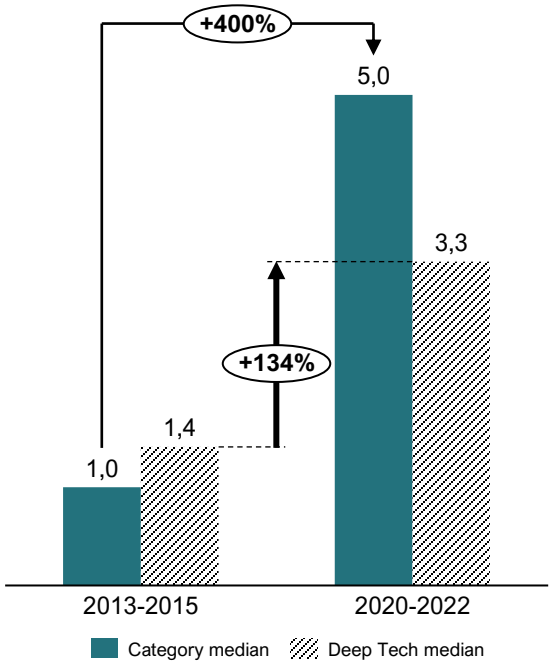
€945 M
Total Invested Capital During 2011–2022

149
Investments in 62 Companies

Development of investments in deep tech since 2011
€m, number of deals

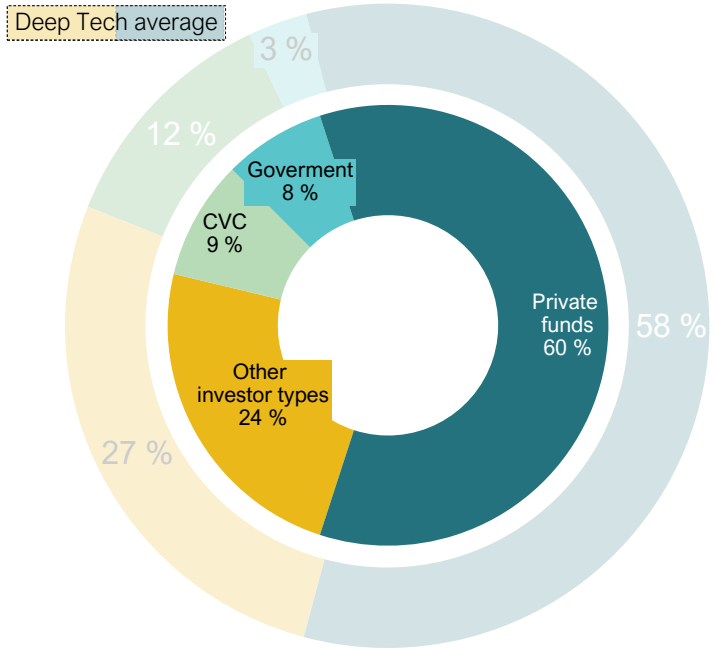


Development of round size
Median, €m

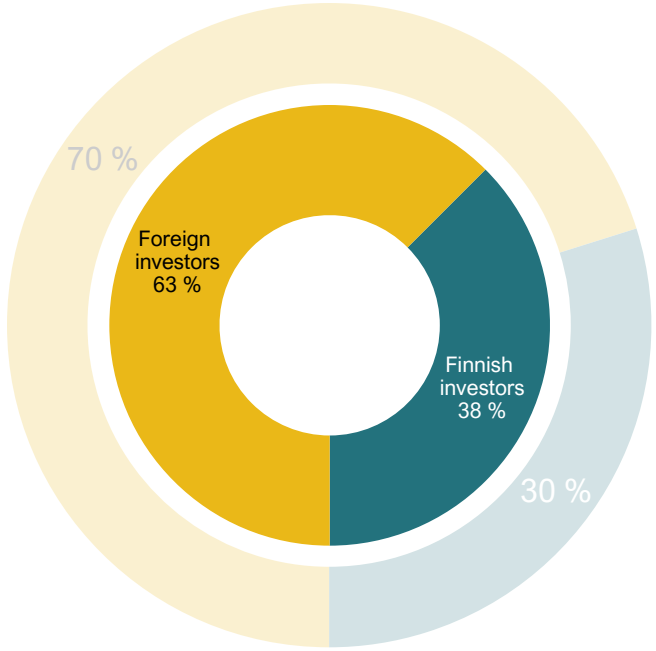


Digital Infrastructure - Investors

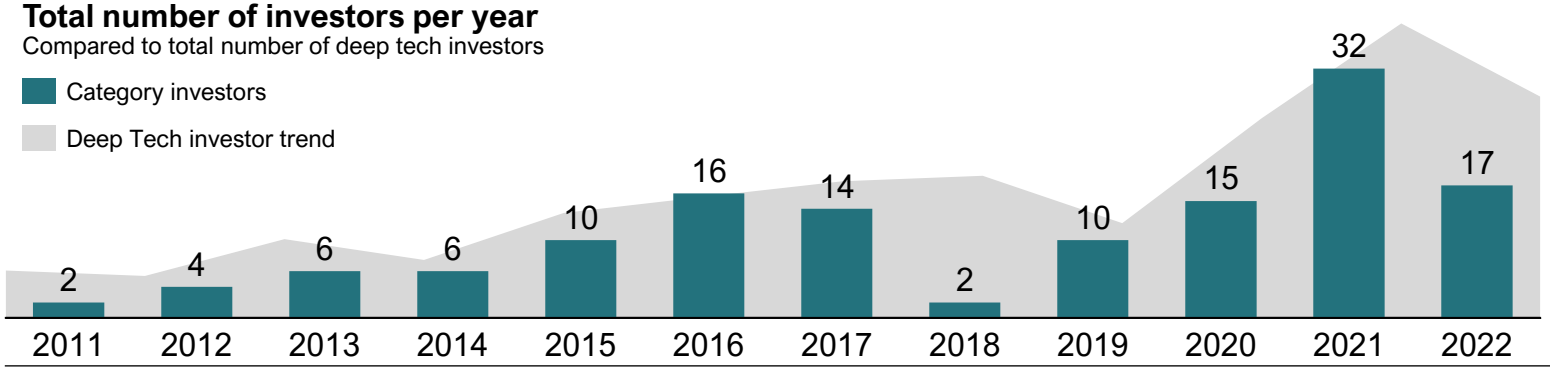
Share of different investor types
% of total number of investors



Share of domestic and foreign investors
% of total number of investors



Total number of investors per year
Compared to total number of deep tech investors



78

Investors in category

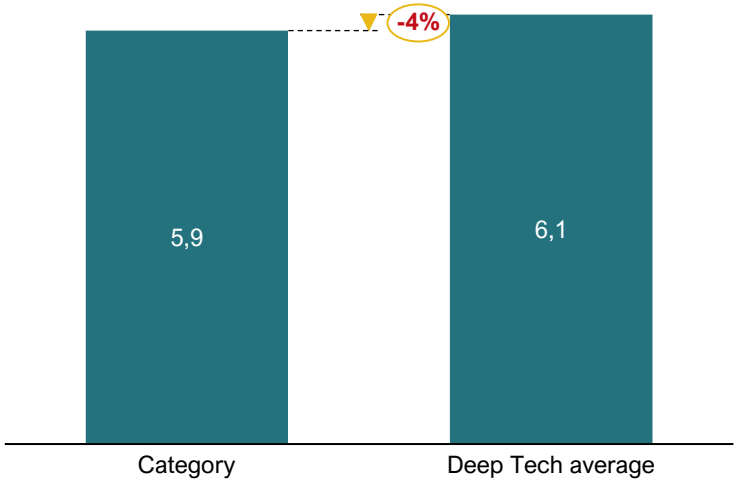
Notable investors

Butterfly · Voima Ventures · MAKI.VC · OpenOcean · VITO VENTURES

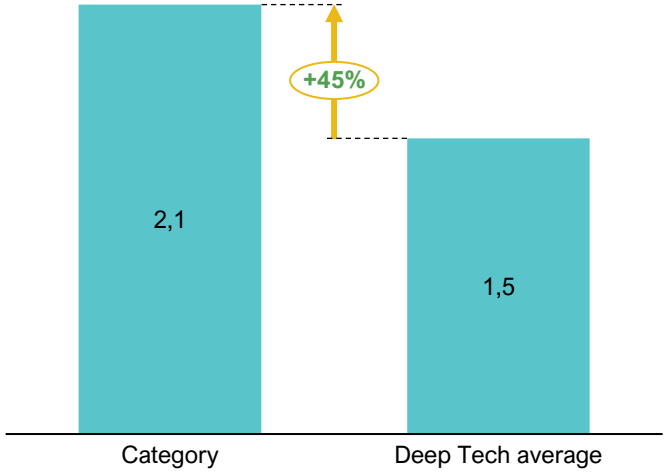
- The growth trend of the number of investors in the entire deep tech industry compared to that of **"Digital Infrastructure" is similar**
- Investors in the category "Digital Infrastructure" are **mostly foreign (63%),** similar to that in deep tech (70%)
- Overall, this category's investor profiles look very similar to that of average deep tech investors
- Some of the notable private funds (domestic and foreign) investing in "Digital Infrastructure" include Butterfly VC, Voima Ventures, Maki VC, Open Ocean, and Vito Ventures

Digital Infrastructure - Characteristics

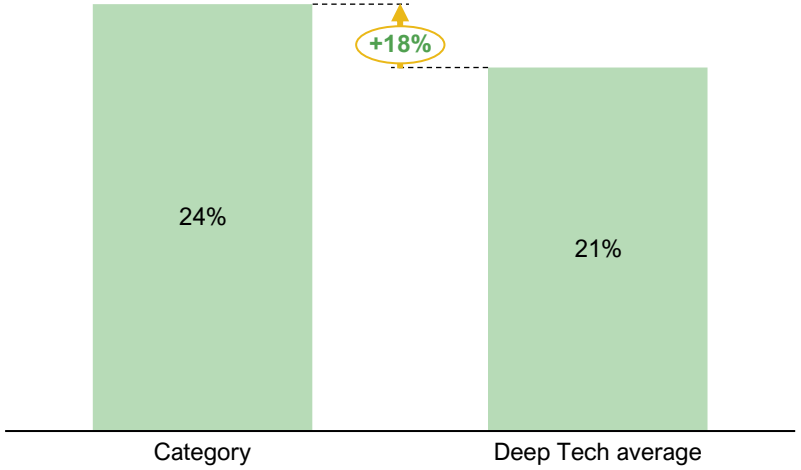
Time to 1 mEUR of revenue
Average, Years



Patent applications per company
Average

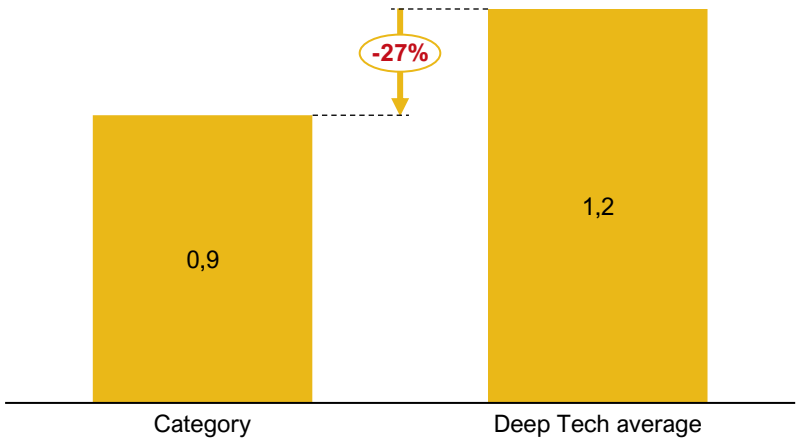


CapEx of Sales
%, only companies with sales over 1mEUR, average



- Overall, time to revenue in the "Digital Infrastructure" category is 4% shorter than in deep tech, **i.e. commercialization process is similar to the entire deep tech industry on average**
- Companies in this segment mostly do not need large amounts of physical capital, hence the similar CapEx in relation to deep tech average
- This category attracts considerably less unique investors compared to deep tech as a whole, i.e. the investments are slightly more concentrated than in deep tech on average. Likewise, the traditional Finnish venture funds play a significant role in funding companies in this category.

Total number of investors divided by number of deals
Average, only deals with investor data are counted



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- Comparing Deep tech Categories
- New Materials
- Digital Infrastructure
- **Energy & Climate Technology**
- Optics
- AI & Robotics
- Health & Biotechnology

Appendix

Energy & Climate Technology - Summary

Overall development

- Overall, the category “Energy & Climate Technology” has been relatively underdeveloped. The development of investments, along with founding of new companies, has not experienced meaningful growth.
- Concurrently, the existing companies in the category have grown in a satisfactory rate, and multiple companies are achieving scale. The number of investors has grown as well, so its future prospects seem more positive.

Investors summary

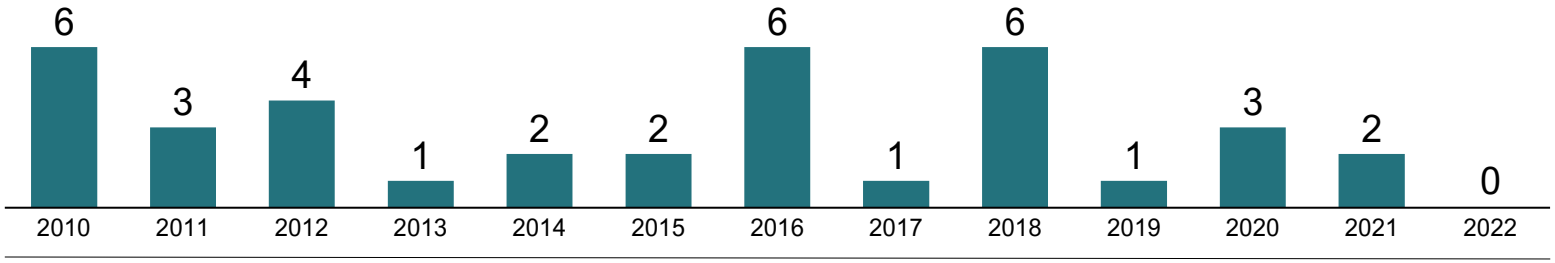
- 60 investors have invested in the companies within this category
- Most of the investors are foreign-based entities and private funds
- Private funds have even greater roles in funding the “Energy & Climate Technology” companies than deep tech
- The investor pool is relatively more concentrated on traditional investors, i.e. the category is more popular amongst traditional venture capital and other private funds than other categories

Funding Balance

- Overall, the funding of “Energy & Climate Technology” companies has been unsatisfactory. The investments have decreased particularly since 2020 compared to the long-term average, which is the inverse of the overall trend in deep tech funding.
- The median round is one of the smallest within all deep tech categories in recent years (1,7 mEUR through 2020-2022)
- The total invested capital exceeded 246 m EUR between 2012 and 2022

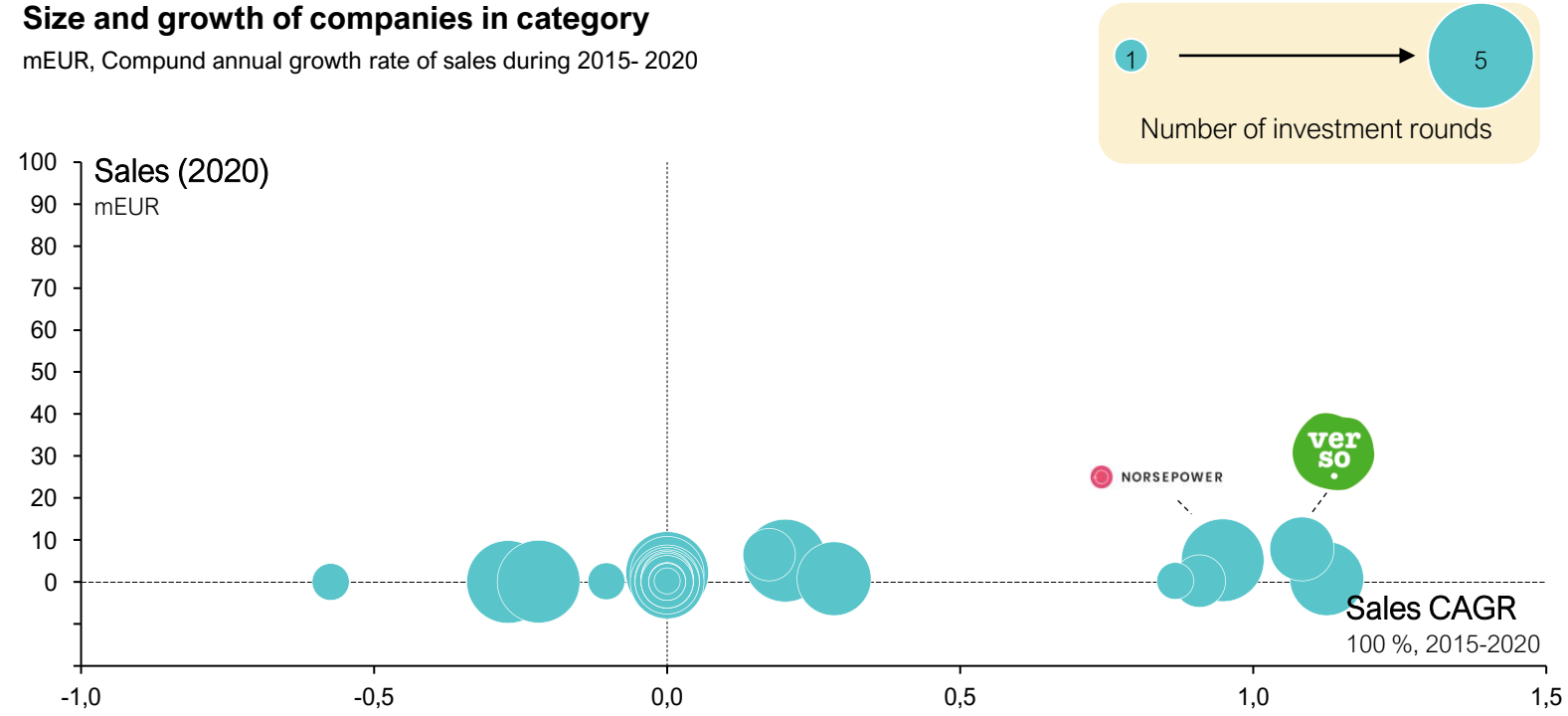
Energy & Climate Technology – Description of the Category

Number of Founded companies per year since 2010



Size and growth of companies in category

mEUR, Compund annual growth rate of sales during 2015- 2020



- "Energy & Climate Technolgy" is the third largest category in deep tech with 38 companies present. Despite the number, no companies in the category have attained midsize (over 10m EUR sales) at the end of the year 2020.
- The category **median growth rate is 24%** (CAGR, 2015–2020). Multiple companies are experiencing three-figure growth and are expected to scale to larger company sizes in near future.
- There is **no clear trend in the foundation of new companies** in this category. Similar to other categories, only a few companies have emerged.

38
Companies in the Category

0
Midsized or Larger Companies in Category

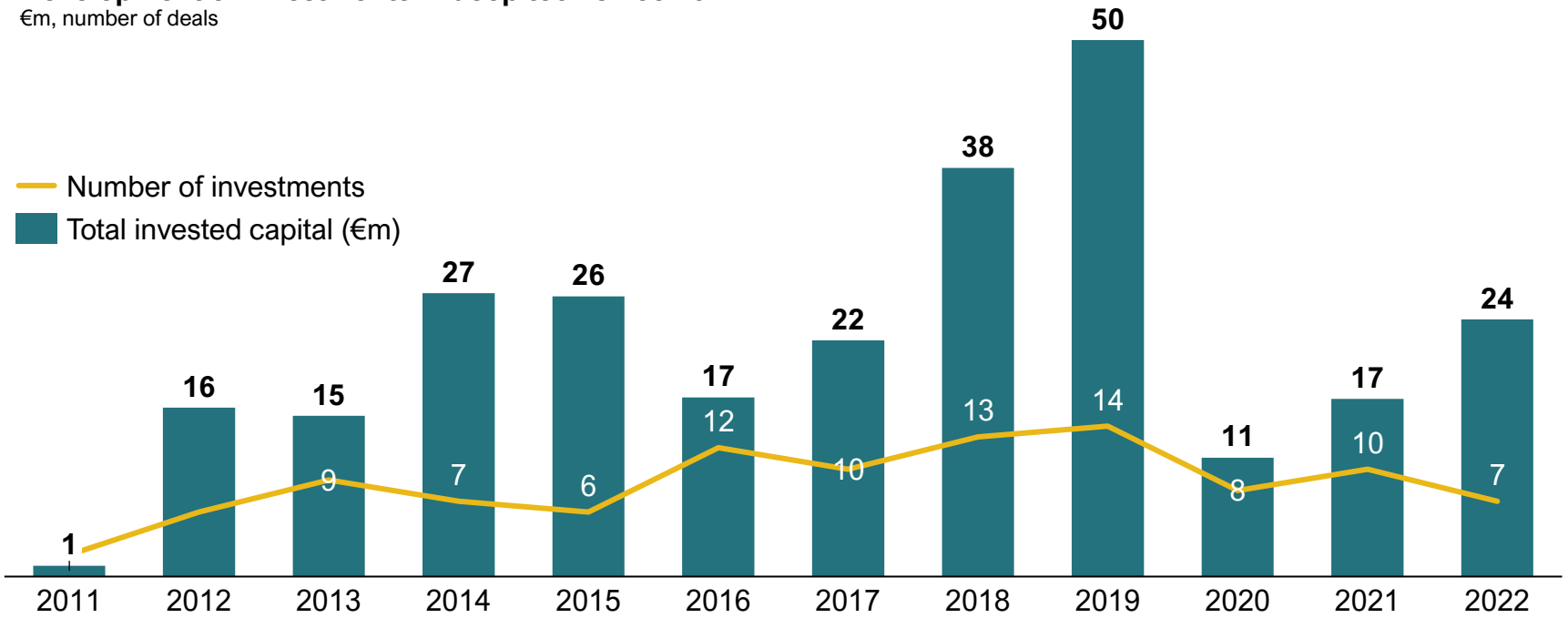
Energy & Climate Technology – Development of Investments

- In total, companies in the "Energy & Climate Technology" category received **104 investments (in 38 companies), exceeding 240 m EUR in total invested capita.**
- Concurrently, the **median round size in the category decreased by 23%,** while the median deep tech round size grew by 134%
- Since 2020, the annual capital investments have been under long-term average, with an unsatisfactory low funding growth

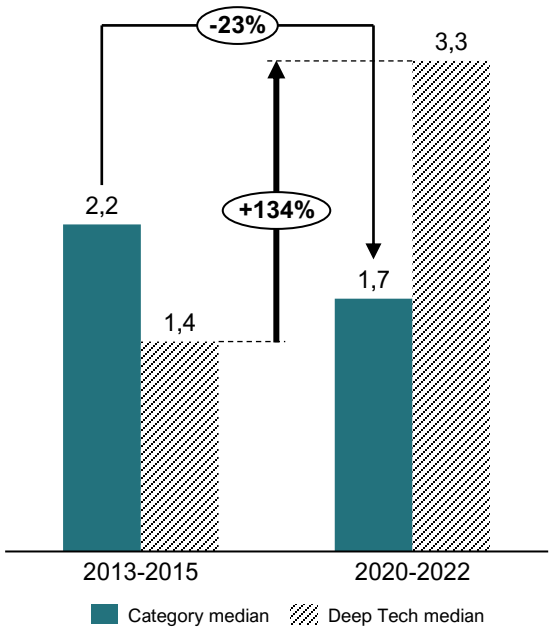
€246 M
Total Invested Capital During 2011–2022

104
Investments In 38 Companies

Development of investments in deep tech since 2011
€m, number of deals

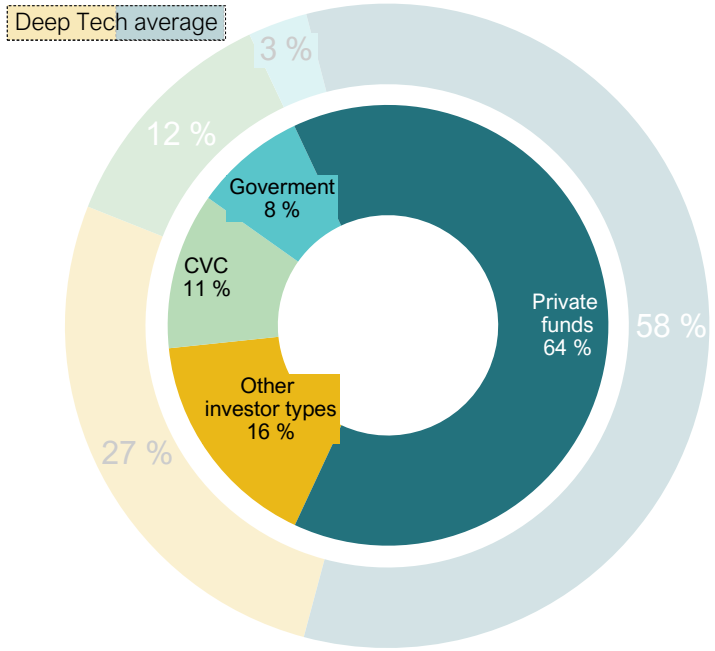


Development of round size
Median, €m

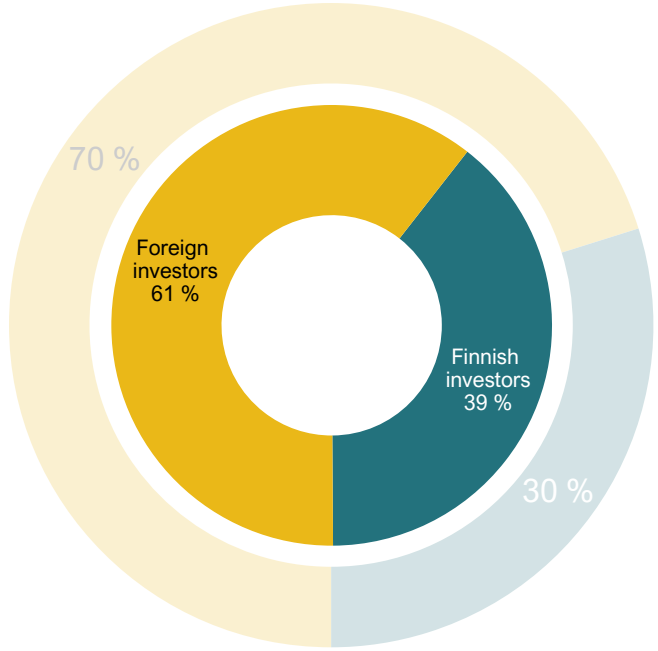


Energy & Climate Technology - Investors

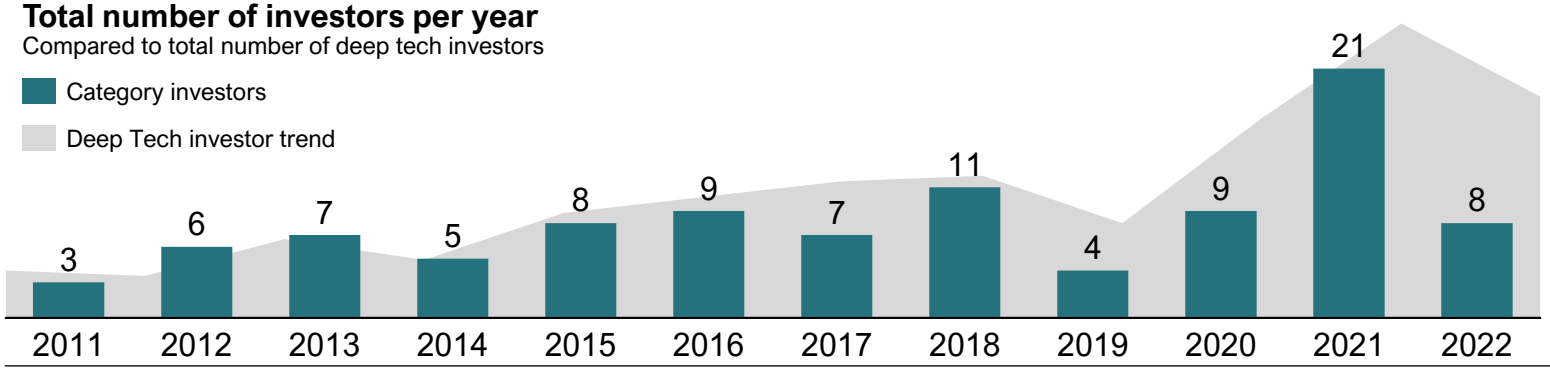
Share of different investor types
% of total number of investors



Share of domestic and foreign investors
% of total number of investors



Total number of investors per year
Compared to total number of deep tech investors



60
Investors in Category

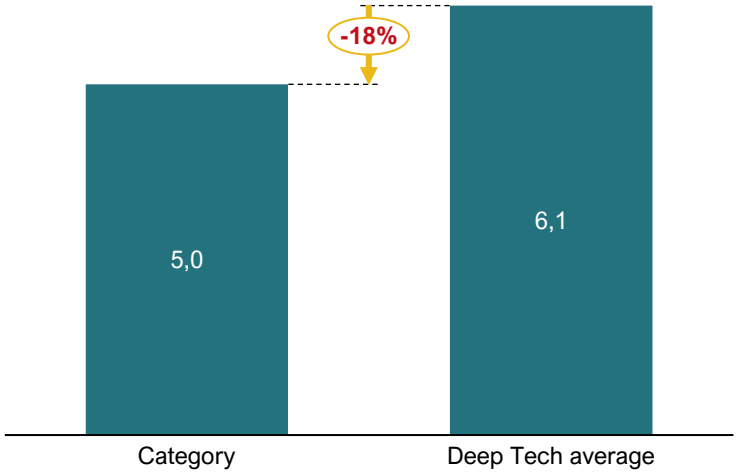
Notable investors

loudspring · Voima Ventures · Butterfly · emerald Technology Ventures · Sofinnova partners

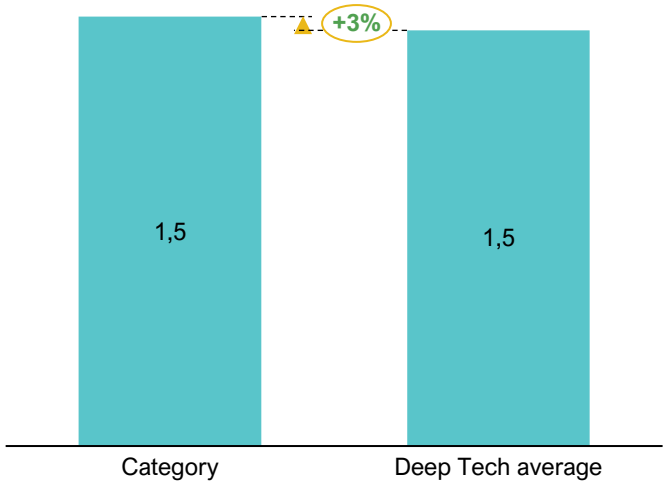
- The growth trend of the number of investors in the entire deep tech industry compared to that of “Energy & Climate Technology” looks similar
- Investors in “Energy & Climate Technology” category are **mostly foreign-based entities (61%),** which is reflected across the deep tech investors (70%) as well
- **Private funds have much greater significance for this category** than other deep tech categories on average
- Some of the notable private funds (domestic and foreign) investing in “Energy & Climate Technology” include Butterfly VC, Loudspring, Voima Ventures, Emerald Technology Ventures, and Sofinnova Partners

Energy & Climate Technology - Characteristics

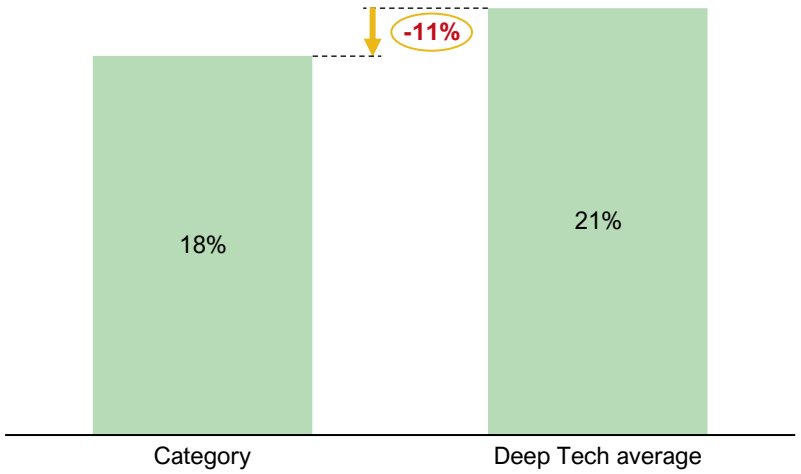
Time to 1 mEUR of revenue
Average, Years



Patent applications per company
Average

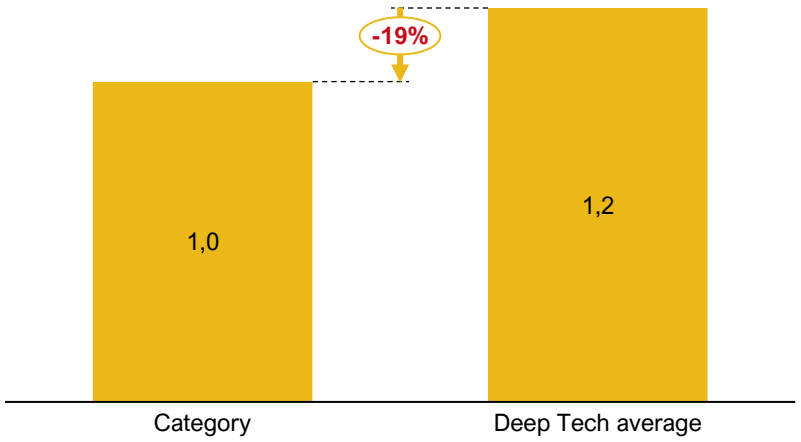


CapEx of Sales
%, only companies with sales over 1mEUR, average



- In energy & climate technology **time to revenue is significantly shorter than in Deep Tech overall**, as commercialization process is shorter than deep tech average
- On the other hand, companies in energy & climate tech category have somewhat lower capex relative to revenue, indicating lower needs for physical capital
- In energy & climate technology, there exists considerably less unique investors relatively, than in deep tech as a whole, i.e. the investments are slightly more concentrated than in deep tech on average. Traditional venture funds have major role in funding companies in the category.

Total number of investors divided by number of deals
Average, only deals with investor data are counted



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- Comparing Deep tech Categories
- New Materials
- Digital Infrastructure
- Energy & Climate Technology
- **Optics**
- AI & Robotics
- Health & Biotechnology

Appendix

Optics - Summary

Overall development

- Overall, the development experienced by the category “Optics” is the most underwhelming amongst all deep tech categories. In addition, the funding, founding, and investor trends have all underperformed in comparison.
- On a more positive note, some companies have still managed to scale, despite their underwhelming median growth rate (at 7,6%)

Investors summary

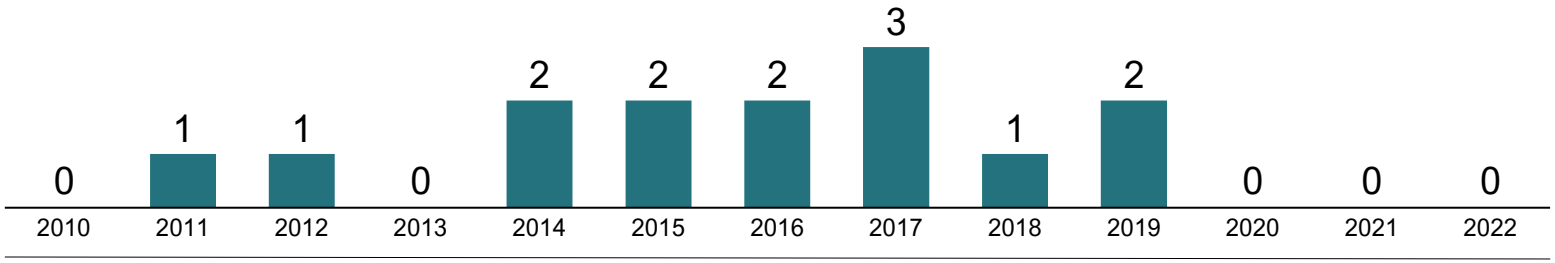
- 18 investors have invested till date in companies within the category
- Most of the investors are domestic investors and private funds
- The traditional venture capital funds have not shown to favour the “Optics” industry. Rarely any foreign venture capital or other private funds have shown interest in active investments in the Finnish “Optics” companies. Only 1 foreign venture fund has invested in this category.

Funding Balance

- Overall, companies in the category are relatively very underfunded. Between 2011 and 2022, the total invested capital was merely 38 m EUR, excluding the PIPE of Detection Technology, which is the lowest total of all categories by a significant amount.
- The median round size is one of the smallest amongst all deep tech categories in recent years (2,9 m EUR during 2020–2022)

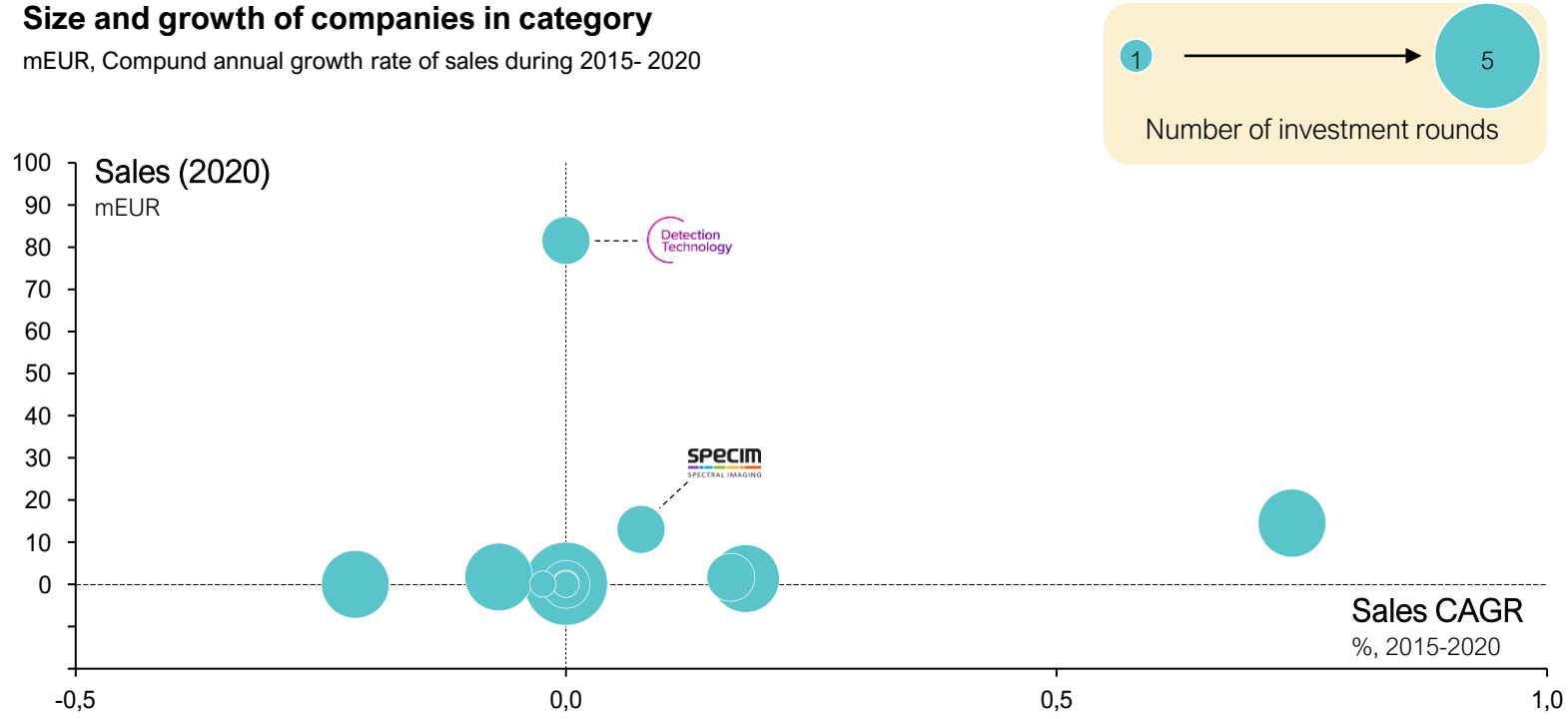
Optics – Description of the Category

Number of Founded companies per year since 2010



Size and growth of companies in category

mEUR, Compund annual growth rate of sales during 2015- 2020



- "Optics" is one of the smallest categories in deep tech, with only 19 companies included
- New companies are founded rarely, with none founded since 2019
- 3 companies in the category have attained mid-size (over 10 m EUR sales). Meanwhile, the **median growth rate of the category is 8%** (CAGR 2015–2020), which is significantly under deep tech median.

19
Companies in the Category

3
Midsized or Larger Companies in Category

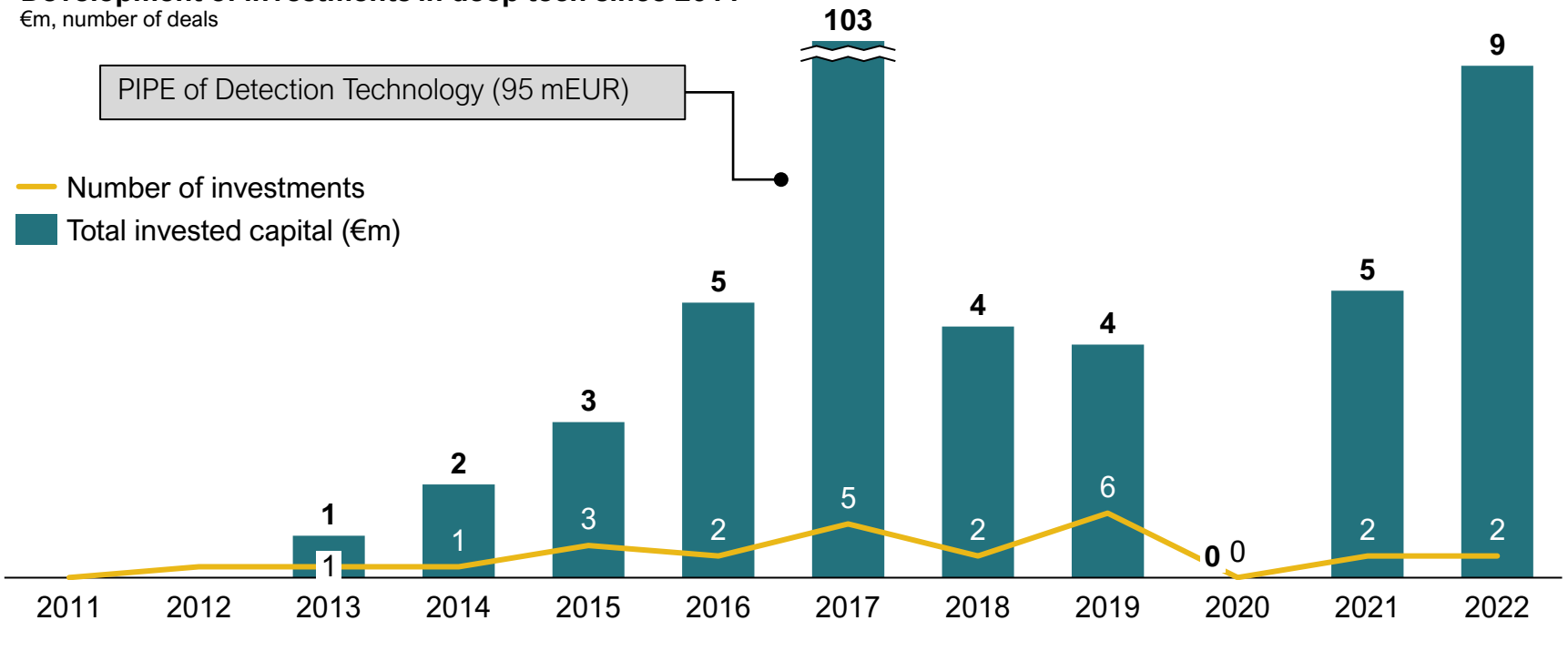
Optics – Development of Investments

- In total, the companies in the category “Optics” received 25 investments (in 13 companies), exceeding 133 m EUR in total invested capital. **Excluding the PIPE of Detection Technology, the invested capital amounts to only 38 m EUR.**
- Concurrently, the **median round size in the category grew by 149%, while the** median deep tech round size grew by a comparable 134%
- **Overall, the investment activities in optics have been subpar**. Moreoever, the data shows no robust changes capable of predicting any such positive future prospects.

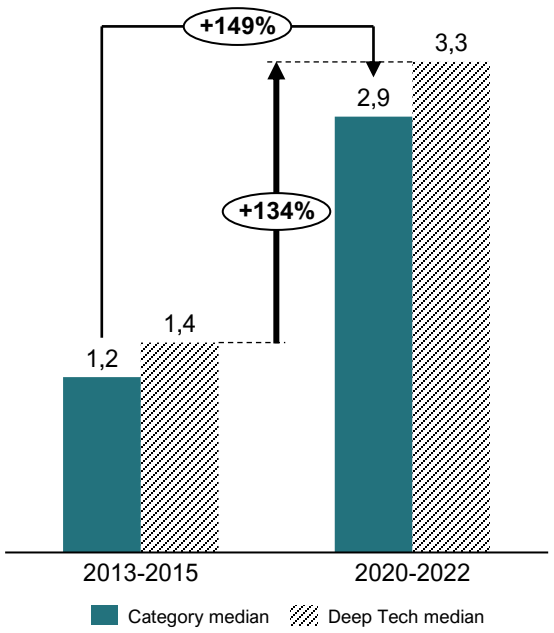
€133 M
Total Invested Capital During 2011-2022

25
Investments in 13 Companies

Development of investments in deep tech since 2011
€m, number of deals

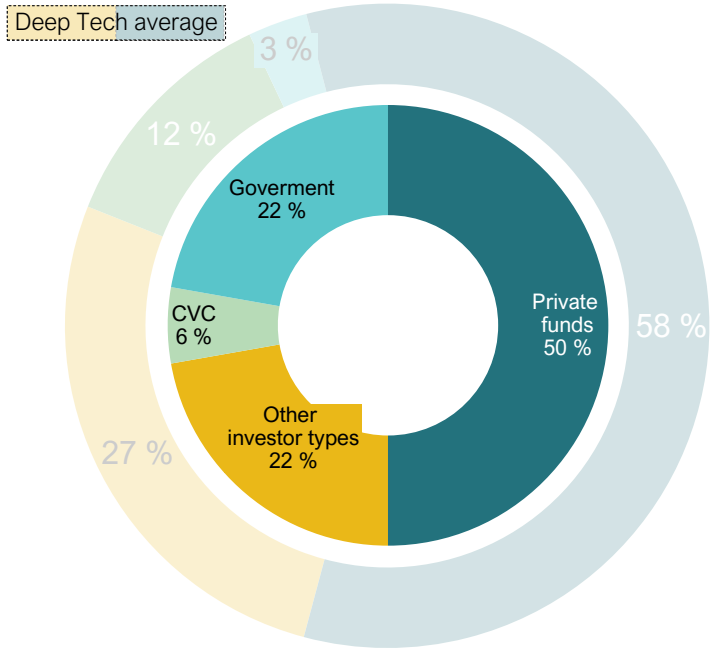


Development of round size
Median, €m

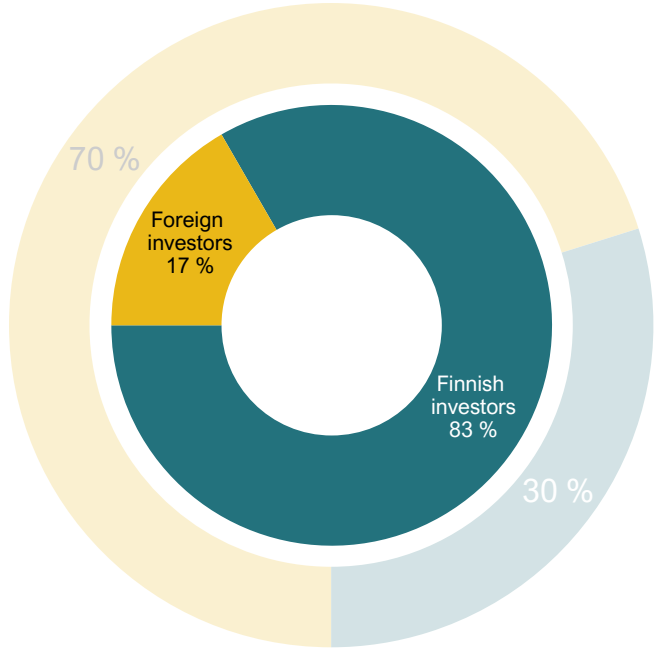


Optics - Investors

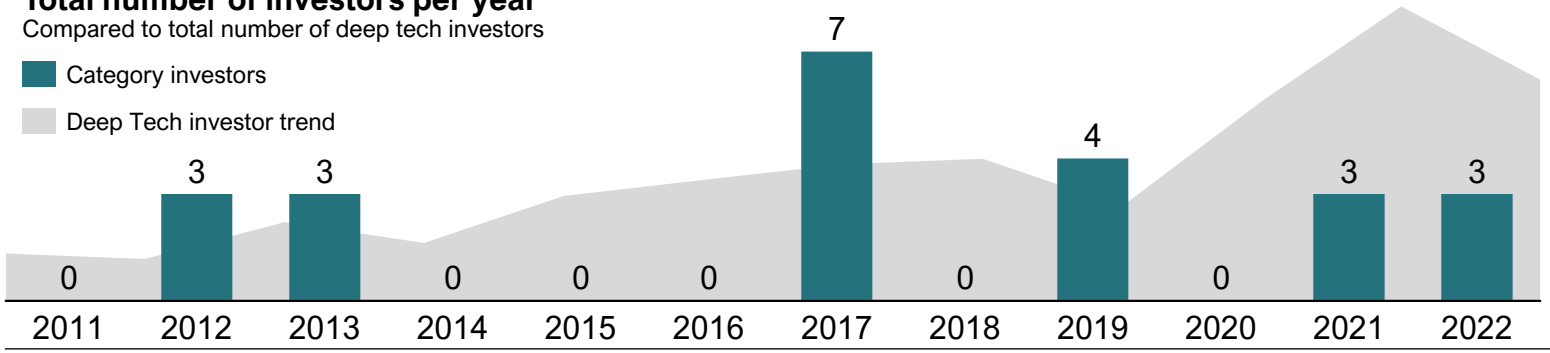
Share of different investor types
% of total number of investors



Share of domestic and foreign investors
% of total number of investors



Total number of investors per year
Compared to total number of deep tech investors



18

Investors in Category

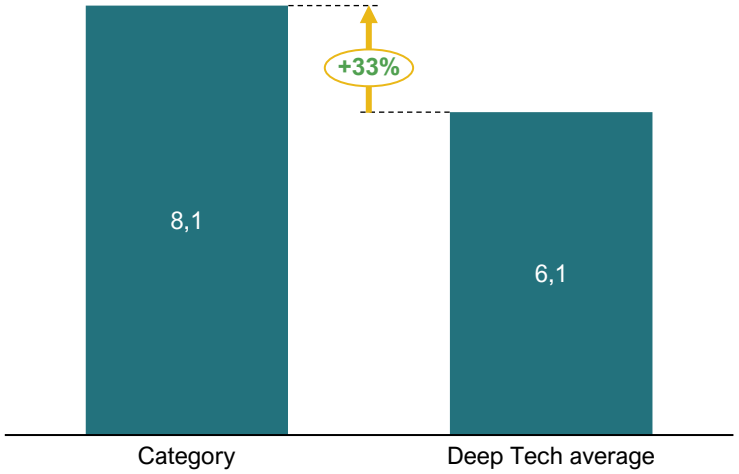
Notable investors

innovestor · LIFE LINE VENTURES · Voima Ventures · atomico · PR•XY

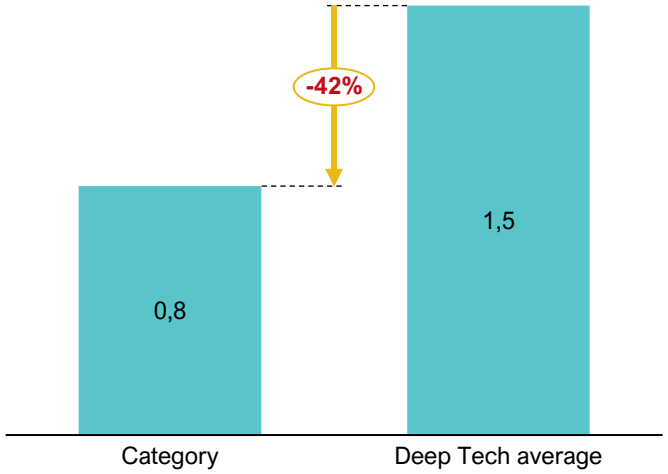
- The growth trend of the number of investors in the entire deep tech industry compared to that of “Optics” looks different. So far, only 18 investors have invested in this category.
- The investors in this category **are mostly Finnish (83%),** while those in deep tech are mostly foreign-based (70%)
- **Only 50% of investors in “Optics” are from private funds**
- The most notable private funds (domestic and foreign) investing in new materials include Innovestor, Lifeline, Voima Ventures, Atomico, and Proxy Ventures

Optics - Characteristics

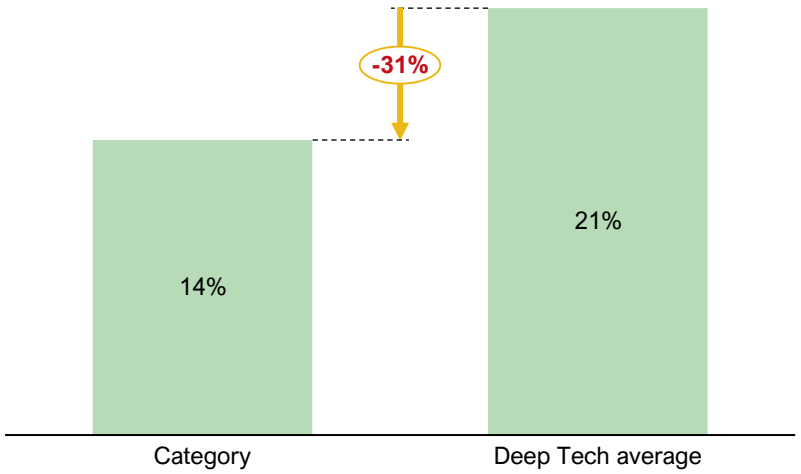
Time to 1 mEUR of revenue
Average, Years



Patent applications per company
Average

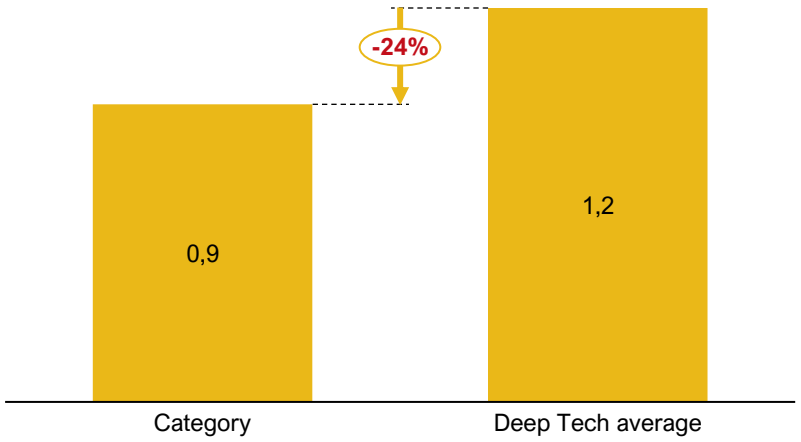


CapEx of Sales
%, only companies with sales over 1mEUR, average



- Overall, **time-to-revenue in "Optics" category is significantly longer than in Deep Tech**, as the commercialization is longer and heavier than in other categories
- Moreover, companies in this category have lower CapEx relative to revenue, which indicates that companies have considerably less need for physical capital

Total number of investors divided by number of deals
Average, only deals with investor data are counted



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- Digital Infrastructure
- Energy & Climate Technology
- Optics
- **AI & Robotics**
- Health & Biotechnology

Appendix

AI & Robotics - Summary

Overall development

- Overall, the category “AI & Robotics” has developed very positively. More companies have been founded in recent years than in other categories making it the youngest category. Some companies have already scaled their businesses and are still growing fast.
- The median growth rate of the segment is close to that of the deep tech average (17%)
- Funding and investor pool for the AI & Robotics companies are developing positively

Investors summary

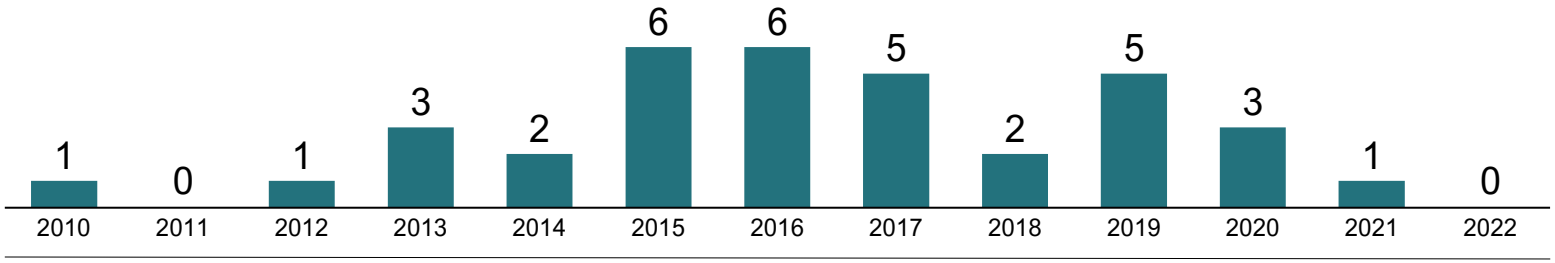
- 50 investors have invested till date in the companies within the category
- Most of the investors are foreign-based entities and private funds, with the investor profile distribution approximately mirroring the deep tech average
- Foreign private funds seem to show immense interest towards AI & Robotics companies in Finland

Funding Balance

- Overall, the companies in the category are moderately well-funded. There are some signs of increasing activity. The median round sizes have grown more than that of other deep tech counterparts on average. Still, larger rounds (>20 m EUR) are yet to be seen.
- The total invested capital exceeded 180 m EUR between 2012 and 2022

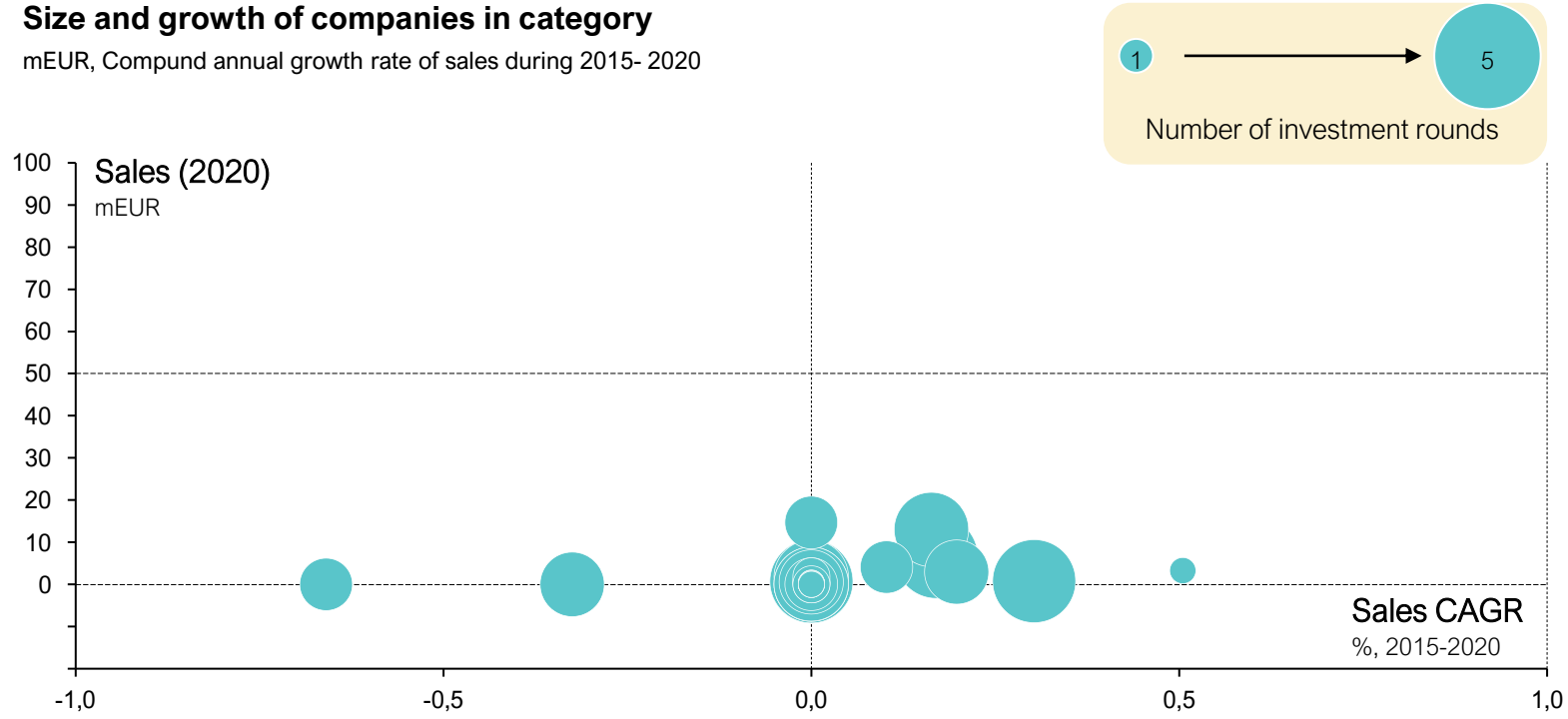
AI & Robotics – Description of the Category

Number of Founded companies per year since 2010



Size and growth of companies in category

mEUR, Compund annual growth rate of sales during 2015- 2020



- "AI & Robotics" is a relatively larger category in deep tech with 42 companies included.
- The median age of the companies in this category is the lowest of all (6,4 years), i.e. more companies have been founded recently in "AI & Robotics" group than in others
- 5 companies in the category have attained mid-size level (with over 10 m EUR sales), with a **median growth rate of 17%** (CAGR 2015–2020)

42
Companies in the Category

5
Midsized or Larger Companies in Category

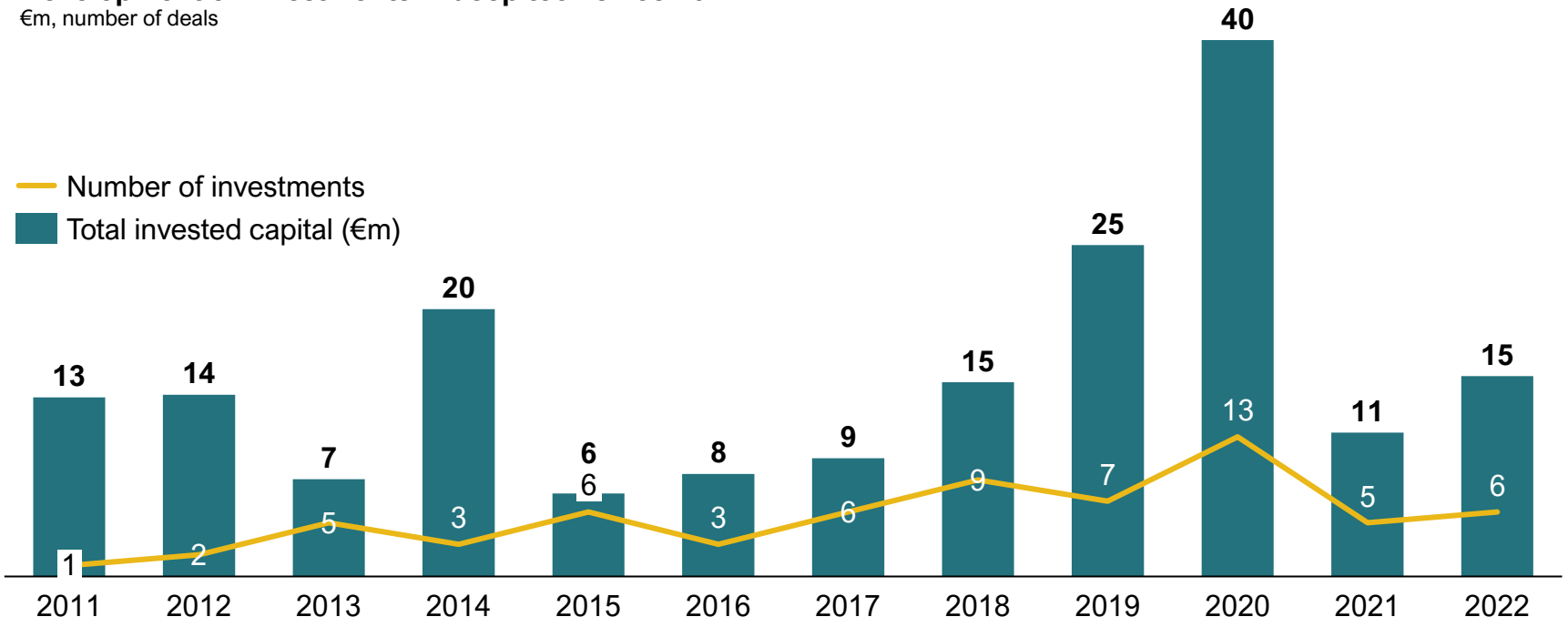
AI & Robotics – Development of Investments

- In total, the companies in "AI & Robotics" category received **66 investments (in 26 companies), exceeding 182 m EUR in total invested capital**
- At the same time, the **median round size in this category grew by 230%,** while the median deep tech round size grew by 134%
- Overall, the funding enviroment has developed positively for AI & Robotics companies, even though larger investment rounds have not materialised yet

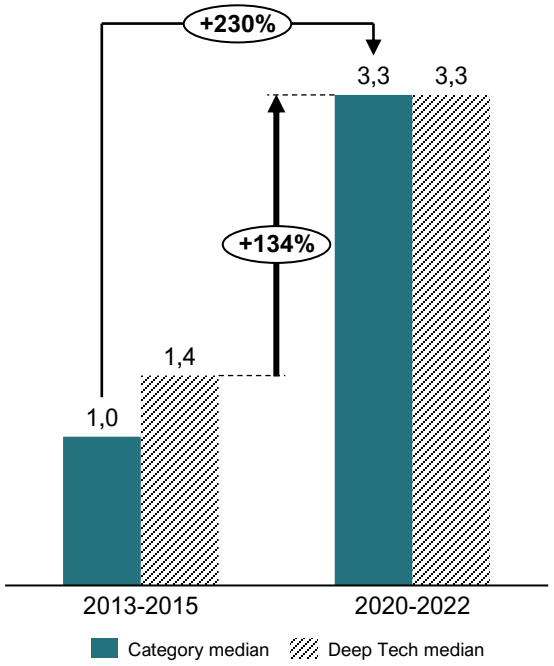
€182 M
Total Invested Capital During 2011-2022

66
Investments in 26 Companies

Development of investments in deep tech since 2011
€m, number of deals

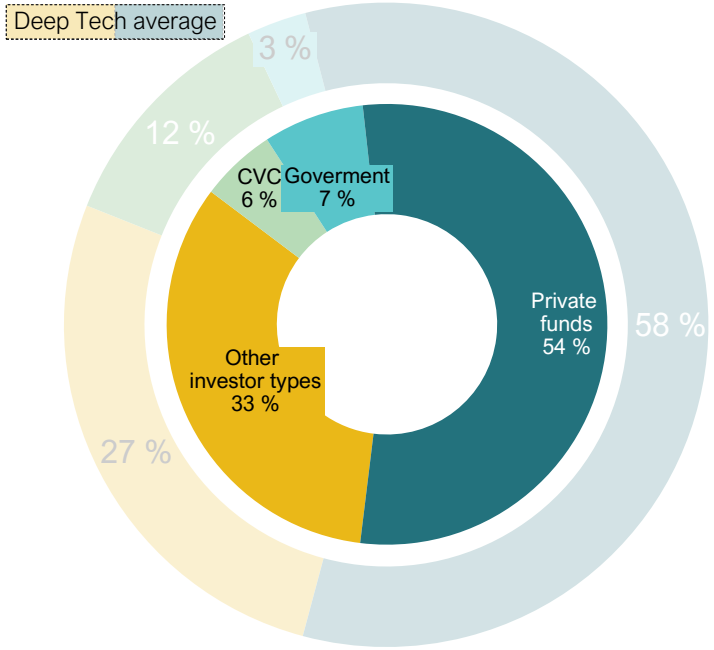


Development of round size
Median, €m

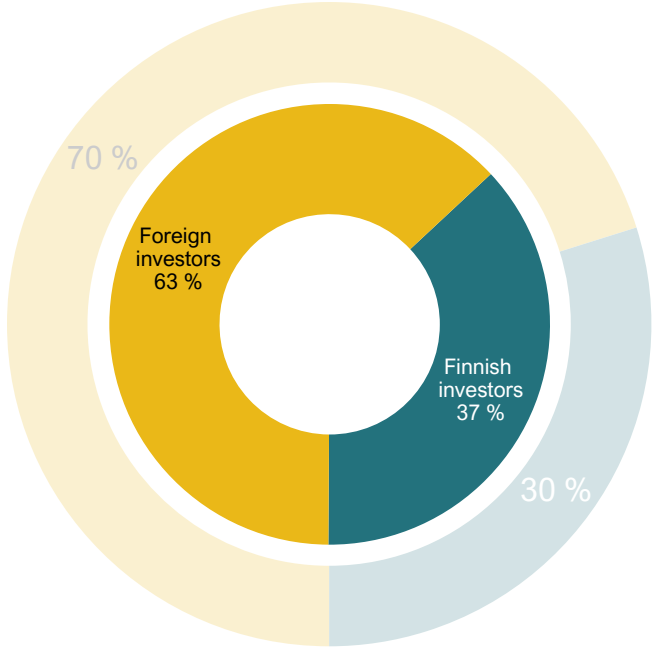


AI & Robotics - Investors

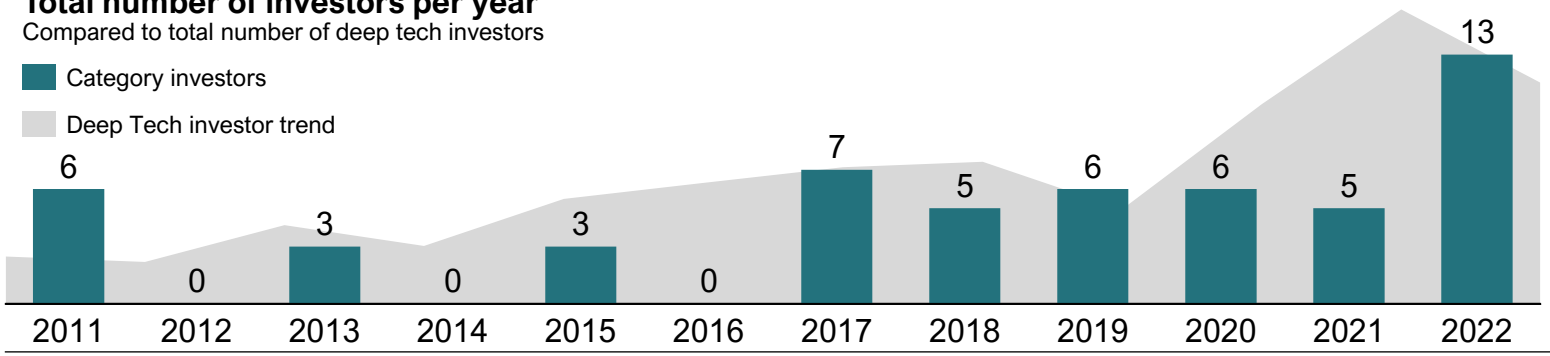
Share of different investor types
% of total number of investors



Share of domestic and foreign investors
% of total number of investors



Total number of investors per year
Compared to total number of deep tech investors



50

Investors in category

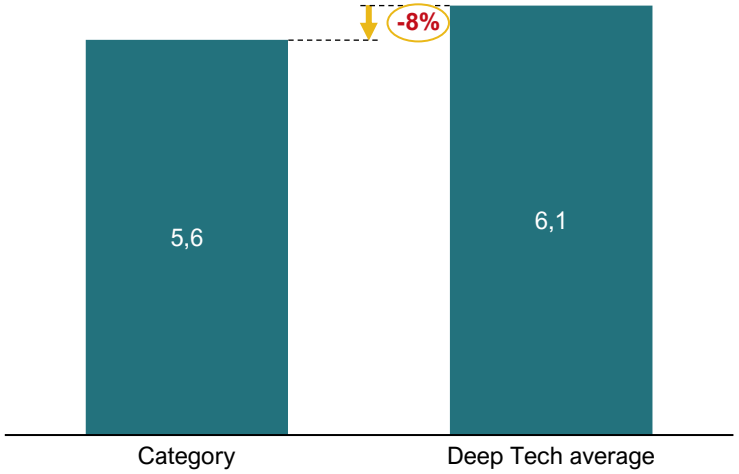
Notable investors

innovestor · LIFE LINE VENTURES · MAKI.VC · TIGERGLOBAL · Standout Capital

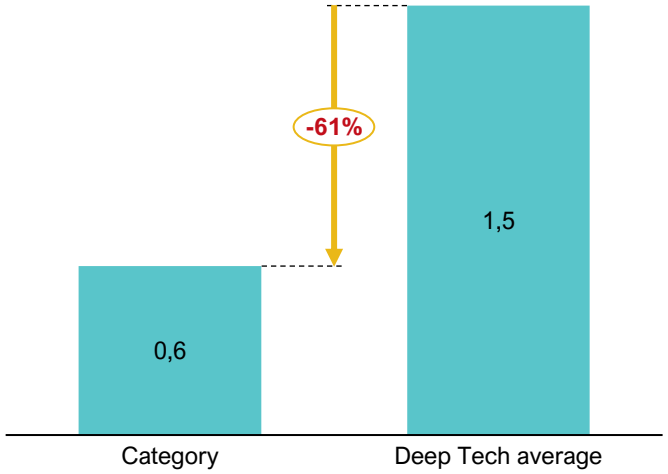
- The growth trend of the number of investors in the entire deep tech industry compared to that of “AI & Robotics” looks similar
- Investors in this category are **mostly foreign-based (63%),** similar to those in deep tech (70%)
- The investor type distribution approximately mirrors the deep tech average
- The most notable private funds (domestic and foreign) investing in AI & Robotics include Innovestor, Lifeline, Maki, Tiger Global Management, and Standout Capital

AI & Robotics - Characteristics

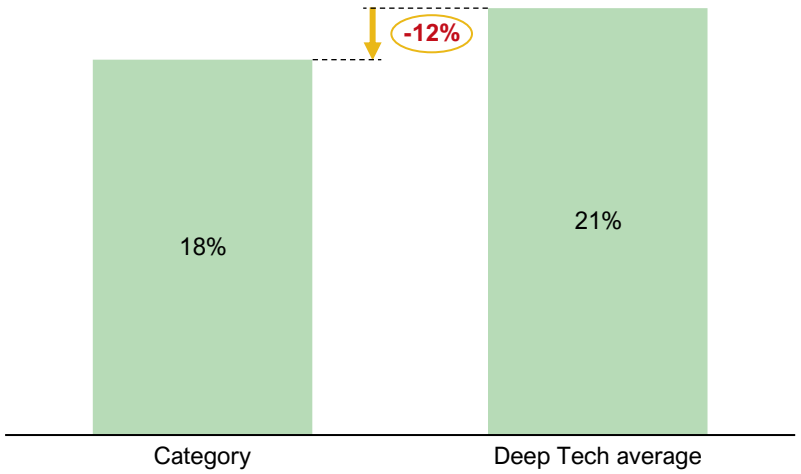
Time to 1 mEUR of revenue
Average, Years



Patent applications per company
Average

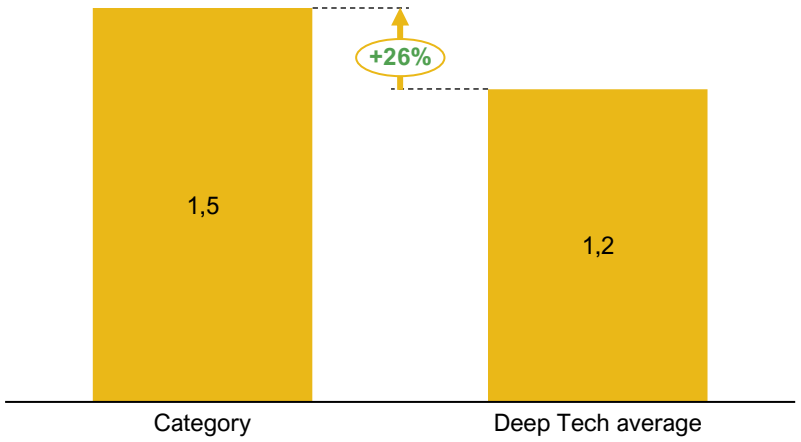


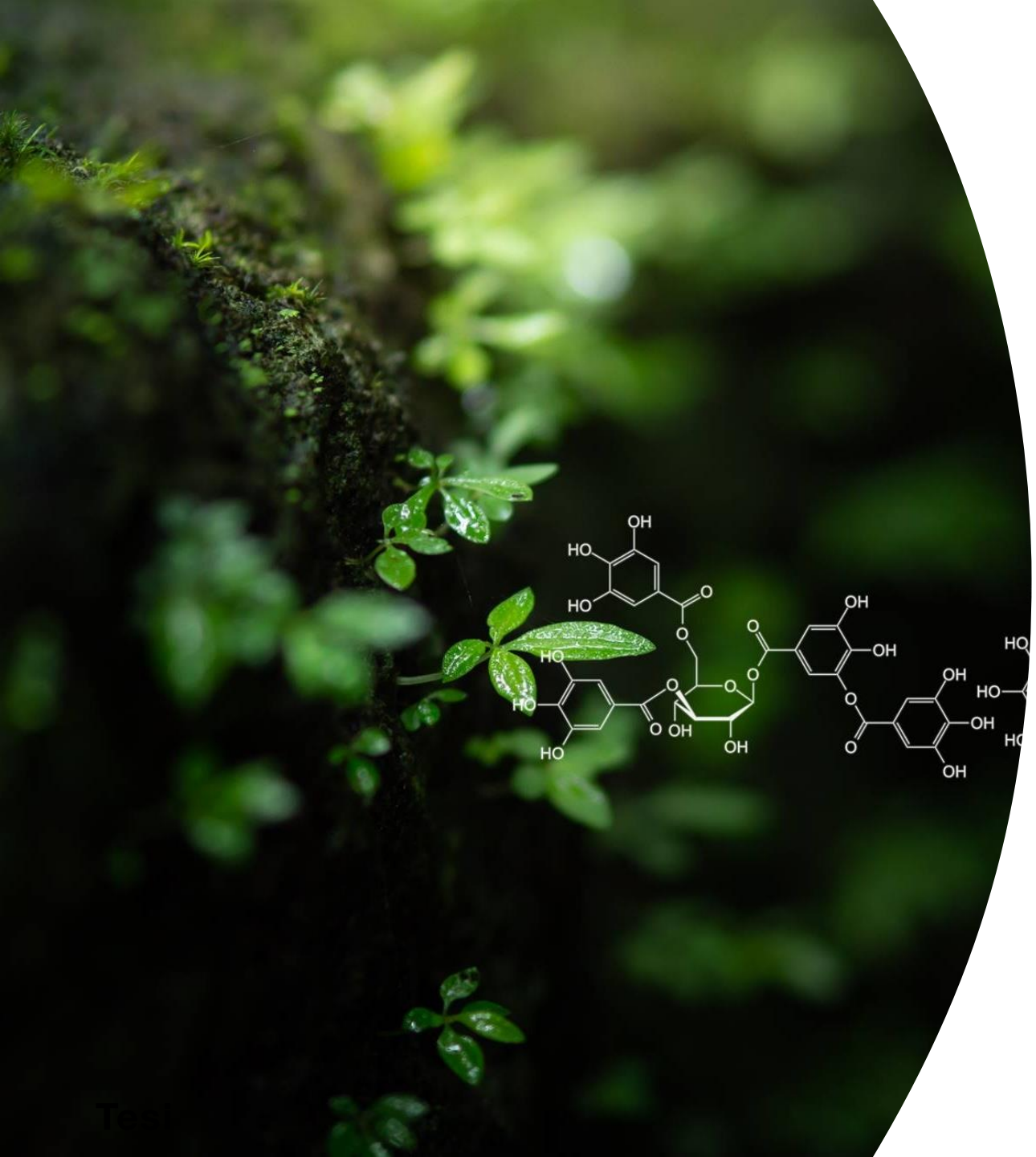
CapEx of Sales
%, only companies with sales over 1mEUR, average



- Overall, the **time-to-revenue is half a year shorter than the deep tech average**
- AI & Robotics companies do not patent their innovations as frequently as companies in other categories
- AI & Robotics companies need lesser physical capital than other deep tech companies

Total number of investors divided by number of deals
Average, only deals with investor data are counted





Agenda

Scope, Methodology, and Key Observations

Deep Tech Basic Information

Deep Tech Funding

Deep Tech Investors

Financial Characteristics of Deep Tech Companies

Deep Tech Categories

- Comparing Deep tech Categories
- New Materials
- Digital Infrastructure
- Energy & Climate Technology
- Optics
- AI & Robotics
- **Health & Biotechnology**

Appendix

Health & Biotechnology - Summary

Overall development

- Overall, Health & Biotechnology have developed very positively. More companies have been founded recently to ”Healt & Biotechnology” than in other categories.
- The median growth rate of the segment is highest of all Deep Tech categories(51 %)
- Funding, and investor pool for the category companies are developing positively

Investors summary

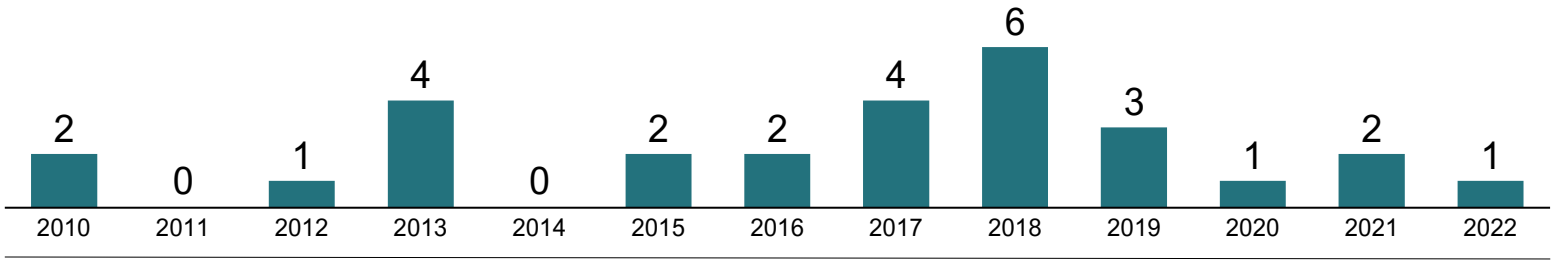
- 43 investors have invested in companies within the category
- Investor pool is more focused to specialized investors as specialized knowledge is needed from investors investing in ”Health & Biotechnology”

Funding Balance

- Overall companies in the category are moderately well funded. There is some signs of increasing activity. Median round sizes grew more than deep tech on average.
- Total invested capital exceeded 310 mEUR between 2012 and 2022

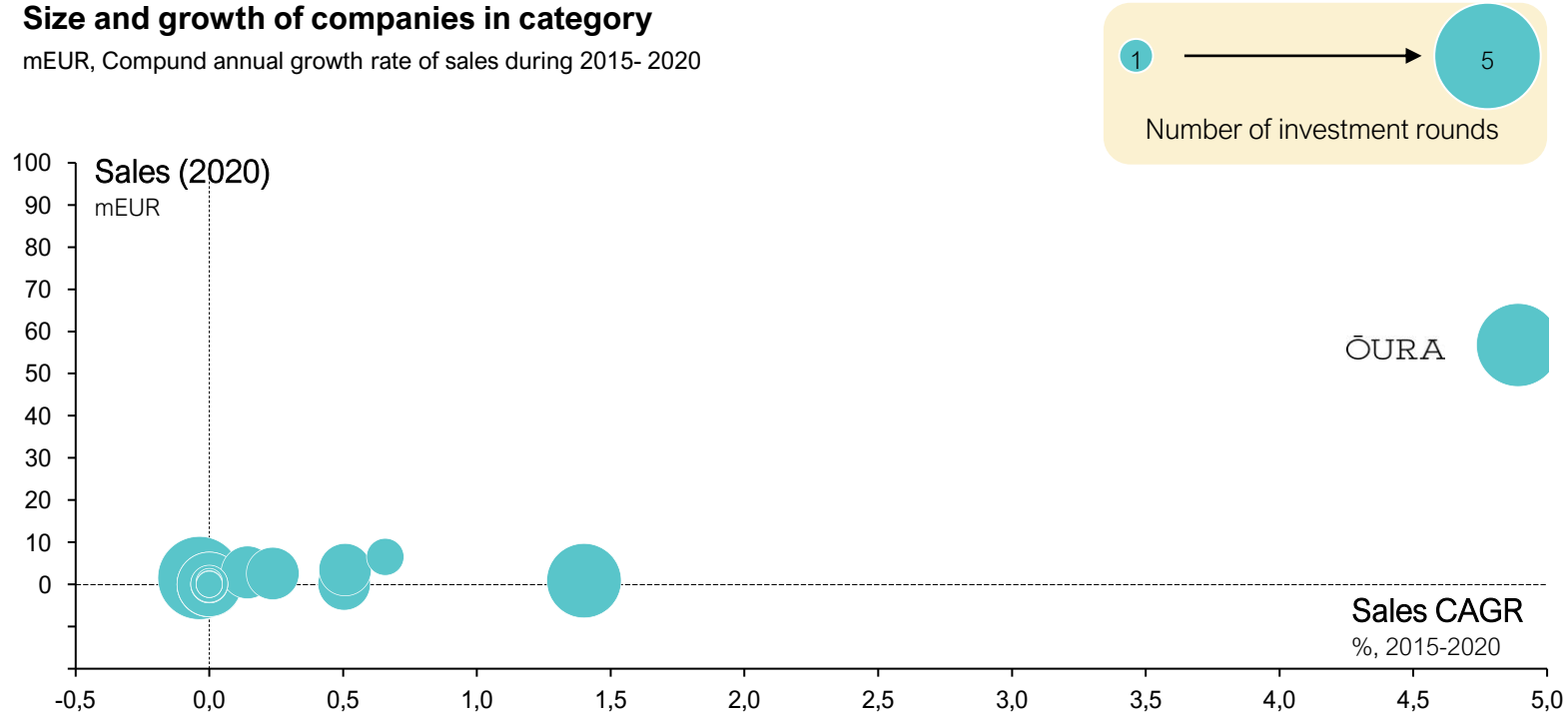
Health & Biotechnology – Description of the Category

Number of Founded companies per year since 2010



Size and growth of companies in category

mEUR, Compund annual growth rate of sales during 2015- 2020



- "Health & Biotechnology" is one of the largest segments in deep tech with 39 companies included
- More companies founded in recent years belong to "Health & Biotechnology" category than in others
- 2 companies in the category have attained mid-size status (over 10 m EUR sales), and the **median growth rate of this category is the highest of all, 51%** (CAGR 2015–2020).

39
Companies in the Category

2
Midsized or Larger Companies in Category

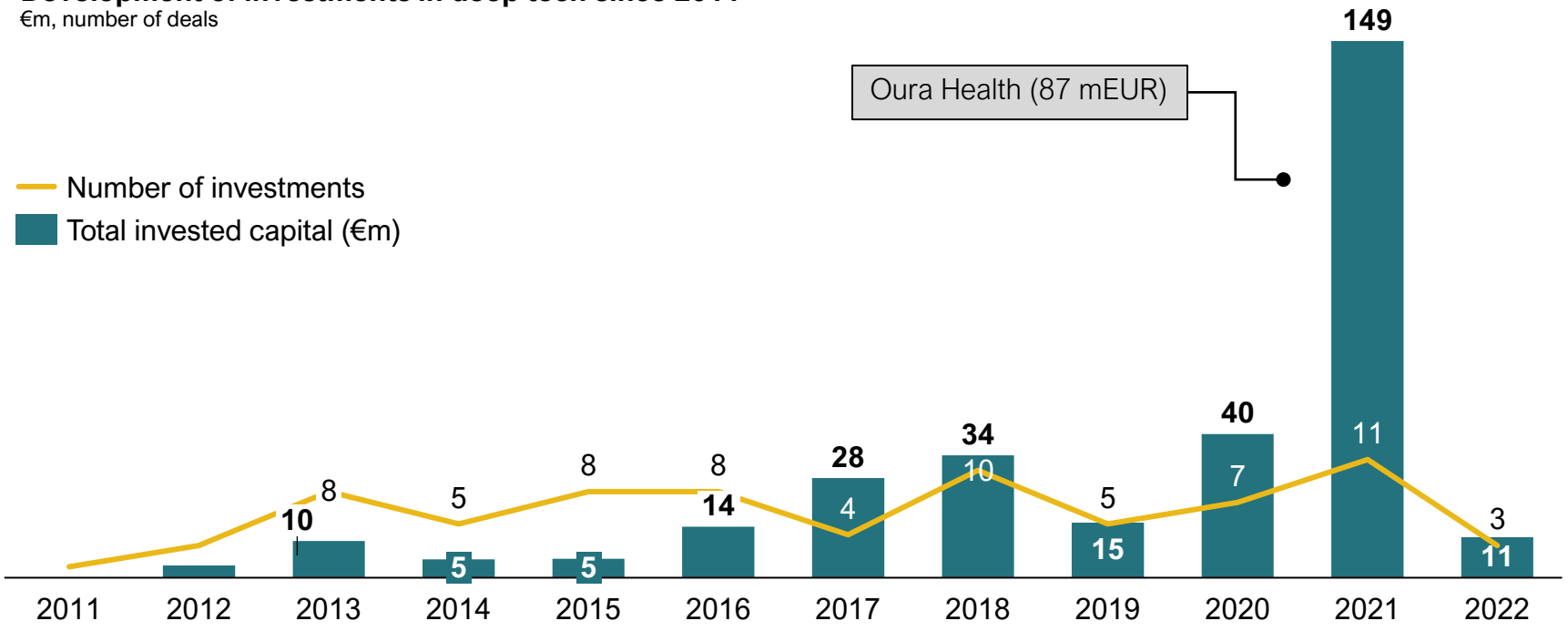
Health & Biotechnology – Development of Investments

- In total, the companies in the "Health & Biotechnology" category received **73 investments (in 28 companies), exceeding 314 m EUR in total invested capital**
- At the same time, the **median round size in this category grew by 236%,** while the median deep tech round size grew by 134%
- Overall, the investment activities have increased significantly since 2011; the yearly total invested capital has multiplied. Meanwhile, the number of yearly funded companies has grown moderately.

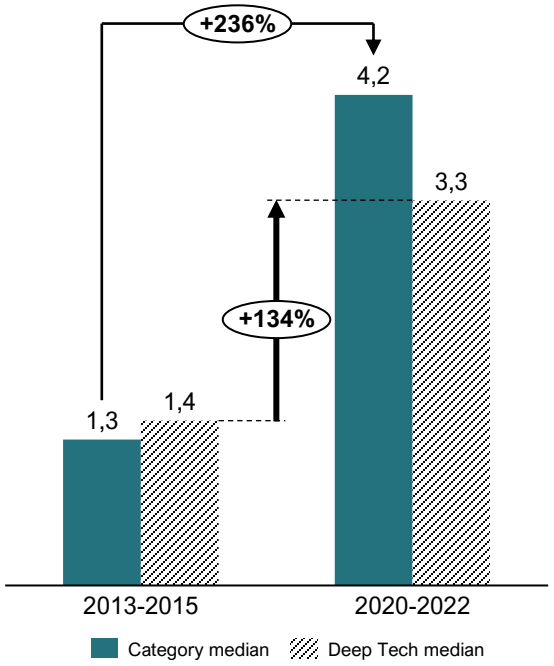
€314 M
Total Invested Capital During 2011-2022

73
Investments in 28 Companies

Development of investments in deep tech since 2011
€m, number of deals

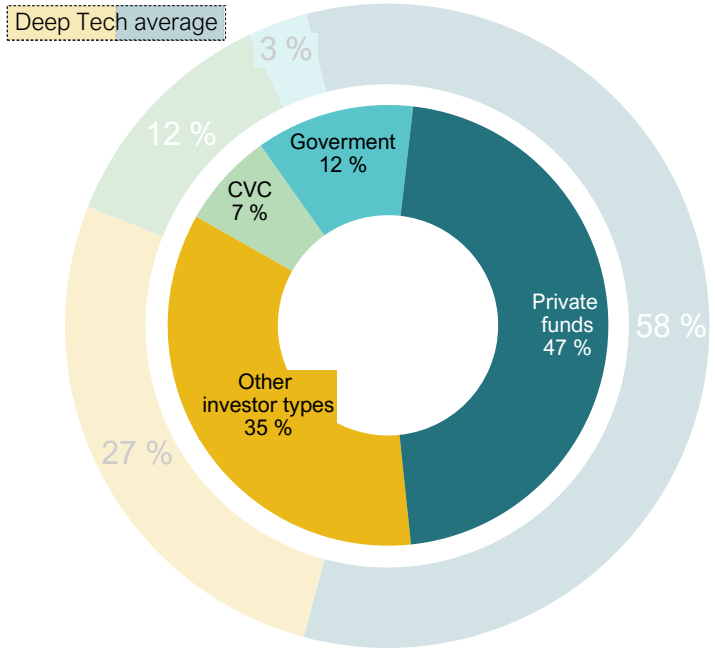


Development of round size
Median, €m

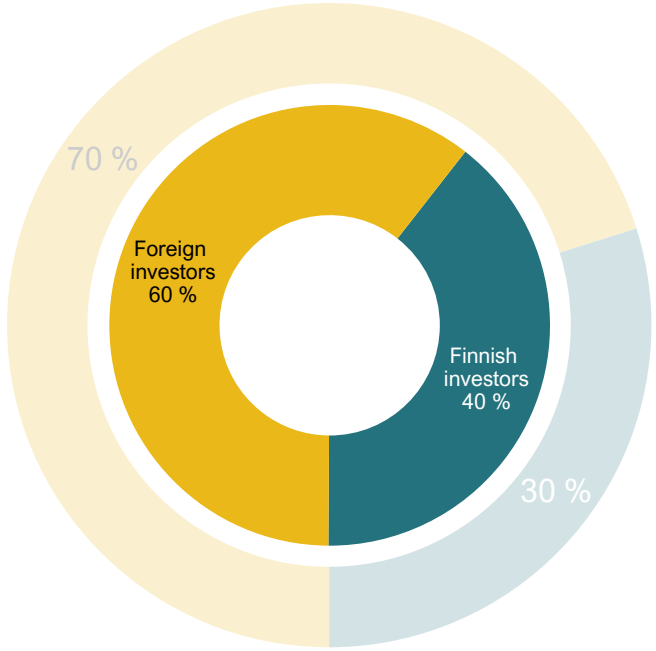


Health & Biotechnology - Investors

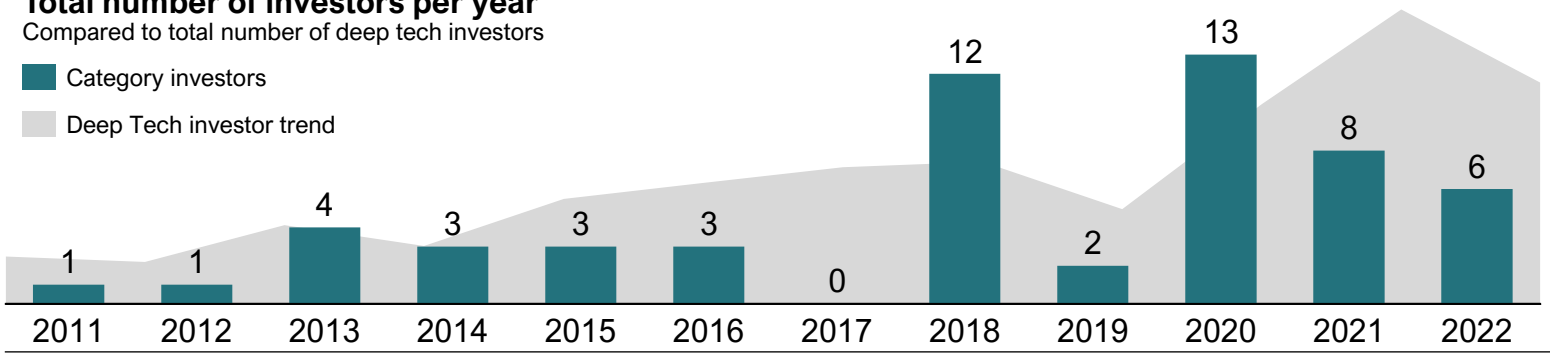
Share of different investor types
% of total number of investors



Share of domestic and foreign investors
% of total number of investors



Total number of investors per year
Compared to total number of deep tech investors



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Investors in Category

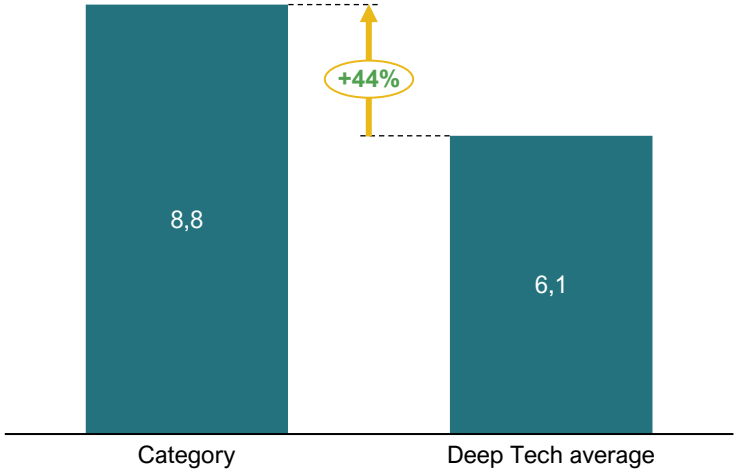
Notable investors

innovestor · LIFE LINE VENTURES · Voima Ventures · VOLCANO CAPITAL · LIVING FUND

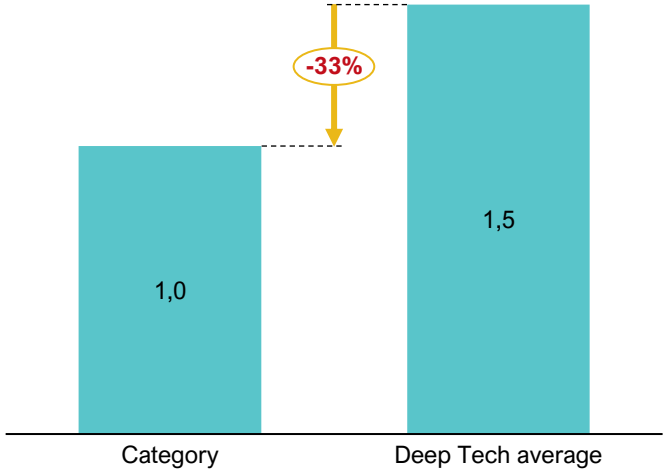
- Number of investors have grown significantly in recent years
- Investors in the “Health & Biotechnology” category are **mostly Finnish (60%),** while those in other deep tech industries are mostly foreign (70%)
- Overall, there are less private funders for the companies in “Health & Biotechnology” than in other deep tech categories. This category requires more specialised investment knowledge, which limits the potential investor pool.
- The most notable private funds (domestic and foreign) investing in health and biotechnology include Innovestor, Lifeline, Voima Ventures, Volcano Capital, and Living Fund

Health & Biotechnology - Characteristics

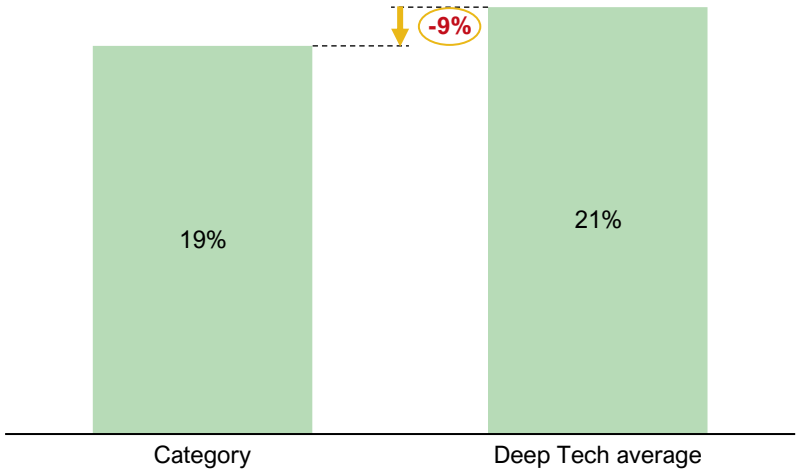
Time to 1 mEUR of revenue
Average, Years



Patent applications per company
Average

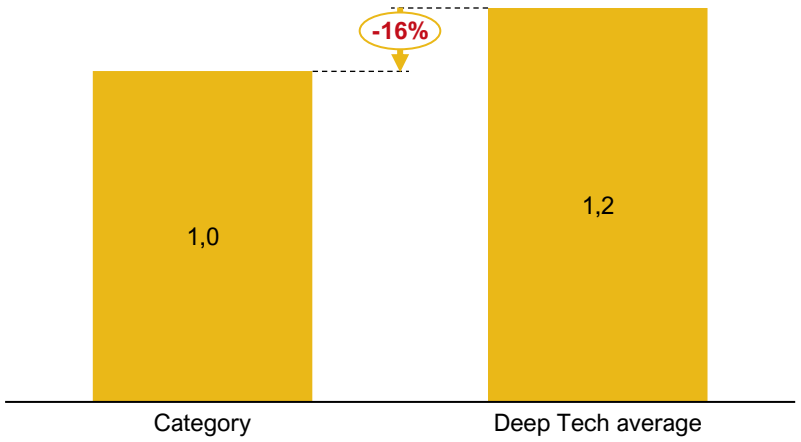


CapEx of Sales
%, only companies with sales over 1mEUR, average



- Overall, **time-to-revenue is significantly longer in this category than the deep tech average.** It takes an average Health & Biotechnology company close to 9 years to reach 1 m EUR of revenue.
- This category has relatively less investors than the average, as it demands specialised knowledge from the investors

Total number of investors divided by number of deals
Average, only deals with investor data are counted



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Appendix

Appendix Agenda

1. Deep Tech Board compositions p.79-80

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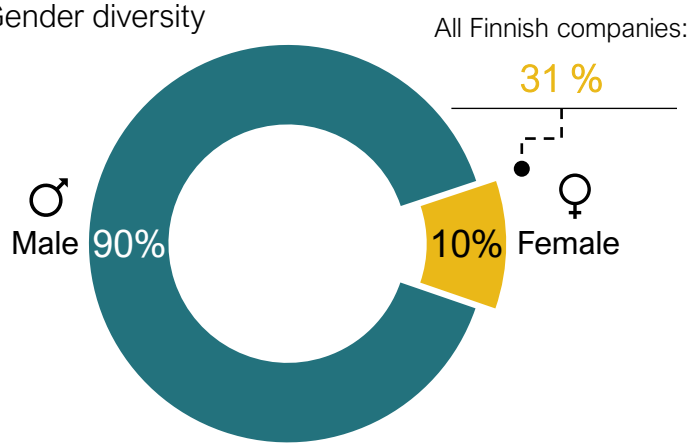
3. Lists of Deep Tech companeis p.84-86

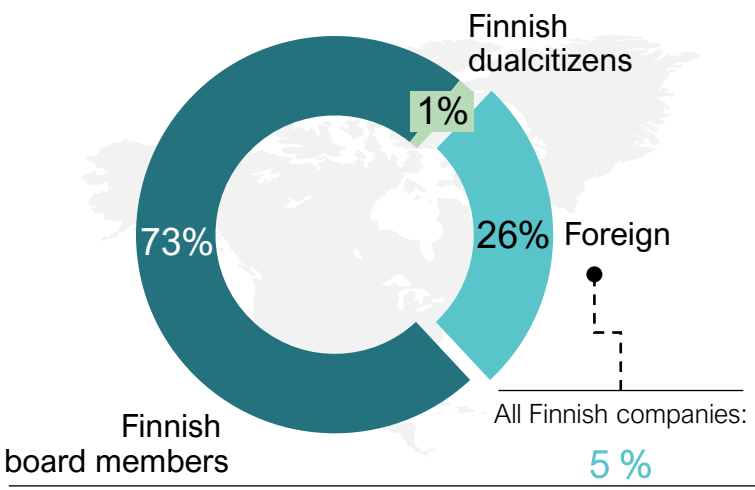
Deep Tech Board Compositions

Current compositions of DT companie's boards

Gender diversity

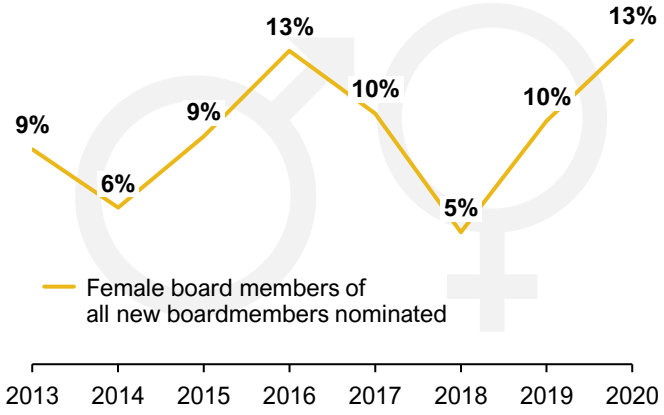


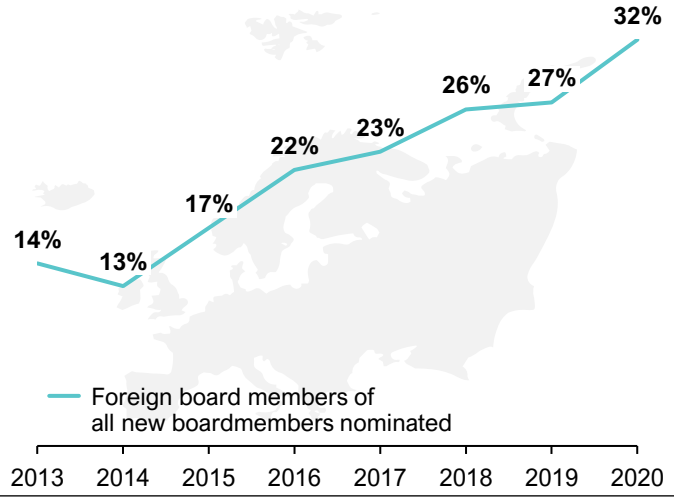
Nationality



Development of diversity in boards

% of all new boardmembers nominated





Comments

- Boards of directors of deep tech companies have **fewer women** and **more foreign board members** than other companies in Finland have on average.
- This phenomenon is common in technology-heavy industries and growth-seeking companies, e.g. 15% of board members in ICT are females, and 10% are foreign.
- Investors manage considerable share of board seats in deep tech companies. Finnish funds have fewer female partners, which again impacts the results. Hence, the results are not as unexpected as one might think.
- There is a clear uptrend in foreign board members (increase in foreign investors is a probable cause). Meanwhile, the uptrend is absent amongst female boardmembers.

Deep Tech Board Compositions

- On average, deep tech companies have similarily aged board members as Finnish companies
- The average time on board in deep tech companies is 5,7 years, while that in Finnish companies is 10 years.
- If deep tech companies change the chairman of the board it usually happens after 3 years, which is close to average timing of first investment

3,4 years

Average difference between first and second chairman of the board

Deep Tech

49 years

Average age of board members

5,7 years

Average time on board for current board members

Finnish average

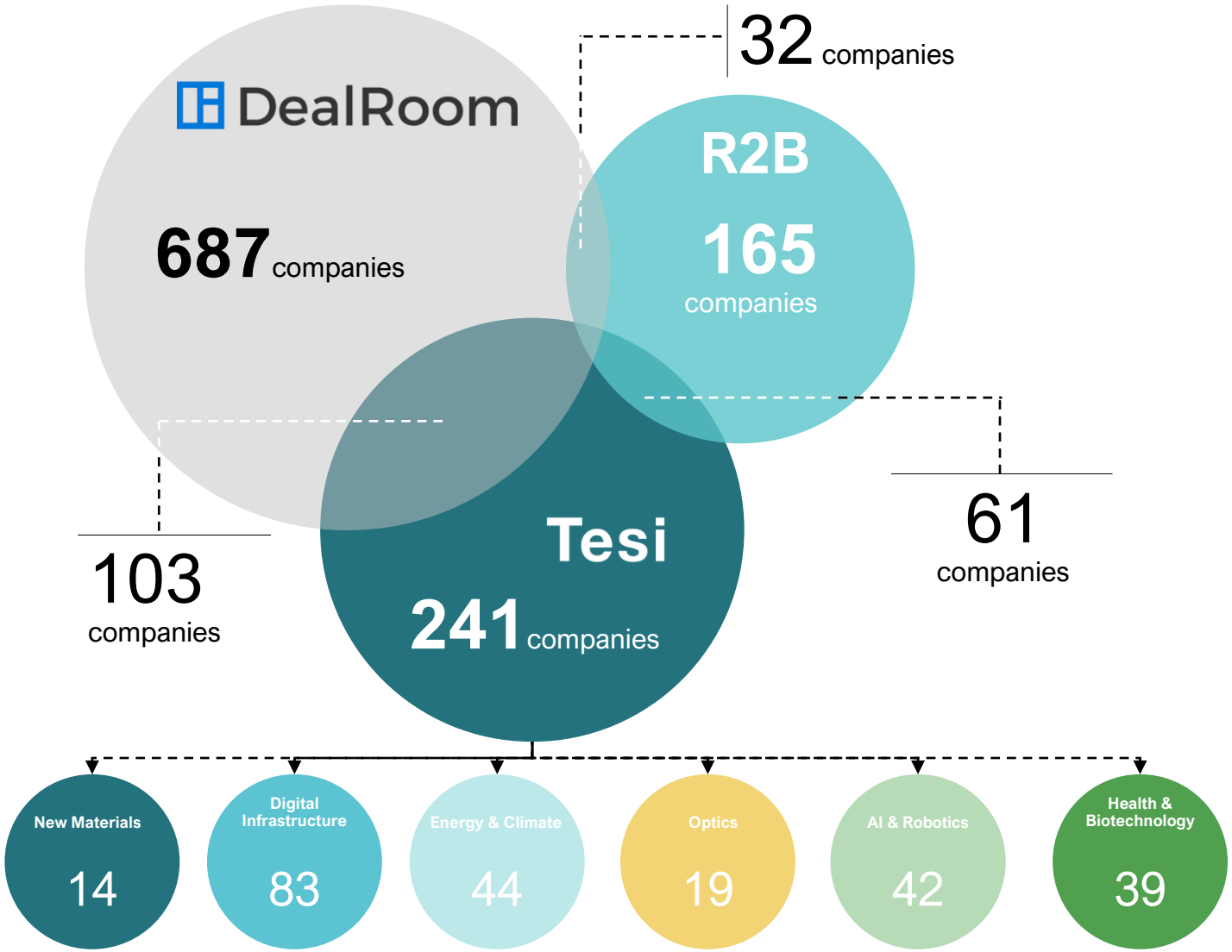
50 years

Average age of board members

10 years

Average time on board for current board members

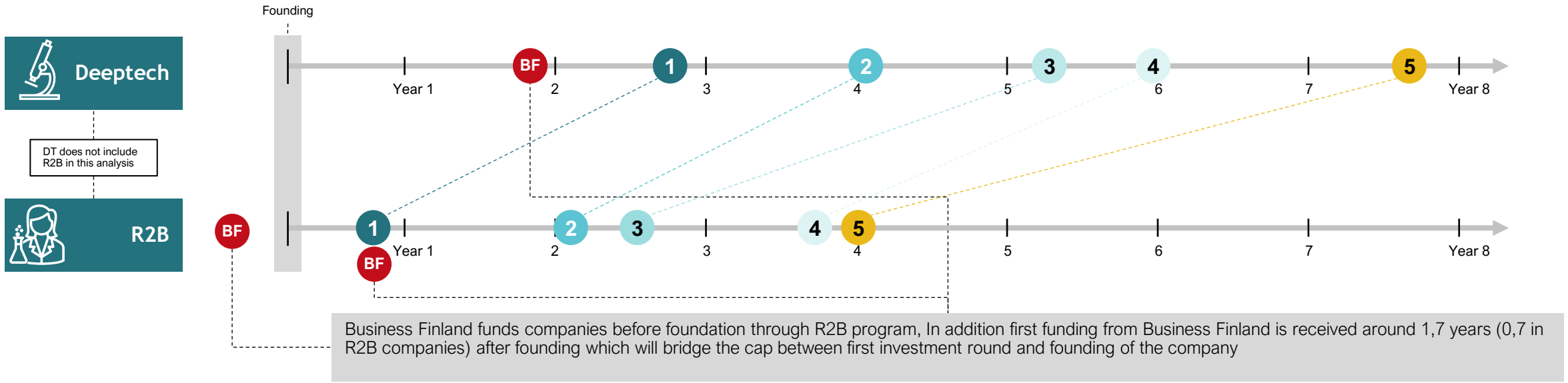
Tesi's definition of deep tech including R2B



- According to Dealroom, there are 687 deep tech companies in Finland. Tesi disagrees with this definition as according to our estimate there are 241 deep tech companies in Finland, 103 of them being mutual with Dealroom.
- 61 of the deep tech companies are R2B funded, i.e. from Finnish universities (other deep tech companies may also be university based)

Timeline of Fundingrounds to Deep Tech Companies

Comparing average timing of funding for R2B companies, and other deep tech companies by investment round
years



Comments

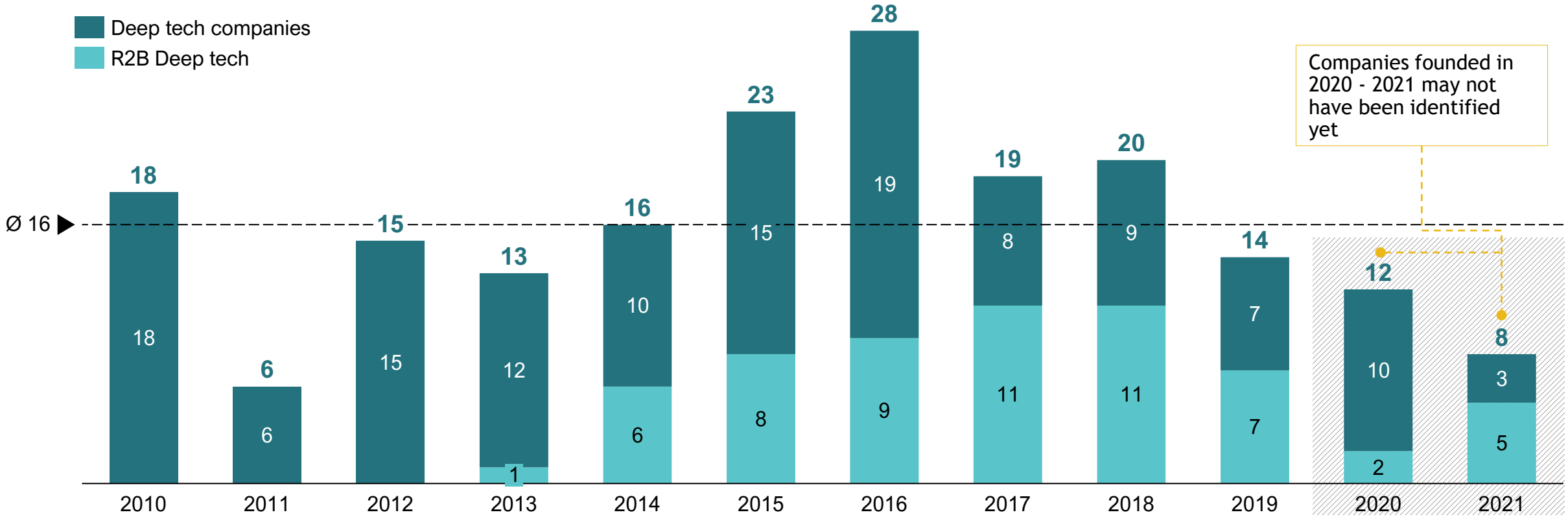
- Research to business companies seem to receive investments earlier than other deep tech companies, or other companies with private equity investments
- R2B companies seem to be more mature at the founding of the company, than other deep tech companies
- R2B companies in many cases delay officially founding the company untill suitable investor is found. In additon investors often work together with university teams even before the company's foundation

Annually Founded R2B Deep Tech Companies (Business Finland)

241 *companies in total*

61 *R2B Deep Tech companies in total*

Number of founded deep tech companies



Company lists – Ai & Robotics and Digital infrastructure

Category	BusinessID	CompanyName
AI & robotics	1628881-1	Nexstim Oyj
AI & robotics	1839834-4	Bcb Medical Oy
AI & robotics	1914634-1	
AI & robotics	1921029-4	Eigenor Oy
AI & robotics	1936446-1	Optomed Oyj
AI & robotics	2124330-0	Zenrobotics Oy
AI & robotics	2304496-2	Sofica Oy
AI & robotics	2307199-5	Rightware Oy
AI & robotics	2508986-5	Pulseon Oy
AI & robotics	2534910-2	Aiforia Technologies Oyj
AI & robotics	2554390-9	Braincare Oy
AI & robotics	2579026-4	Vigofere Oy
AI & robotics	2595400-3	Gim Oy
AI & robotics	2631684-7	Combinostics Oy
AI & robotics	2677843-5	Inscripta Oy
AI & robotics	2688018-1	Basemark Oy
AI & robotics	2690606-2	Nukute Oy
AI & robotics	2709980-5	Curious Ai Oy
AI & robotics	2712284-1	Neuro Event Labs Oy
AI & robotics	2730552-5	Peili Vision Oy
AI & robotics	2764131-8	Chief Chief Technologies Oy
AI & robotics	2764257-2	Night Train Oy
AI & robotics	2776378-8	Labra Ai Oy
AI & robotics	2780212-6	Ääni Company Oy
AI & robotics	2787587-8	Disior Oy
AI & robotics	2800927-7	Precordior Oy
AI & robotics	2803113-2	Fleetonomy.Ai Oy
AI & robotics	2813696-2	Sensible 4 Oy
AI & robotics	2832753-1	Cerenion Oy
AI & robotics	2855115-4	Mvision Ai Oy
AI & robotics	2856298-8	Addcomposites Oy
AI & robotics	2902007-2	Kelluu Oy
AI & robotics	2942534-4	Yield Systems Oy
AI & robotics	2959846-4	Inmodi Oy
AI & robotics	2966196-1	Hurricane Unwinder Oy Ab
AI & robotics	2972937-2	Outsight Oy
AI & robotics	3087604-6	Quantastica Oy
AI & robotics	3098522-6	Cleandet Oy
AI & robotics	3107134-6	Veil.Ai Oy
AI & robotics	3131937-2	Algorithmiq Oy
AI & robotics	3133430-2	Hyperion Robotics Oy
AI & robotics	3235241-4	Quanscient Oy

Category	BusinessID	CompanyName
Digital infrastructure	1083600-4	Nanocomp Oy Ltd
Digital infrastructure	1105581-6	Picosun Oy
Digital infrastructure	1618927-4	Distence Oy
Digital infrastructure	1740680-8	Iscent Oy
Digital infrastructure	1771550-4	Sencilion Oy
Digital infrastructure	1886098-1	Canatu Oy
Digital infrastructure	1950852-5	Mekitec Oy
Digital infrastructure	1959786-3	Optofidelity Oy
Digital infrastructure	1979632-8	Mevea Oy
Digital infrastructure	1983423-2	Apl Systems Oy
Digital infrastructure	2076142-1	Nanofoot Finland Oy
Digital infrastructure	2126814-5	Multitaction Oy
Digital infrastructure	2183219-9	Bluefors Oy
Digital infrastructure	2292329-5	Hypermemo Oy
Digital infrastructure	2304714-3	Reactive Technologies Finland Oy
Digital infrastructure	2307398-2	Flexbright Oy
Digital infrastructure	2310319-2	Airmodus Oy
Digital infrastructure	2336463-2	Wirepas Oy
Digital infrastructure	2343968-1	Vrt Finland Oy
Digital infrastructure	2344452-8	Ginolis Oy
Digital infrastructure	2355307-0	Schott Primoceler Oy
Digital infrastructure	2357638-7	Cajo Technologies Oy
Digital infrastructure	2410512-2	Tactotek Oy
Digital infrastructure	2410778-5	Tosibox Oy
Digital infrastructure	2426953-0	Process Genius Oy
Digital infrastructure	2472921-8	Rocsole Oy
Digital infrastructure	2491563-5	Tanktwo Oy
Digital infrastructure	2495832-8	Quuppa Oy
Digital infrastructure	2499623-6	Ps Audio Design Oy
Digital infrastructure	2505583-3	Sapotech Oy
Digital infrastructure	2506930-3	Augumenta Oy
Digital infrastructure	2548885-8	Conexbird Oy
Digital infrastructure	2549257-4	Soil Scout Oy
Digital infrastructure	2578873-8	Helmee Imaging Oy
Digital infrastructure	2615649-2	Timegate Instruments Oy
Digital infrastructure	2621795-3	Pibond Oy
Digital infrastructure	2630019-1	Grainsense Oy
Digital infrastructure	2635577-4	Stealthcase Oy
Digital infrastructure	2639822-1	Iceye Oy
Digital infrastructure	2644516-3	Circular Devices Oy
Digital infrastructure	2650479-2	Neutrongate Oy
Digital infrastructure	2654635-1	Brighterwave Oy

Category	BusinessID	CompanyName
Digital infrastructure	2665089-6	Noiseless Acoustics Oy
Digital infrastructure	2681686-8	Puumit Oy
Digital infrastructure	2683932-2	Meluta Oy
Digital infrastructure	2699985-2	Vibrol Oy
Digital infrastructure	2715752-6	Meoline Oy
Digital infrastructure	2716011-9	Dispelix Oy
Digital infrastructure	2716521-9	Grundium Oy
Digital infrastructure	2720792-5	Mehta Heino Industries Oy
Digital infrastructure	2722027-3	Summa Semiconductor Oy
Digital infrastructure	2728899-9	Forciot Oy
Digital infrastructure	2735333-2	Cutosense Oy
Digital infrastructure	2743885-4	Quieton Oy
Digital infrastructure	2752725-9	Quanturi Oy
Digital infrastructure	2757131-3	Minima Processor Oy
Digital infrastructure	2759225-3	Kuva Space Oy
Digital infrastructure	2764193-2	Kyocera Tikitin Oy
Digital infrastructure	2765338-6	Karsa Oy
Digital infrastructure	2773901-6	Varjo Technologies Oy
Digital infrastructure	2784755-1	Treon Oy
Digital infrastructure	2785301-1	Ampliconyx Oy
Digital infrastructure	2799772-8	Bitwards Oy
Digital infrastructure	2815285-8	Comptek Solutions Oy
Digital infrastructure	2829721-3	Colloidtek Oy
Digital infrastructure	2844385-8	Lentola Logistics Oy
Digital infrastructure	2847533-1	Neural Dsp Technologies Oy
Digital infrastructure	2861962-2	Maslog Oy
Digital infrastructure	2890371-1	Raniot Technologies Oy
Digital infrastructure	2899575-9	Iiwari Tracking Solutions Oy
Digital infrastructure	2904442-9	Seetrue Technologies Oy
Digital infrastructure	2912625-6	Iqm Finland Oy
Digital infrastructure	2931317-4	Nanojet Oy
Digital infrastructure	2979453-7	Koherent Oy
Digital infrastructure	3101031-6	Chipmetrics Oy
Digital infrastructure	3121708-5	Refamo Oy
Digital infrastructure	3122840-3	Anarky Labs Oy
Digital infrastructure	3135338-6	Port 6 Oy
Digital infrastructure	3139383-9	Arctic Positioning Systems Oy
Digital infrastructure	3143318-3	Reorbit Oy
Digital infrastructure	3201724-5	Thermal Channel Technologies Oy
Digital infrastructure	3208010-5	Pixieray Oy
Digital infrastructure	3234563-6	Kaide Labs Oy

Company lists – Energy & climate technology and health & biotechnology

Category	BusinessID	CompanyName
Energy & climate technology	1797737-9	Aw-energy Oy
Energy & climate technology	2075584-9	Metgen Oy
Energy & climate technology	2136682-9	Netled Oy
Energy & climate technology	2164765-5	Gasek Oy
Energy & climate technology	2186454-5	Wello Oy
Energy & climate technology	2230775-9	Merus Power Oyj
Energy & climate technology	2251686-8	Ductor Oy
Energy & climate technology	2309682-6	Savosolar Oyj
Energy & climate technology	2326864-0	Tamturbo Oyj
Energy & climate technology	2331972-7	Verso Food Oy
Energy & climate technology	2366305-0	Endev Oy
Energy & climate technology	2368688-5	Nocart Oy
Energy & climate technology	2373678-2	Veneo Ii Oy
Energy & climate technology	2382770-5	Sofi Filtration Oy
Energy & climate technology	2411880-4	Filtra Group Oy
Energy & climate technology	2417770-8	Woodly Oy
Energy & climate technology	2462025-5	Tracegrow Oy
Energy & climate technology	2470226-9	Ampner Oy
Energy & climate technology	2497977-8	Convion Oy
Energy & climate technology	2506251-5	Norsepower Oy Ltd
Energy & climate technology	2545133-4	Aurelia Turbines Oy
Energy & climate technology	2644770-8	Teraloop Oy
Energy & climate technology	2651724-3	Aeromon Oy
Energy & climate technology	2725845-8	Spindrive Oy
Energy & climate technology	2727597-9	Broadbit Batteries Oy
Energy & climate technology	2739393-2	Sulapac Oy
Energy & climate technology	2739534-8	Ch-bioforce Oy
Energy & climate technology	2749508-2	Griffin Refineries Oy
Energy & climate technology	2750471-9	Carbo Culture Oy
Energy & climate technology	2753123-1	Soletair Power Oy
Energy & climate technology	2760901-9	Altum Technologies Oy
Energy & climate technology	2800638-3	Betolar Oyj
Energy & climate technology	2884194-4	21tdmc Group Oy
Energy & climate technology	2913224-2	Quantitative Heat Oy
Energy & climate technology	2914250-4	Vensum Power Oy
Energy & climate technology	2926313-8	Sonotecc Oy
Energy & climate technology	2931567-1	Geyser Batteries Oy
Energy & climate technology	2940065-7	Aurora Propulsion Technologies Oy
Energy & climate technology	3012035-3	Safegrid Oy
Energy & climate technology	3108281-1	Hycamite Tcd Technologies Oy
Energy & climate technology	3133188-1	Eniferbio Oy
Energy & climate technology	3167654-8	Marginum Oy
Energy & climate technology	3200110-4	Volare Oy
Energy & climate technology	3204444-6	Neovolt Oy

Category	BusinessID	CompanyName
Health & Biotechnology	0866451-4	Bbs-bioactive Bone Substitutes Oyj
Health & Biotechnology	1091401-7	Biocomputing Platforms Ltd Oy
Health & Biotechnology	1474196-9	Bioretec Oy
Health & Biotechnology	1657121-1	Delsitech Oy
Health & Biotechnology	1926340-9	Abacus Diagnostica Oy
Health & Biotechnology	1973152-4	Arcdia International Oy Ltd
Health & Biotechnology	2069538-0	
Health & Biotechnology	2222669-2	Ozics Oy
Health & Biotechnology	2230790-0	Blueprint Genetics Oy
Health & Biotechnology	2256588-9	Targovax Oy
Health & Biotechnology	2367283-8	Injeq Oyj
Health & Biotechnology	2374569-7	Tenboron Oy
Health & Biotechnology	2493476-4	Synoste Oy
Health & Biotechnology	2527296-9	Sooma Oy
Health & Biotechnology	2542776-4	Oura Health Oy
Health & Biotechnology	2544020-5	Tilt Biotherapeutics Oy
Health & Biotechnology	2558287-9	Ls Cancerdiag Oy
Health & Biotechnology	2726684-5	Biomensio Oy
Health & Biotechnology	2727877-4	Genomill Health Oy
Health & Biotechnology	2730572-8	Nanoform Finland Oyj
Health & Biotechnology	2768695-4	Valo Therapeutics Oy
Health & Biotechnology	2817656-9	Aqsens Health Oy
Health & Biotechnology	2818058-4	Askel Healthcare Oy
Health & Biotechnology	2819762-6	
Health & Biotechnology	2828662-9	Surgify Medical Oy
Health & Biotechnology	2871201-8	Linio Biotech Oy
Health & Biotechnology	2900506-7	Glucomodicum Oy
Health & Biotechnology	2905039-4	Aceman Pharma Oy
Health & Biotechnology	2918895-9	Koite Health Oy
Health & Biotechnology	2923524-1	Biogenium Microsystems Oy
Health & Biotechnology	2938279-4	Scellex Oy
Health & Biotechnology	2946392-2	Biomendex Oy
Health & Biotechnology	2958346-5	Finnadvance Oy
Health & Biotechnology	2958574-3	Biopsense Oy
Health & Biotechnology	2988325-7	Rappta Therapeutics Oy
Health & Biotechnology	3160009-2	Maculaser Oy
Health & Biotechnology	3199181-2	Anison Therapeutics Oy
Health & Biotechnology	3204409-1	Stemsight Oy
Health & Biotechnology	3259265-3	Nadmed Oy

Company lists – New materials and Optics

Category	BusinessID	CompanyName
New materials	1465099-5	Finnester Coatings Oy
New materials	2012539-6	Carbodeon Ltd Oy
New materials	2232478-6	Dassiet Oy
New materials	2359588-7	Ab Nanol Technologies Oy
New materials	2496258-9	Savroc Oy
New materials	2536516-1	The Active Paper Company Oy
New materials	2559830-1	Betulium Oy
New materials	2627752-6	Brightplus Oy
New materials	2653299-6	Spinnova Oyj
New materials	2677629-6	Paptic Oy
New materials	2766860-9	Infinited Fiber Company Oy
New materials	2872116-8	Solar Foods Oy
New materials	3006967-4	Nordic Bioproducts Group Oy
New materials	3260781-9	Onego Bio Ltd

Category	BusinessID	CompanyName
Optics	0878389-8	Detection Technology Oyj
Optics	1007923-4	Specim, Spectral Imaging Oy Ltd
Optics	1930453-0	Gasera Oy
Optics	2035511-6	Pixpolar Oy
Optics	2292849-1	Lmi Technologies Oy
Optics	2428711-4	Asqella Oy
Optics	2477847-4	Advacam Oy
Optics	2600449-9	Spectral Engines Oy
Optics	2602532-9	Luxmet Oy
Optics	2666061-3	Ladimo Oy
Optics	2709140-8	Olfactomics Oy
Optics	2766503-7	Emberion Oy
Optics	2774711-2	Sensinite Oy
Optics	2839890-3	Sensmet Oy
Optics	2849688-8	Elfys Oy
Optics	2858176-7	Vexlum Oy
Optics	2940879-8	Xfold Imaging Oy
Optics	2968515-4	3awater Oy
Optics	3005303-1	Photonbridge Oy

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