# State of Dutch Tech 2024 techleap®





# Foreword

The world is facing many simultaneous transitions. Technology is accelerating this change, offering solutions and creating new dilemma's. Countries that do have a strong scientific base, an ambitious entrepreneurial culture and succeed to educate sufficient technical talent will come out on top. This is why The Netherlands like most EU countries is investing in a strong tech sector.

However, compared to global innovation leaders like the US and China, Europe and The Netherlands are not moving fast enough. We risk becoming consumers instead of producers of technology. How can we avoid being a subject of these large transitions instead of leading them and shaping how they affect our society? To do this, we first need to know what the actual 'State of Dutch Tech' is. This report provides a data-driven overview of all 2023 developments in the Dutch tech sector, compared to other leading tech ecosystems.

Its purpose is to provide actionable insights and empower founders, investors, policy makers, and industry leaders. While a lot of progress has been made by government, universities, private actors, investors and businesses, there still is a lot to be done. That is why we benchmark ourselves to learn and do better. We will not sugarcoat the Dutch performance, where we need to improve.

This report should encourage us all to be even more ambitious in setting our goals. We should be proud of the entrepreneurs that are building the next generation of tech companies, generating our future employment, ensuring that our economy stays competitive and our country remains relevant.

We need to 'Think BIG and act together'.

Constantijn van Oranje, Techleap Special Envoy

#### INTRODUCTION







# About Techleap

Techleap is a non-profit organisation subsidised by the Ministry of Economic Affairs and Climate Policy. It aims to accelerate the growth of Dutch tech startups and scaleups. Together with the government and other stakeholders, the organisation promotes the environment for technology companies to scale up faster by gathering and sharing knowledge, by improving the conditions in the field of valorisation, financing, talent and market access and by strengthening an inclusive community of tech entrepreneurs. This enables the Netherlands to better respond to major societal transitions, securing jobs, and future earning capacity.

INTRODUCTION



# Executive summary I

After two tumultuous years of the pandemic and its aftermath, tech ecosystems globally are regaining their stride. The Dutch tech ecosystem is still positioned as one of the strongest hubs in Europe - as well as one of the most valuable. While the UK and France are showing resilient growth, however, the Netherlands is showing signs of slowing down (with no \$1bn companies created in 2022 and 2023, no Dutch IPOs in 2023, and a small decline in overall ecosystem value at ~€240bn). And, though Dutch tech continues to show cross-national growth, with regional specialisations starting to arise around university hubs, the scale ratio remains low (with 70% of startups (>€100k) failing to raise funds beyond seed and only 2 out of 10 VCbacked ventures making it to scaleup stages).

Funding continues to be a critical component to the success of Dutch startups - and the data shows a relative resilience of overall VC investments (with a 25% drop bettering EU and global decline). Later stage funding in particular, though, is on the low end compared to other top ecosystems, and is wholly dependent on foreign

VC funds. Typically, domestic funds invest in early stage Dutch ventures - though largely invest abroad (40% of investments going to Dutch ventures). It is critical that the funding situation improves for Dutch tech companies to scale to their full potential. With an increase in acquisitions in 2023, we also see that 63% of Dutch startups and scaleups are acquired by non-Dutch companies (the largest being PayU at €550m and SynAffix at €100m).

Dutch deeptech companies, meanwhile, are on the rise! In 2023, these companies were able to raise more investment (growing 14% from 2022 to 2023) - countering a downturn in overall tech investment in Europe. Significant investment went to scaling companies coming out of university and knowledge institutes (around 20% of total funding in 2023) - showing once again the potential value of the Dutch academic output. The sustainability of this value, however, is not guaranteed. The extent to which startups are able to emerge from academia and scale will determine the prosperity of deeptech moving forward. University Spinoffs still do not often materialise growth, though policies

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#### INTRODUCTION

like the National Technology Strategy (NTS) can amplify the impact of some of these ventures.

The second challenge for Dutch tech ventures (aside from finding funding) is that jobs are plentiful while talented people are scarce. The economic downturn has slowed the pace of hiring at Dutch tech companies (employment in tech grew but with a 25% slowdown for startups and scaleups hires). Rather than alleviate the problem, the talent gap has exacerbated; hard to fill vacancies and a lack of local talent are still limiting growth. Particularly in engineering roles like software engineers, data scientists, and experienced operational experts. This explains the dependence on foreign talent, making up ~30% of the startup workforce in the Netherlands. One driver for alleviating some of that pressure will be to bring more international talent and diverse hires into the tech sector. However, the pace of change is slow, and non-Dutch people in tech encounter obstacles, which inhibits the active development a diverse workforce.



# **Executive summary II**

The Dutch tech ecosystem needs a boost to reverse the slowing pace of growth, and enhance future economic outcomes. We should double down on those areas where our country is strong, and where we have great potential. We need to do more and better on issues like talent, investments, key technologies and regulations. We would be wise to learn from our European neighbors and global innovation leaders and should avoid mistakes that others already have made, and capitalise on latent opportunities. Effectively tackling global challenges will give Dutch tech companies a competitive edge and make us proud to see them grow into world leading companies.

This brings us to the following four topline recommendations following from the results in this report:

Increase available capital and tech investments by smoothing the path for pension funds to invest, stimulate international co-investment, especially at European level and consolidate public investments made by initiatives like Invest-NL, RvO and the National Growth Fund (NGF) in none national investment institution.

Make the Netherlands a leading 'deeptech nation', capitalising on existing deeptech potential, focusing key public initiatives on specific growth markets and key technologies (NTS) and promoting entrepreneurship as logical career path from research institutes. A lot will hinge on optimising the tech transfer practice in the Netherlands, creating a strong pipeline new founders and maximising the impact of existing ventures.

Actively pursue ways to solve the increasing shortage of talent, by educating more local talent (promoting STEM studies and digital educators), bringing in skilled foreign talent (retaining the 30% expat ruling) and making the tech

sector more inclusive. Crucial will also be to enhance ways of offering better suited compensation by implementing favourable employee participation schemes (so startups can compete on talent with corporates and international competitors).

Stimulate regional specialisation and effective national coordination and collaboration, ensuring that innovation initiatives supporting tech founders are aligned and mutually reinforcing.

We are continuing to think big: Dutch tech has proven to be strong and resilient. If we can effectively transition 1% of Dutch startups to scaleup stages, that would result in a 5%\* increase in current ecosystem value. With growth slowing down, and so much untapped potential to be exploited, we need to act together to push Dutch tech forward.





# Key Findings

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# Globally VC investment dropped significantly in 2023. VC investment in the Netherlands was no exception

Investment dropped by 25% in the Netherlands in 2023, compared to 37% globally and 36% in Europe. In part, inflation, high interest rates and geopolitical uncertainty resulted in broader economic uncertainty which created challenging conditions for tech companies.



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**KEY FINDINGS** 







# Tech companies slowed down hiring, but the Dutch labour market remains tight

#### Hiring rate trends

(% of new hires to existing employees)



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#### Job vacancy rate 2023 Europe (Top 10 countries)



Source: <u>Statista</u>, not tech company specific



# Compensation was the number one 'people and culture' challenge for startups in the Netherlands in 2023, and growth in the attractiveness of working in tech has slowed

How attractive do you think it is 'to work for European tech companies now' compared to 12 months ago



Source: Atomico Survey, Dutch respondents only

#### **KEY FINDINGS**

**Biggest people and culture challanges of startups in the Netherlands in 2023** 



Source: Atomico Survey, Dutch respondents only







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# Diversity, equity and inclusion are drivers for business performance, yet employees in the Dutch tech sector continue to experience inequality at work

Organisations embracing diversity and inclusion have been demonstrated to be 70% more likely\* to enter new markets, 19% more likely\*\* to achieve increased revenue from innovation, and witness improved employee engagement\*\*\*, which subsequently results in superior retention rates\*\*\*\*.

Yet, the figures show that experiences of inequality remain. The urgency for DEI initiatives, and the steps that need to be taken to reach a true diverse, equal and inclusive tech sector are not felt by everyone.



Source: Diverse Leaders in Tech, Techleap, The State of Inclusion in Dutch Tech: Uncovering the DEI Perception Gap, 2023

Source: Chief Executive for Corporate Purpose - CECP (2018) \* \*\* Source: BCG (2018)

\*\*\* Source: Deloitte, 2015 \*\*\*\* Source : Ashraf and Siddiqui, The impact of Employee Retention, 2020

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**KEY FINDINGS** 





# Gender pay disparity remains a pressing issue in the Dutch tech sector

Across Europe, there is a 25% gender pay gap (unadjusted, median). In the Netherlands, this gap is somewhat lower, standing at 22%. The overall gender pay gap depends on multiple factors such as job roles, levels, and industries. Furthermore. it's essential to consider the proportion of women in these roles, as a low gender pay gap loses its significance if women encounter limited job opportunities.

When examining the gender pay gap and the representation of women in engineering and commercial job families, the Netherlands is slightly ahead of the European average in terms of reducing the gender pay gap.

#### Gender Pay Gap by Job Type



Source: Ravio. Figures updated as of January 2024

#### **KEY FINDINGS**



# Dutch tech companies raise less funding and take longer to secure funding compared to their European peers

Median years required to reach each funding round

Dutch tech companies typically lag one year behind the European average and two years behind the US average in advancing to the next funding round.



Source: Techleap and Dealroom

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**KEY FINDINGS** 

Scale ratio of Top European countries

Company HQ Country	Scale ratio	Startups (with €100k - 10M funding)	Scaleups (>€10M funding)*
Germany	32%	2,054	650
Switzerland	30%	807	245
United Kingdom	25%	6,308	1,565
France	23%	3,430	787
Netherlands	19%	1,258	234
Sweden	18%	1,123	207
Europe	22%	25,274	5,463

USA

Source: Techleap and Dealroom



# Larger deals often command higher levels of non Dutch investment; global investors were involved in 85.3% of growth equity rounds compared to 37.2% of seed rounds

#### % of deal types by round size, years 2019-2023



Source: Invest-NL based on Dealroom data

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# When Dutch technology ventures scale the ownership passes to foreign businesses or PE firms

2023 saw an increase in acquisitions and no IPOs. 66% of Dutch startups and scaleups were acquired by non-Dutch companies or PE funds between 2019-2023, with the largest acquisitions in 2023 being PayU €550m and SynAffix €100m.





Source: Dealroom

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#### M&A ratio

number of acquisitions and buyouts as a percentage of total companies

$\begin{array}{cccccccccccccccccccccccccccccccccccc$	429		2019		202
EU $0.7\% \rightarrow 4.8$ US $1.0\% \rightarrow 4.8$ 2023 CN $0.2\% \rightarrow 1.3$		NL	1.2%	$\rightarrow$	5.2
$EU \qquad 0.7\% \rightarrow 4.8$ $US \qquad 1.0\% \rightarrow 4.8$ $CN \qquad 0.2\% \rightarrow 1.3$					
US $1.0\% \rightarrow 4.8$ 2023 CN $0.2\% \rightarrow 1.3\%$		EU	0.7%	$\rightarrow$	4.89
2023 CN 0.2% → 1.3		US	1.0%	$\rightarrow$	4.8
	2023	CN	0.2%	$\rightarrow$	1.39

Source: Techleap and Dealroom



# The Netherlands generally follows EU investment trends, but sees more capital in health, food and semiconductor sectors

Combined, investment into health, food and fintech sectors made up around €1B in 2023, representing over 50% of total Dutch VC investment. Health has seen the greatest increase in investment from 2019. This shift was driven by increases in investments in medical devices, growing by 141%, and pharmaceuticals with a 148% rise. Where previous years were dominated by the fintech sector, with large rounds raised by the likes of Mollie, Mambu, Bung and Backbase, investment cooled in 2023, a trend also observed on European level.

The Netherlands has attracted a higher investment share than the European average in food (13% v. 6%) and health sectors (29% v. 13%) and semiconductors (11% v. 2%).

#### **Netherlands: VC investment in the Top 10 industries Europe vs Netherlands: 2023 share of VC investment by Industry** 2022 2023 22% Energy 9% € 570M € 233M 13% Health 29% € 355M € 591M 12% Transportation 10%€ 302M € 180M 11% Fintech 11% € 262M € 257M 10% Enterprise 9% software € 290M € 198M 6% Food 13% € 14M € 55M 3% Marketing 4% € 357M € 178M 2% Semiconductors 11% € 241M € 87M 1% Travel 2% € 216M € 120M 1% Telecom 3% € 201M € 32M 0.3 0.1 0.2 0 Europe Netherlands

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Energy	€ 61M	€ 33M	€ 221M
Marketing	€ 37M	€ 188M	€ 94M
Semiconductors	€ 14M	€ 51M	€ 99M
Travel	€ 106M	€ 14M	€ 13M

Source: Techleap and Dealroom



There has been stable investment in deeptech in the Netherlands over the last five years, bucking the trend of year-on-year tech investment decline from 2021. A stronger focus on deeptech is observed across the rest of Europe

#### **Netherlands: Deeptech VC investment vs Total VC investment**



Please notice that deeptech includes biotech.

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#### **KEY FINDINGS**





# With an increased focus on deeptech from investors, research institutes hold a great potential to create valuable startups

Research based startups raised around 20% of total Dutch tech funding in 2023, they already play a crucial role in the creation of startups.

#### VC investment for research-based startups over time



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On average, each Dutch research institute created 3 research based ventures over the last 5 years of which 1.6 are IP licensed. This means 7 out of 8 Patents (families) are either not used or licensed to corporates, highlighting a growth opportunity.



Source: Scoutinscience, on behalf of Techleap.nl



### The value of the Dutch tech sector stabilised after 2021 record valuations

Estimated valuation of Dutch tech ecosystem (in Billions)



📒 Private

Based on Dealroom data, excludes subsidiaries (like Booking.com) and corporate spin-offs.

Note: Valuations of non-publicly traded companies are estimates based on publicly available data, hence, downturns in valuations can be underrepresented, the real company value in 2023 could be lower.

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**KEY FINDINGS** 

Public



# If 1% of startups in the Netherlands were able to transition to scaleup stages, it would result in a 5% increase in current ecosystem value

#### Startups, scaleups and unicorns: share of valuation vs share of total companies



Source: Techleap and Dealroom

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**KEY FINDINGS** 



# Excessive regulation, lack of investment and talent shortages are perceived to be the biggest risks to the growth of the tech ecosystem



Source: Atomico Survey, Dutch respondents

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#### **KEY FINDINGS**



# Valuations and realisations

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# While the UK and France demonstrate consistent ecosystem value growth, the Netherlands is stagnating after a surge from 2019 - 2021



Source: Dealroom

#### VALUATIONS AND REALISATIONS



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# The world is in a unicorn winter, with only 99 \$1bn+ valued companies generated in 2023, none of which originated from the Netherlands

Number of new unicorns by year and region

The world is in a unicorn winter. with only 99 born in 2023.

Europe is particularly affected, with only 16 new billion-dollar companies. This represents a sharp decline from 126 created in 2021\*. Half of new unicorns originated in North America in 2023.

The Netherlands is home to 30 companies that reached unicorn status, of those 6 are currently valued below \$1B. In 2023, no new unicorns were created in the Netherlands.



**Dutch Unicorns** 

\* Source: Dealroom report, Global Tech and VC - Q3 2023, November 2023

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#### VALUATIONS AND REALISATIONS

Source: Dealroom, unicorn status included only when valuation at the end of year was above \$1B



# In 2023 the Netherlands did not see any IPOs for the second year in a row. The last Dutch IPOs occurred in Q4 2021

Liquidity events, or exits, play a vital role in the European tech ecosystem by facilitating the realisation of capital gains, recycling of talent, and the transfer of expertise to new ventures. However, in 2023 the IPO market remained subdued, following its peak in Q4 2021.

Dutch tech IPOs peaked in 2021, with seven companies going public, from just three the year before, but there has been a listings drought over the past two years.

This trend was global in nature, with only six IPOs exceeding the \$1 billion mark in 2023 (compared to 11 in 2022), with two of them occurring in Europe.

European public markets initially had a quiet start but gained momentum in the latter half of the year, including listings of the likes of ARM, in the UK.



Source: Dealroom

#### VALUATIONS AND REALISATIONS



# In 2023, acquisition and buyout numbers in Europe increased by 56%, compared to 20% in the US

#### **Europe Number Acquisitions and Buyouts**



Source: Dealroom

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#### VALUATIONS AND REALISATIONS

**US Number Acquisitions and Buyouts** 





# Dutch startups and scaleups are increasingly exiting via acquisitions and buyouts, mirroring trends in Europe more broadly

There were a number of significant exits by acquisition and buyout in 2023. Top exits in the Netherlands included PayU, acquired for just over €550m, SynAffix for €100m, and Youda Games for €81m.



Source: Techleap and Dealroom

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#### VALUATIONS AND REALISATIONS



# 63% of Dutch startups and scaleups are acquired by non-Dutch companies

This trend, though not uncommon across Europe, raises questions as to the beneficiaries of Dutch tech growth. There has been growing rhetoric in Europe about the nature of exits, where the benefits of later stage company growth are captured by foreign companies.

French tech companies are more likely to be bought by a domestic entity than a company outside of France, making it an exception in Europe, where the majority of exits are to non-domestic entities.



Source: Techleap and Dealroom

#### 2019-2023, Buyouts and Acquisitions by HQ Location and investor location



## The Netherlands trails behind other top European countries with a 19% scale ratio

#### Germany leads the rankings with **Scale ratio** a scale ratio of 32%. The prospectively untapped Germany potential of the Dutch ecosystem becomes evident in a comparison Switzerland of the Dutch scale ratio with international players. United Kingdom The Dutch pipeline sees a France high proportion of early-stage startups, and is underperforming Europe in conversion of startups to scaleups in Europe, with a scale 19% ratio 3% below the European Netherlands average. 18% Sweden

Source: Techleap and Dealroom



20%

25%

23%

22%

10%

0%

Source: Techleap and Dealroom



## Around 70% of Dutch tech companies fail to raise beyond seed investment

For 70% of Dutch tech Netherlands startups and scaleups by highest funding round companies pre-seed and seed rounds represent the highest funding round they (pre-seed) € 100k-1M could achieve. (seed) € 1-4M (series A) € 4-15M € 15-40M (series B) (series C) € 40-100M € 100M+

> Source: Techleap and Dealroom Note: this graph only includes scaleups and startups with funding above €100k. The numbers in each bar represent the total number of startups and scaleups for which that was the highest funding round.

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#### VALUATIONS AND REALISATIONS



Note: public companies included.



# In the Netherlands, only 1.3% of companies have raised Growth equity (€100m+ investments), compared to 2.8% in the German tech ecosystem

The large pre-seed base in the Netherlands is shifted upwards in Germany, where more startups and scaleups reach their highest rounds raised in seed and series A.

In the Netherlands, companies at pre-seed stage make up 44% of VC backed companies, while in Germany, these companies represent 29%.



Source: Techleap and Dealroom

Note: these graphs only include scaleups and startups with funding above €100k. The numbers in each bar represent the total number of startups and scaleups for which that was the highest funding round.

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#### VALUATIONS AND REALISATIONS

Note: public companies included.



# Dutch startups experience a protracted path to late stage funding, taking around 6 years to reach Series B, the slowest growth rate among top countries by VC investment in Europe

Despite a swift start, typically securing a seed round in around one year, Dutch startups subsequently raise investment at a slower pace than European peers. Reaching Series A takes approximately 4 years, which is one year longer than in Germany, Switzerland, and France.

The disparity widens further in Series B, a stage that Dutch companies typically reach after about 6 years, the slowest growth rate among top tech nations in Europe. By the time Dutch companies reach Series B, their German, Swedish, and UK counterparts have already progressed to Series C.

This is troubling finding regarding the European, and global competitiveness of Dutch tech companies, where time to scale is often associated with development of a competitive edge, and generation of market power.

#### Median years required to reach each funding round



Source: Techleap and Dealroom

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#### VALUATIONS AND REALISATIONS



# Dutch tech companies typically lag one year behind the European average, and two years behind the US average in advancing to the next funding round

Following the Seed round, US companies typically reach each successive funding round at least 2 years ahead of Dutch companies.

The US trajectory illustrates faster fundraising cadence compared to Europe as a whole, averaging out at 1 year ahead per stage.



Source: Techleap and Dealroom

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#### VALUATIONS AND REALISATIONS

Median years required to reach each funding round



# Financing growth

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# Dutch tech investment dropped 25% in 2023, compared to 37% globally, and 36% in Europe

In 2023, global VC investment experienced significant deceleration. This drop was felt by major players in Europe, with the UK and France falling well below the European average. A noteworthy exception is Sweden, where investment decreased by only -7%\* thanks mainly to two mega-rounds, exceeding €250 million\*\*, which accounted for approximately 60% of the total VC investment.

#### **Netherlands VC Investment**



Source: Techleap and Dealroom \*

Source: Techleap and Dealroom

Source: Dealroom \* \*

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Change in VC Investment, 2022 - 2023

Source: Techleap and Dealroom



0%



# The scarcity of mega-rounds is the main factor in declining Dutch investment in 2023

In the first three quarters of 2023 the Netherlands witnessed a complete absence of investment rounds in excess of €100 million. During Q4 the situation improved when a substantial round was secured by VectorY Therapeutics (€129 million)\*.



Netherlands: VC Investment by Round and Number of Rounds over Time

\* Source: Dealroom

Source: Techleap and Dealroom

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# Discounting the pandemic years of 2020, 2021 and 2022, European VC investment has grown at a higher rate than the US. Despite this, investment volumes remain at considerably lower levels in Europe compared to the States

Comparing 2019 to 2023 investment levels, Europe saw growth of 33%. In contrast, the US only increased 4% and China showed a negative rate, -19%\*, before the surge in VC investment that characterised the pandemic for the tech ecosystem.

#### VC Investment, 2019 - 2023 €b

(arrow indicating % growth between 2019 and 2023)



\* Source: Dealroom

Source: Dealroom

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## The Netherlands has seen 48% VC investment growth comparing 2023 to 2019, topping the European average of 33%

Sweden is leading the way in Europe, with an impressive 71% growth compared to the period before the pandemic.

France has also experienced growth, with a 63% increase in VC investment compared to 2019. Notably, it is the only country that maintained investment growth throughout 2022 while others began their deceleration. The catalyst for this growth has been the significant number of mega-rounds that characterised the French ecosystem in 2022, with 31 rounds exceeding \$100 million. Consequently, the slowdown in 2023 VC investment in France is even more pronounced, with a drop of nearly 42% from 2022.





Source: Techleap and Dealroom

FINANCING GROWTH



### Europe is investing in energy tech companies. Fintech and enterprise software firms received over 60% less funding compared to previous years

Investment in the energy tech sector has seen the greatest continuous upward trajectory since 2019; from €2.81B in 2019 to €15.08B in 2023, growth of over 430%.

European VC investment in health grew by 30% from 2019 to 2023, despite a 20% drop in the past two years.

Fintech and enterprise software sectors saw significant drops, -66% and -60% respectively compared to 2022. Fintech saw a drop from €21.33B, which put it top of the tech sector investment chart in 2022, to €7.24B in 2023.

#### VC investment in Europe by Sector (2019-2023)

	2019
Energy	€ 2.81B
Health	€ 6.63B
Transportation	€ 4.72B
Fintech	€ 10.82B
Enterprise software	€ 4.67B
Food	€ 2.91B
Marketing	€ 2.06B
Semiconductors	€ 0.39B
Travel	€ 1.98B
Telecom	€ 1.82B

Source: Dealroom

2020	2021	2022	2023
€ 3.01B	€ 9.49B	€ 12.18B	€ 15.08B
€ 8.15B	€ 15.96B	€ 10.78B	€ 8.67B
€ 5.32B	€ 12.68B	€ 11.14B	€ 8.09B
€ 8.63B	€ 25.69B	€ 21.33B	€ 7.24B
€ 5.71B	€ 15.30B	€ 16.41B	€ 6.57B
€ 2.98B	€ 10.06B	€ 5.75B	€ 4.02B
€ 2.55B	€ 5.89B	€ 4.61B	€ 1.90B
€ 0.79B	€ 0.95B	€ 1.08B	€ 1.59B
€ 0.88B	€ 1.15B	€ 1.38B	€ 0.68B
€ 1.22B	€ 5.11B	€ 1.03B	€ 0.51B



### The Netherlands generally follows EU investment trends, but sees more capital in health, food and semiconductor sectors

Combined, investment into health, food and fintech sectors made up around €1B in 2023, representing over 50% of total Dutch VC investment. Health has seen the greatest increase in investment from 2019. This shift was driven by increases in investments in medical devices, growing by 141%, and pharmaceuticals with a 148% rise. Where previous years were dominated by the fintech sector, with large rounds raised by the likes of Mollie, Mambu, Bunq and Backbase, investment cooled in 2023, a trend also observed on European level.

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Travel	€ 106M	€ 14M	€ 13M

Source: Techleap and Dealroom





### 14% of Dutch tech businesses have been co-founded by women, and 9.2% of VC investment was raised by these teams in the past five years, illustrating an under-representation of investment in women-led tech businesses

The proportion of VC investment raised by women co-founded tech firms in Europe reached an all time low in 2021 of 9.5%, increasing to record levels of 11.4% in 2023.



Source: Techleap and Dealroom

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#### FINANCING GROWTH

Source: Techleap and Dealroom



### Venture capital investors made fewer investments, spent more time seeking liquidity opportunities, and are concerned about future fundraising

In addition to poor fundraising conditions, 30% of venture capital investors indicated that they made fewer investments in 2023 than their original deployment target. Around 30% of VCs also indicated that they spent more time seeking liquidity opportunities for firms with which they had existing investment.

In the last 12 months, to what extent has your fund noticed a change in appetite for European venture investment from LPs?



Source: Atomico Survey, answers from 35 Venture Capital investors.

#### FINANCING GROWTH

#### Thinking ahead to the next 12 months, what do you consider to be the greatest potential challenges for your VC fund?





### Larger deals often command higher levels of non Dutch investment. In 85.3% of mega rounds global investors were involved, while 37.2% of seed rounds included a non Dutch party

#### % of deal types by round size, years 2018-2023



Source: Invest-NL based on Dealroom data

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## After a steady rise in global investment in Dutch tech, from 36% in 2018 to 58% in 2022, this trend reversed in 2023 - dropping back to 50% non-Dutch investor participation

#### % of deal types by years



Source: Invest-NL based on Dealroom data

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# Dutch investors collaborate for global returns, with 75% of international deals made with non-Dutch co-investors



Source: Techleap and Dealroom

FINANCING GROWTH





# Dutch venture funds raised approximately €270 million in H1 2023 from pension funds (LPs), driven by investments from foreign pension funds

In H1 2023 the Dutch venture funds saw a large non-Dutch pension fund commitment, part of which thanks to a US	Pension funds as invest
pension fund committing €145M.	€ 300M
Investments by Dutch pension funds slightly decreased in H1 2023 with respect to H1 2022 (i.e. €100M). The largest commitments were made by PME and PMT who allotted	
€40 million to Dutch venture funds.	€ 200M
	€ 100M
	€ ØM

Source: NVP /European Data Cooperative

#### FINANCING GROWTH

tors (LP) in Dutch VC funds, (€M)





# Building a deeptech ecosystem

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### There has been stable investment growth in deeptech in the Netherlands over the last five years, bucking the trend of year-on-year tech investment decline from 2021

#### **Netherlands: Deeptech VC investment vs Total VC investment**



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#### BUILDING A DEEPTECH ECOSYSTEM



### Dutch tech has become more deeptech focused over the past 5 years, representing 48% of total tech investment raised in 2023. A still stronger focus on deeptech is observed in France and Sweden

European peers such as Sweden and France have a greater focus on deeptech. The Netherlands needs more VC capital in deeptech to be able to compete with EU frontrunners.



**Deeptech VC investment growth 2019 vs 2023** 

Source: Techleap and Dealroom. Please notice that deeptech includes biotech too.

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% of total funding to Deeptech (2023)

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#### **Deeptech VC funding in 2023**





### Despite VC investment becoming more deeptech focused, the Netherlands is not keeping pace on €10M+ funding rounds

Only 1 in 5 funded deeptech companies\* is able to secure more than €10M+ funding. Switzerland, the UK, and Germany are at the forefront, with 1 in 3 deeptech companies securing €10M+ funding.

Country	Startups (€100k - €10M funding)	Scaleups (>€10M funding)	Scale ratio	Average VC investment companies <€ 10M funding	Average VC investment companies >€ 10M funding
United Kingdom	761	317	428	€ 2.97M	€ 46.13M
France	673	251	37%	€ 3.18M	€ 47.90M
Germany	360	160	44%	€ 3.22M	€ 58.37M
Switzerland	174	72	41%	€ 3.02M	€ 47.42M
Netherlands	288	55	19%	€ 2.53M	€ 35.95M
Sweden	173	47	27%	€ 2.34M	€ 257.22M
Total	2429	902	37%	€ 2.97M	€ 57.99M

Source: Techleap and Dealroom

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### Dutch Al investment lags behind Europe's frontrunners, the UK, France and Germany

In the Netherlands, the largest AI rounds in 2023 included Weaviate who raised a \$50M series B to advance their work as a cloud native, real time vector database, Microsure who develop microsurgical robots raised a €38M series B, and pioneering computer vision company, AxeleraAl raised a €23m extension to its 2022 series A round.



% of total funding to AI (2023)

Source: Techleap and Dealroom Based on reclassified Dealroom data, with companies both labeled deeptech and working on AI. Please notice that deeptech includes biotech too.

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#### BUILDING A DEEPTECH ECOSYSTEM

#### **Deeptech VC investment growth 2019 vs 2023**

#### **Deeptech VC funding in 2023**





### Academia has contributed to the creation of 2,500 Dutch startups

Deeptech companies, which are by nature highly research driven, often start in academic or corporate R&D.

Academic ventures play a pivotal role in transforming groundbreaking research into practical solutions or products to solve societal problems, contributing to economic growth and competitiveness.

In the Netherlands, over 2,500 companies have been started by researchers and students since 1990. Over 1,200 have gone through the Knowledge Transfer Offices (KTOs) of 1 of 22 leading research institutes. Of these 1,200 companies, more than 500 have an IP license agreement with a university. The 1,300 companies that didn't go through a KTO are mainly student startups, often supported by incubators and accelerators.

>2,500

All academic related ventures

#### Academic institutes that contributed in this analysis



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**Erasmus** MC air Medisch Centrum Rotterdam

LU Leids Universitair MC Medisch Centrum







/ university of
groningen



Maastricht University



Utrecht University



1 Maastricht UMC+









### Over the last 5 years, knowledge institutes have created an average of 62 research based startups each year

Total spin-offs by Founding year and institute type



Source: Techleap Due to a reporting lag, 2023 numbers are likely to be underreported TO2 includes TNO and Wageningen Research. TO2 is Wageningen Research and TNO.

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#### BUILDING A DEEPTECH ECOSYSTEM



### Research based ventures raised around 20% of total Dutch tech funding in 2023

A significant proportion of research based ventures received equity investment, with 300 raising funding. This represents 25% of the research based startups within scope.

With a focus on deeptech growth, these research based startups become important for both current performance, and the future pipeline of Dutch tech.





Source: Techleap and Dealroom

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### Dutch research institutes have a strong focus on health, pharmaceutical and biotech industries accounting for 64% of currently active research based ventures as of 2023

#### Top 10 Sectors by nr. of research based startups

	Startups	Startups with funding	% with funding	Health, Pharma and Biotech	€ 1141M	
Health, Pharma and Biotech	456	155	34%	Electronics & Computing hardware	€ 284M	
Agri- & Horticulture	60	20	33%	Food & Beverages	€ 149M	
ICT, Software & Cloud Services	56	10	18%			
Electronics & computing hardware	49	22	45 <sup>%</sup>	Agri- & Horticulture	€ 121M	
Energy & utilities	46	14	30%	Manufacturing & Production	€ 93M	
Manufacturing & Production	40	11	28%			
Environment, Waste & Water	28	5	18%	Energy & utilities	€ 37M	
Construction, Real estate and Civil infrastructure	26	8	31%	Construction, Real estate & Civil infrastructure	€ 31M	
Food & Beverages	24	9	38%	ICT, Software & Cloud	0.004	
HR, Training & Education	24	2	88	Services	€ 22M	
Total	809	256	32%	Environment, Waste & Water	€ 21M	

Source: Techleap and Dealroom

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#### BUILDING A DEEPTECH ECOSYSTEM

VC Funding 2019 - 2023 of research based startups per industry

€ Øbn

€ 1bn





### Life sciences and biotech companies receive the largest proportion of funding, accounting for 34% of all investment going to research based ventures between 2019 to 2023

€742M was raised by biomolecular and cell technology companies in the last 5 years. A notable Dutch investment was HarbourBiomed who received €312M funding before its IPO in 2020. HarbourBiomed have subsequently relocated to US. 59% of companies operating in the photonics and optical technologies space have achieved VC funding. In 2023 the largest investment raised by these research based ventures was at Smart Photonics with a €60M total funding of €192 and Effect Photonics (€85M).

#### Spinout funding per Technology group (2019 - 2023)



Source: Techleap and Dealroom Note: Funding includes, VC funding

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### BUILDING A DEEPTECH ECOSYSTEM

Spinout funding per Technology group

	€ 0.73bn		Group	Startups	Startups with funding	% with funding
		G E	G. Life Siences and Biotechnologies	217	66	30%
		A	A. Advanced materials	99	35	35%
	E	3. Photonics and Optical Technologies	42	19	45%	
	C I	). Digital and Information Technologies	224	58	26%	
	E	E. Chemical Technologies	93	31	33%	
	H f	H. Engineering and Fabrication Technologies	129	33	26%	
		F.	<sup>-</sup> . Nanotech nology	100	34	34%
bn €0	.6bn € 0.7	'bn (	C. Quantum Technologies	14	6	43%



### Research based startups with IP licenced or where universities hold an equity share were almost 2x more likely to receive funding, and received 5x higher investment levels

Equity share (any kind) or IP licensed	Companies	% of companies	Funding (2000-2023)	<pre>% funding</pre>	% of companies that received funding
Ν	700	56.82%	€ 706,370,000	22.57%	24%
Y	532	43.18%	€ 2,479,260,000	79.23%	44%
Total	1,232	100.00%	€ 3,129,160,000	100.0%	33%

Source: Techleap and Dealroom

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### BUILDING A DEEPTECH ECOSYSTEM



### Research based startups tend to survive, but remain small and few realise their value with an exit

After 15 years around 60% of research based startups were still privately held, 21% were acquired.



#### Spin-offs by Age and Company status

Source: Techleap

\* Out of 1,203 companies, we have 661 companies with employment data, the companies without employment data are likely to be smaller.

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#### BUILDING A DEEPTECH ECOSYSTEM

Of those companies still alive after 15 years, 18% have over 50 employees.



#### Spin-offs by Age and Company employees

Source: Techleap and Dealroom



### With an increased focus on deeptech from investors, research institutes hold a great potential to create more valuable startups

Research based startups raised around 20% of total Dutch tech funding in 2023, they already play a crucial role in the creation of startups.

	Filed F Familie	Patent es		Spin-of	fs		Ratio
General Universities			912			93	10%
Technical Universities			1522			139	9%
UMC's			1008			177	18%
T02			1966			85	48

#### Patent filed and spin-offs created over the last 20 years

Source: ScoutinScience, on behalf of Techleap.nl

\* Multiple universities can work on one filed patent family.

\*\* Patent strategy may differ per university.

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### BUILDING A DEEPTECH ECOSYSTEM

On average, each Dutch research institute created 3 research based ventures over the last 5 years of which 1.6 are IP licensed. This means 7 out of 8 Patents (families) are either not used or licensed to corporates, highlighting a growth opportunity.



Source: Scoutinscience, on behalf of Techleap.nl





The Dutch government has identified ten key technologies for a sustainable and competitive economy on a global stage. In four of these technology areas (in orange), support is needed to generate critical mass and scaling growth for university research based ventures

"We need to make choices because we are increasingly confronted with various shortages in the areas of energy, raw materials/semi-finished products, personnel, and space."

- Minister Adriaansens

Looking at the scale ratio, the need for a focused tech policy becomes apparent. In order to grow, we need to excel in certain areas. This is only reached with a focused policy, where regulations, research focus, VC investment align. As most of these technologies are capital intensive, the Netherlands should cooperate on European level to ensure good technology transfer.

In 6 out of the 10 technologies, we already see more than 25 research based startups.



Source: Techleap and EZK Footnote: Definitions of each key technology can be found in the methodology

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#### BUILDING A DEEPTECH ECOSYSTEM



Number of research based ventures in each key technology



# Talent dynamics

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# Hiring slowed down both in the Netherlands and Europe in 2023, but attrition stayed relatively stable

A slowdown in hiring rate was observed across the whole of Europe from 2022-2023, dropping by 17%. The Netherlands followed a similar trend, with the hiring rate falling slightly less, by 13%. Attrition rate (% of employees leaving the company) stayed stable in Europe, and saw a small downturn in the Netherlands from 34% to 32%.

As of January 2024, a slight downward trend in hiring has been observed suggesting that the rate is continuing to decrease. Simultaneously, there has been an upward trend in attrition rate, suggesting that the number of employees leaving companies is going up.

#### **Hiring rate trends**



Source: Ravio

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#### **Attrition rate trends**



## Employee growth has slowed, and tech companies founded before 2018 experienced around 3x slower growth in headcount compared to previous years



Source: Dutch Tech Startup Employment 2023 and Netherlands Startups Employment 2022 (Dealroom Techleap.nl and CBRE)

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### Startups and scaleups are shifting focus from growth in market share to revenue generation

Owing to reduced access to venture capital, and more challenging macroeconomic conditions, many tech companies have reoriented their focus from capital intensive activities like engineering and product development towards revenue generating initiatives, perhaps reflecting a push to profitability over growth in market share in some contingents of the tech population.

Hiring among tech companies in the Netherlands reflects these trends with a 14% drop in hiring rate for commercial roles, compared to a 27% drop in engineering, and 16% drop in product hiring rates.

### **Dutch hiring trends per job family**



Source: Ravio

**European hiring trends per job family** 



### Despite the slowdown in hiring, talent shortages are still seen as one of the three biggest risks to growth\*. Founders indicate that the acquisition of new talent remained difficult in 2023

Alongside the regulatory environment, and access to VC capital, tech companies in the Netherlands continue to view talent shortages as a critical risk in their growth journey.\*

Although tech companies hired less extensively in 2023 compared to 2022, the need for skilled talent persists. Coupled with the emergence of new roles, and the increasing growth in knowledge-intensive areas of tech, like deeptech, the need for talent will remain very high.



Source: Atomico Survey, Dutch respondents only

\* See slide 20 for an overview of the biggest risks for growth

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Compared to 12 months ago, how easy or difficult is the acquisition of new talent today?



### The highest number of jobs in the tech sector are in scaleups, accounting for nearly 42% of all tech employment, with 62.7k jobs in just 780 companies

VC-backed startups, scaleups, and grown-ups are home to 151k	Employees by company type			
JODS.				
The non-VC backed remainder				
including bootstrapped startups, nascent startups (which do				
their founders), and non- Dutch startups, are estimated				
to employ around the same				
number of people.	57.2K jobs (38%)			
	Startups			
	6.1K companies 8 avg. years old	780 14 av		

Source: Job report 2023, includes only VC-backed companies

9 avg. employees





## Dutch tech startups are competing for talent in a competitive labour market with companies outside the tech ecosystem

#### The Netherlands has one of the tightest labour markets in Europe alongside Austria and Belgium.

The Netherlands has more open vacancies than unemployed citizens for over two years now\*, showing the tightness of the labour market. The Netherlands has the highest job vacancy rate in Europe and one of the lowest unemployment rates.\*\*



#### Job vacancy rate 2023 Europe (top 10 countries)

Source: Statista

\* Source: CBS; Source: Statista

\*\* Statista Unemployment in Europe per country

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#### Technical roles have double the number of open vacancies per job compared to the Dutch average for other professions.

Over the last decade, the tech workforce has grown from 4.4% to 7.4% of the total Dutch workforce and is expected to continue growing over the coming years. The shortage of tech employees is estimated to remain a problem until at least 2030.\*\*\*

#### Dutch open job posts on LinkedIn per 1000 professionals by job category, 2023



Source: LinkedInTalent Insights, November 2023 \*\*\* Source: arbeidsmarktkrapte SEO.pdf



### The inflow of tech talent from STEM courses is not keeping pace with demand

The proportion of STEM graduates is lower in the Netherlands than neighbouring countries, but has steadily increased from 16.6% in 2017 to 19.3% in 2021.



Source: UIS unesco tech studies UIS UNESCO.xlsx

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Percentage graduated STEM students of the total student population in 2021





### Compensation was the number one 'people and culture' challenge for startups in the Netherlands in 2023, and growth in the attractiveness of working in tech has slowed

#### How attractive do you think it is to work for European tech companies now compared to 12 months ago



Source: Atomico Survey, Dutch respondents only

#### TALENT DYNAMICS

#### **Biggest people and culture challanges of startups in** the Netherlands in 2023

Compensation (including inflation 50% and cost of living challenges) Organisation design 38% 35% Senior hiring Managing a remote team 31% / team members 30% Managing company culture 25% Junior and mid-level hiring Mission alignment 25% 23% Training and development 21% Retaining talent Other (please specify) Layoffs 10% 10% 20% 30% 0% 40%

Source: Atomico Survey, Dutch respondents only

50%



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### Being able to offer employees alternative compensation packages like Employee Stock Ownership Plans (ESOPs) are more important than ever to retain talent

50% of founders indicated compensation was one of their biggest people and culture challenges in 2023.

So, being able to offer employees alternative compensation packages like ESOPs is more important than ever to compete for, and retain top talent.

However, in the Netherlands the attractiveness of stock options is ranked 14th out of 24 evaluated countries. More than 88%\* of startups and scale ups want to implement stock options under better conditions like a simple administrative process, reducing taxes, better information or other taxation moments.\*

Note that Germany implemented better stock options for employees in December 2023. Improving their score significantly from a 10 to 22 points.

\* Source: Medewerkersparticipatie bij startups, scaleups en innovatieve mkb-bedrijven , table 2.6)

### Taxatation 15

Stock

0 L

<sup>z</sup>avorability



Source: notoptional.eu

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### Attracting international talent is crucial to overcome the shortage of talent



Source Techleap, based on the language skills of 50k startup and scaleup employees on linkedIn. Foreign talent is estimated by number of people that are native or bilingual in another language than Dutch and English. Another 25% of employees reported to be Native or Bilingual in English and didn't report Dutch as their first language.

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30% of international graduates stay in the Netherlands to work after their studies, which is equivalent to around 4k graduates per year.

% of working international students in the Netherlands after 1 year

Total

Services

Informatics

Education

Technology and engineering

Mathematics and natural siences

Healthcare and welfare

Design, arts, languages and history

Agriculture and veterinary sevices

Source; A third of international graduates working in the Netherlands, CBS 2023





### Diversity, equity and inclusion are drivers for business performance, yet employees in the Dutch tech sector continue to experience inequality at work

Organisations embracing diversity and inclusion have been demonstrated to be 70% more likely\* to enter new markets, 19% more likely\*\* to achieve increased revenue from innovation, and witness improved employee engagement\*\*\*, which subsequently results in superior retention rates\*\*\*\*.

Yet, the figures show that experiences of inequality remain. The urgency for DEI initiatives, and the steps that need to be taken to reach a true diverse, equal and inclusive tech sector are not felt by everyone.



Source: Diverse Leaders in Tech, Techleap, The State of Inclusion in Dutch Tech: Uncovering the DEI Perception Gap, 2023

Source: Chief Executive for Corporate Purpose - CECP (2018) \* \*\* Source: BCG (2018)

\*\*\* Source: Deloitte, 2015 \*\*\*\* Source : Ashraf and Siddiqui, The impact of Employee Retention, 2020

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### Gender pay disparity remains a pressing issue in the Dutch tech sector

Across Europe, there is a 25% gender pay gap (unadjusted, median). In the Netherlands, this gap is somewhat lower, standing at 22%. The overall gender pay gap depends on multiple factors such as job roles, levels, and industries. Furthermore. it's essential to consider the proportion of women in these roles, as a low gender pay gap loses its significance if women encounter limited job opportunities.

When examining the gender pay gap and the representation of women in engineering and commercial job families, the Netherlands is slightly ahead of the European average in terms of reducing the gender pay gap.

#### Gender Pay Gap by Job Type



Source: Ravio. Figures updated as of January 2024

#### TALENT DYNAMICS


# Dutch tech regions

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## **Regional specialisation and collaboration can elevate** the performance of Dutch tech

Support for startups is geographically clustered through the presence of regional programmes, based on the presence of knowledge and education institutions, leading corporates and regional policies, for example.

These regional hubs are a strong basis for a competitive Dutch tech ecosystem, if they manage to specialise and reach sufficient quality and scale to overcome fragmentation and attract the best talent.

Maximising value for tech firms, regional initiatives increasingly create programmes that cross regional borders to benefit shared learning and increased scale. The National Growth Fund has taken a national thematic approach to underpin such interregional collaborations. The regional development funds are intensifying their collaboration in data gathering, joint programming and co-investments, also with InvestNL.

areas by province





## North Holland, South Holland and North Brabant represent the largest clusters of startups and scaleups, attracting 85% of total Dutch VC investment

#### Netherlands, 2023: Number of Startups and Scaleups by Region



Source: Techleap and Dealroom. 175 companies could not be allocated to any region.

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#### €0.96bn North Holland South Holland €0.37bn €0.34bn North Brabant €0.11bn Utrecht €0.10bn Gelderland Groningen €0.04bn Flevoland €0.01bn €0.01bn Friesland €0.01bn Overijssel €0.01bn Drenthe Limburg €0.01bn

€0.5bn

€0.0n

Source: Techleap and Dealroom.

**Regional VC funding in the Netherlands** 

€1.0bn



## North Holland is home to 63k startup jobs, reflecting its size, and primacy in attracting VC investment

#### Startup jobs by province in 2023



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#### DUTCH TECH REGIONS

63K

28K



## Groningen

#### Groningen

There is a strong focus on life sciences in the region, a sector that saw EV Biotech raise €4.5 million in 2023.

This sector is supported by initiatives led by University Medical Centre Groningen (UMCG), in the vicinity of which Campus Groningen has created the Healthy Ageing Campus.\*

The region takes pride in its commitment to energy and the digital sectors. Companies active in the energy sector are Corre Energy, Soly and BioMCN, while a relevant contributor in the Digital sectors is the enterprise software company Crowdynews.

Groningen hosts the flagship event, MXT Celebrating the Fusion of Entrepreneurship, Innovation and Technology.





Source: Techleap and Dealroom

\* Source: makeitinthenorth.nl

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## Friesland

#### Friesland

VC investment in enterprise software, fintech and transportation increased in 2023 following a year of low investment in 2022.

There are three active support organisations: BD Friesland, Founded in Friesland, and Be Start, working to grow the local ecosystem. Around one third of Dutch water technology exports are realised by companies in the Northern Netherlands, most of which are located in Friesland. The Frisian sustainable water technology sector is mainly based in the capital of Leeuwarden.

Water technology is the top sector, with Hydraloop raising €5.45 million. WaterCampus Leeuwarden represents a dynamic open innovation ecosystem in the field of water technology. The WaterCampus makes a substantial contribution to the green transition through the scale of its operation, its international reach and numerous links with education.

Notable rounds: Tapp (€3.9M), Implican (€1M)



Source: Techleap and Dealroom



## Drenthe

#### Drenthe

After low VC investment levels in 2022, Sencure (semiconductors and medical devices) raised €5M and Vipio (travel) raised €4M this year.

Organisations such as "Make it in the North", "NOM", and "I am Drents Ondernemer" support local entrepreneurs.





## Noord Holland

#### **Noord Holland**

A popular founding location, startups and scaleups in this region raised about 50% of the total VC investment for 2023 and represent 41% of the startup jobs recorded in the Netherlands.

In 2023, 24% of VC investment originated from the US compared to domestic investment at 39%.

Fintech, health and enterprise software were the top industries in 2023, representing 40% of total investment in the region.

Notable rounds in 2023 are VectorY Therapeutics (€129M), Weaviate (€45.5M), creativeFabrica (€44.4M), Fourthline (€50M), Fairphone (€49M), Bunq (€44.5M), Crisp (€35M).



Source: Techleap and Dealroom

#### DUTCH TECH REGIONS



€1B Funding in 2023 49% of NL total

> 63k Employees

197 Deeptech startups

& scaleups 23% of NL total

2,668

Startups & scaleups 33% in total



## Flevoland

#### Flevoland

Flevoland over the years developed several hubs such as the research institute Flevo Campus, the regional development organisation Horizon and **UPALMERE!** 

It is home to ASM International, leading supplier of semiconductor process equipment.

In 2023, the largest round of investment was raised by Safesize (€14M).

#### HORIZON >>> RUIMTE VOOR ONDERNEMEN IN FLEVOLANC



Source: Techleap and Dealroom

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## **Zuid Holland**

#### **Zuid Holland**

South Holland is a hub for impact-focused startups. Several impact SDG's are covered, with a stronghold in energy transition (SDG7), circularity (SDG12), wellbeing (SDG3) as well as digitalization (SDG9). Strong collaboration within the region for example leading to the Netherlands largest seed fund Graduate Entrepreneur, by Erasmus and Delft Alumni. The region facilitated collaboration between 60+ players in the startup ecosystem, and built a connected scaleup founder community through Up!

Important accelerators and incubators include: Yes!Delft, PortXL, WorldStartups, and ESA BIC. 15% of startups are deeptech and 57% VC in deeptech. In 2023 +4500% VC raised in the semiconductors sector (€121M), which forms the core tech sector. Notably, Qualinx €18M and Nearfield Instruments raised €16M in 2023. Notable raises in 2023 include Meatable (€31M), VarmX (€30M), Spheroid Universe (€22M), Cradle (€21M) and Battolyser with debt round from European Investment bank (€40M\*).



Source: Techleap and Dealroom



### **Noord Brabant**

#### **Noord Brabant**

The region is a significant contributor to the Dutch deeptech ecosystem as the founding location of world leading companies, like ASML, NXP, VDL and Philips. It ranks as third largest by capital activity and number of startups. Eindhoven is ranking in the top 5 of the most Science and Technology intensive clusters globally in proportion to population density\*. This shows the innovative character of North Brabant Region and that of Brainport Eindhoven in particular. 47% of VC came from Dutch investors in 2023, versus 68% in 2022. €179.8M was raised for deeptech (52% of total 2023 funding in the region).

26 investors are located in the region, with BOM Brabant Ventures being the most active not just in the region but also in the Netherlands. Protix (€55M), MicroSure (€38M), EFFECT Photonics  $(\in 37,7M)$  all raised for the fourth year in a row. More funding rounds by Opcharge (€32M), Xeltis (€32M).



Source: Techleap and Dealroom

#### DUTCH TECH REGIONS



€344.2M

Funding in 2023 17% of NL total

> 20k Employees

161 Deeptech startups & scaleups 19% of NL total

1,251 Startups & scaleups 16% in total



## Utrecht

#### Utrecht

The Province of Utrecht ranks 1st in European Regional Competitiveness Index.\* UtrechtInc ranks 9th in UBI Global world top 10 university business incubator index.\*\* Notable rounds include Sensorfact (€25M), Rentman (€20M), HeatTransformers (€15M), Vitestro (€12M).\*\*\* 50% of R&D tax benefits (WBSO, RVO, 2019) in medical sciences & pharma land in Utrecht Region. Strong aerial focus with 3 large innovative ecosystems connected to global transitions. Utrecht University is the Netherlands' highest ranked university in the Academic Ranking of World Universities.

Mature startups like Picnic, Merus and JustEatTakeAway, were founded in this province.





utrechtinc.



Source: Techleap and Dealroom \* \*\* Source: European Committee of the Regions \*\*\* Source: UBI Global STATE OF DUTCH TECH 2024

Source: Techleap and Dealroom





## Overijssel

#### **Overijssel**

Notable fundraisings in 2023 include New Origin, a spinout from the University of Twente that received €6M from Photon Delta, LioniX International, who raised €3.5M (from InvestNL, Oost NL, Universiteit Twente Holding and Forward One), Brilliance (€2M, funded by Oost NL and Photon Ventures) and River BioMedics (€2M, including funding from BioGeneration Ventures, KiKK Capital and Oost NL). Startups in Overijssel are impact focused, working on Nanotechnology, Advanced Materials, Digital (Smart) Industries, MedTech and Connected Health, which are predominantly concentrated around the University of Twente.

The capital for New Origin will be used to create the Netherlands' first independent photonic chips foundry that produces silicon nitride chips. This foundry will enable companies to produce their own photonic chips. This overcomes a significant hurdle for the photonics industry by substantially reducing costs, while also increasing the availability of photonic chips.









## Gelderland

#### Gelderland

Growth in the region was led by large investments in Tagworks Pharmaceuticals (€59M, including funding from Gilde Healthcare, Lightsome Ventures, Ysios Capital and Oost NL), HyET Solar (€29M, including funding from InvestNL), Phycom (€ 9M, including funding from Corbion, Phase2.earth and Invest-NL), FUMI Ingredients/Revyve (€8M, funded by Cosun and Oost NL) and Nutrileads (€4.5M, including funding from DSM Ventures, Icos Capital and Oost NL). The startups in Gelderland working towards SDG 3: Good Health and Well-being and SDG 7: Affordable and Clean Energy have deep talent pools from leading education institutions such as Wageningen University & Research Centre and Radboud University Nijmegen. There is a strong knowledge cluster in the field of nutrition and health with bodies such as NIZO, One Planet, TNO, Top Institute Food & Nutrition and RIVM.

Radboud University Nijmegen is focused on Health and Life sciences. Leading research is being carried out for a large number of spinoffs with promising innovations in the field of drug development, MedTech and Connected Health (technological innovations for early diagnostics, medical treatments and care, and digital applications). Traditionally, the Energy sector has had a strong presence in the Eastern Netherlands. In particular, in Arnhem with Connectr and the presence of TenneT, Alliander and Kema.

Source: Techleap and Dealroom \* www.wur.nl

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#### DUTCH TECH REGIONS



oost nl



## Zeeland

#### Zeeland

Notable organisations in Zeeland include:

- HZ Applied University
- Dockwize (entrepreneurship hub)
- entre of Expertise Biobased Economy

(thematic hub)



Source: Techleap and Dealroom

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## Limburg

#### Limburg

The Limburg region, renowned for its four innovation campuses specialising in distinct technological areas, is characterized by its unique Euregional nature. Its strategic geographical positioning leads many parties to choose Limburg as their base for internationalisation, leveraging cross-border connections and diverse collaboration opportunities.

Health is a major focus area, with Maastricht serving as a dynamic centre in this sector. Corporis Medical raised €4 million in 2023, and Oncolize €1.5 million.

Resolved Technologies, located in Sittard-Geleen's entrepreneurial ecosystem, raised €1 million.



Source: Techleap and Dealroom \* www.wur.nl

STATE OF DUTCH TECH 2024



## Recommendations

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## Dutch tech has the potential to be a top global performer if we think BIG, collaborate and learn from best practice

This report flags some worrying trends on the performance of the Dutch ecosystem in 2023. Yet, it also highlights the potential that is expressed in it, and the need to work hard to activate that potential. New applications of technologies and disruptive business models can shift the status quo within the blink of an eye. This has implications for strategic autonomy, earning capacity, equality and leadership of countries and businesses, and also for societal inclusiveness.

The National Technology Strategy shows the importance of technology for Dutch society and the national economy - and identifies some core areas that require investments. These areas include talent and support organisations, and there continues to be a chronic need for growth capital to enable firms to flourish.

Overall, we should look closely at our European neighbours, and see what they do well in the areas of talent, capital, ecosystem connectivity, regulatory frameworks, innovation and business climate. The Netherlands is a great startup country, but becoming a scaleup nation requires exponentially more talent and investment. Switzerland, Sweden, Israel and Estonia exemplify the fact that smaller countries can be leaders if they focus.

We suggest four key pillars to help drive Dutch innovation and tech growth.

RECOMMENDATIONS





# Increase available capital and stimulate international investment collaboration

It will come as no surprise that access to VC capital continues to be one of the the biggest risks to the growth of the Dutch tech ecosystem over the next five years. Larger, late-stage deals often command higher levels of non-Dutch investment, which becomes more difficult to attract in a downturn. Dutch funds alone cannot provide the volume of investment needed for global scaling of Dutch companies.

#### To grow the capital pool in the Netherlands, it will be crucial to stimulate international investment collaboration.

Positive strides are being made, with Invest-NL and the European Investment Fund (EIF) announcing the Dutch Future Fund II (making over €200 million in capital available for Dutch venture capital funds in sectors such as energy transition, deeptech, circular economy, and agrifood). This level of investment comes with the recognition that public funding remains an important pillar in the tech ecosystem;

highlighting the need for a **continuation of, or increase in** public investment commitments made by initiatives like Invest-NL, ROMs and the National Growth Fund. Aligning all national innovation and startup support instruments into one new national technology investment institution could prove a valuable effort.

Finally, the path for pension funds to invest in venture capital and innovative growth companies should be smoothed. In the Startup Policy letter of May 2023, the demissionary minister of EZK has expressed the clear imperative for pension funds to invest more in technologies that are strategic for the Netherlands. Pension funds are open and willing to discuss crucial investments in those areas, but investing in new technology is risky, so guarantees will need to be put in place to make those investments realistic.

Source: tresor.economie.gouv.fr, Financing the Fourth Industrial Revolution: an initial assessment of the Tibi Initiative after 18 months, 16 August 2021

\*\* Source: McKinsey, reinventing our economy from within, 2023

\*\*\* Source: techcrunch.com, France wants to boost angel investment by copying UK's investment schemes, 24 October 2023

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#### What others do well on capital

In Sweden, pension funds participate 19% in VC deals compared to 8% in the rest of Europe and employee stock options are taxed under capital gains rather than income tax.

France has unlocked €6 billion from institutional investors through the Tibi initiative, with public leadership and risk pooling. The cash flow of this fund now exceeds €30 billion.\*

Tax incentives, such as those offered by SEIS and EIS in the UK, can boost both private early- and late-stage VC investments, giving startups the capital they need to launch and, critically, to scale up.\*\*

In the early stage, France has instituted a (seed) enterprise investment scheme. Starting in 2024, individuals who invest in companies with the JEI label (jeunes entreprises innovantes) will get a 30% income tax break. And in 2025, a subcategory JEIC/R (jeunes entreprises innovantes croissance/rupture) relating to knowledge intensive or disruptive companies, will see a 50% income tax break.\*\*\*







## Make the Netherlands a leading deeptech nation

Deeptech ventures will be the catalyst of global transitions. As a result, the popularity of deeptech has seen a huge increase in recent year, with more VC investment every year (nationally and globally). We need to leverage the Netherlands track record for driving for innovation and convert more research into startups - by utilising business driven dealterms, educating for and promoting entrepreneurship at research institutions and consolidating public initiatives on specific growth markets and key technologies

In 2022, Dutch universities made significant advances by creating standard spinout dealterms. With the National Technology Strategy delivered this year, 10 key technologies have been identified as key investment areas making a new step towards an active industrial policy. Now is the time to fully leverage and align initiatives to

make impact on global scale. With the coming release of the Academic Venture Monitor this year, we are able to properly monitor the output of academic and deeptech ventures in the Netherlands - and intervene through support and policy where necessary.

Taking a page out of the playbooks of France and the United States, we can boost deeptech startups through government intervention. It will remain crucial to attract private and public funding but also by having the government step in as a purchaser of the services coming out of our national deeptech industry. Initiatives like Invest-NL, ROMs and National Growth Funds are crucial for further developing the future of deeptech - as in the past year where Invest-NL, ROMs and National Growth Fund where actively involved in almost 50% of VC investment in deeptech in 2023 (up from 14% in 2019).

#### What others do well on deeptech

In the US, the government is positioned as a customer for deeptech companies, instead of their project manager. The government further funds innovations not suitable for immediate procurement through government-funded VCs, like In-Q-Tel.\*

France has tailored its industrial policy through financial instruments: a seed investment into deeptech startups will get a 50% tax break (vs 30% if it's not deeptech).\*\*

Switzerland built an international AI hub focused on digital trust. The country is a research machine, publishing twice as much AI research per capita as its European peers. In addition, a strong capital backbone, solid financial institutions, and corporate investors fuels the ecosystem. The flow of capital is further facilitated by regulations that allow pension funds to invest up to 5 percent of their assets under management into venture capital (VC).\*\*\*







Source: Lakestar, Walden Catalyst and Dealroom.co, The 2023 European Deeptech report, 2023\*\* Source: McKinsey, reinventing our economy from within, 2023

<sup>\*\*</sup> Source: techcrunch.com, France wants to boost angel investment by copying UK's investment schemes, 24 October 2023 \*\*\* Source: McKinsey, reinventing our economy from within, 2023

## Solve the pressing shortage of talent

In 2023, the Netherlands is suffered from one of the tightest labour markets in Europe, with a 4.7% vacancy rate. This is particularly acutely felt with tech talent. The Netherlands ranks 7th in talent attractiveness, which is a good starting point to ensure Dutch talent stays here and attract foreign talent.

However, we are seriously lagging behind the UK, France and Sweden on employee attractiveness of stock options, sitting in 14th place, it is now on the new government to take this up in an effort to alleviate the compensation problem felt strongly by Dutch founders. Implementing proper ESOP policies should be our first immediate focus to make sure the talent problem does not increase.

Tech talent graduating from STEM studies is crucial in the development of a tech ecosystem, but supply of graduate STEM talent in the Netherlands is lagging behind European neighbours, for example, we are 19% behind the 35% frontrunner Germany. Promoting STE M education and digital educators and making it more accessible and

attractive to domestic students can have a big impact. Following the example of Switzerland, the Netherlands could look to nurture talent through dedicated, local Al training and education initiatives. The launch of The 'Actieplan Groene en Digitale Banen' (a collaborative focus around advancing talent for Climate and Digital challenges) is a promising start. But education of local talent will not be enough. We can only fill this talent gap by being an attractive location for foreign students and workers learning from Denmark who reversed their policy to limit the number foreign students - before we create a long lasting problem (the Danes projecting to only return to 2021 levels in 2028). Most crucially, we must also retain the 30% expat ruling if we want to compete on compensation with our European neighbours and the US.

Finally, existing, new and upcoming talent will only thrive in businesses that are inclusive and diverse - as they prove more resilient to attrition. It therefore continues to be an imperative to make Dutch tech a more diverse and inclusive industry.

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#### RECOMMENDATIONS

#### What others do well on talent

In Switzerland, business-friendly tax and shareholding regulations, and seamless digital administration processes make recruiting top talent from abroad easier.\*

In Denmark, 3,900 English-taught places were cut in 2021 to alleviate pressures on higher education funding.\*\*

A demand-driven reversal of this policy is now taking place, but it will take until 2028 to be back at the same level as 2021. Creation of a Scaleup Forum to jointly put forward policy ideas, simplification of UKRI R&D subsidies along all steps of the founder journey, and scholarship & visa packages for skills in high demand to encourage foreign talent to build their careers in the UK.La French Tech's Tremplin initiative seeks to ensure that all innovation-minded people in France have a fair shot at entrepreneurship. By focusing on those whose access to entrepreneurship has been limited by structural barriers, Tremplin provides funding, training, and mentorship to increase the number and diversity of France's entrepreneurs.\*\*\*

Germany has recently passed new reforms to employee stock ownership programmes to great applause of their startup scene.\*\*\*\*



<sup>\*</sup> Source: McKinsey, reinventing our economy from within, 2023

Source: ufm.dk, 1.100 nye engelsksprogede studiepladser åbner for flere internationale studerende, 1 February 2024 and universityworldnews.com, New report documents net value of international students, 1 December 2022 \*\*\* Source: McKinsey, reinventing our economy from within, 2023

<sup>\*\*\*\*</sup> Source: Sifted, German startup community rejoices over passage of new reforms to employee stock ownership programmes, 17 November 2023

## Expect excellence in national coordination and collaboration

Despite the effort invested in development of our ecosystem, not enough Dutch ventures are scaling (with a 19% scale ratio). Over 260 support organisations in the Netherlands are supporting growth in (deep)tech, and with several public initiatives and multiple public funds, the Netherlands is investing in success. With so many efforts, however, there is a risk that resources are not optimally used if not properly aligned and mutually strengthening. In 2024, we must ensure that initiatives and strategies properly dovetail - following the successes of Incubators United and the recent establishment of Founded in the North.

Public investments should continue to make the flywheel spin faster. We should foster collaboration and cohesion of initiatives. Focusing efforts nationally should not detract from continued support for regional specialisation, and stimulation of excellence to improve shared learning and scale. In this respect, the ROMS, knowledge institutes and innovation hubs should continue to do the heavy lifting.

Regulatory frameworks, meanwhile, must focus on enabling innovation and scaling growth. Government support is a key factor in making the Netherlands successful. Avoiding a hedging of bets, and focusing on supporting promising scalers to grow into the next generation of Dutch unicorns.

Source: McKinsey, reinventing our economy from within, 2023 \*

\*\* Source: uktech.news, Tech secretary sets out goal to make UK a 'scaleup powerhouse', 16 January 2024

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#### What others do well on support

France's approach to entrepreneurship is rooted, in a practice of establishing government institutions dedicated to growing the startup ecosystem. La French Tech is led by a team of entrepreneurs and tech experts – combining sponsorship and engagement with a dedicated and experienced executive team to manage the implementation of its programs. It focuses on the scaling success of existing startups, promotes VC by, for example, orchestrating the investments of institutional investors.\*

The UK creates a Scaleup Forum aimed at bridging the gap between tech founders and investors, and government, so that people in the private sector can jointly put forward policy ideas to address issues like access to capital and infrastructure.\*\*



# **Methodology**

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### About the data

A new approach and remarks

This year we reviewed our definitions to better align with other reports we co-published and to further improve the data to deliver the best analysis. This led to some inconsistencies with respect to last year. A notable example is the scale ratio. Based on last year's definition the scale ratio (previously named "scaleup ratio") for 2023 would have been 21% (i.e. 1727 startups above €100k founding and 369 scaleups). Instead you will find that in this year's report the scale ratio for 2023, based on our new definitions of startups and scaleups, is 19% (i.e. 1258 startups above €100k founding and 234 scaleups).

Due to a reporting lag Dealroom data from the last 12 months reflects underreported VC rounds.

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#### METHODOLOGY



## Definitions

Total companies: Including only verified companies with HQ in the Netherlands whose company status is low-activity or operational and that have a website. The included companies have at least 1 employee, are not subsidiaries nor publicly owned and operate within the tech domain. Non-profit and service providers are excluded.

Funded companies: Including only funded verified companies with HQ in the Netherlands whose company status is lowactivity or operational and that have a website. The included companies have at least 1 employee, are not subsidiaries nor publicly owned and operate within the tech domain. Non-profit and service providers are excluded.

**Startups:** Including only verified companies with HQ in the Netherlands, founded from 1990, whose company status is low-activity or operational and that have a website. The included companies have at least 1 employee, are not subsidiaries nor publicly owned and operate within the tech domain. Non-profit and service providers are excluded. These companies have total funding up to (and excluding)  $\in$  10m.

Scaleups: Including only verified companies with HQ in the Netherlands, founded from 1990, whose company status is low-activity or operational and that have a website. The included companies have at least 1 employee, are not subsidiaries nor publicly owned and operate within the tech domain. Non-profit and service providers are excluded. These companies have total funding above (and including)  $\in$  10m.

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**Grownups:** previous startups and scaleups that went through an IPO round.

Scale ratio: The scale ratio, in previous editions referred to as "scaleup ratio", is calculated by dividing the number of scaleups by the number of startups founded above  $\in$  100k.

**Tech sector:** companies that are active in industries that are involved in information technology, electronics, computers, hardware, and software.

Deeptech company: companies whose technologies are based on tangible engineering innovation scientific advances and discoveries applied for the first time as a product.



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### Definitions

#### Methodology key technologies

Artificial intelligence and data science: concerns all aspects of collecting, managing, unlocking, sharing, and analyzing data. They contribute to solving social issues, such as the decentralised coordination of energy supply and demand, providing personalized care and prevention, efficient watering and fertilizing of crops, and streamlining production processes in the manufacturing industry.

Biomolecular and cell technologies: are about mapping, measuring, and using molecules such as DNA, RNA, and proteins/metabolites. This allows the development of individually tailored therapeutic or disease-preventing strategies, as well as new, resistant, and sustainable food products, and circular alternatives to chemical products.

Quantum technologies: make use of the dual nature of the smallest particles we know. These properties can be used for solving complex calculations (computing), secure communication over long distances, and better sensors.

Energy materials: include all materials that make it

possible to store, transport, efficiently capture (sustainably generated) energy and efficiently convert it to another form or energy carrier.

**Cybersecurity:** Cybersecurity technologies aim to reduce relevant digital risks to an acceptable level. This includes managing risks of damage or failure of digital systems and ensuring the availability, integrity, and confidentiality of data. Technologies are focused on preventing cyber incidents and, in the event of cyber incidents, detecting them, minimizing damage, and facilitating recovery.

Mechatronics and Optomechatronics: concerns the integral design of mechanical systems and associated control and regulation systems. Specifically, optomechatronics involves the integration of optical technology into mechatronic systems, including in the production of semiconductors and medical equipment.

Microelectronics: concerns semiconductor components and/or highly reduced electronic subsystems and their

#### **METHODOLOGY**

integration into larger products and systems. This technology involves the manufacturing, design, packaging, and testing of semiconductor components.

**Optical systems and integrated photonics:** Optical systems are constructed systems to refract or reflect light to perform certain optical functions. Integrated photonics is the technology that integrates various photonic functions into a functional photonic chip.

Imaging technology: concerns the generation, collection, duplication, analysis, modification, and visualisation of images (optical and non-optical). Imaging systems are used, for example, for quality control and in medical technology.

(Bio) Process technology: including process intensification, focuses on the optimal, stable, and safe design of (green) chemical production processes. This includes issues such as scalability, heat integration, safety, optimal downstream processing, space requirements, and cost efficiency.



## Country comparisons

In this report we compared the performance of the Netherlands to top tech nations in Europe. Those top countries were selected based on a ranking of the countries by total VC investment for the year 2023.

The countries used for comparison are the UK, Germany, France, Sweden, Switzerland.

In addition, for a comparison on a global level, the Netherlands and/or Europe is usually compared to the United States and China, given their relevance as competitors.

Country
United Kingdom
France
Germany
Sweden
Switzerland
Netherlands

#### METHODOLOGY

2023
€ 17B
€ 8B
€ 7B
€ 4B
€ 2B
€ 2B



23

'B

BB

B

2B B



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# Data partners

### dealroom.co

Dealroom is a global company information database & research firm. Its software, database and bespoke research enable its clients to stay at the forefront of innovation, discover promising companies and identify strategic opportunities. Among its clients are world-leading strategy consulting firms, investment banks, multinationals, technology firms, venture capital and buyout firms and governments.

#### atomico

Atomico invests in ambitious tech founders from Seed through to IPO with a particular focus on Europe, leveraging deep operational experience to supercharge their growth. Founded in 2006, Atomico has partnered with over 100 ambitious teams - including those at Klarna, Supercell, MessageBird, Lilium, Aiven, Pipedrive, Factorial and Job&talent. Their annual State of European Tech report, which serves as a barometer for the industry, collects insights from the ecosystem via their community survey, which received more than 4,100 qualified responses in 2023.

### ravio

Ravio is on a mission to empower companies to build high performing teams and ensure they are paid fairly, with compensation intelligence designed specifically for highgrowth technology companies. With Europe's largest realtime compensation dataset, companies like Delivery Hero, Personio, Alan, Vestiaire Collective, and WeTransfer use Ravio to attract, retain, and motivate world class talent. You can learn more at Ravio.com.



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## Data partners



The Nederlandse Vereniging van Participatiemaatschappijen (NVP) is the voice of venture capital and private equity in the Netherlands. Committed to fostering a thriving investment ecosystem, the NVP empowers its members through advocacy, research, knowledge-sharing, and networking opportunities.

#### **INVESTNL**

Invest-NL is the National Promotional Institution of the Netherlands. As a leading impact investor, Invest-NL's mission is to facilitate financing for ventures and innovations that at first glance seem impossible to finance. Our goal is to accelerate the major societal transitions facing the Netherlands. These include the transition to a sustainable and circular economy and sustainable energy, promoting affordable and accessible healthcare and stimulating technological innovations.

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### scoutinscience

ScoutinScience leverages its in-house AI and machine learning algorithm to promote the discovery of overlooked research and patents, offering support to universities, government agencies, and investors worldwide. For governmental agencies, we offer a platform enhanced with insights for efficient identification and evaluation of highimpact research and patents. This service bridges the gap in recognizing transformative opportunities within national and global technological advancement.





