Finnish Startup Community

VTT

VTT spin-offs report

Scaling up research

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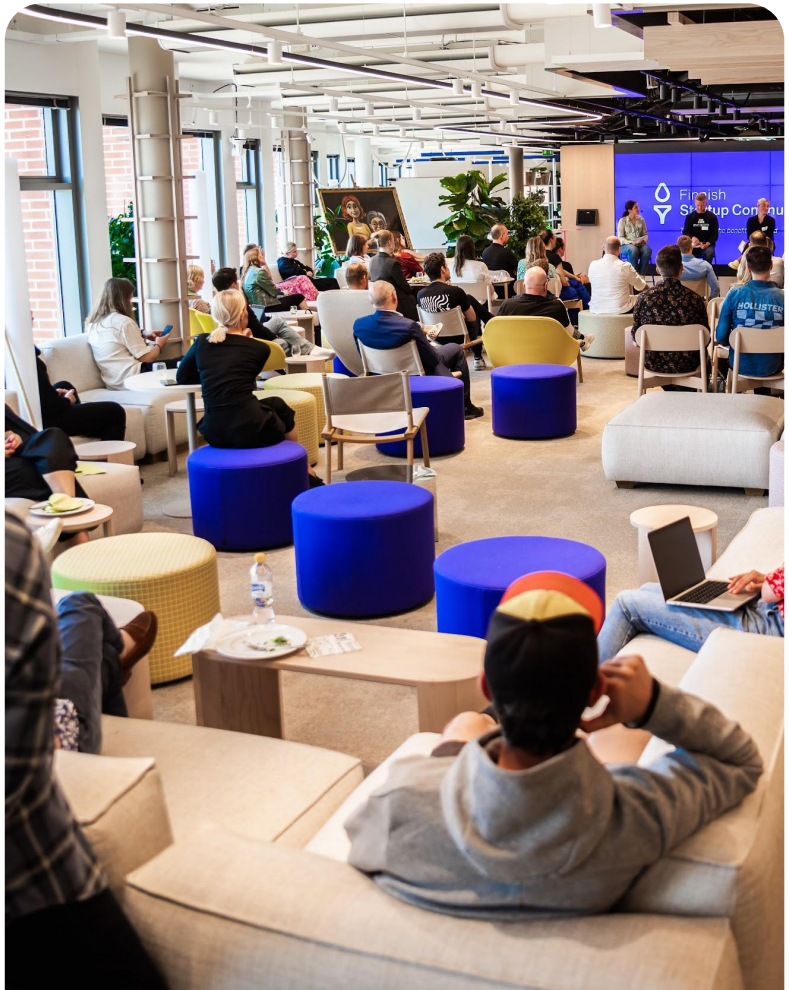
Scaling up research: report on the economic impact of VTT spin-offs

VTT has played a key role in turning scientific research into new technology companies in Finland over the decades. Many startups have grown out of VTT's work, helping to drive innovation, create jobs, and build new capabilities.

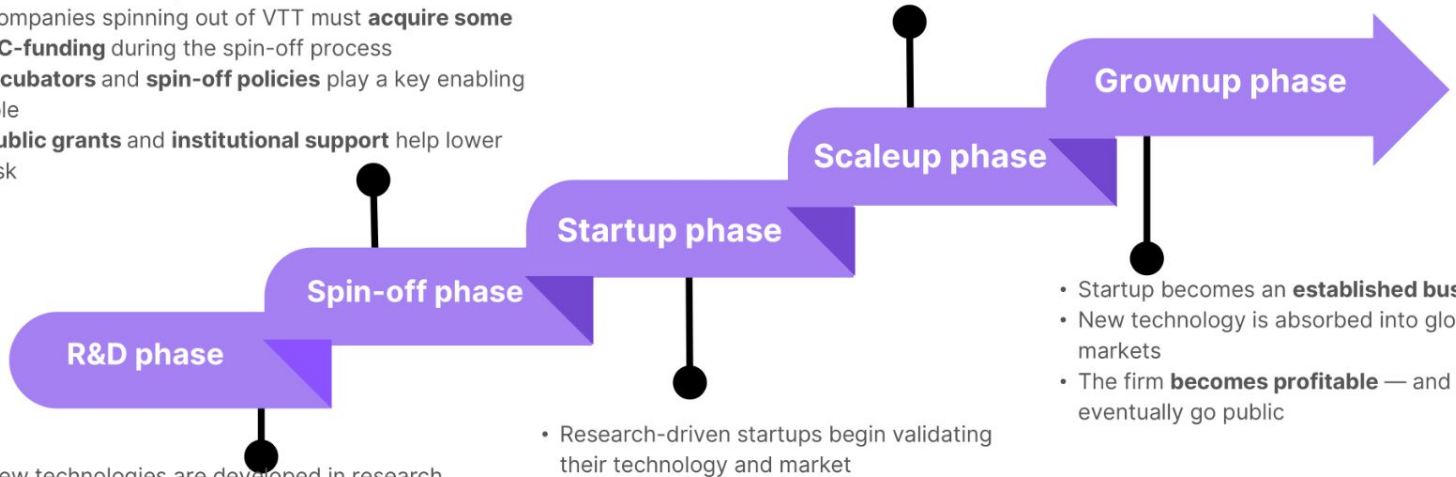
This first joint analysis by VTT and the Finnish Startup Community looks at the full journey: how research, often done together with universities, becomes new companies. How public support, especially from Business Finland, helps these startups spin off, grow, and scale-up their innovations to global markets.

Science-based entrepreneurship is vital for Finland's economy. These companies not only generate revenue but also create new ideas and opportunities across industries.

"VTT has become a partner of the Finnish Startup Community, and we are excited to present our first joint analysis on the impact of VTT spin-offs on Finland's economy and innovation landscape."— Riikka Pakarinen, CEO of the Finnish Startup Community



Scaling up research



- New technologies are developed in research institutions like **VTT or universities**
- **Public funding** and support are critical in this early stage
- Talented researchers begin to explore commercial applications
- **Intellectual property (IP),** such as patents, is secured

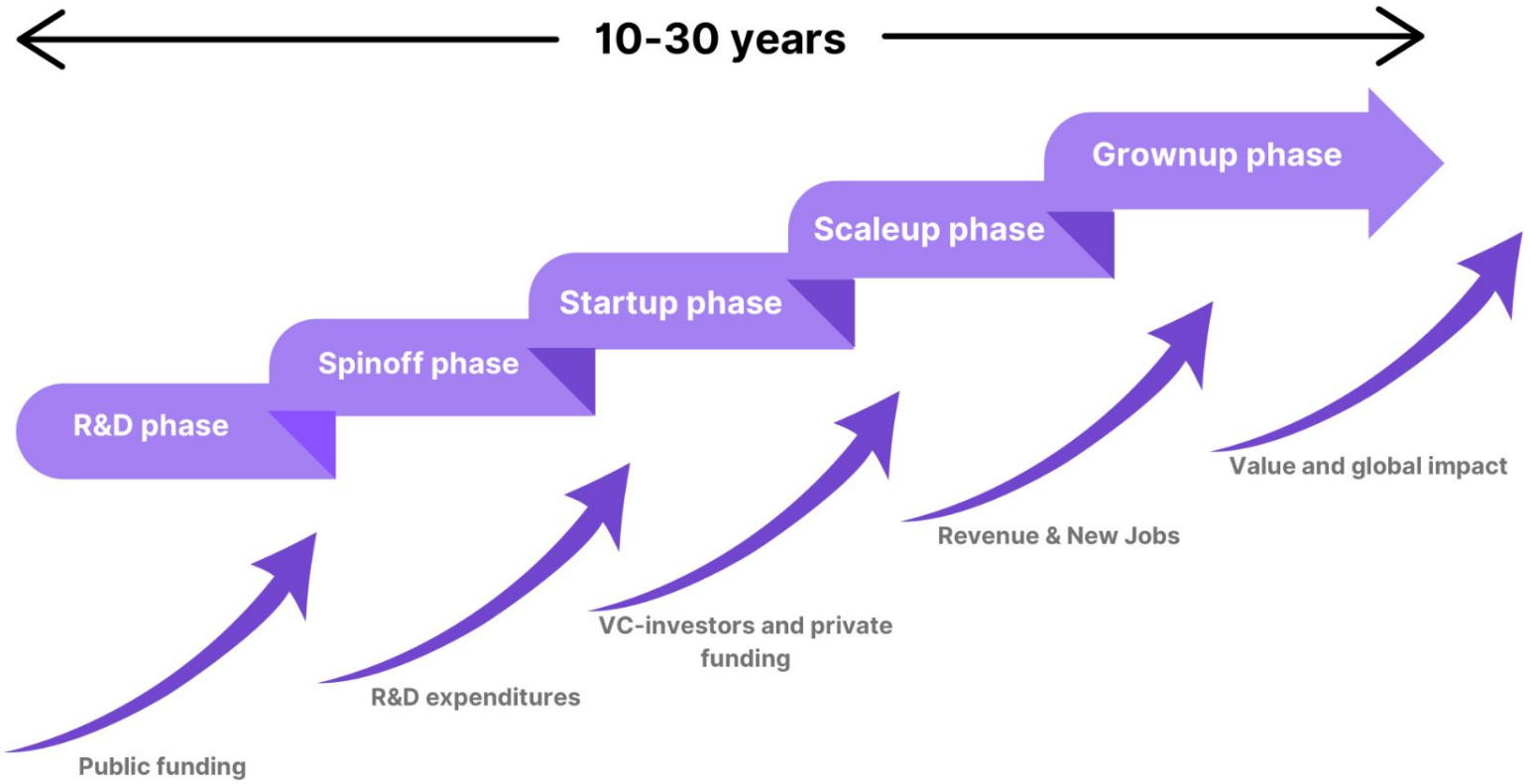
- New companies are **founded** around new technology
- Technology is further **developed and matured** before market entry
- Companies spinning out of VTT must **acquire some VC-funding** during the spin-off process
- **Incubators** and **spin-off policies** play a key enabling role
- **Public grants** and **institutional support** help lower risk

- Research-driven startups begin validating their technology and market
- Focus shifts to building a **scalable business model**
- **Private funding** starts to play a role, but public support remains important

- Startups with **product-market fit** grow rapidly
- Hiring, production, and internationalization accelerate
- **Venture capital** and **strategic partners** often become essential

- Startup becomes an **established business**
- New technology is absorbed into global markets
- The firm **becomes profitable** — and may eventually go public

Scaling up research



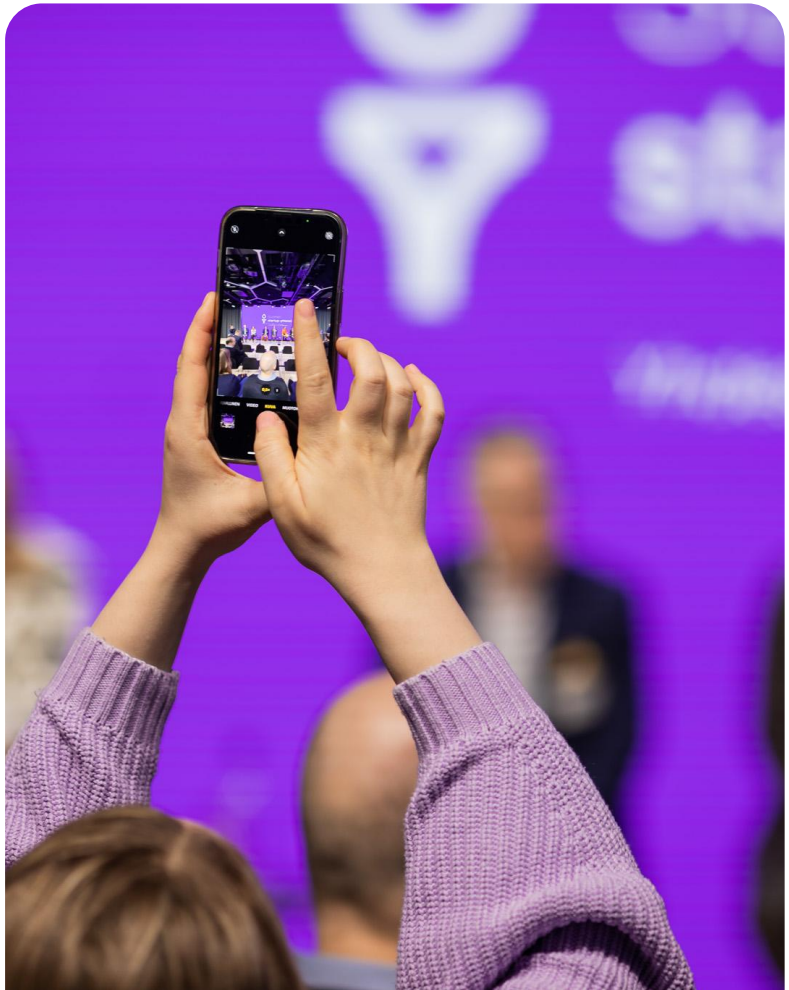
R&D phase: universities and research institutes like VTT

Many deeptech startups begin with long-term research at universities and research institutes like VTT. In this phase, public funding supports early discoveries, technology development, and proof-of-concept work.

The focus is on advancing science, not yet on commercialization. This phase builds the critical technical foundations that startups later spin off and scale.

The R&D phase can take years—or even decades—and depends on strong public support to bridge the gap between research and real-world applications.

VTT have spun-off 60+ new companies that are based on the research work done at VTT. These companies are in different phases. Happy Plant Protein raised recently seed round and spun-off from VTT. Steady Energy is investing in R&D for piloting their technology. Enifer is building their first commercial factory.



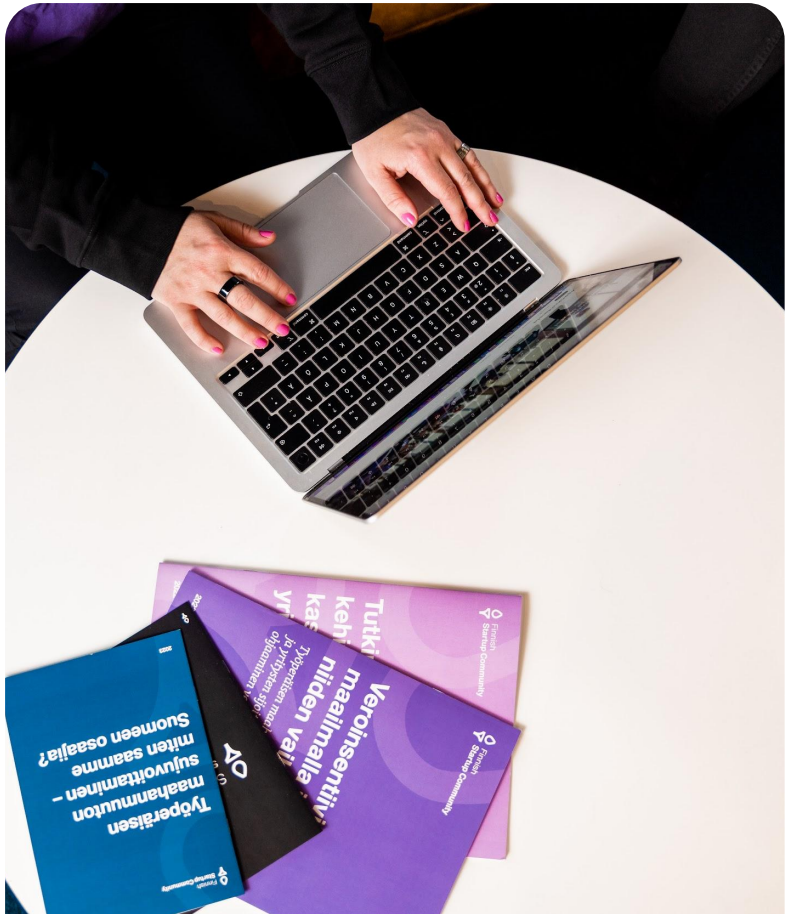
Spin-off phase: VTT LaunchPad and other incubators are important

In the spin-off phase, researchers are supported to transform their innovations into private companies. Incubators like VTT LaunchPad provide coaching, mentoring, and business development help to researchers who are preparing to launch startups.

During the incubation programme at VTT LaunchPad, incubation teams develop into fundable spin-off companies. When the team have secured the seed-funding from capital investors, VTT will join the investment round by investing in-kind the IPR asset into the spin-off company.

Public funding, such as Business Finland's R2B (Research to Business) programme, plays a vital role in bridging the gap between research and commercialization. It helps validate business ideas, build teams, and prepare startups for early-stage investment.

This phase is crucial: it turns scientific excellence into entrepreneurial action and lays the foundation for future growth. This is the **spin-off phase**.

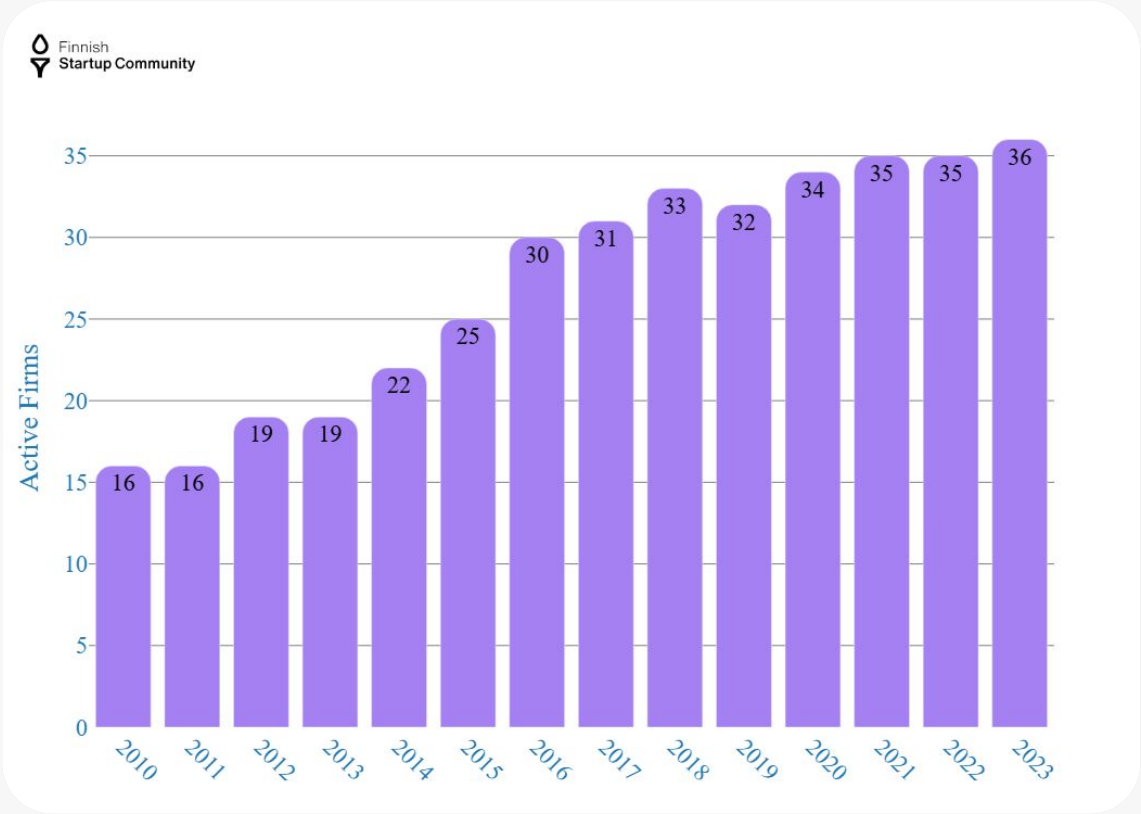


Number of active *VTT* spin-offs

We define active firms as companies that have reported any financial statement data in a given year. Between 2010 and 2019, the number of active firms grew significantly, reflecting the sector's rapid expansion. However, from 2019 to 2023, growth leveled off.

It is important to note that many startups fail. Even during 2019–2023, when the number of active companies appears stable, new companies are still being founded—while others are exiting the market.

The creation of new startups has been declining both in Finland and globally. The number of newly founded companies has been falling since 2015 (Kotiranta, 2023).



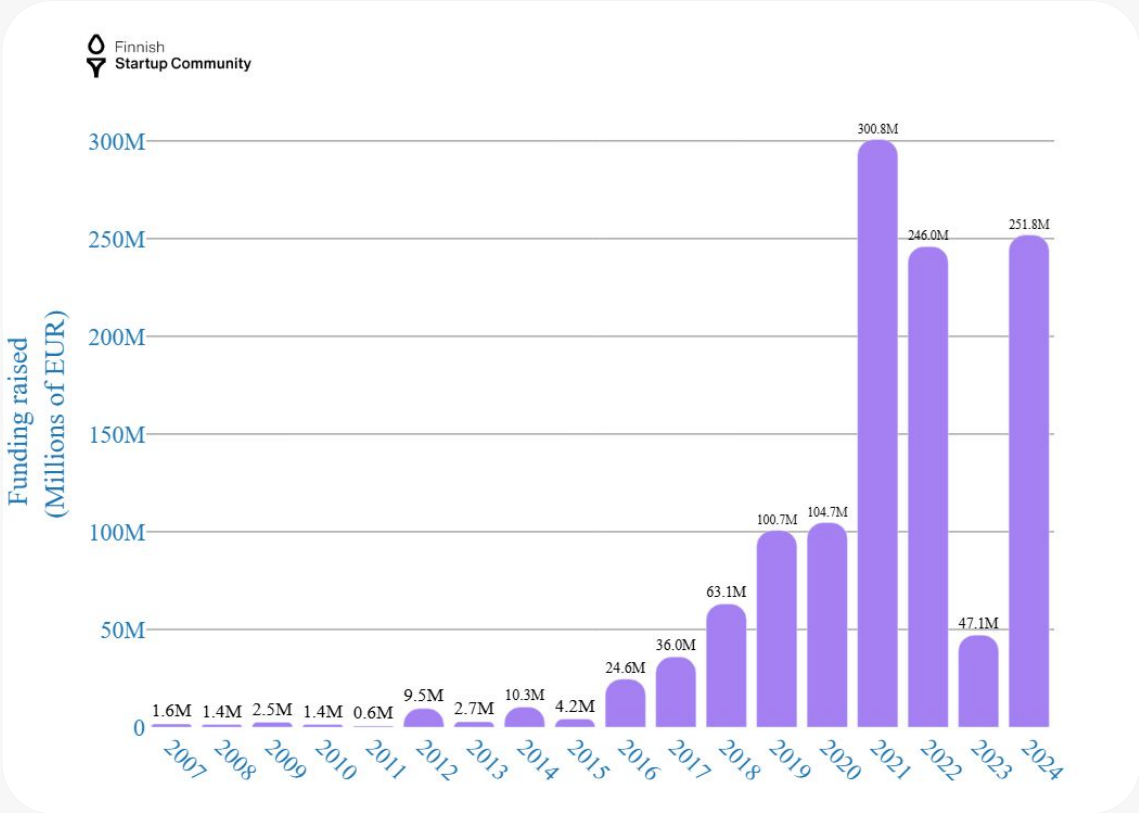
After startup has been founded they must convince investors…

Yearly total funding raised by VTT spin-offs

VTT's spin-off companies have significantly increased their annual funding. In 2007, they raised a modest €1.6 million, but by 2021—their best year in funding—this had surged to over €300 million.

For startups, one of the most critical metrics is their ability to attract funding. Since most startups operate at a loss in their early stages, securing investment is essential for survival and growth.

This is especially true for deep tech companies, which often face longer loss-making periods. Their technologies require extensive development and refinement before they can successfully enter the market, making sustained funding even more crucial.



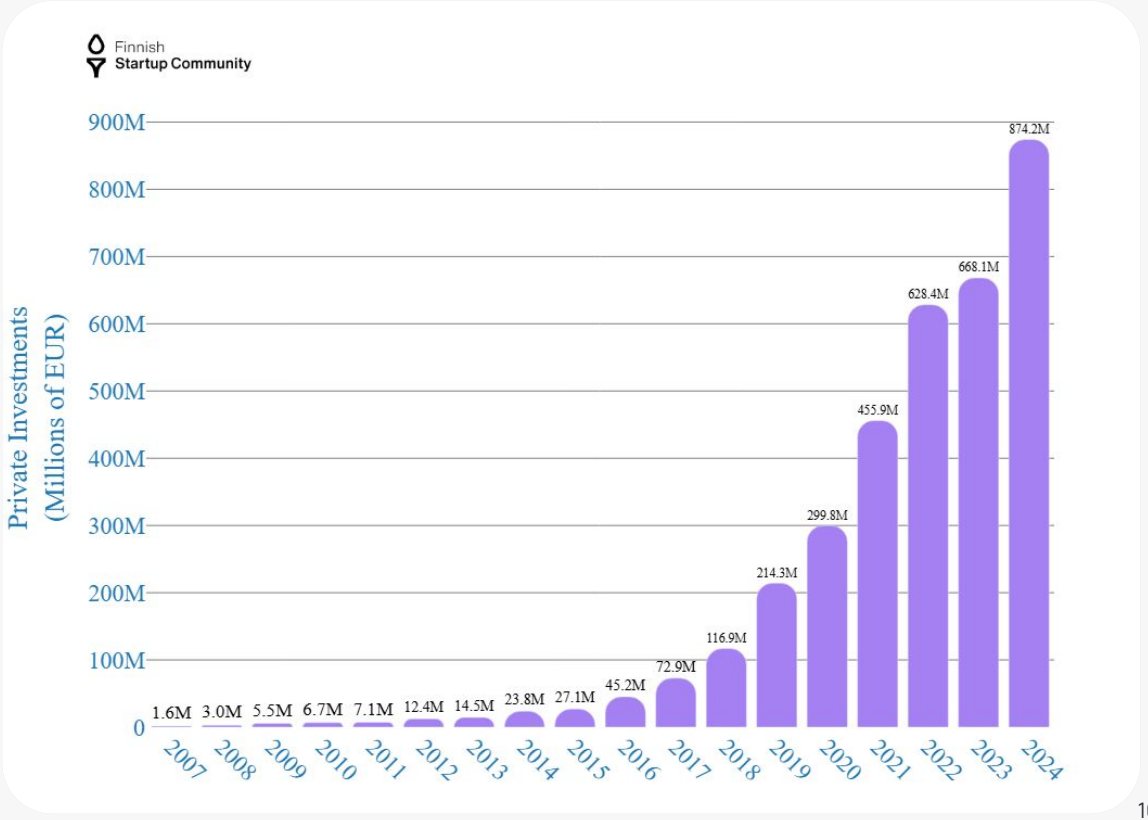
Cumulative private funding invested to VTT spin-offs

Cumulative private investments in VTT spin-offs have shown nearly exponential growth, reflecting the increasing ability of these research-driven companies to attract capital from private markets.

Total private funding has grown from just €1.6 million in 2007 to over €874 million by 2024 — an impressive achievement.

In their startup phase, the strongest business cases are picked up by VC investors, who support their growth through staged funding.

It is important to note that some spin-offs attract VC-investors in earlier stages also. Moreover, since 2019 all VTT spin-offs are required to raise VC-funding during the spin-out process.



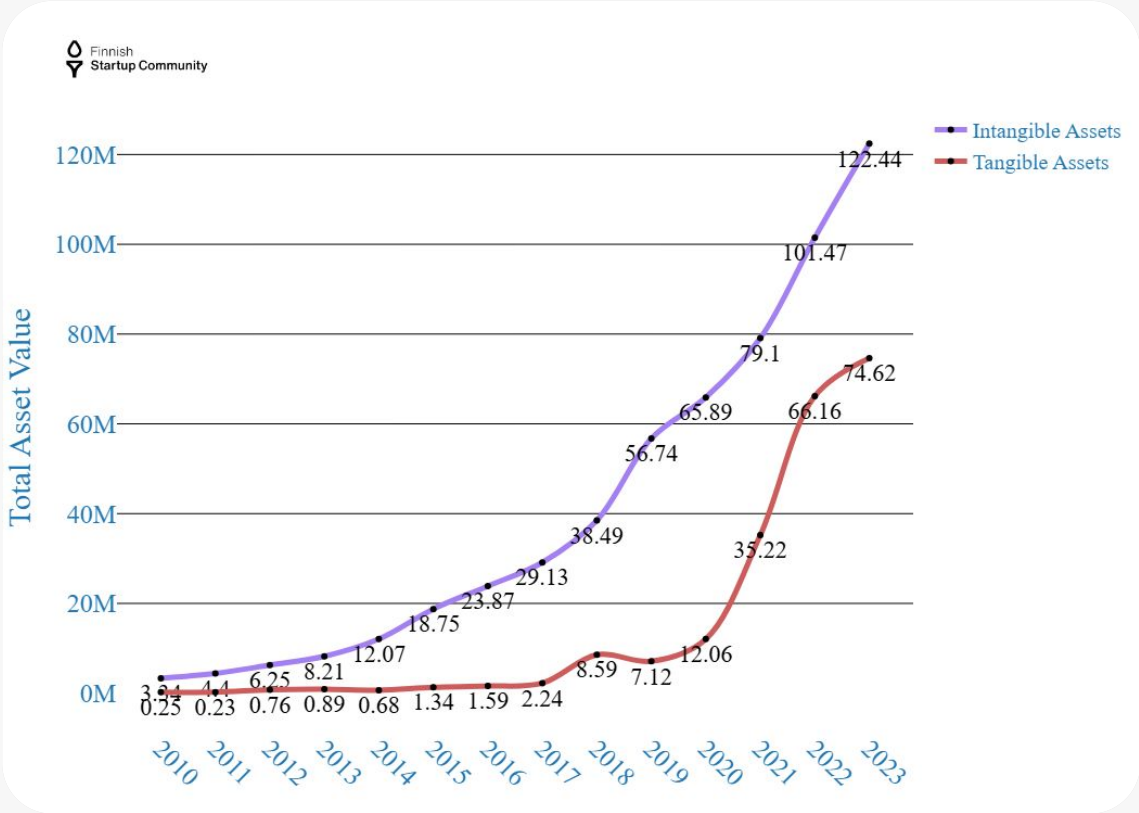
Funding is often used for R&D

VTT spin-offs rely heavily on intangible assets

In 2023, VTT spin-offs held **€489 million** in total assets.

Their growth reflects a typical deep-tech trajectory: early focus on intangible assets like development costs, patents, and R&D **(€122M)**, followed by rising investment in tangible assets **(€75M)**, including machinery and production infrastructure.

This shift marks a transition from research and development toward industrial scaling and commercialization.



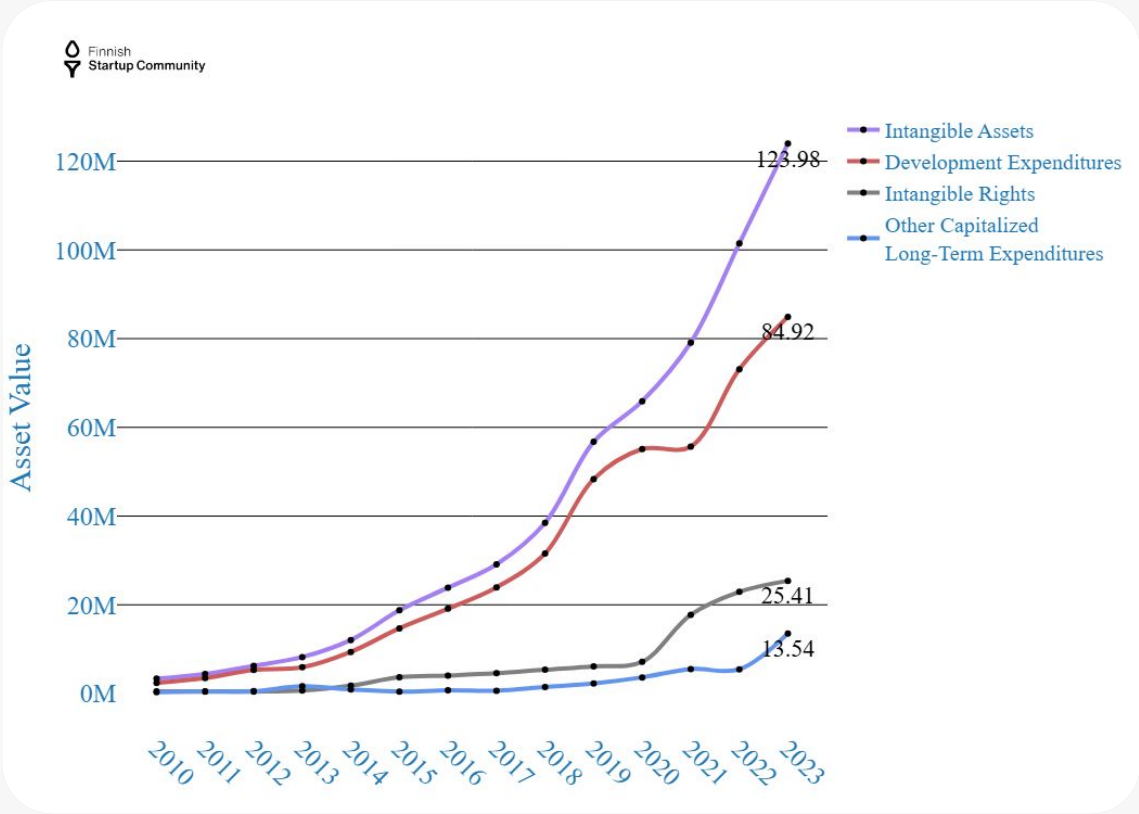
Intangible assets by category

Development expenditures are the dominant intangible asset class among VTT companies, growing significantly over time. The total intangible assets have increased, with a sharp rise in recent years.

Other intangible assets, such as intangible rights and other capitalized long-term expenditures, remain relatively small in comparison.

The purple curve represents the total value of intangible assets in VTT spin-offs, showing a strong upward trend, particularly after 2018.

The red, gray, and blue curves represent different underlying asset categories, each contributing to the total intangible assets.



Tangible assets in VTT spin-offs

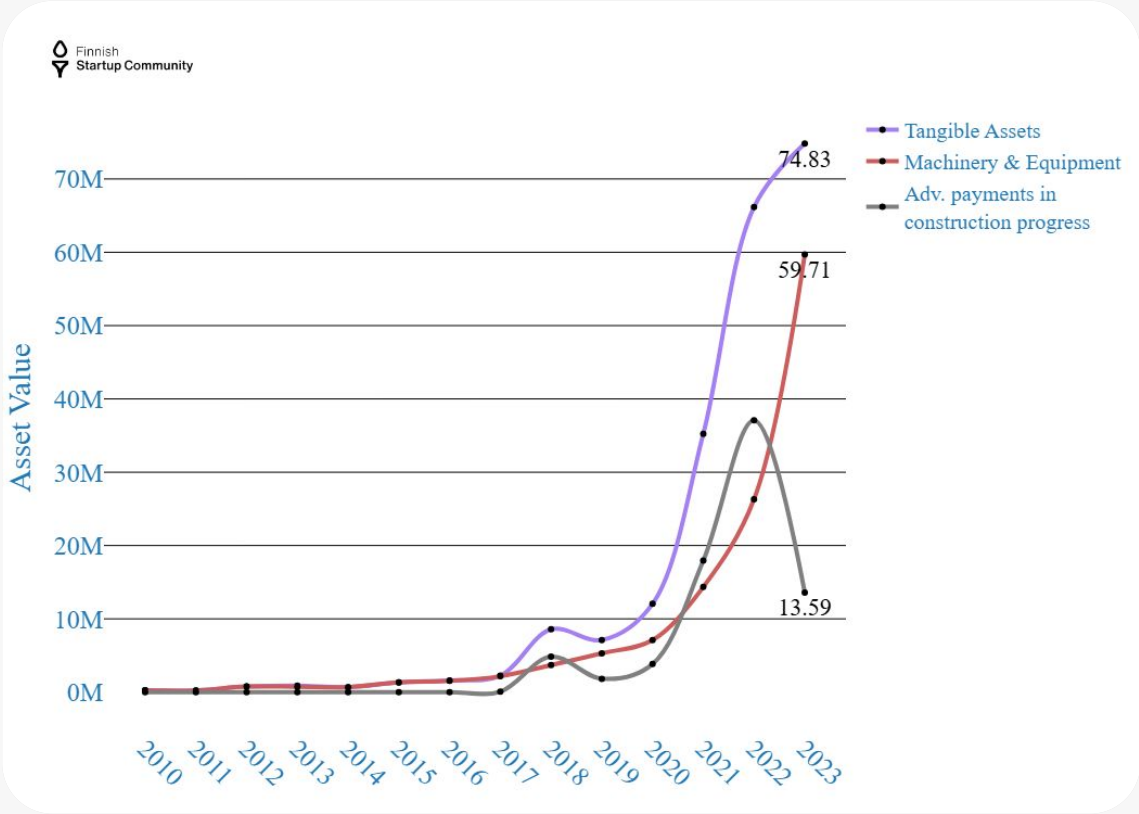
Tangible assets in VTT spin-offs have increased rapidly since 2020, reaching approximately €75 million by 2023.

This growth is driven mainly by investments in machinery and equipment, which make up €60 million of the total.

The remainder, about €14 million, consists of advance payments in construction progress, suggesting future expansion plans or facility development.

The sharp increase in tangible assets indicates that many VTT-origin firms are transitioning from early-stage R&D to scaling up physical operations.

Investment in machinery and equipment reflects movement toward industrialization or product manufacturing.



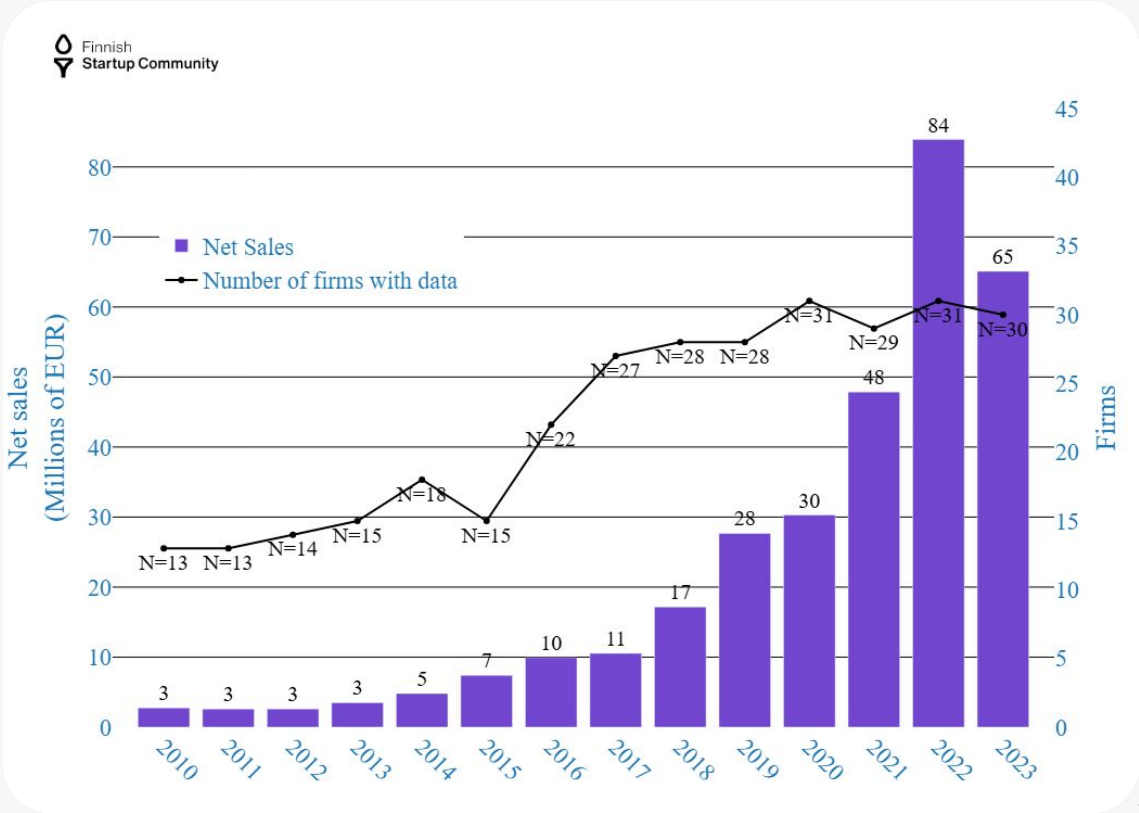
After successful R&D companies start to scale

Revenue of VTT spin-offs has increased significantly

The net sales of VTT spin-offs have grown significantly, rising from €3 million in 2010 to €65 million in 2023. However, in 2023, we observe a 22.6% decline in net sales. Initially, we suspected that some companies had yet to report their financial statements, but a closer inspection of the data suggests otherwise. Instead, the decline appears to be driven by multiple companies experiencing a drop in revenue.

The decline in net sales in 2023 would be logical since it goes hand in hand with the decline in startup investments in Finland and more difficult economic environment for growth companies.

Despite the decline, net sales have grown 25-fold since 2011. VTT spin-offs not only generate revenue but also develop solutions for climate change, food insecurity, and energy sustainability.

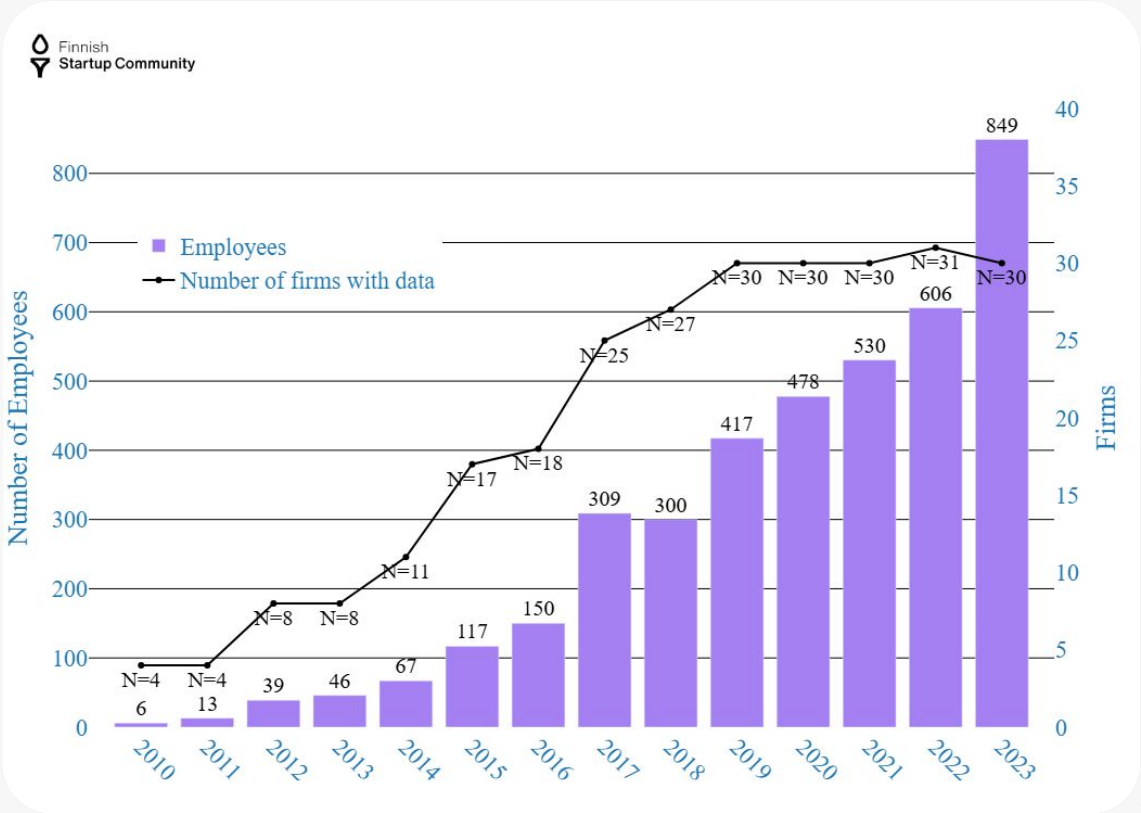


Number of people employed by VTT spin-offs has been increasing rapidly

Number of companies has stayed about the same during 2019-2023, but surviving companies are on average adding new jobs and growing.

Significant employment growth was observed in a period were the number of newly commercialised startup had slightly declined. However, the overall growth is an indicator that VTT spin-off startups are adding new highly productive jobs quickly to the economy.

Moreover, a few companies have been pivotal in driving employment growth amongst VTT's spin-off startups, contributing about 53% in 2019, 56% in 2020, 79% in 2021, 94% in 2022 and 75% in 2023. Their sustained impact underscores their crucial role in the Finnish employment system, creating innovation-led jobs.



VTT Spin-offs 2023

Firms:	36
Net sales:	€65 M
Employees:	850
Wages paid:	€55 M
Intangible assets:	€123 M

Sector Growth 2010 - 2023

Revenue	Employees	Employee expenses
€62 M (change)	843 (change)	€53 M (change)
27.6 %(cagr)	46.4 % (cagr)	30.1% (cagr)

CAGR (%) → Represents the average annual growth rate from 2010 to 2023, showing how revenue, team size, and employee expenses have grown consistently over time.

The Typical VTT spin-off 2023

Revenue	Team size	Wages paid
€2.2 M (average)	28 (average)	€1.7 M (average)
€0.5 M (median)	13 (median)	€0.7 M (median)